APPENDIX 1.0

Notice of Preparation/Initial Study

A

Notice of Preparation

Community Development Department

Planning
799 Moorpark Avenue
Moorpark, Ca 93021

(805) 517-6200
www.moorparkca.gov

NOTICE OF PREPARATION and NOTICE OF PUBLIC SCOPING MEETING

Date:	July 10, 2019
To:	Reviewing Agencies, Interested Parties and Organizations
From:	City of Moorpark, Lead Agency
Applicant:	Comstock Homes
Subject:	Notice of Preparation and Scoping Meeting for an Environmental Impact Report for the Hitch Ranch Specific Plan

The City of Moorpark is considering the Hitch Ranch Specific Plan, and has determined that an Environmental Impact Report (EIR) will be necessary to evaluate environmental impacts of the project, pursuant to the California Environmental Quality Act (CEQA). In compliance with CEQA, the City will be the Lead Agency and will prepare the EIR. Attached are the project description, location maps, and preliminary identification of the potential environmental issues to be analyzed in the EIR.

The City is requesting comments and guidance on the scope and content of the EIR from responsible and trustee agencies, interested public agencies, organizations, and the general public (CEQA Guidelines 15082). If your agency is a responsible agency as defined by Section 15381 of the CEQA Guidelines, your agency may use the environmental documents prepared by the City when considering permits or approvals for action regarding the project.

Public Review Period: July 10, 2019 to August 8, 2019. The City requests review and consideration of this notice, and invites comments regarding the preparation of the EIR. Comments and responses to this notice must be in writing and submitted by the close of business on August 10, 2019, the last day of the comment period. Please provide a contact name, phone number and e-mail address with your comments. All comments must be sent to:

Douglas Spondello, Planning Manager
City of Moorpark
799 Moorpark Avenue, Moorpark, CA 93021
(805) 517-6200 I dspondello@moorparkca.gov

Notice of Scoping Meeting: A scoping meeting to collect oral comments on the scope of the EIR will be conducted by the Planning Commission on July 23, 2019 at 7:00 p.m. at City Hall, 799 Moorpark Avenue, Moorpark in the Council Chambers. If you have any questions, please contact me.

Douglas Spondello, Planning Manager
City of Moorpark

July 2, 2019
Date

Notice of Preparation for an Environmental Impact Report
For the City of Moorpark
Hitch Ranch Specific Plan

Project Title

Hitch Ranch Specific Plan – Specific Plan No 2019-01, Residential Planned Development No. 2019-01, Tentative Subdivision Map No. 2109-01 for Tract No. 5708, Rezoning Permit No 2019-01, and Development Agreement No. 2019-01

Applicant

Comstock Homes
c/o Harriett Rapista, Senior Project Manager
2301 Rosecrans Avenue, Suite 1150
El Segundo, California 90245
hrapista@comstock-homes.com / (424) 363-9218

Project Location

Regionally, the project site is located in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue, and west of Moorpark Avenue (State Route 23). Specifically, the site is approximately 270.64 acres, is located approximately 1,600 feet west of State Route 23, and extends to approximately 1,400 feet west of Gabbert Road. The regional location map (**Figure 1**, **Regional Location**) and site vicinity map **(Figure 2**, **Local Vicinity Map**) illustrate the project site in both a regional and local context.

The project site is designated in the *City of Moorpark General Plan* Land Use Element as Specific Plan Area 1, with an Agriculture 1 overlay and has a zoning of Agricultural Exclusive (AE). The specific plan designation is provided to address large-scale projects, and is intended to provide a planning tool for the systematic implementation of the general plan.

The specific plan site comprises of the following parcels:

Parcel 1: Assessor Parcel No: 511-0-020-11
Parcel 2: Assessor Parcel No: 511-0-020-13
Parcel 3: Assessor Parcel No: 511-0-020-16
Parcel 4: Assessor Parcel No: 511-0-020-17
Parcel 5: Assessor Parcel No: 511-0-020-18
Parcel 6: Assessor Parcel No: 511-0-020-19
Parcel 7: Assessor Parcel No: 511-0-200-22

Project Description

The proposed Hitch Ranch Specific Plan is designed as a mixed-density residential community that incorporates land uses for housing, recreational and institutional purposes.

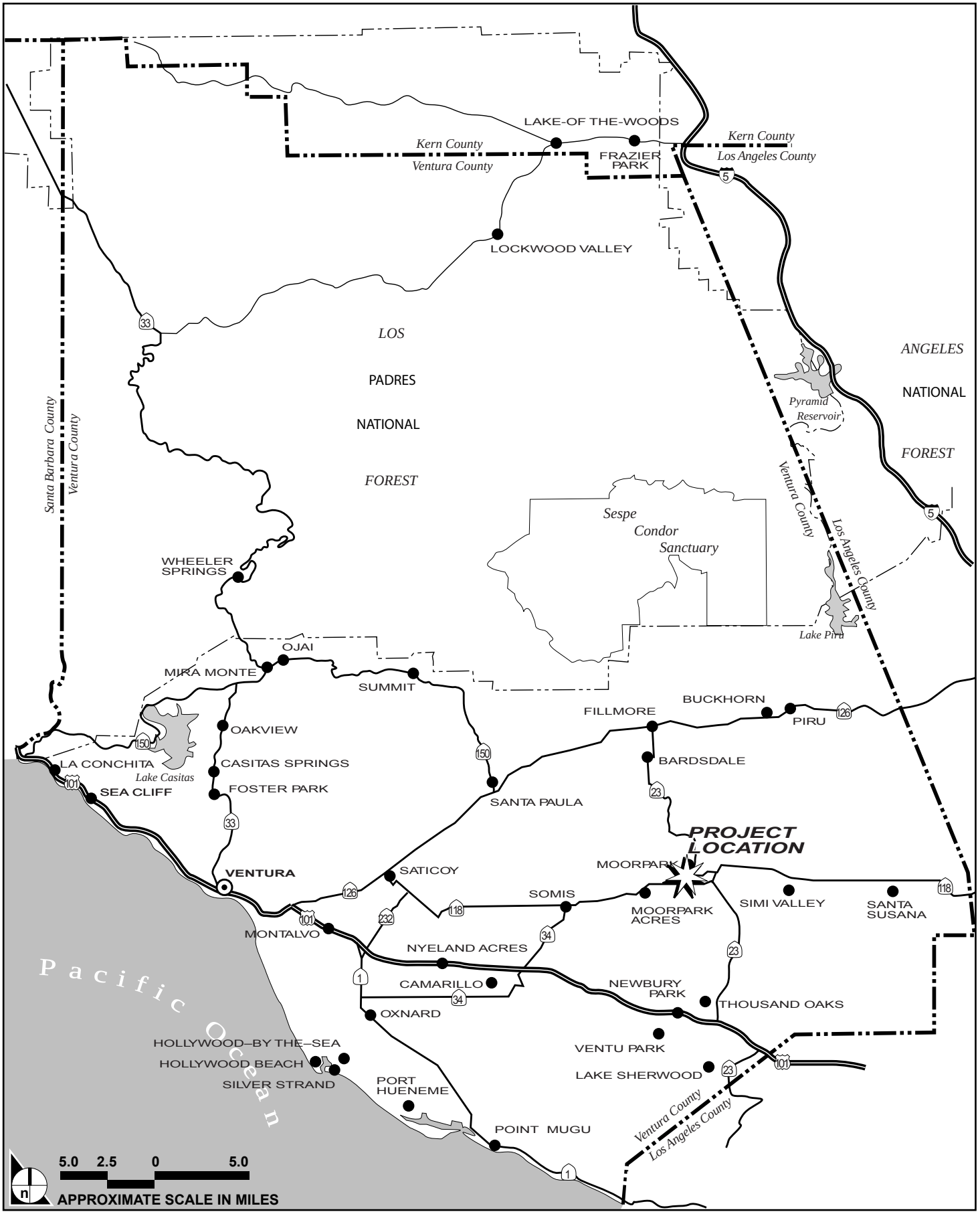
The following discussion describes land uses proposed as part of the proposed specific plan, the relationship of individual land uses within the framework of the overall land plan, and infrastructure improvements necessary to support the development as proposed.

Table 1, Specific Plan Statistical Summary, provides a summary of the proposed project in terms of the number of dwelling units, square footage of non-residential uses, and facility improvements, and **Figure 3, Specific Land Use Plan**, illustrates the proposed land plan.

Table 1

Specific Plan Statistical Summary

Area	Land Use	Acres	Dwelling Units/Acre	Dwelling Units (du)
Planning Area 1	Single-Family Dwelling Units	25.86		84 du
	Natural Open Space	19.69		
	Manufactured Slopes	19.41	1.29 gross	
	Subtotal	**64.96**		
Planning Area 2	Single-Family Dwelling Units	34.08		177 du
	Natural Open Space	7.56		
	Manufactured Slopes	14.91		
	Recreation Lot	2.65		
	Passive Recreation Lot	1.32	2.92 gross	
	Subtotal	**60.52**		
Planning Area 3	Multi-Family Dwelling Units	23.46		253 du
	Manufactured Slopes	5.40		
	Recreation Lot	4.1	7.68 gross	
	Subtotal	**32.96**		
Planning Area 4	Multi-Family Dwelling Units	10.87		241 du
	Manufactured Slopes	5.40	14.81 gross	
	Subtotal	**16.27**		
Planning Area 5	Open Space	3.37		
Planning Area 6	Open Space	29.10		
Public Facilities	Park (adjacent to Civic Center)	6.00		
	North Hills Parkway	11.97		
	"A" Street	4.36		
	Meridian Hills Drive	3.03		
	Casey Road	1.37		
	High Street	6.64		
	Gabbert Road	2.86		
	VCWPD Easement	2.70		
	Detention Basin 1	12.27		
	Detention Basin 2	5.96		
	Detention Basin 3	6.30		
	Subtotal	**63.46**		
	Totals	**270.64**	**2.79 gross**	**755 du**



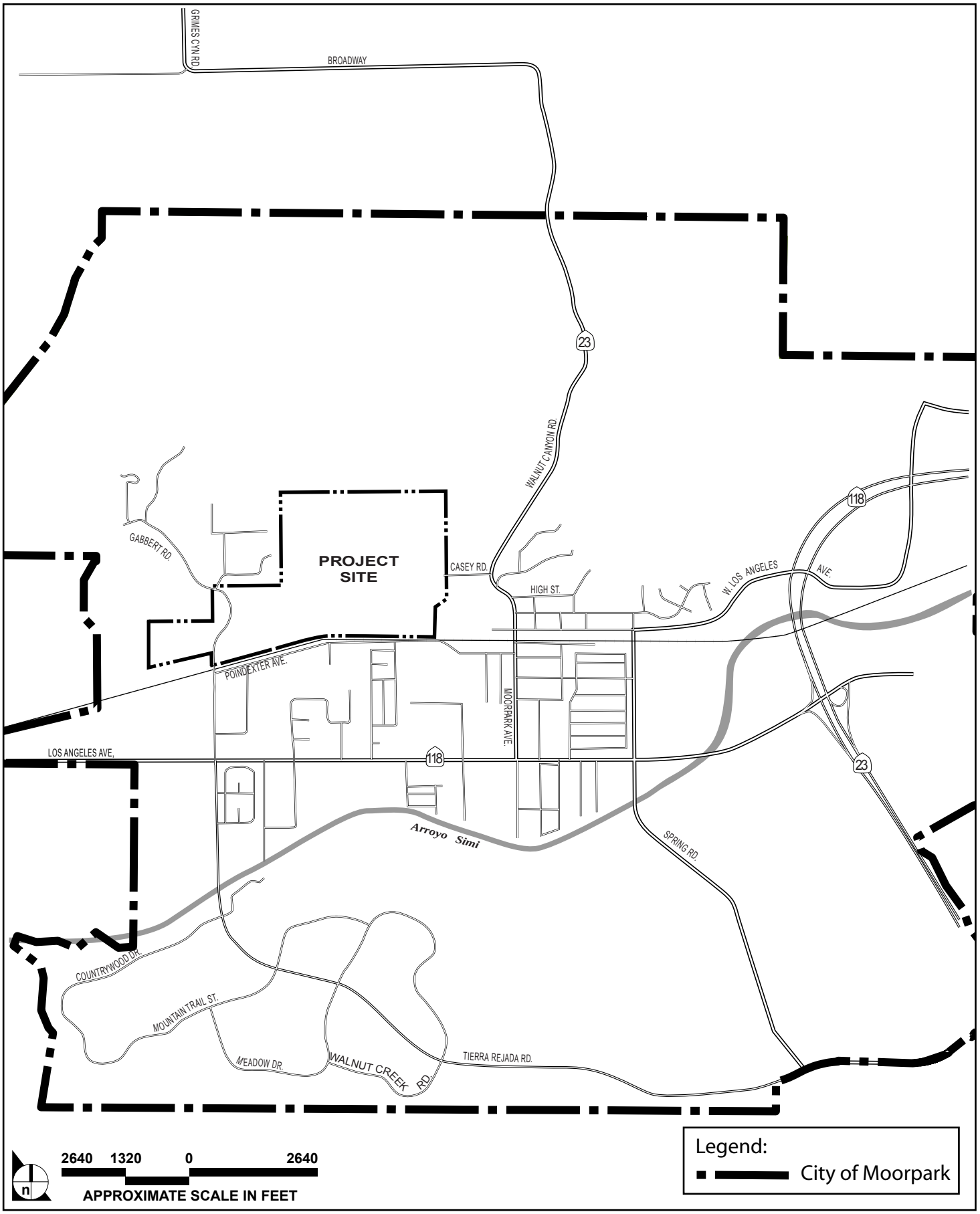
SOURCE: Impact Sciences, Inc. – October 2006

FIGURE **1**

IMPACT SCIENCES

Regional Location

1318.001•03/19



SOURCE: Impact Sciences, Inc. – September 2011

FIGURE **2**

Project Vicinity

IMPACT SCIENCES

1318.001•03/19

Specific Plan Statistical Summary

	A	B	C	D	E	F
1	Planning Area 1	**LAND USE**	**ACRES**	**DU/AC**	**DU**	**%**
2		Single Family Dwelling Units	25.86		84	40
3		Natural Open Space	19.69			30
4		Manufactured Slopes	19.41			30
5		**TOTAL**	**64.96**	1.29	**84**	**100**
6						
7	Planning Area 2	Single Family Dwelling Units	34.08		177	56
8		Natural Open Space	7.56			13
9		Manufactured Slopes	14.91			25
10		Recreation Lot	2.65			4
11		Passive Rec Lot	1.32			2
12		TOTAL	**60.52**	2.92	**177**	**100**
13						
14	Planning Area 3	Multi Family Dwelling Units	23.46		253	71
15		Manufactured Slopes	5.4			16
16		Recreation Lot	4.1			13
17		TOTAL	**32.96**	7.68	**253**	**100**
18						
19	Planning Area 4	Multi Family Dwelling Units	10.87		241	67
20		Manufactured Slopes	5.4			33
21		TOTAL	**16.27**	14.81	**241**	**100**
22						
23	Planning Area 5	Open Space	**3.37**			**100**
24						
25	Planning Area 6	Open Space	**29.1**			**100**
26						
27	Public Facilites	Park (adjacent to Civic Center)	6.0			10
28		North Hills Parkway	11.97			19
29		"A" Street	4.36			7
30		Meridian Hills Drive	3.03			5
31		Casey Road	1.37			2
32		High Street	6.64			10
33		Gabbert Road	2.86			5
34		VCWPD Easement	2.7			4
35		Detention Basin 3	12.27			19
36		Detention Basin 2	5.96			9
37		Detention Basin 2B	6.3			10
38		TOTAL	**63.46**			**100**
39						
40		TOTAL	**270.64**	2.79	**755**	



SOURCE: Comstock Homes, 2019

FIGURE 3

Specific Land Use Plan

IMPACT SCIENCES

1318.001•07/19

The proposed specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

Residential Development

Residential uses constitute a primary component of the Specific Plan. As proposed, implementation of the Specific Plan would result in the development of 755 dwelling units. **Table 1, Specific Plan Statistical Summary**, provides a summary of the proposed residential land use types and densities and approximate acreages devoted to each land use type. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre. Single-family dwelling units are proposed for Planning Areas 1 and 2, and multi-family dwelling units are proposed for Planning Areas 3 and 4.

The proposed project will comply with the City of Moorpark General Plan affordable housing policies and the provision of affordable housing, the manner of which will be detailed in the negotiated Development Agreement.

Parks and Recreational Uses

Four private recreation areas are proposed as part of the specific plan. Within Planning Area 2, 3.97 acres of passive and active (1.32 passive and 2.65 active) recreation area is planned. Planning Area 3 is proposed to have up to 4.1 acres of recreation area. Another private recreation area is planned within Planning Area 4 with the area to be determined. A 6-acre public park is proposed in the southeast corner of the specific plan area, adjacent to the City of Moorpark Civic Center property. While the public park is tentatively planned to include athletic fields (including softball) and an aquatic facility, the specific improvements will ultimately be determined by the negotiated Development Agreement.

Other Improvements

In addition to the land uses described above, the specific plan area will include on-site regional storm water detention basins, and project infrastructure, including streets and utility facilities. Further, an approximately six acre parcel of land that is currently part of the project site would be a deeded to the City of Moorpark for the future development of affordable housing.

Off-Site Improvements

As part of the proposed project, Casey Road is proposed to be widened to the east of the project site from the easterly boundary to approximately 440′ west of Walnut Canyon Road. The remaining easterly portion of Casey Road would be built by other projects with frontage on Casey Road. High Street is proposed to be built across the project site from Gabbert Road to the easterly boundary of the project, immediately north of the Walnut Canyon storm drain channel. High Street will be extended offsite to the

east to connect to existing High Street adjacent to the US Post Office, providing direct access to the future Moorpark Civic Center and High Street. Buildings at the northwest corner of High Street and Moorpark Avenue would potentially be impacted.

An offsite gravity sewer connection is proposed in Poindexter Avenue at Sierra Avenue. The onsite connecting sewer main would run perpendicular to and beneath the Walnut Canyon storm drain and the Union Pacific Railroad/Metro Rail tracks. No interference in rail operations is anticipated as the sewer main would be installed utilizing a bore pit and jacking method of installation. Domestic water service would be connected at the site boundary at Meridian Hills Drive, High Street, and Casey Road and be pressure-looped through the project site. All other utilities are present at the site boundary and would be extended onsite.

Implementation of the project would require the following discretionary approvals by the City of Moorpark:

- Specific Plan Approval (SP 2019-01) to establish the framework for development of the land, including development standards, design guidelines, phasing and infrastructure requirements.
- Rezoning (ZC 2012-01) to the Hitch Ranch Specific Plan to establish consistency between the project Zoning and General Plan/Specific Plan land use designations.
- Tentative Subdivision Map for Tract No. (TSM 2019-01) allows for the mapping of on-site project parcels, easements, dedications, roadways, utilities and defines adjacent off-site improvements required for the project.
- Residential Planned Development Permit(s) to establish the physical site plan layout of each individual Planning Area within the Specific Plan, including street and neighborhood amenity locations, community plot plans, conceptual landscape architecture, architectural elevations and preliminary floor plans.
- Development Agreement (DA No. 2019-01) to ensure orderly development of the project.
- A General Plan Amendment may be required to implement the Specific Plan and establish consistency between the Land Use and Circulation Elements of the General Plan and the adopted Specific Plan.

Subsequent Actions

Subsequent actions could include the following:

- Final tract maps and parcel maps
- Conditional use permits
- Grading permits
- Subdivision improvement plan permits
- Haul route approval
- Building permits
- Acquisition of easements and rights-of-way and construction of roads and access ways

- Homeowner Association formation
- Tree removal permit
- Encroachment permits
- Utility connection permits
- Retaining wall permits
- Formation of a Community Facilities District

Responsible and Trustee Agencies

The project could require review and/or approval from the following other jurisdictional agencies:

Ventura County Agencies and Special Districts

- Ventura County Air Pollution Control District
- Ventura County Fire Protection District
- Ventura County Transportation Commission
- Ventura County Waterworks District No. 1
- Ventura County Watershed Protection District

State of California Agencies

- State of California, Regional Water Quality Control Board
- California Department of Fish and Wildlife
- California Department of Transportation
- California Public Utilities Commission

Federal Agencies

- US Department of the Interior Fish and Wildlife Service
- US Army Corps of Engineers

EIR Purpose

The purpose of an EIR is to inform decision-makers and the general public of the environmental impacts of a proposed project that an agency (in this case, the City of Moorpark) may implement or approve. The EIR process is intended to: (1) provide information sufficient to evaluate a project and it's potential for significant impacts on the environment; (2) examine methods (e.g., project-specific mitigations, uniformly applied development regulations) for avoiding or reducing significant impacts; and (3) consider alternatives to the proposed project.

In accordance with CEQA, the EIR will include the following:

- A summary of the project, its potential significant environmental impacts, and mitigations required to avoid or reduce those significant impacts;

- A project description;
- A description of the existing environmental setting, potential environmental impacts, and mitigations for the project;
- Alternatives to the proposed project; and
- Other environmental consequences of the project, including:
    - growth-inducing effects
    - significant unavoidable impacts
    - irreversible environmental changes
    - cumulative impacts, and
    - effects found not to be significant.

EIR Scope

The City of Moorpark has determined that the project will require preparation of an EIR pursuant to the California Environmental Quality Act (CEQA).

An **Initial Study** has been prepared in accordance with CEQA and the CEQA Guidelines to identify potential environmental impacts that will be addressed in the EIR. The Initial Study also includes a description of the proposed project. A copy of this NOP and the Initial Study supporting the scoping of the project EIR are available for viewing at Moorpark City Hall, and Moorpark City Library, and available downloading from the City of Moorpark website at http://www.moorparkca.gov/568/Environmental-Documents.

The following environmental topics are discussed in the Initial Study:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology / Soils
- Greenhouse Gas Emissions
- Hazards & Hazardous Materials
- Hydrology / Water Quality
- Land Use / Planning
- Mineral Resources
- Noise
- Population / Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities / Service Systems
- Wildfire
- Mandatory Findings of Significance

Alternatives: The EIR will identify and compare a reasonable range of alternatives to the proposed project. Alternatives will be chosen based on their ability to avoid or reduce identified significant environmental impacts of the project while achieving most of the project objectives (CEQA Guidelines Section 15126.6).

B

Initial Study

CITY OF MOORPARK
799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2205 | moorpark@moorparkca.gov

HITCH RANCH SPECIFIC PLAN
INITIAL STUDY

PREPARED FOR:
City of Moorpark
799 Moorpark Avenue
Moorpark, CA 93021

APPLICANT:
Comstock Homes
2301 Rosecrans Avenue, Suite 1150
El Segundo, CA 90245

PREPARED BY:
Impact Sciences, Inc.
811 W. 7th Street, Suite 200
Los Angeles, CA 90017

July 2019

CITY OF MOORPARK
799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2205 | moorpark@moorparkca.gov

INITIAL STUDY FOR
Hitch Ranch Specific Plan

I. PROJECT

Project Title: Hitch Ranch Specific Plan

Location: Approximately 1,600 feet west of State Route 23, extending to approximately 1,400 feet west of Gabbert Road

Assessor Parcel Number(s):

Parcel 1: Assessor Parcel No: 511-0-020-11
Parcel 2: Assessor Parcel No: 511-0-020-13
Parcel 3: Assessor Parcel No: 511-0-020-16
Parcel 4: Assessor Parcel No: 511-0-020-17
Parcel 5: Assessor Parcel No: 511-0-020-18
Parcel 6: Assessor Parcel No: 511-0-020-19
Parcel 7: Assessor Parcel No: 511-0-200-22

Parcel Size: 270.64 acres

Applicant: Comstock Homes

Owner: Hitch Ranch, Milligan et. al.

General Plan Designation: Specific Plan No.1, with Agriculture 1 Overlay

Zoning: AE (Agricultural-Exclusive)

Proposed Zoning: Specific Plan

Responsible or Trustee Agencies: US Department of the Interior Fish and Wildlife Service (USFWS), US Army Corps of Engineers (USACE), California Department of Fish and Wildlife CDFW), California Department of Transportation (Caltrans), State of California, Regional Water Quality Control Board (RWQCB), California Public Utilities Commission (CPUC), Ventura County Air Pollution Control District (VCAPCD), Ventura County Fire Protection

District (VCFPD), Ventura County Transportation Commission (VCTC), Ventura County Waterworks District No. 1, Ventura County Watershed Protection District (VCWPD)

Tribal Consultation Requested: ☒ **YES** ☐ **NO**

Have any California Native American Tribes traditionally or culturally affiliated with the project area requested consultation pursuant to PRC Section 21080.3.1? As requested, the City will conduct outreach to the Coastal Band of Chumash Indians and Barbareno/Ventureno Band of Mission Indians.

Project Location

Regionally, the project site is located in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue, and west of Moorpark Avenue (State Route 23). Specifically, the site is approximately 270.64 acres, is located approximately 1,600 feet west of State Route 23, and extends to approximately 1,400 feet west of Gabbert Road. The regional location map (**Figure 1, Regional Location**) and site vicinity map (**Figure 2, Local Vicinity Map**) illustrate the project site in both a regional and local context.

Surrounding Land Uses

Land uses surrounding the Hitch Ranch Specific Plan site, as well as their general plan and zoning designations are identified in **Table 1, Surrounding Land Uses**. Land uses surrounding the project site include Walnut Canyon Elementary School and a few single-family homes immediately to the east. In addition, a post office, the City Civic Center, Mansi Senior Housing Project, and Essex site are located to the east, and the Moorpark downtown area about 0.25 mile further east. A mix of institutional, residential, light industrial and commercial land uses occurs to the south. Among the uses to the south are Poindexter Park and Chaparral Middle School. Single-family homes, at rural densities, and open space are located to the west. Residential development and open space uses are located to the north. A Ventura County Watershed Protection District concrete flood control channel (Walnut Canyon Channel) borders the southern site boundary. The Ventura County Transportation Commission/Union Pacific Railroad tracks are located just south of the flood channel. Poindexter Avenue, immediately south of the railroad right-of-way, is a two-lane local collector between Moorpark Avenue on the east and Gabbert Road to the west.

Table 1
Surrounding Land Uses

Direction (from Specific Plan Site)	Existing Land Use	Jurisdiction	General Plan Designation	Zoning Designation
North	Residential development	City of Moorpark	Low Density and Open Space	RPD, OS, RE1AC
South	Poindexter Park	City of Moorpark	Very High Density Residential (15 du/ac)	RPD-15U
	Chaparral Middle School	Moorpark Unified School District	School	RE
	Concrete flood control channel (Walnut Canyon Channel	Ventura County Watershed Protection District	Specific Plan 1	AE
	Light industrial	City of Moorpark	Light Industrial	M1, RE
	Railroad tracks	Ventura County Transportation Commission/Union Pacific Railroad	Medium Industrial, Light Industrial, Medium Density Residential (4 du/ac), Very High Density Residential (15 du/ac), School	RE
	Commercial	City of Moorpark	Light Industrial, Medium Industrial, General Commercial, Utilities	M-1, M-2, CPD
	Residential	City of Moorpark	Medium Density Residential (4 du/ac), Very High Density Residential (15 du/ac)	R-1-8, RPD-8.9U
East	Walnut Canyon Elementary School	Moorpark Unified School District	Specific Plan 9	RE
	Post office and civic center	City of Moorpark	Public/Institutional	I
	Vacant lot	City of Moorpark	Rural High Density Residential (4 du/ac)	RE
	Open space and residential	City of Moorpark	Rural Low Density Residential (1 du/5 ac)	RE-5AC
West	Single family homes	City of Moorpark	Rural High Density Residential (1 du/ac), Rural Low Density Residential (1 du/5 ac)	RE
	Light industrial	City of Moorpark	Industrial	M-2

Source: City of Moorpark General Plan
du: dwelling unit
ac: acre
R-P-D: Residential Planned Development
R-E: Rural Exclusive
O-S Open Space
-

Site characteristics

The project site is designated in the *City of Moorpark General Plan* Land Use Element as Specific Plan Area 1, with an Agriculture 1 overlay and has a zoning of Agricultural Exclusive (AE). The specific plan designation is provided to address large-scale projects, and is intended to provide a planning tool for the systematic implementation of the general plan.

The 270.64-acre project site is undeveloped and vacant. Its topography contains hills and is characterized by a series of moderately sloped northeast and southwest-trending ridge spurs with intervening southwest-draining valleys. Fires in 2003 and 2006 completely burned the project site. An east-to-west trending knoll occurs in the south-central portion of the site. The flat area along the southern site periphery represents the geomorphic transition from hillside area to the valley area of Moorpark. The site is visible from Los Angeles Avenue (State Route 118). East-west-trending hills through the middle of the site block views of much of the site's interior from passing motorist or residents on the south side of Poindexter Avenue. Additional north-south-trending hills at the eastern and western ends of the site block views of the site's interior.

Existing On-Site Land Uses

The project site is a gently rolling, 270.64-acre parcel located in the west/central portion of the City of Moorpark, between the Simi Hills and the Little Simi Valley (see **Figure 1**). The topography of the site ranges from a low elevation of 475 feet above mean sea level (msl) at the Gabbert Road railroad crossing, up to elevation 720 feet msl at the north edge of the site. Soils are mainly comprised of alluvium in the low areas, along with weakly cemented bedrock on the hillsides and hilltops. An east-west trending series of hills through the middle of the site blocks views of much of the site interior from passing motorists or residents on the south side of Poindexter Avenue. Additional north-south trending hills block views of the site interior, from vantage points to the east and west of the site.

The specific plan site is predominately undeveloped. The site contains limited improvements to accommodate existing land uses and includes dirt and semi-paved roads, along with remnants of grazing use, including corrals, fences, and watering facilities for grazing animals.

Public access to the site is presently available from Gabbert Road on the west and from Casey Road on the east. The majority of the site, approximately 243 acres, lies on rolling hills east of

Gabbert Road. The smaller balance of the site, approximately 28 acres, lies immediately west of Gabbert Road, and is comprised of two hills with an intervening valley area that widens out along the flood control channel at the south/southwest site boundary.

Eleven overhead electrical transmission lines, within two easements, traverse the western portion of the site in west-to-east and north-to-south alignments. These lines are part of Southern California Edison's (SCE) regional grid system, and they connect to the SCE Moorpark Substation located just southwest of the project site. Lines and voltage ranges include the local Gabbert 16-kilovolt (kV) line; the 66-kV Saugus-Moorpark-Santa Susana-Torrey line; the 220-kV Moorpark-Pardee No. 1, 2, and 3 lines; the 220-kV Moorpark-Santa Clara No. 1 and 2 lines; and the 220 kV Moorpark-Ormond Beach lines.

The project site historically was used for commercial grazing operations, and apricot production in the 1950s and infrequent limited dry farming since then. More recent farming ventures failed commercially and no crop farming has occurred on site for more than a decade. Remnants of the former apricot farming operations burned down in 2003. Limited grazing operations still occur on site. County of Ventura records indicate that at least 15 water wells have been drilled on the site. A water tank is also present in the site's northeastern periphery.

Due to the many years of crop production and grazing, the ground surface has been mostly disturbed and very little native vegetation remains. The predominant plant communities are non-native grassland, with scattered California sagebrush-deerweed, coyote brush scrub, mulefat scrub, and non-native woodland communities. Several stands of mature eucalyptus and pepper trees occur at scattered locations on the site. There are no oak trees or permanent waterways on the site.

Storm runoff flows overland south to the Walnut Canyon Channel, a concrete box channel along the south site boundary. Flat areas along the east side of Gabbert Road and along the south site boundary, extending several hundred feet on either side of Gabbert Road, are within a 100-year flood hazard zone, as mapped by the Federal Emergency Management Agency (FEMA).

Project Description:

The proposed specific plan is designed as a mixed-density community that incorporates land uses, which would help to

- satisfy a regional demand for housing and
- provide local recreational and institutional uses for new residents.

The following discussion describes land uses proposed as part of the specific plan, the relationship of individual land uses within the framework of the overall land plan, and infrastructure improvements necessary to support the development as proposed.

Table 2, Specific Plan Statistical Summary, provides a summary of the proposed project in terms of the number of dwelling units, square footage of non-residential uses, and facility improvements, and **Figure 3, Specific Plan - Land Use Plan**, illustrates the proposed land plan.

The specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, an institutional use, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

Residential Development

Residential uses constitute a primary component of the Specific Plan. As proposed, implementation of the Specific Plan would result in the development of 755 dwelling units. **Table 2, Specific Plan Statistical Summary**, provides a summary of the proposed residential land use types and densities and approximate acreages devoted to each land use type. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre. Single-family dwelling units are proposed for Planning Areas 1 and 2, and multi-family dwelling units are proposed for Planning Areas 3 and 4.

Table 2
Specific Plan Statistical Summary

Area	Land Use		Acres	Dwelling Units/Acre	Dwelling Units (du)
Planning Area 1	Single-Family Dwelling Units		25.86	1.29 gross	84 du
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	Passive Recreation Lot		1.32		
		Subtotal	**60.52**		
Planning Area 3	Multi-Family Dwelling Units		23.46	7.68 gross	253 du
	Manufactured Slopes		5.40		
	Recreation Lot		4.1		
		Subtotal	**32.96**		
Planning Area 4	Multi-Family Dwelling Units		10.87	14.81 gross	241 du
	Manufactured Slopes		5.40		
		Subtotal	16.27		
Planning Area 5	Open Space		3.37		
Planning Area 6	Open Space		29.10		
Public Facilities	Park (adjacent to Civic Center)		6.00		
	North Hills Parkway		11.97		
	"A" Street		4.36		
	Meridian Hills Drive		3.03		
	Casey Road		1.37		
	High Street		6.64		
	Gabbert Road		2.86		
	VCWPD Easement		2.70		
	Detention Basin 3		12.27		
	Detention Basin 2		5.96		
	Detention Basin 2b		6.30		
		Subtotal	**63.46**		
		Totals	**270.64**	2.79 gross	755 du

The proposed project will comply with the City of Moorpark General Plan affordable housing policies and the provision of affordable housing, the manner of which will be detailed in the negotiated Development Agreement.

Parks and Recreational Uses

Four private recreation areas are proposed as part of the specific plan. Within Planning Area 2, 3.97 acres of passive and active (1.32 passive and 2.65 active) recreation area is planned. Planning Area 3 is proposed to have up to 4.1 acres of recreation area. Another private recreation area has been designated within Planning Area 4 with the area to be determined. A 6-acre public park is proposed in the southeast corner of the specific plan area, adjacent to the City of Moorpark Civic Center property.

Open Space

Natural Open Space

"Natural Open Space" is defined as an undeveloped area within the project site, which would remain in its existing condition. A 200-foot fuel modification zone would occur between the natural area and on-site structures. A total of 59.72 acres of natural open space is proposed—the largest area (29.10 acres) being situated in Planning Area 6 west of Gabbert Road. Other natural open space areas are located in Planning Area 1 (19.69 acres) and Planning Area 2 (7.56 acres). This area would provide a buffer between existing residential uses located west of the project site and the single-family residences proposed in Planning Areas 1 and 2.

Manufactured Slopes

Approximately 45.12 acres of the project site are designated as manufactured slopes. Where possible and there is available area to provide for contour grading, the applicant would provide for such grading. The areas that are characterized as graded slopes are adjacent to proposed residential uses in Planning Areas 1 through 4. It is anticipated that these areas would be landscaped with drought-tolerant plants, primarily native or appropriate adaptive plant species. Landscaping would not only serve to stabilize graded slopes (to prevent erosion), but also soften the visual aspect of the project due to site grading for building pads and roadways.

Public Facilities

Some required portions of the Ventura County Watershed Protection District (previously the Ventura County Flood Control District) flood-control master plan facilities are incorporated as part of the proposed project; these facilities would serve the project site and provide flood control for the local drainage basin (i.e., Gabbert and Walnut Canyons). These facilities were identified as part of the *Gabbert and Walnut Canyon Channels Flood Control Deficiency Study*,

which was prepared for the Ventura County Flood Control District (dated March 1997). As proposed, the specific plan designates three sites for use as detention basins, with a total area of approximately 24.53 acres: Detention Basin 3 is approximately 12.27 acres and is located south of Planning Area 4, Detention Basin 2 is approximately 5.96 acres in size and is located east of proposed Gabbert Road south of North Hills Parkway, and Detention Basin 2B is approximately 6.30 acres and is located east of Gabbert Road north of North Hills Parkway. All three basins are designed as soft-bottom facilities, which would ultimately drain to the Ventura County Watershed Protection District (VCWPD) channel (Walnut Canyon Channel) located along the southern perimeter of the project site. It is anticipated that these basins would ultimately be operated and maintained by VCWPD.

In addition to the previously identified drainage basins, the proposed specific plan includes a 2.70-acre VCWPD easement along the southern project boundary.

Institutional Uses – Public Parkland

Approximately 6.0 net acres of public parkland is proposed in the southeast corner of the specific plan area. This designated public park land would be dedicated to the City of Moorpark and would meet the requirements of the General Plan for dedication to allow development of park uses and community service centers. While the public park is tentatively planned to include athletic fields (including softball) and an aquatic facility, the specific improvements will ultimately be determined by the negotiated Development Agreement.

Circulation System

Regional access to the project site would be provided by Los Angeles Avenue (SR-118) and Moorpark Avenue (SR-23). Los Angeles Avenue provides access east to the SR-23 and SR-118.

Components of the access plan are illustrated on **Figure 2.0-3**. All "named" streets on **Figure 2.0-3** (including A Street) would be public and all other project streets would be private. The primary access to the project site would be provided via extensions of Casey Road and High Street to the west and a connection to North Hills Parkway, a planned arterial. The proposed specific plan incorporates several roadway improvements in addition to roadways internal to each Planning Area. These roadways include (1) dedication of right-of-way and partial construction for North Hills Parkway (11.97 acres); (2) dedication of the Casey Road right-of-way (1.37 acres) and roadway construction; (3) dedication of "A" Street (4.36 acres), (4) High

Street (6.64 acres) right-of-way and roadway construction, (5) Meridian Hills Drive (3.03 acres) right-of-way and roadway construction; and (6) dedication of the Gabbert Road right-of-way (2.86 acre) and roadway construction.

As indicated in the Moorpark's General Plan Circulation Element, North Hills Parkway would ultimately be constructed as a four-lane roadway that would extend from the interchange of SR 118 and Princeton Avenue west through the central portion of the project site to Los Angeles Avenue west of Gabbert Road. The Hitch Ranch development would fully grade the roadway cross-section from Gabbert Road to the easterly property boundary of Hitch Ranch and construct the southerly two-lane barrel of the roadway improvements between Gabbert Road and "A" Street.

As proposed, Gabbert Road would be a four-lane arterial roadway constructed within a 94-foot right-of-way from the point of connection with Poindexter Avenue, crossing the Union Pacific Railroad tracks and continuing to North Hills Parkway. Northerly of North Hills Parkway Gabbert Road would taper back to existing width at the northwestern boundary of Hitch Ranch.

Meridian Hills Drive would be extended to the south from the existing terminus within the Meridian Hills community in to Hitch Ranch with a connection to Street "A" at North Hills Parkway.

"A" Street would serve as a connector between North Hills Parkway, Poindexter Road, and the future extension of High Street. This two-lane local collector roadway would be constructed within a 50- to 70-foot right-of-way, and would provide direct site access to Planning Areas 2, 3, and 4.

High Street would be extended from its current terminus east of the project site adjacent to the U.S. Post Office along the northern side of the Union Pacific railroad tracks to Gabbert Road.

Casey Road also would be extended from its current terminus east of the project site adjacent to Walnut Canyon School to provide access to Planning Areas 2, 4, and 5, and would be widened to provide for an a right-of-way up to 76-foot in width from approximately 450 feet west of Walnut Canyon Road west through the project to Street "A".

A detailed description of the local and regional circulation systems, along with a detailed analysis of potential traffic impacts will be provided in the EIR.

Infrastructure

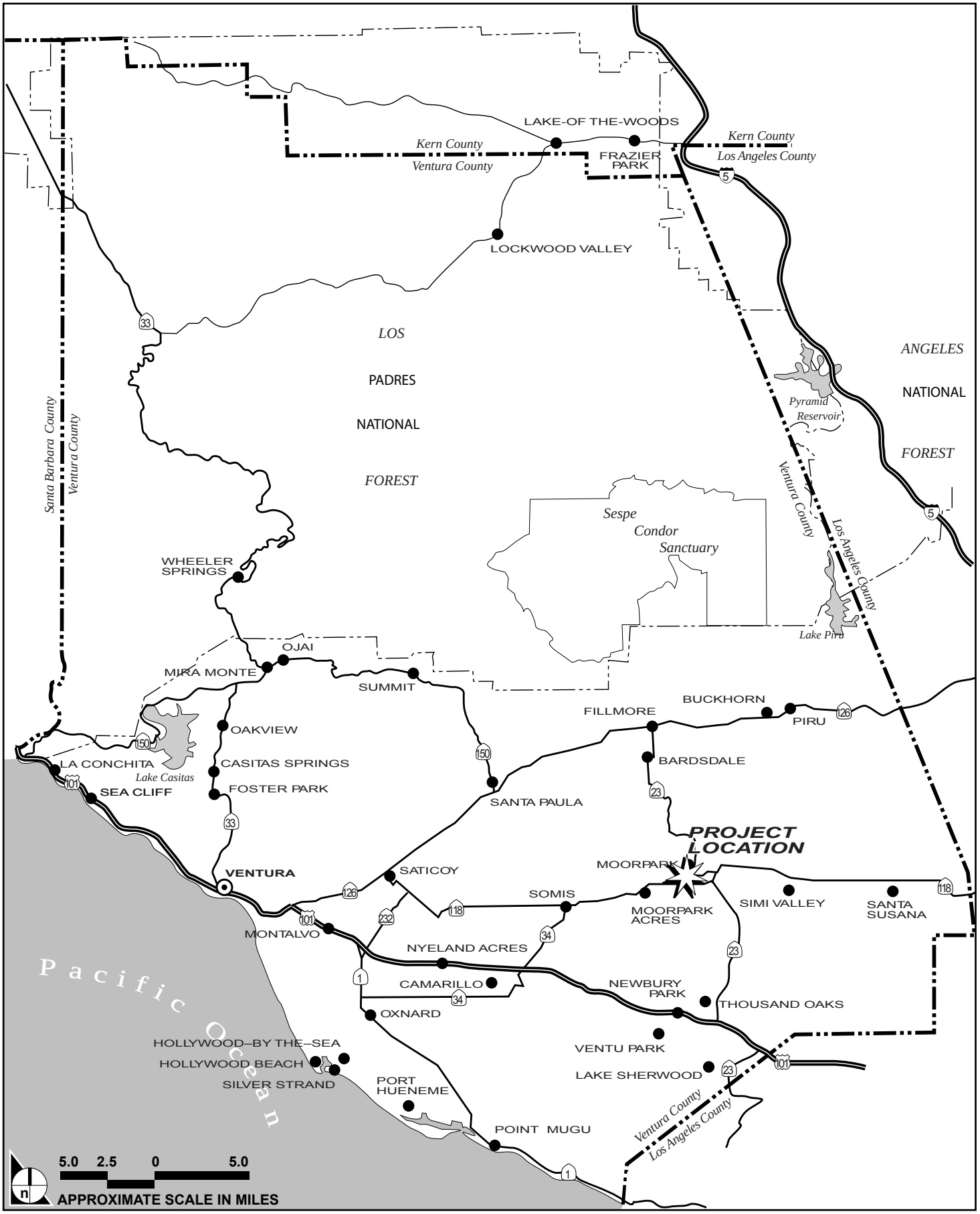
Natural gas and electrical service to the project site would be provided by extending existing lines, which serve existing urban uses to the west, east, and south of the site. The size and location of lines that would serve the proposed project would be determined when individual tract maps are prepared for each phase of the project. A detailed analysis of these services will be provided in the EIR.

Water service to the project site would be provided by the Ventura County Waterworks District No. 1. Domestic water service would be connected at the site boundary at Meridian Hills Drive, High Street, Poindexter Avenue and Casey Road and be pressure-looped through the project site. Currently, there are 8-inch water mainlines in Poindexter Avenue, Casey Road and Gabbert Road; these lines would be inter-connected to serve the project site. The precise configuration of the water service system for the proposed project would be determined when individual tract maps are prepared for each phase of the project. A detailed discussion of water service will be provided in the EIR.

Ventura County Waterworks District No. 1 would provide sanitary service for the project site. Two sewer lines in Gabbert Road (12 inch) and Poindexter Avenue (18 inch) would provide service for the project site. An offsite gravity sewer connection is proposed in Poindexter Avenue at Sierra Avenue. The onsite connecting sewer main would run perpendicular to and beneath the Walnut Canyon storm drain and the Union Pacific Railroad/Metro Rail tracks. No interference in rail operations is anticipated as the sewer main would be installed utilizing a bore pit and jacking method of installation. The configuration of the sewage collection system for the project will be determined at the time individual tract maps are prepared for each phase of the project. A detailed analysis of sewer service will be provided in the EIR.

Grading

Grading of the project site would involve the cut and fill approximately 2.5 million cubic yards of earth, which would be balanced on site. Maximum cut slopes would be approximately 50 feet high, and maximum fill areas would be approximately 75 feet high. Approximately 210.92 acres (78 percent) of the project site would be graded under of implementation of the proposed specific plan. Approximately 59.72 acres (22 percent) of the project site would remain undisturbed. Of the total graded area 24.53 acres would be returned to open space in the form of detention basins, ultimately providing 84.25 total acres (31 percent) of natural and detention basin open space within the specific plan area.



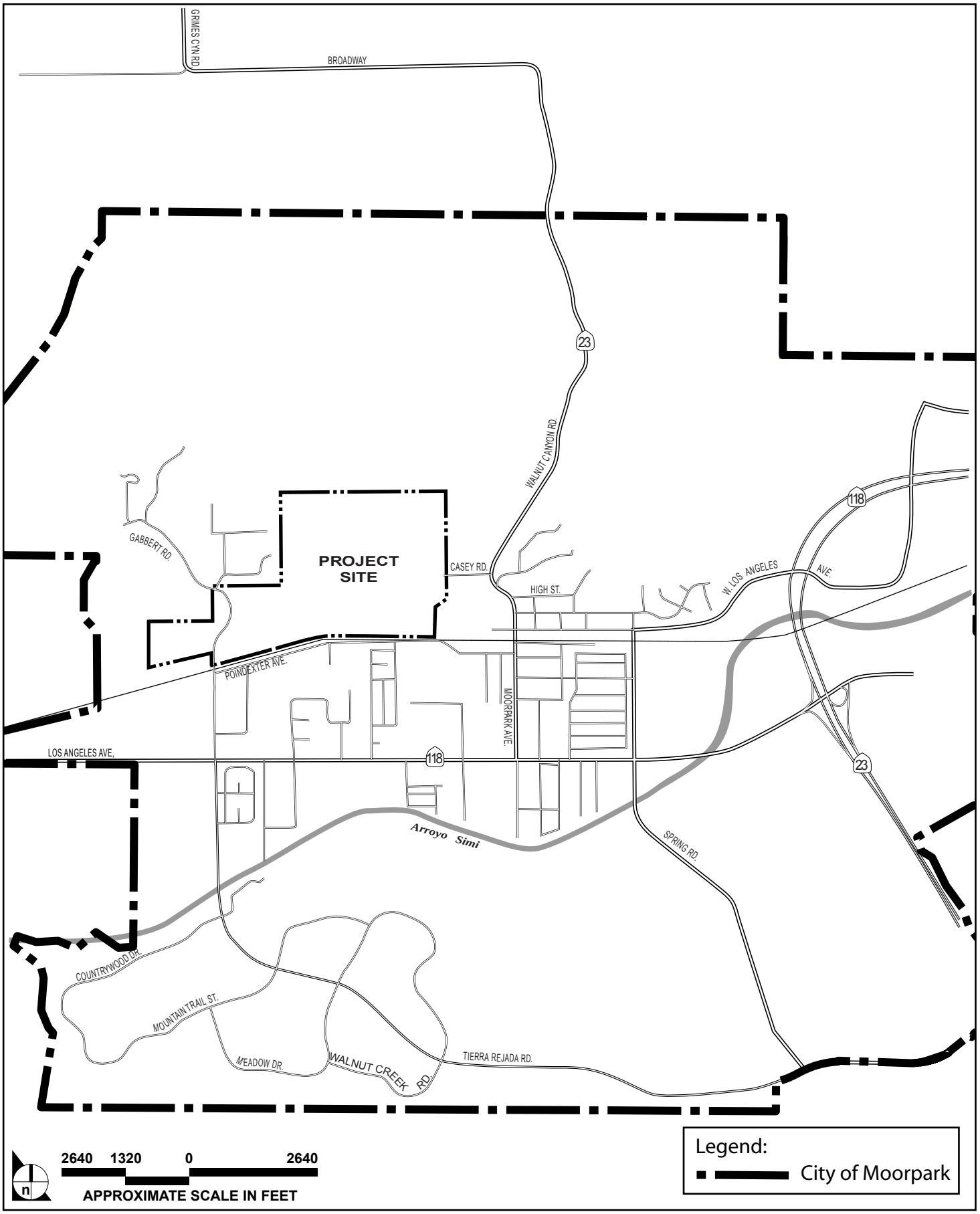
SOURCE: Impact Sciences, Inc. – October 2006

FIGURE **1**

IMPACT SCIENCES

Regional Location

1318.001•03/19



SOURCE: Impact Sciences, Inc. – September 2011

FIGURE **2**

Project Vicinity

IMPACT SCIENCES

1318.001•03/19

Specific Plan Statistical Summary

	A	B	C	D	E	F
1	Planning Area 1	**LAND USE**	**ACRES**	**DU/AC**	**DU**	**%**
2		Single Family Dwelling Units	25.86		84	40
3		Natural Open Space	19.69			30
4		Manufactured Slopes	19.41			30
5		**TOTAL**	**64.96**	1.29	**84**	**100**
6						
7	Planning Area 2	Single Family Dwelling Units	34.08		177	56
8		Natural Open Space	7.56			13
9		Manufactured Slopes	14.91			25
10		Recreation Lot	2.65			4
11		Passive Rec Lot	1.32			2
12		TOTAL	**60.52**	2.92	**177**	**100**
13						
14	Planning Area 3	Multi Family Dwelling Units	23.46		253	71
15		Manufactured Slopes	5.4			16
16		Recreation Lot	4.1			13
17		TOTAL	**32.96**	7.68	**253**	**100**
18						
19	Planning Area 4	Multi Family Dwelling Units	10.87		241	67
20		Manufactured Slopes	5.4			33
21		TOTAL	**16.27**	14.81	**241**	**100**
22						
23	Planning Area 5	Open Space	**3.37**			**100**
24						
25	Planning Area 6	Open Space	**29.1**			**100**
26						
27	Public Facilites	Park (adjacent to Civic Center)	6.0			10
28		North Hills Parkway	11.97			19
29		"A" Street	4.36			7
30		Meridian Hills Drive	3.03			5
31		Casey Road	1.37			2
32		High Street	6.64			10
33		Gabbert Road	2.86			5
34		VCWPD Easement	2.7			4
35		Detention Basin 3	12.27			19
36		Detention Basin 2	5.96			9
37		Detention Basin 2B	6.3			10
38		TOTAL	**63.46**			**100**
39						
40		TOTAL	**270.64**	2.79	**755**	



SOURCE: Comstock Homes, 2019

FIGURE 3

Specific Land Use Plan

IMPACT SCIENCES

1318.001•07/19

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Energy
☒ Geology / Soils	☒ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☒ Hydrology / Water Quality	☒ Land Use / Planning	☐ Mineral Resources
☒ Noise	☒ Population / Housing	☒ Public Services
☒ Recreation	☒ Transportation	☒ Tribal Cultural Resources
☒ Utilities / Service Systems	☒ Wildfire	☒ Mandatory Findings of Significance

DETERMINATION (To be completed by the Lead Agency):

On the basis of this initial evaluation:

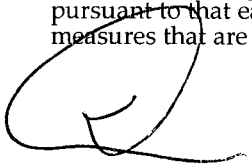
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



July 2, 2019

Signature Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analyses Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources. A source list should be attached and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less than significant.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I.	**AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:**				
a)	Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐
b)	Substantially damage scenic resources, including, but not limited to, tress, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☒	☐	☐	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐	☐

Discussion:

a) Have a substantial adverse effect on a scenic vista?

Potentially Significant Impact. Publicly available long-range views of the Project Site are available from segments of nearby roadways including Walnut Canyon Road, Poindexter

Avenue and Gabbert Road with intermittent obstruction due to intervening topography and vegetation. Nonetheless, views of and across the Project Site would be expected to change with implementation of the Project. This issue will be analyzed further in the EIR.

b) Substantially damage scenic resources, including, but not limited to, tress, rock outcroppings, and historic buildings within a state scenic highway?

Less Than Significant Impact. There are no roadways, highways, or areas within or immediately adjacent to the specific plan site that have been designated by the City of Moorpark or Ventura County as scenic corridors or highways. According to the City of Moorpark's *Open Space, Conservation & Recreation Element*, the nearest scenic corridor is Walnut Canyon Road located approximately 500 feet to the east of the project site. No highways in the vicinity of the specific plan site are currently on the Caltrans list of officially designated state or county scenic highways. The *County of Ventura General Plan* Resources Element designates SR-118 as eligible for state scenic highway status; SR-118 is approximately 1/2–mile south the project site and is not visible due to the relatively flat topography and intervening structures.

As such, the proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway, as none of these resources exist on or near the project site. Impacts would be less than significant and no further analysis is required in the EIR.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?

Potentially Significant Impact. The Hitch Ranch Specific Plan project would construct up to 755 new dwelling units on a site that is currently undeveloped. Construction would occur incrementally over a period of several years, with market conditions ultimately dictating phasing of the remaining portions of the project. Short-term impacts would fall within several categories of visual impacts. Mass grading would affect existing topography, vegetation cover, and vistas. Throughout much of the grading, large construction vehicles would be visible from adjacent (and some distant) vantage points. Barren slopes and new development in various stages of construction would be intermittently visible throughout the development of the project. This issue will be analyzed further in the EIR.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Potentially Significant Impact. Light impacts are typically associated with the use of artificial light during the evening and nighttime hours. Glare may be a daytime occurrence caused by the reflection of sunlight or artificial light from highly polished surfaces, such as window glass and reflective cladding materials, and may interfere with the safe operation of a motor vehicle on adjacent streets. Daytime glare is common in urban areas and is typically associated with mid- to high-rise buildings with exterior façades largely or entirely comprised of highly reflective glass or mirror-like materials. Nighttime glare is primarily associated with bright point-source lighting that contrasts with existing low ambient light conditions.

The Hitch Ranch Specific Plan project would construct up to 755 new dwelling units on a site that is currently undeveloped. Lighting of the proposed project would constitute a substantial new light source in the City and would alter the current character of the site. This issue will be analyzed further in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
II.	**AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:**				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐

c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☒	☐

Discussion:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Less Than Significant Impact. The City of Moorpark's General Plan designates the site as Specific Plan No.1, with Agriculture 1 Overlay. The project site would be converted to a mix of residential, open space and recreational uses.

Implementation of the proposed project would result in the loss of Farmland of Local Importance (96.4 acres) and grazing land (172.9 acres). Based on data from the California Department of Conservation 2012-2014 Land Use Conversion Report, Ventura County lost 295 acres of Farmland of Local Importance but gained 686 acres, for a net gain of 391 acres during the reporting period. Ventura County also lost approximately 69 acres of grazing

land between 2012-2014.[1] The loss of agriculture resources is limited to Farmland of Local Importance and grazing lands, and does not include Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, the loss of this resource is not considered a significant, unavoidable impact; project impacts would be less than significant, and no further analysis is required in the EIR.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Less Than Significant Impact. The California Land Conservation Act, better known as the Williamson Act, has been the state's most important agricultural land protection program since its enactment in 1965.[2] Fundamentally, the Williamson Act is a state policy administered by local governments. Local governments are not mandated to administer the act, but those that do have some latitude to tailor the program to suit local goals and objectives. The project site does not contain any lands covered by a Williamson Act contract.

The project site is currently zoned AE (Agricultural-Exclusive). The Land Use Element of the *Moorpark General Plan* designates the project site as Specific Plan Area 1. The proposed Hitch Ranch Specific Plan has been prepared to regulate development on the entire project site. The specific plan would provide the land use policies and development standards for the project site, revising the current zoning ordinance, and amending the general plan as the means of regulating the design and development of the project site. The development proposal is consistent with the allowable land use mixes and densities within the *Moorpark General Plan*'s Specific Plan Area 1. The Hitch Ranch Specific Plan applies the *City of Moorpark General Plan* as the fundamental guiding policy for project implementation and, thus, is a site-specific interpretation of the City's general plan goals. Therefore, implementation of the proposed project would not conflict with existing zoning, and impacts would be less than significant, and no further analysis is required in the EIR.

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1 Source: California Department of Conservation, Department of Land Resource Protection, Farm Land Management Program, 2012-2014 Agricultural Land Conversion Report, http://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp/pubs/2012-2014/conversion_tables/vencon14.xls, (2012-2014 is the most recent data available), accessed March 1, 2019.

2 California Government Code Sections 51200 et seq.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland production (as defined by Government Code section 51104(g))?

No Impact. There are no forest lands or timberlands on the Project Site and the site is not zoned for such uses; therefore no impact would occur. No further analysis is required in the EIR.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. There are no forest lands or timberlands on the Project site, thus the proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use; therefore no impact would occur. No further analysis is required in the EIR.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

Less Than Significant Impact. Under the proposed project, the project site would be converted to a mix of residential, open space and recreational uses on land that is currently identified in the General Plan as 'Specific Plan Area 1' and zoned for AE (Agricultural-Exclusive). However, for reasons previously discussed above, the proposed project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use; therefore impacts would be less than significant. No further analysis is required in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
III.	**AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:**				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	☒	☐	☐	☐
c)	Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
d)	Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☒	☐

Discussion:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Potentially Significant Impact. The Ventura County Air Pollution Control District (VCAPCD) adopted the 2016 Ventura County Air Quality Management Plan (AQMP) on February 14, 2017. The 2016 AQMP presents Ventura County's strategy (including related mandated elements) to attain the 2008 federal 8-hour ozone standard by 2020, as required by the federal Clean Air Act Amendments of 1990 and applicable U.S. EPA clean air regulations.

The proposed project would generate long-term operational emissions that could potentially exceed VCAPCD regional significance thresholds. These issues will be analyzed further in the EIR.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

Potentially Significant Impact. Short-term air pollutant emissions would occur during site preparation and construction activities associated with the proposed project. Construction activities have the potential to generate fugitive dust, stationary-source emissions, and mobile-source emissions. Construction emissions can vary substantially from day to day, depending on the level of activity, type of machinery in use, and for fugitive dust, the prevailing weather conditions.

In addition, the proposed project would generate long-term operational emissions that could potentially exceed VCAPCD regional significance thresholds. These issues will be analyzed further in the EIR.

c) Expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact. An impact is significant if sensitive receptors (such as children and the elderly) are exposed to substantial pollutant concentrations such as toxic air contaminants (TACs) and CO concentrations. Sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, churches, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The land uses located within the vicinity of the project site that are sensitive to air pollution include residential uses, schools, churches, and parks. The EIR will evaluate the potential for the construction and operation of the proposed project to exceed VCAPCD's localized significance thresholds (LSTs) in accordance with VCAPCD's guidance methodology, generate traffic that results in significant CO hotspots, or generate substantial TACs.

d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?

Less Than Significant Impact. The VCAPCD Guidelines recommend that a proposed project include an assessment of the potential to cause a public nuisance by subjecting surrounding land uses to objectionable odors. A public nuisance is defined by VCAPCD Rule 51 (Nuisance) as:

> *such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or to the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.*[3]

Potential sources that may emit odors during the construction activities include equipment exhaust and architectural coatings. Odors from these sources would be localized and generally confined to the project site. Development of the proposed project would utilize typical construction techniques, and the odors would be typical of most construction sites. Additionally, the odors would be temporary, and VCAPCD regulations and complaint programs that govern nuisances would regulate any occasional odors associated with on-site uses. A less than significant impact relative to an odor nuisance would occur during construction associated with the proposed project.

Land uses that are typically associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project would not include any of these odor-producing uses; odors associated with project operation would be limited to on-site waste generation and disposal and occasional minor odors generated during food preparation activities. Furthermore, all trash receptacles would be covered and properly maintained in a manner as to minimize odors, as required by City of Moorpark and Ventura County Health Department regulations, and be emptied on a regular basis. Therefore, the implementations of the proposed project would not generate objectionable odors affecting a substantial number of people. Impacts related to odors would be less than significant, and no further analysis is required in the EIR.

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3 Ventura County Air Pollution Control District, *Ventura County Air Quality Assessment Guidelines*, (2003) 6-10.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES. Would the project:**				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c)	Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐	☐

e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?	☒	☐	☐	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Potentially Significant Impact. The project site is currently vacant, and therefore has the potential to support special status/sensitive species. Therefore, development of the project site could have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service. This issue will be analyzed further in the EIR.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Potentially Significant Impact. The project site is currently vacant, and therefore has the potential to support a sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Therefore, development of the project site could have a substantial adverse effect on a sensitive natural community. This issue will be analyzed further in the EIR.

c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Potentially Significant Impact. During the April 2019 field visit, a preliminary assessment of waters of the State and US was made for any on-site drainages located within the proposed project site. The goal of this field visit was to determine the locations and conditions of potential jurisdictional resources, and it did not constitute a comprehensive delineation of federal and state jurisdictional waters and streams. A more detailed delineation and impact analysis would be required for submittal to the USACE, the RWQCB, and the CDFW for review and concurrence, as part of the permitting phase, prior to commencement of the proposed project.

In the western portion of the site, mulefat thicket is supported by seasonal flows that originate off-site and infiltrate into on-site soils at the downstream terminus of sandy deposits lacking a definable bed and bank. This feature is non-linear and totals approximately 0.40 acres.

In the northeastern potion of the site, storm water flows, partially originating from the southern terminus of Meridian Hills Drive, have eroded a gully into the slopes leading to a natural drainage course with a defined bed and bank and supporting scattered emergent individuals of blue elderberry and other indicators of elevated soil moisture. This feature is approximately 560 ft. long and encompasses approximately 0.11 acres. In 2018, additional soil erosion of the gully was observed from recent rainfalls.

Because of their hydrologic isolation from navigable waters neither of these two drainage features qualifies as waters of the United States, and neither would therefore comprise USACE jurisdiction. However, the presence of hydric soils in both, and the presence of a defined bed and bank in the eastern drainage suggest the CDFW would take jurisdiction over each.

Along the southern boundary of the site, storm water flows through a rectangular channel that extends the entire length of the southern edge of the project site. Although there is no riparian habitat within this channel, it is potentially jurisdictional under CDFW regulations due to the hydrological connectivity it provides to Calleguas Creek.

These issues will be analyzed further in the EIR.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Potentially Significant Impact. Wildlife movement corridors are generally defined at the regional level as habitat linkages that connect large and otherwise disjunct open space areas such as local, state, and national parks, forests, preserves, and wilderness areas. Within these habitat linkages, riparian strips, canyon bottoms, drainages, and even dirt roads and trails are used to facilitate movement. However, within a large natural habitat block or patch, these features are generally not referred to as movement corridors but, rather, travel paths to facilitate movement within the habitat patch. This issue will be analyzed further in the EIR.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?

Potentially Significant Impact. Mature non-native trees, which are of local special interest, are present on the site. The City of Moorpark tree ordinance (No. 101) provides for the protection of mature trees with a cross-sectional area of all major stems of 72 or more square inches, as measured at 4.5 feet above the root crown. This issue will be analyzed further in the EIR.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. There is no habitat conservation plan in place or proposed for this region. Therefore, no impacts to such a plan would occur as a result of construction and operation of the proposed project, and no further analysis is required in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES. Would the project:**				
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☒	☐	☐	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☒	☐	☐	☐
c)	Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

Discussion:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

Potentially Significant Impact. Prior to the October 2003 fire, there were vacant farming operations on a hilltop in the center of the project site. Also present were the burned remains of a single-family residence and accessory buildings next to the western terminus of Casey Road, at the eastern site boundary. None of these structures remain on the project site as a result of the fires in 2003 and 2006. These structures were of relatively recent origin (constructed in the last 50 years) and were not of any historical significance. As a result, the proposed Specific Plan would have no direct impacts on historic resources.

However, there is one identified architectural historical resources within a 0.5-mile radius of the project site, located on the northwest corner of High Street and Moorpark Avenue. Should the results of the traffic analysis determine that High Street would need to be widened to mitigate traffic impacts, this historic resources could be impacted. This issue will be analyzed further in the EIR.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Potentially Significant Impact. Given the ethnographic, prehistoric, and historic setting of the general area, there remains the possibility of archaeological resources being present on the project site. This issue will be analyzed further in the EIR.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Potentially Significant Impact. Given the ethnographic, prehistoric, and historic setting of the general area, there remains a very remote the possibility of human remains, interred outside of a formal cemetery being present on the project site. This issue will be analyzed further in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI.	**ENERGY. Would the project:**				
a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☒	☐	☐	☐
b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☒	☐	☐	☐

Discussion:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Potentially Significant Impact. The proposed project will generate an increased demand for electricity and natural gas services provided by Southern California Edison and the Southern California Gas Company. While the development of the proposed project is not anticipated to cause the wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation, this issue will be analyzed further in the EIR.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Potentially Significant Impact. The proposed project will generate an increased demand for electricity and natural gas services provided by Southern California Edison and the Southern California Gas Company. While the development of the proposed project is not anticipated to conflict with or obstruct a state or local plan for renewable energy or energy efficiency, this issue will be analyzed further in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII.	**GEOLOGY AND SOILS. Would the project:**				
	a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☒	☐	☐	☐
	ii) Strong seismic ground shaking?	☒	☐	☐	☐
	iii) Seismic-related ground failure, including liquefaction?	☒	☐	☐	☐
	iv) Landslides?	☒	☐	☐	☐
	b) Result in substantial soil erosion or the loss of topsoil?	☒	☐	☐	☐

c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☒	☐	☐	☐
d)	Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☒	☐	☐	☐
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐

Discussion:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

Potentially Significant Impact. The Specific Plan site is located in a seismically active region, and is in close proximity to several active and potentially active faults in southern California. These issues will be analyzed further in the EIR.

b) Result in substantial soil erosion or the loss of topsoil?

Potentially Significant Impact. Site grading during the construction phases of the proposed project would involve a substantial amount of earth movement. Unless preventative control measures are implemented, short-term wind and water driven erosion of soils from the project could occur. These issues will be analyzed further in the EIR.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Potentially Significant Impact. Development on the Specific Plan site has the potential to locate structures on sites susceptible to landslide, lateral spreading, subsidence, liquefaction, or collapse. These issues will be analyzed further in the EIR.

d) Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Potentially Significant Impact. Expansive materials, if left untreated, can cause damage to structures, including cracking, heaving, and buckling of foundations. Alluvial deposits at the Specific Plan site have a low to very low expansion potential. However, there may be small, localized areas of moderate to highly expansive soils. This issue will be analyzed further in the EIR.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. Ventura County Waterworks District No. 1 would provide sanitary service for the project site. Two sewer lines in Gabbert Road (12 inch) and Poindexter Avenue (18 inch) would provide service for the project site. The configuration of the sewage collection system for the project will be determined at the time individual tract maps are prepared for each phase of the project. As such, no septic tanks or alternative waste water systems would be

used for the proposed project and no impact would occur. No further analysis is required in the EIR.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Potentially Significant Impact. Site grading during the construction phases of the proposed project would involve a substantial amount of earth movement, leading to the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. This issue will be analyzed further in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	**GREENHOUSE GAS EMISSIONS. Would the project:**				
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b)	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Discussion:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Potentially Significant Impact. The proposed project is expected to generate an increase in greenhouse gas (GHG) emissions associated with construction activities and normal project operational activities. To date, the VCAPCD has not adopted or recommended thresholds of significance for the evaluation of GHG impacts associated with general development projects. Instead, the VCAPCD recommends that lead agencies in Ventura County consider the draft thresholds of significance being considered by the South Coast Air Quality Management District (SCAQMD). These thresholds have been used for other projects within the City of Moorpark and elsewhere in Ventura County. The EIR will assess the proposed project's effect on GHG emissions according to these thresholds.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potentially Significant Impact. As the proposed project would emit greenhouse gases, the EIR will include further evaluation of project-related emissions and associated emission reduction strategies to determine whether the project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	**HAZARDS AND HAZARDOUS MATERIALS. Would the project:**				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☒	☐	☐	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☒	☐	☐	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☒	☐	☐	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐

f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☒	☐	☐	☐

Discussion:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. A significant impact would occur if the proposed project would create a significant hazard though the routine transfer, use, or disposal of hazardous materials. Construction of the proposed project would involve the use of those hazardous materials that are typically necessary for construction of residential development (i.e., paints, building materials, cleaners, fuel for construction equipment, etc.). Therefore, construction of the proposed project would involve routine transport, use, and disposal of these types of hazardous materials throughout the duration of construction activities. However, the transport, use, and disposal of construction-related hazardous materials would occur in conformance with all applicable local, state, and federal regulations governing such activities. For example, the proposed project would be required to implement standard best management practices (BMPs) set forth by the City and the Los Angeles Regional Water Quality Control Board (RWQCB) which would ensure that wastes generated during the construction process are disposed of properly. Therefore, the proposed project would not create a significant impact related to routine transport, use, or disposal of hazardous materials during construction and impacts would be less than significant.

The proposed project would provide up to 755 units of residential development. During project operation, typical household chemicals such as cleaning solvents would be used in the project residences. However, these products do not pose a substantial risk to people or property and are not likely to be hazardous to the environment if correctly disposed of. Operational impacts for hazards and the use of hazardous substances by the project site would not have the potential to result in significant impacts associated with the

transportation, use, or disposal of these household chemicals. The City of Moorpark maintains a household hazardous waste program that provides for the disposal of these materials. Project impacts related to this issue would be less than significant. No further analysis is required in the EIR.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Potentially Significant Impact. As noted in the preceding section, compliance with federal, state, and local laws and regulations relating to transport, storage, disposal and sale of hazardous materials would minimize any potential for accidental release or upset of hazardous materials during project operations.

However, accidental release of hazardous materials associated with the former farming operations, such as pesticide compounds including Dichlorodiphenyltrichloroethane (DDT), its two daughter products Dichlorodiphenyldichloroethylene (DDE) and Dichlorodiphenyldichloroethane (DDD), Alpha Chlordane, and Gamma Chlordane which have contaminated site soil, could occur with mechanical and grading equipment used during construction activities. Therefore, this impact will be analyzed further in an EIR.

Further, total of 15 water wells have historically been identified on the project site. Five of the wells are known to have been destroyed; however, for the other ten the status is listed as '*Can't Locate Indeterminable*'. The Ventura County Public Works Agency (VCPWA) has stated that if any of the wells with a status of '*Can't Locate Indeterminable*' are found during grading or development of the property, the applicant must destroy the well. If the existing wells are not properly abandoned, they could act as a conduit for contamination, if present, to migrate to an aquifer. The VCPWA did not issue specific conditions for water well abandonment on the specific plan site, but provided minimum conditions for abandonment. Without proper abandonment, impacts to groundwater from potential on-site contamination would be considered significant. This impact will be analyzed further in the EIR.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Potentially Significant Impact. The nearest public schools, Walnut Canyon Elementary, and Union High School, are immediately adjacent to the east of the proposed project site. Chaparral Middle School is located directly south of the proposed project site, across Poindexter Avenue.

Accidental release of hazardous materials associated with the former farming operations, such as pesticide compounds including Dichlorodiphenyltrichloroethane (DDT), its two daughter products Dichlorodiphenyldichloroethylene (DDE) and Dichlorodiphenyldichloroethane (DDD), Alpha Chlordane, and Gamma Chlordane which have contaminated site soil, could occur with mechanical and grading equipment used during construction activities. Therefore, this impact will be analyzed further in the EIR.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Potentially Significant Impact. California Government Code Section 65962.5 requires various State agencies, including but not limited to, the Department of Toxic Substances Control (DTSC) and the SWRCB, to compile lists of hazardous waste disposal facilities, unauthorized releases from underground storage tanks, contaminated drinking water wells and solid waste facilities where there is known migration of hazardous waste and submit such information to the Secretary for Environmental Protection on at least an annual basis. A significant impact may occur if a project site is included on any of the above lists and poses an environmental hazard to surrounding sensitive uses.

This impact will be analyzed further in the EIR.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Less Than Significant Impact. The nearest airports are located approximately 11 miles to the northwest (Santa Paula Airport) or southwest (Camarillo Airport). However, there is a

private helipad located approximately 250 feet south of the southeast project boundary. Construction impacts would short-term in nature and would not significantly impact landing or takeoff operations. During the operation of the project, the nearest buildings to the helipad would be single-family residences in Planning Area 2. The heights of these buildings would be a maximum of 28 feet to the top of the roof. According to Federal Aviation Administration (FAA) regulations, a helipad would require a minimum of 280 feet for a protection zone (in the takeoff and landing area direction). The nearest building, Planning Area 2 would be 2,750 feet from the helipad. In addition, given the location of the high tension lines it is not likely that the helicopter would either take off or approach over the project site. Therefore, impacts would be less than significant. No further analysis is required in the EIR.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The proposed circulation improvements to be implemented under the Hitch Ranch Specific Plan would provide additional access for potential movement of emergency equipment for locations north, east and west of the project site. The proposed circulation improvements would provide alternative east/west access via the Casey Road, High Street, and "A" Street extensions, and ultimately via the four-lane arterial proposed through the central portion of the project site once it has been constructed. The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; impacts would be less than significant and no further analysis is required in the EIR.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Potentially Significant Impact. According to the Fire Protection Division of the Ventura County Fire Protection District, the specific plan area is a designated "high fire hazard area." A "high fire hazard area" is defined as any area or structure within 500 feet of standing brush or grass. In addition, the site is categorized as being within a Very High Fire Hazard Severity Zone (VHFHSZ) by the California Department of Forestry and Fire Protection (CAL FIRE). This impact will be analyzed further in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	**HYDROLOGY AND WATER QUALITY. Would the project:**				
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☒	☐	☐	☐
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☒	☐	☐	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☒	☐	☐	☐
	i) result in substantial erosion or siltation on- or off-site;	☒	☐	☐	☐
	ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☒	☐	☐	☐

	iii)	create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☒	☐	☐	☐
	iv)	impede or redirect flood flows?	☒	☐	☐	☐
d)		In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☒	☐	☐	☐
e)		Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☒	☐	☐	☐

Discussion:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Potentially Significant Impact. The Specific Plan will substantially alter the drainage patterns on the project site. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff may occur. This requires further study to determine whether significant impacts would occur as a result of developed site runoff. A comprehensive hydrology/drainage study will need to be prepared to determine project impacts, appropriate mitigation, and compliance with Ventura County Watershed Protection District plans affecting the area.

During the April 2019 field visit, a preliminary assessment of waters of the State and US was made for any on-site drainages located within the proposed project site. The goal of this field visit was to determine the locations and conditions of potential jurisdictional resources, and it did not constitute a comprehensive delineation of federal and state jurisdictional waters and streams. A more detailed delineation and impact analysis would be required for submittal to the USACE, the RWQCB, and the CDFW for review and concurrence, as part of

the permitting phase, prior to commencement of the proposed project. An intermittent blue-line stream was observed on the project site east of Gabbert Road. The proposed project could increase or decrease the amount of water within that stream-course, depending on the overall on-site drainage plan. The use of on-site drainage facilities could result in the diversion of runoff from entering the blue-line stream located on the project site and result in a decrease in water flow. An evaluation of pre- and post-development drainage conditions is required to determine whether runoff into the intermittent stream would occur, and whether significant impacts would result.

An evaluation of pre- and post-development hydrology and drainage system requirements will be conducted to determine whether the project could result in significant drainage impacts and whether it would expose persons or property to flood hazards. An evaluation of project impacts, as well as cumulative development impacts, on the Walnut Canyon Flood Control Channel will also be conducted. The discussion of hydrology will also include an analysis of water quality with respect to the applicability of the National Pollutant Discharge Elimination System (NPDES) permitting requirements relating to non-point discharges, as well as the policies and guidelines contained in the Ventura County Water Management Plan and the Los Angeles County Regional Water Quality Control Board Water Control Plan, Los Angeles Region, Santa Clara River, and Los Angeles River Basins. An evaluation of the project's water demand, as well as water demand associated with cumulative development, with respect to impacts on public water supplies will also be conducted. This issue will be addressed in greater detail in the EIR.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Potentially Significant Impact. The use of detention or retention basins to control runoff could result in additions to groundwater through infiltration/percolation. The project is located over the South Las Posas and East Las Posas Groundwater Basins. The supply of groundwater from these basins is managed by the Fox Canyon Groundwater Management Agency. Quality of the groundwater supply could be affected through both the percolation of water in the proposed detention basins on the project site and the percolation of site runoff downstream. The EIR will address the impact of the detention basins and downstream project site runoff on the quality of the groundwater supply. No deep

excavations are anticipated as part of the grading plan; however, the results of a geologic study that identifies depths to groundwater will be required to determine whether an aquifer could be intercepted by cuts or excavations. Groundwater supplies and the potential depletion of these resources would be assessed through the preparation of a Water Supply Assessment (WSA) pursuant to Senate Bill (SB) 610 and State CEQA Guidelines Section 15083.5. These issues will be further addressed in an EIR.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) result in substantial erosion or siltation on- or off-site;

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv) impede or redirect flood flows?

Potentially Significant Impact.

As previously discussed, the Specific Plan will substantially alter the drainage patterns on the project site. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff may occur. This requires further study to determine whether significant impacts would occur as a result of developed site runoff. A comprehensive hydrology/drainage study will need to be prepared to determine project impacts, appropriate mitigation, and compliance with Ventura County Watershed Protection District plans affecting the area.

These issues will be further addressed in an EIR.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Potentially Significant Impact. A portion of the project site is located within the Federal Emergency Management Agency (FEMA) 100-year flood hazard area (Zone "A" of the Flood Insurance Rate Map 060712 - 0005A). Areas within the 100-year flood hazard zone occur along the south site boundary, on either side of Gabbert Road, and in the low-lying area between Gabbert Road and the nearest hillside to the east. The hydrology/drainage study will assess the impacts to these areas and recommend appropriate mitigation. The study will also analyze improvements that would remove the project site from the FEMA flood hazard area. Grading and construction may alter ground elevations or otherwise affect the course or flow of floodwaters in the FEMA-designated 100-year flood hazard zones or areas contributory to the flood hazard zone. The hydrology/drainage study will analyze those impacts and recommend appropriate mitigation. This issue will be addressed in greater detail in the EIR.

A tsunami is a series of waves generated by large earthquakes that create vertical movement on the ocean floor. Tsunamis can reach more than 50 feet in height, move inland several hundred feet, and threaten life and property. Often, the first wave of a tsunami is not the largest. Tsunamis can occur on all coastal regions of the world, but are most common along margins of the Pacific Ocean. Tsunamis can travel from one side of the Pacific to the other in a day, at a velocity of 600 miles an hour in deep water. A locally generated tsunami may reach the shore within minutes. Due to its location approximately 16 miles inland from the Pacific Ocean, the project site is not susceptible to tsunamis. Impacts would be less than significant in this regard, and no further study is required.

A seiche is a periodic oscillation of a body of water resulting from seismic shaking or other causes that can cause flooding. The project site is not located within a coastal area, and no large bodies of water are on or adjacent to the project area that would impact future projects due to a seiche. Impacts would be less than significant, and no further study is required.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Potentially Significant Impact. As previously discussed, an evaluation of pre- and post-development hydrology and drainage system requirements will include an analysis of water quality with respect to the applicability of the NPDES permitting requirements relating to non-point discharges, as well as the policies and guidelines contained in the Ventura

County Water Management Plan and the Los Angeles County Regional Water Quality Control Board Water Control Plan, Los Angeles Region, Santa Clara River, and Los Angeles River Basins. An evaluation of the project's water demand, as well as water demand associated with cumulative development, with respect to impacts on public water supplies will also be conducted. This issue will be addressed in greater detail in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	**LAND USE AND PLANNING. Would the project:**				
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐

Discussion:

a) Physically divide an established community?

Less Than Significant Impact. As shown on **Figure 2**, the Hitch Ranch Specific Plan, while surrounded by other existing land uses, would not disrupt or divide the physical arrangement of an established community and impact would be less than significant. No further analysis is required in the EIR.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Potentially Significant Impact. Potential conflicts and impacts related to on-site and surrounding land uses and compatibility, and the project's consistency with adopted planning programs and their requirements will be analyzed further in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII.	**MINERAL RESOURCES. Would the project:**				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. The proposed development is not located within an area designated by the County or State as underlain by significant mineral resources.[4] The site is not designated as a mineral resource recovery site in the Ventura County General Plan, and there are no existing permitted aggregate mining facilities in the vicinity of the proposed Project. In addition, the proposed Project would not be located adjacent to a principal access road for a permitted aggregate mining site and as such, it would not have the potential to substantially restrict access to aggregate resources. Therefore, the proposed development would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state and there would be no impact. No further analysis in the EIR is required.

4 California Division of Mines and Geology's classification of the Ventura area into Mineral Resource Zones, website: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_145/SR_145_Text.pdf, accessed March 1, 2019.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. The Conservation, Open Space, and Recreation element of the Moorpark General Plan includes policies designed to maintain the overall quality of life for Moorpark residents through rational management of natural resources and open space lands (City of Moorpark, 1986). A mineral resource overlay designation is included in the land use map of the General Plan and applies to areas outside of the City limits but within the Moorpark Area of Interest. The overlay designation indicates areas containing significant mineral resource deposits as identified by CGS. The proposed project is not located in areas of regional mineral resource significance as identified in the Moorpark General Plan and there would be no impact. No further analysis in the EIR is required.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII.	**NOISE. Would the project result in:**				
a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b)	Generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Discussion:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Potentially Significant Impact. Construction and operation of the proposed project would have the potential to increase noise levels in the vicinity of the project site due to vehicle trips that would be generated by the proposed project as well as from on-site operational activities, such as outdoor use of proposed open space and recreation areas, and stationary sources, including mechanical systems. In addition, construction activities could generate

substantial noise affecting existing residences and schools adjacent to the project site. The EIR will address the potential noise impacts associated with construction and operation of the proposed project.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Potentially Significant Impact. Groundborne vibration or noise would primarily be generated during construction of the proposed project. The temporary increase in the groundborne vibration levels could impact sensitive land uses (e.g., residences and schools) adjacent to the project area. This issue will be analyzed further in the EIR and mitigation measures will be included as necessary.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less Than Significant Impact. The nearest airports are located approximately 11 miles to the northwest (Santa Paula Airport) or southwest (Camarillo Airport). However, there is a private helipad located approximately 250 feet south of the southeast project boundary. Construction impacts would short-term in nature and would not significantly impact landing or takeoff operations. During the operation of the project, the nearest buildings to the helipad would be single-family residences in Planning Area 2. The heights of these buildings would be a maximum of 28 feet to the top of the roof. According to Federal Aviation Administration (FAA) regulations, a helipad would require a minimum of 280 feet for a protection zone (in the takeoff and landing area direction). The nearest building, Planning Area 2 would be 2,750 feet from the helipad. In addition, given the location of the high tension lines it is not likely that the helicopter would either take off or approach over the project site. Therefore, impacts would be less than significant. No further analysis is required in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV.	**POPULATION AND HOUSING. Would the project:**				
a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of road or other infrastructure)?	☒	☐	☐	☐
b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of road or other infrastructure)?

Potentially Significant Impact. In accordance with the City of Moorpark General Plan, the Land Use Element designates the site as Specific Plan No.1, Hitch Ranch, and is planned for development of a residential community. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines. The specific plan would allow the development of 755 residential dwelling units, 8.07 acres of active and passive recreational facilities, a 6-acre public park, and 59.72 acres of natural open space. The proposed Specific Plan is intended to implement the existing land use policies for this site, through provisions that specify the arrangement, density, and character of permitted land uses.

A time frame for buildout of the project remains to be quantified; therefore, it is not known how this project would affect the growth rate of this area. Potential impacts relating to the population and housing increases created by the Specific Plan will be evaluated in the EIR.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The site contains no dwelling units or residents. Consequently, the project would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere, nor displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. There would be no impact and further analysis is not required in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV.	**PUBLIC SERVICES. Would the project:**				
a)	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☐
i)	Fire protection?	☒	☐	☐	☐
ii)	Police protection?	☒	☐	☐	☐
iii)	Schools?	☒	☐	☐	☐
iv)	Parks?	☒	☐	☐	☐
v)	Other public facilities?	☒	☐	☐	☐

Discussion:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire protection?

Potentially Significant Impact. The Ventura County Fire Protection District is responsible for providing services in the project area. Two fire stations are located in the proximity of the project area, Fire Station 42 and Fire Station 40. Fire Station 42 is located at 295 High Street, approximately 0.5 mile east of the Specific Plan area. Fires Station 42 would be the

primary response company. Fire Station 40 is located at 4185 Cedar Springs Street, approximately 2.3 miles south of the project site. Further analysis to determine sufficient fire protection staffing, response time, etc., will be addressed in the EIR.

ii) Police protection?

Potentially Significant Impact. Police protection services in the City of Moorpark are provided through contract with the Ventura County Sheriff's Department. Police services are provided out of a station located at the intersection of Spring and Flinn Streets. Further analysis to determine sufficient police protection staffing, response time, etc., will be addressed in the EIR.

iii) Schools?

Potentially Significant Impact. The Moorpark Unified School District (MUSD) provides public education services to the project vicinity. Development of the 755 units proposed as a part of the Specific Plan would introduce additional students in the MUSD. These additional students would increase the demand on school facilities. School fees are generally used to mitigate increase impacts associated with adding incremental amounts of students to school districts. Further analysis of the impact that the project will have on the public school system will be included in the EIR.

iv) Parks?

Potentially Significant Impact. The proposed project would increase the demand for parks, recreation and/or trail facilities and programs provided by the City of Moorpark. The project's demand for park land will be quantified, in accordance with the standards set forth in the City's Open Space, Conservation and Recreation Element of the General Plan, compared to the amount of public park land proposed as part of the Specific Plan plus any required Quimby fees, and evaluated to determine whether any net impacts on parks and recreation resources would result. An analysis of the proposed Trail Element, with respect to impacts on existing trail facilities, as well as an analysis of the plan's consistency with local and regional master planned trail facilities, will be prepared for the EIR.

v) Other public facilities (libraries)?

Potentially Significant Impact. A significant impact would occur if the project includes substantial employment or population growth that could generate a demand for other public facilities (such as libraries), which would exceed the capacity available to serve the project site and the project area. Within the City of Moorpark, the Moorpark City Library (MCL) provides services to residents at its facility located at 699 Moorpark Ave, approximately 0.3 miles from the project site.

Increases in population associated with the proposed project could result in the need for additional library resources or facilities. The MCL will be consulted regarding existing library resources and facilities available to serve the project site and whether implementation of the proposed project would require additional library resources and/or facilities, including new or expanded libraries. This issue will be analyzed further in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI.	**RECREATION. Would the project:**				
a)	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☒	☐	☐	☐
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which have an adverse physical effect on the environment?	☒	☐	☐	☐

Discussion:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which have an adverse physical effect on the environment?

Potentially Significant Impact. The project's demand for park land will be quantified, in accordance with the standards set forth in the City's Open Space, Conservation and Recreation Element of the General Plan, compared to the amount of public park land proposed as part of the Specific Plan plus any required Quimby fees, and evaluated to determine whether any net impacts on parks and recreation resources would result. An analysis of the proposed Trail Element, with respect to impacts on existing trail facilities, as well as an analysis of the plan's consistency with local and regional master planned trail facilities, will be prepared for the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII.	**Transportation. Would the project:**				
a)	Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☒	☐	☐	☐
b)	Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☒	☐	☐	☐
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐
d)	Result in inadequate emergency access?	☐	☐	☒	☐

Discussion:

a) Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Potentially Significant Impact. A complete traffic study, including trip generation, trip distribution and intersection impact analysis associated with the land use and circulation plan will be prepared by a professional traffic engineer. This study will also include a long range analysis that utilizes the most current Citywide traffic model data to estimate the cumulative increase in traffic over the buildout time frame of this project, as well as a short range analysis, with horizon years based on the final phasing schedule, to examine phased project development in relation to roadway needs. Potential impacts will be examined in relation to the existing and planned circulation system, including an analysis of project and cumulative traffic distribution with and without the completion of the planned four-lane

arterial proposed through the central portion of the project site. The specific elements of the roadway network to be evaluated shall be determined through consultation with the City of Moorpark Director of Public Works and through review of the Ventura County Congestion Management Plan. The traffic analysis will be consistent with the requirements of the Ventura County Congestion Management Plan as well as the City of Moorpark guidelines regarding LOS standards. An analysis of the Specific Plan's impact on existing bicycle facilities, as well as an analysis of the Specific Plan's consistency with local and regional master planned bicycle facilities, will be prepared. Finally, potential increases in traffic hazards to vehicles, pedestrians, and bicyclists attributable to this project's traffic will be evaluated; this analysis will include a consideration of local school traffic, and a review of the Gabbert Road and private road crossing of the Union Pacific Railway tracks.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Potentially Significant Impact. Recent updates to the CEQA Guidelines suggest Vehicle Miles Traveled (VMT) as an appropriate metric for traffic analysis; some jurisdictions are including VMT in their traffic analysis in addition to LOS. The City does not currently have guidance related to VMT analysis or a VMT threshold. However, the EIR will include a qualitative analysis of potential VMT impacts.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Potentially Significant Impact. As the project site is developed and homes are occupied, traffic will increase on local roadways leading to and from the project site. Traffic will be most pronounced during the AM and PM peak hours, when commuters travel to and from their job sites. During the AM peak hour, traffic going to local schools will also be present, including vehicle as well as pedestrian and bicycle traffic. An evaluation of project-related increases in traffic at local intersections and nearby school sites needs to be conducted to identify potential increases in traffic hazards to motorists, bicyclists, and pedestrians. Furthermore, project-related traffic increases along Gabbert Road, north of Poindexter A venue, will increase the potential for conflict between train movements, vehicle movements and pedestrian/bicycle movements at the existing Gabbert Road crossing of the Ventura County Transportation Commission/Union Pacific Railroad tracks. The private railroad

crossing located at the mid-point of the southern project boundary is proposed to be maintained for long-term access by utility companies. Potential traffic conflicts at the railroad crossings will be evaluated to determine if a significant increase in the risk of train/automobile/pedestrian/bicycle conflicts could result.

d) Result in inadequate emergency access?

Less Than Significant Impact. As previously discussed, the proposed circulation improvements to be implemented under the Hitch Ranch Specific Plan would provide additional access for potential movement of emergency equipment for locations north, east and west of the project site. The proposed circulation improvements would provide alternative east/west access via the Casey Road, High Street, and "A" Street extensions, and ultimately via the four-lane arterial proposed through the central portion of the project site once it has been constructed. Implementation of the proposed project would increase emergency access to the project site and nearby uses; impacts would be less than significant and no further analysis is required in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII.	**TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**				
a)	Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	☒	☐	☐	☐
b)	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☒	☐	☐	☐

Discussion:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Potentially Significant Impact. Approved by Governor Jerry Brown on September 25, 2014, Assembly Bill 52 establishes a formal consultation process for California Native American Tribes to identify potential significant impacts to Tribal Cultural Resources, as defined in Public Resources Code Section 21074, as part of CEQA. Effective July 1, 2015, Assembly Bill 52 applies to projects that file a Notice of Preparation or Notice of Negative Declaration/Mitigated Negative Declaration on or after July 1, 2015. As specified in Assembly Bill 52, lead agencies must provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if the tribe has submitted a written request to be notified. The tribe must respond to the lead agency within 30 days of receipt of the notification if it wishes to engage in consultation on the project, and the lead agency must begin the consultation process within 30 days of receiving the request for consultation.

In compliance with Assembly Bill 52, the City will conduct outreach to the Coastal Band of Chumash Indians and Barbareno/Ventureno Band of Mission Indians.

Grading of the project site would involve the moving of approximately 2.5 million cubic yards of earth. Therefore, the potential exists for the project to significantly impact a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe. Further information regarding tribal consultation and analysis of this topic will be provided in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX.	**UTILITIES AND SERVICE SYSTEMS. Would the project:**				
a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☒	☐	☐	☐
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☒	☐	☐	☐
c)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☒	☐	☐	☐
d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☒	☐	☐	☐

e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☒	☐	☐	☐

Discussion:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Potentially Significant Impact. Implementation of the proposed Hitch Ranch Specific Plan will require the construction of new water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects. These issues will be analyzed further in the EIR.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Potentially Significant Impact. Implementation of the proposed Hitch Ranch Specific Plan will increase water demand in the project area. A Water Supply Assessment (WSA) pursuant to Senate Bill 610 and State CEOA Guidelines Section 15083.5 will be prepared, in consultation with the Ventura County Waterworks District No. 1 (VCWD), which distributes water to the City of Moorpark, the Calleguas Municipal Water District, which supplies imported water to the VCWD for distribution throughout the City of Moorpark, and the Fox Canyon Ground water Management Agency, which manages groundwater supplies in the area. An analysis will also be performed to determine whether significant extensions to or expansions of off-site water supply and distribution facilities would be required and whether the water demand for this project is within existing VCWD or Calleguas MWD demand projections for this area. As such, these issues will be analyzed further in the EIR.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Potentially Significant Impact. Implementation of the proposed Hitch Ranch Specific Plan will increase wastewater generation and the need for wastewater collection and treatment facilities provided by the VCWD. The increased demand requires quantification and evaluation in consultation with the VCWD to determine whether extensions of or expansions to off-site wastewater collection and treatment facilities would be required to serve the developed project. This issue will be analyzed in the EIR.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Potentially Significant Impact. Implementation of the proposed Hitch Ranch Specific Plan will increase solid waste generation on an annual basis, over the life of the project. Solid wastes would also be generated during the construction phases. Given the mandate of Assembly Bill 939, which stipulates that local governments must reduce the disposal of solid wastes at landfills by estimated percentages by specified dates, the solid waste generation of this project requires quantification and evaluation with respect to Ventura County Solid Waste Management Department's Guidelines for Preparation of Environmental Assessments for Solid Waste Impacts and the City's Solid Waste Reduction Plan. This issue will be further addressed in an EIR.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Potentially Significant Impact. A significant impact may occur if a project would generate solid waste that was not disposed of in accordance with applicable regulations. The California Integrated Waste Management Act of 1989 (AB 939) was the first recycling legislation in the country to mandate recycling diversion goals. AB 939 required all California cities, counties and approved regional solid waste management agencies responsible to enact plans and programs to reduce waste disposal. Jurisdictions were required to meet diversion goals of 50% by the year 2000 and a statewide goal of 75% by 2020.

The City is currently meeting the state-mandated diversion goal of 50% by 2000 set by the California Integrated Waste Management Act (AB 939) of 1989.[5] The proposed project would be required to comply with applicable regulations regarding solid waste disposal. The proposed project's potential impacts associated with federal, state, and local statutes and regulations related to solid waste will be analyzed in the EIR.

5 City of Moorpark, Solid Waste Division, website: https://www.moorparkca.gov/139/Solid-Waste, accessed March 14, 2019.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XX.	**WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:**				
a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b)	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☒	☐	☐	☐
c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☒	☐	☐	☐
d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☒	☐	☐	☐

Discussion:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. As previously discussed, the proposed circulation improvements to be implemented under the Hitch Ranch Specific Plan would provide additional access for potential movement of emergency equipment for locations north, east and west of the project site. The proposed circulation improvements would provide alternative east/west access via the Casey Road, High Street, and "A" Street extensions, and ultimately via the four-lane arterial proposed through the central portion of the project site once it has been constructed. Implementation of the proposed project would increase emergency access to the project site and nearby uses; impacts would be less than significant and no further analysis is required in the EIR.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Potentially Significant Impact. The proposed project is located on land classified as a very high fire severity zone. Further, the project site contains areas of risk due to slope, prevailing winds, and other factors, that could exacerbate wildfire risks, and expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. These issues will be analyzed further in the EIR.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Potentially Significant Impact. The proposed project will require the installation of associated infrastructure (roads, fuel breaks, emergency water sources, power lines and other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. These issues will be analyzed further in the EIR.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Potentially Significant Impact. The project site has rolling topography with a range of slopes. Multiple drainages currently flow through the site. Following wildfire in the vicinity, unstable soils and changes to drainage and vegetation could have the potential to mobilize and flow downhill toward Poindexter Avenue and other surrounding areas, placing nearby structures, roadways, and residents at risk. While the potential for substantial post-fire debris or mudflow is relatively low, given that the project site lies within an area of high fire hazard, this issue is a potentially significant impact and will be analyzed in the EIR.

	Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI.	**MANDATORY FINDINGS OF SIGNIFICANCE**				
a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b)	Does the project have impacts which are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☒	☐	☐	☐
c)	Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Discussion:

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Potentially Significant Impacts. Implementation of the proposed Specific Plan has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. These issues will be addressed in the EIR.

b) Does the project have impacts which are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Potentially Significant Impacts. The potential for cumulative impacts occurs when the independent impacts of the project are combined with impacts from other development to result in impacts that are greater than the impacts of the project alone. Located within the vicinity of the project site are other current and reasonably foreseeable projects whose development, in conjunction with that of the project, may contribute to potential cumulative impacts. Impacts of the project on both an individual and cumulative basis will be addressed in the EIR for the following subject areas: aesthetics; air quality; energy; greenhouse gas emissions; hydrology and water quality; land use and planning; noise; population and housing: public services (fire protection, police protection, schools, parks, and libraries); recreation; transportation; tribal cultural resources; utilities and service systems (water, wastewater, solid waste, and energy); and wildfire.

With regard to cumulative effects on agricultural resources, biological resources, cultural resources, hazards and hazardous materials, mineral resources, and population and housing, the project would not combine with related projects or other cumulative growth to result in significant cumulative impacts. Specifically, with respect to agricultural resources and mineral resources, the project would have a less than significant or no impact to these resources, and therefore could not combine with other projects to result in cumulative impacts. With respect to biological resources, cultural resources, and geology and soils, these resource areas are generally site specific and need to be evaluated within the context of each individual project. Furthermore, related projects would be required to comply with existing regulatory requirements and the City's building permit review and approval process, which address these subjects.

c) Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impacts. Based on the analysis contained in this Initial Study, the project could result in potentially significant impacts with regard to the following subject areas: aesthetics; air quality; biological resources, cultural resources, energy, geology and soils; greenhouse gas emissions; hydrology and water quality; land use and planning; noise; population and housing; public services (fire protection, police protection, schools, parks, and libraries); recreation; transportation; tribal cultural resources; utilities and service systems (water, wastewater, and solid waste), and wildfire. As a result, these potential effects will be analyzed further in the EIR.

C

Scoping Comments

MOORPARK
PLANNING COMMISSION MEETING

SPEAKER CARD

Fill out a speaker card for each separate agenda item you intend to address.

Please print clearly and place in the box at the end of the staff table.

Meeting Date: July 23, 2019 Agenda Item/Topic: 9.B.

Name: Dennis Hardgrave Organization: Comstock - Hitch Ranch

Address: 211 Village Commons Blvd #15 Camarillo 93012

Are you an applicant or an applicant's representative? **YES** ☒ **NO** ☐

PUBLIC COMMENTS (for items not listed on the Agenda)

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DISCUSSION ITEMS

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*Per Gov. Code Section 54954.3(b)(2), twice the allotted time will be granted to a member of the public who utilizes a translator.

MOORPARK
PLANNING COMMISSION MEETING

SPEAKER CARD

Fill out a speaker card for each separate agenda item you intend to address.

Please print clearly and place in the box at the end of the staff table.

Meeting Date: 7-23-19 Agenda Item/Topic: 9A Hitch Ranch EIR

Name: Barbara Wareham Organization: Gabbert Canyon

Address: 11905 Elwin Ln

Are you an applicant or an applicant's representative? **YES** ☐ **NO** ☑

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MOORPARK
PLANNING COMMISSION MEETING

SPEAKER CARD

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Please print clearly and place in the box at the end of the staff table.

Meeting Date: 7/23/19 Agenda Item/Topic: 9A.

Name: Sharon Noel Organization: _____

Address: 6131 Gabbert Rd

Are you an applicant or an applicant's representative? **YES** ☐ **NO** ☒

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MOORPARK
PLANNING COMMISSION MEETING

SPEAKER CARD

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Please print clearly and place in the box at the end of the staff table.

Meeting Date: 7/23/19 Agenda Item/Topic: 9A

Name: Kathleen Stacey Organization: _____

Address: 12420 Rainier St Moorpark

Are you an applicant or an applicant's representative? **YES** ☐ **NO** ☒

PUBLIC COMMENTS (for items not listed on the Agenda)

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MOORPARK
PLANNING COMMISSION MEETING

SPEAKER CARD

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Please print clearly and place in the box at the end of the staff table.

Meeting Date: 7-23-2019 Agenda Item/Topic: 9A

Name: COLIN VELAZQUEZ Organization: _____

Address: 1078 MELLOW LN SIMI VALLEY

Are you an applicant or an applicant's representative? **YES** ☐ **NO** ☑

PUBLIC COMMENTS (for items not listed on the Agenda)

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DEPARTMENT OF TRANSPORTATION
DISTRICT 7 – Office of Regional Planning
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-0475
FAX (213) 897-1337
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

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AUG - 8 2019
CITY OF MOORPARK
COMMUNITY DEVELOPMENT

August 6, 2019

Mr. Douglas Spondello, Planning Manager
City of Moorpark
799 Moorpark Avenue
Moorpark, CA 93021

RE: Hitch Ranch Specific Plan – Notice of Preparation (NOP) and Initial Study
GTS # 07-VEN-2019-00310
Vic. VEN-118/PM: 16.881
VEN-23/PM: 13.621

Dear Mr. Douglas Spondello:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced NOP and Initial Study. The proposed specific plan is designed for a mixed-density community that incorporates various land uses, which would help to satisfy a regional demand for housing and provide local recreational and institutional uses for new residents. The specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses resulting in the development of 755 dwelling units, a neighborhood park site, an institutional use, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines. The City of Moorpark is considered the Lead Agency under the California Environmental Quality Act (CEQA).

The nearest State facilities to the proposed project are State Route 23 (SR-23) and SR-118. In the Transportation section of the proposed project's Initial Study checklist, it states that the project would have a potentially significant impact in terms of:

a. Conflicting with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;

b. Conflicting or being inconsistent with CEQA Guidelines section 15064.3, subdivision (b); and

c. Substantially increasing hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)

The Initial Study checklist also states that the project would have a less than significant impact in terms of causing inadequate emergency access.

As stated in the Initial Study, many of the potentially significant impacts will be further discussed in the upcoming Draft Environmental Impact Report (DEIR). Caltrans looks forward to receiving the DEIR for review and to provide further comments, if warranted. From reviewing the initial study, Caltrans agrees that the project will potentially impact nearby State facilities. The following locations may need to be included in the forthcoming transportation impact study (TIS), which will be included in the DEIR:

a. All intersections along SR-118 from the SR-23 and SR-118 interchange adjacent to White Sage

Road, to Tierra Rejada Road

b. All intersections along SR-23 (also known as Moorpark Avenue and Walnut Canyon Road) from SR-118 to the northernmost proposed project access street, which is currently Meridian Hills Drive

c. The intersection of Poindexter Avenue and Gabbert Road

d. The intersection of Poindexter Avenue and Moorpark Avenue

e. The SR-23 and SR-118 interchange adjacent to White Sage Road, including the ramps, ramp influence areas (i.e. acceleration and deceleration lanes), and weaving segments within and adjacent to this interchange

f. The Princeton Avenue and SR-118 interchange, including the ramps, ramp influence areas (i.e. acceleration and deceleration lanes), and weaving segments within and adjacent to this interchange

The location/intersections to be studied should not be limited to those mentioned above. Caltrans recommends that the above locations be studied in the TIS due to their proximity to the project site.

The Tenth Edition of the Institute of Transportation Engineers' Trip Generation Manual should be used for determining trip generation forecasts and trip reductions (e.g. pass-by, diverted, and internal capture trips). Local trip generation rates are acceptable if appropriate validation is provided. Also, the latest edition of the Highway Capacity Manual (HCM) should be used for conducting operational and conflict analyses on State highway facilities. When the State highway facility has saturated flows, it is encouraged that a micro-simulation model be used for the analyses.

As a reminder, Senate Bill 743 (2013) mandates that Vehicle Miles Traveled (VMT) be used as the primary metric in identifying transportation impacts of all future development projects under CEQA, starting July 1, 2020. For information on determining transportation impacts in terms of VMT on the State Highway System, see the Technical Advisory on Evaluating Transportation Impacts in CEQA by the California Governor's Office of Planning and Research, dated December 2018: http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

If the project will significantly impact State facilities, the following scenarios should be analyzed in the TIS:

a. Existing Conditions

b. Build out year without project

c. Build out year with project and other projects

d. Build out year with project

e. Future year without project (build out year without project + 20 years)

f. Future year with project and other projects (build out year with project and other projects + 20 years)

g. Future year with project (build out year with project + 20 years)

Also, if intersections on the state highway are to be modified, a complete Intersection Control Evaluation (ICE) study is required. If construction traffic is expected to cause delays on any State facilities, please submit a construction traffic management plan detailing these delays for Caltrans' review.

In addition, Caltrans agrees that no interference in rail operations on the Union Pacific Railroad/Metro Rail tracks is expected after the installation of the offsite gravity sewer connection in Poindexter Avenue at Sierra Avenue if the bore pit and jacking installation method is utilized. However, Caltrans recommends coordinating with the respective agencies early in the project development process so that any potential temporary impacts during construction can be avoided or minimized to the maximum extent practicable.

The following information is included for your consideration.

The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. Caltrans encourages the Lead Agency to integrate transportation and land use in a way that reduces Vehicle Miles Traveled (VMT) and Greenhouse Gas (GHG) emissions. Specifically, Caltrans suggests facilitating the provision of more proximate goods and services to shorten trip lengths, as well as achieve a high level of non-motorized travel and transit use.

Caltrans also encourages the Lead Agency to evaluate the potential of Transportation Demand Management (TDM) strategies and Intelligent Transportation System (ITS) applications to better manage the transportation network, as well as transit service and bicycle or pedestrian connectivity improvements. For additional TDM options, please refer to *Integrating Demand Management into the Transportation Planning Process: A Desk Reference* (Chapter 8) by the Federal Highway Administration (FHWA). The reference is available online at: https://ops.fhwa.dot.gov/publications/fhwahop12035/index.htm.

Caltrans also supports the implementation of complete streets and pedestrian safety measures such as road diets and other traffic calming measures. Please note the FHWA recognizes the road diet treatment as a proven safety countermeasure, and the cost of a road diet can be significantly reduced if implemented in tandem with routine street resurfacing. Additionally, the Department seeks to provide equitable mobility options for people who are economically, socially, or physically disadvantaged. Therefore, we ask the Lead Agency to evaluate the project site for access problems, as well as VMT and service needs that may need to be addressed.

As a reminder, any transportation of heavy construction equipment and/or materials which requires use of oversized-transport vehicles on State highways will need a Caltrans transportation permit. We recommend large size truck trips be limited to off-peak commute periods. Also, storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful that the project needs to be designed to discharge clean run-off water.

If you have any questions about these comments, please contact Emily Gibson, the project coordinator, at Emily.Gibson@dot.ca.gov, and refer to GTS # 07-VEN-2019-00310.

Sincerely,

FRANCES DUONG
ACTING IGR/CEQA Branch Chief
cc: Scott Morgan, State Clearinghouse

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Meredith Williams, Ph.D.
Acting Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Edmund G. Brown Jr.
Governor

July 17, 2019

TO: City of Moorpark
799 Moorpark Avenue
Moorpark, CA 93021

FROM: Department of Toxic Substances Control, Permitting Division-CEQA Unit

RE: Routing of Responsible Agency Review/Interested Party Documents to DTSC

Our unit recently received a Responsible Agency Review/Interested Party Document from your department. The documents we received were delayed as they were sent to an incorrect address (Director-DTSC-PO Box 806). Our CEQA unit processes all Responsible Agency Reviews and all reviews/documents should be addressed as follows:

Department of Toxic Substances Control, Region 1
Attention: Dave Kereazis
Permitting Division-CEQA
8800 Cal Center Drive, 2nd Floor
Sacramento, CA 95826

This change in the distribution list will ensure all mailings are delivered in a timely manner. We appreciate your attention in this matter! If you have any inquiries, questions or comments, please contact Dave Kereazis at 916.255.6446 or via email Dave.Kereazis@dtsc.ca.gov, thanks!

Sincerely,

Dave Kereazis

Department of Toxic Substances Control

Hitch

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SOUTHERN CALIFORNIA
ASSOCIATION OF GOVERNMENTS
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
T: (213) 236-1800
www.scag.ca.gov

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Transportation
Cheryl Viegas-Walker, El Centro

August 8, 2019

Mr. Douglas Spondello, Planning Manager
City of Moorpark, Community Development Department
799 Moorpark Avenue
Moorpark, California 93021
Phone: (805) 517-6200
E-mail: dspondello@moorparkca.gov

RE: SCAG Comments on the Notice of Preparation of a Draft Environmental Impact Report for the Hitch Ranch Specific Plan [SCAG NO. IGR9956]

Dear Mr. Spondello,

Thank you for submitting the Notice of Preparation of a Draft Environmental Impact Report for the Hitch Ranch Specific Plan ("proposed project") to the Southern California Association of Governments (SCAG) for review and comment. SCAG is the authorized regional agency for Inter-Governmental Review (IGR) of programs proposed for Federal financial assistance and direct Federal development activities, pursuant to Presidential Executive Order 12372. Additionally, SCAG reviews the Environmental Impact Reports of projects of regional significance for consistency with regional plans pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.

SCAG is also the designated Regional Transportation Planning Agency under state law, and is responsible for preparation of the Regional Transportation Plan (RTP) including the Sustainable Communities Strategy (SCS) pursuant to Senate Bill (SB) 375. As the clearinghouse for regionally significant projects per Executive Order 12372, SCAG reviews the consistency of local plans, projects, and programs with regional plans.[1] SCAG's feedback is intended to assist local jurisdictions and project proponents to implement projects that have the potential to contribute to attainment of Regional Transportation Plan/Sustainable Community Strategies (RTP/SCS) goals and align with RTP/SCS policies.

SCAG staff has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the Hitch Ranch Specific Plan in Ventura County. The proposed project includes the build-out development of 755 residential dwelling units (261 single family & 494 multi-family) and 67.79 acres of open space and recreational lots on a total site of 270.64 acres.

When available, please send environmental documentation to *SCAG's Los Angeles office in Los Angeles (900 Wilshire Boulevard, Ste. 1700, Los Angeles, California 90017) or by email to au@scag.ca.gov* providing, at a minimum, the full public comment period for review.

If you have any questions regarding the attached comments, please contact the Inter-Governmental Review (IGR) Program, attn.: Anita Au, Associate Regional Planner, at (213) 236-1874 or au@scag.ca.gov. Thank you.

Sincerely,

Ping Chang
Manager, Compliance and Performance Monitoring

[1] Lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the 2016 RTP/SCS for the purpose of determining consistency for CEQA. Any "consistency" finding by SCAG pursuant to the IGR process should not be construed as a determination of consistency with the 2016 RTP/SCS for CEQA.

COMMENTS ON THE NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE HITCH RANCH SPECIFIC PLAN [SCAG NO. IGR9956]

CONSISTENCY WITH RTP/SCS

SCAG reviews environmental documents for regionally significant projects for their consistency with the adopted RTP/SCS. For the purpose of determining consistency with CEQA, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the RTP/SCS.

2016 RTP/SCS GOALS

The SCAG Regional Council adopted the 2016 RTP/SCS in April 2016. The 2016 RTP/SCS seeks to improve mobility, promote sustainability, facilitate economic development and preserve the quality of life for the residents in the region. The long-range visioning plan balances future mobility and housing needs with goals for the environment, the regional economy, social equity and environmental justice, and public health (see http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx). The goals included in the 2016 RTP/SCS may be pertinent to the proposed project. These goals are meant to provide guidance for considering the proposed project within the context of regional goals and policies. Among the relevant goals of the 2016 RTP/SCS are the following:

SCAG 2016 RTP/SCS GOALS	
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*
RTP/SCS G3:	*Ensure travel safety and reliability for all people and goods in the region*
RTP/SCS G4:	*Preserve and ensure a sustainable regional transportation system*
RTP/SCS G5:	*Maximize the productivity of our transportation system*
RTP/SCS G6:	*Protect the environment and health for our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking)*
RTP/SCS G7:	*Actively encourage and create incentives for energy efficiency, where possible*
RTP/SCS G8:	*Encourage land use and growth patterns that facilitate transit and active transportation*
RTP/SCS G9:	*Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies**
	**SCAG does not yet have an agreed-upon security performance measure.*

For ease of review, we encourage the use of a side-by-side comparison of SCAG goals with discussions of the consistency, non-consistency or non-applicability of the goals and supportive analysis in a table format. Suggested format is as follows:

SCAG 2016 RTP/SCS GOALS		
	Goal	Analysis
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
etc.		etc.

2016 RTP/SCS STRATEGIES

To achieve the goals of the 2016 RTP/SCS, a wide range of land use and transportation strategies are included in the 2016 RTP/SCS. Technical appendances of the 2016 RTP/SCS provide additional supporting information in detail. To view the 2016 RTP/SCS, please visit: http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx. The 2016 RTP/SCS builds upon the progress from the 2012 RTP/SCS and continues to focus on integrated, coordinated, and balanced planning for land use and transportation that the SCAG region strives toward a more sustainable region, while the region meets and exceeds in meeting all of applicable statutory requirements pertinent to the 2016 RTP/SCS. These strategies within the regional context are provided as guidance for lead agencies such as local jurisdictions when the proposed project is under consideration.

DEMOGRAPHICS AND GROWTH FORECASTS

Local input plays an important role in developing a reasonable growth forecast for the 2016 RTP/SCS. SCAG used a bottom-up local review and input process and engaged local jurisdictions in establishing the base geographic and socioeconomic projections including population, household and employment. At the time of this letter, the most recently adopted SCAG jurisdictional-level growth forecasts that were developed in accordance with the bottom-up local review and input process consist of the 2020, 2035, and 2040 population, households and employment forecasts. To view them, please visit http://www.scag.ca.gov/Documents/2016GrowthForecastByJurisdiction.pdf. The growth forecasts for the region and applicable jurisdictions are below.

	Adopted SCAG Region Wide Forecasts			Adopted City of Moorpark Forecasts		
	Year 2020	**Year 2035**	**Year 2040**	**Year 2020**	**Year 2035**	**Year 2040**
Population	19,663,000	22,091,000	22,138,800	39,000	43,000	43,000
Households	6,458,000	7,325,000	7,412,300	12,000	13,100	13,100
Employment	8,414,000	9,441,000	9,871,500	14,300	15,900	16,600

MITIGATION MEASURES

SCAG staff recommends that you review the Final Program Environmental Impact Report (Final PEIR) for the 2016 RTP/SCS for guidance, as appropriate. SCAG's Regional Council certified the Final PEIR and adopted the associated Findings of Fact and a Statement of Overriding Considerations (FOF/SOC) and Mitigation Monitoring and Reporting Program (MMRP) on April 7, 2016 (please see: http://scagrtpscs.net/Pages/FINAL2016PEIR.aspx). The Final PEIR includes a list of project-level performance standards-based mitigation measures that may be considered for adoption and implementation by lead, responsible, or trustee agencies in the region, as applicable and feasible. Project-level mitigation measures are within responsibility, authority, and/or jurisdiction of project-implementing agency or other public agency serving as lead agency under CEQA in subsequent project- and site- specific design, CEQA review, and decision-making processes, to meet the performance standards for each of the CEQA resource categories.

SANTA MONICA MOUNTAINS CONSERVANCY
RAMIREZ CANYON PARK
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August 26, 2019

Douglas Spondello
Planning Manager
City of Moorpark
799 Moorpark Avenue
Moorpark, California 93021

Notice of Preparation Comments
Hitch Ranch Specific Plan

Dear Mr. Spondello:

The Santa Monica Mountains Conservancy (Conservancy) offers the following comments on the Hitch Ranch Specific Plan proposal to construct 755 dwelling units on approximately 271 acres in the Santa Susana Mountains west of State Route 23. The Conservancy previously offered comments regarding this development project in letters dated June 26, 2006 and May 21, 2012 and hereby incorporates those documents by reference.

A project that grades 2.5 million cubic yards of earth on 211 acres of the Santa Susana Mountains utilized by a broad complement of native mammals, birds, and reptiles would result in significant adverse biological impacts. The recent feature film *Biggest Little Farm* in Moorpark showed how much wildlife can exist in mixed agricultural and open space areas. Even if every square inch of the affected 211 acres was non-native annual grassland the biological impacts to wildlife habitat would be significant. Those significant impacts can easily be reduced and brought under a level of significance by reducing the grading footprint and providing more permanent natural open space. If they are not reduced the City must adopt a statement of overriding considerations.

The property's ability to provide both habitat and resources for many of the existing wildlife species would drop precipitously if the only open space provided by the project was the proposed 29-acre lot in the northwest project corner.

The Conservancy urges the City to include multiple Draft EIR alternatives that reduce the project grading footprint by 25 and 50 acres, respectively, and add commensurate acres of permanent natural open space to the upper northwest region of the property with connectivity to other natural lands. As proposed 29 acres of functional natural open space out of a 271-acre property is a poor ratio to balance natural resources with development.

The proposed 25 acres of soft bottom debris/retention basins may have some ongoing wildlife habitat value, but if the Watershed Protection District cleans them out or fences them, those values are not enduring.

Groundwater Overdraft and Surface Water Quality

The proposed Project is located on the Moorpark anticline that divides the East Las Posas Groundwater Basin and South Las Posas Groundwater Basin both of which are part of the regional Fox Canyon Groundwater Management Agency (FCGMA). FCGMA is currently preparing Groundwater Sustainability Plans (GSPs) to address the chronic overdraft of groundwater in the agency's jurisdiction and reductions in surface water flows that impact water quality (primarily higher Total Dissolved Solids) within Arroyo Las Posas. Reduced surface water flows have an associated impact to surface water and groundwater interactions, with the potential to impact groundwater dependent ecosystems included listed species and ecosystems. In summary the DEIR must quantitatively address how this proposed project affects groundwater recharge and the surface water-groundwater interface.

The Project Description identifies Ventura County Waterworks District No. 1 (District No. 1) would provide water service to the Project. As documented on the District No. 1 website, 19-percent of all water distributed to District No. 1 customers is groundwater pumped from the Las Posas Groundwater Basin and 81-percent is imported State Water Project water.

Results of the GSP specific to the Las Posas Groundwater Basin must be included in DEIR analysis and Project related impacts related to maintaining groundwater production and surface water quality in Arroyo Las Posas.

Analysis of Extensive Detention Basin Acreage

The 271-acre project is predominantly undeveloped land which allows for the maximum storm water infiltration and groundwater recharge over a broad area. While it is encouraging that approximately 25 acres of new detention basins are being proposed as part of the project, the Project Description indicates these features are incorporated from the Ventura County Watershed Protection District's flood-control master plan related to the *Gabbert and Walnut Canyon Channels Flood Control Deficiency Study* (1997). These detention basins would then drain to the impervious Walnut Canyon Channel.

Because the City previously chose to construct concrete drainage channels—such as the Walnut Canyon Channel—to collect and transmit surface runoff as quickly as feasible into Arroyo Las Posas and the Pacific Ocean, to counter that action every opportunity to retain storm flows that would normally support riparian habitat and recharge impacted groundwater basins must be evaluated within the subject DEIR.

The DEIR must analyze alternatives that include higher capacity and/or more numerous detention basins and designate detention basin(s) that will be allowed to accrue natural debris and support native vegetation for habitat. DEIR alternatives with reduced impervious surface area would better recharge groundwater and require less basin area and basin maintenance and must be included in the DEIR.

Despite the habitat fragmentation this project proposes, "naturalized" detention basins can provide multiple benefits: slow storm water rates allowing for increased infiltration, improve water quality via soil filtration and micro-organism activity, habitat refugia amidst urbanization, reduce heat-island effects of urbanization, and provide scenic resources for passive recreation.

Natural Open Space Dedications

The Conservancy also reiterates the need for the northwest corner designated open space lots to be dedicated in fee to a conservation or parks agency, and to establish a long-term funding mechanism (such as a developer-funded long-term maintenance fund, landscape maintenance district, or community facilities district) to preserve and maintain the open space lots in perpetuity. We urge the City to require the open space dedication in fee simple to a parks district or agency such as the Mountains Recreation and Conservation Authority as a condition precedent to the Tract Map recordation.

The ecological and public value of open space dedications cannot be adequately maintained for decades without a dedicated funding source for the management entity both to prevent and remedy human disturbance. Human pressures and pet visitation on open space will only increase over time. Many homes will be adjacent to this open space. It is imperative that the conditions of approval include a permanent funding mechanism to supply a minimum of $20,000 annually with a CPI inflation adjustor to the open space management entity.

Please address any future correspondence to Paul Edelman, Deputy Director Natural Resources and Planning, at the above letterhead address, by email at edelman@smmc.ca.gov, or by phone at (310) 589-3200 ext. 128.

Sincerely,

IRMA MUÑOZ
Chairperson

Ventura County
Air Pollution
Control District

669 County Square Dr
Ventura, California 93003

tel 805/645-1400
fax 805/645-1444
www.vcapcd.org

Michael Villegas
Air Pollution Control Officer

VENTURA COUNTY
AIR POLLUTION CONTROL DISTRICT
Memorandum

TO: Douglas Spondello, Planning Manager, City of Moorpark

DATE: August 08, 2019

FROM: Nicole Collazo, Planning Division

SUBJECT: Request for Comments on Notice of Preparation of an Environmental Impact Report for the Hitch Ranch Specific Plan

Air Pollution Control District (APCD) staff has reviewed the Initial Study and subject Notice of Preparation (NOP) of an environmental impact report (EIR), which will identify any potential environmental impacts for the construction and operation of a mixed-density residential community that will incorporate land uses for housing, recreational, and institutional purposes. The Project Location includes approximately 270.64 acres approximately 1,600 feet west of State Route 23 and extends to approximately 1,400 feet west of Gabbert Road, within the City of Moorpark. The Lead Agency for the project is the City of Moorpark.

GENERAL COMMENTS

Air Quality Section

The air quality assessment should consider plan-consistency with the 2016 Air Quality Management Plan (AQMP). The 2016 AQMP presents Ventura County's strategy (including related mandated elements) to attain the 2008 federal 8-hour ozone standard by 2020, as required by the federal Clean Air Act Amendments of 1990 and applicable U.S. EPA clean air regulations. The 2016 AQMP uses an updated 2012 emissions inventory as baseline for forecasting data, SCAG RTP 2016 data, and CARB's EMFAC2014 emission factors for mobile sources. The AQMP can be downloaded from our website at http://www.vcapcd.org/AQMP-2016.htm. Methods for consistency with the AQMP are outlined in Chapter 4 of the Ventura County Air Quality Assessment Guidelines, 2003 (AQAG).

The AQAG can also be used to evaluate all potential air quality impacts. The AQAG is also downloadable from our website here: http://www.vcapcd.org/environmental-review.htm. Specifically, the air quality assessment should attempt to quantify and discuss reactive organic compound, nitrogen oxide emissions from operational mobile, energy, and area sources. Construction emissions will not be included in the determination thresholds, but mitigation

measures are still recommended for the reduction of fugitive dust, PM, ROG and NOx from heavy-duty construction equipment, such as using newer, cleaner diesel Tier 3 or Tier 4 off-road engines and/or using on-road construction vehicles of year 2010 model or greater. We note that the AQAG has not been updated since 2003 and serves as a reference and is not required or mandated by the APCD (AQAG Page 1-1). Current air quality determinations follow the same process but using different tools (CalEEMod vs. URBEMIS, CO Hotspots analysis no longer required due to lower concentrations, etc.). The recommended list of mitigation measures in the AQAG are also limited and outdated. For example, the following template is currently being recommended by APCD as a Commenting Agency for projects that include construction equipment, reflecting state laws adopted since the AQAG was last updated in 2003:

The project applicant shall ensure compliance with the following State Laws and APCD requirements:

I. Construction equipment shall not have visible emissions greater than 20% opacity, as required by APCD Rule 50, Opacity.

II. All portable diesel-powered equipment over 50 BHP shall be registered with the State's Portable Equipment Registration Program (PERP) or an APCD Portable Permit.

III. Off-Road Heavy-Duty trucks shall comply with the California State Regulation for In-Use Off-Road Diesel Vehicles (Title 13, CCR §2449), the purpose of which is to reduce NO_x and diesel particulate matter exhaust emissions.

IV. On-Road Heavy-Duty trucks shall comply with the California State Regulation for In-Use On-Road Diesel Vehicles (Title 13, CCR §2025), the purpose of which is to reduce NO_x and diesel particulate matter exhaust emissions.

V. All commercial on-road and off-road diesel vehicles are subject to the idling limits of Title 13, CCR §2485, §2449(d)(3), respectively. Construction equipment shall not idle for more than five (5) consecutive minutes. The idling limit does not apply to: (1) idling when queuing; (2) idling to verify that the vehicle is in safe operating condition; (3) idling for testing, servicing, repairing or diagnostic purposes; (4) idling necessary to accomplish work for which the vehicle was designed (such as operating a crane); (5) idling required to bring the machine system to operating temperature, and (6) idling necessary to ensure safe operation of the vehicle. It is the Permittee's responsibility to have a written idling policy that is made available to operators of the vehicles and equipment and informs them that idling is limited to 5 consecutive minutes or less, except as exempted in subsection a. above.

The following are recommended measures for construction equipment and vehicles:

I. Diesel powered equipment should be replaced by electric equipment whenever feasible.

II. Maintain equipment engines in good condition and in proper tune as per manufacturer's specifications.

III. Lengthen the construction period during smog season (May through October), to minimize the number of vehicles and equipment operating at the same time.

IV. Use alternatively fueled construction equipment, such as compressed natural gas (CNG), liquefied natural gas (LNG), or electric, if feasible.

Lastly, VCAPCD will review the EIR's air quality impact section for the following criteria:

- Conflict with or obstruct implementation of the applicable air quality management plan.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standards.
- Expose the public (especially schools, day care centers, hospitals, retirement homes, convalescence facilities, and residences) to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) affecting a substantial number of people.

The EIR should also address the potential impact of the project being sited adjacent to a railroad and within 1500 ft of a major roadway (118) and possible exposure to toxic contaminants from either source of emissions and what measures will be taken to reduce toxic exposure from mobile emissions surrounding the project. Some measures can include placing the air intake locations further away from mobile emission sources, proofing the windows nearest the freeway, and/or installing a vegetative barrier between the source of pollutants and the project's inhabitants.

A note about the CO analysis mentioned in the Initial Study. Some localized areas, such as traffic-congested intersections, can have elevated levels of CO concentrations (CO hotspots). CO hotspots are defined as locations where ambient CO concentrations exceed the State Ambient Air Quality Standards (20 ppm for 1-hr standard, 9 ppm for 8-hr standard). The Federal Ambient Air Quality Standard for CO is 35 ppm for 1-hr standard and 9 ppm for the 8-hr standard. In Ventura County, ambient air monitoring for CO stopped in 2004, with the approval of the U.S. Environmental Protection Agency- Region 9, because CO background concentrations in El Rio, Simi Valley, and Ojai were much lower than the State Ambient Air Quality Standard (highest recorded CO background concentration in Ventura County was in Simi Valley at 6.2 ppm for 1-hr, 1.6 ppm for 8-hr (*AQAG, Table 6-2*). Therefore, no CO hotspots are expected to occur anywhere in Venture County and additional CO modeling analysis with the LOS comparison is not warranted. In addition, with over 80% of the CO in urban areas emitted by motor vehicles, and with stricter, cleaner emission standards to the mobile fleet, CO ambient concentrations should remain at or lower than the most recent CO monitoring data available for Ventura County.

Greenhouse Gas Emissions Section

Neither APCD nor the County has adopted a threshold of significance applicable to Greenhouse Gas (GHG) emissions from projects subject to the County's discretionary land use permitting authority. APCD published a report as a request by the Ventura County Air Pollution Control Board to report back on possible GHG thresholds options on November 8, 2011, including using the recommended threshold of 10,000 MT/yr CO2e for stationary/industrial sources. The District will be looking into what GHG threshold is best suitable for Ventura County in the near future which will undergo a public review process.

The following are recommended guidance documents that could be used to address the impacts of climate change and greenhouse gases in Ventura County as a result of the proposed project. Alternatively, if your city has an adopted Climate Action Plan or similar plan, you may refer to it for a qualitative analysis, pursuant to CEQA Guidelines Section 15064.4.

On November 2017, the California Air Resources Board published it latest Climate Change Scoping Plan. The Scoping Plan lays out a strategy for achieving California's 2030 Greenhouse Gas target (SB 32 and EO B-30-15) and builds on the state's successes to date, proposing to strengthen major programs that have been a hallmark of success, while further integrating efforts to reduce both GHGs and air pollution. California's climate efforts will 1) Lower GHG emissions on a trajectory to avoid the worst impacts of climate change; 2) Support a clean energy economy which provides more opportunities for all Californians; 3) Provide a more equitable future with good jobs and less pollution for all communities; 4) Improve the health of all Californians by reducing air and water pollution and making it easier to bike and walk; and 5) Make California an even better place to live, work, and play by improving our natural and working lands. The 2017 Climate Change Scoping Plan can be accessed here https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

On December 2018, the Governor's Office of Planning and Research (OPR) published a Draft Technical Advisory. This document incorporates developments since the June 2008 Technical Advisory publication, including regulatory changes made to the regulations that implement CEQA (commonly known as the "CEQA Guidelines" in late 2018 by the California Natural Resources Agency (Agency). Although this document largely focuses on project-level analyses of greenhouse gas impacts, Section IV briefly addresses community-scale greenhouse gas reduction plans as one pathway to streamline CEQA analyses. This discussion draft is intended to address some common issues and topics that arise in greenhouse gas emissions analyses under CEQA but is not intended to address every single issue and topic. More information on the OPR's Technical Advisory can be found here http://opr.ca.gov/ceqa/technical-advisories.html.

GHG operational and construction emissions can also be quantified and assessed using the air quality model CalEEMod using the annual reports function to estimate GHG emissions in MT/Yr CO2e.

Thank you for the opportunity to comment on the Initial Study and NOP. If you have any questions, please call me at 645-1426 or email me at nicole@vcapcd.org.

PUBLIC VENTURA COUNTY WORKS

WATERSHED PROTECTION
WATERSHED PLANNING AND PERMITS DIVISION
800 South Victoria Avenue, Ventura, California 93009
Sergio Vargas, Deputy Director – (805) 650-4077

MEMORANDUM

DATE: August 9, 2019

TO: Douglas Spondello, Planning Manager
City of Moorpark

FROM: Sergio Vargas, Deputy Director SV.

SUBJECT: Hitch Ranch Specific Plan No 2019-01
APN(s) 511002011, 13, 16, 17, 17, 18, 19 and 511020022
Zone 3
Watershed Protection Project Number: WC2019-0053

Pursuant to your request dated July 10, 2019, this office has reviewed the submitted materials and provides the following comments.

PROJECT LOCATION:

North of Poindexter Avenue, and west of Moorpark Avenue (State Route 23), Moorpark, CA

PROJECT DESCRIPTION:

The proposed Hitch Ranch Specific Plan is designed as a mixed-density residential community that incorporates land uses for housing, recreational and institutional purposes.

WATERSHED PROTECTION DISTRICT COMMENTS:

1. The proposed development would be served by Gabbert Channel and Walnut Canyon Channel, which are aging concrete flood protection facilities in need of rehabilitation. The Draft EIR should consider potential impacts to existing infrastructure and evaluate funding mechanisms to determine and collect the pro-rata share of the needed capital improvements that would benefit the proposed development.

2. Initial Study (Page 9). The Initial Study indicates that it is anticipated that the three proposed basins would ultimately be operated and maintained by the Ventura County Watershed Protection District (District). The District is not accepting new privately-constructed debris basins. The District will not be operating or maintaining the three proposed basins. Regardless who will conduct the maintenance, the Draft EIR should describe and analyze the long-term

maintenance of the proposed facilities, including potential impacts associated with maintenance activities and provide best management practices to minimize these impacts.

3. Initial Study (Page 9). The Initial Study indicates that the proposed Specific Plan includes a 2.70 acre VCWPD easement along the southern project boundary. The District currently holds a right-of-way to maintain the Walnut Canyon Channel. The project proponent shall coordinate with the District to ensure continued access to the facility.

4. Initial Study (Page 10). The proposed Specific Plan indicates that High Street would be extended along the southern project boundary. The new roadway would be immediately adjacent to the existing Walnut Canyon Channel. The Specific Land Use Plan (Figure 3 of the Initial Study) is conceptual and does not indicate the location of the facility. The District requests an evaluation of the roadway, including construction and use of the roadway on the facility. In particular, the District is concerned with compaction of the soils leading to potential facility failure (i.e., wall collapse). Furthermore, the Draft EIR should describe where high street would be sited in relation to the facility (i.e. setback from the channel). The Draft EIR should address this concern along with all concerns described in the *Gabbert and Walnut Canyon Channels Flood Control Deficiency Study*, as referenced on page 8 of the Initial Study.

5. Initial Study (Page 11). The Initial Study indicates that bore pit and jacking would be used to install a sewer main beneath the Walnut Canyon Channel, which is a District facility with associated rights of way. The Draft EIR should provide analyses or mitigation of potential impacts to the District facility and right of way. Please provide site plans and cross sections for all proposed activities impacting District facilities, jurisdictional watercourses, and/or rights of way. All project components that would affect the District's facility and rights of way are subject to District approval.

   Construction of a sewer line below this facility must avoid impacts to the facility. The District requests potential vibration-related impacts to District facilities resulting from bore and jacking vibration (e.g., liquefaction) be addressed in the Draft EIR.

6. An encroachment permit and annual utility use fees would be required if the project is approved and constructed. Please reference Ordinance WP-2 and the Resolution Establishing Policy for Permitting Underground Facilities in District Property, adopted by the Board of Supervisors on September 18, 1990. Crossing underneath Walnut Canyon Channel would require an encroachment permit from the District. In addition, any alignment that proposes the use of District property will be subject to District Resolution for permitting underground facilities establishing underground facility use fees.

7. Please include a section in the Draft EIR discussing the concept of integrated flood control including public safety.

8. Please address the required detention volumes in the Draft EIR.

9. There is a major landslide area in the project vicinity. It is located west of Walnut Canyon, on the slopes just beyond Grimes Canyon Road. In general, a specific strategy and plan to address this hazard should be addressed in the Draft EIR. The District is interested in reducing or eliminating the risk of debris flow (due to potential landslides) into the flood control channels. Please address mitigation measures that will be undertaken to reduce or eliminate this hazard risk.

10. Development proposed through the Hitch Ranch Specific Plan could substantially increase and significantly alter the existing site topography and drainage patterns. Please evaluate the risk of debris and mud flows that may be entering into the flood control system, their impact on channel capacity, and mitigation measures.

END OF TEXT

THOMAS C. DUCK

14663 LOYOLA ST.
MOORPARK, CA 93021

PHONE: 805.523.9169
CELL: 805.404.8499
EMAIL: SPIDER333@ROADRUNNER.COM

July 23, 2019

City of Moorpark Planning Commission

Debra Aquino, Chair
Adam Haverstock, Vice Chair
Mark Di Cecco, Commissioner
Bruce Hamous, Commissioner
Kipp Landis, Commissioner

Comments to the proposed EIR for Comstock Homes Hitch Ranch Specific Plan

Planning Commission:

I regret that I will not be present for tonight's meeting but would like to submit my comments. I know that many of my comments will be brought up by the Planning Commission itself and by those attending tonight meeting.

This project has a history going back to at least 1993 when discussions started with AB properties, Southern California Edison and the current applicant/owner Hitch Ranch, Milligan et. al. At that time some plans were terminated but Hitch Ranch prevailed.

I, personally, am not either in favor or not in favor of this specific plan but do have some concerns. The introduction of the notice of public scoping twice mentions that the location is located "in the rolling hills north of Poindexter...." After construction, this statement will most likely be false after 755 homes are built. At 3 inhabitants per household, (my estimate) this will add 2,200+ to the population of Moorpark. (This includes the Casey Project.)

As yet there are no sight plans presented. Will the developer be able to complete this project so no homes will be in view along Poindexter? Keeping the "Rolling Hills" intact?

As with any project (based on past experience) the developer will come back to the City to ask for even higher density. Be aware of this.

It is mentioned that part of the Institutional Uses – Public Parkland, there is a suggestion of an aquatic facility. If so, who pays to build it, how large will it be, will it be for the whole community, and who will bear future maintenance costs.

The developer is interested in only his plan. One of the obvious questions is traffic flow on High Street at the intersection of Moorpark Avenue. At this time, there are no plans by the developer to alleviate this traffic increase. This also applies to the intersection of Poindexter and Moorpark Avenue. Both the intersections are one-lane each way and could not bear the increase of traffic of this project. Mentioned in the proposal is also the problem of having landmarked buildings at the intersection of High and Moorpark Avenue. The developer should address this.

Is this project compatible with SOAR?

Have there been agreements between Meridian Hills to continue Meridian Hills Drive in to the Hitch development? It is not shown on the Specific Land Use Plan, figure #3.

There is no mention of an Archaeological investigation as it is dismissed as not being the type of land with possible Indian activity. Archaeological investigations on similar property around Moorpark College did produce Indian Archaeological remains. This property is only 3-4 miles away. This might be covered under "Tribal Cultural Resources". (There is and old "sweat lodge" near Gabbert that might still be in existence.)

Currently, much of the property is used by cows from a nearby ranch for grazing. Doesn't that affect "Agricultural and Forestry Resources"?

In other developments nearby there are provisions for equestrian and walking trails. Not in this proposal. Why not?

When looking at the middle of PA-2, I question the ability for emergency vehicles to reach some of the homes quickly and efficiently as the roads have minimal entry/exit points in that area.

Thank you for reviewing these comments.

Thomas Duck
Moorpark

ar Douglass Spondello,

his letter is written in regards to the Hitch Ranch Specific Plan. I do not think that it is ıecessary to disrupt the natural beauty of our ecosystem and environment for the sake of the interests of a development company. We, the people of Moorpark, I believe, ought not to let a development company come in and decide our relationship with our ecosystem for us. We, I also believe, have every right to enjoy the natural beauty of the open, unaltered space around us. I think that we, the people, are best served when this space is unaltered. It is not necessary to use this space for land development. Growth is not necessary. In fact, unchecked growth is unsustainable. The only circumstances under which this project should be considered should be such that it will have a net negative carbon impact. That is to say that it will reduce carbon dioxide and other pollutants from the environment. I believe that this is possible by outfitting every new structure with enough solar panels to fulfill the needs of the proposed project and more. Furthermore, we ought to mitigate our reliance on natural gas by mandating that all appliances in these new structures be electric and that there be no natural gas on site. With this, I am referring to stoves, ovens, water heaters, dryers, air conditioning, etc. all being electric and powered by the solar panels on site. It is the year 2019, and it is time that Southern California and Moorpark start acting like it. If the development company cannot provide the proposed project with the modern day technology necessary for a sustainable future, then it has no business disrupting the scenic and vital ecosystem of the beautiful city of Moorpark. I hope that with being a resident of this city my entire life, my point of view and these crucial considerations be taken into account. If you have any questions or concerns, or if you wish to speak with me further, please feel free to contact me at any time.

Regards,
Juan Gramajo
(805) 558-8966
gramajo.jj@gmail.com

RECEIVED
AUG - 6 2019
CITY OF MOORPARK
COMMUNITY DEVELOPMENT

From: Douglas Spondello
To: Lynn Kaufman
Subject: FW: Residential development in Moorpark (Comstock Homes)
Date: Monday, July 29, 2019 8:05:37 AM

FYI
-----Original Message-----
From: Stephanie Maio [mailto:stephanie@themaios.com]
Sent: Sunday, July 28, 2019 11:45 PM
To: Douglas Spondello
Subject: Residential development in Moorpark (Comstock Homes)

Hello,

I'm a resident of Moorpark and have been for 25 years. I do not believe that we should be building more housing without analyzing the effects it will have on the city's current traffic situation. The city has some serious road infrastructure problems, especially with LA Avenue traffic, that has been getting worse every year. We can not afford more traffic. I am worried about empty storefronts along LA Avenue (like many other residents, we will not head down that way during certain times of the day because of dangerous truck traffic). I also have serious safety concerns regarding heavy road traffic in an emergency. If we have a major fire in the hills which road will people take to evacuate?

The city, county, and state have not considered the long term effects additional housing will have on current residents. They should have built a freeway around the city. This could have accommodated the increased traffic. Instead we have been forced to endure truck traffic and congestion along LA Avenue, because the city has no control over the road and no proper growth planning. I just can't see any way that Moorpark can accommodate more cars without it affecting its current residents' quality of life. Every year traffic gets heavier. Even without additional housing, traffic will continue to get worse as thousands of truckers and commuters use LA Avenue every day.

We should not okay this new Comstock Home development for these reasons. Just because there is vacant land doesn't mean the city can afford the additional units. We have to have a city plan to accommodate the hundreds of more cars we will see on our main roads.

Also, we need to renegotiate our low income housing allotment with the county. Our city can't absorb 1164 houses. If you look at our neighboring cities and their allotments, I can't understand why we got such a bad deal. Our small town has almost the same amount as Simi Valley, and T.O. has less than 200 houses. Makes no sense!

We really need to look hard at the long term affects of continuing to build when we don't have the infrastructure to support the growth.

We must have a plan for growth BEFORE we build. The county and our city both have done minimal to solve the traffic congestion problem on LA Ave. We need a plan to build more roads into and out of the city with a path to get people on freeway. We should also include our neighboring cities, like Fillmore, in that growth plan, since they use our roads to commute to and from work every day.

I'm not a city planner. Maybe we don't have the room or the means necessary to build these additional roadways. If we don't, then don't build.

Stephanie Maio

Sent from my iPhone

Douglas Spondello, Planning Manager
City of Moorpark
799 Moorpark Avenue
Moorpark, CA 93021

Re: Proposed Hitch Ranch Specific Plan

My husband, Ron, and I purchased our 40.5 acre parcel of land in late 1977 from the estate of the Schwindt family who had owned over 700 acres that included an operational dairy farm, Golden Top Dairy. We realized the zoning on this acreage was to be a minimum of one residence per five acres. That was why we purchased the parcel (an assurance that we would not be impacted by higher density development) and why we accepted the costs associated with living in such an area. I was appointed as a member of the Moorpark Architectual Review Board by Supervisor Dougherty while Moorpark remained in unincorporated Ventura County and became a member of the committee to promote the incorporation of Moorpark, always believing local representation was the best option. After incorporation, I was honored to serve on the city's first planning committee. While working as part of the incorporation committee, I received a lot of feedback. Everyone in our community living in Gabbert Canyon voiced concerns about cityhood bringing more development that could encroach on our rural neighborhood and threaten our way of life. I hope those concerns will not be justified.

Eventually, a large part of the Golden Top Dairy farm underwent a zone change and was developed by Toll Brothers into the expensive homes that abut the golf course. Since then, despite community protest and concerns, additional acreage around us has been rezoned into smaller rural residential parcels, such as one-half acre residential lots. Ron and I realize that we bought forty-two years of a rural life style when we purchased here but are very concerned about what might occur as a result of the proposed density changes to the Hitch Ranch project.

Please address the following concerns that my husband and I share on the proposed changes to the area of Moorpark, referred to as Hitch Ranch:
1. Higher density housing near Gabbert Canyon can have a detrimental effect on our lifestyle. There is a legal precedent referred to as "Coming to the Nuisance" that could be used by those moving into a more highly developed adjacent area that could easily bring loss of use and also financial loss to those of us who prefer to include livestock and other farm animals in our lives. Many people do not like the accompanying noises and smells that can be associated with animal husbandry. Legal remedies often include ending current allowed zoning uses, reducing animal density units per parcel, or imposing financial penalties payable to plaintiffs in civil suits, or all of these.
2. Most of us, in this area, enjoy wildlife sightings and value a world where species diversity keeps this planet in a safer state. We are concerned on the continued loss of wildlife habitat and wildlife corridors that occurs every time a new development is approved in the open areas remaining. There are also many current studies that point to problems associated with increased lighting in the night sky and its effects on wildlife. My husband and I love the fact that the unused portion of our large parcel can afford

much needed habitat to a myriad of wild animals. We have seen the paw prints of mountain lions near our home and a neighbor across the arroyo, in one of the golf course homes, called us to let us know a lion was seen coming across our pasture where our horses were located. We have seen many coyotes, the closest being 15 feet away. We have not ever had a problem with their attacking any of our animals. We did, however, lose 10 of our goats to attacking domestic dogs. There are owls hooting above us at night and there are the keening cries of red-tailed hawks soaring over our hillsides. In addition, many turkey vultures use this area in their migration patterns each year. We often get 30-40 using our property to scope out the food supply and rest up on their journey. Their heralding, as they sit on fences, is wonderful to view. The quail, songbirds, and numerous hummingbirds all thrive in the area. There are wild bee hives located on our property (European, not Afrcianized) and these bees, threated everywhere by pesticides, are free to live out their lives safely. We have snakes of several varieties, many other types of reptiles, some amphibians, foxes, skunks, and many species of rodents. I understand there are also deer and bears but I have never been fortunate enough to see any here.

3. We have major concerns that the proposed housing density will impact an already burdened water delivery system and prevent us from using our current system. While we do not obtain our water from a well, we do have to pump water up the hill to holding tanks for domestic and agricultural use on our property. The head pressure at our water meter is sometimes, on rare occasions, not adequate enough to allow the water to reach where our water pump is located. This was especially true during the recent drought years during hot summer months.

4. Circulation issues already abound in our area. At certain times of the day, traffic streaming down Poindexter to and from Moorpark Avenue is akin to deadlocked freeways during rush hour. Turning left or right at Moorpark Avenue from Poindexter during these busy times of day can take many light changes. I cannot even envision what the proposed number of residences would effect if this project is approved as is. Every Moorpark resident is also aware of bad travel times on Los Angeles. While we cannot deter truck traffic on a State route, we can mitigate what we do to add to the problems.

5. Part of CEQA addresses aesthetics. Most of us enjoy driving, bicycling, or walking by the beautiful green hills that nestle above the railroad tracks. Obviously, those hills seen if this development builds out as described would have no resemblance to the ones there now.

6. Development, with its accompanying use of energy sources within the home and the need for transportation, usually involving motor vehicles, will impact our air quality and our need to reduce greenhouse gas emissions to combat climate change. What alternatives are being offered to reduce reliance on automobiles?

7. Wildfires are obviously here to stay in the lives of those of us who live in California. We now no longer have wildfire seasons but a yearlong threat every time the temperature rises, the humidity decreases, the Santa Anas blow, or, all of these factors coalesce into one. Having lost our home in the 2003 wildfires and having almost lost our new home in the 2006 wildfire, two weeks after we took occupancy, we are very sensitive to the threat of increased wildfire danger. While it might appear that more houses reduce native fuel levels, there are also increased risks with a larger population

living near an area such as ours. We often become the ex-facto "parkland" for those who view Gabbert as a great place to run with their dogs, walk with their family, or go to see the horses, cows, and goats not found in their developed areas. Increased foot traffic, and to some degree, increased car traffic and side of the road parking, increases our fire risk and also increases threats to our personal property security as well as our privacy.

8. How to best use the land within our control is an age-old issue. SOAR encourages building within incorporated areas to help save agricultural and open space areas. This doesn't mean that we should build and pave over every available parcel of undeveloped land within the city boundaries. If we view every open parcel as a place to add more housing and if we view increasing density as a price to pay in order to secure "low income acreage" for those people badly needing it, we eventually will have zoned the Gabbert Canyon way of life out of existence. We would really hate to see that happen as there are many people who view this way of life as quite worth saving.

Mr. Spondello, thank you for reading through all of this. I appreciate your time. Please feel free to contact me if you would like further clarification or input.

Sincerely,

Doris E. Miller

Doris Miller
6395 Gabbert Road
Moopark, CA 93021
(805)529-3388
dorisronm@gmail.com

From: Douglas Spondello
To: Lynn Kaufman
Subject: FW: Hitch Ranch EIR Scoping
Date: Tuesday, August 6, 2019 8:38:10 AM

Good Morning Lynn, please see below.

Douglas Spondello
Planning Manager
Community Development Department
City of Moorpark | 799 Moorpark Ave. | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

From: Sharon Noel [mailto:4sharonnoel@gmail.com]
Sent: Monday, August 05, 2019 10:25 PM
To: Douglas Spondello
Subject: Hitch Ranch EIR Scoping

Planning Manager Mr. Spondello,

Welcome to the small town of Moorpark.

The land involved in this EIR scoping (referred to as Hitch Ranch) is nestled in rolling hills. Moorpark takes it's name from travelers on the train that viewed those very hills and claimed that the hills were reminiscent of the Moors of Scotland. To flatten them for this development destroys a scenic view and a piece of Moorpark's history. The land is agricultural by zoning and is still providing grazing for cattle. Aside from the cattle there is an abundance of wildlife: roadrunners, bobcats, weasels, quail, and these are just few of the uncommon species making their habitats there. Then there is the issue of wildfires. Historically they have traveled straight through that area, from the NE to the SW. There is no circulation plan that allows for a safe exit. Gabbert Road will bottleneck, as it is one way in and out, and may even get cut off by the train. L.A. Ave. at Gabbert Road is slow on a good day. Not a good plan and even a deadly one. Also the light and noise produced by this project will interfere with quiet ranching neighborhood on Gabbert Road.

Those are just a few of the issues I have concerning Hitch Ranch, the rest will have to wait.

Sincerely,
Sharon Noel
6131 Gabbert Rd.
Moorpark, Ca, 93021

From: Douglas Spondello
To: Lynn Kaufman
Subject: FW: Comstock Homes-Hitch Ranch Development
Date: Thursday, August 8, 2019 8:32:15 AM

FYI

Douglas Spondello
Planning Manager
Community Development Department
City of Moorpark | 799 Moorpark Ave. | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

From: Kathleen Stacey [mailto:kistacey@yahoo.com]
Sent: Thursday, August 08, 2019 12:13 AM
To: Douglas Spondello
Subject: Comstock Homes-Hitch Ranch Development

Dear Mayor, City Council Members and Planning Manager,

My name is Kathleen Stacey and I have lived in Moorpark since 1994 with my husband and 5 children. For the past 18 years we have lived just south of and across the street from the Hitch Ranch property, next to Poindexter Park. We love our home and the small town feel of Moorpark, it reminds me of how Simi Valley used to be when I moved their as a little girl in 1965!
Some things have changed since we moved to Moorpark 25 years ago, but one thing that hasn't changed is the terrible traffic issues. Poindexter Ave backs up every weekday morning and gets gridlocked and is made even worse by the trains that pass through with commuters. Walnut Canyon Road with the gravel trucks and elementary school traffic are very heavily traveled. Gabbert Road, Tierra Rejada, and Los Angeles Ave are dangerous and congested with truck and high school traffic. I realize that we have two state highways that run through our city and they present traffic issues of their own that contribute to the danger and frustration of trying to move about the city.

I am opposed to the development of the Hitch Ranch property changing it from agricultural to very high density residential, grading down all of the hills that we love and adding in excess of 1500 more cars to the already heavily impacted roads of downtown Moorpark.
I have faith that the environmental impact report will reveal the negative issues that this project will present and I trust that you all will consider the impact that they will have on our city and the residents, and vote accordingly.

Thank you in advance for your careful and thoughtful consideration of this project.
Sincerely,

Kathleen Stacey
12420 Rainier Street
Moorpark, Ca 93021
805-368-9211

kistacey@yahoo.com

Please confirm receipt of this letter.

July 30, 2019



Douglas Spondello, Planning Manager
City of Moorpark
799 Moorpark Avenue
Moorpark, CA 93021

Regarding: EIR Hitch Ranch Specific Plan No. 2019-01

Dear Mr. Spondello

I am writing this letter in regards to the EIR study mentioned above. Our names are Colin & Victoria Velazquez, we are the owners of the property located at 601 Moorpark Ave., Moorpark, Ca.

We would like to take this opportunity to let you know about the main corner in the old downtown area known as the Tan Corner. This corner is a Historical Site in Moorpark and is the only one remaining from the very early 1900 ‘s.

Enclosed you will find some copies of information for you to consider in your EIR study. I have also enclosed several pictures of the corner from 1902.

Below I have included my address and phone number. If you have any questions please don’t hesitate to call me .

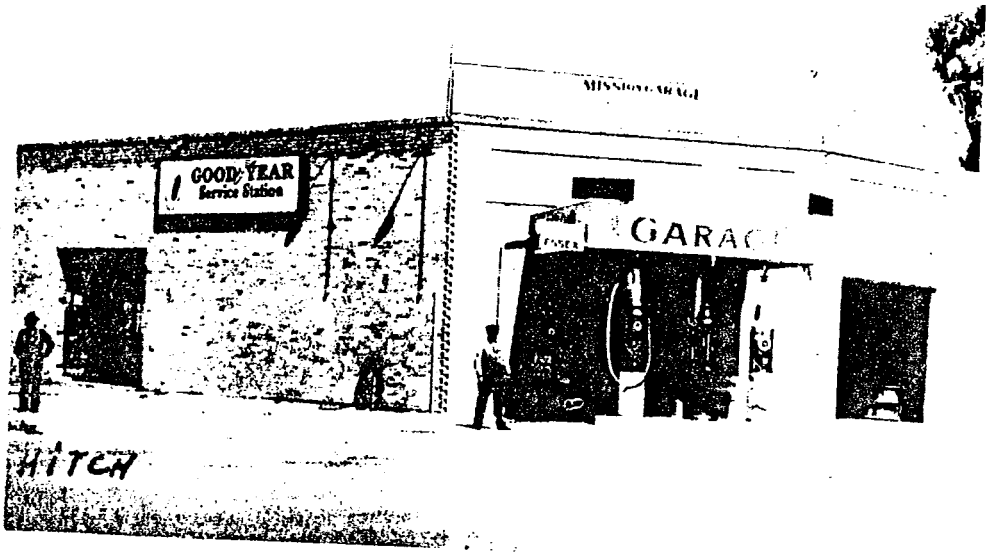
Thank you for your attention to this matter.

Sincerely,

Colin Velazquez

Colin & Victoria Velazquez
1078 Mellow Lane
Simi Valley, Ca. 93065
805-501-9135(cell)

GOODYEAR
Service Station
MISSION GARAGE



Courtesy I. G. Tanner

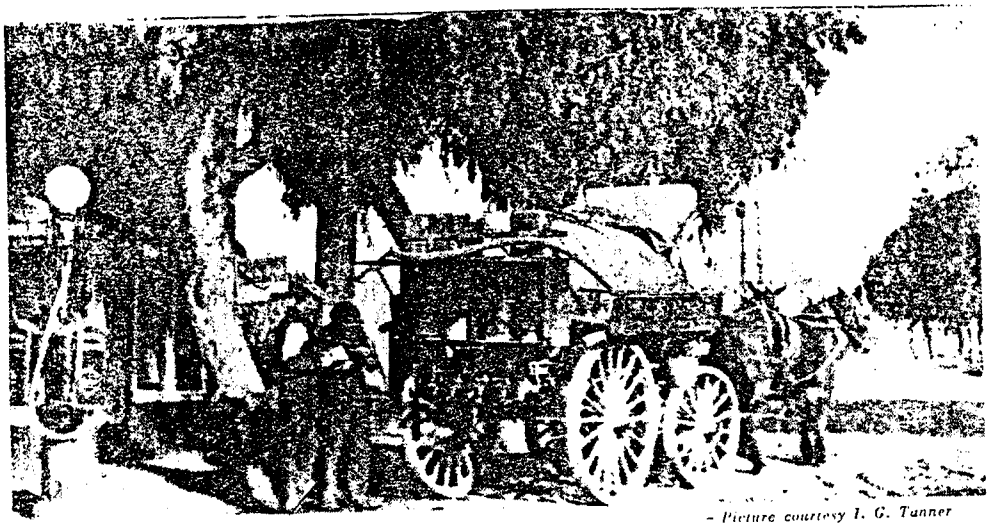
MOORPARK'S FIRST GARAGE

The garage was owned and operated by I. G. Tanner. "Arch" Hitch is seen in this rare 1917 photograph at the extreme left over his penned-in name.



THE SAME BUILDING IN THE 1940's

When this photograph was made the United Pentecostal Church u[illegible] the globe lights as its meeting place. In 1948 the rooms on the right [illegible] occupied by the Department of Water and those on the left were used as o[illegible] courtroom.



– Picture courtesy I. G. Tanner

Moorpark's First Gas Station

This is a rare picture of the northwest corner of High Street and Moorpark Avenue. Taken in 1915, I. G. Tanner (on the right) is shown receiving his supply of gasoline for his pump and garage. Behind the garage, Mr. Tanner kept Moorpark's first fire department. Worthy of note is the gasoline pump, the light globe, the beautiful pepper tree and Walnut Canyon, looking north.

Tanner Corner

Built 1902
Oldest Commercial Building
Original Exterior
First Gas Station **First Garage**
First Firehouse **Early Courthouse**
California Historical Register

November 3, 2000

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plaque sponsored by

Colin & Victoria Velazquez
Moorpark Community Arts Committee
Carolyn & William F. Poleri
Lynne & James J. Owens
Eloise Brown

30x20 LS 180531723 6/7/01 Clarendon

Tentative Rulings

Tentative Ruling for **SC 037584**

Hearing Date: **2005-03-29**
Ruling:

The Court will grant the Petition for Writ of Mandate. The Court concludes that there is substantial evidence in the record supporting a fair argument that the project as described, amending the Circulation Element of the Moorpark General Plan to show an extension of High Street from Moorpark Avenue to Gabbert Road, may have a significant effect on the environment.

Moreover, the Court concludes that the "whole of the action in this case" requires consideration c the proposed extension of High Street with the potential impacts of the Hitch Ranch Development.

Respondents are directed to set aside the amendment to the circulation element of the General Plar amendment to extend High Street, and refrain from further consideration of approval until full compliance with CEQA is achieved, including certification of an adequate EIR and adoption of feasible project mitigations and alternatives based on findings supported by substantial evidence.

To View Another Ruling select the "Continue" buttor

Continue

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.....Executive Secretary

27 November 2000

California Register of Historical Resources
State Historical Resources Commission Findings

Tanner Corner
601 Moorpark Avenue, Moorpark, Ventura County

On 3 November 2000, at a regular meeting of the State Historical Resources Commission in Los Angeles, California, pursuant to California Code of Regulations, Title 14, Chapter 11.5, Section 4856, the Commission voted unanimously to list the Tanner Corner building in the California Register of Historical Resources. Pursuant to California Code of Regulations, Title 14 Chapter 11.5, Section 4855, published herewith are the findings of the Commission.

FINDINGS

The State historical Resources Commission finds the resource significant under criteria 1, 2 and 3, for the period 1913-1953, because of its association with the events and patterns of development of Moorpark, it being one of three original commercial buildings from the early days of Moorpark, and it being the only one remaining from that time period; secondly, its association with a significant person in the development of that community; thirdly, because of its distinctive architectural characteristics as seen in the skilled masonry that have made it a local landmark; and finally, because of its high degree of integrity. This building has served as the community's first garage and first fire station, and has housed the Water Department and the Justice Department, and was used as a temporary morgue when the St. Francis Dam broke in 1928. The period of historical significance is 1913 to 1953, although the building continues to be used as a commercial space.

The original building was built in 1900 by a blacksmith as a barn with post and beam construction resting on a sill formed from railroad ties. The 2X6 beams were butted together and reinforced with a 1X6 beam five feet long attached to either side to secure the joint. As the building was first used by a blacksmit' it probably had a dirt floor. The exterior walls were originally lumber, but in 1913 the brick walls were installed. The brickwork is unusual and very much the effort of skilled masons of the period. Each course is three bricks laid side by side to form a wall 18 inches deep, approximately 20 feet in height, 140 feet in overall length. The squared-off corner of the building sits at the southwest corner of High Street and Moorpark Avenue. The main entry is located in that angled wall. The corners of this angle are again representative of the art of the mason; the bricks at the outer edge are angled in such a way to provide visual appeal. The entry is framed in a distinctive manner and the bricks are of an unusual color. The roof that was originally covered with shakes was reinforced in recent years with right angle trusses resting on the beams as an earthquake safety precaution. The roof was at one time covered with metal sheeting, but recently has be redone with plywood underlayment, 30-pound felt, and roofing shingles.

Mr. Ira Tanner, originally from Kentucky, came to Moorpark in 1913 when the town had only dirt roads and just a few houses and store buildings. As Tar er had been a mechanic since 1905 when gasoline engines were fairly new, he opened the Mission Garage. He was the first mechanic in the area. In 1920, he organized the first volunteer fire department and was elected chief. The fire-fighting equipment, which then consisted of buckets, gunnysacks, shovels and hoes, was housed in this building. Community fundraisers were held to obtain funds for supplies and equipment. A siren was purchased and placed on the building to call the firemen to emergencies. Later Mr. Tanner built a trailer using a Model A chassis and solid rubber tires, which he towed behind his garage service truck, carrying a five-gallon water pump, cans, sacks and shovels. In 1932, the Ventura County Fire Protection District was formed, Mr. Tanner was named chief, and a Mack-Pumper was stationed in Mr. Tanner's Garage. In 1942, Mr. Tanner deeded land, which he had purchased from the school district for one dollar, to the Ventura County Fire Protection District to establish a Ventura County Fire Station.

Mr. Tanner was a member of the Board of Trustees of the school district at the time of construction of Moorpark's first high school. He was also an active member of the Methodist Church and a trustee at the time of construction of the new church. Mr. Tanner was also manager of the water district, retiring in 1952 after eighteen years of service in that capacity and twelve years prior experience as a member of the board of supervisors. Forced into retirement by county ordinance at age of seventy, Mr. Tanner was honored by the community in July 1953. Hailed in local newspapers for his many years of service to the community, even the Los Angeles Times carried an article headlined, "Mayor of Moorpark to Retire.' Mr. Tanner's service to the community continued past his retirement until

his death. He was a leader in the community and participated in various aspects of its development for more than fifty years.

The building exterior looks very much as it did in 1913 after the brick facing was in place. The signage has changed to reflect current usage and cloth awnings now cover the windows. The three gas pumps and the porch roof which sheltered the main entrance and the pumps has been removed. The main entrance itself has never been changed, but the auto opening on the east side has been replaced with glass and lumber, leaving the framework of the garage door intact. The door opening on the east side remains, as do the original windows. At the southern side of the building the garage door is still in place and can be slid sideways as per original installation The only structural changes to the bui ng have been the addition in 1992 of steel supports to comply with earthquake safety requirements. The steel has been placed carefully to avoid any changes in the appearance or characteristics of the building. It subsequently survived the 1994 earthquake while a number of nearby buildings were damaged. The present owners note that in the twenty-five years they have owned the building, there has been no need to replace or repair any of the brick work.

Let these findings show that the review and consideration of the nomination of the Tanner Corner Building to the California Register of Historical Resources included the following:

Nomination and supplementary materials including documents pertaining to the application, a copy of the Moorpark town history detailing the uses of the building and Ira Tanner's role in the community, historic and current photos, and letters in support of the nomination.

Letters and other communication from the City Manager of Moorpark and from the City Attorney of Moorpark.

Public Comment.

With this signature, it is hereby certified that the State Historical Resources Commission adopted these findings pursuant to California Code of Regulations, Title 14, Chapter 11.5, Sections 4855 and 4856 on the 3rd day of November 2000.

Sue Schechter

Sue Schechter, Chairperson

STATE OF CALIFORNIA – THE RESOURCES AGENCY
GRAY DAVIS, *Governor*

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California Office of Historic Preservation Technical Assistance Series #1

California Environmental Quality Act (CEQA) and Historical Resources

Introduction

The California Environmental Quality Act (CEQA – pronounced see' kwa) is the principal statute mandating environmental assessment of projects in California. The purpose of CEQA is to evaluate whether a proposed project may have an adverse effect on the environment and, if so, if that effect can be reduced or eliminated by pursuing an alternative course of action or through mitigation. CEQA is part of the Public Resources Code (PRC), Sections 21000 et seq.

The CEQA Guidelines are the regulations that govern the implementation of CEQA. The CEQA Guidelines are codified in the California Code of Regulations (CCR), Title 14, Chapter 3, Sections 15000 et seq. and are binding on state and local public agencies.

The basic goal of CEQA is to develop and maintain a high-quality environment now and in the future, while the specific goals of CEQA are for California's public agencies to:

1. Identify the significant environmental effects of their actions; and, either
2. Avoid those significant environmental effects, where feasible; or
3. Mitigate those significant environmental effects, where feasible.

CEQA applies to "projects" proposed to be undertaken or requiring approval by state and local public agencies. "Projects" are activities which have the potential to have a physical impact on the environment and may include the enactment of zoning ordinances, the issuance of conditional use permits and variances and the approval of tentative subdivision maps.

Where a project requires approvals from more than one public agency, CEQA requires ones of these public agencies to serve as the "lead agency."
A "lead agency" must complete the environmental review process required by CEQA. The most basic steps of the environmental review process are:

1. Determine if the activity is a "project" subject to CEQA;
2. Determine if the "project" is exempt from CEQA;

3. Perform an Initial Study to identify the environmental impacts of the project and determine whether the identified impacts are "significant". Based on its findings of "significance", the lead agency prepares one of the following environmental review documents:
   - Negative Declaration if it finds no "significant" impacts;
   - Mitigated Negative Declaration if it finds "significant" impacts but revises the project to avoid or mitigate those significant impacts;
   - Environmental Impact Report (EIR) if it finds "significant" impacts.

The purpose of an EIR is to provide State and local agencies and the general public with detailed information on the potentially significant environmental effects that a proposed project is likely to have, to list ways that the significant environmental effects may be minimized and to indicate alternatives to the project.

Throughout this handout you will find references to various sections of the California Public Resources Code and the Code of Regulations. The various State statutes and regulations can all be accessed on-line at the following websites:
Statutes - http://www.leginfo.ca.gov/calaw.html
Regulations - http://ccr.oal.ca.gov/

This handout is intended to merely illustrate the process outlined in CEQA statute and guidelines relative to historical and cultural resources. These materials on CEQA and other laws are offered by the State Office of Historic Preservation for informational purposes only. This information does not have the force of law or regulation. This handout should not be cited in legal briefs as the authority for any proposition. In the case of discrepancies between the information provided in this handout and the CEQA statute or guidelines, the language of the CEQA statute and Guidelines (PRC § 21000 et seq. and 14 CCR § 15000 et seq.) is controlling. Information contained in this handout does not offer nor constitute legal advice. You should contact an attorney for technical guidance on current legal requirements.

Questions and Answers

When does CEQA apply?

Resources listed in, or determined to be eligible for listing in, the California Register are resources that must be given consideration in the CEQA process.

All projects undertaken by a public agency are subject to CEQA. This includes projects undertaken by any state or local agency, any special district (e.g., a school district), and any public college or university.

CEQA applies to discretionary projects undertaken by private parties. A discretionary project is one that requires the exercise of judgement or deliberation by a public agency in determining whether the project will be approved, or if a permit will be issued. Some common discretionary decisions include placing conditions on the issuance of a permit, delaying demolition to explore alternatives, or reviewing the design of a proposed project. Aside from decisions pertaining to a project that will have a direct physical impact on the environment, CEQA also applies to decisions that could lead to indirect impacts, such as making changes to local codes, policies, and general and specific plans. Judgement or deliberation may be exercised by the staff of a permitting agency or by a board, commission, or elected body.

CEQA does not apply to ministerial projects. A ministerial project is one that requires only conformance with a fixed standard or objective measurement and requires little or no personal judgment by a public official as to the wisdom or manner of carrying out the project. Generally ministerial permits require a public official to determine only that the project conforms with applicable zoning and building code requirements and that applicable fees have been paid. Some examples of projects that are generally ministerial include roof replacements, interior alterations to residences, and landscaping changes.

For questions about what types of projects are discretionary and ministerial within your community, you must contact your local government; usually the local Planning Department handles such issues.

What is the California Register and what does it have to do with CEQA?

Historical resources are recognized as part of the environment under CEQA (PRC § 21002(b), 21083.2, and 21084.1). The California Register is an authoritative guide to the state's historical resources and to which properties are considered significant for purposes of CEQA.

The California Register includes resources listed in or formally determined eligible for listing in the National Register of Historic Places, as well as some California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the California Register and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC § 5024.1, 14 CCR § 4850).

The California Register statute (PRC § 5024.1) and regulations (14 CCR § 4850 et seq.) require that at the time a local jurisdiction *nominates* an historic resources survey for listing in the California Register, the survey must be updated if it is more than five years old. This is to ensure that a *nominated survey* is as accurate as possible at the time it is listed in the California Register. However, this does not mean that resources identified in a survey that is more than five years old need not be considered "historical resources" for purposes of CEQA. Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the California Register.

However, a resource does not need to have been identified previously either through listing or survey to be considered significant under CEQA. In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the California Register criteria prior to making a finding as to a proposed project's impacts to historical resources (PRC § 21084.1, 14 CCR § 15064.5(3)).

Are archeological sites part of the California Register?

An archeological site may be considered an historical resource if it is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military or cultural annals of California (PRC § 5020.1(j)) or if it meets the criteria for listing on the California Register (14 CCR § 4850).

CEQA provides somewhat conflicting direction regarding the evaluation and treatment of archeological sites. The most recent amendments to the CEQA Guidelines try to resolve this ambiguity by directing that lead agencies should first evaluate an archeological site to determine if it meets the criteria for listing in the California Register. If an archeological site is an historical resource (i.e., listed or eligible for listing in the California Register) potential adverse impacts to it must be considered, just as for any other historical resource (PRC § 21084.1 and 21083.2(l)).

If an archeological site is not an historical resource, but meets the definition of a "unique archeological resource" as defined in PRC § 21083.2, then it should be treated in accordance with the provisions of that section.

What is "substantial adverse change" to an historical resource?

Substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired (PRC § 5020.1(q)).

While demolition and destruction are fairly obvious significant impacts, it is more difficult to assess when change, alteration, or relocation crosses the threshold of substantial adverse change. The CEQA Guidelines provide that a project that demolishes or alters those physical characteristics of an historical resource that convey its historical significance (i.e., its character-defining features) can be considered to materially impair the resource's significance.

How can "substantial adverse change" be avoided or mitigated?

A project that has been determined to conform with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* can generally be considered to be a project that will not cause a significant impact (14 CCR § 15126.4(b)(1)). In fact, in most cases if a project meets the *Secretary of Interior's Standards for the Treatment of Historic Properties* it can be considered categorically exempt from CEQA (14 CCR § 15331).

Mitigation of significant impacts must lessen or eliminate the physical impact that the project will have on the historical resource. This is often accomplished through redesign of a project to eliminate objectionable or damaging aspects of the project (e.g., retaining rather than removing a character-defining feature, reducing the size or massing of a proposed addition, or relocating a structure outside the boundaries of an archeological site).

Relocation of an historical resource may constitute an adverse impact to the resource. However, in situations where relocation is the only feasible alternative to demolition, relocation may mitigate below a level of significance provided that the new location is compatible with the original character and use of the historical resource and the resource retains its eligibility for listing on the California Register (14 CCR § 4852(d)(1)).

In most cases the use of drawings, photographs, and/or displays does not mitigate the physical impact on the environment caused by demolition or destruction of an historical resource (14 CCR § 15126.4(b)). However, CEQA requires that all feasible mitigation be undertaken even if it does not mitigate below a level of significance. In this context, recordation serves a legitimate archival purpose. The level of documentation required as a mitigation should be proportionate with the level of significance of the resource.

Avoidance and preservation in place are the preferable forms of mitigation for archeological sites. When avoidance is infeasible, a data recovery plan should be prepared which adequately provides for recovering scientifically consequential information from the site. Studies and reports resulting from excavations must be deposited with the California Historical Resources Regional Information Center (see list in Appendix G).

Title 14. California Code of Regulations
Chapter 3. Guidelines for Implementation of the California Environmental Quality Act

Article 9. Contents of Environmental Impact Reports

Sections 15120 to 15132

15120. General

(a) Environmental Impact Reports shall contain the information outlined in this article, but the format of the document may be varied. Each element must be covered, and when these elements are not separated into distinct sections, the document shall state where in the document each element is discussed.

(b) The EIR may be prepared as a separate document, as part of a general plan, or as part of a project report. If prepared as a part of the project report, it must still contain one separate and distinguishable section providing either analysis of all the subjects required in an EIR or, as a minimum, a table showing where each of the subjects is discussed. When the Lead Agency is a state agency, the EIR shall be included as part of the regular project report if such a report is used in the agency's existing review and budgetary process.

(c) Draft EIRs shall contain the information required by Sections 15122 through 15131. Final EIRs shall contain the same information and the subjects described in Section 15132.

(d) No document prepared pursuant to this article that is available for public examination shall include a "trade secret" as defined in Section 6254.7 of the Government Code, information about the location of archaeological sites and sacred lands, or any other information that is subject to the disclosure restrictions of Section 6254 of the Government Code.

Note: Authority cited: Section 21083, Public Resources Code; Reference: Sections 21100, 21105 and 21160, Public Resources Code.

Discussion: This section provides general information on the EIR document. The document may be prepared in a wide variety of formats so long as the essential elements of information are included. In order to promote public understanding of the document, the Guidelines require that when the required elements are not separated into distinct sections, the document must include a statement as to where each element is discussed.

Subsection (b) is also designed to allow Lead Agencies flexibility in preparing the document. This section provides that the EIR may be a separate document by itself, or the EIR may be included within another document. Where the EIR is included within another document, the EIR must be a distinguishable section of that larger document.

The flexibility allowed by this section enables Lead Agencies to achieve efficiencies in different situations. For example, where a Local Agency Formation Commission has prepared a large document analyzing the effects of a proposed annexation, the LAFCO may reduce its cost by including the EIR within the larger document. The decision in Russian Hill Improvement Association v. Board of Permit Appeals, (1974) 44 Cal. App. 3d 158 ruled that the EIR must be a separate, distinguishable document rather than merely a collection of reports prepared for some other purpose. This section allows agencies to combine the EIR with other documents so long as the EIR is a separate identifiable entity that would meet the standards of the Russian Hill decision.

Subsection (c) highlights the differences in contents for draft EIRs and final EIRs. The Guidelines refer so often to draft or final EIRs that the contents should be identified in the introductory section in the article on EIR contents.

Subsection (d) clarifies that limitations on the disclosure of ìtrade secretsî and archaeological sites established by state law outside of CEQA also apply to environmental documents. Limiting disclosure of archaeological sites and sacred lands is particularly important in order to reduce the chances that they might be damaged or destroyed by collectors.

15121. Informational Document

(a) An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency.

(b) While the information in the EIR does not control the agency's ultimate discretion on the project, the agency must respond to each significant effect identified in the EIR by making findings under Section 15091 and if necessary by making a statement of overriding consideration under Section 15093.

(c) The information in an EIR may constitute substantial evidence in the record to support the agency's action on the project if its decision is later challenged in court.

Note: Authority cited: Section 21083, Public Resources Code; Reference: Section 21061, Public Resources Code; *Carmel Valley View, Ltd. v. Board of Supervisors*, (1976) 58 Cal. App. 3d 817.

Discussion: This section describes the fundamental role played by the EIR in CEQA. This section makes the point that the EIR provides information to assist the agency in making decisions on the project but does not control the agency's exercise of discretion.

15122. Table of Contents or Index

An EIR shall contain at least a table of contents or an index to assist readers in finding the analysis of different subjects and issues.

Note: Authority cited: Section 21083, Public Resources Code; Reference: Section 21061, Public Resources Code.

Discussion: This section identifies the statutory requirement for an EIR to contain either a table of contents or an index. The requirement is included here in the article on EIR contents in the interest of clarity.

15123. Summary

(a) An EIR shall contain a brief summary of the proposed actions and its consequences. The language of the summary should be a clear and simple as reasonably practical.

(b) The summary shall identify:

(1) Each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect;

(2) Areas of controversy known to the Lead Agency including issues raised by agencies and the public; and

(3) Issues to be resolved including the choice among alternatives and whether or how to mitigate the

significant effects.

(c) The summary should normally not exceed 15 pages.

Note: Authority cited: Section 21083, Public Resources Code; Reference: Section 21061, Public Resources Code.

Discussion: This section identifies the statutory requirement for an EIR to contain a summary. The section then provides additional regulatory requirements for the summary. This section requires the summary to focus on the major areas of importance to decision-makers and to use clear, simple language to promote understanding. The section suggests a 15-page limit to the summary.

15124. Project Description

The description of the project shall contain the following information but should not supply extensive detail beyond that needed for evaluation and review of the environmental impact.

(a) The precise location and boundaries of the proposed project shall be shown on a detailed map, preferably topographic. The location of the project shall also appear on a regional map.

(b) A statement of objectives sought by the proposed project. A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the project..

(c) A general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities.

(d) A statement briefly describing the intended uses of the EIR.

(1) This statement shall include, to the extent that the information is known to the Lead Agency,

(A) A list of the agencies that are expected to use the EIR in their decision-making, and

(B) A list of permits and other approvals required to implement the project.

(C) A list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies. To the fullest extent possible, the lead agency should integrate CEQA review with these related environmental review and consultation requirements.

(2) If a public agency must make more than one decision on a project, all its decisions subject to CEQA should be listed, preferably in the order in which they will occur. On request, the Office of Planning and Research will provide assistance in identifying state permits for a project.

Note: Authority cited: Section 21083, Public Resources Code; Reference: Sections 21080.3, 21080.4, 21165, 21166, and 21167.2, Public Resources Code; *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185.

Discussion: This section requires the EIR to describe the proposed project in a way that will be meaningful to the public, to the other reviewing agencies, and to the decision-makers. Although the statute contains no express requirement for an EIR to contain a project description, the statutory points of analysis need to be supplemented with a project description for the analysis to make sense. This section is a codification of the ruling in *County of Inyo v. City of Los Angeles*, cited in the note. There the court noted that an accurate description of the project has been required by case law interpreting the National Environmental Policy Act. The state court of appeal declared that an accurate, stable, finite project description is an essential element of an informative and legally sufficient EIR under CEQA.

Subsection (b) emphasizes the importance of a clearly written statement of objectives. Compatibility with project objectives is one of the criteria for selecting a reasonable range of project alternatives. Clear project objectives simplify the selection process by providing a standard against which to

measure possible alternatives.

Subsection (d) calls for a brief statement of how the Lead Agency and any Responsible Agencies will use the EIR in their approval or permitting processes. This is necessary to make the EIR fit the Lead Agency concept which requires all permitting agencies to use the same EIR. In addition, it encourages the lead agency to consult with other agencies and to integrate CEQA review with other related environmental reviews. This advances Public Resources Code section 21003 which provides that, to the extent possible, CEQA is to be applied concurrently with other review processes.

15125. Environmental Setting

(a) An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives.

(b) When preparing an EIR for a plan for the reuse of a military base, lead agencies should refer to the special application of the principle of baseline conditions for determining significant impacts contained in Section 15229.

(c) Knowledge of the regional setting is critical to the assessment of environmental impacts. Special emphasis should be placed on environmental resources that are rare or unique to that region and would be affected by the project. The EIR must demonstrate that the significant environmental impacts of the proposed project were adequately investigated and discussed and it must permit the significant effects of the project to be considered in the full environmental context.

(d) The EIR shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans. Such regional plans include, but are not limited to, the applicable air quality attainment or maintenance plan or State Implementation Plan, area-wide waste treatment and water quality control plans, regional transportation plans, regional housing allocation plans, habitat conservation plans, natural community conservation plans and regional land use plans for the protection of the Coastal Zone, Lake Tahoe Basin, San Francisco Bay, and Santa Monica Mountains.

(e) Where a proposed project is compared with an adopted plan, the analysis shall examine the existing physical conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced as well as the potential future conditions discussed in the plan.

Note: Authority cited: Section 21083, Public Resources Code; Reference: Sections 21061 and 21100, Public Resources Code; *E.P.I.C. v. County of El Dorado* (1982) 131 Cal.App.3d 350; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713; *Bloom v. McGurk* (1994) 26 Cal.App.4th 1307.

Discussion: Because the concept of a significant effect on the environment focuses on changes in the environment, this section requires an EIR to describe the environmental setting of the project so that the changes can be seen in context. The description of the pre-existing environment also helps reviewers to check the Lead Agency's identification of significant effects. A number of agencies have been required to spend large amounts of public funds to develop regional plans as a way of dealing with large-scale environmental problems involving air and water pollution, solid waste, and transportation. Where individual projects would run counter to the efforts identified as desirable or approved by agencies in the regional plans, the Lead Agency should address the inconsistency between the project plans and the regional plans. As a result of this analysis, Lead Agencies may be able to find ways to modify the project to reduce the inconsistency.

Subsection (a) clarifies that the ìenvironmental settingî is intended to mean the environmental conditions as they exist at the time the Notice of Preparation is filed. This gives the lead agency greater certainty regarding the setting which must be described. The subsection goes on to provide that normally the environmental setting describes the baseline conditions against which the significance of

any physical change in the environment that may occur as a result of the project will be measured.

Regarding subsection (c), in *Antioch v. Pittsburg* (1986) 187 Cal. App. 3d 1325, the court underscored that mere conformity with a general plan (in and of itself) will not justify a finding that the project has no significant environmental effects. In the instant case, a developer sought a site development permit from the City of Pittsburg and the initiation of an assessment district for the construction of major infrastructure for three parcels of land. Although consistent with the general plan, the court found the project level environmental review to be inadequate and ordered an EIR prepared. Subsection (c) further emphasizes the importance of examining the project in its regional context. This is intended to ensure that the environmental setting is comprehensively described.

Subsection (d) reflects the decision in *Environmental Information and Planning Council v. County of El Dorado* (1982) 131 Cal. App. 3d 350, which held that in comparing an old general plan with a new county general plan that would allow less growth than the old plan, the EIR had to address the existing level of actual physical development in the county as the base line for the comparison. The two plans could not be compared with each other without showing how they would relate to the existing level of development.

15126. Consideration and Discussion of Environmental Impacts

All phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development, and operation. The subjects listed below shall be discussed as directed in Sections 15126.2, 15126.4 and 15126.6, preferably in separate sections or paragraphs of the EIR. If they are not discussed separately, the EIR shall include a table showing where each of the subjects is discussed.

(a) Significant Environmental Effects of the Proposed Project.

(b) Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented.

(c) Significant Irreversible Environmental Changes Which Would be Involved in the Proposed Project Should it be Implemented.

(d) Growth-Inducing Impact of the Proposed Project.

(e) The Mitigation Measures Proposed to Minimize the Significant Effects.

(f) Alternatives to the Proposed Project.

Note: Authority cited: Section 21083, Public Resources Code; Reference: Sections 21002, 21003, 21100, and 21081.6, Public Resources Code; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553; *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376; *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359; and *Laurel Heights Improvement Association v. Regents of the University of California* (1993) 6 Cal.4th 1112.

Discussion: This section specifies that an EIR must discuss, preferably separately, a projectís significant environmental effects, mitigation measures, and a range of alternatives. The 1998 amendments to the Guidelines moved the comprehensive discussion of each of these EIR components, which once resided in section 15126, into sections 15126.2, 15126.4, and 15126.6, respectively.

15126.2 Consideration and Discussion of Significant Environmental Impacts.

(a) The Significant Environmental Effects of the Proposed Project. An EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is

commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected. For example, an EIR on a subdivision astride an active fault line should identify as a significant effect the seismic hazard to future occupants of the subdivision. The subdivision would have the effect of attracting people to the location and exposing them to the hazards found there.

(b) Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented. Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described.

(c) Significant Irreversible Environmental Changes Which Would be Caused by the Proposed Project Should it be Implemented. Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

(d) Growth-Inducing Impact of the Proposed Project. Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Note: Authority cited: Section 21083, Public Resources Code. Reference: Sections 21002, 21003, and 21100, Public Resources Code; *Citizens of Goleta Valley v. Board of Supervisors*, (1990) 52 Cal.3d 553; *Laurel Heights Improvement Association v. Regents of the University of California*, (1988) 47 Cal.3d 376; *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359; and *Laurel Heights Improvement Association v. Regents of the University of California* (1993) 6 Cal.4th 1112; *Goleta Union School Dist. v. Regents of the Univ. Of Calif (1995) 37 Cal. App.4th 1025.*

Discussion: This section describes how an EIR must identify and focus on the significant environmental effects, unavoidable significant environmental effects, significant irreversible environmental changes, and growth-inducing impacts which may result from a project. Subsection (a) reiterates the baseline discussion contained in section 15125. Subsection (d), discussing growth-inducing impacts, clarifies that the construction of new facilities may be important because that construction itself may have significant effects.

15126.4 Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects.

(a) Mitigation Measures in General.

(1) An EIR shall describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy.

(A) The discussion of mitigation measures shall distinguish between the measures which are proposed by project proponents to be included in the project and other measures proposed by the lead, responsible or trustee agency or other persons which are not included but the lead agency determines could reasonably be expected to reduce adverse impacts if required as conditions of approving the project. This discussion shall identify mitigation measures for each significant environmental effect identified in the EIR.

(B) Where several measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified. Formulation of mitigation measures should not be deferred until some future time. However, measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way.

(C) Energy conservation measures, as well as other appropriate mitigation measures, shall be discussed when relevant. Examples of energy conservation measures are provided in Appendix F.

(D) If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed. (*Stevens v. City of Glendale*(1981) 125 Cal.App.3d 986.)

(2) Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally-binding instruments. In the case of the adoption of a plan, policy, regulation, or other public project, mitigation measures can be incorporated into the plan, policy, regulation, or project design.

(3) Mitigation measures are not required for effects which are not found to be significant.

(4) Mitigation measures must be consistent with all applicable constitutional requirements, including the following:

(A) There must be an essential nexus (i.e. connection) between the mitigation measure and a legitimate governmental interest. *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987); and

(B) The mitigation measure must be "roughly proportional" to the impacts of the project. *Dolan v. City of Tigard*, 512 U.S. 374 (1994). Where the mitigation measure is an *ad hoc* exaction, it must be "roughly proportional" to the impacts of the project. *Ehrlich v. City of Culver City* (1996) 12 Cal.4th 854.

(5) If the lead agency determines that a mitigation measure cannot be legally imposed, the measure need not be proposed or analyzed. Instead, the EIR may simply reference that fact and briefly explain the reasons underlying the lead agency's determination.

(b) Mitigation Measures Related to Impacts on Historical Resources.

(1) Where maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation or reconstruction of the historical resource will be conducted in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving,Rehabilitating, Restoring, and Reconstructing Historic Buildings (1995), Weeks and Grimmer, the project's impact on the historical resource shall generally be considered mitigated below a level of significance and thus is not significant.

(2) In some circumstances, documentation of an historical resource, by way of historic narrative, photographs or architectural drawings, as mitigation for the effects of demolition of the resource will not mitigate the effects to a point where clearly no significant effect on the environment would occur.

(3) Public agencies should, whenever feasible, seek to avoid damaging effects on any historical resource of an archaeological nature. The following factors shall be considered and discussed in an EIR for a project involving such an archaeological site:

(A) Preservation in place is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the

site.

(B) Preservation in place may be accomplished by, but is not limited to, the following:

1. Planning construction to avoid archaeological sites;

2. Incorporation of sites within parks, greenspace, or other open space;

3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site.

4. Deeding the site into a permanent conservation easement.

(C) When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provisions for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional Information Center. Archeological sites known to contain human remains shall be treated in accordance with the provisions of Section 7050.5 Health and Safety Code. If an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation.

(D) Data recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource, provided that the determination is documented in the EIR and that the studies are deposited with the California Historical Resources Regional Information Center.

Authority: Section 21083, Public Resources Code. Reference: Sections 5020.5, 21002, 21003, 21100 and 21084.1, Public Resources Code; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553; *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376; *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359; *Laurel Heights Improvement Association v. Regents of the University of California* (1993) 6 Cal.4th 1112; and *Sacramento Old City Assn. v. City Council of Sacramento* (1991) 229 Cal.App.3d 1011.

15126.6 Consideration and Discussion of Alternatives to the Proposed Project.

(a) Alternatives to the Proposed Project. An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decisionmaking and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553 and *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376).

(b) Purpose. Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

(c) Selection of a range of reasonable alternatives. The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping

process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are:(i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.

(d) Evaluation of alternatives. The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. (*County of Inyo v. City of Los Angeles* (1981) 124 Cal.App.3d 1).

(e) "No project" alternative.

(1) The specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (see Section 15125).

(2) The "no project" analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

(3) A discussion of the "no project" alternative will usually proceed along one of two lines:

(A) When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation, the "no project" alternative will be the continuation of the existing plan, policy or operation into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan.

(B) If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this "no project" consequence should be discussed. In certain instances, the no project alternative means "no build" wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.

(C) After defining the no project alternative using one of these approaches, the lead agency should proceed to analyze the impacts of the no project alternative by projecting what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

(f) Rule of reason. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.

(1) Feasibility. Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives. (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553; see *Save Our Residential Environment v. City of West Hollywood* (1992) 9 Cal.App.4th 1745, 1753, fn. 1).

(2) Alternative locations.

(A) Key question. The key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.

(B) None feasible. If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR. For example, in some cases there may be no feasible alternative locations for a geothermal plant or mining project which must be in close proximity to natural resources at a given location.

(C) Limited new analysis required. Where a previous document has sufficiently analyzed a range of reasonable alternative locations and environmental impacts for projects with the same basic purpose, the lead agency should review the previous document. The EIR may rely on the previous document to help it assess the feasibility of potential project alternatives to the extent the circumstances remain substantially the same as they relate to the alternative. (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 573).

(3) An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative. (*Residents Ad Hoc Stadium Committee v. Board of Trustees* (1979) 89 Cal. App.3d 274).

Note: Authority cited: Section 21083, Public Resources Code. Reference: Sections 21002, 21002.1, 21003, and 21100, Public Resources Code; *Citizens of Goleta Valley v. Board of Supervisors*, (1990) 52 Cal.3d 553; *Laurel Heights Improvement Association v. Regents of the University of California*, (1988) 47 Cal.3d 376; *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359; and *Laurel Heights Improvement Association v. Regents of the University of California* (1993) 6 Cal.4th 1112.

Discussion: This section examines the required discussion of project alternatives. Subsection (b) states that the discussion shall focus on alternatives to the project or its location which can avoid or substantially lessen any of the significant impacts of the project and shall evaluate their comparative merits. Subsection (c) includes guidance on the selection of a reasonable range of feasible alternatives, including the need to document the process of selecting alternatives. Subsection (e) describes the ìno projectî alternative, including its relationship to the baseline conditions under which the project is evaluated for potential significance and the analysis of the potential impacts if the project is not undertaken. Subsection (f) discusses the ìrule of reasonî in detail, including such factors as feasibility, location, and speculation, which help agencies select a reasonable range of alternatives.

15127. Limitations on Discussion of Environmental Impact

The information required by Section 15126.2(c) concerning irreversible changes, need be included only in EIRs prepared in connection with any of the following activities:

(a) The adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency;

(b) The adoption by a Local Agency Formation Commission of a resolution making determinations; or

(c) A project which will be subject to the requirement for preparing an environmental impact statement pursuant to the requirements of the National Environmental Policy Act of 1969, 42 U.S.C. 4321-4347.

Note: Authority cited: Section 21083, Public Resources Code; Reference: Section 21100.1, Public Resources Code.

Discussion: The reference in this section to previous subsection (e) of Section 15126 has been deleted. The statutory requirement for a discussion of the relationship between short-term uses and long-term productivity was repealed by Chapter 1230 of the Statutes of 1994.

15128. Effects Not Found to be Significant

An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. Such a statement may be contained in an attached copy of an Initial Study.

Note: Authority cited: Section 21083, Public Resources Code; Reference: Section 21100, Public Resources Code.

Discussion: This section repeats the statutory requirement from Section 21100 for an EIR to contain a brief statement explaining why various effects of the project were found not to be significant. The section then adds the administrative interpretation that this statement may be provided by an attached copy of the Initial Study. Using the Initial Study would help the Lead Agency avoid duplication in writing and would provide a relatively simple way of meeting this requirement.

15129. Organizations and Persons Consulted

The EIR shall identify all federal, state, or local agencies, other organizations, and private individuals consulted in preparing the draft EIR, and the persons, firm, or agency preparing the draft EIR, by contract or other authorization.

Note: Authority cited: Section 21083, Public Resources Code; Reference: Sections 21104 and 21153, Public Resources Code.

Discussion: This section requires the Lead Agency to disclose the agencies, organizations, and individuals whom it consulted pursuant to Sections 21104 or 21153.

15130. Discussion of Cumulative Impacts

(a) An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in section 15065(a)(3). Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

(1) As defined in Section 15355, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.

(2) When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. A lead agency shall identify facts and analysis supporting the lead agency's conclusion that the cumulative impact is less than significant.

(3) An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The lead agency shall identify facts and analysis supporting its conclusion that the contribution will be rendered less than

cumulatively considerable.

(b) The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact. The following elements are necessary to an adequate discussion of significant cumulative impacts:

(1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

(2) When utilizing a list, as suggested in paragraph (1) of subdivision (b), factors to consider when determining whether to include a related project should include the nature of each environmental resource being examined, the location of the project and its type. Location may be important, for example, when water quality impacts are at issue since projects outside the watershed would probably not contribute to a cumulative effect. Project type may be important, for example, when the impact is specialized, such as a particular air pollutant or mode of traffic.

(3) Lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used.

(4) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

(5) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

(c) With some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis.

(d) Previously approved land use documents such as general plans, specific plans, and local coastal plans may be used in cumulative impact analysis. A pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference pursuant to the provisions for tiering and program EIRs. No further cumulative impacts analysis is required when a project is consistent with a general, specific, master or comparable programmatic plan where the lead agency determines that the regional or areawide cumulative impacts of the proposed project have already been adequately addressed, as defined in section 15152(f), in a certified EIR for that plan.

(e) If a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for such a project should not further analyze that cumulative impact, as provided in Section 15183(j).

Note: Authority cited: Section 21083, Public Resources Code. Reference: Sections 21083(b), 21093, 21094 and 21100, Public Resources Code; *Whitman v. Board of Supervisors,* (1979) 88 Cal. App. 3d 397; *San Franciscans for Reasonable Growth v. City and County of San Francisco* (1984) 151 Cal.App.3d 61; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692; *Laurel Heights Homeowners Association v. Regents of the University of California* (1988) 47 Cal.3d 376; *Sierra Club v. Gilroy* (1990) 220 Cal.App.3d 30; *Citizens to Preserve the Ojai v. County of Ventura* (1985) 176 Cal.App.3d 421; *Concerned Citizens of South Cent. Los Angeles v. Los Angeles Unified Sch. Dist.* (1994) 24 Cal.App.4th 826; *Las Virgenes Homeowners Fed'n v. County of Los Angeles* (1986) 177 Cal.App.3d 300; *San Joaquin Raptor/Wildlife Rescue Ctr v. County of Stanislaus* (1994) 27 Cal.App.4th 713; *Fort Mojave Indian Tribe v. Cal. Dept. Of Health Services* (1995) 38 Cal.App.4th 1574; and *Communities for a Better Environment v. California Resources Agency* (2002) 103

Cal.App.4th 98.

Discussion: This section is necessary to explain how to discuss cumulative impacts in an EIR. The section limits the discussion to situations where the cumulative effects are found to be significant. Further, the section codifies the requirements for analysis of cumulative effects as spelled out in *Whitman v. Board of Supervisors*, cited in the note, but the section allows the alternative approach of summarizing projections from a planning document. The options allow the Lead Agency to choose the method of analysis that may be best suited to the situation at hand. Essential guidance is also provided on approaches to mitigating cumulative effects, since cumulative effects can rarely be mitigated in the same way as the primary effects of an individual project.

When analyzing the cumulative impacts of a project under 15130 (b)(1)(A), the Lead Agency is required to discuss not only approved projects under construction and approved related projects not yet under construction, but also unapproved projects currently under environmental review with related impacts or which result in significant cumulative impacts. This analysis should include a discussion of projects under review by the Lead Agency and projects under review by other relevant public agencies, using reasonable efforts to discover, disclose, and discuss the other related projects. The cumulative impact analysis requires a discussion of projects with related cumulative impacts which required EIRs, Negative Declarations, or were exempt from CEQA. (See: *San Franciscans for Reasonable Growth v. City and County of San Francisco*, (1984) 151 Cal. App. 3d 61.) The court in SFFRG took note of the problem of where to draw the line on projects undergoing environmental review since application of new projects are constantly being submitted. A reasonable point might be after the preparation of the draft EIR. Additional project information could be included in the final EIR if cumulative impacts were originally analyzed in the draft EIR and if the new project information doesn't warrant the preparation of a subsequent or supplemental EIR as required by Section 15162 of the Guidelines.

Subsection (b)(1)(B) authorizes a lead agency to limit its analysis of probable future projects to those which are planned or which have had an application made at the time the NOP is released for review. This describes a reasonable point in time at which to begin the cumulative impact analysis. Without this guideline, the cumulative impact analysis may suffer frequent revision as new, incremental projects are identified. If additional projects are identified later, they may be addressed during completion of the final EIR.

Cumulative impacts analysis must include reasonably anticipated future activities of a project or associated with the project. Whether these activities are addressed in the cumulative impact analysis section or in the impacts associated with the project, as defined, if there is substantial evidence indicating reasonable foreseeable future projects or activities, an EIR must analyze the impacts of those future activities. The Court in *Laurel Heights* set forth the following two pronged test to determine whether an EIR must include an analysis of the environmental effects of future activities: (1) it is a reasonably foreseeable consequence of the initial project; and (2) the future action will be significant in that it will likely change the scope or nature of the initial project or its environmental effects. Absent these two circumstances, potential future expansion need not be considered. *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal. 3d 376.

Consistent with the holding in *Antioch v. Pittsburg* (see discussion with Section 15126), a cumulative impact analysis should address the most probable development patterns.

This section describes the analysis necessary where a project will make a considerable contribution to a cumulative effect (see also section 15064). Based on the holding in San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus (1996) 42 Cal.App.4th 608, subdivision (a) provides that when the lead agency determines that a project makes only a de minimus contribution to a cumulative effect no analysis of the cumulative effect is needed. This subsection also provides that an EIR may determine that a projectís contribution, originally thought to be considerable, is less than considerable with mitigation. Any such conclusion must be documented in the EIR.

Subsection (b) discusses the elements necessary for an adequate discussion of significant cumulative impacts. It recommends that the discussion focus on the particular cumulative impact to which other projects contribute rather than on the non-contributing aspects of those projects. This subsection offers further guidance on focusing the discussion on impacts rather than on other projects per se.

Subsection (d) links cumulative impact analysis to tiering and other similar approaches which seek to

limit redundant analyses. Where cumulative impacts have been adequately addressed in the EIR certified for a general plan or other programmatic plan, and the project is consistent with that plan, the discussion contained in the prior EIR may be incorporated by reference. No further cumulative impact analysis would be necessary.

15131. Economic and Social Effects

Economic or social information may be included in an EIR or may be presented in whatever form the agency desires.

(a) Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes.

(b) Economic or social effects of a project may be used to determine the significance of physical changes caused by the project. For example, if the construction of a new freeway or rail line divides an existing community, the construction would be the physical change, but the social effect on the community would be the basis for determining that the effect would be significant. As an additional example, if the construction of a road and the resulting increase in noise in an area disturbed existing religious practices in the area, the disturbance of the religious practices could be used to determine that the construction and use of the road and the resulting noise would be significant effects on the environment. The religious practices would need to be analyzed only to the extent to show that the increase in traffic and noise would conflict with the religious practices. Where an EIR uses economic or social effects to determine that a physical change is significant, the EIR shall explain the reason for determining that the effect is significant.

(c) Economic, social, and particularly housing factors shall be considered by public agencies together with technological and environmental factors in deciding whether changes in a project are feasible to reduce or avoid the significant effects on the environment identified in the EIR. If information on these factors is not contained in the EIR, the information must be added to the record in some other manner to allow the agency to consider the factors in reaching a decision on the project.

Note: Authority cited: Section 21083, Public Resources Code; Reference: Sections 21001(e) and (g), 21002, 21002.1, 21060.5, 21080.1, 21083(c), and 21100, Public Resources Code.

Discussion: This section is necessary because there has been confusion over the authority of a Lead Agency to include economic and social information in an EIR. This section resolves the controversy by providing the authority with the rationale for including the information.

The term "significant effect on the environment" is defined in Section 21068 of CEQA as meaning "a substantial or potentially substantial adverse change in the environment." This focus on physical changes is further reinforced by Sections 21100 and 21151.

Despite the implication of these sections, CEQA does not focus exclusively on physical changes, and it is not exclusively physical in concern. For example, in Section 21083(c), CEQA requires an agency to determine that a project may have a significant effect on the environment if it will cause substantial adverse effects on human beings, either directly or indirectly. This section was added to CEQA by the same bill in 1972 (AB 889, Chapter 1154 of the Statutes of 1972) that added the definition of the term "environment" and the term "project".

The interpretation provided in Section 15131 starts with the analysis as used in the *Friends of Mammoth* decision, (1972) 8 Cal. 3d 247. The analysis begins with the question of whether the governmental action involved will culminate in a physical change. There must be a physical change resulting from the project directly or indirectly before CEQA will apply. Direct physical changes are easy to identify. Indirect examples could include the increased traffic, fuel consumption, and air pollution as the potential results of a bus system fare increase in *Shaw v. Golden Gate Bridge etc. District*, (1976) 60 Cal. App. 3d 699.

Once a physical change or a potential physical change has been identified, the Lead Agency must determine whether substantial evidence exists indicating that the physical change will be significant and thereby require preparation of an EIR. Public Resources Code section 21082.2, subdivision (c), states that evidence of social or economic impacts which do not contribute to or are not caused by physical impacts on the environment is not "substantial evidence" that would show those impacts to be significant.

Under the interpretation provided in this section, effects on facilities or services are not automatically regarded as significant effects of a project. The changes must be related to or caused by physical changes. If the project causes a direct physical change in a facility by pumping ground water and causing ground settling under the facility, the resulting deterioration can be easily regarded as a significant effect. If the project causes physical changes that affect the use of the facility, the effects on use may be considered a significant effect in the same way as increases in traffic are often treated as significant effects.

In *Citizens Association for Sensible Development of Bishop Area v. Inyo* (1985) 172 Cal. App. 3d 151, the court held that "economic or social change may be used to determine that a physical change shall be regarded as a significant effect of the environment. Where a physical change is caused by economic or social effects of a project, the physical change may be regarded as a significant effect in the same manner as any other physical change resulting from the project. Alternatively, economic and social effects of a physical change may be used to determine that the physical change is a significant effect on the environment." In this case, the Court held that an EIR for a proposed shopping center located away from the downtown shopping area must discuss the potential economic and social consequences of the project, if the proposed center would take business away from the downtown and thereby cause business closures and eventual physical deterioration of the downtown.

15132. Contents of Final Environmental Impact Report

The Final EIR shall consist of:

(a) The draft EIR or a revision of the draft.

(b) Comments and recommendations received on the draft EIR either verbatim or in summary.

(c) A list of persons, organizations, and public agencies commenting on the draft EIR.

(d) The responses of the Lead Agency to significant environmental points raised in the review and consultation process.

(e) Any other information added by the Lead Agency.

Note: Authority cited: Section 21083, Public Resources Code; Reference: Section 21100, Public Resources Code.

Discussion: This section is necessary in order to explain the difference between a draft EIR and the final EIR which is ultimately considered by the decision-makers in each agency prior to granting an approval for the project. The final EIR is a necessary document because it brings together a number of subjects such as comments and responses to comments which would not be available in the draft EIR that is sent out for public review. The list of contents is also necessary in order to show that the findings on the feasibility of avoiding or reducing significant effects and the statement of overriding considerations are not part of the final EIR. The findings and the statement of overriding considerations are made after the decision-makers have considered the final EIR. The findings and statement are included in the public record but not in the final EIR.

From: Douglas Spondello
To: Lynn Kaufman; Karen Vaughn
Subject: FW: Hitch Ranch Comment
Date: Wednesday, July 24, 2019 2:43:28 PM

FYI second comment letter received. Nancy was not able to attend last night's scoping meeting.

Douglas Spondello
Planning Manager
Community Development Department
City of Moorpark | 799 Moorpark Ave. | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

From: Nancy Wagenbach [mailto:ntwagen@sbcglobal.net]
Sent: Wednesday, July 24, 2019 10:45 AM
To: Douglas Spondello
Subject: Re: Hitch Ranch Comment

Hello Doug,
Thank you for getting back to me about comments for the Hitch Ranch Project. Here are my comments.

Respected members of the Planning Commission,
To allow the density change from 415 to 755 units is an 82% increase. That number alone is very concerning.
The developers need to allow for at least 3 vehicles per housing unit which is a minimum of 1245 for 415 units and 2265 for 755 units. Multi unit buildings never have enough parking so vehicles will spill into the surrounding streets.
If vehicles exit onto Casey to the east, it doesn't matter if you widen Casey. Moorpark avenue is a 2 lane street that is already a busy truck corridor and frequently backs up already at High St. due to current traffic levels and daily train traffic. Several small streets feed onto Moorpark avenue and will be heavily impacted by increased traffic flow.
High street cannot be widened without removing part of the Post Office parking lot since the commercial building at the NW corner of Moorpark avenue and High street is an historical landmark.
Adding another street that dumps traffic onto L.A.avenue further west requires another signal that will further impact and slow traffic on an already congested corridor that backs up from Somis almost to Moorpark already around 4 pm every day and on weekends.
There will be a minimum of 2 car trips per day for the 2265 vehicles in this proposed development adding an additional vehicle load of a minimum of 4530 vehicle trips on city streets and most probably more.
Poindexter already stops in both directions twice a day at Chaparral school as parents try to get in and out of the parking lot with children because the street is not wide enough to pass on.
I don't believe this developer cares about the impact to our city. The visual, environmental and traffic fallout won't affect their company. They want to make as much money as possible and move on. Why else would a proposal to increase density by 82% be put forward?
The proposed density is totally at odds with the current lot size, lifestyle and housing density of the long established area directly north of the proposed development.
The evacuation of this density onto already busy streets in an emergency situation would be extremely

difficult.
Although this area is not filled with completely native plant life, it provides cover, habitat and hunting for local wildlife. The proposed density would completely destroy this wildlife corridor.
The city leaders keep saying they don't want Moorpark to become another San Fernando Valley. I think the increased density being proposed will contribute to exactly that. How many other projects are on line with this same thought process and end result?
I urge this commission to vote no on the proposed increase in density.
Sincerely,
Nancy Wagenbach

On Wednesday, July 24, 2019, 8:58:53 AM PDT, Douglas Spondello <DSpondello@MoorparkCA.gov> wrote:

Good Morning Nancy,

Please reply with any comments you'd like to provide regarding Hitch Ranch. We will address these in the Environmental Impact Report that will be prepared for the project. I've also added you to our project mailing list to receive notices when studies and reports are released, as well as for upcoming Planning Commission meetings. We also host a project website (which will be more fully developed within the next week) at: https://www.moorparkca.gov/824/Hitch-Ranch-Specific-Plan

Thank you for your attention to this project.

Best,

Doug

Douglas Spondello

Planning Manager

Community Development Department

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APPENDIX 3.2

Air Quality

A

CalEEMod Output Files

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hitch Ranch Specific Plan - AQ Emissions

Ventura County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	6.77	Acre	6.77	294,901.20	0
Apartments Low Rise	193.00	Dwelling Unit	0.00	193,000.00	591
Apartments Mid Rise	135.00	Dwelling Unit	0.00	135,000.00	413
Single Family Housing	427.00	Dwelling Unit	215.33	768,600.00	1307

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2027
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land uses per Project Description in EIR. 277.3-acre site with 55.2 undisturbed and 6.77 for city park

Construction Phase - Phase duration per project applicant.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Trips (worker and vendor) during building construction and arch coating reflect proportion of project constructed during each phase. Grading material balanced on-site, no off-site hauling trips required.

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading - No import/export per project applicant for grading P1 and grading P3, balanced on-site. Other phases only fine grading for building pads.

Architectural Coating - Coating square footage distributed proportionately by amount of project being constructed per phase. VCAPCD Rule 74.2.

Vehicle Trips - Trip rates and VMT to match project traffic study.

Area Coating - VCAPCD Rule 74.2

Area Mitigation - VCPACPD Rule 74.2

Energy Mitigation - Compliance with 2019 Building Energy Efficiency Standards, which require on-site solar to meet 100% of electricity requirements for residential uses 3 stories or less, plus rooftop solar system for four-story building included in project design

Water Mitigation - Compliance with CALGreen requirements

Table Name	Column Name	Default Value	New Value
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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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tblConstructionPhase	NumDays	465.00	5.00
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tblLandUse	LotAcreage	12.06	0.00
tblLandUse	LotAcreage	3.55	0.00
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tblTripsAndVMT	HaulingTripNumber	975,000.00	0.00
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tblTripsAndVMT	VendorTripNumber	129.00	34.00
tblTripsAndVMT	VendorTripNumber	129.00	34.00
tblTripsAndVMT	VendorTripNumber	129.00	18.00
tblTripsAndVMT	VendorTripNumber	129.00	43.00
tblTripsAndVMT	WorkerTripNumber	514.00	136.00

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tblTripsAndVMT	WorkerTripNumber	103.00	27.00
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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2820	2.9750	2.2628	4.8600e-003	1.3678	0.1251	1.4930	0.3769	0.1151	0.4921	0.0000	427.0407	427.0407	0.1353	3.0000e-004	430.5129
2023	0.3468	3.1470	3.3855	7.1500e-003	1.6579	0.1360	1.7938	0.3545	0.1262	0.4807	0.0000	635.6999	635.6999	0.1493	0.0112	642.7686
2024	0.8940	4.2516	5.4271	0.0124	0.9977	0.1721	1.1698	0.2802	0.1605	0.4407	0.0000	1,120.8655	1,120.8655	0.1960	0.0363	1,136.5789
2025	0.5105	1.7417	2.3956	5.1300e-003	0.1858	0.0675	0.2532	0.0536	0.0634	0.1170	0.0000	459.3245	459.3245	0.0754	0.0132	465.1313
2026	0.5045	1.7103	2.3442	4.9800e-003	0.1712	0.0665	0.2377	0.0485	0.0626	0.1110	0.0000	445.9732	445.9732	0.0735	0.0124	451.5012
2027	0.2299	0.6421	0.8612	1.6700e-003	0.0339	0.0259	0.0598	9.1300e-003	0.0244	0.0335	0.0000	147.2623	147.2623	0.0275	2.6900e-003	148.7507
Maximum	**0.8940**	**4.2516**	**5.4271**	**0.0124**	**1.6579**	**0.1721**	**1.7938**	**0.3769**	**0.1605**	**0.4921**	**0.0000**	**1,120.8655**	**1,120.8655**	**0.1960**	**0.0363**	**1,136.5789**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2820	2.9750	2.2628	4.8600e-003	1.3678	0.1251	1.4930	0.3769	0.1151	0.4921	0.0000	427.0402	427.0402	0.1353	3.0000e-004	430.5124
2023	0.3468	3.1470	3.3855	7.1500e-003	1.6579	0.1360	1.7938	0.3545	0.1262	0.4807	0.0000	635.6993	635.6993	0.1493	0.0112	642.7680
2024	0.8940	4.2516	5.4271	0.0124	0.9977	0.1721	1.1698	0.2802	0.1605	0.4407	0.0000	1,120.8647	1,120.8647	0.1960	0.0363	1,136.5781
2025	0.5105	1.7417	2.3956	5.1300e-003	0.1858	0.0675	0.2532	0.0536	0.0634	0.1170	0.0000	459.3242	459.3242	0.0754	0.0132	465.1309
2026	0.5045	1.7103	2.3442	4.9800e-003	0.1712	0.0665	0.2377	0.0485	0.0626	0.1110	0.0000	445.9729	445.9729	0.0735	0.0124	451.5008
2027	0.2299	0.6421	0.8612	1.6700e-003	0.0339	0.0259	0.0598	9.1300e-003	0.0244	0.0335	0.0000	147.2622	147.2622	0.0275	2.6900e-003	148.7506
Maximum	**0.8940**	**4.2516**	**5.4271**	**0.0124**	**1.6579**	**0.1721**	**1.7938**	**0.3769**	**0.1605**	**0.4921**	**0.0000**	**1,120.8647**	**1,120.8647**	**0.1960**	**0.0363**	**1,136.5781**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-1-2022**	**8-31-2022**	1.3987	1.3987
2	**9-1-2022**	**11-30-2022**	1.3838	1.3838
3	**12-1-2022**	**2-28-2023**	2.9829	2.9829
4	**3-1-2023**	**5-31-2023**	1.5507	1.5507
5	**6-1-2023**	**8-31-2023**	0.6540	0.6540

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6	**9-1-2023**	**11-30-2023**	0.6022	0.6022
7	**12-1-2023**	**2-29-2024**	1.7647	1.7647
8	**3-1-2024**	**5-31-2024**	1.4471	1.4471
9	**6-1-2024**	**8-31-2024**	1.1674	1.1674
10	**9-1-2024**	**11-30-2024**	1.1269	1.1269
11	**12-1-2024**	**2-28-2025**	0.5805	0.5805
12	**3-1-2025**	**5-31-2025**	0.5163	0.5163
13	**6-1-2025**	**8-31-2025**	0.5150	0.5150
14	**9-1-2025**	**11-30-2025**	0.6742	0.6742
15	**12-1-2025**	**2-28-2026**	0.5496	0.5496
16	**3-1-2026**	**5-31-2026**	0.5145	0.5145
17	**6-1-2026**	**8-31-2026**	0.5132	0.5132
18	**9-1-2026**	**11-30-2026**	0.6578	0.6578
19	**12-1-2026**	**2-28-2027**	0.5050	0.5050
20	**3-1-2027**	**5-31-2027**	0.5749	0.5749
		Highest	2.9829	2.9829

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.7968	0.0645	5.6007	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1574	9.1574	8.7700e-003	0.0000	9.3766
Energy	0.0761	0.6500	0.2766	4.1500e-003		0.0526	0.0526		0.0526	0.0526	0.0000	1,574.2215	1,574.2215	0.0838	0.0222	1,582.9326
Mobile	2.3748	2.4263	20.1523	0.0389	4.6213	0.0309	4.6522	1.2336	0.0288	1.2625	0.0000	3,733.2686	3,733.2686	0.2724	0.1843	3,795.0015
Waste						0.0000	0.0000		0.0000	0.0000	139.5218	0.0000	139.5218	8.2455	0.0000	345.6593
Water						0.0000	0.0000		0.0000	0.0000	15.6061	190.5895	206.1956	1.6190	0.0398	258.5300
Total	**7.2477**	**3.1408**	**26.0296**	**0.0434**	**4.6213**	**0.1145**	**4.7358**	**1.2336**	**0.1125**	**1.3461**	**155.1279**	**5,507.2370**	**5,662.3649**	**10.2295**	**0.2463**	**5,991.5000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.7968	0.0645	5.6007	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1574	9.1574	8.7700e-003	0.0000	9.3766
Energy	0.0761	0.6500	0.2766	4.1500e-003		0.0526	0.0526		0.0526	0.0526	0.0000	806.9885	806.9885	0.0190	0.0144	811.7416
Mobile	2.3748	2.4263	20.1523	0.0389	4.6213	0.0309	4.6522	1.2336	0.0288	1.2625	0.0000	3,733.2686	3,733.2686	0.2724	0.1843	3,795.0015
Waste						0.0000	0.0000		0.0000	0.0000	139.5218	0.0000	139.5218	8.2455	0.0000	345.6593
Water						0.0000	0.0000		0.0000	0.0000	12.4849	167.8709	180.3558	1.2965	0.0320	222.3027
Total	**7.2477**	**3.1408**	**26.0296**	**0.0434**	**4.6213**	**0.1145**	**4.7358**	**1.2336**	**0.1125**	**1.3461**	**152.0067**	**4,717.2854**	**4,869.2920**	**9.8422**	**0.2307**	**5,184.0817**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.01**	**14.34**	**14.01**	**3.79**	**6.35**	**13.48**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/1/2022	3/31/2023	5	218	
2	Paving	Paving	2/1/2023	5/11/2023	5	72	
3	Grading P2	Grading	6/1/2023	6/7/2023	5	5	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Building Construction P2	Building Construction	6/8/2023	11/1/2024	5	367	
5	Grading P3	Grading	12/1/2023	3/31/2024	5	86	
6	Utilities P3	Building Construction	4/1/2024	7/31/2024	5	88	
7	Paving P3	Paving	8/1/2024	11/30/2024	5	87	
8	Architectural Coating P2	Architectural Coating	11/2/2024	11/30/2024	5	20	
9	Grading P4	Grading	12/1/2024	12/9/2024	5	6	
10	Building Construction P4	Building Construction	12/10/2024	10/31/2025	5	234	
11	Architectural Coating P4	Architectural Coating	11/1/2025	11/30/2025	5	20	
12	Grading P5	Grading	12/1/2025	12/8/2025	5	6	
13	Building Construction P5	Building Construction	12/9/2025	10/31/2026	5	234	
14	Architectural Coating P5	Architectural Coating	11/1/2026	11/30/2026	5	21	
15	Grading P6	Grading	12/1/2026	12/5/2026	5	4	
16	Building Construction P6	Building Construction	12/6/2026	5/14/2027	5	115	
17	Architectural Coating P6	Architectural Coating	5/15/2027	5/31/2027	5	11	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 654

Acres of Paving: 0

Residential Indoor: 73,051; Residential Outdoor: 245,101; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42

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Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading P2	Excavators	2	8.00	158	0.38
Grading P2	Graders	1	8.00	187	0.41
Grading P2	Rubber Tired Dozers	1	8.00	247	0.40
Grading P2	Scrapers	2	8.00	367	0.48
Grading P2	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P2	Cranes	1	7.00	231	0.29
Building Construction P2	Forklifts	3	8.00	89	0.20
Building Construction P2	Generator Sets	1	8.00	84	0.74
Building Construction P2	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P2	Welders	1	8.00	46	0.45
Grading P3	Excavators	2	8.00	158	0.38
Grading P3	Graders	1	8.00	187	0.41
Grading P3	Rubber Tired Dozers	1	8.00	247	0.40
Grading P3	Scrapers	2	8.00	367	0.48
Grading P3	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utilities P3	Cranes	1	7.00	231	0.29
Utilities P3	Forklifts	3	8.00	89	0.20
Utilities P3	Generator Sets	1	8.00	84	0.74
Utilities P3	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Utilities P3	Welders	1	8.00	46	0.45
Paving P3	Pavers	2	8.00	130	0.42
Paving P3	Paving Equipment	2	8.00	132	0.36
Paving P3	Rollers	2	8.00	80	0.38
Architectural Coating P2	Air Compressors	1	6.00	78	0.48
Grading P4	Excavators	2	8.00	158	0.38
Grading P4	Graders	1	8.00	187	0.41
Grading P4	Rubber Tired Dozers	1	8.00	247	0.40

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading P4	Scrapers	2	8.00	367	0.48
Grading P4	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P4	Cranes	1	7.00	231	0.29
Building Construction P4	Forklifts	3	8.00	89	0.20
Building Construction P4	Generator Sets	1	8.00	84	0.74
Building Construction P4	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P4	Welders	1	8.00	46	0.45
Architectural Coating P4	Air Compressors	1	6.00	78	0.48
Grading P5	Excavators	2	8.00	158	0.38
Grading P5	Graders	1	8.00	187	0.41
Grading P5	Rubber Tired Dozers	1	8.00	247	0.40
Grading P5	Scrapers	2	8.00	367	0.48
Grading P5	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P5	Cranes	1	7.00	231	0.29
Building Construction P5	Forklifts	3	8.00	89	0.20
Building Construction P5	Generator Sets	1	8.00	84	0.74
Building Construction P5	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P5	Welders	1	8.00	46	0.45
Architectural Coating P5	Air Compressors	1	6.00	78	0.48
Grading P6	Excavators	2	8.00	158	0.38
Grading P6	Graders	1	8.00	187	0.41
Grading P6	Rubber Tired Dozers	1	8.00	247	0.40
Grading P6	Scrapers	2	8.00	367	0.48
Grading P6	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P6	Cranes	1	7.00	231	0.29
Building Construction P6	Forklifts	3	8.00	89	0.20
Building Construction P6	Generator Sets	1	8.00	84	0.74
Building Construction P6	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P6	Welders	1	8.00	46	0.45

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Architectural Coating P6	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P2	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P2	9	170.00	43.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P3	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities P3	9	514.00	129.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving P3	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P2	1	34.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P4	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P4	9	136.00	34.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P4	1	27.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P5	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P5	9	136.00	34.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P5	1	27.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P6	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P6	9	71.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P6	1	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3555	0.0000	1.3555	0.3737	0.0000	0.3737	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2773	2.9715	2.2217	4.7500e-003		0.1251	0.1251		0.1151	0.1151	0.0000	417.1897	417.1897	0.1349	0.0000	420.5629
Total	**0.2773**	**2.9715**	**2.2217**	**4.7500e-003**	**1.3555**	**0.1251**	**1.4806**	**0.3737**	**0.1151**	**0.4887**	**0.0000**	**417.1897**	**417.1897**	**0.1349**	**0.0000**	**420.5629**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-003	3.4500e-003	0.0412	1.1000e-004	0.0123	7.0000e-005	0.0124	3.2800e-003	7.0000e-005	3.3400e-003	0.0000	9.8510	9.8510	3.4000e-004	3.0000e-004	9.9501
Total	**4.7000e-003**	**3.4500e-003**	**0.0412**	**1.1000e-004**	**0.0123**	**7.0000e-005**	**0.0124**	**3.2800e-003**	**7.0000e-005**	**3.3400e-003**	**0.0000**	**9.8510**	**9.8510**	**3.4000e-004**	**3.0000e-004**	**9.9501**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3555	0.0000	1.3555	0.3737	0.0000	0.3737	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2773	2.9715	2.2217	4.7500e-003		0.1251	0.1251		0.1151	0.1151	0.0000	417.1892	417.1892	0.1349	0.0000	420.5624
Total	**0.2773**	**2.9715**	**2.2217**	**4.7500e-003**	**1.3555**	**0.1251**	**1.4806**	**0.3737**	**0.1151**	**0.4887**	**0.0000**	**417.1892**	**417.1892**	**0.1349**	**0.0000**	**420.5624**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-003	3.4500e-003	0.0412	1.1000e-004	0.0123	7.0000e-005	0.0124	3.2800e-003	7.0000e-005	3.3400e-003	0.0000	9.8510	9.8510	3.4000e-004	3.0000e-004	9.9501
Total	**4.7000e-003**	**3.4500e-003**	**0.0412**	**1.1000e-004**	**0.0123**	**7.0000e-005**	**0.0124**	**3.2800e-003**	**7.0000e-005**	**3.3400e-003**	**0.0000**	**9.8510**	**9.8510**	**3.4000e-004**	**3.0000e-004**	**9.9501**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0905	0.0000	1.0905	0.2280	0.0000	0.2280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1080	1.1218	0.9117	2.0200e-003		0.0463	0.0463		0.0426	0.0426	0.0000	177.2394	177.2394	0.0573	0.0000	178.6725
Total	**0.1080**	**1.1218**	**0.9117**	**2.0200e-003**	**1.0905**	**0.0463**	**1.1368**	**0.2280**	**0.0426**	**0.2706**	**0.0000**	**177.2394**	**177.2394**	**0.0573**	**0.0000**	**178.6725**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8600e-003	1.3000e-003	0.0162	4.0000e-005	5.2400e-003	3.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.0757	4.0757	1.3000e-004	1.2000e-004	4.1146
Total	**1.8600e-003**	**1.3000e-003**	**0.0162**	**4.0000e-005**	**5.2400e-003**	**3.0000e-005**	**5.2700e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.0757**	**4.0757**	**1.3000e-004**	**1.2000e-004**	**4.1146**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0905	0.0000	1.0905	0.2280	0.0000	0.2280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1080	1.1218	0.9117	2.0200e-003		0.0463	0.0463		0.0426	0.0426	0.0000	177.2392	177.2392	0.0573	0.0000	178.6723
Total	**0.1080**	**1.1218**	**0.9117**	**2.0200e-003**	**1.0905**	**0.0463**	**1.1368**	**0.2280**	**0.0426**	**0.2706**	**0.0000**	**177.2392**	**177.2392**	**0.0573**	**0.0000**	**178.6723**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8600e-003	1.3000e-003	0.0162	4.0000e-005	5.2400e-003	3.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.0757	4.0757	1.3000e-004	1.2000e-004	4.1146
Total	**1.8600e-003**	**1.3000e-003**	**0.0162**	**4.0000e-005**	**5.2400e-003**	**3.0000e-005**	**5.2700e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.0757**	**4.0757**	**1.3000e-004**	**1.2000e-004**	**4.1146**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0372	0.3669	0.5250	8.2000e-004		0.0184	0.0184		0.0169	0.0169	0.0000	72.0967	72.0967	0.0233	0.0000	72.6797
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0372**	**0.3669**	**0.5250**	**8.2000e-004**		**0.0184**	**0.0184**		**0.0169**	**0.0169**	**0.0000**	**72.0967**	**72.0967**	**0.0233**	**0.0000**	**72.6797**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5400e-003	1.0800e-003	0.0134	4.0000e-005	4.3500e-003	2.0000e-005	4.3800e-003	1.1600e-003	2.0000e-005	1.1800e-003	0.0000	3.3860	3.3860	1.1000e-004	1.0000e-004	3.4183
Total	**1.5400e-003**	**1.0800e-003**	**0.0134**	**4.0000e-005**	**4.3500e-003**	**2.0000e-005**	**4.3800e-003**	**1.1600e-003**	**2.0000e-005**	**1.1800e-003**	**0.0000**	**3.3860**	**3.3860**	**1.1000e-004**	**1.0000e-004**	**3.4183**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0372	0.3669	0.5250	8.2000e-004		0.0184	0.0184		0.0169	0.0169	0.0000	72.0966	72.0966	0.0233	0.0000	72.6796
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0372**	**0.3669**	**0.5250**	**8.2000e-004**		**0.0184**	**0.0184**		**0.0169**	**0.0169**	**0.0000**	**72.0966**	**72.0966**	**0.0233**	**0.0000**	**72.6796**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5400e-003	1.0800e-003	0.0134	4.0000e-005	4.3500e-003	2.0000e-005	4.3800e-003	1.1600e-003	2.0000e-005	1.1800e-003	0.0000	3.3860	3.3860	1.1000e-004	1.0000e-004	3.4183
Total	**1.5400e-003**	**1.0800e-003**	**0.0134**	**4.0000e-005**	**4.3500e-003**	**2.0000e-005**	**4.3800e-003**	**1.1600e-003**	**2.0000e-005**	**1.1800e-003**	**0.0000**	**3.3860**	**3.3860**	**1.1000e-004**	**1.0000e-004**	**3.4183**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0230	0.0000	0.0230	9.1300e-003	0.0000	9.1300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3000e-003	0.0863	0.0701	1.6000e-004		3.5600e-003	3.5600e-003		3.2800e-003	3.2800e-003	0.0000	13.6338	13.6338	4.4100e-003	0.0000	13.7440
Total	**8.3000e-003**	**0.0863**	**0.0701**	**1.6000e-004**	**0.0230**	**3.5600e-003**	**0.0266**	**9.1300e-003**	**3.2800e-003**	**0.0124**	**0.0000**	**13.6338**	**13.6338**	**4.4100e-003**	**0.0000**	**13.7440**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.2400e-003	0.0000	4.0000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3135	0.3135	1.0000e-005	1.0000e-005	0.3165
Total	**1.4000e-004**	**1.0000e-004**	**1.2400e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3135**	**0.3135**	**1.0000e-005**	**1.0000e-005**	**0.3165**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading P2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0230	0.0000	0.0230	9.1300e-003	0.0000	9.1300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3000e-003	0.0863	0.0701	1.6000e-004		3.5600e-003	3.5600e-003		3.2800e-003	3.2800e-003	0.0000	13.6338	13.6338	4.4100e-003	0.0000	13.7440
Total	**8.3000e-003**	**0.0863**	**0.0701**	**1.6000e-004**	**0.0230**	**3.5600e-003**	**0.0266**	**9.1300e-003**	**3.2800e-003**	**0.0124**	**0.0000**	**13.6338**	**13.6338**	**4.4100e-003**	**0.0000**	**13.7440**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.2400e-003	0.0000	4.0000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3135	0.3135	1.0000e-005	1.0000e-005	0.3165
Total	**1.4000e-004**	**1.0000e-004**	**1.2400e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3135**	**0.3135**	**1.0000e-005**	**1.0000e-005**	**0.3165**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1156	1.0573	1.1939	1.9800e-003		0.0514	0.0514		0.0484	0.0484	0.0000	170.3765	170.3765	0.0405	0.0000	171.3897
Total	**0.1156**	**1.0573**	**1.1939**	**1.9800e-003**		**0.0514**	**0.0514**		**0.0484**	**0.0484**	**0.0000**	**170.3765**	**170.3765**	**0.0405**	**0.0000**	**171.3897**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0800e-003	0.1244	0.0431	5.9000e-004	0.0211	7.1000e-004	0.0218	6.0800e-003	6.8000e-004	6.7600e-003	0.0000	57.6516	57.6516	2.3700e-003	8.6300e-003	60.2828
Worker	0.0357	0.0251	0.3110	8.4000e-004	0.1008	5.6000e-004	0.1013	0.0268	5.1000e-004	0.0273	0.0000	78.3479	78.3479	2.5100e-003	2.3000e-003	79.0961
Total	**0.0388**	**0.1495**	**0.3541**	**1.4300e-003**	**0.1218**	**1.2700e-003**	**0.1231**	**0.0328**	**1.1900e-003**	**0.0340**	**0.0000**	**135.9995**	**135.9995**	**4.8800e-003**	**0.0109**	**139.3789**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1156	1.0573	1.1939	1.9800e-003		0.0514	0.0514		0.0484	0.0484	0.0000	170.3763	170.3763	0.0405	0.0000	171.3895
Total	**0.1156**	**1.0573**	**1.1939**	**1.9800e-003**		**0.0514**	**0.0514**		**0.0484**	**0.0484**	**0.0000**	**170.3763**	**170.3763**	**0.0405**	**0.0000**	**171.3895**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0800e-003	0.1244	0.0431	5.9000e-004	0.0211	7.1000e-004	0.0218	6.0800e-003	6.8000e-004	6.7600e-003	0.0000	57.6516	57.6516	2.3700e-003	8.6300e-003	60.2828
Worker	0.0357	0.0251	0.3110	8.4000e-004	0.1008	5.6000e-004	0.1013	0.0268	5.1000e-004	0.0273	0.0000	78.3479	78.3479	2.5100e-003	2.3000e-003	79.0961
Total	**0.0388**	**0.1495**	**0.3541**	**1.4300e-003**	**0.1218**	**1.2700e-003**	**0.1231**	**0.0328**	**1.1900e-003**	**0.0340**	**0.0000**	**135.9995**	**135.9995**	**4.8800e-003**	**0.0109**	**139.3789**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1619	1.4788	1.7784	2.9600e-003		0.0675	0.0675		0.0635	0.0635	0.0000	255.0340	255.0340	0.0603	0.0000	256.5417
Total	**0.1619**	**1.4788**	**1.7784**	**2.9600e-003**		**0.0675**	**0.0675**		**0.0635**	**0.0635**	**0.0000**	**255.0340**	**255.0340**	**0.0603**	**0.0000**	**256.5417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4900e-003	0.1853	0.0642	8.6000e-004	0.0315	1.0700e-003	0.0326	9.0900e-003	1.0200e-003	0.0101	0.0000	84.9800	84.9800	3.6300e-003	0.0127	88.8612
Worker	0.0500	0.0337	0.4344	1.2200e-003	0.1508	8.0000e-004	0.1516	0.0401	7.3000e-004	0.0408	0.0000	114.5637	114.5637	3.4200e-003	3.2100e-003	115.6060
Total	**0.0544**	**0.2190**	**0.4987**	**2.0800e-003**	**0.1823**	**1.8700e-003**	**0.1842**	**0.0491**	**1.7500e-003**	**0.0509**	**0.0000**	**199.5437**	**199.5437**	**7.0500e-003**	**0.0159**	**204.4671**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1619	1.4788	1.7784	2.9600e-003		0.0675	0.0675		0.0635	0.0635	0.0000	255.0337	255.0337	0.0603	0.0000	256.5414
Total	**0.1619**	**1.4788**	**1.7784**	**2.9600e-003**		**0.0675**	**0.0675**		**0.0635**	**0.0635**	**0.0000**	**255.0337**	**255.0337**	**0.0603**	**0.0000**	**256.5414**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4900e-003	0.1853	0.0642	8.6000e-004	0.0315	1.0700e-003	0.0326	9.0900e-003	1.0200e-003	0.0101	0.0000	84.9800	84.9800	3.6300e-003	0.0127	88.8612
Worker	0.0500	0.0337	0.4344	1.2200e-003	0.1508	8.0000e-004	0.1516	0.0401	7.3000e-004	0.0408	0.0000	114.5637	114.5637	3.4200e-003	3.2100e-003	115.6060
Total	**0.0544**	**0.2190**	**0.4987**	**2.0800e-003**	**0.1823**	**1.8700e-003**	**0.1842**	**0.0491**	**1.7500e-003**	**0.0509**	**0.0000**	**199.5437**	**199.5437**	**7.0500e-003**	**0.0159**	**204.4671**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4108	0.0000	0.4108	0.0815	0.0000	0.0815	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0349	0.3624	0.2945	6.5000e-004		0.0150	0.0150		0.0138	0.0138	0.0000	57.2620	57.2620	0.0185	0.0000	57.7250
Total	**0.0349**	**0.3624**	**0.2945**	**6.5000e-004**	**0.4108**	**0.0150**	**0.4258**	**0.0815**	**0.0138**	**0.0952**	**0.0000**	**57.2620**	**57.2620**	**0.0185**	**0.0000**	**57.7250**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.2000e-004	5.2300e-003	1.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3168	1.3168	4.0000e-005	4.0000e-005	1.3294
Total	**6.0000e-004**	**4.2000e-004**	**5.2300e-003**	**1.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3168**	**1.3168**	**4.0000e-005**	**4.0000e-005**	**1.3294**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4108	0.0000	0.4108	0.0815	0.0000	0.0815	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0349	0.3624	0.2945	6.5000e-004		0.0150	0.0150		0.0138	0.0138	0.0000	57.2619	57.2619	0.0185	0.0000	57.7249
Total	**0.0349**	**0.3624**	**0.2945**	**6.5000e-004**	**0.4108**	**0.0150**	**0.4258**	**0.0815**	**0.0138**	**0.0952**	**0.0000**	**57.2619**	**57.2619**	**0.0185**	**0.0000**	**57.7249**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.2000e-004	5.2300e-003	1.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3168	1.3168	4.0000e-005	4.0000e-005	1.3294
Total	**6.0000e-004**	**4.2000e-004**	**5.2300e-003**	**1.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3168**	**1.3168**	**4.0000e-005**	**4.0000e-005**	**1.3294**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5433	0.0000	0.5433	0.1543	0.0000	0.1543	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1046	1.0523	0.9010	2.0200e-003		0.0434	0.0434		0.0399	0.0399	0.0000	177.1885	177.1885	0.0573	0.0000	178.6211
Total	**0.1046**	**1.0523**	**0.9010**	**2.0200e-003**	**0.5433**	**0.0434**	**0.5867**	**0.1543**	**0.0399**	**0.1942**	**0.0000**	**177.1885**	**177.1885**	**0.0573**	**0.0000**	**178.6211**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7400e-003	1.1700e-003	0.0151	4.0000e-005	5.2400e-003	3.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	3.9822	3.9822	1.2000e-004	1.1000e-004	4.0184
Total	**1.7400e-003**	**1.1700e-003**	**0.0151**	**4.0000e-005**	**5.2400e-003**	**3.0000e-005**	**5.2700e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**3.9822**	**3.9822**	**1.2000e-004**	**1.1000e-004**	**4.0184**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5433	0.0000	0.5433	0.1543	0.0000	0.1543	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1046	1.0523	0.9010	2.0200e-003		0.0434	0.0434		0.0399	0.0399	0.0000	177.1882	177.1882	0.0573	0.0000	178.6209
Total	**0.1046**	**1.0523**	**0.9010**	**2.0200e-003**	**0.5433**	**0.0434**	**0.5867**	**0.1543**	**0.0399**	**0.1942**	**0.0000**	**177.1882**	**177.1882**	**0.0573**	**0.0000**	**178.6209**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7400e-003	1.1700e-003	0.0151	4.0000e-005	5.2400e-003	3.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	3.9822	3.9822	1.2000e-004	1.1000e-004	4.0184
Total	**1.7400e-003**	**1.1700e-003**	**0.0151**	**4.0000e-005**	**5.2400e-003**	**3.0000e-005**	**5.2700e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**3.9822**	**3.9822**	**1.2000e-004**	**1.1000e-004**	**4.0184**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Utilities P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0648	0.5915	0.7113	1.1900e-003		0.0270	0.0270		0.0254	0.0254	0.0000	102.0136	102.0136	0.0241	0.0000	102.6167
Total	**0.0648**	**0.5915**	**0.7113**	**1.1900e-003**		**0.0270**	**0.0270**		**0.0254**	**0.0254**	**0.0000**	**102.0136**	**102.0136**	**0.0241**	**0.0000**	**102.6167**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3800e-003	0.2224	0.0771	1.0300e-003	0.0378	1.2800e-003	0.0391	0.0109	1.2300e-003	0.0121	0.0000	101.9760	101.9760	4.3600e-003	0.0153	106.6334
Worker	0.0604	0.0407	0.5254	1.4800e-003	0.1824	9.6000e-004	0.1833	0.0484	8.9000e-004	0.0493	0.0000	138.5547	138.5547	4.1400e-003	3.8800e-003	139.8152
Total	**0.0658**	**0.2631**	**0.6025**	**2.5100e-003**	**0.2202**	**2.2400e-003**	**0.2224**	**0.0594**	**2.1200e-003**	**0.0615**	**0.0000**	**240.5307**	**240.5307**	**8.5000e-003**	**0.0191**	**246.4486**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Utilities P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0648	0.5915	0.7113	1.1900e-003		0.0270	0.0270		0.0254	0.0254	0.0000	102.0135	102.0135	0.0241	0.0000	102.6166
Total	**0.0648**	**0.5915**	**0.7113**	**1.1900e-003**		**0.0270**	**0.0270**		**0.0254**	**0.0254**	**0.0000**	**102.0135**	**102.0135**	**0.0241**	**0.0000**	**102.6166**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3800e-003	0.2224	0.0771	1.0300e-003	0.0378	1.2800e-003	0.0391	0.0109	1.2300e-003	0.0121	0.0000	101.9760	101.9760	4.3600e-003	0.0153	106.6334
Worker	0.0604	0.0407	0.5254	1.4800e-003	0.1824	9.6000e-004	0.1833	0.0484	8.9000e-004	0.0493	0.0000	138.5547	138.5547	4.1400e-003	3.8800e-003	139.8152
Total	**0.0658**	**0.2631**	**0.6025**	**2.5100e-003**	**0.2202**	**2.2400e-003**	**0.2224**	**0.0594**	**2.1200e-003**	**0.0615**	**0.0000**	**240.5307**	**240.5307**	**8.5000e-003**	**0.0191**	**246.4486**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Paving P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0430	0.4143	0.6362	9.9000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	87.1154	87.1154	0.0282	0.0000	87.8198
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0430**	**0.4143**	**0.6362**	**9.9000e-004**		**0.0204**	**0.0204**		**0.0188**	**0.0188**	**0.0000**	**87.1154**	**87.1154**	**0.0282**	**0.0000**	**87.8198**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7400e-003	1.1700e-003	0.0152	4.0000e-005	5.2600e-003	3.0000e-005	5.2900e-003	1.4000e-003	3.0000e-005	1.4200e-003	0.0000	3.9975	3.9975	1.2000e-004	1.1000e-004	4.0338
Total	**1.7400e-003**	**1.1700e-003**	**0.0152**	**4.0000e-005**	**5.2600e-003**	**3.0000e-005**	**5.2900e-003**	**1.4000e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**3.9975**	**3.9975**	**1.2000e-004**	**1.1000e-004**	**4.0338**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Paving P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0430	0.4143	0.6362	9.9000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	87.1153	87.1153	0.0282	0.0000	87.8197
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0430**	**0.4143**	**0.6362**	**9.9000e-004**		**0.0204**	**0.0204**		**0.0188**	**0.0188**	**0.0000**	**87.1153**	**87.1153**	**0.0282**	**0.0000**	**87.8197**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7400e-003	1.1700e-003	0.0152	4.0000e-005	5.2600e-003	3.0000e-005	5.2900e-003	1.4000e-003	3.0000e-005	1.4200e-003	0.0000	3.9975	3.9975	1.2000e-004	1.1000e-004	4.0338
Total	**1.7400e-003**	**1.1700e-003**	**0.0152**	**4.0000e-005**	**5.2600e-003**	**3.0000e-005**	**5.2900e-003**	**1.4000e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**3.9975**	**3.9975**	**1.2000e-004**	**1.1000e-004**	**4.0338**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Architectural Coating P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3687					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**0.3705**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.1000e-004	6.1000e-004	7.9000e-003	2.0000e-005	2.7400e-003	1.0000e-005	2.7600e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	2.0830	2.0830	6.0000e-005	6.0000e-005	2.1019
Total	**9.1000e-004**	**6.1000e-004**	**7.9000e-003**	**2.0000e-005**	**2.7400e-003**	**1.0000e-005**	**2.7600e-003**	**7.3000e-004**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**2.0830**	**2.0830**	**6.0000e-005**	**6.0000e-005**	**2.1019**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Architectural Coating P2 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3687					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**0.3705**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.1000e-004	6.1000e-004	7.9000e-003	2.0000e-005	2.7400e-003	1.0000e-005	2.7600e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	2.0830	2.0830	6.0000e-005	6.0000e-005	2.1019
Total	**9.1000e-004**	**6.1000e-004**	**7.9000e-003**	**2.0000e-005**	**2.7400e-003**	**1.0000e-005**	**2.7600e-003**	**7.3000e-004**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**2.0830**	**2.0830**	**6.0000e-005**	**6.0000e-005**	**2.1019**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Grading P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0276	0.0000	0.0276	0.0110	0.0000	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6500e-003	0.0971	0.0832	1.9000e-004		4.0100e-003	4.0100e-003		3.6900e-003	3.6900e-003	0.0000	16.3559	16.3559	5.2900e-003	0.0000	16.4881
Total	**9.6500e-003**	**0.0971**	**0.0832**	**1.9000e-004**	**0.0276**	**4.0100e-003**	**0.0316**	**0.0110**	**3.6900e-003**	**0.0147**	**0.0000**	**16.3559**	**16.3559**	**5.2900e-003**	**0.0000**	**16.4881**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.3900e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3676	0.3676	1.0000e-005	1.0000e-005	0.3709
Total	**1.6000e-004**	**1.1000e-004**	**1.3900e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3676**	**0.3676**	**1.0000e-005**	**1.0000e-005**	**0.3709**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Grading P4 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0276	0.0000	0.0276	0.0110	0.0000	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6500e-003	0.0971	0.0832	1.9000e-004		4.0100e-003	4.0100e-003		3.6900e-003	3.6900e-003	0.0000	16.3558	16.3558	5.2900e-003	0.0000	16.4881
Total	**9.6500e-003**	**0.0971**	**0.0832**	**1.9000e-004**	**0.0276**	**4.0100e-003**	**0.0316**	**0.0110**	**3.6900e-003**	**0.0147**	**0.0000**	**16.3558**	**16.3558**	**5.2900e-003**	**0.0000**	**16.4881**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.3900e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3676	0.3676	1.0000e-005	1.0000e-005	0.3709
Total	**1.6000e-004**	**1.1000e-004**	**1.3900e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3676**	**0.3676**	**1.0000e-005**	**1.0000e-005**	**0.3709**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1076	0.1293	2.2000e-004		4.9100e-003	4.9100e-003		4.6200e-003	4.6200e-003	0.0000	18.5479	18.5479	4.3900e-003	0.0000	18.6576
Total	**0.0118**	**0.1076**	**0.1293**	**2.2000e-004**		**4.9100e-003**	**4.9100e-003**		**4.6200e-003**	**4.6200e-003**	**0.0000**	**18.5479**	**18.5479**	**4.3900e-003**	**0.0000**	**18.6576**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	0.0107	3.6900e-003	5.0000e-005	1.8100e-003	6.0000e-005	1.8700e-003	5.2000e-004	6.0000e-005	5.8000e-004	0.0000	4.8868	4.8868	2.1000e-004	7.3000e-004	5.1100
Worker	2.9100e-003	1.9600e-003	0.0253	7.0000e-005	8.7700e-003	5.0000e-005	8.8200e-003	2.3300e-003	4.0000e-005	2.3700e-003	0.0000	6.6655	6.6655	2.0000e-004	1.9000e-004	6.7262
Total	**3.1700e-003**	**0.0126**	**0.0290**	**1.2000e-004**	**0.0106**	**1.1000e-004**	**0.0107**	**2.8500e-003**	**1.0000e-004**	**2.9500e-003**	**0.0000**	**11.5523**	**11.5523**	**4.1000e-004**	**9.2000e-004**	**11.8362**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1076	0.1293	2.2000e-004		4.9100e-003	4.9100e-003		4.6200e-003	4.6200e-003	0.0000	18.5479	18.5479	4.3900e-003	0.0000	18.6576
Total	**0.0118**	**0.1076**	**0.1293**	**2.2000e-004**		**4.9100e-003**	**4.9100e-003**		**4.6200e-003**	**4.6200e-003**	**0.0000**	**18.5479**	**18.5479**	**4.3900e-003**	**0.0000**	**18.6576**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	0.0107	3.6900e-003	5.0000e-005	1.8100e-003	6.0000e-005	1.8700e-003	5.2000e-004	6.0000e-005	5.8000e-004	0.0000	4.8868	4.8868	2.1000e-004	7.3000e-004	5.1100
Worker	2.9100e-003	1.9600e-003	0.0253	7.0000e-005	8.7700e-003	5.0000e-005	8.8200e-003	2.3300e-003	4.0000e-005	2.3700e-003	0.0000	6.6655	6.6655	2.0000e-004	1.9000e-004	6.7262
Total	**3.1700e-003**	**0.0126**	**0.0290**	**1.2000e-004**	**0.0106**	**1.1000e-004**	**0.0107**	**2.8500e-003**	**1.0000e-004**	**2.9500e-003**	**0.0000**	**11.5523**	**11.5523**	**4.1000e-004**	**9.2000e-004**	**11.8362**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1491	1.3592	1.7532	2.9400e-003		0.0575	0.0575		0.0541	0.0541	0.0000	252.7922	252.7922	0.0594	0.0000	254.2778
Total	**0.1491**	**1.3592**	**1.7532**	**2.9400e-003**		**0.0575**	**0.0575**		**0.0541**	**0.0541**	**0.0000**	**252.7922**	**252.7922**	**0.0594**	**0.0000**	**254.2778**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4300e-003	0.1436	0.0501	6.6000e-004	0.0247	8.4000e-004	0.0255	7.1300e-003	8.0000e-004	7.9300e-003	0.0000	65.3675	65.3675	2.9300e-003	9.7800e-003	68.3550
Worker	0.0371	0.0241	0.3223	9.4000e-004	0.1195	6.0000e-004	0.1201	0.0318	5.5000e-004	0.0323	0.0000	88.5705	88.5705	2.4700e-003	2.3800e-003	89.3423
Total	**0.0405**	**0.1676**	**0.3724**	**1.6000e-003**	**0.1442**	**1.4400e-003**	**0.1457**	**0.0389**	**1.3500e-003**	**0.0402**	**0.0000**	**153.9380**	**153.9380**	**5.4000e-003**	**0.0122**	**157.6973**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1491	1.3592	1.7532	2.9400e-003		0.0575	0.0575		0.0541	0.0541	0.0000	252.7919	252.7919	0.0594	0.0000	254.2775
Total	**0.1491**	**1.3592**	**1.7532**	**2.9400e-003**		**0.0575**	**0.0575**		**0.0541**	**0.0541**	**0.0000**	**252.7919**	**252.7919**	**0.0594**	**0.0000**	**254.2775**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4300e-003	0.1436	0.0501	6.6000e-004	0.0247	8.4000e-004	0.0255	7.1300e-003	8.0000e-004	7.9300e-003	0.0000	65.3675	65.3675	2.9300e-003	9.7800e-003	68.3550
Worker	0.0371	0.0241	0.3223	9.4000e-004	0.1195	6.0000e-004	0.1201	0.0318	5.5000e-004	0.0323	0.0000	88.5705	88.5705	2.4700e-003	2.3800e-003	89.3423
Total	**0.0405**	**0.1676**	**0.3724**	**1.6000e-003**	**0.1442**	**1.4400e-003**	**0.1457**	**0.0389**	**1.3500e-003**	**0.0402**	**0.0000**	**153.9380**	**153.9380**	**5.4000e-003**	**0.0122**	**157.6973**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Architectural Coating P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2949					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0115	0.0181	3.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567
Total	**0.2966**	**0.0115**	**0.0181**	**3.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5567**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	4.4000e-004	5.8700e-003	2.0000e-005	2.1800e-003	1.0000e-005	2.1900e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.6132	1.6132	4.0000e-005	4.0000e-005	1.6273
Total	**6.8000e-004**	**4.4000e-004**	**5.8700e-003**	**2.0000e-005**	**2.1800e-003**	**1.0000e-005**	**2.1900e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.6132**	**1.6132**	**4.0000e-005**	**4.0000e-005**	**1.6273**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Architectural Coating P4 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2949					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0115	0.0181	3.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567
Total	**0.2966**	**0.0115**	**0.0181**	**3.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5567**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	4.4000e-004	5.8700e-003	2.0000e-005	2.1800e-003	1.0000e-005	2.1900e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.6132	1.6132	4.0000e-005	4.0000e-005	1.6273
Total	**6.8000e-004**	**4.4000e-004**	**5.8700e-003**	**2.0000e-005**	**2.1800e-003**	**1.0000e-005**	**2.1900e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.6132**	**1.6132**	**4.0000e-005**	**4.0000e-005**	**1.6273**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Grading P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0276	0.0000	0.0276	0.0110	0.0000	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7000e-003	0.0838	0.0790	1.9000e-004		3.3900e-003	3.3900e-003		3.1200e-003	3.1200e-003	0.0000	16.3519	16.3519	5.2900e-003	0.0000	16.4841
Total	**8.7000e-003**	**0.0838**	**0.0790**	**1.9000e-004**	**0.0276**	**3.3900e-003**	**0.0310**	**0.0110**	**3.1200e-003**	**0.0141**	**0.0000**	**16.3519**	**16.3519**	**5.2900e-003**	**0.0000**	**16.4841**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.0000e-004	1.3000e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3585	0.3585	1.0000e-005	1.0000e-005	0.3616
Total	**1.5000e-004**	**1.0000e-004**	**1.3000e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3585**	**0.3585**	**1.0000e-005**	**1.0000e-005**	**0.3616**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Grading P5 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0276	0.0000	0.0276	0.0110	0.0000	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7000e-003	0.0838	0.0790	1.9000e-004		3.3900e-003	3.3900e-003		3.1200e-003	3.1200e-003	0.0000	16.3518	16.3518	5.2900e-003	0.0000	16.4841
Total	**8.7000e-003**	**0.0838**	**0.0790**	**1.9000e-004**	**0.0276**	**3.3900e-003**	**0.0310**	**0.0110**	**3.1200e-003**	**0.0141**	**0.0000**	**16.3518**	**16.3518**	**5.2900e-003**	**0.0000**	**16.4841**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.0000e-004	1.3000e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3585	0.3585	1.0000e-005	1.0000e-005	0.3616
Total	**1.5000e-004**	**1.0000e-004**	**1.3000e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3585**	**0.3585**	**1.0000e-005**	**1.0000e-005**	**0.3616**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0116	0.1060	0.1367	2.3000e-004		4.4800e-003	4.4800e-003		4.2200e-003	4.2200e-003	0.0000	19.7132	19.7132	4.6300e-003	0.0000	19.8290
Total	**0.0116**	**0.1060**	**0.1367**	**2.3000e-004**		**4.4800e-003**	**4.4800e-003**		**4.2200e-003**	**4.2200e-003**	**0.0000**	**19.7132**	**19.7132**	**4.6300e-003**	**0.0000**	**19.8290**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	0.0112	3.9100e-003	5.0000e-005	1.9300e-003	7.0000e-005	1.9900e-003	5.6000e-004	6.0000e-005	6.2000e-004	0.0000	5.0975	5.0975	2.3000e-004	7.6000e-004	5.3304
Worker	2.8900e-003	1.8800e-003	0.0251	7.0000e-005	9.3200e-003	5.0000e-005	9.3700e-003	2.4800e-003	4.0000e-005	2.5200e-003	0.0000	6.9069	6.9069	1.9000e-004	1.9000e-004	6.9671
Total	**3.1600e-003**	**0.0131**	**0.0290**	**1.2000e-004**	**0.0113**	**1.2000e-004**	**0.0114**	**3.0400e-003**	**1.0000e-004**	**3.1400e-003**	**0.0000**	**12.0044**	**12.0044**	**4.2000e-004**	**9.5000e-004**	**12.2975**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0116	0.1060	0.1367	2.3000e-004		4.4800e-003	4.4800e-003		4.2200e-003	4.2200e-003	0.0000	19.7131	19.7131	4.6300e-003	0.0000	19.8290
Total	**0.0116**	**0.1060**	**0.1367**	**2.3000e-004**		**4.4800e-003**	**4.4800e-003**		**4.2200e-003**	**4.2200e-003**	**0.0000**	**19.7131**	**19.7131**	**4.6300e-003**	**0.0000**	**19.8290**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	0.0112	3.9100e-003	5.0000e-005	1.9300e-003	7.0000e-005	1.9900e-003	5.6000e-004	6.0000e-005	6.2000e-004	0.0000	5.0975	5.0975	2.3000e-004	7.6000e-004	5.3304
Worker	2.8900e-003	1.8800e-003	0.0251	7.0000e-005	9.3200e-003	5.0000e-005	9.3700e-003	2.4800e-003	4.0000e-005	2.5200e-003	0.0000	6.9069	6.9069	1.9000e-004	1.9000e-004	6.9671
Total	**3.1600e-003**	**0.0131**	**0.0290**	**1.2000e-004**	**0.0113**	**1.2000e-004**	**0.0114**	**3.0400e-003**	**1.0000e-004**	**3.1400e-003**	**0.0000**	**12.0044**	**12.0044**	**4.2000e-004**	**9.5000e-004**	**12.2975**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1484	1.3530	1.7452	2.9300e-003		0.0572	0.0572		0.0538	0.0538	0.0000	251.6326	251.6326	0.0592	0.0000	253.1114
Total	**0.1484**	**1.3530**	**1.7452**	**2.9300e-003**		**0.0572**	**0.0572**		**0.0538**	**0.0538**	**0.0000**	**251.6326**	**251.6326**	**0.0592**	**0.0000**	**253.1114**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3400e-003	0.1411	0.0498	6.5000e-004	0.0246	8.3000e-004	0.0254	7.0900e-003	8.0000e-004	7.8900e-003	0.0000	63.8617	63.8617	2.9900e-003	9.5500e-003	66.7825
Worker	0.0347	0.0218	0.3020	9.0000e-004	0.1190	5.7000e-004	0.1196	0.0316	5.2000e-004	0.0321	0.0000	86.0822	86.0822	2.2400e-003	2.2400e-003	86.8049
Total	**0.0381**	**0.1629**	**0.3518**	**1.5500e-003**	**0.1436**	**1.4000e-003**	**0.1450**	**0.0387**	**1.3200e-003**	**0.0400**	**0.0000**	**149.9438**	**149.9438**	**5.2300e-003**	**0.0118**	**153.5874**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1484	1.3530	1.7452	2.9300e-003		0.0572	0.0572		0.0538	0.0538	0.0000	251.6323	251.6323	0.0592	0.0000	253.1111
Total	**0.1484**	**1.3530**	**1.7452**	**2.9300e-003**		**0.0572**	**0.0572**		**0.0538**	**0.0538**	**0.0000**	**251.6323**	**251.6323**	**0.0592**	**0.0000**	**253.1111**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3400e-003	0.1411	0.0498	6.5000e-004	0.0246	8.3000e-004	0.0254	7.0900e-003	8.0000e-004	7.8900e-003	0.0000	63.8617	63.8617	2.9900e-003	9.5500e-003	66.7825
Worker	0.0347	0.0218	0.3020	9.0000e-004	0.1190	5.7000e-004	0.1196	0.0316	5.2000e-004	0.0321	0.0000	86.0822	86.0822	2.2400e-003	2.2400e-003	86.8049
Total	**0.0381**	**0.1629**	**0.3518**	**1.5500e-003**	**0.1436**	**1.4000e-003**	**0.1450**	**0.0387**	**1.3200e-003**	**0.0400**	**0.0000**	**149.9438**	**149.9438**	**5.2300e-003**	**0.0118**	**153.5874**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Architectural Coating P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2949					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7900e-003	0.0120	0.0190	3.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.0000	2.6809	2.6809	1.5000e-004	0.0000	2.6846
Total	**0.2967**	**0.0120**	**0.0190**	**3.0000e-005**		**5.4000e-004**	**5.4000e-004**		**5.4000e-004**	**5.4000e-004**	**0.0000**	**2.6809**	**2.6809**	**1.5000e-004**	**0.0000**	**2.6846**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.2000e-004	5.8000e-003	2.0000e-005	2.2900e-003	1.0000e-005	2.3000e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.6539	1.6539	4.0000e-005	4.0000e-005	1.6677
Total	**6.7000e-004**	**4.2000e-004**	**5.8000e-003**	**2.0000e-005**	**2.2900e-003**	**1.0000e-005**	**2.3000e-003**	**6.1000e-004**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**1.6539**	**1.6539**	**4.0000e-005**	**4.0000e-005**	**1.6677**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Architectural Coating P5 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2949					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7900e-003	0.0120	0.0190	3.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.0000	2.6809	2.6809	1.5000e-004	0.0000	2.6846
Total	**0.2967**	**0.0120**	**0.0190**	**3.0000e-005**		**5.4000e-004**	**5.4000e-004**		**5.4000e-004**	**5.4000e-004**	**0.0000**	**2.6809**	**2.6809**	**1.5000e-004**	**0.0000**	**2.6846**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.2000e-004	5.8000e-003	2.0000e-005	2.2900e-003	1.0000e-005	2.3000e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.6539	1.6539	4.0000e-005	4.0000e-005	1.6677
Total	**6.7000e-004**	**4.2000e-004**	**5.8000e-003**	**2.0000e-005**	**2.2900e-003**	**1.0000e-005**	**2.3000e-003**	**6.1000e-004**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**1.6539**	**1.6539**	**4.0000e-005**	**4.0000e-005**	**1.6677**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Grading P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0184	0.0000	0.0184	7.3100e-003	0.0000	7.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8000e-003	0.0559	0.0527	1.2000e-004		2.2600e-003	2.2600e-003		2.0800e-003	2.0800e-003	0.0000	10.9012	10.9012	3.5300e-003	0.0000	10.9894
Total	**5.8000e-003**	**0.0559**	**0.0527**	**1.2000e-004**	**0.0184**	**2.2600e-003**	**0.0207**	**7.3100e-003**	**2.0800e-003**	**9.3900e-003**	**0.0000**	**10.9012**	**10.9012**	**3.5300e-003**	**0.0000**	**10.9894**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	6.0000e-005	8.2000e-004	0.0000	3.2000e-004	0.0000	3.2000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	1.0000e-005	0.2353
Total	**9.0000e-005**	**6.0000e-005**	**8.2000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2334**	**0.2334**	**1.0000e-005**	**1.0000e-005**	**0.2353**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Grading P6 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0184	0.0000	0.0184	7.3100e-003	0.0000	7.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8000e-003	0.0559	0.0527	1.2000e-004		2.2600e-003	2.2600e-003		2.0800e-003	2.0800e-003	0.0000	10.9012	10.9012	3.5300e-003	0.0000	10.9894
Total	**5.8000e-003**	**0.0559**	**0.0527**	**1.2000e-004**	**0.0184**	**2.2600e-003**	**0.0207**	**7.3100e-003**	**2.0800e-003**	**9.3900e-003**	**0.0000**	**10.9012**	**10.9012**	**3.5300e-003**	**0.0000**	**10.9894**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	6.0000e-005	8.2000e-004	0.0000	3.2000e-004	0.0000	3.2000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	1.0000e-005	0.2353
Total	**9.0000e-005**	**6.0000e-005**	**8.2000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2334**	**0.2334**	**1.0000e-005**	**1.0000e-005**	**0.2353**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0130	0.1185	0.1528	2.6000e-004		5.0100e-003	5.0100e-003		4.7100e-003	4.7100e-003	0.0000	22.0324	22.0324	5.1800e-003	0.0000	22.1618
Total	**0.0130**	**0.1185**	**0.1528**	**2.6000e-004**		**5.0100e-003**	**5.0100e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**22.0324**	**22.0324**	**5.1800e-003**	**0.0000**	**22.1618**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	6.5400e-003	2.3100e-003	3.0000e-005	1.1400e-003	4.0000e-005	1.1800e-003	3.3000e-004	4.0000e-005	3.7000e-004	0.0000	2.9602	2.9602	1.4000e-004	4.4000e-004	3.0956
Worker	1.5900e-003	1.0000e-003	0.0138	4.0000e-005	5.4400e-003	3.0000e-005	5.4600e-003	1.4400e-003	2.0000e-005	1.4700e-003	0.0000	3.9348	3.9348	1.0000e-004	1.0000e-004	3.9679
Total	**1.7500e-003**	**7.5400e-003**	**0.0161**	**7.0000e-005**	**6.5800e-003**	**7.0000e-005**	**6.6400e-003**	**1.7700e-003**	**6.0000e-005**	**1.8400e-003**	**0.0000**	**6.8951**	**6.8951**	**2.4000e-004**	**5.4000e-004**	**7.0635**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0130	0.1185	0.1528	2.6000e-004		5.0100e-003	5.0100e-003		4.7100e-003	4.7100e-003	0.0000	22.0323	22.0323	5.1800e-003	0.0000	22.1618
Total	**0.0130**	**0.1185**	**0.1528**	**2.6000e-004**		**5.0100e-003**	**5.0100e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**22.0323**	**22.0323**	**5.1800e-003**	**0.0000**	**22.1618**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	6.5400e-003	2.3100e-003	3.0000e-005	1.1400e-003	4.0000e-005	1.1800e-003	3.3000e-004	4.0000e-005	3.7000e-004	0.0000	2.9602	2.9602	1.4000e-004	4.4000e-004	3.0956
Worker	1.5900e-003	1.0000e-003	0.0138	4.0000e-005	5.4400e-003	3.0000e-005	5.4600e-003	1.4400e-003	2.0000e-005	1.4700e-003	0.0000	3.9348	3.9348	1.0000e-004	1.0000e-004	3.9679
Total	**1.7500e-003**	**7.5400e-003**	**0.0161**	**7.0000e-005**	**6.5800e-003**	**7.0000e-005**	**6.6400e-003**	**1.7700e-003**	**6.0000e-005**	**1.8400e-003**	**0.0000**	**6.8951**	**6.8951**	**2.4000e-004**	**5.4000e-004**	**7.0635**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0656	0.5985	0.7721	1.2900e-003		0.0253	0.0253		0.0238	0.0238	0.0000	111.3213	111.3213	0.0262	0.0000	111.9755
Total	**0.0656**	**0.5985**	**0.7721**	**1.2900e-003**		**0.0253**	**0.0253**		**0.0238**	**0.0238**	**0.0000**	**111.3213**	**111.3213**	**0.0262**	**0.0000**	**111.9755**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.7000e-004	0.0326	0.0117	1.5000e-004	5.7600e-003	1.9000e-004	5.9500e-003	1.6600e-003	1.9000e-004	1.8500e-003	0.0000	14.6507	14.6507	7.2000e-004	2.1900e-003	15.3214
Worker	7.5400e-003	4.6000e-003	0.0660	2.0000e-004	0.0275	1.2000e-004	0.0276	7.3000e-003	1.1000e-004	7.4100e-003	0.0000	19.4467	19.4467	4.8000e-004	4.9000e-004	19.6046
Total	**8.3100e-003**	**0.0372**	**0.0777**	**3.5000e-004**	**0.0332**	**3.1000e-004**	**0.0336**	**8.9600e-003**	**3.0000e-004**	**9.2600e-003**	**0.0000**	**34.0973**	**34.0973**	**1.2000e-003**	**2.6800e-003**	**34.9260**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0656	0.5985	0.7721	1.2900e-003		0.0253	0.0253		0.0238	0.0238	0.0000	111.3212	111.3212	0.0262	0.0000	111.9754
Total	**0.0656**	**0.5985**	**0.7721**	**1.2900e-003**		**0.0253**	**0.0253**		**0.0238**	**0.0238**	**0.0000**	**111.3212**	**111.3212**	**0.0262**	**0.0000**	**111.9754**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.7000e-004	0.0326	0.0117	1.5000e-004	5.7600e-003	1.9000e-004	5.9500e-003	1.6600e-003	1.9000e-004	1.8500e-003	0.0000	14.6507	14.6507	7.2000e-004	2.1900e-003	15.3214
Worker	7.5400e-003	4.6000e-003	0.0660	2.0000e-004	0.0275	1.2000e-004	0.0276	7.3000e-003	1.1000e-004	7.4100e-003	0.0000	19.4467	19.4467	4.8000e-004	4.9000e-004	19.6046
Total	**8.3100e-003**	**0.0372**	**0.0777**	**3.5000e-004**	**0.0332**	**3.1000e-004**	**0.0336**	**8.9600e-003**	**3.0000e-004**	**9.2600e-003**	**0.0000**	**34.0973**	**34.0973**	**1.2000e-003**	**2.6800e-003**	**34.9260**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Architectural Coating P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1548					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4000e-004	6.3000e-003	9.9500e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	1.4043	1.4043	8.0000e-005	0.0000	1.4062
Total	**0.1558**	**6.3000e-003**	**9.9500e-003**	**2.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**1.4043**	**1.4043**	**8.0000e-005**	**0.0000**	**1.4062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.0000e-004	1.4900e-003	0.0000	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4394	0.4394	1.0000e-005	1.0000e-005	0.4429
Total	**1.7000e-004**	**1.0000e-004**	**1.4900e-003**	**0.0000**	**6.2000e-004**	**0.0000**	**6.2000e-004**	**1.6000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.4394**	**0.4394**	**1.0000e-005**	**1.0000e-005**	**0.4429**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Architectural Coating P6 - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1548					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4000e-004	6.3000e-003	9.9500e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	1.4043	1.4043	8.0000e-005	0.0000	1.4062
Total	**0.1558**	**6.3000e-003**	**9.9500e-003**	**2.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**1.4043**	**1.4043**	**8.0000e-005**	**0.0000**	**1.4062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.0000e-004	1.4900e-003	0.0000	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4394	0.4394	1.0000e-005	1.0000e-005	0.4429
Total	**1.7000e-004**	**1.0000e-004**	**1.4900e-003**	**0.0000**	**6.2000e-004**	**0.0000**	**6.2000e-004**	**1.6000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.4394**	**0.4394**	**1.0000e-005**	**1.0000e-005**	**0.4429**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.3748	2.4263	20.1523	0.0389	4.6213	0.0309	4.6522	1.2336	0.0288	1.2625	0.0000	3,733.2686	3,733.2686	0.2724	0.1843	3,795.0015
Unmitigated	2.3748	2.4263	20.1523	0.0389	4.6213	0.0309	4.6522	1.2336	0.0288	1.2625	0.0000	3,733.2686	3,733.2686	0.2724	0.1843	3,795.0015

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,412.76	1,571.02	1212.04	3,133,665	3,133,665
Apartments Mid Rise	734.40	662.85	552.15	2,193,090	2,193,090
City Park	5.28	13.27	14.83	16,621	16,621
Single Family Housing	4,030.88	4,073.58	3650.85	6,929,562	6,929,562
Total	6,183.32	6,320.72	5,429.87	12,272,938	12,272,938

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	6.12	7.30	7.50	100.00	0.00	0.00	100	0	0
Apartments Mid Rise	8.63	7.30	7.50	100.00	0.00	0.00	100	0	0
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	4.78	7.30	7.50	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.561497	0.058760	0.168570	0.122825	0.025823	0.007422	0.012783	0.006277	0.000662	0.000387	0.028371	0.000624	0.005999
Apartments Mid Rise	0.561497	0.058760	0.168570	0.122825	0.025823	0.007422	0.012783	0.006277	0.000662	0.000387	0.028371	0.000624	0.005999
City Park	0.561497	0.058760	0.168570	0.122825	0.025823	0.007422	0.012783	0.006277	0.000662	0.000387	0.028371	0.000624	0.005999
Single Family Housing	0.561497	0.058760	0.168570	0.122825	0.025823	0.007422	0.012783	0.006277	0.000662	0.000387	0.028371	0.000624	0.005999

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	54.2156	54.2156	4.5800e-003	5.5000e-004	54.4953
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	821.4486	821.4486	0.0693	8.4000e-003	825.6863
NaturalGas Mitigated	0.0761	0.6500	0.2766	4.1500e-003		0.0526	0.0526		0.0526	0.0526	0.0000	752.7729	752.7729	0.0144	0.0138	757.2463
NaturalGas Unmitigated	0.0761	0.6500	0.2766	4.1500e-003		0.0526	0.0526		0.0526	0.0526	0.0000	752.7729	752.7729	0.0144	0.0138	757.2463

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	2.39689e+006	0.0129	0.1105	0.0470	7.0000e-004		8.9300e-003	8.9300e-003		8.9300e-003	8.9300e-003	0.0000	127.9074	127.9074	2.4500e-003	2.3400e-003	128.6675
Apartments Mid Rise	1.5052e+006	8.1200e-003	0.0694	0.0295	4.4000e-004		5.6100e-003	5.6100e-003		5.6100e-003	5.6100e-003	0.0000	80.3231	80.3231	1.5400e-003	1.4700e-003	80.8005
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.02043e+007	0.0550	0.4702	0.2001	3.0000e-003		0.0380	0.0380		0.0380	0.0380	0.0000	544.5424	544.5424	0.0104	9.9800e-003	547.7784
Total		**0.0761**	**0.6500**	**0.2766**	**4.1400e-003**		**0.0526**	**0.0526**		**0.0526**	**0.0526**	**0.0000**	**752.7729**	**752.7729**	**0.0144**	**0.0138**	**757.2463**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	2.39689e+006	0.0129	0.1105	0.0470	7.0000e-004		8.9300e-003	8.9300e-003		8.9300e-003	8.9300e-003	0.0000	127.9074	127.9074	2.4500e-003	2.3400e-003	128.6675
Apartments Mid Rise	1.5052e+006	8.1200e-003	0.0694	0.0295	4.4000e-004		5.6100e-003	5.6100e-003		5.6100e-003	5.6100e-003	0.0000	80.3231	80.3231	1.5400e-003	1.4700e-003	80.8005
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.02043e+007	0.0550	0.4702	0.2001	3.0000e-003		0.0380	0.0380		0.0380	0.0380	0.0000	544.5424	544.5424	0.0104	9.9800e-003	547.7784
Total		**0.0761**	**0.6500**	**0.2766**	**4.1400e-003**		**0.0526**	**0.0526**		**0.0526**	**0.0526**	**0.0000**	**752.7729**	**752.7729**	**0.0144**	**0.0138**	**757.2463**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	776018	137.6234	0.0116	1.4100e-003	138.3334
Apartments Mid Rise	517567	91.7882	7.7500e-003	9.4000e-004	92.2617
City Park	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	3.33832e+006	592.0370	0.0500	6.0600e-003	595.0912
Total		**821.4486**	**0.0693**	**8.4100e-003**	**825.6863**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	51217.2	9.0831	7.7000e-004	9.0000e-005	9.1300
Apartments Mid Rise	34159.4	6.0580	5.1000e-004	6.0000e-005	6.0893
City Park	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	220329	39.0744	3.3000e-003	4.0000e-004	39.2760
Total		**54.2156**	**4.5800e-003**	**5.5000e-004**	**54.4953**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.7968	0.0645	5.6007	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1574	9.1574	8.7700e-003	0.0000	9.3766
Unmitigated	4.7968	0.0645	5.6007	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1574	9.1574	8.7700e-003	0.0000	9.3766

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3431					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.2855					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1682	0.0645	5.6007	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1574	9.1574	8.7700e-003	0.0000	9.3766
Total	**4.7968**	**0.0645**	**5.6007**	**3.0000e-004**		**0.0311**	**0.0311**		**0.0311**	**0.0311**	**0.0000**	**9.1574**	**9.1574**	**8.7700e-003**	**0.0000**	**9.3766**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3431					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.2855					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1682	0.0645	5.6007	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1574	9.1574	8.7700e-003	0.0000	9.3766
Total	**4.7968**	**0.0645**	**5.6007**	**3.0000e-004**		**0.0311**	**0.0311**		**0.0311**	**0.0311**	**0.0000**	**9.1574**	**9.1574**	**8.7700e-003**	**0.0000**	**9.3766**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	180.3558	1.2965	0.0320	222.3027
Unmitigated	206.1956	1.6190	0.0398	258.5300

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	12.5747 / 7.92755	48.6469	0.4135	0.0101	62.0041
Apartments Mid Rise	8.79579 / 5.54517	34.0276	0.2893	7.0900e-003	43.3707
City Park	0 / 8.06633	15.8932	1.3400e-003	1.6000e-004	15.9752
Single Family Housing	27.8208 / 17.5392	107.6280	0.9149	0.0224	137.1800
Total		**206.1957**	**1.6190**	**0.0398**	**258.5300**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.0598 / 7.92755	42.0414	0.3311	8.1400e-003	52.7433
Apartments Mid Rise	7.03663 / 5.54517	29.4072	0.2316	5.6900e-003	36.8930
City Park	0 / 8.06633	15.8932	1.3400e-003	1.6000e-004	15.9752
Single Family Housing	22.2566 / 17.5392	93.0139	0.7325	0.0180	116.6912
Total		**180.3558**	**1.2965**	**0.0320**	**222.3027**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	139.5218	8.2455	0.0000	345.6593
Unmitigated	139.5218	8.2455	0.0000	345.6593

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	88.78	18.0215	1.0650	0.0000	44.6476
Apartments Mid Rise	62.1	12.6057	0.7450	0.0000	31.2302
City Park	0.58	0.1177	6.9600e-003	0.0000	0.2917
Single Family Housing	535.87	108.7768	6.4285	0.0000	269.4898
Total		**139.5218**	**8.2455**	**0.0000**	**345.6593**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	88.78	18.0215	1.0650	0.0000	44.6476
Apartments Mid Rise	62.1	12.6057	0.7450	0.0000	31.2302
City Park	0.58	0.1177	6.9600e-003	0.0000	0.2917
Single Family Housing	535.87	108.7768	6.4285	0.0000	269.4898
Total		**139.5218**	**8.2455**	**0.0000**	**345.6593**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number

11.0 Vegetation

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hitch Ranch Specific Plan - AQ Emissions

Ventura County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	6.77	Acre	6.77	294,901.20	0
Apartments Low Rise	193.00	Dwelling Unit	0.00	193,000.00	591
Apartments Mid Rise	135.00	Dwelling Unit	0.00	135,000.00	413
Single Family Housing	427.00	Dwelling Unit	215.33	768,600.00	1307

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2027
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land uses per Project Description in EIR. 277.3-acre site with 55.2 undisturbed and 6.77 for city park

Construction Phase - Phase duration per project applicant.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Trips (worker and vendor) during building construction and arch coating reflect proportion of project constructed during each phase. Grading material balanced on-site, no off-site hauling trips required.

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading - No import/export per project applicant for grading P1 and grading P3, balanced on-site. Other phases only fine grading for building pads.

Architectural Coating - Coating square footage distributed proportionately by amount of project being constructed per phase. VCAPCD Rule 74.2.

Vehicle Trips - Trip rates and VMT to match project traffic study.

Area Coating - VCAPCD Rule 74.2

Area Mitigation - VCPACPD Rule 74.2

Energy Mitigation - Compliance with 2019 Building Energy Efficiency Standards, which require on-site solar to meet 100% of electricity requirements for residential uses 3 stories or less, plus rooftop solar system for four-story building included in project design

Water Mitigation - Compliance with CALGreen requirements

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	740,205.00	102,942.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	740,205.00	196,081.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	740,205.00	196,081.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	740,205.00	245,101.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,220,615.00	30,682.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,220,615.00	58,441.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,220,615.00	58,441.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,220,615.00	73,051.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	75.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	75.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	75.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	75.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	100	50
tblAreaCoating	Area_EF_Residential_Interior	75	50
tblConstructionPhase	NumDays	330.00	20.00
tblConstructionPhase	NumDays	330.00	21.00

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	330.00	11.00
tblConstructionPhase	NumDays	330.00	20.00
tblConstructionPhase	NumDays	4,650.00	234.00
tblConstructionPhase	NumDays	4,650.00	234.00
tblConstructionPhase	NumDays	4,650.00	115.00
tblConstructionPhase	NumDays	4,650.00	367.00
tblConstructionPhase	NumDays	4,650.00	88.00
tblConstructionPhase	NumDays	465.00	218.00
tblConstructionPhase	NumDays	465.00	6.00
tblConstructionPhase	NumDays	465.00	4.00
tblConstructionPhase	NumDays	465.00	5.00
tblConstructionPhase	NumDays	465.00	86.00
tblConstructionPhase	NumDays	465.00	6.00
tblConstructionPhase	NumDays	330.00	72.00
tblConstructionPhase	NumDays	330.00	87.00
tblGrading	MaterialExported	0.00	3,900,000.00
tblGrading	MaterialExported	0.00	1,500,000.00
tblGrading	MaterialImported	0.00	3,900,000.00
tblGrading	MaterialImported	0.00	1,500,000.00
tblLandUse	LotAcreage	12.06	0.00
tblLandUse	LotAcreage	3.55	0.00
tblLandUse	LotAcreage	138.64	215.33
tblTripsAndVMT	HaulingTripNumber	975,000.00	0.00
tblTripsAndVMT	HaulingTripNumber	375,000.00	0.00
tblTripsAndVMT	VendorTripNumber	129.00	34.00
tblTripsAndVMT	VendorTripNumber	129.00	34.00
tblTripsAndVMT	VendorTripNumber	129.00	18.00
tblTripsAndVMT	VendorTripNumber	129.00	43.00
tblTripsAndVMT	WorkerTripNumber	514.00	136.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	WorkerTripNumber	103.00	27.00
tblTripsAndVMT	WorkerTripNumber	514.00	136.00
tblTripsAndVMT	WorkerTripNumber	103.00	27.00
tblTripsAndVMT	WorkerTripNumber	514.00	71.00
tblTripsAndVMT	WorkerTripNumber	103.00	14.00
tblTripsAndVMT	WorkerTripNumber	514.00	170.00
tblTripsAndVMT	WorkerTripNumber	103.00	34.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TTP	49.10	0.00
tblVehicleTrips	HO_TTP	49.10	0.00
tblVehicleTrips	HO_TTP	49.10	0.00
tblVehicleTrips	HS_TTP	18.00	0.00
tblVehicleTrips	HS_TTP	18.00	0.00
tblVehicleTrips	HS_TTP	18.00	0.00
tblVehicleTrips	HW_TL	10.80	6.12
tblVehicleTrips	HW_TL	10.80	8.63
tblVehicleTrips	HW_TL	10.80	4.78
tblVehicleTrips	HW_TTP	32.90	100.00
tblVehicleTrips	HW_TTP	32.90	100.00
tblVehicleTrips	HW_TTP	32.90	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6867	38.8834	29.5975	0.0635	14.3957	1.6358	16.0315	4.4587	1.5050	5.9637	0.0000	6,158.7443	6,158.7443	1.9489	4.0400e-003	6,208.6698
2023	5.4838	50.8676	49.7524	0.1103	15.9572	2.1424	18.0996	4.8938	1.9860	6.8798	0.0000	10,793.7547	10,793.7547	2.6656	0.1649	10,908.5826
2024	38.1665	47.7455	51.0092	0.1317	15.9572	1.9665	17.9238	4.8938	1.8222	6.7160	0.0000	13,309.3232	13,309.3232	2.6209	0.6288	13,533.8503
2025	29.7316	27.9717	26.7785	0.0634	9.3679	1.1317	10.4996	3.6973	1.0412	4.7385	0.0000	6,144.9699	6,144.9699	1.9467	0.1211	6,194.6126
2026	28.3231	27.9691	26.7520	0.0633	9.3679	1.1317	10.4996	3.6973	1.0411	4.7385	0.0000	6,141.7350	6,141.7350	1.9464	0.1179	6,191.3150
2027	28.3542	13.2083	17.7370	0.0344	0.7051	0.5342	1.2392	0.1898	0.5025	0.6923	0.0000	3,356.0869	3,356.0869	0.6278	0.0607	3,389.8564
Maximum	**38.1665**	**50.8676**	**51.0092**	**0.1317**	**15.9572**	**2.1424**	**18.0996**	**4.8938**	**1.9860**	**6.8798**	**0.0000**	**13,309.3232**	**13,309.3232**	**2.6656**	**0.6288**	**13,533.8503**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6867	38.8834	29.5975	0.0635	14.3957	1.6358	16.0315	4.4587	1.5050	5.9637	0.0000	6,158.7443	6,158.7443	1.9489	4.0400e-003	6,208.6698
2023	5.4838	50.8676	49.7524	0.1103	15.9572	2.1424	18.0996	4.8938	1.9860	6.8798	0.0000	10,793.7547	10,793.7547	2.6656	0.1649	10,908.5826
2024	38.1665	47.7455	51.0092	0.1317	15.9572	1.9665	17.9238	4.8938	1.8222	6.7160	0.0000	13,309.3232	13,309.3232	2.6209	0.6288	13,533.8503
2025	29.7316	27.9717	26.7785	0.0634	9.3679	1.1317	10.4996	3.6973	1.0412	4.7385	0.0000	6,144.9699	6,144.9699	1.9467	0.1211	6,194.6126
2026	28.3231	27.9691	26.7520	0.0633	9.3679	1.1317	10.4996	3.6973	1.0411	4.7385	0.0000	6,141.7350	6,141.7350	1.9464	0.1179	6,191.3150
2027	28.3542	13.2083	17.7370	0.0344	0.7051	0.5342	1.2392	0.1898	0.5025	0.6923	0.0000	3,356.0869	3,356.0869	0.6278	0.0607	3,389.8564
Maximum	**38.1665**	**50.8676**	**51.0092**	**0.1317**	**15.9572**	**2.1424**	**18.0996**	**4.8938**	**1.9860**	**6.8798**	**0.0000**	**13,309.3232**	**13,309.3232**	**2.6656**	**0.6288**	**13,533.8503**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	27.2308	0.7168	62.2301	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1585	112.1585	0.1074	0.0000	114.8437
Energy	0.4168	3.5617	1.5156	0.0227		0.2880	0.2880		0.2880	0.2880		4,546.7952	4,546.7952	0.0872	0.0834	4,573.8145
Mobile	14.4232	12.9573	112.5573	0.2320	27.2415	0.1789	27.4204	7.2613	0.1669	7.4281		24,526.8818	24,526.8818	1.6464	1.1183	24,901.3003
Total	**42.0708**	**17.2358**	**176.3030**	**0.2580**	**27.2415**	**0.8121**	**28.0536**	**7.2613**	**0.8001**	**8.0614**	**0.0000**	**29,185.8354**	**29,185.8354**	**1.8409**	**1.2017**	**29,589.9585**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	27.2308	0.7168	62.2301	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1585	112.1585	0.1074	0.0000	114.8437
Energy	0.4168	3.5617	1.5156	0.0227		0.2880	0.2880		0.2880	0.2880		4,546.7952	4,546.7952	0.0872	0.0834	4,573.8145
Mobile	14.4232	12.9573	112.5573	0.2320	27.2415	0.1789	27.4204	7.2613	0.1669	7.4281		24,526.8818	24,526.8818	1.6464	1.1183	24,901.3003
Total	**42.0708**	**17.2358**	**176.3030**	**0.2580**	**27.2415**	**0.8121**	**28.0536**	**7.2613**	**0.8001**	**8.0614**	**0.0000**	**29,185.8354**	**29,185.8354**	**1.8409**	**1.2017**	**29,589.9585**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/1/2022	3/31/2023	5	218	
2	Paving	Paving	2/1/2023	5/11/2023	5	72	
3	Grading P2	Grading	6/1/2023	6/7/2023	5	5	
4	Building Construction P2	Building Construction	6/8/2023	11/1/2024	5	367	
5	Grading P3	Grading	12/1/2023	3/31/2024	5	86	
6	Utilities P3	Building Construction	4/1/2024	7/31/2024	5	88	
7	Paving P3	Paving	8/1/2024	11/30/2024	5	87	
8	Architectural Coating P2	Architectural Coating	11/2/2024	11/30/2024	5	20	
9	Grading P4	Grading	12/1/2024	12/9/2024	5	6	
10	Building Construction P4	Building Construction	12/10/2024	10/31/2025	5	234	
11	Architectural Coating P4	Architectural Coating	11/1/2025	11/30/2025	5	20	
12	Grading P5	Grading	12/1/2025	12/8/2025	5	6	
13	Building Construction P5	Building Construction	12/9/2025	10/31/2026	5	234	
14	Architectural Coating P5	Architectural Coating	11/1/2026	11/30/2026	5	21	
15	Grading P6	Grading	12/1/2026	12/5/2026	5	4	
16	Building Construction P6	Building Construction	12/6/2026	5/14/2027	5	115	
17	Architectural Coating P6	Architectural Coating	5/15/2027	5/31/2027	5	11	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 654

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Paving: 0

Residential Indoor: 73,051; Residential Outdoor: 245,101; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading P2	Excavators	2	8.00	158	0.38
Grading P2	Graders	1	8.00	187	0.41
Grading P2	Rubber Tired Dozers	1	8.00	247	0.40
Grading P2	Scrapers	2	8.00	367	0.48
Grading P2	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P2	Cranes	1	7.00	231	0.29
Building Construction P2	Forklifts	3	8.00	89	0.20
Building Construction P2	Generator Sets	1	8.00	84	0.74
Building Construction P2	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P2	Welders	1	8.00	46	0.45
Grading P3	Excavators	2	8.00	158	0.38
Grading P3	Graders	1	8.00	187	0.41
Grading P3	Rubber Tired Dozers	1	8.00	247	0.40
Grading P3	Scrapers	2	8.00	367	0.48
Grading P3	Tractors/Loaders/Backhoes	2	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Utilities P3	Cranes	1	7.00	231	0.29
Utilities P3	Forklifts	3	8.00	89	0.20
Utilities P3	Generator Sets	1	8.00	84	0.74
Utilities P3	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Utilities P3	Welders	1	8.00	46	0.45
Paving P3	Pavers	2	8.00	130	0.42
Paving P3	Paving Equipment	2	8.00	132	0.36
Paving P3	Rollers	2	8.00	80	0.38
Architectural Coating P2	Air Compressors	1	6.00	78	0.48
Grading P4	Excavators	2	8.00	158	0.38
Grading P4	Graders	1	8.00	187	0.41
Grading P4	Rubber Tired Dozers	1	8.00	247	0.40
Grading P4	Scrapers	2	8.00	367	0.48
Grading P4	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P4	Cranes	1	7.00	231	0.29
Building Construction P4	Forklifts	3	8.00	89	0.20
Building Construction P4	Generator Sets	1	8.00	84	0.74
Building Construction P4	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P4	Welders	1	8.00	46	0.45
Architectural Coating P4	Air Compressors	1	6.00	78	0.48
Grading P5	Excavators	2	8.00	158	0.38
Grading P5	Graders	1	8.00	187	0.41
Grading P5	Rubber Tired Dozers	1	8.00	247	0.40
Grading P5	Scrapers	2	8.00	367	0.48
Grading P5	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P5	Cranes	1	7.00	231	0.29
Building Construction P5	Forklifts	3	8.00	89	0.20
Building Construction P5	Generator Sets	1	8.00	84	0.74
Building Construction P5	Tractors/Loaders/Backhoes	3	7.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Building Construction P5	Welders	1	8.00	46	0.45
Architectural Coating P5	Air Compressors	1	6.00	78	0.48
Grading P6	Excavators	2	8.00	158	0.38
Grading P6	Graders	1	8.00	187	0.41
Grading P6	Rubber Tired Dozers	1	8.00	247	0.40
Grading P6	Scrapers	2	8.00	367	0.48
Grading P6	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P6	Cranes	1	7.00	231	0.29
Building Construction P6	Forklifts	3	8.00	89	0.20
Building Construction P6	Generator Sets	1	8.00	84	0.74
Building Construction P6	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P6	Welders	1	8.00	46	0.45
Architectural Coating P6	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P2	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P2	9	170.00	43.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P3	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities P3	9	514.00	129.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving P3	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P2	1	34.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P4	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P4	9	136.00	34.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P4	1	27.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading P5	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P5	9	136.00	34.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P5	1	27.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P6	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P6	9	71.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P6	1	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.2314	0.0000	14.2314	4.4151	0.0000	4.4151			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**14.2314**	**1.6349**	**15.8663**	**4.4151**	**1.5041**	**5.9192**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0619	0.0400	0.5560	1.4500e-003	0.1643	9.4000e-004	0.1652	0.0436	8.7000e-004	0.0445		147.3338	147.3338	4.6500e-003	4.0400e-003	148.6540
Total	**0.0619**	**0.0400**	**0.5560**	**1.4500e-003**	**0.1643**	**9.4000e-004**	**0.1652**	**0.0436**	**8.7000e-004**	**0.0445**		**147.3338**	**147.3338**	**4.6500e-003**	**4.0400e-003**	**148.6540**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.2314	0.0000	14.2314	4.4151	0.0000	4.4151			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**14.2314**	**1.6349**	**15.8663**	**4.4151**	**1.5041**	**5.9192**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0619	0.0400	0.5560	1.4500e-003	0.1643	9.4000e-004	0.1652	0.0436	8.7000e-004	0.0445		147.3338	147.3338	4.6500e-003	4.0400e-003	148.6540
Total	**0.0619**	**0.0400**	**0.5560**	**1.4500e-003**	**0.1643**	**9.4000e-004**	**0.1652**	**0.0436**	**8.7000e-004**	**0.0445**		**147.3338**	**147.3338**	**4.6500e-003**	**4.0400e-003**	**148.6540**

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.2314	0.0000	14.2314	4.4151	0.0000	4.4151			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**14.2314**	**1.4245**	**15.6559**	**4.4151**	**1.3105**	**5.7256**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0575	0.0356	0.5135	1.4000e-003	0.1643	8.9000e-004	0.1652	0.0436	8.2000e-004	0.0444		143.4697	143.4697	4.2100e-003	3.7500e-003	144.6916
Total	**0.0575**	**0.0356**	**0.5135**	**1.4000e-003**	**0.1643**	**8.9000e-004**	**0.1652**	**0.0436**	**8.2000e-004**	**0.0444**		**143.4697**	**143.4697**	**4.2100e-003**	**3.7500e-003**	**144.6916**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.2314	0.0000	14.2314	4.4151	0.0000	4.4151			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**14.2314**	**1.4245**	**15.6559**	**4.4151**	**1.3105**	**5.7256**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0575	0.0356	0.5135	1.4000e-003	0.1643	8.9000e-004	0.1652	0.0436	8.2000e-004	0.0444		143.4697	143.4697	4.2100e-003	3.7500e-003	144.6916
Total	**0.0575**	**0.0356**	**0.5135**	**1.4000e-003**	**0.1643**	**8.9000e-004**	**0.1652**	**0.0436**	**8.2000e-004**	**0.0444**		**143.4697**	**143.4697**	**4.2100e-003**	**3.7500e-003**	**144.6916**

3.3 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0432	0.0267	0.3851	1.0500e-003	0.1232	6.7000e-004	0.1239	0.0327	6.1000e-004	0.0333		107.6023	107.6023	3.1600e-003	2.8100e-003	108.5187
Total	**0.0432**	**0.0267**	**0.3851**	**1.0500e-003**	**0.1232**	**6.7000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**107.6023**	**107.6023**	**3.1600e-003**	**2.8100e-003**	**108.5187**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0432	0.0267	0.3851	1.0500e-003	0.1232	6.7000e-004	0.1239	0.0327	6.1000e-004	0.0333		107.6023	107.6023	3.1600e-003	2.8100e-003	108.5187
Total	**0.0432**	**0.0267**	**0.3851**	**1.0500e-003**	**0.1232**	**6.7000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**107.6023**	**107.6023**	**3.1600e-003**	**2.8100e-003**	**108.5187**

3.4 Grading P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading P2 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0575	0.0356	0.5135	1.4000e-003	0.1643	8.9000e-004	0.1652	0.0436	8.2000e-004	0.0444		143.4697	143.4697	4.2100e-003	3.7500e-003	144.6916
Total	**0.0575**	**0.0356**	**0.5135**	**1.4000e-003**	**0.1643**	**8.9000e-004**	**0.1652**	**0.0436**	**8.2000e-004**	**0.0444**		**143.4697**	**143.4697**	**4.2100e-003**	**3.7500e-003**	**144.6916**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading P2 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0575	0.0356	0.5135	1.4000e-003	0.1643	8.9000e-004	0.1652	0.0436	8.2000e-004	0.0444		143.4697	143.4697	4.2100e-003	3.7500e-003	144.6916
Total	**0.0575**	**0.0356**	**0.5135**	**1.4000e-003**	**0.1643**	**8.9000e-004**	**0.1652**	**0.0436**	**8.2000e-004**	**0.0444**		**143.4697**	**143.4697**	**4.2100e-003**	**3.7500e-003**	**144.6916**

3.5 Building Construction P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0427	1.6292	0.5788	7.9600e-003	0.2910	9.6800e-003	0.3007	0.0838	9.2600e-003	0.0930		864.1049	864.1049	0.0356	0.1293	903.5230
Worker	0.4891	0.3023	4.3649	0.0119	1.3965	7.5700e-003	1.4041	0.3704	6.9700e-003	0.3774		1,219.4925	1,219.4925	0.0358	0.0319	1,229.8784
Total	**0.5318**	**1.9315**	**4.9437**	**0.0199**	**1.6875**	**0.0173**	**1.7047**	**0.4542**	**0.0162**	**0.4704**		**2,083.5974**	**2,083.5974**	**0.0713**	**0.1611**	**2,133.4014**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0427	1.6292	0.5788	7.9600e-003	0.2910	9.6800e-003	0.3007	0.0838	9.2600e-003	0.0930		864.1049	864.1049	0.0356	0.1293	903.5230
Worker	0.4891	0.3023	4.3649	0.0119	1.3965	7.5700e-003	1.4041	0.3704	6.9700e-003	0.3774		1,219.4925	1,219.4925	0.0358	0.0319	1,229.8784
Total	**0.5318**	**1.9315**	**4.9437**	**0.0199**	**1.6875**	**0.0173**	**1.7047**	**0.4542**	**0.0162**	**0.4704**		**2,083.5974**	**2,083.5974**	**0.0713**	**0.1611**	**2,133.4014**

3.5 Building Construction P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0416	1.6214	0.5760	7.8300e-003	0.2910	9.7100e-003	0.3007	0.0838	9.2900e-003	0.0930		851.0565	851.0565	0.0365	0.1273	889.9068
Worker	0.4570	0.2714	4.0690	0.0116	1.3965	7.2400e-003	1.4038	0.3704	6.6700e-003	0.3771		1,191.4165	1,191.4165	0.0326	0.0297	1,201.0867
Total	**0.4987**	**1.8928**	**4.6450**	**0.0194**	**1.6875**	**0.0170**	**1.7044**	**0.4542**	**0.0160**	**0.4701**		**2,042.4730**	**2,042.4730**	**0.0690**	**0.1570**	**2,090.9935**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0416	1.6214	0.5760	7.8300e-003	0.2910	9.7100e-003	0.3007	0.0838	9.2900e-003	0.0930		851.0565	851.0565	0.0365	0.1273	889.9068
Worker	0.4570	0.2714	4.0690	0.0116	1.3965	7.2400e-003	1.4038	0.3704	6.6700e-003	0.3771		1,191.4165	1,191.4165	0.0326	0.0297	1,201.0867
Total	**0.4987**	**1.8928**	**4.6450**	**0.0194**	**1.6875**	**0.0170**	**1.7044**	**0.4542**	**0.0160**	**0.4701**		**2,042.4730**	**2,042.4730**	**0.0690**	**0.1570**	**2,090.9935**

3.6 Grading P3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.1055	0.0000	14.1055	4.3960	0.0000	4.3960			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**14.1055**	**1.4245**	**15.5299**	**4.3960**	**1.3105**	**5.7066**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0575	0.0356	0.5135	1.4000e-003	0.1643	8.9000e-004	0.1652	0.0436	8.2000e-004	0.0444		143.4697	143.4697	4.2100e-003	3.7500e-003	144.6916
Total	**0.0575**	**0.0356**	**0.5135**	**1.4000e-003**	**0.1643**	**8.9000e-004**	**0.1652**	**0.0436**	**8.2000e-004**	**0.0444**		**143.4697**	**143.4697**	**4.2100e-003**	**3.7500e-003**	**144.6916**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.1055	0.0000	14.1055	4.3960	0.0000	4.3960			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**14.1055**	**1.4245**	**15.5299**	**4.3960**	**1.3105**	**5.7066**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0575	0.0356	0.5135	1.4000e-003	0.1643	8.9000e-004	0.1652	0.0436	8.2000e-004	0.0444		143.4697	143.4697	4.2100e-003	3.7500e-003	144.6916
Total	**0.0575**	**0.0356**	**0.5135**	**1.4000e-003**	**0.1643**	**8.9000e-004**	**0.1652**	**0.0436**	**8.2000e-004**	**0.0444**		**143.4697**	**143.4697**	**4.2100e-003**	**3.7500e-003**	**144.6916**

3.6 Grading P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.1055	0.0000	14.1055	4.3960	0.0000	4.3960			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**14.1055**	**1.3354**	**15.4409**	**4.3960**	**1.2286**	**5.6246**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0538	0.0319	0.4787	1.3600e-003	0.1643	8.5000e-004	0.1652	0.0436	7.8000e-004	0.0444		140.1667	140.1667	3.8300e-003	3.5000e-003	141.3043
Total	**0.0538**	**0.0319**	**0.4787**	**1.3600e-003**	**0.1643**	**8.5000e-004**	**0.1652**	**0.0436**	**7.8000e-004**	**0.0444**		**140.1667**	**140.1667**	**3.8300e-003**	**3.5000e-003**	**141.3043**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.1055	0.0000	14.1055	4.3960	0.0000	4.3960			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**14.1055**	**1.3354**	**15.4409**	**4.3960**	**1.2286**	**5.6246**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0538	0.0319	0.4787	1.3600e-003	0.1643	8.5000e-004	0.1652	0.0436	7.8000e-004	0.0444		140.1667	140.1667	3.8300e-003	3.5000e-003	141.3043
Total	**0.0538**	**0.0319**	**0.4787**	**1.3600e-003**	**0.1643**	**8.5000e-004**	**0.1652**	**0.0436**	**7.8000e-004**	**0.0444**		**140.1667**	**140.1667**	**3.8300e-003**	**3.5000e-003**	**141.3043**

3.7 Utilities P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Utilities P3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1249	4.8643	1.7278	0.0235	0.8730	0.0291	0.9021	0.2513	0.0279	0.2791		2,553.1694	2,553.1694	0.1094	0.3819	2,669.7204
Worker	1.3819	0.8205	12.3028	0.0349	4.2224	0.0219	4.2443	1.1200	0.0202	1.1401		3,602.2829	3,602.2829	0.0985	0.0899	3,631.5211
Total	**1.5068**	**5.6848**	**14.0306**	**0.0584**	**5.0953**	**0.0510**	**5.1464**	**1.3712**	**0.0480**	**1.4193**		**6,155.4524**	**6,155.4524**	**0.2079**	**0.4718**	**6,301.2414**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Utilities P3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1249	4.8643	1.7278	0.0235	0.8730	0.0291	0.9021	0.2513	0.0279	0.2791		2,553.1694	2,553.1694	0.1094	0.3819	2,669.7204
Worker	1.3819	0.8205	12.3028	0.0349	4.2224	0.0219	4.2443	1.1200	0.0202	1.1401		3,602.2829	3,602.2829	0.0985	0.0899	3,631.5211
Total	**1.5068**	**5.6848**	**14.0306**	**0.0584**	**5.0953**	**0.0510**	**5.1464**	**1.3712**	**0.0480**	**1.4193**		**6,155.4524**	**6,155.4524**	**0.2079**	**0.4718**	**6,301.2414**

3.8 Paving P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Paving P3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0403	0.0239	0.3590	1.0200e-003	0.1232	6.4000e-004	0.1239	0.0327	5.9000e-004	0.0333		105.1250	105.1250	2.8800e-003	2.6200e-003	105.9782
Total	**0.0403**	**0.0239**	**0.3590**	**1.0200e-003**	**0.1232**	**6.4000e-004**	**0.1239**	**0.0327**	**5.9000e-004**	**0.0333**		**105.1250**	**105.1250**	**2.8800e-003**	**2.6200e-003**	**105.9782**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Paving P3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0403	0.0239	0.3590	1.0200e-003	0.1232	6.4000e-004	0.1239	0.0327	5.9000e-004	0.0333		105.1250	105.1250	2.8800e-003	2.6200e-003	105.9782
Total	**0.0403**	**0.0239**	**0.3590**	**1.0200e-003**	**0.1232**	**6.4000e-004**	**0.1239**	**0.0327**	**5.9000e-004**	**0.0333**		**105.1250**	**105.1250**	**2.8800e-003**	**2.6200e-003**	**105.9782**

3.9 Architectural Coating P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.8659					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**37.0466**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Architectural Coating P2 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0914	0.0543	0.8138	2.3100e-003	0.2793	1.4500e-003	0.2808	0.0741	1.3300e-003	0.0754		238.2833	238.2833	6.5200e-003	5.9400e-003	240.2174
Total	**0.0914**	**0.0543**	**0.8138**	**2.3100e-003**	**0.2793**	**1.4500e-003**	**0.2808**	**0.0741**	**1.3300e-003**	**0.0754**		**238.2833**	**238.2833**	**6.5200e-003**	**5.9400e-003**	**240.2174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.8659					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**37.0466**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Architectural Coating P2 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0914	0.0543	0.8138	2.3100e-003	0.2793	1.4500e-003	0.2808	0.0741	1.3300e-003	0.0754		238.2833	238.2833	6.5200e-003	5.9400e-003	240.2174
Total	**0.0914**	**0.0543**	**0.8138**	**2.3100e-003**	**0.2793**	**1.4500e-003**	**0.2808**	**0.0741**	**1.3300e-003**	**0.0754**		**238.2833**	**238.2833**	**6.5200e-003**	**5.9400e-003**	**240.2174**

3.10 Grading P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**9.2036**	**1.3354**	**10.5390**	**3.6538**	**1.2286**	**4.8823**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Grading P4 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0538	0.0319	0.4787	1.3600e-003	0.1643	8.5000e-004	0.1652	0.0436	7.8000e-004	0.0444		140.1667	140.1667	3.8300e-003	3.5000e-003	141.3043
Total	**0.0538**	**0.0319**	**0.4787**	**1.3600e-003**	**0.1643**	**8.5000e-004**	**0.1652**	**0.0436**	**7.8000e-004**	**0.0444**		**140.1667**	**140.1667**	**3.8300e-003**	**3.5000e-003**	**141.3043**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**9.2036**	**1.3354**	**10.5390**	**3.6538**	**1.2286**	**4.8823**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Grading P4 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0538	0.0319	0.4787	1.3600e-003	0.1643	8.5000e-004	0.1652	0.0436	7.8000e-004	0.0444		140.1667	140.1667	3.8300e-003	3.5000e-003	141.3043
Total	**0.0538**	**0.0319**	**0.4787**	**1.3600e-003**	**0.1643**	**8.5000e-004**	**0.1652**	**0.0436**	**7.8000e-004**	**0.0444**		**140.1667**	**140.1667**	**3.8300e-003**	**3.5000e-003**	**141.3043**

3.11 Building Construction P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0329	1.2821	0.4554	6.1900e-003	0.2301	7.6800e-003	0.2378	0.0662	7.3400e-003	0.0736		672.9284	672.9284	0.0288	0.1007	703.6472
Worker	0.3656	0.2171	3.2552	9.2400e-003	1.1172	5.7900e-003	1.1230	0.2963	5.3300e-003	0.3017		953.1332	953.1332	0.0261	0.0238	960.8694
Total	**0.3986**	**1.4992**	**3.7106**	**0.0154**	**1.3473**	**0.0135**	**1.3608**	**0.3626**	**0.0127**	**0.3752**		**1,626.0616**	**1,626.0616**	**0.0549**	**0.1244**	**1,664.5166**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0329	1.2821	0.4554	6.1900e-003	0.2301	7.6800e-003	0.2378	0.0662	7.3400e-003	0.0736		672.9284	672.9284	0.0288	0.1007	703.6472
Worker	0.3656	0.2171	3.2552	9.2400e-003	1.1172	5.7900e-003	1.1230	0.2963	5.3300e-003	0.3017		953.1332	953.1332	0.0261	0.0238	960.8694
Total	**0.3986**	**1.4992**	**3.7106**	**0.0154**	**1.3473**	**0.0135**	**1.3608**	**0.3626**	**0.0127**	**0.3752**		**1,626.0616**	**1,626.0616**	**0.0549**	**0.1244**	**1,664.5166**

3.11 Building Construction P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0322	1.2675	0.4537	6.0700e-003	0.2301	7.6800e-003	0.2378	0.0662	7.3500e-003	0.0736		660.6351	660.6351	0.0296	0.0988	690.8148
Worker	0.3425	0.1959	3.0426	8.9200e-003	1.1172	5.5300e-003	1.1227	0.2963	5.0900e-003	0.3014		929.4813	929.4813	0.0237	0.0223	936.7081
Total	**0.3747**	**1.4634**	**3.4963**	**0.0150**	**1.3473**	**0.0132**	**1.3605**	**0.3626**	**0.0124**	**0.3750**		**1,590.1164**	**1,590.1164**	**0.0533**	**0.1211**	**1,627.5230**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0322	1.2675	0.4537	6.0700e-003	0.2301	7.6800e-003	0.2378	0.0662	7.3500e-003	0.0736		660.6351	660.6351	0.0296	0.0988	690.8148
Worker	0.3425	0.1959	3.0426	8.9200e-003	1.1172	5.5300e-003	1.1227	0.2963	5.0900e-003	0.3014		929.4813	929.4813	0.0237	0.0223	936.7081
Total	**0.3747**	**1.4634**	**3.4963**	**0.0150**	**1.3473**	**0.0132**	**1.3605**	**0.3626**	**0.0124**	**0.3750**		**1,590.1164**	**1,590.1164**	**0.0533**	**0.1211**	**1,627.5230**

3.12 Architectural Coating P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	29.4927					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**29.6636**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Architectural Coating P4 - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0680	0.0389	0.6041	1.7700e-003	0.2218	1.1000e-003	0.2229	0.0588	1.0100e-003	0.0598		184.5294	184.5294	4.7000e-003	4.4200e-003	185.9641
Total	**0.0680**	**0.0389**	**0.6041**	**1.7700e-003**	**0.2218**	**1.1000e-003**	**0.2229**	**0.0588**	**1.0100e-003**	**0.0598**		**184.5294**	**184.5294**	**4.7000e-003**	**4.4200e-003**	**185.9641**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	29.4927					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**29.6636**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Architectural Coating P4 - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0680	0.0389	0.6041	1.7700e-003	0.2218	1.1000e-003	0.2229	0.0588	1.0100e-003	0.0598		184.5294	184.5294	4.7000e-003	4.4200e-003	185.9641
Total	**0.0680**	**0.0389**	**0.6041**	**1.7700e-003**	**0.2218**	**1.1000e-003**	**0.2229**	**0.0588**	**1.0100e-003**	**0.0598**		**184.5294**	**184.5294**	**4.7000e-003**	**4.4200e-003**	**185.9641**

3.13 Grading P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**9.2036**	**1.1309**	**10.3345**	**3.6538**	**1.0404**	**4.6942**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Grading P5 - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0504	0.0288	0.4475	1.3100e-003	0.1643	8.1000e-004	0.1651	0.0436	7.5000e-004	0.0443		136.6884	136.6884	3.4800e-003	3.2700e-003	137.7512
Total	**0.0504**	**0.0288**	**0.4475**	**1.3100e-003**	**0.1643**	**8.1000e-004**	**0.1651**	**0.0436**	**7.5000e-004**	**0.0443**		**136.6884**	**136.6884**	**3.4800e-003**	**3.2700e-003**	**137.7512**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**9.2036**	**1.1309**	**10.3345**	**3.6538**	**1.0404**	**4.6942**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Grading P5 - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0504	0.0288	0.4475	1.3100e-003	0.1643	8.1000e-004	0.1651	0.0436	7.5000e-004	0.0443		136.6884	136.6884	3.4800e-003	3.2700e-003	137.7512
Total	**0.0504**	**0.0288**	**0.4475**	**1.3100e-003**	**0.1643**	**8.1000e-004**	**0.1651**	**0.0436**	**7.5000e-004**	**0.0443**		**136.6884**	**136.6884**	**3.4800e-003**	**3.2700e-003**	**137.7512**

3.14 Building Construction P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0322	1.2675	0.4537	6.0700e-003	0.2301	7.6800e-003	0.2378	0.0662	7.3500e-003	0.0736		660.6351	660.6351	0.0296	0.0988	690.8148
Worker	0.3425	0.1959	3.0426	8.9200e-003	1.1172	5.5300e-003	1.1227	0.2963	5.0900e-003	0.3014		929.4813	929.4813	0.0237	0.0223	936.7081
Total	**0.3747**	**1.4634**	**3.4963**	**0.0150**	**1.3473**	**0.0132**	**1.3605**	**0.3626**	**0.0124**	**0.3750**		**1,590.1164**	**1,590.1164**	**0.0533**	**0.1211**	**1,627.5230**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0322	1.2675	0.4537	6.0700e-003	0.2301	7.6800e-003	0.2378	0.0662	7.3500e-003	0.0736		660.6351	660.6351	0.0296	0.0988	690.8148
Worker	0.3425	0.1959	3.0426	8.9200e-003	1.1172	5.5300e-003	1.1227	0.2963	5.0900e-003	0.3014		929.4813	929.4813	0.0237	0.0223	936.7081
Total	**0.3747**	**1.4634**	**3.4963**	**0.0150**	**1.3473**	**0.0132**	**1.3605**	**0.3626**	**0.0124**	**0.3750**		**1,590.1164**	**1,590.1164**	**0.0533**	**0.1211**	**1,627.5230**

3.14 Building Construction P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0315	1.2515	0.4531	5.9500e-003	0.2301	7.6500e-003	0.2378	0.0662	7.3200e-003	0.0736		648.3802	648.3802	0.0304	0.0969	678.0230
Worker	0.3219	0.1783	2.8620	8.6400e-003	1.1172	5.2500e-003	1.1225	0.2963	4.8300e-003	0.3012		907.4845	907.4845	0.0216	0.0210	914.2843
Total	**0.3534**	**1.4298**	**3.3151**	**0.0146**	**1.3473**	**0.0129**	**1.3602**	**0.3626**	**0.0122**	**0.3747**		**1,555.8647**	**1,555.8647**	**0.0521**	**0.1179**	**1,592.3072**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0315	1.2515	0.4531	5.9500e-003	0.2301	7.6500e-003	0.2378	0.0662	7.3200e-003	0.0736		648.3802	648.3802	0.0304	0.0969	678.0230
Worker	0.3219	0.1783	2.8620	8.6400e-003	1.1172	5.2500e-003	1.1225	0.2963	4.8300e-003	0.3012		907.4845	907.4845	0.0216	0.0210	914.2843
Total	**0.3534**	**1.4298**	**3.3151**	**0.0146**	**1.3473**	**0.0129**	**1.3602**	**0.3626**	**0.0122**	**0.3747**		**1,555.8647**	**1,555.8647**	**0.0521**	**0.1179**	**1,592.3072**

3.15 Architectural Coating P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	28.0883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**28.2592**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Architectural Coating P5 - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0639	0.0354	0.5682	1.7200e-003	0.2218	1.0400e-003	0.2228	0.0588	9.6000e-004	0.0598		180.1624	180.1624	4.2900e-003	4.1700e-003	181.5123
Total	**0.0639**	**0.0354**	**0.5682**	**1.7200e-003**	**0.2218**	**1.0400e-003**	**0.2228**	**0.0588**	**9.6000e-004**	**0.0598**		**180.1624**	**180.1624**	**4.2900e-003**	**4.1700e-003**	**181.5123**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	28.0883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**28.2592**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Architectural Coating P5 - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0639	0.0354	0.5682	1.7200e-003	0.2218	1.0400e-003	0.2228	0.0588	9.6000e-004	0.0598		180.1624	180.1624	4.2900e-003	4.1700e-003	181.5123
Total	**0.0639**	**0.0354**	**0.5682**	**1.7200e-003**	**0.2218**	**1.0400e-003**	**0.2228**	**0.0588**	**9.6000e-004**	**0.0598**		**180.1624**	**180.1624**	**4.2900e-003**	**4.1700e-003**	**181.5123**

3.16 Grading P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**9.2036**	**1.1309**	**10.3345**	**3.6538**	**1.0404**	**4.6942**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Grading P6 - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0473	0.0262	0.4209	1.2700e-003	0.1643	7.7000e-004	0.1651	0.0436	7.1000e-004	0.0443		133.4536	133.4536	3.1800e-003	3.0900e-003	134.4536
Total	**0.0473**	**0.0262**	**0.4209**	**1.2700e-003**	**0.1643**	**7.7000e-004**	**0.1651**	**0.0436**	**7.1000e-004**	**0.0443**		**133.4536**	**133.4536**	**3.1800e-003**	**3.0900e-003**	**134.4536**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**9.2036**	**1.1309**	**10.3345**	**3.6538**	**1.0404**	**4.6942**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Grading P6 - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0473	0.0262	0.4209	1.2700e-003	0.1643	7.7000e-004	0.1651	0.0436	7.1000e-004	0.0443		133.4536	133.4536	3.1800e-003	3.0900e-003	134.4536
Total	**0.0473**	**0.0262**	**0.4209**	**1.2700e-003**	**0.1643**	**7.7000e-004**	**0.1651**	**0.0436**	**7.1000e-004**	**0.0443**		**133.4536**	**133.4536**	**3.1800e-003**	**3.0900e-003**	**134.4536**

3.17 Building Construction P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0167	0.6626	0.2399	3.1500e-003	0.1218	4.0500e-003	0.1259	0.0351	3.8700e-003	0.0389		343.2601	343.2601	0.0161	0.0513	358.9533
Worker	0.1680	0.0931	1.4942	4.5100e-003	0.5833	2.7400e-003	0.5860	0.1547	2.5200e-003	0.1572		473.7603	473.7603	0.0113	0.0110	477.3102
Total	**0.1847**	**0.7557**	**1.7340**	**7.6600e-003**	**0.7051**	**6.7900e-003**	**0.7119**	**0.1898**	**6.3900e-003**	**0.1962**		**817.0204**	**817.0204**	**0.0274**	**0.0623**	**836.2635**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0167	0.6626	0.2399	3.1500e-003	0.1218	4.0500e-003	0.1259	0.0351	3.8700e-003	0.0389		343.2601	343.2601	0.0161	0.0513	358.9533
Worker	0.1680	0.0931	1.4942	4.5100e-003	0.5833	2.7400e-003	0.5860	0.1547	2.5200e-003	0.1572		473.7603	473.7603	0.0113	0.0110	477.3102
Total	**0.1847**	**0.7557**	**1.7340**	**7.6600e-003**	**0.7051**	**6.7900e-003**	**0.7119**	**0.1898**	**6.3900e-003**	**0.1962**		**817.0204**	**817.0204**	**0.0274**	**0.0623**	**836.2635**

3.17 Building Construction P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0164	0.6534	0.2396	3.0800e-003	0.1218	4.0200e-003	0.1259	0.0351	3.8500e-003	0.0389		336.2237	336.2237	0.0165	0.0503	351.6100
Worker	0.1580	0.0852	1.4127	4.3800e-003	0.5833	2.5800e-003	0.5858	0.1547	2.3700e-003	0.1571		463.3889	463.3889	0.0103	0.0104	466.7484
Total	**0.1744**	**0.7386**	**1.6523**	**7.4600e-003**	**0.7051**	**6.6000e-003**	**0.7117**	**0.1898**	**6.2200e-003**	**0.1960**		**799.6125**	**799.6125**	**0.0268**	**0.0607**	**818.3583**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0164	0.6534	0.2396	3.0800e-003	0.1218	4.0200e-003	0.1259	0.0351	3.8500e-003	0.0389		336.2237	336.2237	0.0165	0.0503	351.6100
Worker	0.1580	0.0852	1.4127	4.3800e-003	0.5833	2.5800e-003	0.5858	0.1547	2.3700e-003	0.1571		463.3889	463.3889	0.0103	0.0104	466.7484
Total	**0.1744**	**0.7386**	**1.6523**	**7.4600e-003**	**0.7051**	**6.6000e-003**	**0.7117**	**0.1898**	**6.2200e-003**	**0.1960**		**799.6125**	**799.6125**	**0.0268**	**0.0607**	**818.3583**

3.18 Architectural Coating P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	28.1522					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**28.3230**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Architectural Coating P6 - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0312	0.0168	0.2786	8.6000e-004	0.1150	5.1000e-004	0.1155	0.0305	4.7000e-004	0.0310		91.3725	91.3725	2.0400e-003	2.0500e-003	92.0349
Total	**0.0312**	**0.0168**	**0.2786**	**8.6000e-004**	**0.1150**	**5.1000e-004**	**0.1155**	**0.0305**	**4.7000e-004**	**0.0310**		**91.3725**	**91.3725**	**2.0400e-003**	**2.0500e-003**	**92.0349**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	28.1522					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**28.3230**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Architectural Coating P6 - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0312	0.0168	0.2786	8.6000e-004	0.1150	5.1000e-004	0.1155	0.0305	4.7000e-004	0.0310		91.3725	91.3725	2.0400e-003	2.0500e-003	92.0349
Total	**0.0312**	**0.0168**	**0.2786**	**8.6000e-004**	**0.1150**	**5.1000e-004**	**0.1155**	**0.0305**	**4.7000e-004**	**0.0310**		**91.3725**	**91.3725**	**2.0400e-003**	**2.0500e-003**	**92.0349**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	14.4232	12.9573	112.5573	0.2320	27.2415	0.1789	27.4204	7.2613	0.1669	7.4281		24,526.8818	24,526.8818	1.6464	1.1183	24,901.3003
Unmitigated	14.4232	12.9573	112.5573	0.2320	27.2415	0.1789	27.4204	7.2613	0.1669	7.4281		24,526.8818	24,526.8818	1.6464	1.1183	24,901.3003

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,412.76	1,571.02	1212.04	3,133,665	3,133,665
Apartments Mid Rise	734.40	662.85	552.15	2,193,090	2,193,090
City Park	5.28	13.27	14.83	16,621	16,621
Single Family Housing	4,030.88	4,073.58	3650.85	6,929,562	6,929,562
Total	6,183.32	6,320.72	5,429.87	12,272,938	12,272,938

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	6.12	7.30	7.50	100.00	0.00	0.00	100	0	0
Apartments Mid Rise	8.63	7.30	7.50	100.00	0.00	0.00	100	0	0
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Single Family Housing	4.78	7.30	7.50	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.561497	0.058760	0.168570	0.122825	0.025823	0.007422	0.012783	0.006277	0.000662	0.000387	0.028371	0.000624	0.005999
Apartments Mid Rise	0.561497	0.058760	0.168570	0.122825	0.025823	0.007422	0.012783	0.006277	0.000662	0.000387	0.028371	0.000624	0.005999
City Park	0.561497	0.058760	0.168570	0.122825	0.025823	0.007422	0.012783	0.006277	0.000662	0.000387	0.028371	0.000624	0.005999
Single Family Housing	0.561497	0.058760	0.168570	0.122825	0.025823	0.007422	0.012783	0.006277	0.000662	0.000387	0.028371	0.000624	0.005999

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.4168	3.5617	1.5156	0.0227		0.2880	0.2880		0.2880	0.2880		4,546.7952	4,546.7952	0.0872	0.0834	4,573.8145
NaturalGas Unmitigated	0.4168	3.5617	1.5156	0.0227		0.2880	0.2880		0.2880	0.2880		4,546.7952	4,546.7952	0.0872	0.0834	4,573.8145

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	6566.83	0.0708	0.6052	0.2575	3.8600e-003		0.0489	0.0489		0.0489	0.0489		772.5686	772.5686	0.0148	0.0142	777.1596
Apartments Mid Rise	4123.83	0.0445	0.3800	0.1617	2.4300e-003		0.0307	0.0307		0.0307	0.0307		485.1567	485.1567	9.3000e-003	8.8900e-003	488.0398
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	27957.1	0.3015	2.5764	1.0964	0.0165		0.2083	0.2083		0.2083	0.2083		3,289.0699	3,289.0699	0.0630	0.0603	3,308.6152
Total		**0.4168**	**3.5617**	**1.5156**	**0.0227**		**0.2880**	**0.2880**		**0.2880**	**0.2880**		**4,546.7952**	**4,546.7952**	**0.0872**	**0.0834**	**4,573.8145**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	6.56683	0.0708	0.6052	0.2575	3.8600e-003		0.0489	0.0489		0.0489	0.0489		772.5686	772.5686	0.0148	0.0142	777.1596
Apartments Mid Rise	4.12383	0.0445	0.3800	0.1617	2.4300e-003		0.0307	0.0307		0.0307	0.0307		485.1567	485.1567	9.3000e-003	8.8900e-003	488.0398
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	27.9571	0.3015	2.5764	1.0964	0.0165		0.2083	0.2083		0.2083	0.2083		3,289.0699	3,289.0699	0.0630	0.0603	3,308.6152
Total		**0.4168**	**3.5617**	**1.5156**	**0.0227**		**0.2880**	**0.2880**		**0.2880**	**0.2880**		**4,546.7952**	**4,546.7952**	**0.0872**	**0.0834**	**4,573.8145**

6.0 Area Detail

6.1 Mitigation Measures Area

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	27.2308	0.7168	62.2301	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1585	112.1585	0.1074	0.0000	114.8437
Unmitigated	27.2308	0.7168	62.2301	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1585	112.1585	0.1074	0.0000	114.8437

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.8799					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.4824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8685	0.7168	62.2301	3.2900e-003		0.3453	0.3453		0.3453	0.3453		112.1585	112.1585	0.1074		114.8437
Total	**27.2308**	**0.7168**	**62.2301**	**3.2900e-003**		**0.3453**	**0.3453**		**0.3453**	**0.3453**	**0.0000**	**112.1585**	**112.1585**	**0.1074**	**0.0000**	**114.8437**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.8799					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.4824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8685	0.7168	62.2301	3.2900e-003		0.3453	0.3453		0.3453	0.3453		112.1585	112.1585	0.1074		114.8437
Total	**27.2308**	**0.7168**	**62.2301**	**3.2900e-003**		**0.3453**	**0.3453**		**0.3453**	**0.3453**	**0.0000**	**112.1585**	**112.1585**	**0.1074**	**0.0000**	**114.8437**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hitch Ranch Specific Plan - AQ Emissions

Ventura County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	6.77	Acre	6.77	294,901.20	0
Apartments Low Rise	193.00	Dwelling Unit	0.00	193,000.00	591
Apartments Mid Rise	135.00	Dwelling Unit	0.00	135,000.00	413
Single Family Housing	427.00	Dwelling Unit	215.33	768,600.00	1307

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2027
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land uses per Project Description in EIR. 277.3-acre site with 55.2 undisturbed and 6.77 for city park

Construction Phase - Phase duration per project applicant.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Trips (worker and vendor) during building construction and arch coating reflect proportion of project constructed during each phase. Grading material balanced on-site, no off-site hauling trips required.

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading - No import/export per project applicant for grading P1 and grading P3, balanced on-site. Other phases only fine grading for building pads.

Architectural Coating - Coating square footage distributed proportionately by amount of project being constructed per phase. VCAPCD Rule 74.2.

Vehicle Trips - Trip rates and VMT to match project traffic study.

Area Coating - VCAPCD Rule 74.2

Area Mitigation - VCPACPD Rule 74.2

Energy Mitigation - Compliance with 2019 Building Energy Efficiency Standards, which require on-site solar to meet 100% of electricity requirements for residential uses 3 stories or less, plus rooftop solar system for four-story building included in project design

Water Mitigation - Compliance with CALGreen requirements

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	740,205.00	102,942.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	740,205.00	196,081.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	740,205.00	196,081.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	740,205.00	245,101.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,220,615.00	30,682.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,220,615.00	58,441.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,220,615.00	58,441.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,220,615.00	73,051.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	75.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	75.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	75.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	75.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	100	50
tblAreaCoating	Area_EF_Residential_Interior	75	50
tblConstructionPhase	NumDays	330.00	20.00
tblConstructionPhase	NumDays	330.00	21.00

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	330.00	11.00
tblConstructionPhase	NumDays	330.00	20.00
tblConstructionPhase	NumDays	4,650.00	234.00
tblConstructionPhase	NumDays	4,650.00	234.00
tblConstructionPhase	NumDays	4,650.00	115.00
tblConstructionPhase	NumDays	4,650.00	367.00
tblConstructionPhase	NumDays	4,650.00	88.00
tblConstructionPhase	NumDays	465.00	218.00
tblConstructionPhase	NumDays	465.00	6.00
tblConstructionPhase	NumDays	465.00	4.00
tblConstructionPhase	NumDays	465.00	5.00
tblConstructionPhase	NumDays	465.00	86.00
tblConstructionPhase	NumDays	465.00	6.00
tblConstructionPhase	NumDays	330.00	72.00
tblConstructionPhase	NumDays	330.00	87.00
tblGrading	MaterialExported	0.00	3,900,000.00
tblGrading	MaterialExported	0.00	1,500,000.00
tblGrading	MaterialImported	0.00	3,900,000.00
tblGrading	MaterialImported	0.00	1,500,000.00
tblLandUse	LotAcreage	12.06	0.00
tblLandUse	LotAcreage	3.55	0.00
tblLandUse	LotAcreage	138.64	215.33
tblTripsAndVMT	HaulingTripNumber	975,000.00	0.00
tblTripsAndVMT	HaulingTripNumber	375,000.00	0.00
tblTripsAndVMT	VendorTripNumber	129.00	34.00
tblTripsAndVMT	VendorTripNumber	129.00	34.00
tblTripsAndVMT	VendorTripNumber	129.00	18.00
tblTripsAndVMT	VendorTripNumber	129.00	43.00
tblTripsAndVMT	WorkerTripNumber	514.00	136.00

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	WorkerTripNumber	103.00	27.00
tblTripsAndVMT	WorkerTripNumber	514.00	136.00
tblTripsAndVMT	WorkerTripNumber	103.00	27.00
tblTripsAndVMT	WorkerTripNumber	514.00	71.00
tblTripsAndVMT	WorkerTripNumber	103.00	14.00
tblTripsAndVMT	WorkerTripNumber	514.00	170.00
tblTripsAndVMT	WorkerTripNumber	103.00	34.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TTP	49.10	0.00
tblVehicleTrips	HO_TTP	49.10	0.00
tblVehicleTrips	HO_TTP	49.10	0.00
tblVehicleTrips	HS_TTP	18.00	0.00
tblVehicleTrips	HS_TTP	18.00	0.00
tblVehicleTrips	HS_TTP	18.00	0.00
tblVehicleTrips	HW_TL	10.80	6.12
tblVehicleTrips	HW_TL	10.80	8.63
tblVehicleTrips	HW_TL	10.80	4.78
tblVehicleTrips	HW_TTP	32.90	100.00
tblVehicleTrips	HW_TTP	32.90	100.00
tblVehicleTrips	HW_TTP	32.90	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6915	38.8903	29.5861	0.0635	14.3957	1.6358	16.0315	4.4587	1.5050	5.9637	0.0000	6,152.3527	6,152.3527	1.9493	4.4900e-003	6,202.4233
2023	5.5260	50.9971	49.6814	0.1098	15.9572	2.1424	18.0997	4.8938	1.9861	6.8799	0.0000	10,736.0126	10,736.0126	2.6662	0.1692	10,852.1967
2024	38.1773	47.8690	50.8132	0.1297	15.9572	1.9666	17.9238	4.8938	1.8223	6.7161	0.0000	13,107.2858	13,107.2858	2.6241	0.6433	13,336.3992
2025	29.7373	27.9766	26.7720	0.0633	9.3679	1.1317	10.4996	3.6973	1.0412	4.7385	0.0000	6,139.0764	6,139.0764	1.9470	0.1238	6,188.8356
2026	28.3286	27.9736	26.7464	0.0633	9.3679	1.1317	10.4996	3.6973	1.0411	4.7385	0.0000	6,135.9886	6,135.9886	1.9467	0.1205	6,185.6781
2027	28.3569	13.2522	17.7273	0.0342	0.7051	0.5342	1.2393	0.1898	0.5025	0.6923	0.0000	3,336.6878	3,336.6878	0.6287	0.0619	3,370.8571
Maximum	**38.1773**	**50.9971**	**50.8132**	**0.1297**	**15.9572**	**2.1424**	**18.0997**	**4.8938**	**1.9861**	**6.8799**	**0.0000**	**13,107.2858**	**13,107.2858**	**2.6662**	**0.6433**	**13,336.3992**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6915	38.8903	29.5861	0.0635	14.3957	1.6358	16.0315	4.4587	1.5050	5.9637	0.0000	6,152.3527	6,152.3527	1.9493	4.4900e-003	6,202.4233
2023	5.5260	50.9971	49.6814	0.1098	15.9572	2.1424	18.0997	4.8938	1.9861	6.8799	0.0000	10,736.0126	10,736.0126	2.6662	0.1692	10,852.1967
2024	38.1773	47.8690	50.8132	0.1297	15.9572	1.9666	17.9238	4.8938	1.8223	6.7161	0.0000	13,107.2858	13,107.2858	2.6241	0.6433	13,336.3992
2025	29.7373	27.9766	26.7720	0.0633	9.3679	1.1317	10.4996	3.6973	1.0412	4.7385	0.0000	6,139.0764	6,139.0764	1.9470	0.1238	6,188.8356
2026	28.3286	27.9736	26.7464	0.0633	9.3679	1.1317	10.4996	3.6973	1.0411	4.7385	0.0000	6,135.9886	6,135.9886	1.9467	0.1205	6,185.6781
2027	28.3569	13.2522	17.7273	0.0342	0.7051	0.5342	1.2393	0.1898	0.5025	0.6923	0.0000	3,336.6878	3,336.6878	0.6287	0.0619	3,370.8571
Maximum	**38.1773**	**50.9971**	**50.8132**	**0.1297**	**15.9572**	**2.1424**	**18.0997**	**4.8938**	**1.9861**	**6.8799**	**0.0000**	**13,107.2858**	**13,107.2858**	**2.6662**	**0.6433**	**13,336.3992**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	27.2308	0.7168	62.2301	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1585	112.1585	0.1074	0.0000	114.8437
Energy	0.4168	3.5617	1.5156	0.0227		0.2880	0.2880		0.2880	0.2880		4,546.7952	4,546.7952	0.0872	0.0834	4,573.8145
Mobile	13.8062	14.3113	121.5171	0.2244	27.2415	0.1790	27.4205	7.2613	0.1670	7.4282		23,717.6251	23,717.6251	1.7987	1.1972	24,119.3713
Total	**41.4538**	**18.5898**	**185.2629**	**0.2504**	**27.2415**	**0.8122**	**28.0537**	**7.2613**	**0.8002**	**8.0615**	**0.0000**	**28,376.5787**	**28,376.5787**	**1.9933**	**1.2806**	**28,808.0294**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	27.2308	0.7168	62.2301	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1585	112.1585	0.1074	0.0000	114.8437
Energy	0.4168	3.5617	1.5156	0.0227		0.2880	0.2880		0.2880	0.2880		4,546.7952	4,546.7952	0.0872	0.0834	4,573.8145
Mobile	13.8062	14.3113	121.5171	0.2244	27.2415	0.1790	27.4205	7.2613	0.1670	7.4282		23,717.6251	23,717.6251	1.7987	1.1972	24,119.3713
Total	**41.4538**	**18.5898**	**185.2629**	**0.2504**	**27.2415**	**0.8122**	**28.0537**	**7.2613**	**0.8002**	**8.0615**	**0.0000**	**28,376.5787**	**28,376.5787**	**1.9933**	**1.2806**	**28,808.0294**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/1/2022	3/31/2023	5	218	
2	Paving	Paving	2/1/2023	5/11/2023	5	72	
3	Grading P2	Grading	6/1/2023	6/7/2023	5	5	
4	Building Construction P2	Building Construction	6/8/2023	11/1/2024	5	367	
5	Grading P3	Grading	12/1/2023	3/31/2024	5	86	
6	Utilities P3	Building Construction	4/1/2024	7/31/2024	5	88	
7	Paving P3	Paving	8/1/2024	11/30/2024	5	87	
8	Architectural Coating P2	Architectural Coating	11/2/2024	11/30/2024	5	20	
9	Grading P4	Grading	12/1/2024	12/9/2024	5	6	
10	Building Construction P4	Building Construction	12/10/2024	10/31/2025	5	234	
11	Architectural Coating P4	Architectural Coating	11/1/2025	11/30/2025	5	20	
12	Grading P5	Grading	12/1/2025	12/8/2025	5	6	
13	Building Construction P5	Building Construction	12/9/2025	10/31/2026	5	234	
14	Architectural Coating P5	Architectural Coating	11/1/2026	11/30/2026	5	21	
15	Grading P6	Grading	12/1/2026	12/5/2026	5	4	
16	Building Construction P6	Building Construction	12/6/2026	5/14/2027	5	115	
17	Architectural Coating P6	Architectural Coating	5/15/2027	5/31/2027	5	11	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 654

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Paving: 0

Residential Indoor: 73,051; Residential Outdoor: 245,101; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading P2	Excavators	2	8.00	158	0.38
Grading P2	Graders	1	8.00	187	0.41
Grading P2	Rubber Tired Dozers	1	8.00	247	0.40
Grading P2	Scrapers	2	8.00	367	0.48
Grading P2	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P2	Cranes	1	7.00	231	0.29
Building Construction P2	Forklifts	3	8.00	89	0.20
Building Construction P2	Generator Sets	1	8.00	84	0.74
Building Construction P2	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P2	Welders	1	8.00	46	0.45
Grading P3	Excavators	2	8.00	158	0.38
Grading P3	Graders	1	8.00	187	0.41
Grading P3	Rubber Tired Dozers	1	8.00	247	0.40
Grading P3	Scrapers	2	8.00	367	0.48
Grading P3	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Utilities P3	Cranes	1	7.00	231	0.29
Utilities P3	Forklifts	3	8.00	89	0.20
Utilities P3	Generator Sets	1	8.00	84	0.74
Utilities P3	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Utilities P3	Welders	1	8.00	46	0.45
Paving P3	Pavers	2	8.00	130	0.42
Paving P3	Paving Equipment	2	8.00	132	0.36
Paving P3	Rollers	2	8.00	80	0.38
Architectural Coating P2	Air Compressors	1	6.00	78	0.48
Grading P4	Excavators	2	8.00	158	0.38
Grading P4	Graders	1	8.00	187	0.41
Grading P4	Rubber Tired Dozers	1	8.00	247	0.40
Grading P4	Scrapers	2	8.00	367	0.48
Grading P4	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P4	Cranes	1	7.00	231	0.29
Building Construction P4	Forklifts	3	8.00	89	0.20
Building Construction P4	Generator Sets	1	8.00	84	0.74
Building Construction P4	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P4	Welders	1	8.00	46	0.45
Architectural Coating P4	Air Compressors	1	6.00	78	0.48
Grading P5	Excavators	2	8.00	158	0.38
Grading P5	Graders	1	8.00	187	0.41
Grading P5	Rubber Tired Dozers	1	8.00	247	0.40
Grading P5	Scrapers	2	8.00	367	0.48
Grading P5	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P5	Cranes	1	7.00	231	0.29
Building Construction P5	Forklifts	3	8.00	89	0.20
Building Construction P5	Generator Sets	1	8.00	84	0.74
Building Construction P5	Tractors/Loaders/Backhoes	3	7.00	97	0.37

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Building Construction P5	Welders	1	8.00	46	0.45
Architectural Coating P5	Air Compressors	1	6.00	78	0.48
Grading P6	Excavators	2	8.00	158	0.38
Grading P6	Graders	1	8.00	187	0.41
Grading P6	Rubber Tired Dozers	1	8.00	247	0.40
Grading P6	Scrapers	2	8.00	367	0.48
Grading P6	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P6	Cranes	1	7.00	231	0.29
Building Construction P6	Forklifts	3	8.00	89	0.20
Building Construction P6	Generator Sets	1	8.00	84	0.74
Building Construction P6	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P6	Welders	1	8.00	46	0.45
Architectural Coating P6	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P2	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P2	9	170.00	43.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P3	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities P3	9	514.00	129.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving P3	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P2	1	34.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P4	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P4	9	136.00	34.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P4	1	27.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading P5	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P5	9	136.00	34.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P5	1	27.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P6	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P6	9	71.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P6	1	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.2314	0.0000	14.2314	4.4151	0.0000	4.4151			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**14.2314**	**1.6349**	**15.8663**	**4.4151**	**1.5041**	**5.9192**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0667	0.0468	0.5446	1.3900e-003	0.1643	9.4000e-004	0.1652	0.0436	8.7000e-004	0.0445		140.9422	140.9422	5.0500e-003	4.4900e-003	142.4075
Total	**0.0667**	**0.0468**	**0.5446**	**1.3900e-003**	**0.1643**	**9.4000e-004**	**0.1652**	**0.0436**	**8.7000e-004**	**0.0445**		**140.9422**	**140.9422**	**5.0500e-003**	**4.4900e-003**	**142.4075**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.2314	0.0000	14.2314	4.4151	0.0000	4.4151			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**14.2314**	**1.6349**	**15.8663**	**4.4151**	**1.5041**	**5.9192**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0667	0.0468	0.5446	1.3900e-003	0.1643	9.4000e-004	0.1652	0.0436	8.7000e-004	0.0445		140.9422	140.9422	5.0500e-003	4.4900e-003	142.4075
Total	**0.0667**	**0.0468**	**0.5446**	**1.3900e-003**	**0.1643**	**9.4000e-004**	**0.1652**	**0.0436**	**8.7000e-004**	**0.0445**		**140.9422**	**140.9422**	**5.0500e-003**	**4.4900e-003**	**142.4075**

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.2314	0.0000	14.2314	4.4151	0.0000	4.4151			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**14.2314**	**1.4245**	**15.6559**	**4.4151**	**1.3105**	**5.7256**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0621	0.0417	0.5041	1.3400e-003	0.1643	8.9000e-004	0.1652	0.0436	8.2000e-004	0.0444		137.2614	137.2614	4.5900e-003	4.1700e-003	138.6174
Total	**0.0621**	**0.0417**	**0.5041**	**1.3400e-003**	**0.1643**	**8.9000e-004**	**0.1652**	**0.0436**	**8.2000e-004**	**0.0444**		**137.2614**	**137.2614**	**4.5900e-003**	**4.1700e-003**	**138.6174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.2314	0.0000	14.2314	4.4151	0.0000	4.4151			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**14.2314**	**1.4245**	**15.6559**	**4.4151**	**1.3105**	**5.7256**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0621	0.0417	0.5041	1.3400e-003	0.1643	8.9000e-004	0.1652	0.0436	8.2000e-004	0.0444		137.2614	137.2614	4.5900e-003	4.1700e-003	138.6174
Total	**0.0621**	**0.0417**	**0.5041**	**1.3400e-003**	**0.1643**	**8.9000e-004**	**0.1652**	**0.0436**	**8.2000e-004**	**0.0444**		**137.2614**	**137.2614**	**4.5900e-003**	**4.1700e-003**	**138.6174**

3.3 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0466	0.0312	0.3781	1.0100e-003	0.1232	6.7000e-004	0.1239	0.0327	6.1000e-004	0.0333		102.9460	102.9460	3.4400e-003	3.1200e-003	103.9631
Total	**0.0466**	**0.0312**	**0.3781**	**1.0100e-003**	**0.1232**	**6.7000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**102.9460**	**102.9460**	**3.4400e-003**	**3.1200e-003**	**103.9631**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0466	0.0312	0.3781	1.0100e-003	0.1232	6.7000e-004	0.1239	0.0327	6.1000e-004	0.0333		102.9460	102.9460	3.4400e-003	3.1200e-003	103.9631
Total	**0.0466**	**0.0312**	**0.3781**	**1.0100e-003**	**0.1232**	**6.7000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**102.9460**	**102.9460**	**3.4400e-003**	**3.1200e-003**	**103.9631**

3.4 Grading P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading P2 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0621	0.0417	0.5041	1.3400e-003	0.1643	8.9000e-004	0.1652	0.0436	8.2000e-004	0.0444		137.2614	137.2614	4.5900e-003	4.1700e-003	138.6174
Total	**0.0621**	**0.0417**	**0.5041**	**1.3400e-003**	**0.1643**	**8.9000e-004**	**0.1652**	**0.0436**	**8.2000e-004**	**0.0444**		**137.2614**	**137.2614**	**4.5900e-003**	**4.1700e-003**	**138.6174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading P2 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0621	0.0417	0.5041	1.3400e-003	0.1643	8.9000e-004	0.1652	0.0436	8.2000e-004	0.0444		137.2614	137.2614	4.5900e-003	4.1700e-003	138.6174
Total	**0.0621**	**0.0417**	**0.5041**	**1.3400e-003**	**0.1643**	**8.9000e-004**	**0.1652**	**0.0436**	**8.2000e-004**	**0.0444**		**137.2614**	**137.2614**	**4.5900e-003**	**4.1700e-003**	**138.6174**

3.5 Building Construction P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0411	1.7009	0.5973	7.9800e-003	0.2910	9.7400e-003	0.3007	0.0838	9.3200e-003	0.0931		865.3421	865.3421	0.0354	0.1296	904.8418
Worker	0.5282	0.3540	4.2848	0.0114	1.3965	7.5700e-003	1.4041	0.3704	6.9700e-003	0.3774		1,166.7215	1,166.7215	0.0390	0.0354	1,178.2479
Total	**0.5693**	**2.0550**	**4.8821**	**0.0194**	**1.6875**	**0.0173**	**1.7048**	**0.4542**	**0.0163**	**0.4705**		**2,032.0636**	**2,032.0636**	**0.0744**	**0.1650**	**2,083.0896**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0411	1.7009	0.5973	7.9800e-003	0.2910	9.7400e-003	0.3007	0.0838	9.3200e-003	0.0931		865.3421	865.3421	0.0354	0.1296	904.8418
Worker	0.5282	0.3540	4.2848	0.0114	1.3965	7.5700e-003	1.4041	0.3704	6.9700e-003	0.3774		1,166.7215	1,166.7215	0.0390	0.0354	1,178.2479
Total	**0.5693**	**2.0550**	**4.8821**	**0.0194**	**1.6875**	**0.0173**	**1.7048**	**0.4542**	**0.0163**	**0.4705**		**2,032.0636**	**2,032.0636**	**0.0744**	**0.1650**	**2,083.0896**

3.5 Building Construction P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0400	1.6932	0.5942	7.8400e-003	0.2910	9.7700e-003	0.3008	0.0838	9.3400e-003	0.0931		852.3154	852.3154	0.0363	0.1276	891.2458
Worker	0.4944	0.3177	4.0022	0.0111	1.3965	7.2400e-003	1.4038	0.3704	6.6700e-003	0.3771		1,139.9510	1,139.9510	0.0355	0.0330	1,150.6814
Total	**0.5344**	**2.0109**	**4.5964**	**0.0189**	**1.6875**	**0.0170**	**1.7045**	**0.4542**	**0.0160**	**0.4702**		**1,992.2664**	**1,992.2664**	**0.0719**	**0.1606**	**2,041.9273**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0400	1.6932	0.5942	7.8400e-003	0.2910	9.7700e-003	0.3008	0.0838	9.3400e-003	0.0931		852.3154	852.3154	0.0363	0.1276	891.2458
Worker	0.4944	0.3177	4.0022	0.0111	1.3965	7.2400e-003	1.4038	0.3704	6.6700e-003	0.3771		1,139.9510	1,139.9510	0.0355	0.0330	1,150.6814
Total	**0.5344**	**2.0109**	**4.5964**	**0.0189**	**1.6875**	**0.0170**	**1.7045**	**0.4542**	**0.0160**	**0.4702**		**1,992.2664**	**1,992.2664**	**0.0719**	**0.1606**	**2,041.9273**

3.6 Grading P3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.1055	0.0000	14.1055	4.3960	0.0000	4.3960			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**14.1055**	**1.4245**	**15.5299**	**4.3960**	**1.3105**	**5.7066**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0621	0.0417	0.5041	1.3400e-003	0.1643	8.9000e-004	0.1652	0.0436	8.2000e-004	0.0444		137.2614	137.2614	4.5900e-003	4.1700e-003	138.6174
Total	**0.0621**	**0.0417**	**0.5041**	**1.3400e-003**	**0.1643**	**8.9000e-004**	**0.1652**	**0.0436**	**8.2000e-004**	**0.0444**		**137.2614**	**137.2614**	**4.5900e-003**	**4.1700e-003**	**138.6174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.1055	0.0000	14.1055	4.3960	0.0000	4.3960			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**14.1055**	**1.4245**	**15.5299**	**4.3960**	**1.3105**	**5.7066**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0621	0.0417	0.5041	1.3400e-003	0.1643	8.9000e-004	0.1652	0.0436	8.2000e-004	0.0444		137.2614	137.2614	4.5900e-003	4.1700e-003	138.6174
Total	**0.0621**	**0.0417**	**0.5041**	**1.3400e-003**	**0.1643**	**8.9000e-004**	**0.1652**	**0.0436**	**8.2000e-004**	**0.0444**		**137.2614**	**137.2614**	**4.5900e-003**	**4.1700e-003**	**138.6174**

3.6 Grading P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.1055	0.0000	14.1055	4.3960	0.0000	4.3960			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**14.1055**	**1.3354**	**15.4409**	**4.3960**	**1.2286**	**5.6246**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0582	0.0374	0.4709	1.3000e-003	0.1643	8.5000e-004	0.1652	0.0436	7.8000e-004	0.0444		134.1119	134.1119	4.1800e-003	3.8900e-003	135.3743
Total	**0.0582**	**0.0374**	**0.4709**	**1.3000e-003**	**0.1643**	**8.5000e-004**	**0.1652**	**0.0436**	**7.8000e-004**	**0.0444**		**134.1119**	**134.1119**	**4.1800e-003**	**3.8900e-003**	**135.3743**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.1055	0.0000	14.1055	4.3960	0.0000	4.3960			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**14.1055**	**1.3354**	**15.4409**	**4.3960**	**1.2286**	**5.6246**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0582	0.0374	0.4709	1.3000e-003	0.1643	8.5000e-004	0.1652	0.0436	7.8000e-004	0.0444		134.1119	134.1119	4.1800e-003	3.8900e-003	135.3743
Total	**0.0582**	**0.0374**	**0.4709**	**1.3000e-003**	**0.1643**	**8.5000e-004**	**0.1652**	**0.0436**	**7.8000e-004**	**0.0444**		**134.1119**	**134.1119**	**4.1800e-003**	**3.8900e-003**	**135.3743**

3.7 Utilities P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Utilities P3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1200	5.0796	1.7825	0.0235	0.8730	0.0293	0.9023	0.2513	0.0280	0.2793		2,556.9462	2,556.9462	0.1090	0.3828	2,673.7374
Worker	1.4949	0.9606	12.1007	0.0334	4.2224	0.0219	4.2443	1.1200	0.0202	1.1401		3,446.6754	3,446.6754	0.1075	0.0999	3,479.1192
Total	**1.6149**	**6.0402**	**13.8832**	**0.0569**	**5.0953**	**0.0512**	**5.1465**	**1.3712**	**0.0482**	**1.4194**		**6,003.6216**	**6,003.6216**	**0.2164**	**0.4826**	**6,152.8566**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Utilities P3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1200	5.0796	1.7825	0.0235	0.8730	0.0293	0.9023	0.2513	0.0280	0.2793		2,556.9462	2,556.9462	0.1090	0.3828	2,673.7374
Worker	1.4949	0.9606	12.1007	0.0334	4.2224	0.0219	4.2443	1.1200	0.0202	1.1401		3,446.6754	3,446.6754	0.1075	0.0999	3,479.1192
Total	**1.6149**	**6.0402**	**13.8832**	**0.0569**	**5.0953**	**0.0512**	**5.1465**	**1.3712**	**0.0482**	**1.4194**		**6,003.6216**	**6,003.6216**	**0.2164**	**0.4826**	**6,152.8566**

3.8 Paving P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Paving P3 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0436	0.0280	0.3531	9.8000e-004	0.1232	6.4000e-004	0.1239	0.0327	5.9000e-004	0.0333		100.5839	100.5839	3.1400e-003	2.9100e-003	101.5307
Total	**0.0436**	**0.0280**	**0.3531**	**9.8000e-004**	**0.1232**	**6.4000e-004**	**0.1239**	**0.0327**	**5.9000e-004**	**0.0333**		**100.5839**	**100.5839**	**3.1400e-003**	**2.9100e-003**	**101.5307**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Paving P3 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0436	0.0280	0.3531	9.8000e-004	0.1232	6.4000e-004	0.1239	0.0327	5.9000e-004	0.0333		100.5839	100.5839	3.1400e-003	2.9100e-003	101.5307
Total	**0.0436**	**0.0280**	**0.3531**	**9.8000e-004**	**0.1232**	**6.4000e-004**	**0.1239**	**0.0327**	**5.9000e-004**	**0.0333**		**100.5839**	**100.5839**	**3.1400e-003**	**2.9100e-003**	**101.5307**

3.9 Architectural Coating P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.8659					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**37.0466**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Architectural Coating P2 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0989	0.0635	0.8004	2.2100e-003	0.2793	1.4500e-003	0.2808	0.0741	1.3300e-003	0.0754		227.9902	227.9902	7.1100e-003	6.6100e-003	230.1363
Total	**0.0989**	**0.0635**	**0.8004**	**2.2100e-003**	**0.2793**	**1.4500e-003**	**0.2808**	**0.0741**	**1.3300e-003**	**0.0754**		**227.9902**	**227.9902**	**7.1100e-003**	**6.6100e-003**	**230.1363**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.8659					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**37.0466**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Architectural Coating P2 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0989	0.0635	0.8004	2.2100e-003	0.2793	1.4500e-003	0.2808	0.0741	1.3300e-003	0.0754		227.9902	227.9902	7.1100e-003	6.6100e-003	230.1363
Total	**0.0989**	**0.0635**	**0.8004**	**2.2100e-003**	**0.2793**	**1.4500e-003**	**0.2808**	**0.0741**	**1.3300e-003**	**0.0754**		**227.9902**	**227.9902**	**7.1100e-003**	**6.6100e-003**	**230.1363**

3.10 Grading P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**9.2036**	**1.3354**	**10.5390**	**3.6538**	**1.2286**	**4.8823**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Grading P4 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0582	0.0374	0.4709	1.3000e-003	0.1643	8.5000e-004	0.1652	0.0436	7.8000e-004	0.0444		134.1119	134.1119	4.1800e-003	3.8900e-003	135.3743
Total	**0.0582**	**0.0374**	**0.4709**	**1.3000e-003**	**0.1643**	**8.5000e-004**	**0.1652**	**0.0436**	**7.8000e-004**	**0.0444**		**134.1119**	**134.1119**	**4.1800e-003**	**3.8900e-003**	**135.3743**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**9.2036**	**1.3354**	**10.5390**	**3.6538**	**1.2286**	**4.8823**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Grading P4 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0582	0.0374	0.4709	1.3000e-003	0.1643	8.5000e-004	0.1652	0.0436	7.8000e-004	0.0444		134.1119	134.1119	4.1800e-003	3.8900e-003	135.3743
Total	**0.0582**	**0.0374**	**0.4709**	**1.3000e-003**	**0.1643**	**8.5000e-004**	**0.1652**	**0.0436**	**7.8000e-004**	**0.0444**		**134.1119**	**134.1119**	**4.1800e-003**	**3.8900e-003**	**135.3743**

3.11 Building Construction P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0316	1.3388	0.4698	6.2000e-003	0.2301	7.7200e-003	0.2378	0.0662	7.3900e-003	0.0736		673.9238	673.9238	0.0287	0.1009	704.7060
Worker	0.3955	0.2542	3.2018	8.8400e-003	1.1172	5.7900e-003	1.1230	0.2963	5.3300e-003	0.3017		911.9608	911.9608	0.0284	0.0264	920.5452
Total	**0.4272**	**1.5930**	**3.6716**	**0.0150**	**1.3473**	**0.0135**	**1.3608**	**0.3626**	**0.0127**	**0.3753**		**1,585.8846**	**1,585.8846**	**0.0572**	**0.1273**	**1,625.2511**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0316	1.3388	0.4698	6.2000e-003	0.2301	7.7200e-003	0.2378	0.0662	7.3900e-003	0.0736		673.9238	673.9238	0.0287	0.1009	704.7060
Worker	0.3955	0.2542	3.2018	8.8400e-003	1.1172	5.7900e-003	1.1230	0.2963	5.3300e-003	0.3017		911.9608	911.9608	0.0284	0.0264	920.5452
Total	**0.4272**	**1.5930**	**3.6716**	**0.0150**	**1.3473**	**0.0135**	**1.3608**	**0.3626**	**0.0127**	**0.3753**		**1,585.8846**	**1,585.8846**	**0.0572**	**0.1273**	**1,625.2511**

3.11 Building Construction P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0308	1.3238	0.4680	6.0800e-003	0.2301	7.7200e-003	0.2378	0.0662	7.3900e-003	0.0736		661.6408	661.6408	0.0295	0.0990	691.8829
Worker	0.3711	0.2293	2.9980	8.5400e-003	1.1172	5.5300e-003	1.1227	0.2963	5.0900e-003	0.3014		889.4058	889.4058	0.0259	0.0247	897.4245
Total	**0.4020**	**1.5532**	**3.4660**	**0.0146**	**1.3473**	**0.0133**	**1.3606**	**0.3626**	**0.0125**	**0.3750**		**1,551.0466**	**1,551.0466**	**0.0554**	**0.1238**	**1,589.3073**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0308	1.3238	0.4680	6.0800e-003	0.2301	7.7200e-003	0.2378	0.0662	7.3900e-003	0.0736		661.6408	661.6408	0.0295	0.0990	691.8829
Worker	0.3711	0.2293	2.9980	8.5400e-003	1.1172	5.5300e-003	1.1227	0.2963	5.0900e-003	0.3014		889.4058	889.4058	0.0259	0.0247	897.4245
Total	**0.4020**	**1.5532**	**3.4660**	**0.0146**	**1.3473**	**0.0133**	**1.3606**	**0.3626**	**0.0125**	**0.3750**		**1,551.0466**	**1,551.0466**	**0.0554**	**0.1238**	**1,589.3073**

3.12 Architectural Coating P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	29.4927					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**29.6636**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Architectural Coating P4 - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0737	0.0455	0.5952	1.6900e-003	0.2218	1.1000e-003	0.2229	0.0588	1.0100e-003	0.0598		176.5732	176.5732	5.1400e-003	4.9100e-003	178.1652
Total	**0.0737**	**0.0455**	**0.5952**	**1.6900e-003**	**0.2218**	**1.1000e-003**	**0.2229**	**0.0588**	**1.0100e-003**	**0.0598**		**176.5732**	**176.5732**	**5.1400e-003**	**4.9100e-003**	**178.1652**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	29.4927					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**29.6636**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Architectural Coating P4 - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0737	0.0455	0.5952	1.6900e-003	0.2218	1.1000e-003	0.2229	0.0588	1.0100e-003	0.0598		176.5732	176.5732	5.1400e-003	4.9100e-003	178.1652
Total	**0.0737**	**0.0455**	**0.5952**	**1.6900e-003**	**0.2218**	**1.1000e-003**	**0.2229**	**0.0588**	**1.0100e-003**	**0.0598**		**176.5732**	**176.5732**	**5.1400e-003**	**4.9100e-003**	**178.1652**

3.13 Grading P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**9.2036**	**1.1309**	**10.3345**	**3.6538**	**1.0404**	**4.6942**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Grading P5 - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0546	0.0337	0.4409	1.2600e-003	0.1643	8.1000e-004	0.1651	0.0436	7.5000e-004	0.0443		130.7950	130.7950	3.8100e-003	3.6400e-003	131.9742
Total	**0.0546**	**0.0337**	**0.4409**	**1.2600e-003**	**0.1643**	**8.1000e-004**	**0.1651**	**0.0436**	**7.5000e-004**	**0.0443**		**130.7950**	**130.7950**	**3.8100e-003**	**3.6400e-003**	**131.9742**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**9.2036**	**1.1309**	**10.3345**	**3.6538**	**1.0404**	**4.6942**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Grading P5 - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0546	0.0337	0.4409	1.2600e-003	0.1643	8.1000e-004	0.1651	0.0436	7.5000e-004	0.0443		130.7950	130.7950	3.8100e-003	3.6400e-003	131.9742
Total	**0.0546**	**0.0337**	**0.4409**	**1.2600e-003**	**0.1643**	**8.1000e-004**	**0.1651**	**0.0436**	**7.5000e-004**	**0.0443**		**130.7950**	**130.7950**	**3.8100e-003**	**3.6400e-003**	**131.9742**

3.14 Building Construction P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0308	1.3238	0.4680	6.0800e-003	0.2301	7.7200e-003	0.2378	0.0662	7.3900e-003	0.0736		661.6408	661.6408	0.0295	0.0990	691.8829
Worker	0.3711	0.2293	2.9980	8.5400e-003	1.1172	5.5300e-003	1.1227	0.2963	5.0900e-003	0.3014		889.4058	889.4058	0.0259	0.0247	897.4245
Total	**0.4020**	**1.5532**	**3.4660**	**0.0146**	**1.3473**	**0.0133**	**1.3606**	**0.3626**	**0.0125**	**0.3750**		**1,551.0466**	**1,551.0466**	**0.0554**	**0.1238**	**1,589.3073**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0308	1.3238	0.4680	6.0800e-003	0.2301	7.7200e-003	0.2378	0.0662	7.3900e-003	0.0736		661.6408	661.6408	0.0295	0.0990	691.8829
Worker	0.3711	0.2293	2.9980	8.5400e-003	1.1172	5.5300e-003	1.1227	0.2963	5.0900e-003	0.3014		889.4058	889.4058	0.0259	0.0247	897.4245
Total	**0.4020**	**1.5532**	**3.4660**	**0.0146**	**1.3473**	**0.0133**	**1.3606**	**0.3626**	**0.0125**	**0.3750**		**1,551.0466**	**1,551.0466**	**0.0554**	**0.1238**	**1,589.3073**

3.14 Building Construction P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0301	1.3075	0.4672	5.9600e-003	0.2301	7.6900e-003	0.2378	0.0662	7.3500e-003	0.0736		649.3920	649.3920	0.0303	0.0971	679.0961
Worker	0.3495	0.2087	2.8240	8.2700e-003	1.1172	5.2500e-003	1.1225	0.2963	4.8300e-003	0.3012		868.4087	868.4087	0.0237	0.0233	875.9531
Total	**0.3796**	**1.5162**	**3.2912**	**0.0142**	**1.3473**	**0.0129**	**1.3603**	**0.3626**	**0.0122**	**0.3748**		**1,517.8007**	**1,517.8007**	**0.0540**	**0.1205**	**1,555.0492**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0301	1.3075	0.4672	5.9600e-003	0.2301	7.6900e-003	0.2378	0.0662	7.3500e-003	0.0736		649.3920	649.3920	0.0303	0.0971	679.0961
Worker	0.3495	0.2087	2.8240	8.2700e-003	1.1172	5.2500e-003	1.1225	0.2963	4.8300e-003	0.3012		868.4087	868.4087	0.0237	0.0233	875.9531
Total	**0.3796**	**1.5162**	**3.2912**	**0.0142**	**1.3473**	**0.0129**	**1.3603**	**0.3626**	**0.0122**	**0.3748**		**1,517.8007**	**1,517.8007**	**0.0540**	**0.1205**	**1,555.0492**

3.15 Architectural Coating P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	28.0883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**28.2592**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Architectural Coating P5 - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0694	0.0414	0.5607	1.6400e-003	0.2218	1.0400e-003	0.2228	0.0588	9.6000e-004	0.0598		172.4047	172.4047	4.7000e-003	4.6300e-003	173.9025
Total	**0.0694**	**0.0414**	**0.5607**	**1.6400e-003**	**0.2218**	**1.0400e-003**	**0.2228**	**0.0588**	**9.6000e-004**	**0.0598**		**172.4047**	**172.4047**	**4.7000e-003**	**4.6300e-003**	**173.9025**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	28.0883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**28.2592**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Architectural Coating P5 - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0694	0.0414	0.5607	1.6400e-003	0.2218	1.0400e-003	0.2228	0.0588	9.6000e-004	0.0598		172.4047	172.4047	4.7000e-003	4.6300e-003	173.9025
Total	**0.0694**	**0.0414**	**0.5607**	**1.6400e-003**	**0.2218**	**1.0400e-003**	**0.2228**	**0.0588**	**9.6000e-004**	**0.0598**		**172.4047**	**172.4047**	**4.7000e-003**	**4.6300e-003**	**173.9025**

3.16 Grading P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**9.2036**	**1.1309**	**10.3345**	**3.6538**	**1.0404**	**4.6942**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Grading P6 - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0514	0.0307	0.4153	1.2200e-003	0.1643	7.7000e-004	0.1651	0.0436	7.1000e-004	0.0443		127.7072	127.7072	3.4800e-003	3.4300e-003	128.8166
Total	**0.0514**	**0.0307**	**0.4153**	**1.2200e-003**	**0.1643**	**7.7000e-004**	**0.1651**	**0.0436**	**7.1000e-004**	**0.0443**		**127.7072**	**127.7072**	**3.4800e-003**	**3.4300e-003**	**128.8166**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**9.2036**	**1.1309**	**10.3345**	**3.6538**	**1.0404**	**4.6942**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Grading P6 - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0514	0.0307	0.4153	1.2200e-003	0.1643	7.7000e-004	0.1651	0.0436	7.1000e-004	0.0443		127.7072	127.7072	3.4800e-003	3.4300e-003	128.8166
Total	**0.0514**	**0.0307**	**0.4153**	**1.2200e-003**	**0.1643**	**7.7000e-004**	**0.1651**	**0.0436**	**7.1000e-004**	**0.0443**		**127.7072**	**127.7072**	**3.4800e-003**	**3.4300e-003**	**128.8166**

3.17 Building Construction P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0159	0.6922	0.2473	3.1500e-003	0.1218	4.0700e-003	0.1259	0.0351	3.8900e-003	0.0390		343.7958	343.7958	0.0161	0.0514	359.5215
Worker	0.1825	0.1090	1.4743	4.3200e-003	0.5833	2.7400e-003	0.5860	0.1547	2.5200e-003	0.1572		453.3604	453.3604	0.0124	0.0122	457.2991
Total	**0.1984**	**0.8011**	**1.7216**	**7.4700e-003**	**0.7051**	**6.8100e-003**	**0.7119**	**0.1898**	**6.4100e-003**	**0.1962**		**797.1562**	**797.1562**	**0.0284**	**0.0636**	**816.8205**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0159	0.6922	0.2473	3.1500e-003	0.1218	4.0700e-003	0.1259	0.0351	3.8900e-003	0.0390		343.7958	343.7958	0.0161	0.0514	359.5215
Worker	0.1825	0.1090	1.4743	4.3200e-003	0.5833	2.7400e-003	0.5860	0.1547	2.5200e-003	0.1572		453.3604	453.3604	0.0124	0.0122	457.2991
Total	**0.1984**	**0.8011**	**1.7216**	**7.4700e-003**	**0.7051**	**6.8100e-003**	**0.7119**	**0.1898**	**6.4100e-003**	**0.1962**		**797.1562**	**797.1562**	**0.0284**	**0.0636**	**816.8205**

3.17 Building Construction P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0156	0.6828	0.2470	3.0800e-003	0.1218	4.0400e-003	0.1259	0.0351	3.8600e-003	0.0389		336.7618	336.7618	0.0164	0.0504	352.1801
Worker	0.1719	0.0997	1.3956	4.1900e-003	0.5833	2.5800e-003	0.5858	0.1547	2.3700e-003	0.1571		443.4517	443.4517	0.0113	0.0116	447.1789
Total	**0.1875**	**0.7825**	**1.6427**	**7.2700e-003**	**0.7051**	**6.6200e-003**	**0.7117**	**0.1898**	**6.2300e-003**	**0.1960**		**780.2135**	**780.2135**	**0.0278**	**0.0619**	**799.3590**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0156	0.6828	0.2470	3.0800e-003	0.1218	4.0400e-003	0.1259	0.0351	3.8600e-003	0.0389		336.7618	336.7618	0.0164	0.0504	352.1801
Worker	0.1719	0.0997	1.3956	4.1900e-003	0.5833	2.5800e-003	0.5858	0.1547	2.3700e-003	0.1571		443.4517	443.4517	0.0113	0.0116	447.1789
Total	**0.1875**	**0.7825**	**1.6427**	**7.2700e-003**	**0.7051**	**6.6200e-003**	**0.7117**	**0.1898**	**6.2300e-003**	**0.1960**		**780.2135**	**780.2135**	**0.0278**	**0.0619**	**799.3590**

3.18 Architectural Coating P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	28.1522					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**28.3230**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Architectural Coating P6 - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0339	0.0197	0.2752	8.3000e-004	0.1150	5.1000e-004	0.1155	0.0305	4.7000e-004	0.0310		87.4412	87.4412	2.2400e-003	2.2800e-003	88.1761
Total	**0.0339**	**0.0197**	**0.2752**	**8.3000e-004**	**0.1150**	**5.1000e-004**	**0.1155**	**0.0305**	**4.7000e-004**	**0.0310**		**87.4412**	**87.4412**	**2.2400e-003**	**2.2800e-003**	**88.1761**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	28.1522					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**28.3230**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Architectural Coating P6 - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0339	0.0197	0.2752	8.3000e-004	0.1150	5.1000e-004	0.1155	0.0305	4.7000e-004	0.0310		87.4412	87.4412	2.2400e-003	2.2800e-003	88.1761
Total	**0.0339**	**0.0197**	**0.2752**	**8.3000e-004**	**0.1150**	**5.1000e-004**	**0.1155**	**0.0305**	**4.7000e-004**	**0.0310**		**87.4412**	**87.4412**	**2.2400e-003**	**2.2800e-003**	**88.1761**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.8062	14.3113	121.5171	0.2244	27.2415	0.1790	27.4205	7.2613	0.1670	7.4282		23,717.6251	23,717.6251	1.7987	1.1972	24,119.3713
Unmitigated	13.8062	14.3113	121.5171	0.2244	27.2415	0.1790	27.4205	7.2613	0.1670	7.4282		23,717.6251	23,717.6251	1.7987	1.1972	24,119.3713

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,412.76	1,571.02	1212.04	3,133,665	3,133,665
Apartments Mid Rise	734.40	662.85	552.15	2,193,090	2,193,090
City Park	5.28	13.27	14.83	16,621	16,621
Single Family Housing	4,030.88	4,073.58	3650.85	6,929,562	6,929,562
Total	6,183.32	6,320.72	5,429.87	12,272,938	12,272,938

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	6.12	7.30	7.50	100.00	0.00	0.00	100	0	0
Apartments Mid Rise	8.63	7.30	7.50	100.00	0.00	0.00	100	0	0
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Single Family Housing	4.78	7.30	7.50	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.561497	0.058760	0.168570	0.122825	0.025823	0.007422	0.012783	0.006277	0.000662	0.000387	0.028371	0.000624	0.005999
Apartments Mid Rise	0.561497	0.058760	0.168570	0.122825	0.025823	0.007422	0.012783	0.006277	0.000662	0.000387	0.028371	0.000624	0.005999
City Park	0.561497	0.058760	0.168570	0.122825	0.025823	0.007422	0.012783	0.006277	0.000662	0.000387	0.028371	0.000624	0.005999
Single Family Housing	0.561497	0.058760	0.168570	0.122825	0.025823	0.007422	0.012783	0.006277	0.000662	0.000387	0.028371	0.000624	0.005999

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.4168	3.5617	1.5156	0.0227		0.2880	0.2880		0.2880	0.2880		4,546.7952	4,546.7952	0.0872	0.0834	4,573.8145
NaturalGas Unmitigated	0.4168	3.5617	1.5156	0.0227		0.2880	0.2880		0.2880	0.2880		4,546.7952	4,546.7952	0.0872	0.0834	4,573.8145

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	6566.83	0.0708	0.6052	0.2575	3.8600e-003		0.0489	0.0489		0.0489	0.0489		772.5686	772.5686	0.0148	0.0142	777.1596
Apartments Mid Rise	4123.83	0.0445	0.3800	0.1617	2.4300e-003		0.0307	0.0307		0.0307	0.0307		485.1567	485.1567	9.3000e-003	8.8900e-003	488.0398
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	27957.1	0.3015	2.5764	1.0964	0.0165		0.2083	0.2083		0.2083	0.2083		3,289.0699	3,289.0699	0.0630	0.0603	3,308.6152
Total		**0.4168**	**3.5617**	**1.5156**	**0.0227**		**0.2880**	**0.2880**		**0.2880**	**0.2880**		**4,546.7952**	**4,546.7952**	**0.0872**	**0.0834**	**4,573.8145**

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	6.56683	0.0708	0.6052	0.2575	3.8600e-003		0.0489	0.0489		0.0489	0.0489		772.5686	772.5686	0.0148	0.0142	777.1596
Apartments Mid Rise	4.12383	0.0445	0.3800	0.1617	2.4300e-003		0.0307	0.0307		0.0307	0.0307		485.1567	485.1567	9.3000e-003	8.8900e-003	488.0398
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	27.9571	0.3015	2.5764	1.0964	0.0165		0.2083	0.2083		0.2083	0.2083		3,289.0699	3,289.0699	0.0630	0.0603	3,308.6152
Total		**0.4168**	**3.5617**	**1.5156**	**0.0227**		**0.2880**	**0.2880**		**0.2880**	**0.2880**		**4,546.7952**	**4,546.7952**	**0.0872**	**0.0834**	**4,573.8145**

6.0 Area Detail

6.1 Mitigation Measures Area

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	27.2308	0.7168	62.2301	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1585	112.1585	0.1074	0.0000	114.8437
Unmitigated	27.2308	0.7168	62.2301	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1585	112.1585	0.1074	0.0000	114.8437

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.8799					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.4824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8685	0.7168	62.2301	3.2900e-003		0.3453	0.3453		0.3453	0.3453		112.1585	112.1585	0.1074		114.8437
Total	**27.2308**	**0.7168**	**62.2301**	**3.2900e-003**		**0.3453**	**0.3453**		**0.3453**	**0.3453**	**0.0000**	**112.1585**	**112.1585**	**0.1074**	**0.0000**	**114.8437**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.8799					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.4824					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8685	0.7168	62.2301	3.2900e-003		0.3453	0.3453		0.3453	0.3453		112.1585	112.1585	0.1074		114.8437
Total	**27.2308**	**0.7168**	**62.2301**	**3.2900e-003**		**0.3453**	**0.3453**		**0.3453**	**0.3453**	**0.0000**	**112.1585**	**112.1585**	**0.1074**	**0.0000**	**114.8437**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

Hitch Ranch Specific Plan - AQ Emissions - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

B

Health Risk Assessment

IMPACT SCIENCES

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MEMORANDUM

To: Douglas Spondello, Planning Manager, City of Moorpark
From: Kaitlyn Heck, Air Quality Technical Specialist, Impact Sciences
Subject: Hitch Ranch Health Risk Assessment
Date: November 9, 2020
Job No. 1318.001

This health risk assessment (HRA) calculates the health risk posed to the nearby sensitive receptors as a result of project construction and operation. Additionally, the HRA calculates the health risk posed to an onsite residential receptor living on the project site following Phase 2 of construction of Hitch Ranch. This report has been prepared by Impact Sciences, Inc., in support of the environmental documentation being prepared pursuant to the California Environmental Quality Act (CEQA). This analysis considers both the temporary risks resulting from project construction and the long-term risk associated with project operation.

Project Description

The proposed project would develop the 253.94-acre project site located in southeastern Ventura County in the City of Moorpark. Specifically, the site is approximately 1,600 feet west of State Route 23 and extents to approximately 1,400 feet west of Gabbert Road. The proposed project would construct a total of 755 residential units, including 456 single-family homes and 299 multi-family residences over six phases of construction. Phases 1 and 3 of construction includes the site preparation and grading of the project site. Phases 2, 4, 5, and 6 will include the construction of the 755 dwelling units, over Planning Areas 1 to 4, see **Table 1, Residential Project Buildout** and **Figure 1, Specific Land Use Plan**. Additionally, the project site will include approximately 110 acres of open space, manufactured slopes, or recreational lots.

Table 1

Residential Project Buildout

Phase	Year	Land Use Type	Construction Activity	Planning Area
1	2022-2023	Various	Grading and Infrastructure	all
2	2023-2024	Residential	250 du	2-4
3	2023-2024	Various	Grading and Infrastructure	2, 5 & 6
4	2024-2025	Residential, Recreation	200 du	1-4
5	2025-2026	Residential, Recreation	200 du	1-3
6	2026-2027	Residential	105 du	1-2
TOTAL		**--**	**755 dwelling units.**	**--**

Source: Development Planning Services / Comstock Homes, May 2020

Health Risk Methodology and Modeling

Temporary project impacts related to health risk can occur from project construction activity, which would generate dust and equipment exhaust that could affect nearby sensitive receptors. Construction of the proposed project would include site clearance and grading, placement of utilities, building construction, paving, application of architectural coatings, and interior finishing. Construction equipment and associated heavy-duty truck trips generate exhaust which contains diesel particulate matter (DPM), known as a toxic air contaminant (TAC).

Operation of the project site would generate vehicle trips to and from residences. Since this is a residential project, most of the vehicle trips are expected to come from gasoline powered passenger cars. However, the site may attract some heavy-duty diesel trucks which emit DPM.

Construction and operational emissions were estimated from CalEEMod and dispersion modeling was conducted to predict the off-site concentration resulting from project construction and operation, so that the lifetime excess cancer risk and non-cancer health risk could be predicted. The HRA was conducted following methods in the Office of Environmental Health Hazard Assessment's (OEHHA) *Guidance Manual for*

Preparation of Health Risk Assessments[1] and CAPCOA's *Air Toxics Hot Spots Program*.[2] The cancer and non-cancer risks were compared to VCAPCD's thresholds, which include:[3]

- Lifetime probability of contracting cancer is greater than 10 in one million
- Ground-level concentrations of non-carcinogenic toxic air pollutants would result in a Hazard Index of greater than 1.

The VCAPCD identifies sensitive groups as children, the elderly, and those suffering from acute and chronic medical conditions which may lead to a higher likelihood of suffering from adverse health effects from air pollution. Land uses where such people are likely to reside or spend a substantial amount of time include residences, schools, playgrounds, day care centers, job sites, retirement homes, convalescent homes, and hospitals. The closest sensitive receptors to the project site include residences on the east side of the project site, residences directly south of Poindexter Avenue, Walnut Canyon Elementary School, and Chaparral Middle School.

Health risks were evaluated for a hypothetical maximum exposed individual (MEI) located near the project site. The hypothetical MEI is an individual assumed to be located where the highest concentrations of air pollutants are predicted to occur as a result of project construction. As presented in **Table 2, Nearby Sensitive Receptors**, the nearest sensitive receptors are Walnut Canyon Elementary School located 75 feet southeast and a single-family residence located approximately 100 feet east of the project site.

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1 OEHHA. 2015. *Guidance Manual for Preparation of Health Risk Assessments.* Available online at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

2 CAPCOA. 2016. *Air Toxics Hot Spots Program*. Available online at: http://www.capcoa.org/wp-content/uploads/2016/08/CAPCOA%20Prioritization%20Guidelines%20-%20August%202016%20FINAL.pdf.

3 VCAPCD. 2003. *Ventura County Air Quality Assessment Guidelines*. Available online at: http://www.vcapcd.org/pubs/Planning/VCAQGuidelines.pdf.

Table 2
Nearby Sensitive Receptors

Name	Description	Distance (Feet)	Direction
Residence	Single Family Residential	100	East
Residence	Single Family Residential	200	South
Residence	Single Family Residential	500	Northwest
Walnut Canyon Elementary School	Elementary School	75	Southeast
Chaparral Middle School	Middle School	230	South

Source: Impact Sciences, 2020.

Cancer Risk. The CalEEMod model provided annual PM2.5 exhaust emissions (assumed to be DPM) from off-road construction equipment used during project construction and exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles) for each phase of project construction. Additionally, the CalEEMod model provided the operational PM2.5 exhaust emissions upon full project buildout. To evaluate the operational emissions following each phase of operation, it was assumed that the proportion of operational PM2.5 mobile source exhaust emitted would be equivalent to the proportion of dwelling units constructed during the phase. For example, Phase 2 would result in the construction and operation of 250 dwelling units, approximately 33% of the total dwelling units proposed. Therefore, following Phases 2 and 3 of construction, the proposed project will emit approximately 33% of the full buildout operational mobile-source emissions as Phase 3 is under construction. Moreover, upon completion of Phase 4, approximately 450 units will be completed and operational (200 units constructed during Phase 4 in addition to the 250 units constructed during Phase 2). Thus, following Phase 4, the proposed project will emit approximately 60% of the full buildout mobile-source operational emissions as Phase 5 is under construction. Finally, upon completion of Phase 5, approximately 650 units will be completed and operational. Thus, following Phase 5, the proposed project will emit approximately 86% of the full buildout mobile-source operational emissions as Phase 6 is under construction. [4]

[4] Phase 1 of construction only involves grading and paving, therefore operational emissions will not occur on the project site until the end of Phase 2.

The U.S. Environmental Protection Agency (EPA) AERMOD dispersion model was used to predict concentrations of DPM at sensitive receptors near the project site. To model emissions, a release height of 3 meters was chosen to represent the release height of construction equipment and heavy-duty diesel trucks. Emissions from off-road construction equipment and on-road vehicle travel were distributed throughout the modeled area source. Phase 1 construction emissions were modeled over the entire 270.64-acre project site and the construction emissions for each phase were modeled over the phase's associated planning areas, see **Table 1** (i.e., Phase 2 of construction was modeled over Planning Areas 2 through 4). Mobile-source operational PM2.5 exhaust emissions following Phase 2 were modeled over Planning Areas 2 through 4. Following Phases 3 and 4, operational emissions were modeled over Planning Areas 1 through 4 and following Phase 5, full buildout operational emissions were modeled over the entire project site.

The modeling used the latest available 5-year meteorological data set (2009 to 2014) from the Camarillo Airport prepared for use with the AERMOD model by the California Air Resources Board (CARB). Annual DPM concentrations from construction and operational activities were calculated at nearby and on-site sensitive receptor locations within the default receptor height. The concentration of DPM at the nearest and on-site sensitive receptor estimated in AERMOD was utilized to calculate the cancer risk in accordance with OEHHA and CAPCOA guidelines. The current OEHHA guidance recommends that cancer risks be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, it recommends evaluating the risks for the third trimester of pregnancy to age zero (third trimester exposure), ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 30 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposure, an ASF of 3 for child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilograms of body weight per day (L/kg-day). As recommended by the OEHHA, 95th percentile breathing rates are used for the third trimester and infant exposure, and 80th percentile breathing rates are used for child and adult exposure. These age-specific breathing rates are 361 L/kg-day for the third trimester receptor, 1,090 L/kg-day for the infant receptors, 572 L/kg-day for child receptors, and 261 L/kg-day for adult receptors assuming residential exposure. Additionally, age-specific fraction of time at home (FAH) values were used in this analysis. According to OEHHA, FAH values of 0.85 should be used for the third trimester and infant receptors, 0.72 for the child receptors, and 0.73 for adult receptors. Finally, it was assumed that each receptor would have an exposure duration of 350 days per year, consistent with OEHHA guidelines (OEHHA, 2015). According to OEHHA, the cancer risk for a residential receptor is assumed to start in the third trimester of life. Project construction is anticipated to last over five years, therefore the nearest residential receptor would be exposed to project

construction from the third trimester of life, through the infant stage of life (0<2 years), and the beginning part of the child stage of life (2<16 years), see **Table 3, Residential Cancer Risk Assumptions**.

Table 3
Residential Cancer Risk Assumptions

Receptor Scenario	EF	ED (years)	ASFs	FAH	DBR (L/kg-day)
3rd Trimester	350	0.25	10	0.85	361
Infant (0<2 Years)	350	2	10	0.85	1090
Child (2<16 Years)	350	14	3	0.72	572
Adult (16 - 30 Years)	350	14	1	0.73	261

Source: *OEHHA. 2015. Guidance Manual for Preparation of Health Risk Assessments. Available: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf*

For a school child receptor, the risk is calculated similarly to the residential cancer risk with different input factors changed to reflect school child exposure. OEHHA recommends that a 95th percentile breathing rate under moderate intensity of 520 L/kg-day be used to estimate the risk to the school child (2<16 years).[5] Exposure duration is assumed to be over 165 days of the year, where a student attends school 5 days per week for approximately 36 weeks over a nine-year period, see **Table 4, School Child Cancer Risk Assumptions.**

Table 4
School Child Cancer Risk Assumptions

Receptor Scenario	EF	ED (years)	ASFs	DBR (L/kg-day)
Child (2<16 Years)	165	9	3	520

Source: *OEHHA. 2015. Guidance Manual for Preparation of Health Risk Assessments. Available: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf*

The California Air Resources Board (CARB) recommends the Hotspots Analysis and Reporting Program 2 (HARP 2) to calculate the excess cancer risk. HARP 2's Risk Assessment Standalone Tool (RAST) incorporates OEHHA 2015 guidance in order to calculate the risk posed to receptors from facility operations. However, since the project involves overlapping phases of construction and operation, the health risk was calculated with OEHHA's methodology. OEHHA provides the following equations in order to estimate the cancer risk posed to sensitive receptors from a project site:

5 *Ibid.*

Inhalation Dose Calculation

Dose – air =C_{air} x {BR/BW} x A x EF x 10^{-6}

Where,

Dose – air = dose through inhalation, mg/kg/d

C_{air} = Concentration in air

{BR/BW} = Daily Breathing rate normalized to body weight, L/kg body weight-day

A = Inhalation absorption factor (unitless)

EF = Exposure frequency (unitless), days/365 days

10^{-6} = Micrograms to milligrams conversion, liters to cubic meters conversion

Cancer Risk Calculation

$RISK_{inh-res}$ = $DOSE_{air}$ x CPF x ASF x ED/AT x FAH

Where,

$RISK_{inh-res}$ = Residential inhalation cancer risk

$DOSE_{air}$ = Daily inhalation dose (mg/kg-day)

CPF = Inhalation cancer potency factor (mg/kg-day^{-1})

ASF = Age sensitivity factor for a specified age group (unitless)

ED = Exposure duration (in years) for a specific age group

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time at home (unitless)

Non-Cancer Health Hazards. Sensitive groups can also develop non-cancer health risks from exposure to TACs. Non-cancer health risks are evaluated from the ratio of TAC concentrations generated by the project and a reference exposure level (REL). A REL is the concentration of a given pollutant in the air at or below which no adverse health effects are anticipated for sensitive groups (OEHHA 2015). RELs are based on the most sensitive adverse effects reported in the medical and toxicological literature. The chronic inhalation REL for DPM is 5 $\mu g/m^3$ (OEHHA, 2019). The ratio of TAC generated by a project and the REL is referred to as a hazard quotient/index (HI). According to the VCAPCD, the non-cancer health hazard would be significant if the HI exceeds 1.0. The HI was calculated for each phase of construction and weighted for the duration that each receptor would be exposed over each phase of construction.

Health Risk Results

Off-Site Residential Cancer Risk

The maximum DPM concentration from construction and operational activities would occur at a receptor approximately 200 feet south of the project site, see **Table 2**. Consistent with the construction schedule, the Phase 1 of construction was assumed to occur during the third trimester and the first 0.75 years of the infant exposure (0 < 2 years). Phase 2 construction will occur over the next 0.5 years of infant exposure. Phases 2 and 3 of construction will occur simultaneously for the remainder of the infant exposure period and the first 0.25 years of the child exposure period (2<14 years). Upon completion of Phase 2 and 3, it is anticipated that some residences would become operational. Therefore, Phase 4 of construction would occur over one year of the child exposure (2 < 16 years) and include operational emissions resulting from Phase 2 and 3.[6] Phases 5 and 6 of construction would also occur during child exposure (2 < 16 years) and include the subsequent operational emissions from previous construction phases. Finally, full project buildout will result in exposure to the residential exposure over the remaining child exposure duration and throughout the adult exposure duration, detailed calculations are provided in **Attachment 1**. Results of this assessment indicate that the maximum excess residential cancer risk posed to the nearest residential receptor from project construction and operation is approximately 19.52 in one million, see **Table 5, Risk Posed to the Nearest Residential Receptor – Unmitigated**. Moreover, the HI would be significantly less than the VCAPCD threshold of 1.0.

Table 5
Risk Posed to the Nearest Residential Receptor

Receptor	Lifetime Excess Cancer Risk (per million)	Hazard Index
3rd Trimester	0.61	0.011
Infant	14.62	0.012
Child	3.82	0.006
Adult	0.47	0.002
Total 30-Year Cancer Risk	19.52	-
Significance Threshold	10	1.0
Exceed Threshold?	***Yes***	***No***

Source: Impact Sciences, 2020.
*The Hazard Index (HI) was calculated based on the average construction DPM emissions over the duration of each receptor.

6 Phase 3 of construction will not construct any homes on the project site nor will it attract vehicle trips, therefore the operational cancer risk resulting from Phase 3 is negligible. Phase 3 will occur over the last year of Phase 2 construction. Therefore, for clarity, when assessing the cancer risk posed from the homes constructed in Phase 2, the document states Phase 2 and 3 operational emissions.

Thus the 30-year residential cancer risk posed to the nearest residential receptor 200 feet from the site is approximately 19.52 in one million, calculations are provided in **Attachment 1**. As a result, the risk posed to the receptor is higher than VCAPCD's cancer risk thresholds. The highest cancer risks will occur during the infantile stages of life, during Phase 1 and Phase 2 of construction. Consistent with VCAPCD recommendations for construction projects that have the potential to emit significant levels of ROG and NOx emissions, the proposed project will implement **Mitigation Measures AQ-1** and **AQ-3**. These measures would also reduce DPM emissions during project construction by promoting the use of alternative fueled equipment, minimizing the idling time, and requiring equipment to be in good working odor. Additionally, project emissions were modeled assuming that equipment would operate for the eight hours per day that it is on the project site. In reality, this would not occur, as most equipment would operate for only a fraction of each workday and many of the activities would not overlap on a daily basis. Therefore, the cancer risk shown in **Table 3** represents a worst-case scenario during construction. Regardless, the project would be required to implement mitigation in order to reduce the impacts posed to the nearest residential receptor as a result of project construction. Specifically, the project will implement **Mitigation Measure AQ-4**, which will require to applicant to use Tier 4 final construction equipment throughout the duration of construction. **Table 6, Risk Posed to the Nearest Residential Receptor – Mitigated** demonstrates that with implementation of mitigation, the cancer risk posed to the nearest residential receptor located approximately 200 feet south of the project site is approximately 5.77 in one million and, therefore, will be less than significant.

Table 6
Risk Posed to the Nearest Residential Receptor - Mitigated

Receptor	Lifetime Excess Cancer Risk (per million)	Hazard Index
3rd Trimester	0.04	0.001
Infant	2.24	0.002
Child	3.02	0.002
Adult	0.47	0.002
Total 30-Year Cancer Risk	5.77	-
Significance Threshold	10	1.0
Exceed Threshold?	***No***	***No***

Source: Impact Sciences, 2020.
*The Hazard Index (HI) was calculated based on the average construction DPM emissions over the duration of each receptor.

Thus the 30-year residential cancer risk posed to the nearest residential receptor 200 feet from the site is approximately 5.77 in one million with implementation of **Mitigation Measure AQ-4** and are less than

VCAPCD's significance threshold of 10 in one million. **Attachment 2, AERMOD Figures** shows the DPM concentrations surrounding the project site and demonstrate that the highest concentration of DPM for an off-site receptor occurs at the residence 200 feet south of the site. Therefore, any other residence surrounding the project site would be exposed to a lower concentration of emissions, resulting in lower cancer risk. As a result, the cancer risk at any of the other residences near the project site would also be less than significant with the implementation of **Mitigation Measure AQ-4**.

ON-SITE RESIDENTIAL CANCER RISK

As noted above, following Phases 2 and 3 of construction, homes may be occupied and operational on the project site. As a result, there may be an on-site residential receptor during Phases 4 through 6 of construction. Therefore, the cancer risk posed to the most impacted on-site residential receptor was calculated in order to determine project significance. It was determined that the most impacted residence that will be constructed during Phase 2 would be located within Planning Area 2. The cancer risk was calculated following similar assumptions to the off-site residential cancer risk. However, it was assumed that the 3rd trimester and first 0.75 years of infant exposure (0 < 2 years) would occur during Phase 4 construction and Phase 2 and 3 operation. The remainder of the infant exposure and the beginning of child exposure (2 < 16 years) would occur over the one year of Phase 5 construction that overlaps with Phases 2 through 4 of operation. Finally, construction of Phase 6 and the operation of Phases 2 through 5 would occur over 0.75 years during child exposure. Full project buildout would occur over the remainder of the child exposure and the entire adult exposure duration (16 < 30 years), detailed calculations are provided in **Attachment 1**. Results of this analysis indicate that the cancer risk posed to the on-site residential receptor as a result of project construction and operation is approximately 5.78 in one million, see **Table 7, Risk Posed to the On-Site Residential Receptor**. As a result, the impact to the on-site sensitive receptor is less than significant.

Table 7
Risk Posed to the On-Site Residential Receptor

Receptor	Lifetime Excess Cancer Risk (per million)	Hazard Index
3rd Trimester	0.15	0.003
Infant	4.10	0.003
Child	1.34	0.003
Adult	0.19	0.001
Total 30-Year Cancer Risk	5.78	-
Significance Threshold	10	1.0
Exceed Threshold?	***No***	***No***

Source: Impact Sciences, 2020.
*The Hazard Index (HI) was calculated based on the average construction DPM emissions over the duration of each receptor.

Thus the 30-year residential cancer risk posed to an on-site residential receptor living on the site following Phase 2 of construction will be approximately 5.78 in one million and, as a result, less than VCAPCD's significance thresholds. Phase 2 of construction would result in housing on Plan Area's 2 through 4. As a result, the concentration of DPM emissions were evaluated at future receptor locations in each of these planning areas. The HRA evaluates the cancer risk posed to a receptor on Planning Area 2 as this proposed home location had the highest concentration of DPM emissions throughout the construction of the other project phases, as demonstrated in **Attachment 2, AERMOD Figures**. Therefore, any future receptor living on Planning Areas 3 or 4 following Phase 2 of construction would also result in a less than significant cancer risk impact.

SCHOOL CHILD CANCER RISK

As stated above, the project site is adjacent to two schools, the Walnut Creek Elementary School and Chaparral Middle School. In order to evaluate the risk posed to a school child, OEHHA recommends evaluating the risk posed over a nine-year period, assuming that the risk will be on the campus for approximately 165 days per year, where a student attends school 5 days per week for approximately 36 weeks over a nine-year period. OEHHA recommends that a 95th percentile breathing rate under moderate intensity of 520 L/kg-day be used to estimate the risk to the school child (2 < 16 years), see **Table 3**. It was assumed that the most impacted school child receptor would begin kindergarten at Walnut Creek Elementary School during the start of construction and upon completion of fifth grade, would attend Chaparral Middle School. Phases 1 through 6 of construction would occur when the receptor attends Walnut Creek Elementary. Full project operation occurs during the receptor's last year attending Walnut Creek Elementary School and while they attend Chaparral Middle School, detailed calculations are provided in **Attachment 1**. Results of this analysis indicate that the cancer risk posed to the school-child receptor as a result of project construction and operation is approximately 0.405 in one million, see **Table 8, Risk posed to the School Child Receptor**. As a result, the impact to the school child receptor is less than significant.

Table 8
Risk Posed to the School Child Receptor

Receptor	Grades	Excess Cancer Risk (per million)
Walnut Creek Elementary School	K-5th	0.187
Chaparral Middle School	6th-7th	0.218
Total Cancer Risk		0.405
Significance Threshold		*10*
	Exceed Threshold?	***No***

Source: Impact Sciences, 2020.

Thus the 9-year school child cancer risk posed to a student who attends Walnut Creek Elementary School from kindergarten to 5th grade starting at Phase 1 of construction then attends Chaparral Middle School for an additional two years is approximately 0.405 in one million and is less than VCAPCD's significance threshold of 10 in one million.

MITIGATION MEASURES

AQ-1: The following control measures provided in the *VCAPCD Air Quality Assessment Guidelines* to minimize the generation of fugitive dust (PM_{10} and $PM_{2.5}$), ROC, and NO_x during construction activities shall be implemented during construction of the proposed project:

- The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized to prevent excessive amounts of dust.

- Pre-grading/excavation activities shall include watering the areas to be graded or excavated before grading or excavation operations commences. Application of water (preferably reclaimed, if available) should penetrate sufficiently to minimize fugitive dust during grading activities.

- Fugitive dust produced during grading excavation and construction activities shall be controlled by the following activities:

  (a) All trucks shall be required to cover their loads as required by *California Vehicles Code* Section 23114.

(b) All graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways, shall be treated to prevent fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization material, and/or roll-compaction as appropriate. Watering shall be done as often as necessary and reclaimed water shall be used whenever possible.

- Graded and/or excavated inactive areas of the construction site shall be monitored at least weekly for dust stabilization. Soil stabilization methods, such as water and roll-compaction, and environmentally safe dust control materials, shall be periodically applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area should be seeded and watered until grass growth is evident, or periodically treated with environmentally safe dust suppressants to prevent excessive fugitive dust.

- Signs limiting traffic to 15 miles per hour or less shall be posted on site.

- During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), all clearing, grading, earth moving, and excavation operations shall be curtailed to the degree necessary to prevent fugitive dust created by on-site activities and operations from being a nuisance or hazard, either off site or on site. The site superintendent/supervisor shall use discretion in conjunction with the VCAPCD in determining when winds are excessive.

- Adjacent streets and roads shall be swept at least once per day, preferably at the end of the day if visible soil material is carried over to adjacent streets and roads.

- Personnel involved in grading operations, including contractors and subcontractors, should be advised to wear respiratory protection in accordance with California Division of Occupational Safety and Health regulations.

Timing/Implementation: During construction activities

Enforcement/Monitoring: City of Moorpark Community Development Department

AQ-2: During construction contractors shall comply with the following measures to reduce NO_x and ROC from heavy equipment as recommended by the VCAPCD in its *Ventura County Air Quality Assessment Guidelines*:

- Minimize equipment idling time.
- Maintain equipment engines in good condition and in proper tune as per manufacturer's specifications.
- Lengthen the construction period during smog season (May through October) to minimize the number of vehicles and equipment operating at the same time.
- Use alternatively fueled construction equipment, such as compressed natural gas (CNG), liquefied natural gas (LNG), or electric, if feasible.

Timing/Implementation: During construction activities

Enforcement/Monitoring: City of Moorpark Community Development Department

AQ-3: During heavy grading, construction contractors shall comply with the following measures to reduce potential Valley Fever impacts:

- Hire crews from local populations where possible, since it is more likely that they have been previously exposed to the fungus and are therefore immune.
- Require crews to use respirators during project clearing, grading, and excavation operations in accordance with California Division of Occupational Safety and Health regulations.
- Require that the cabs of grading and construction equipment be air-conditioned or enclosed with sufficient ventilation and particulate matter filtration systems.
- Require crews to work upwind from excavation sites where possible.
- Where acceptable to the fire department, control weed growth by mowing instead of disking, thereby leaving the ground undisturbed and with a mulch covering.

- During rough grading and construction, the access way into the project site from adjoining paved roadways should be paved or treated with environmentally safe dust control agents.

Timing/Implementation: During construction activities

Enforcement/Monitoring: City of Moorpark Community Development Department

AQ-4: For the entire duration of construction period, all off-road equipment greater than 25 horsepower shall have engines rated by the United States Environmental Protection Agency as complying with Tier 4 final emission limits.

Conclusion

The 30-year cancer risk posed to the nearest sensitive receptor, the 30-year cancer risk posed to an on-site residential receptor, and the 9-year cancer risk posed to the maximally exposed school child is approximately 19.52, 5.78, and 0.405 in one million, respectively. Therefore, the risks posed to the on-site residential receptor and the school child will be less than significant. With the application of **Mitigation Measure AQ-4**, which requires the use of Tier 4 final construction equipment throughout the duration of construction for any equipment above 50 horsepower, would reduce the 30-year cancer risk posed to the nearby residential receptor to approximately 5.77 in a million. Therefore, with the implementation of mitigation, the health risk will be less than significant. The risk calculations and assumptions are provided in **Attachment 1**. Figures demonstrating the DPM concentrations surrounding the project site are provided in **Attachment 2**.

C

HRA Calculations

Attachment 1

Health Risk Calculations, CalEEMod, and AERMOD Output Files

HEALTH RISK CALCULATIONS

Off-Site Residential Health Risk Calculations, Unmitigated

Receptor	Years	Construction Phases	Construction Emissions	Operational Phases	Operational Emissions	Combined Emissions	EF	Breathing Rates (L-kg/day)	ASF	FAH	Cancer Risk	Cancer Risk by Age Group	HI
THIRD TRIMESTER	0.25	Phase 1	0.05292	-	-	0.05292	350	361	10	085	6.12E-07	0.61	0.0106
	0.75	Phase 1	0.05292	-	-	0.05292	350	1,090	10	0.85	3.70E-06		0.0106
INFANT	0.5	Phase 2	0.04399	-	-	0.04399	350	1,090	10	0.85	3.07E-06	14.162	0.0088
	0.75	Phase 2 & 3	0.07485	-	-	0.07485	350	1,090	10	0.85	7.84E-06		0.0150
	0.25	Phase 2 & 3	0.07485	-	-	0.07485	350	572	3	0.72	3.49E-07		0.0150
	1	Phase 4	0.02517	Phase 2 & 3	0.00618	0.03135	350	572	3	0.72	5.84E-07		0.0063
CHILD	1	Phase 5	0.01091	Phase 4	0.0076	0.01851	350	572	3	0.72	3.45E-07	3.82	0.0037
	0.75	Phase 6	0.0048	Phase 5	0.00445	0.00925	350	572	3	0.72	1.29E-07		0.0019
	11	-	-	Full Operation	0.01175	0.01175	350	572	3	0.72	2.41E-06		0.0024
ADULT	14	-	-	Full Operation	0.01175	0.01175	350	261	1	0.73	4.73E-07	0.47	0.0024
											TOTAL CANCER RISK	***19.52***	

Off-Site Residential Health Risk Calculations, Mitigated

Receptor	Years	Construction Phases	Construction Emissions	Operational Phases	Operational Emissions	Combined Emissions	EF	Breathing Rates (L-kg/day)	ASF	FAH	Cancer Risk	Cancer Risk by Age Group	HI
THIRD TRIMESTER	0.25	Phase 1	0.00381	-	-	0.00381	350	361	10	085	4.41E-08	0.04	0.0008
	0.75	Phase 1	0.00381	-	-	0.00381	350	1,090	10	0.85	2.66E-07		0.0008
INFANT	0.5	Phase 2	0.00953	-	-	0.00953	350	1,090	10	0.85	6.66E-07	2.24	0.0019
	0.75	Phase 2 & 3	0.0125	-	-	0.0125	350	1,090	10	0.85	1.31E-06		0.0025
	0.25	Phase 2 & 3	0.0125	-	-	0.0125	350	572	3	0.72	5.82E-08		0.0025
	1	Phase 4	0.00618	Phase 2 & 3	0.00618	0.01236	350	572	3	0.72	2.30E-07		0.0025
CHILD	1	Phase 5	0.00545	Phase 4	0.0076	0.01305	350	572	3	0.72	2.43E-07	3.02	0.0026
	0.75	Phase 6	0.00149	Phase 5	0.00445	0.00594	350	572	3	0.72	8.30E-08		0.0012
	11	-	-	Full Operation	0.01175	0.01175	350	572	3	0.72	2.41E-06		0.0024
ADULT	14	-	-	Full Operation	0.01175	0.01175	350	261	1	0.73	4.73E-07	0.47	0.0024
											TOTAL CANCER RISK	***5.77***	

On-Site Residential Health Risk Calculations

Receptor	Years	Construction Phases	Construction Emissions	Operational Phases	Operational Emissions	Combined Emissions	EF	Breathing Rates (L-kg/day)	ASF	FAH	Cancer Risk	Cancer Risk by Age Group	HI
THIRD TRIMESTER	0.25	Phase 4	0.0109	Phase 2 & 3	0.0023	0.0132	350	361	10	085	1.53E-07	0.15	0.0026
	0.75	Phase 4	0.0109	Phase 2 & 3	0.0023	0.0132	350	1,090	10	0.85	1.38E-06		0.0026
INFANT	1	Phase 5	0.01271	Phase 4	0.00329	0.016	350	1,090	10	0.85	2.24E-06	4.10	0.0032
	0.25	Phase 6	0.00708	Phase 5	0.00658	0.01366	350	1,090	10	0.85	4.77E-07		0.0027

CHILD	0.5	Phase 6	0.00708	Phase 5	0.00658	0.01366	350	572	3	0.72	1.27E-07	1.34	0.0027
	13.5	-	-	Full Operation	0.00481	0.00481	350	572	3	0.72	1.21E-06		0.0010
ADULT	14	-	-	Full Operation	0.00481	0.00481	350	261	1	0.73	1.94E-07	0.19	0.0010
											TOTAL CANCER RISK	***5.78***	

School Child Health Risk Calculations

Years	Construction Phases	Construction Emissions	Operational Phases	Operational Emissions	Total Emissions	EF	Breathing Rates (L-kg/day)	Cancer Risk	Risk by School Site	HI
Walnut Creek Elementary School										
1	Phase 1	0.01161	-	-	0.01161	165	520	4.29E-08		0.0023
0.5	Phase 2	0.00956	-	-	0.00956	165	520	1.77E-08		0.0019
1	Phase 2 & 3	0.01514	-	-	0.01514	165	520	5.59E-08		0.0030
1	Phase 4	0.00607	Phase 2 & 3	0.00134	0.00741	165	520	2.74E-08	0.19E-07	0.0000
1	Phase 5	0.00412	Phase 4	0.00183	0.00595	165	520	2.20E-08		0.0012
0.75	Phase 6	0.00161	Phase 5	0.000149	0.001759	165	520	4.87E-09		0.0004
1.75	Full Operation	-	Full Operation	0.00258	0.00258	165	520	1.67E-08		0.0005
Chaparral Middle School										
2	Full Operation	-	Full Operation	0.00379	0.00379	165	520	2.18E-07	0.22E-07	0.0008
								Total Cancer Risk	***0.405***	

Hitch Ranch

Ventura County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	60.77	Acre	60.77	2,647,141.20	0
Apartments Low Rise	299.00	Dwelling Unit	18.69	299,000.00	915
Single Family Housing	456.00	Dwelling Unit	148.05	820,800.00	1395

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2027
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land uses consistent with Traffic Study trip generation table. City Park land use added to account for open space and recreation lots.

Construction Phase - Phase duration per project applicant.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Trips (worker and vendor) during building construction reflect proportion of project constructed during each phase. Grading material balanced on-site, no off-site hauling trips required.

Grading - Total acres graded per Hiitch Ranch Specific Plan Figure 2-1A. No import/export per project applicant for grading P1 and grading P3, balanced on-site. Other phases only fine grading for building pads; estimated acrage.

Architectural Coating - Coating square footage distributed by amount of project being constructed per phase.

Vehicle Trips - Trip rates from the TIA

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating -

Construction Off-road Equipment Mitigation - Fugitive dust mitigation reflects Section 7.4.1 "Fugitive Dust Mitigation Measures" of the VCAPCD Air Quality Assessment Guidelines Section 7.4.1.

Mobile Land Use Mitigation - The distance from the center of the project site to the Moorpark Metrolink Station is approximately 0.9 miles. General Plan requires 10 to 15% low income.

Area Mitigation -

Energy Mitigation - Mitigation requiring Energy-Star-qualified LEDs and 30% on-site renewable energy.

Water Mitigation - Consistent with CalGreen and Moorpark Water Efficient Landscape Ordinance.

Waste Mitigation - Waste Management (which serves Moorpark) states that 50% of waste in California is diverted away from landfills.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	755,865.00	105,120.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	755,865.00	200,229.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	755,865.00	200,229.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	755,865.00	250,286.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,267,595.00	315,361.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,267,595.00	600,687.00

tblArchitecturalCoating	ConstArea_Residential_Interior	2,267,595.00	600,687.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,267,595.00	750,859.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	15.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	27.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	330.00	20.00
tblConstructionPhase	NumDays	330.00	21.00
tblConstructionPhase	NumDays	330.00	11.00
tblConstructionPhase	NumDays	330.00	20.00
tblConstructionPhase	NumDays	4,650.00	234.00
tblConstructionPhase	NumDays	4,650.00	234.00
tblConstructionPhase	NumDays	4,650.00	115.00
tblConstructionPhase	NumDays	4,650.00	367.00
tblConstructionPhase	NumDays	4,650.00	88.00
tblConstructionPhase	NumDays	465.00	218.00
tblConstructionPhase	NumDays	465.00	6.00
tblConstructionPhase	NumDays	465.00	4.00
tblConstructionPhase	NumDays	465.00	5.00
tblConstructionPhase	NumDays	465.00	86.00
tblConstructionPhase	NumDays	465.00	6.00
tblConstructionPhase	NumDays	330.00	72.00
tblConstructionPhase	NumDays	330.00	87.00
tblGrading	AcresOfGrading	545.00	437.50
tblGrading	MaterialExported	0.00	3,900,000.00
tblGrading	MaterialExported	0.00	1,500,000.00
tblGrading	MaterialImported	0.00	3,900,000.00
tblGrading	MaterialImported	0.00	1,500,000.00
tblSolidWaste	SolidWasteGenerationRate	5.23	5.14
tblTripsAndVMT	HaulingTripNumber	975,000.00	0.00
tblTripsAndVMT	HaulingTripNumber	375,000.00	0.00

tblTripsAndVMT	VendorTripNumber	515.00	136.00
tblTripsAndVMT	VendorTripNumber	515.00	136.00
tblTripsAndVMT	VendorTripNumber	515.00	72.00
tblTripsAndVMT	VendorTripNumber	515.00	171.00
tblTripsAndVMT	WorkerTripNumber	1,491.00	395.00
tblTripsAndVMT	WorkerTripNumber	298.00	79.00
tblTripsAndVMT	WorkerTripNumber	1,491.00	395.00
tblTripsAndVMT	WorkerTripNumber	298.00	79.00
tblTripsAndVMT	WorkerTripNumber	1,491.00	207.00
tblTripsAndVMT	WorkerTripNumber	298.00	41.00
tblTripsAndVMT	WorkerTripNumber	1,491.00	494.00
tblTripsAndVMT	WorkerTripNumber	298.00	99.00
tblVehicleTrips	ST_TR	7.16	7.32
tblVehicleTrips	ST_TR	22.75	0.09
tblVehicleTrips	ST_TR	9.91	9.44
tblVehicleTrips	SU_TR	6.07	7.32
tblVehicleTrips	SU_TR	16.74	0.09
tblVehicleTrips	SU_TR	8.62	9.44
tblVehicleTrips	WD_TR	6.59	7.32
tblVehicleTrips	WD_TR	1.89	0.09
tblVehicleTrips	WD_TR	9.52	9.44
tblWater	OutdoorWaterUseRate	72,406,321.62	71,155,266.20

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2823	2.9746	2.2565	4.8600e-003	1.2530	0.1252	1.3782	0.3646	0.1151	0.4797	0.0000	427.0650	427.0650	0.1352	0.0000	430.4441
2023	0.4447	3.9398	4.0716	0.0113	1.7736	0.1378	1.9114	0.4086	0.1279	0.5365	0.0000	1,026.3162	1,026.3162	0.1706	0.0000	1,030.5801
2024	2.7366	6.9480	7.7232	0.0264	1.8426	0.1809	2.0234	0.5133	0.1689	0.6822	0.0000	2,437.1928	2,437.1928	0.2668	0.0000	2,443.8635
2025	1.8391	2.7161	3.1872	0.0102	0.5135	0.0698	0.5833	0.1427	0.0655	0.2083	0.0000	941.8223	941.8223	0.1010	0.0000	944.3476
2026	1.8249	2.6342	3.0692	9.8300e-003	0.4886	0.0687	0.5573	0.1347	0.0646	0.1993	0.0000	904.1140	904.1140	0.0976	0.0000	906.5550
2027	0.8898	0.8451	1.0151	2.7300e-003	0.1050	0.0264	0.1313	0.0284	0.0248	0.0532	0.0000	248.1116	248.1116	0.0327	0.0000	248.9291
Maximum	**2.7366**	**6.9480**	**7.7232**	**0.0264**	**1.8426**	**0.1809**	**2.0234**	**0.5133**	**0.1689**	**0.6822**	**0.0000**	**2,437.1928**	**2,437.1928**	**0.2668**	**0.0000**	**2,443.8635**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0632	0.2555	2.5593	4.8600e-003	0.4869	7.8500e-003	0.4948	0.1415	7.8500e-003	0.1493	0.0000	427.0645	427.0645	0.1352	0.0000	430.4436
2023	0.2096	1.3033	4.4837	0.0113	0.9181	0.0121	0.9302	0.2211	0.0119	0.2331	0.0000	1,026.3156	1,026.3156	0.1706	0.0000	1,030.5795
2024	2.4252	3.6801	8.2374	0.0264	1.5051	0.0225	1.5276	0.4129	0.0218	0.4347	0.0000	2,437.1920	2,437.1920	0.2668	0.0000	2,443.8627
2025	1.7091	1.4294	3.3691	0.0102	0.4975	8.9900e-003	0.5065	0.1361	8.7300e-003	0.1448	0.0000	941.8220	941.8220	0.1010	0.0000	944.3473
2026	1.6965	1.3665	3.2451	9.8300e-003	0.4779	8.6700e-003	0.4866	0.1303	8.4300e-003	0.1387	0.0000	904.1137	904.1137	0.0976	0.0000	906.5546
2027	0.8391	0.3482	1.0813	2.7300e-003	0.1050	2.7500e-003	0.1077	0.0284	2.7000e-003	0.0311	0.0000	248.1115	248.1115	0.0327	0.0000	248.9290
Maximum	**2.4252**	**3.6801**	**8.2374**	**0.0264**	**1.5051**	**0.0225**	**1.5276**	**0.4129**	**0.0218**	**0.4347**	**0.0000**	**2,437.1920**	**2,437.1920**	**0.2668**	**0.0000**	**2,443.8627**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**13.40**	**58.21**	**-7.75**	**0.00**	**33.23**	**89.66**	**38.45**	**32.79**	**89.16**	**47.58**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-1-2022**	**8-31-2022**	1.3987	0.1367
2	**9-1-2022**	**11-30-2022**	1.3838	0.1356
3	**12-1-2022**	**2-28-2023**	2.9831	0.3255
4	**3-1-2023**	**5-31-2023**	1.5508	0.1788
5	**6-1-2023**	**8-31-2023**	1.0188	0.5277

6	**9-1-2023**	**11-30-2023**	0.9957	0.5603
7	**12-1-2023**	**2-29-2024**	2.1547	0.6921
8	**3-1-2024**	**5-31-2024**	2.6097	1.5856
9	**6-1-2024**	**8-31-2024**	2.3441	1.5556
10	**9-1-2024**	**11-30-2024**	3.0094	2.3897
11	**12-1-2024**	**2-28-2025**	0.8507	0.4147
12	**3-1-2025**	**5-31-2025**	0.8192	0.4488
13	**6-1-2025**	**8-31-2025**	0.8169	0.4464
14	**9-1-2025**	**11-30-2025**	2.1779	1.9198
15	**12-1-2025**	**2-28-2026**	0.8173	0.4106
16	**3-1-2026**	**5-31-2026**	0.8112	0.4407
17	**6-1-2026**	**8-31-2026**	0.8090	0.4385
18	**9-1-2026**	**11-30-2026**	2.0953	1.8373
19	**12-1-2026**	**2-28-2027**	0.6488	0.2587
20	**3-1-2027**	**5-31-2027**	1.4040	1.0950
		Highest	3.0094	2.3897

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1358	0.0645	5.6012	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1583	9.1583	8.7700e-003	0.0000	9.3776
Energy	0.0840	0.7180	0.3055	4.5800e-003		0.0581	0.0581		0.0581	0.0581	0.0000	2,392.8743	2,392.8743	0.0804	0.0286	2,403.4014
Mobile	1.1526	4.6055	14.5820	0.0608	6.7881	0.0458	6.8339	1.8152	0.0425	1.8576	0.0000	5,614.1469	5,614.1469	0.2024	0.0000	5,619.2059
Waste						0.0000	0.0000		0.0000	0.0000	145.0634	0.0000	145.0634	8.5730	0.0000	359.3885
Water						0.0000	0.0000		0.0000	0.0000	15.6061	565.7432	581.3494	1.6263	0.0427	634.7245
Total	**6.3724**	**5.3880**	**20.4888**	**0.0657**	**6.7881**	**0.1349**	**6.9231**	**1.8152**	**0.1316**	**1.9468**	**160.6696**	**8,581.9228**	**8,742.5923**	**10.4908**	**0.0713**	**9,026.0979**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1358	0.0645	5.6012	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1583	9.1583	8.7700e-003	0.0000	9.3776
Energy	0.0840	0.7180	0.3055	4.5800e-003		0.0581	0.0581		0.0581	0.0581	0.0000	1,698.1600	1,698.1600	0.0517	0.0227	1,706.2017
Mobile	1.1126	4.3898	13.4446	0.0551	6.1093	0.0418	6.1512	1.6336	0.0388	1.6724	0.0000	5,083.4482	5,083.4482	0.1859	0.0000	5,088.0951
Waste						0.0000	0.0000		0.0000	0.0000	72.5317	0.0000	72.5317	4.2865	0.0000	179.6943
Water						0.0000	0.0000		0.0000	0.0000	12.4849	417.9657	430.4506	1.2996	0.0339	473.0268
Total	**6.3324**	**5.1724**	**19.3513**	**0.0600**	**6.1093**	**0.1310**	**6.2403**	**1.6336**	**0.1279**	**1.7616**	**85.0166**	**7,208.7322**	**7,293.7488**	**5.8324**	**0.0565**	**7,456.3955**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.63**	**4.00**	**5.55**	**8.75**	**10.00**	**2.94**	**9.86**	**10.00**	**2.80**	**9.51**	**47.09**	**16.00**	**16.57**	**44.40**	**20.71**	**17.39**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/1/2022	3/31/2023	5	218	
2	Paving	Paving	2/1/2023	5/11/2023	5	72	
3	Grading P2	Grading	6/1/2023	6/7/2023	5	5	
4	Building Construction P2	Building Construction	6/8/2023	11/1/2024	5	367	
5	Grading P3	Grading	12/1/2023	3/31/2024	5	86	
6	Utilities P3	Building Construction	4/1/2024	7/31/2024	5	88	
7	Paving P3	Paving	8/1/2024	11/30/2024	5	87	
8	Architectural Coating P2	Architectural Coating	11/2/2024	11/30/2024	5	20	
9	Grading P4	Grading	12/1/2024	12/9/2024	5	6	
10	Building Construction P4	Building Construction	12/10/2024	10/31/2025	5	234	
11	Architectural Coating P4	Architectural Coating	11/1/2025	11/30/2025	5	20	
12	Grading P5	Grading	12/1/2025	12/8/2025	5	6	
13	Building Construction P5	Building Construction	12/9/2025	10/31/2026	5	234	
14	Architectural Coating P5	Architectural Coating	11/1/2026	11/30/2026	5	21	
15	Grading P6	Grading	12/1/2026	12/5/2026	5	4	
16	Building Construction P6	Building Construction	12/6/2026	5/14/2027	5	115	
17	Architectural Coating P6	Architectural Coating	5/15/2027	5/31/2027	5	11	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 437.5

Acres of Paving: 0

Residential Indoor: 750,859; Residential Outdoor: 250,286; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Hitch Ranch - Ventura County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading P2	Excavators	2	8.00	158	0.38
Grading P2	Graders	1	8.00	187	0.41
Grading P2	Rubber Tired Dozers	1	8.00	247	0.40
Grading P2	Scrapers	2	8.00	367	0.48
Grading P2	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P2	Cranes	1	7.00	231	0.29
Building Construction P2	Forklifts	3	8.00	89	0.20
Building Construction P2	Generator Sets	1	8.00	84	0.74
Building Construction P2	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P2	Welders	1	8.00	46	0.45
Grading P3	Excavators	2	8.00	158	0.38
Grading P3	Graders	1	8.00	187	0.41
Grading P3	Rubber Tired Dozers	1	8.00	247	0.40
Grading P3	Scrapers	2	8.00	367	0.48
Grading P3	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving P3	Air Compressors	1	6.00	78	0.48
Paving P3	Pavers	2	8.00	130	0.42
Paving P3	Paving Equipment	2	8.00	132	0.36

Paving P3	Rollers	2	8.00	80	0.38
Architectural Coating P2	Air Compressors	1	6.00	78	0.48
Grading P4	Excavators	2	8.00	158	0.38
Grading P4	Graders	1	8.00	187	0.41
Grading P4	Rubber Tired Dozers	1	8.00	247	0.40
Grading P4	Scrapers	2	8.00	367	0.48
Grading P4	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P4	Cranes	1	7.00	231	0.29
Building Construction P4	Forklifts	3	8.00	89	0.20
Building Construction P4	Generator Sets	1	8.00	84	0.74
Building Construction P4	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P4	Welders	1	8.00	46	0.45
Architectural Coating P4	Air Compressors	1	6.00	78	0.48
Grading P5	Excavators	2	8.00	158	0.38
Grading P5	Graders	1	8.00	187	0.41
Grading P5	Rubber Tired Dozers	1	8.00	247	0.40
Grading P5	Scrapers	2	8.00	367	0.48
Grading P5	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P5	Cranes	1	7.00	231	0.29
Building Construction P5	Forklifts	3	8.00	89	0.20
Building Construction P5	Generator Sets	1	8.00	84	0.74
Building Construction P5	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P5	Welders	1	8.00	46	0.45
Architectural Coating P5	Air Compressors	1	6.00	78	0.48
Grading P6	Excavators	2	8.00	158	0.38
Grading P6	Graders	1	8.00	187	0.41
Grading P6	Rubber Tired Dozers	1	8.00	247	0.40

Grading P6	Scrapers	2	8.00	367	0.48
Grading P6	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P6	Cranes	1	7.00	231	0.29
Building Construction P6	Forklifts	3	8.00	89	0.20
Building Construction P6	Generator Sets	1	8.00	84	0.74
Building Construction P6	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P6	Welders	1	8.00	46	0.45
Architectural Coating P6	Air Compressors	1	6.00	78	0.48
Utilities P3	Cranes	1	7.00	231	0.29
Utilities P3	Forklifts	3	8.00	89	0.20
Utilities P3	Generator Sets	1	8.00	84	0.74
Utilities P3	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Utilities P3	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P2	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P2	9	494.00	171.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P3	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving P3	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P2	1	99.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P4	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P4	9	395.00	136.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P4	1	79.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P5	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P5	9	395.00	136.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P5	1	79.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P6	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P6	9	207.00	72.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P6	1	41.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities P3	9	1,491.00	515.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2407	0.0000	1.2407	0.3613	0.0000	0.3613	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2773	2.9715	2.2217	4.7500e-003		0.1251	0.1251		0.1151	0.1151	0.0000	417.1897	417.1897	0.1349	0.0000	420.5629
Total	**0.2773**	**2.9715**	**2.2217**	**4.7500e-003**	**1.2407**	**0.1251**	**1.3658**	**0.3613**	**0.1151**	**0.4763**	**0.0000**	**417.1897**	**417.1897**	**0.1349**	**0.0000**	**420.5629**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9800e-003	3.0900e-003	0.0348	1.1000e-004	0.0123	8.0000e-005	0.0124	3.2800e-003	8.0000e-005	3.3600e-003	0.0000	9.8753	9.8753	2.3000e-004	0.0000	9.8812
Total	**4.9800e-003**	**3.0900e-003**	**0.0348**	**1.1000e-004**	**0.0123**	**8.0000e-005**	**0.0124**	**3.2800e-003**	**8.0000e-005**	**3.3600e-003**	**0.0000**	**9.8753**	**9.8753**	**2.3000e-004**	**0.0000**	**9.8812**

3.2 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4746	0.0000	0.4746	0.1382	0.0000	0.1382	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0583	0.2525	2.5244	4.7500e-003		7.7700e-003	7.7700e-003		7.7700e-003	7.7700e-003	0.0000	417.1892	417.1892	0.1349	0.0000	420.5624
Total	**0.0583**	**0.2525**	**2.5244**	**4.7500e-003**	**0.4746**	**7.7700e-003**	**0.4823**	**0.1382**	**7.7700e-003**	**0.1460**	**0.0000**	**417.1892**	**417.1892**	**0.1349**	**0.0000**	**420.5624**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9800e-003	3.0900e-003	0.0348	1.1000e-004	0.0123	8.0000e-005	0.0124	3.2800e-003	8.0000e-005	3.3600e-003	0.0000	9.8753	9.8753	2.3000e-004	0.0000	9.8812
Total	**4.9800e-003**	**3.0900e-003**	**0.0348**	**1.1000e-004**	**0.0123**	**8.0000e-005**	**0.0124**	**3.2800e-003**	**8.0000e-005**	**3.3600e-003**	**0.0000**	**9.8753**	**9.8753**	**2.3000e-004**	**0.0000**	**9.8812**

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.9757	0.0000	0.9757	0.2156	0.0000	0.2156	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1080	1.1218	0.9117	2.0200e-003		0.0463	0.0463		0.0426	0.0426	0.0000	177.2394	177.2394	0.0573	0.0000	178.6725
Total	**0.1080**	**1.1218**	**0.9117**	**2.0200e-003**	**0.9757**	**0.0463**	**1.0220**	**0.2156**	**0.0426**	**0.2582**	**0.0000**	**177.2394**	**177.2394**	**0.0573**	**0.0000**	**178.6725**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9900e-003	1.1900e-003	0.0137	4.0000e-005	5.2400e-003	4.0000e-005	5.2800e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.0347	4.0347	9.0000e-005	0.0000	4.0370
Total	**1.9900e-003**	**1.1900e-003**	**0.0137**	**4.0000e-005**	**5.2400e-003**	**4.0000e-005**	**5.2800e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.0347**	**4.0347**	**9.0000e-005**	**0.0000**	**4.0370**

3.2 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3732	0.0000	0.3732	0.0825	0.0000	0.0825	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0248	0.1073	1.0725	2.0200e-003		3.3000e-003	3.3000e-003		3.3000e-003	3.3000e-003	0.0000	177.2392	177.2392	0.0573	0.0000	178.6723
Total	**0.0248**	**0.1073**	**1.0725**	**2.0200e-003**	**0.3732**	**3.3000e-003**	**0.3765**	**0.0825**	**3.3000e-003**	**0.0858**	**0.0000**	**177.2392**	**177.2392**	**0.0573**	**0.0000**	**178.6723**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9900e-003	1.1900e-003	0.0137	4.0000e-005	5.2400e-003	4.0000e-005	5.2800e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.0347	4.0347	9.0000e-005	0.0000	4.0370
Total	**1.9900e-003**	**1.1900e-003**	**0.0137**	**4.0000e-005**	**5.2400e-003**	**4.0000e-005**	**5.2800e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.0347**	**4.0347**	**9.0000e-005**	**0.0000**	**4.0370**

3.3 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0372	0.3669	0.5250	8.2000e-004		0.0184	0.0184		0.0169	0.0169	0.0000	72.0967	72.0967	0.0233	0.0000	72.6797
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0372**	**0.3669**	**0.5250**	**8.2000e-004**		**0.0184**	**0.0184**		**0.0169**	**0.0169**	**0.0000**	**72.0967**	**72.0967**	**0.0233**	**0.0000**	**72.6797**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	9.9000e-004	0.0113	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1800e-003	0.0000	3.3519	3.3519	7.0000e-005	0.0000	3.3538
Total	**1.6600e-003**	**9.9000e-004**	**0.0113**	**4.0000e-005**	**4.3500e-003**	**3.0000e-005**	**4.3800e-003**	**1.1600e-003**	**3.0000e-005**	**1.1800e-003**	**0.0000**	**3.3519**	**3.3519**	**7.0000e-005**	**0.0000**	**3.3538**

3.3 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0101	0.0438	0.6226	8.2000e-004		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	72.0966	72.0966	0.0233	0.0000	72.6796
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0101**	**0.0438**	**0.6226**	**8.2000e-004**		**1.3500e-003**	**1.3500e-003**		**1.3500e-003**	**1.3500e-003**	**0.0000**	**72.0966**	**72.0966**	**0.0233**	**0.0000**	**72.6796**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	9.9000e-004	0.0113	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1800e-003	0.0000	3.3519	3.3519	7.0000e-005	0.0000	3.3538
Total	**1.6600e-003**	**9.9000e-004**	**0.0113**	**4.0000e-005**	**4.3500e-003**	**3.0000e-005**	**4.3800e-003**	**1.1600e-003**	**3.0000e-005**	**1.1800e-003**	**0.0000**	**3.3519**	**3.3519**	**7.0000e-005**	**0.0000**	**3.3538**

3.4 Grading P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0217	0.0000	0.0217	8.9900e-003	0.0000	8.9900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3000e-003	0.0863	0.0701	1.6000e-004		3.5600e-003	3.5600e-003		3.2800e-003	3.2800e-003	0.0000	13.6338	13.6338	4.4100e-003	0.0000	13.7440
Total	**8.3000e-003**	**0.0863**	**0.0701**	**1.6000e-004**	**0.0217**	**3.5600e-003**	**0.0252**	**8.9900e-003**	**3.2800e-003**	**0.0123**	**0.0000**	**13.6338**	**13.6338**	**4.4100e-003**	**0.0000**	**13.7440**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	9.0000e-005	1.0500e-003	0.0000	4.0000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3104	0.3104	1.0000e-005	0.0000	0.3105
Total	**1.5000e-004**	**9.0000e-005**	**1.0500e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3104**	**0.3104**	**1.0000e-005**	**0.0000**	**0.3105**

3.4 Grading P2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.2900e-003	0.0000	8.2900e-003	3.4400e-003	0.0000	3.4400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9000e-003	8.2500e-003	0.0825	1.6000e-004		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	13.6338	13.6338	4.4100e-003	0.0000	13.7440
Total	**1.9000e-003**	**8.2500e-003**	**0.0825**	**1.6000e-004**	**8.2900e-003**	**2.5000e-004**	**8.5400e-003**	**3.4400e-003**	**2.5000e-004**	**3.6900e-003**	**0.0000**	**13.6338**	**13.6338**	**4.4100e-003**	**0.0000**	**13.7440**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	9.0000e-005	1.0500e-003	0.0000	4.0000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3104	0.3104	1.0000e-005	0.0000	0.3105
Total	**1.5000e-004**	**9.0000e-005**	**1.0500e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3104**	**0.3104**	**1.0000e-005**	**0.0000**	**0.3105**

3.5 Building Construction P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1156	1.0573	1.1939	1.9800e-003		0.0514	0.0514		0.0484	0.0484	0.0000	170.3765	170.3765	0.0405	0.0000	171.3897
Total	**0.1156**	**1.0573**	**1.1939**	**1.9800e-003**		**0.0514**	**0.0514**		**0.0484**	**0.0484**	**0.0000**	**170.3765**	**170.3765**	**0.0405**	**0.0000**	**171.3897**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0250	0.8762	0.2833	3.0800e-003	0.0837	1.1300e-003	0.0848	0.0241	1.0800e-003	0.0252	0.0000	301.3266	301.3266	0.0213	0.0000	301.8577
Worker	0.1113	0.0663	0.7625	2.4900e-003	0.2928	1.9700e-003	0.2947	0.0778	1.8100e-003	0.0796	0.0000	225.3807	225.3807	5.0100e-003	0.0000	225.5059
Total	**0.1363**	**0.9425**	**1.0459**	**5.5700e-003**	**0.3765**	**3.1000e-003**	**0.3796**	**0.1019**	**2.8900e-003**	**0.1048**	**0.0000**	**526.7072**	**526.7072**	**0.0263**	**0.0000**	**527.3636**

3.5 Building Construction P2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0241	0.1643	1.2833	1.9800e-003		3.0000e-003	3.0000e-003		3.0000e-003	3.0000e-003	0.0000	170.3763	170.3763	0.0405	0.0000	171.3895
Total	**0.0241**	**0.1643**	**1.2833**	**1.9800e-003**		**3.0000e-003**	**3.0000e-003**		**3.0000e-003**	**3.0000e-003**	**0.0000**	**170.3763**	**170.3763**	**0.0405**	**0.0000**	**171.3895**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0250	0.8762	0.2833	3.0800e-003	0.0837	1.1300e-003	0.0848	0.0241	1.0800e-003	0.0252	0.0000	301.3266	301.3266	0.0213	0.0000	301.8577
Worker	0.1113	0.0663	0.7625	2.4900e-003	0.2928	1.9700e-003	0.2947	0.0778	1.8100e-003	0.0796	0.0000	225.3807	225.3807	5.0100e-003	0.0000	225.5059
Total	**0.1363**	**0.9425**	**1.0459**	**5.5700e-003**	**0.3765**	**3.1000e-003**	**0.3796**	**0.1019**	**2.8900e-003**	**0.1048**	**0.0000**	**526.7072**	**526.7072**	**0.0263**	**0.0000**	**527.3636**

3.5 Building Construction P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1619	1.4788	1.7784	2.9600e-003		0.0675	0.0675		0.0635	0.0635	0.0000	255.0340	255.0340	0.0603	0.0000	256.5417
Total	**0.1619**	**1.4788**	**1.7784**	**2.9600e-003**		**0.0675**	**0.0675**		**0.0635**	**0.0635**	**0.0000**	**255.0340**	**255.0340**	**0.0603**	**0.0000**	**256.5417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0362	1.2963	0.4130	4.5800e-003	0.1253	1.6600e-003	0.1269	0.0361	1.5800e-003	0.0377	0.0000	448.7499	448.7499	0.0312	0.0000	449.5309
Worker	0.1576	0.0901	1.0612	3.6000e-003	0.4382	2.9000e-003	0.4411	0.1164	2.6700e-003	0.1191	0.0000	325.3693	325.3693	6.8300e-003	0.0000	325.5402
Total	**0.1938**	**1.3864**	**1.4742**	**8.1800e-003**	**0.5634**	**4.5600e-003**	**0.5680**	**0.1525**	**4.2500e-003**	**0.1568**	**0.0000**	**774.1192**	**774.1192**	**0.0381**	**0.0000**	**775.0711**

3.5 Building Construction P2 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0361	0.2458	1.9206	2.9600e-003		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	255.0337	255.0337	0.0603	0.0000	256.5414
Total	**0.0361**	**0.2458**	**1.9206**	**2.9600e-003**		**4.4900e-003**	**4.4900e-003**		**4.4900e-003**	**4.4900e-003**	**0.0000**	**255.0337**	**255.0337**	**0.0603**	**0.0000**	**256.5414**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0362	1.2963	0.4130	4.5800e-003	0.1253	1.6600e-003	0.1269	0.0361	1.5800e-003	0.0377	0.0000	448.7499	448.7499	0.0312	0.0000	449.5309
Worker	0.1576	0.0901	1.0612	3.6000e-003	0.4382	2.9000e-003	0.4411	0.1164	2.6700e-003	0.1191	0.0000	325.3693	325.3693	6.8300e-003	0.0000	325.5402
Total	**0.1938**	**1.3864**	**1.4742**	**8.1800e-003**	**0.5634**	**4.5600e-003**	**0.5680**	**0.1525**	**4.2500e-003**	**0.1568**	**0.0000**	**774.1192**	**774.1192**	**0.0381**	**0.0000**	**775.0711**

3.6 Grading P3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3880	0.0000	0.3880	0.0790	0.0000	0.0790	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0349	0.3624	0.2945	6.5000e-004		0.0150	0.0150		0.0138	0.0138	0.0000	57.2620	57.2620	0.0185	0.0000	57.7250
Total	**0.0349**	**0.3624**	**0.2945**	**6.5000e-004**	**0.3880**	**0.0150**	**0.4030**	**0.0790**	**0.0138**	**0.0928**	**0.0000**	**57.2620**	**57.2620**	**0.0185**	**0.0000**	**57.7250**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	3.8000e-004	4.4100e-003	1.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3035	1.3035	3.0000e-005	0.0000	1.3043
Total	**6.4000e-004**	**3.8000e-004**	**4.4100e-003**	**1.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3035**	**1.3035**	**3.0000e-005**	**0.0000**	**1.3043**

3.6 Grading P3 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1484	0.0000	0.1484	0.0302	0.0000	0.0302	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-003	0.0347	0.3465	6.5000e-004		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	57.2619	57.2619	0.0185	0.0000	57.7249
Total	**8.0000e-003**	**0.0347**	**0.3465**	**6.5000e-004**	**0.1484**	**1.0700e-003**	**0.1495**	**0.0302**	**1.0700e-003**	**0.0313**	**0.0000**	**57.2619**	**57.2619**	**0.0185**	**0.0000**	**57.7249**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	3.8000e-004	4.4100e-003	1.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3035	1.3035	3.0000e-005	0.0000	1.3043
Total	**6.4000e-004**	**3.8000e-004**	**4.4100e-003**	**1.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3035**	**1.3035**	**3.0000e-005**	**0.0000**	**1.3043**

3.6 Grading P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5205	0.0000	0.5205	0.1518	0.0000	0.1518	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1046	1.0523	0.9010	2.0200e-003		0.0434	0.0434		0.0399	0.0399	0.0000	177.1885	177.1885	0.0573	0.0000	178.6211
Total	**0.1046**	**1.0523**	**0.9010**	**2.0200e-003**	**0.5205**	**0.0434**	**0.5639**	**0.1518**	**0.0399**	**0.1917**	**0.0000**	**177.1885**	**177.1885**	**0.0573**	**0.0000**	**178.6211**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8900e-003	1.0800e-003	0.0127	4.0000e-005	5.2400e-003	3.0000e-005	5.2800e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	3.8920	3.8920	8.0000e-005	0.0000	3.8940
Total	**1.8900e-003**	**1.0800e-003**	**0.0127**	**4.0000e-005**	**5.2400e-003**	**3.0000e-005**	**5.2800e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**3.8920**	**3.8920**	**8.0000e-005**	**0.0000**	**3.8940**

3.6 Grading P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1991	0.0000	0.1991	0.0581	0.0000	0.0581	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0248	0.1073	1.0725	2.0200e-003		3.3000e-003	3.3000e-003		3.3000e-003	3.3000e-003	0.0000	177.1882	177.1882	0.0573	0.0000	178.6209
Total	**0.0248**	**0.1073**	**1.0725**	**2.0200e-003**	**0.1991**	**3.3000e-003**	**0.2024**	**0.0581**	**3.3000e-003**	**0.0614**	**0.0000**	**177.1882**	**177.1882**	**0.0573**	**0.0000**	**178.6209**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8900e-003	1.0800e-003	0.0127	4.0000e-005	5.2400e-003	3.0000e-005	5.2800e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	3.8920	3.8920	8.0000e-005	0.0000	3.8940
Total	**1.8900e-003**	**1.0800e-003**	**0.0127**	**4.0000e-005**	**5.2400e-003**	**3.0000e-005**	**5.2800e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**3.8920**	**3.8920**	**8.0000e-005**	**0.0000**	**3.8940**

3.7 Utilities P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0648	0.5915	0.7113	1.1900e-003		0.0270	0.0270		0.0254	0.0254	0.0000	102.0136	102.0136	0.0241	0.0000	102.6167
Total	**0.0648**	**0.5915**	**0.7113**	**1.1900e-003**		**0.0270**	**0.0270**		**0.0254**	**0.0254**	**0.0000**	**102.0136**	**102.0136**	**0.0241**	**0.0000**	**102.6167**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0436	1.5616	0.4976	5.5100e-003	0.1509	2.0000e-003	0.1529	0.0435	1.9100e-003	0.0454	0.0000	540.5993	540.5993	0.0376	0.0000	541.5401
Worker	0.1903	0.1088	1.2811	4.3400e-003	0.5290	3.5100e-003	0.5325	0.1405	3.2300e-003	0.1437	0.0000	392.8143	392.8143	8.2500e-003	0.0000	393.0206
Total	**0.2339**	**1.6704**	**1.7787**	**9.8500e-003**	**0.6799**	**5.5100e-003**	**0.6854**	**0.1840**	**5.1400e-003**	**0.1892**	**0.0000**	**933.4136**	**933.4136**	**0.0459**	**0.0000**	**934.5607**

3.7 Utilities P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0144	0.0983	0.7683	1.1900e-003		1.7900e-003	1.7900e-003		1.7900e-003	1.7900e-003	0.0000	102.0135	102.0135	0.0241	0.0000	102.6166
Total	**0.0144**	**0.0983**	**0.7683**	**1.1900e-003**		**1.7900e-003**	**1.7900e-003**		**1.7900e-003**	**1.7900e-003**	**0.0000**	**102.0135**	**102.0135**	**0.0241**	**0.0000**	**102.6166**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0436	1.5616	0.4976	5.5100e-003	0.1509	2.0000e-003	0.1529	0.0435	1.9100e-003	0.0454	0.0000	540.5993	540.5993	0.0376	0.0000	541.5401
Worker	0.1903	0.1088	1.2811	4.3400e-003	0.5290	3.5100e-003	0.5325	0.1405	3.2300e-003	0.1437	0.0000	392.8143	392.8143	8.2500e-003	0.0000	393.0206
Total	**0.2339**	**1.6704**	**1.7787**	**9.8500e-003**	**0.6799**	**5.5100e-003**	**0.6854**	**0.1840**	**5.1400e-003**	**0.1892**	**0.0000**	**933.4136**	**933.4136**	**0.0459**	**0.0000**	**934.5607**

3.8 Paving P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0509	0.4673	0.7150	1.1200e-003		0.0230	0.0230		0.0214	0.0214	0.0000	98.2221	98.2221	0.0288	0.0000	98.9421
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0509**	**0.4673**	**0.7150**	**1.1200e-003**		**0.0230**	**0.0230**		**0.0214**	**0.0214**	**0.0000**	**98.2221**	**98.2221**	**0.0288**	**0.0000**	**98.9421**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2700e-003	1.3000e-003	0.0153	5.0000e-005	6.3100e-003	4.0000e-005	6.3600e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	4.6883	4.6883	1.0000e-004	0.0000	4.6908
Total	**2.2700e-003**	**1.3000e-003**	**0.0153**	**5.0000e-005**	**6.3100e-003**	**4.0000e-005**	**6.3600e-003**	**1.6800e-003**	**4.0000e-005**	**1.7200e-003**	**0.0000**	**4.6883**	**4.6883**	**1.0000e-004**	**0.0000**	**4.6908**

3.8 Paving P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0135	0.0585	0.8321	1.1200e-003		1.8000e-003	1.8000e-003		1.8000e-003	1.8000e-003	0.0000	98.2220	98.2220	0.0288	0.0000	98.9420
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0135**	**0.0585**	**0.8321**	**1.1200e-003**		**1.8000e-003**	**1.8000e-003**		**1.8000e-003**	**1.8000e-003**	**0.0000**	**98.2220**	**98.2220**	**0.0288**	**0.0000**	**98.9420**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2700e-003	1.3000e-003	0.0153	5.0000e-005	6.3100e-003	4.0000e-005	6.3600e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	4.6883	4.6883	1.0000e-004	0.0000	4.6908
Total	**2.2700e-003**	**1.3000e-003**	**0.0153**	**5.0000e-005**	**6.3100e-003**	**4.0000e-005**	**6.3600e-003**	**1.6800e-003**	**4.0000e-005**	**1.7200e-003**	**0.0000**	**4.6883**	**4.6883**	**1.0000e-004**	**0.0000**	**4.6908**

3.9 Architectural Coating P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.8851					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**1.8869**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8700e-003	1.6400e-003	0.0193	7.0000e-005	7.9800e-003	5.0000e-005	8.0400e-003	2.1200e-003	5.0000e-005	2.1700e-003	0.0000	5.9278	5.9278	1.2000e-004	0.0000	5.9309
Total	**2.8700e-003**	**1.6400e-003**	**0.0193**	**7.0000e-005**	**7.9800e-003**	**5.0000e-005**	**8.0400e-003**	**2.1200e-003**	**5.0000e-005**	**2.1700e-003**	**0.0000**	**5.9278**	**5.9278**	**1.2000e-004**	**0.0000**	**5.9309**

3.9 Architectural Coating P2 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.8851					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.2900e-003	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**1.8854**	**1.2900e-003**	**0.0183**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8700e-003	1.6400e-003	0.0193	7.0000e-005	7.9800e-003	5.0000e-005	8.0400e-003	2.1200e-003	5.0000e-005	2.1700e-003	0.0000	5.9278	5.9278	1.2000e-004	0.0000	5.9309
Total	**2.8700e-003**	**1.6400e-003**	**0.0193**	**7.0000e-005**	**7.9800e-003**	**5.0000e-005**	**8.0400e-003**	**2.1200e-003**	**5.0000e-005**	**2.1700e-003**	**0.0000**	**5.9278**	**5.9278**	**1.2000e-004**	**0.0000**	**5.9309**

3.10 Grading P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0260	0.0000	0.0260	0.0108	0.0000	0.0108	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6500e-003	0.0971	0.0832	1.9000e-004		4.0100e-003	4.0100e-003		3.6900e-003	3.6900e-003	0.0000	16.3559	16.3559	5.2900e-003	0.0000	16.4881
Total	**9.6500e-003**	**0.0971**	**0.0832**	**1.9000e-004**	**0.0260**	**4.0100e-003**	**0.0300**	**0.0108**	**3.6900e-003**	**0.0145**	**0.0000**	**16.3559**	**16.3559**	**5.2900e-003**	**0.0000**	**16.4881**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.0000e-004	1.1700e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3593	0.3593	1.0000e-005	0.0000	0.3595
Total	**1.7000e-004**	**1.0000e-004**	**1.1700e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3593**	**0.3593**	**1.0000e-005**	**0.0000**	**0.3595**

3.10 Grading P4 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.9500e-003	0.0000	9.9500e-003	4.1300e-003	0.0000	4.1300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2800e-003	9.9000e-003	0.0990	1.9000e-004		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	16.3558	16.3558	5.2900e-003	0.0000	16.4881
Total	**2.2800e-003**	**9.9000e-003**	**0.0990**	**1.9000e-004**	**9.9500e-003**	**3.0000e-004**	**0.0103**	**4.1300e-003**	**3.0000e-004**	**4.4300e-003**	**0.0000**	**16.3558**	**16.3558**	**5.2900e-003**	**0.0000**	**16.4881**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.0000e-004	1.1700e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3593	0.3593	1.0000e-005	0.0000	0.3595
Total	**1.7000e-004**	**1.0000e-004**	**1.1700e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3593**	**0.3593**	**1.0000e-005**	**0.0000**	**0.3595**

3.11 Building Construction P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1076	0.1293	2.2000e-004		4.9100e-003	4.9100e-003		4.6200e-003	4.6200e-003	0.0000	18.5479	18.5479	4.3900e-003	0.0000	18.6576
Total	**0.0118**	**0.1076**	**0.1293**	**2.2000e-004**		**4.9100e-003**	**4.9100e-003**		**4.6200e-003**	**4.6200e-003**	**0.0000**	**18.5479**	**18.5479**	**4.3900e-003**	**0.0000**	**18.6576**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0900e-003	0.0750	0.0239	2.6000e-004	7.2500e-003	1.0000e-004	7.3400e-003	2.0900e-003	9.0000e-005	2.1800e-003	0.0000	25.9564	25.9564	1.8100e-003	0.0000	26.0016
Worker	9.1600e-003	5.2400e-003	0.0617	2.1000e-004	0.0255	1.7000e-004	0.0257	6.7700e-003	1.6000e-004	6.9200e-003	0.0000	18.9210	18.9210	4.0000e-004	0.0000	18.9309
Total	**0.0113**	**0.0802**	**0.0856**	**4.7000e-004**	**0.0327**	**2.7000e-004**	**0.0330**	**8.8600e-003**	**2.5000e-004**	**9.1000e-003**	**0.0000**	**44.8774**	**44.8774**	**2.2100e-003**	**0.0000**	**44.9325**

3.11 Building Construction P4 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.6200e-003	0.0179	0.1397	2.2000e-004		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	18.5479	18.5479	4.3900e-003	0.0000	18.6576
Total	**2.6200e-003**	**0.0179**	**0.1397**	**2.2000e-004**		**3.3000e-004**	**3.3000e-004**		**3.3000e-004**	**3.3000e-004**	**0.0000**	**18.5479**	**18.5479**	**4.3900e-003**	**0.0000**	**18.6576**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0900e-003	0.0750	0.0239	2.6000e-004	7.2500e-003	1.0000e-004	7.3400e-003	2.0900e-003	9.0000e-005	2.1800e-003	0.0000	25.9564	25.9564	1.8100e-003	0.0000	26.0016
Worker	9.1600e-003	5.2400e-003	0.0617	2.1000e-004	0.0255	1.7000e-004	0.0257	6.7700e-003	1.6000e-004	6.9200e-003	0.0000	18.9210	18.9210	4.0000e-004	0.0000	18.9309
Total	**0.0113**	**0.0802**	**0.0856**	**4.7000e-004**	**0.0327**	**2.7000e-004**	**0.0330**	**8.8600e-003**	**2.5000e-004**	**9.1000e-003**	**0.0000**	**44.8774**	**44.8774**	**2.2100e-003**	**0.0000**	**44.9325**

3.11 Building Construction P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1491	1.3592	1.7532	2.9400e-003		0.0575	0.0575		0.0541	0.0541	0.0000	252.7922	252.7922	0.0594	0.0000	254.2778
Total	**0.1491**	**1.3592**	**1.7532**	**2.9400e-003**		**0.0575**	**0.0575**		**0.0541**	**0.0541**	**0.0000**	**252.7922**	**252.7922**	**0.0594**	**0.0000**	**254.2778**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0276	1.0057	0.3189	3.5800e-003	0.0987	1.2700e-003	0.1000	0.0285	1.2200e-003	0.0297	0.0000	351.4562	351.4562	0.0242	0.0000	352.0619
Worker	0.1186	0.0652	0.7801	2.7300e-003	0.3472	2.2600e-003	0.3494	0.0922	2.0800e-003	0.0943	0.0000	247.3741	247.3741	4.9300e-003	0.0000	247.4973
Total	**0.1462**	**1.0708**	**1.0991**	**6.3100e-003**	**0.4459**	**3.5300e-003**	**0.4494**	**0.1207**	**3.3000e-003**	**0.1240**	**0.0000**	**598.8303**	**598.8303**	**0.0292**	**0.0000**	**599.5592**

3.11 Building Construction P4 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0357	0.2436	1.9032	2.9400e-003		4.4500e-003	4.4500e-003		4.4500e-003	4.4500e-003	0.0000	252.7919	252.7919	0.0594	0.0000	254.2775
Total	**0.0357**	**0.2436**	**1.9032**	**2.9400e-003**		**4.4500e-003**	**4.4500e-003**		**4.4500e-003**	**4.4500e-003**	**0.0000**	**252.7919**	**252.7919**	**0.0594**	**0.0000**	**254.2775**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0276	1.0057	0.3189	3.5800e-003	0.0987	1.2700e-003	0.1000	0.0285	1.2200e-003	0.0297	0.0000	351.4562	351.4562	0.0242	0.0000	352.0619
Worker	0.1186	0.0652	0.7801	2.7300e-003	0.3472	2.2600e-003	0.3494	0.0922	2.0800e-003	0.0943	0.0000	247.3741	247.3741	4.9300e-003	0.0000	247.4973
Total	**0.1462**	**1.0708**	**1.0991**	**6.3100e-003**	**0.4459**	**3.5300e-003**	**0.4494**	**0.1207**	**3.3000e-003**	**0.1240**	**0.0000**	**598.8303**	**598.8303**	**0.0292**	**0.0000**	**599.5592**

3.12 Architectural Coating P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5081					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0115	0.0181	3.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567
Total	**1.5098**	**0.0115**	**0.0181**	**3.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5567**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1800e-003	1.2000e-003	0.0143	5.0000e-005	6.3700e-003	4.0000e-005	6.4100e-003	1.6900e-003	4.0000e-005	1.7300e-003	0.0000	4.5390	4.5390	9.0000e-005	0.0000	4.5412
Total	**2.1800e-003**	**1.2000e-003**	**0.0143**	**5.0000e-005**	**6.3700e-003**	**4.0000e-005**	**6.4100e-003**	**1.6900e-003**	**4.0000e-005**	**1.7300e-003**	**0.0000**	**4.5390**	**4.5390**	**9.0000e-005**	**0.0000**	**4.5412**

3.12 Architectural Coating P4 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5081					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.2900e-003	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567
Total	**1.5084**	**1.2900e-003**	**0.0183**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5567**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1800e-003	1.2000e-003	0.0143	5.0000e-005	6.3700e-003	4.0000e-005	6.4100e-003	1.6900e-003	4.0000e-005	1.7300e-003	0.0000	4.5390	4.5390	9.0000e-005	0.0000	4.5412
Total	**2.1800e-003**	**1.2000e-003**	**0.0143**	**5.0000e-005**	**6.3700e-003**	**4.0000e-005**	**6.4100e-003**	**1.6900e-003**	**4.0000e-005**	**1.7300e-003**	**0.0000**	**4.5390**	**4.5390**	**9.0000e-005**	**0.0000**	**4.5412**

3.13 Grading P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0260	0.0000	0.0260	0.0108	0.0000	0.0108	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7000e-003	0.0838	0.0790	1.9000e-004		3.3900e-003	3.3900e-003		3.1200e-003	3.1200e-003	0.0000	16.3519	16.3519	5.2900e-003	0.0000	16.4841
Total	**8.7000e-003**	**0.0838**	**0.0790**	**1.9000e-004**	**0.0260**	**3.3900e-003**	**0.0294**	**0.0108**	**3.1200e-003**	**0.0139**	**0.0000**	**16.3519**	**16.3519**	**5.2900e-003**	**0.0000**	**16.4841**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	9.0000e-005	1.0900e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3447	0.3447	1.0000e-005	0.0000	0.3449
Total	**1.7000e-004**	**9.0000e-005**	**1.0900e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3447**	**0.3447**	**1.0000e-005**	**0.0000**	**0.3449**

3.13 Grading P5 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.9500e-003	0.0000	9.9500e-003	4.1300e-003	0.0000	4.1300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2800e-003	9.9000e-003	0.0990	1.9000e-004		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	16.3518	16.3518	5.2900e-003	0.0000	16.4841
Total	**2.2800e-003**	**9.9000e-003**	**0.0990**	**1.9000e-004**	**9.9500e-003**	**3.0000e-004**	**0.0103**	**4.1300e-003**	**3.0000e-004**	**4.4300e-003**	**0.0000**	**16.3518**	**16.3518**	**5.2900e-003**	**0.0000**	**16.4841**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	9.0000e-005	1.0900e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3447	0.3447	1.0000e-005	0.0000	0.3449
Total	**1.7000e-004**	**9.0000e-005**	**1.0900e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3447**	**0.3447**	**1.0000e-005**	**0.0000**	**0.3449**

3.14 Building Construction P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0116	0.1060	0.1367	2.3000e-004		4.4800e-003	4.4800e-003		4.2200e-003	4.2200e-003	0.0000	19.7132	19.7132	4.6300e-003	0.0000	19.8290
Total	**0.0116**	**0.1060**	**0.1367**	**2.3000e-004**		**4.4800e-003**	**4.4800e-003**		**4.2200e-003**	**4.2200e-003**	**0.0000**	**19.7132**	**19.7132**	**4.6300e-003**	**0.0000**	**19.8290**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1500e-003	0.0784	0.0249	2.8000e-004	7.7000e-003	1.0000e-004	7.8000e-003	2.2200e-003	9.0000e-005	2.3200e-003	0.0000	27.4071	27.4071	1.8900e-003	0.0000	27.4544
Worker	9.2500e-003	5.0800e-003	0.0608	2.1000e-004	0.0271	1.8000e-004	0.0273	7.1900e-003	1.6000e-004	7.3500e-003	0.0000	19.2906	19.2906	3.8000e-004	0.0000	19.3003
Total	**0.0114**	**0.0835**	**0.0857**	**4.9000e-004**	**0.0348**	**2.8000e-004**	**0.0351**	**9.4100e-003**	**2.5000e-004**	**9.6700e-003**	**0.0000**	**46.6978**	**46.6978**	**2.2700e-003**	**0.0000**	**46.7546**

3.14 Building Construction P5 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7900e-003	0.0190	0.1484	2.3000e-004		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	19.7131	19.7131	4.6300e-003	0.0000	19.8290
Total	**2.7900e-003**	**0.0190**	**0.1484**	**2.3000e-004**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**19.7131**	**19.7131**	**4.6300e-003**	**0.0000**	**19.8290**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1500e-003	0.0784	0.0249	2.8000e-004	7.7000e-003	1.0000e-004	7.8000e-003	2.2200e-003	9.0000e-005	2.3200e-003	0.0000	27.4071	27.4071	1.8900e-003	0.0000	27.4544
Worker	9.2500e-003	5.0800e-003	0.0608	2.1000e-004	0.0271	1.8000e-004	0.0273	7.1900e-003	1.6000e-004	7.3500e-003	0.0000	19.2906	19.2906	3.8000e-004	0.0000	19.3003
Total	**0.0114**	**0.0835**	**0.0857**	**4.9000e-004**	**0.0348**	**2.8000e-004**	**0.0351**	**9.4100e-003**	**2.5000e-004**	**9.6700e-003**	**0.0000**	**46.6978**	**46.6978**	**2.2700e-003**	**0.0000**	**46.7546**

3.14 Building Construction P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1484	1.3530	1.7452	2.9300e-003		0.0572	0.0572		0.0538	0.0538	0.0000	251.6326	251.6326	0.0592	0.0000	253.1114
Total	**0.1484**	**1.3530**	**1.7452**	**2.9300e-003**		**0.0572**	**0.0572**		**0.0538**	**0.0538**	**0.0000**	**251.6326**	**251.6326**	**0.0592**	**0.0000**	**253.1114**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0266	0.9857	0.3127	3.5400e-003	0.0983	1.2300e-003	0.0995	0.0284	1.1800e-003	0.0295	0.0000	347.8024	347.8024	0.0238	0.0000	348.3963
Worker	0.1126	0.0595	0.7244	2.6200e-003	0.3456	2.1800e-003	0.3477	0.0918	2.0000e-003	0.0938	0.0000	237.2434	237.2434	4.4800e-003	0.0000	237.3554
Total	**0.1392**	**1.0452**	**1.0371**	**6.1600e-003**	**0.4439**	**3.4100e-003**	**0.4473**	**0.1201**	**3.1800e-003**	**0.1233**	**0.0000**	**585.0458**	**585.0458**	**0.0282**	**0.0000**	**585.7518**

3.14 Building Construction P5 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0356	0.2425	1.8944	2.9300e-003		4.4300e-003	4.4300e-003		4.4300e-003	4.4300e-003	0.0000	251.6323	251.6323	0.0592	0.0000	253.1111
Total	**0.0356**	**0.2425**	**1.8944**	**2.9300e-003**		**4.4300e-003**	**4.4300e-003**		**4.4300e-003**	**4.4300e-003**	**0.0000**	**251.6323**	**251.6323**	**0.0592**	**0.0000**	**253.1111**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0266	0.9857	0.3127	3.5400e-003	0.0983	1.2300e-003	0.0995	0.0284	1.1800e-003	0.0295	0.0000	347.8024	347.8024	0.0238	0.0000	348.3963
Worker	0.1126	0.0595	0.7244	2.6200e-003	0.3456	2.1800e-003	0.3477	0.0918	2.0000e-003	0.0938	0.0000	237.2434	237.2434	4.4800e-003	0.0000	237.3554
Total	**0.1392**	**1.0452**	**1.0371**	**6.1600e-003**	**0.4439**	**3.4100e-003**	**0.4473**	**0.1201**	**3.1800e-003**	**0.1233**	**0.0000**	**585.0458**	**585.0458**	**0.0282**	**0.0000**	**585.7518**

3.15 Architectural Coating P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5081					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7900e-003	0.0120	0.0190	3.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.0000	2.6809	2.6809	1.5000e-004	0.0000	2.6846
Total	**1.5099**	**0.0120**	**0.0190**	**3.0000e-005**		**5.4000e-004**	**5.4000e-004**		**5.4000e-004**	**5.4000e-004**	**0.0000**	**2.6809**	**2.6809**	**1.5000e-004**	**0.0000**	**2.6846**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1800e-003	1.1500e-003	0.0140	5.0000e-005	6.6900e-003	4.0000e-005	6.7300e-003	1.7800e-003	4.0000e-005	1.8200e-003	0.0000	4.5918	4.5918	9.0000e-005	0.0000	4.5940
Total	**2.1800e-003**	**1.1500e-003**	**0.0140**	**5.0000e-005**	**6.6900e-003**	**4.0000e-005**	**6.7300e-003**	**1.7800e-003**	**4.0000e-005**	**1.8200e-003**	**0.0000**	**4.5918**	**4.5918**	**9.0000e-005**	**0.0000**	**4.5940**

3.15 Architectural Coating P5 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5081					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1000e-004	1.3500e-003	0.0192	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.6809	2.6809	1.5000e-004	0.0000	2.6846
Total	**1.5084**	**1.3500e-003**	**0.0192**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.6809**	**2.6809**	**1.5000e-004**	**0.0000**	**2.6846**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1800e-003	1.1500e-003	0.0140	5.0000e-005	6.6900e-003	4.0000e-005	6.7300e-003	1.7800e-003	4.0000e-005	1.8200e-003	0.0000	4.5918	4.5918	9.0000e-005	0.0000	4.5940
Total	**2.1800e-003**	**1.1500e-003**	**0.0140**	**5.0000e-005**	**6.6900e-003**	**4.0000e-005**	**6.7300e-003**	**1.7800e-003**	**4.0000e-005**	**1.8200e-003**	**0.0000**	**4.5918**	**4.5918**	**9.0000e-005**	**0.0000**	**4.5940**

3.16 Grading P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0174	0.0000	0.0174	7.1900e-003	0.0000	7.1900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8000e-003	0.0559	0.0527	1.2000e-004		2.2600e-003	2.2600e-003		2.0800e-003	2.0800e-003	0.0000	10.9012	10.9012	3.5300e-003	0.0000	10.9894
Total	**5.8000e-003**	**0.0559**	**0.0527**	**1.2000e-004**	**0.0174**	**2.2600e-003**	**0.0196**	**7.1900e-003**	**2.0800e-003**	**9.2700e-003**	**0.0000**	**10.9012**	**10.9012**	**3.5300e-003**	**0.0000**	**10.9894**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	6.0000e-005	6.8000e-004	0.0000	3.2000e-004	0.0000	3.2000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2214	0.2214	0.0000	0.0000	0.2215
Total	**1.1000e-004**	**6.0000e-005**	**6.8000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2214**	**0.2214**	**0.0000**	**0.0000**	**0.2215**

3.16 Grading P6 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.6400e-003	0.0000	6.6400e-003	2.7500e-003	0.0000	2.7500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5200e-003	6.6000e-003	0.0660	1.2000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	10.9012	10.9012	3.5300e-003	0.0000	10.9894
Total	**1.5200e-003**	**6.6000e-003**	**0.0660**	**1.2000e-004**	**6.6400e-003**	**2.0000e-004**	**6.8400e-003**	**2.7500e-003**	**2.0000e-004**	**2.9500e-003**	**0.0000**	**10.9012**	**10.9012**	**3.5300e-003**	**0.0000**	**10.9894**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	6.0000e-005	6.8000e-004	0.0000	3.2000e-004	0.0000	3.2000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2214	0.2214	0.0000	0.0000	0.2215
Total	**1.1000e-004**	**6.0000e-005**	**6.8000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2214**	**0.2214**	**0.0000**	**0.0000**	**0.2215**

3.17 Building Construction P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0130	0.1185	0.1528	2.6000e-004		5.0100e-003	5.0100e-003		4.7100e-003	4.7100e-003	0.0000	22.0324	22.0324	5.1800e-003	0.0000	22.1618
Total	**0.0130**	**0.1185**	**0.1528**	**2.6000e-004**		**5.0100e-003**	**5.0100e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**22.0324**	**22.0324**	**5.1800e-003**	**0.0000**	**22.1618**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2300e-003	0.0457	0.0145	1.6000e-004	4.5600e-003	6.0000e-005	4.6100e-003	1.3100e-003	5.0000e-005	1.3700e-003	0.0000	16.1220	16.1220	1.1000e-003	0.0000	16.1496
Worker	5.1700e-003	2.7300e-003	0.0332	1.2000e-004	0.0159	1.0000e-004	0.0160	4.2100e-003	9.0000e-005	4.3000e-003	0.0000	10.8858	10.8858	2.1000e-004	0.0000	10.8910
Total	**6.4000e-003**	**0.0484**	**0.0477**	**2.8000e-004**	**0.0204**	**1.6000e-004**	**0.0206**	**5.5200e-003**	**1.4000e-004**	**5.6700e-003**	**0.0000**	**27.0079**	**27.0079**	**1.3100e-003**	**0.0000**	**27.0405**

3.17 Building Construction P6 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.1100e-003	0.0212	0.1659	2.6000e-004		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	22.0323	22.0323	5.1800e-003	0.0000	22.1618
Total	**3.1100e-003**	**0.0212**	**0.1659**	**2.6000e-004**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**22.0323**	**22.0323**	**5.1800e-003**	**0.0000**	**22.1618**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2300e-003	0.0457	0.0145	1.6000e-004	4.5600e-003	6.0000e-005	4.6100e-003	1.3100e-003	5.0000e-005	1.3700e-003	0.0000	16.1220	16.1220	1.1000e-003	0.0000	16.1496
Worker	5.1700e-003	2.7300e-003	0.0332	1.2000e-004	0.0159	1.0000e-004	0.0160	4.2100e-003	9.0000e-005	4.3000e-003	0.0000	10.8858	10.8858	2.1000e-004	0.0000	10.8910
Total	**6.4000e-003**	**0.0484**	**0.0477**	**2.8000e-004**	**0.0204**	**1.6000e-004**	**0.0206**	**5.5200e-003**	**1.4000e-004**	**5.6700e-003**	**0.0000**	**27.0079**	**27.0079**	**1.3100e-003**	**0.0000**	**27.0405**

3.17 Building Construction P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0656	0.5985	0.7721	1.2900e-003		0.0253	0.0253		0.0238	0.0238	0.0000	111.3213	111.3213	0.0262	0.0000	111.9755
Total	**0.0656**	**0.5985**	**0.7721**	**1.2900e-003**		**0.0253**	**0.0253**		**0.0238**	**0.0238**	**0.0000**	**111.3213**	**111.3213**	**0.0262**	**0.0000**	**111.9755**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0700e-003	0.2273	0.0724	8.2000e-004	0.0230	2.8000e-004	0.0233	6.6400e-003	2.7000e-004	6.9100e-003	0.0000	81.0091	81.0091	5.4800e-003	0.0000	81.1462
Worker	0.0248	0.0127	0.1571	5.9000e-004	0.0801	4.8000e-004	0.0806	0.0213	4.4000e-004	0.0217	0.0000	53.1701	53.1701	9.5000e-004	0.0000	53.1939
Total	**0.0309**	**0.2400**	**0.2295**	**1.4100e-003**	**0.1031**	**7.6000e-004**	**0.1039**	**0.0279**	**7.1000e-004**	**0.0286**	**0.0000**	**134.1793**	**134.1793**	**6.4300e-003**	**0.0000**	**134.3401**

3.17 Building Construction P6 - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0157	0.1073	0.8381	1.2900e-003		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003	0.0000	111.3212	111.3212	0.0262	0.0000	111.9754
Total	**0.0157**	**0.1073**	**0.8381**	**1.2900e-003**		**1.9600e-003**	**1.9600e-003**		**1.9600e-003**	**1.9600e-003**	**0.0000**	**111.3212**	**111.3212**	**0.0262**	**0.0000**	**111.9754**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0700e-003	0.2273	0.0724	8.2000e-004	0.0230	2.8000e-004	0.0233	6.6400e-003	2.7000e-004	6.9100e-003	0.0000	81.0091	81.0091	5.4800e-003	0.0000	81.1462
Worker	0.0248	0.0127	0.1571	5.9000e-004	0.0801	4.8000e-004	0.0806	0.0213	4.4000e-004	0.0217	0.0000	53.1701	53.1701	9.5000e-004	0.0000	53.1939
Total	**0.0309**	**0.2400**	**0.2295**	**1.4100e-003**	**0.1031**	**7.6000e-004**	**0.1039**	**0.0279**	**7.1000e-004**	**0.0286**	**0.0000**	**134.1793**	**134.1793**	**6.4300e-003**	**0.0000**	**134.3401**

3.18 Architectural Coating P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7918					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4000e-004	6.3000e-003	9.9500e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	1.4043	1.4043	8.0000e-005	0.0000	1.4062
Total	**0.7927**	**6.3000e-003**	**9.9500e-003**	**2.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**1.4043**	**1.4043**	**8.0000e-005**	**0.0000**	**1.4062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	2.9000e-004	3.5700e-003	1.0000e-005	1.8200e-003	1.0000e-005	1.8300e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.2067	1.2067	2.0000e-005	0.0000	1.2073
Total	**5.6000e-004**	**2.9000e-004**	**3.5700e-003**	**1.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8300e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.2067**	**1.2067**	**2.0000e-005**	**0.0000**	**1.2073**

3.18 Architectural Coating P6 - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7918					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6000e-004	7.1000e-004	0.0101	2.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.4043	1.4043	8.0000e-005	0.0000	1.4062
Total	**0.7919**	**7.1000e-004**	**0.0101**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**1.4043**	**1.4043**	**8.0000e-005**	**0.0000**	**1.4062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	2.9000e-004	3.5700e-003	1.0000e-005	1.8200e-003	1.0000e-005	1.8300e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.2067	1.2067	2.0000e-005	0.0000	1.2073
Total	**5.6000e-004**	**2.9000e-004**	**3.5700e-003**	**1.0000e-005**	**1.8200e-003**	**1.0000e-005**	**1.8300e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.2067**	**1.2067**	**2.0000e-005**	**0.0000**	**1.2073**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1126	4.3898	13.4446	0.0551	6.1093	0.0418	6.1512	1.6336	0.0388	1.6724	0.0000	5,083.4482	5,083.4482	0.1859	0.0000	5,088.0951
Unmitigated	1.1526	4.6055	14.5820	0.0608	6.7881	0.0458	6.8339	1.8152	0.0425	1.8576	0.0000	5,614.1469	5,614.1469	0.2024	0.0000	5,619.2059

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,188.68	2,188.68	2188.68	6,047,482	5,442,734
City Park	5.47	5.47	5.47	11,676	10,509
Single Family Housing	4,304.64	4,304.64	4304.64	11,894,033	10,704,629
Total	6,498.79	6,498.79	6,498.79	17,953,191	16,157,872

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Single Family Housing	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.606220	0.039388	0.187721	0.099847	0.014851	0.005755	0.020359	0.018389	0.001198	0.001075	0.003720	0.000404	0.001073
City Park	0.606220	0.039388	0.187721	0.099847	0.014851	0.005755	0.020359	0.018389	0.001198	0.001075	0.003720	0.000404	0.001073
Single Family Housing	0.606220	0.039388	0.187721	0.099847	0.014851	0.005755	0.020359	0.018389	0.001198	0.001075	0.003720	0.000404	0.001073

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Percent of Electricity Use Generated with Renewable Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	866.6368	866.6368	0.0358	7.4000e-003	869.7372
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,561.3511	1,561.3511	0.0645	0.0133	1,566.9369
NaturalGas Mitigated	0.0840	0.7180	0.3055	4.5800e-003		0.0581	0.0581		0.0581	0.0581	0.0000	831.5232	831.5232	0.0159	0.0152	836.4645
NaturalGas Unmitigated	0.0840	0.7180	0.3055	4.5800e-003		0.0581	0.0581		0.0581	0.0581	0.0000	831.5232	831.5232	0.0159	0.0152	836.4645

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	3.81512e+006	0.0206	0.1758	0.0748	1.1200e-003		0.0142	0.0142		0.0142	0.0142	0.0000	203.5892	203.5892	3.9000e-003	3.7300e-003	204.7990
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.1767e+007	0.0635	0.5422	0.2307	3.4600e-003		0.0438	0.0438		0.0438	0.0438	0.0000	627.9340	627.9340	0.0120	0.0115	631.6655
Total		**0.0840**	**0.7180**	**0.3055**	**4.5800e-003**		**0.0581**	**0.0581**		**0.0581**	**0.0581**	**0.0000**	**831.5232**	**831.5232**	**0.0159**	**0.0152**	**836.4645**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	3.81512e+006	0.0206	0.1758	0.0748	1.1200e-003		0.0142	0.0142		0.0142	0.0142	0.0000	203.5892	203.5892	3.9000e-003	3.7300e-003	204.7990
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.1767e+007	0.0635	0.5422	0.2307	3.4600e-003		0.0438	0.0438		0.0438	0.0438	0.0000	627.9340	627.9340	0.0120	0.0115	631.6655
Total		**0.0840**	**0.7180**	**0.3055**	**4.5800e-003**		**0.0581**	**0.0581**		**0.0581**	**0.0581**	**0.0000**	**831.5232**	**831.5232**	**0.0159**	**0.0152**	**836.4645**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.24388e+006	396.3265	0.0164	3.3900e-003	397.7443
City Park	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	3.65645e+006	1,165.0247	0.0481	9.9500e-003	1,169.1926
Total		**1,561.3511**	**0.0645**	**0.0133**	**1,566.9369**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	677064	215.7273	8.9100e-003	1.8400e-003	216.4990
City Park	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.04289e+006	650.9095	0.0269	5.5600e-003	653.2382
Total		**866.6368**	**0.0358**	**7.4000e-003**	**869.7372**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.1358	0.0645	5.6012	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1583	9.1583	8.7700e-003	0.0000	9.3776
Unmitigated	5.1358	0.0645	5.6012	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1583	9.1583	8.7700e-003	0.0000	9.3776

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5693					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3983					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1682	0.0645	5.6012	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1583	9.1583	8.7700e-003	0.0000	9.3776
Total	**5.1358**	**0.0645**	**5.6012**	**3.0000e-004**		**0.0311**	**0.0311**		**0.0311**	**0.0311**	**0.0000**	**9.1583**	**9.1583**	**8.7700e-003**	**0.0000**	**9.3776**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5693					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3983					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1682	0.0645	5.6012	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1583	9.1583	8.7700e-003	0.0000	9.3776
Total	**5.1358**	**0.0645**	**5.6012**	**3.0000e-004**		**0.0311**	**0.0311**		**0.0311**	**0.0311**	**0.0000**	**9.1583**	**9.1583**	**8.7700e-003**	**0.0000**	**9.3776**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Grey Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	430.4506	1.2996	0.0339	473.0268
Unmitigated	581.3494	1.6263	0.0427	634.7245

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	19.4811 / 12.2815	130.4781	0.6399	0.0161	151.2591
City Park	0 / 71.1553	251.8814	0.0104	2.1500e-003	252.7825
Single Family Housing	29.7102 / 18.7304	198.9899	0.9759	0.0245	230.6828
Total		**581.3494**	**1.6263**	**0.0427**	**634.7245**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	15.5848 / 8.64927	100.2197	0.5118	0.0128	116.8297
City Park	0 / 50.1111	177.3875	7.3200e-003	1.5200e-003	178.0221
Single Family Housing	23.7682 / 13.1909	152.8434	0.7805	0.0195	178.1750
Total		**430.4506**	**1.2996**	**0.0339**	**473.0268**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	72.5317	4.2865	0.0000	179.6943
Unmitigated	145.0634	8.5730	0.0000	359.3885

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	137.54	27.9194	1.6500	0.0000	69.1691
City Park	5.14	1.0434	0.0617	0.0000	2.5849
Single Family Housing	571.95	116.1007	6.8614	0.0000	287.6345
Total		**145.0634**	**8.5730**	**0.0000**	**359.3885**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	68.77	13.9597	0.8250	0.0000	34.5845
City Park	2.57	0.5217	0.0308	0.0000	1.2925
Single Family Housing	285.975	58.0503	3.4307	0.0000	143.8173
Total		**72.5317**	**4.2865**	**0.0000**	**179.6943**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Hitch Ranch

Ventura County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	60.77	Acre	60.77	2,647,141.20	0
Apartments Low Rise	299.00	Dwelling Unit	18.69	299,000.00	915
Single Family Housing	456.00	Dwelling Unit	148.05	820,800.00	1395

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2027
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land uses consistent with Traffic Study trip generation table. City Park land use added to account for open space and recreation lots.

Construction Phase - Phase duration per project applicant.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Trips (worker and vendor) during building construction reflect proportion of project constructed during each phase. Grading material balanced on-site, no off-site hauling trips required.

Grading - Total acres graded per Hiitch Ranch Specific Plan Figure 2-1A. No import/export per project applicant for grading P1 and grading P3, balanced on-site. Other phases only fine grading for building pads; estimated acrage.

Architectural Coating - Coating square footage distributed by amount of project being constructed per phase.

Vehicle Trips - Trip rates from the TIA

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating -

Construction Off-road Equipment Mitigation - Fugitive dust mitigation reflects Section 7.4.1 "Fugitive Dust Mitigation Measures" of the VCAPCD Air Quality Assessment Guidelines Section 7.4.1.

Mobile Land Use Mitigation - The distance from the center of the project site to the Moorpark Metrolink Station is approximately 0.9 miles. General Plan requires 10 to 15% low income.

Area Mitigation -

Energy Mitigation - Mitigation requiring Energy-Star-qualified LEDs and 30% on-site renewable energy.

Water Mitigation - Consistent with CalGreen and Moorpark Water Efficient Landscape Ordinance.

Waste Mitigation - Waste Management (which serves Moorpark) states that 50% of waste in California is diverted away from landfills.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	755,865.00	105,120.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	755,865.00	200,229.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	755,865.00	200,229.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	755,865.00	250,286.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,267,595.00	315,361.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,267,595.00	600,687.00

tblArchitecturalCoating	ConstArea_Residential_Interior	2,267,595.00	600,687.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,267,595.00	750,859.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	15.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	27.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

Hitch Ranch - Ventura County, Summer

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	330.00	20.00
tblConstructionPhase	NumDays	330.00	21.00
tblConstructionPhase	NumDays	330.00	11.00
tblConstructionPhase	NumDays	330.00	20.00
tblConstructionPhase	NumDays	4,650.00	234.00
tblConstructionPhase	NumDays	4,650.00	234.00
tblConstructionPhase	NumDays	4,650.00	115.00
tblConstructionPhase	NumDays	4,650.00	367.00
tblConstructionPhase	NumDays	4,650.00	88.00
tblConstructionPhase	NumDays	465.00	218.00
tblConstructionPhase	NumDays	465.00	6.00
tblConstructionPhase	NumDays	465.00	4.00
tblConstructionPhase	NumDays	465.00	5.00
tblConstructionPhase	NumDays	465.00	86.00
tblConstructionPhase	NumDays	465.00	6.00
tblConstructionPhase	NumDays	330.00	72.00
tblConstructionPhase	NumDays	330.00	87.00
tblGrading	AcresOfGrading	545.00	437.50
tblGrading	MaterialExported	0.00	3,900,000.00
tblGrading	MaterialExported	0.00	1,500,000.00
tblGrading	MaterialImported	0.00	3,900,000.00
tblGrading	MaterialImported	0.00	1,500,000.00
tblSolidWaste	SolidWasteGenerationRate	5.23	5.14
tblTripsAndVMT	HaulingTripNumber	975,000.00	0.00
tblTripsAndVMT	HaulingTripNumber	375,000.00	0.00

tblTripsAndVMT	VendorTripNumber	515.00	136.00
tblTripsAndVMT	VendorTripNumber	515.00	136.00
tblTripsAndVMT	VendorTripNumber	515.00	72.00
tblTripsAndVMT	VendorTripNumber	515.00	171.00
tblTripsAndVMT	WorkerTripNumber	1,491.00	395.00
tblTripsAndVMT	WorkerTripNumber	298.00	79.00
tblTripsAndVMT	WorkerTripNumber	1,491.00	395.00
tblTripsAndVMT	WorkerTripNumber	298.00	79.00
tblTripsAndVMT	WorkerTripNumber	1,491.00	207.00
tblTripsAndVMT	WorkerTripNumber	298.00	41.00
tblTripsAndVMT	WorkerTripNumber	1,491.00	494.00
tblTripsAndVMT	WorkerTripNumber	298.00	99.00
tblVehicleTrips	ST_TR	7.16	7.32
tblVehicleTrips	ST_TR	22.75	0.09
tblVehicleTrips	ST_TR	9.91	9.44
tblVehicleTrips	SU_TR	6.07	7.32
tblVehicleTrips	SU_TR	16.74	0.09
tblVehicleTrips	SU_TR	8.62	9.44
tblVehicleTrips	WD_TR	6.59	7.32
tblVehicleTrips	WD_TR	1.89	0.09
tblVehicleTrips	WD_TR	9.52	9.44
tblWater	OutdoorWaterUseRate	72,406,321.62	71,155,266.20

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6892	38.8792	29.5143	0.0636	13.3425	1.6360	14.9785	4.3450	1.5051	5.8501	0.0000	6,159.7465	6,159.7465	1.9477	0.0000	6,208.4391
2023	6.7833	61.5825	59.1828	0.1681	18.9538	2.1671	21.1209	5.7915	2.0090	7.8004	0.0000	16,799.7061	16,799.7061	2.9443	0.0000	16,873.3146
2024	190.1973	76.8059	87.0280	0.3595	20.9449	1.9909	22.3366	5.7915	1.8448	7.6363	0.0000	36,998.2563	36,998.2563	2.9280	0.0000	37,066.3092
2025	151.1956	27.9696	26.7090	0.0863	8.8376	1.1319	9.9696	3.6401	1.0414	4.6815	0.0000	8,755.4885	8,755.4885	1.9458	0.0000	8,777.8007
2026	144.0040	27.9674	26.6840	0.0851	8.8376	1.1319	9.9695	3.6401	1.0414	4.6814	0.0000	8,638.9962	8,638.9962	1.9456	0.0000	8,661.1130
2027	144.2268	17.4149	20.9410	0.0570	2.1874	0.5432	2.7307	0.5912	0.5109	1.1021	0.0000	5,708.7920	5,708.7920	0.7471	0.0000	5,727.4702
Maximum	**190.1973**	**76.8059**	**87.0280**	**0.3595**	**20.9449**	**2.1671**	**22.3366**	**5.7915**	**2.0090**	**7.8004**	**0.0000**	**36,998.2563**	**36,998.2563**	**2.9443**	**0.0000**	**37,066.3092**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.8260	3.3357	33.4720	0.0636	5.2050	0.1027	5.3076	1.6889	0.1026	1.7914	0.0000	6,159.7465	6,159.7465	1.9477	0.0000	6,208.4391
2023	2.9781	18.2168	65.3470	0.1681	10.5711	0.1852	10.7563	3.1123	0.1823	3.2946	0.0000	16,799.7061	16,799.7061	2.9443	0.0000	16,873.3146
2024	189.1876	54.3878	89.6149	0.3595	20.9449	0.2467	21.1916	5.6601	0.2356	5.8958	0.0000	36,998.2563	36,998.2563	2.9280	0.0000	37,066.3092
2025	151.0545	11.9391	33.3771	0.0863	4.1645	0.1026	4.2375	1.4192	0.1025	1.5218	0.0000	8,755.4885	8,755.4885	1.9458	0.0000	8,777.8007
2026	143.8628	11.7569	33.3520	0.0851	4.1646	0.1026	4.2366	1.4192	0.1025	1.5217	0.0000	8,638.9962	8,638.9962	1.9456	0.0000	8,661.1130
2027	144.0856	7.1800	22.3166	0.0570	2.1874	0.0565	2.2439	0.5912	0.0554	0.6466	0.0000	5,708.7920	5,708.7920	0.7471	0.0000	5,727.4702
Maximum	**189.1876**	**54.3878**	**89.6149**	**0.3595**	**20.9449**	**0.2467**	**21.1916**	**5.6601**	**0.2356**	**5.8958**	**0.0000**	**36,998.2563**	**36,998.2563**	**2.9443**	**0.0000**	**37,066.3092**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.27**	**57.38**	**-10.97**	**0.00**	**35.38**	**90.74**	**40.85**	**41.63**	**90.18**	**53.79**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	29.0886	0.7169	62.2356	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1703	112.1703	0.1074	0.0000	114.8562
Energy	0.4604	3.9343	1.6742	0.0251		0.3181	0.3181		0.3181	0.3181		5,022.4517	5,022.4517	0.0963	0.0921	5,052.2976
Mobile	6.7997	24.4547	81.6442	0.3460	37.9898	0.2516	38.2413	10.1433	0.2332	10.3766		35,184.3106	35,184.3106	1.2265		35,214.9736
Total	**36.3486**	**29.1058**	**145.5540**	**0.3744**	**37.9898**	**0.9150**	**38.9047**	**10.1433**	**0.8966**	**11.0400**	**0.0000**	**40,318.9326**	**40,318.9326**	**1.4302**	**0.0921**	**40,382.1275**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	29.0886	0.7169	62.2356	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1703	112.1703	0.1074	0.0000	114.8562
Energy	0.4604	3.9343	1.6742	0.0251		0.3181	0.3181		0.3181	0.3181		5,022.4517	5,022.4517	0.0963	0.0921	5,052.2976
Mobile	6.5778	23.3571	74.9661	0.3132	34.1908	0.2297	34.4205	9.1290	0.2130	9.3420		31,858.5294	31,858.5294	1.1249		31,886.6509
Total	**36.1268**	**28.0082**	**138.8759**	**0.3416**	**34.1908**	**0.8931**	**35.0839**	**9.1290**	**0.8764**	**10.0054**	**0.0000**	**36,993.1514**	**36,993.1514**	**1.3286**	**0.0921**	**37,053.8047**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.61**	**3.77**	**4.59**	**8.75**	**10.00**	**2.39**	**9.82**	**10.00**	**2.26**	**9.37**	**0.00**	**8.25**	**8.25**	**7.11**	**0.00**	**8.24**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/1/2022	3/31/2023	5	218	
2	Paving	Paving	2/1/2023	5/11/2023	5	72	
3	Grading P2	Grading	6/1/2023	6/7/2023	5	5	
4	Building Construction P2	Building Construction	6/8/2023	11/1/2024	5	367	
5	Grading P3	Grading	12/1/2023	3/31/2024	5	86	
6	Utilities P3	Building Construction	4/1/2024	7/31/2024	5	88	
7	Paving P3	Paving	8/1/2024	11/30/2024	5	87	
8	Architectural Coating P2	Architectural Coating	11/2/2024	11/30/2024	5	20	
9	Grading P4	Grading	12/1/2024	12/9/2024	5	6	
10	Building Construction P4	Building Construction	12/10/2024	10/31/2025	5	234	
11	Architectural Coating P4	Architectural Coating	11/1/2025	11/30/2025	5	20	
12	Grading P5	Grading	12/1/2025	12/8/2025	5	6	
13	Building Construction P5	Building Construction	12/9/2025	10/31/2026	5	234	
14	Architectural Coating P5	Architectural Coating	11/1/2026	11/30/2026	5	21	
15	Grading P6	Grading	12/1/2026	12/5/2026	5	4	
16	Building Construction P6	Building Construction	12/6/2026	5/14/2027	5	115	
17	Architectural Coating P6	Architectural Coating	5/15/2027	5/31/2027	5	11	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 437.5

Acres of Paving: 0

Residential Indoor: 750,859; Residential Outdoor: 250,286; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading P2	Excavators	2	8.00	158	0.38
Grading P2	Graders	1	8.00	187	0.41
Grading P2	Rubber Tired Dozers	1	8.00	247	0.40
Grading P2	Scrapers	2	8.00	367	0.48
Grading P2	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P2	Cranes	1	7.00	231	0.29
Building Construction P2	Forklifts	3	8.00	89	0.20
Building Construction P2	Generator Sets	1	8.00	84	0.74
Building Construction P2	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P2	Welders	1	8.00	46	0.45
Grading P3	Excavators	2	8.00	158	0.38
Grading P3	Graders	1	8.00	187	0.41

Grading P3	Rubber Tired Dozers	1	8.00	247	0.40
Grading P3	Scrapers	2	8.00	367	0.48
Grading P3	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving P3	Air Compressors	1	6.00	78	0.48
Paving P3	Pavers	2	8.00	130	0.42
Paving P3	Paving Equipment	2	8.00	132	0.36
Paving P3	Rollers	2	8.00	80	0.38
Architectural Coating P2	Air Compressors	1	6.00	78	0.48
Grading P4	Excavators	2	8.00	158	0.38
Grading P4	Graders	1	8.00	187	0.41
Grading P4	Rubber Tired Dozers	1	8.00	247	0.40
Grading P4	Scrapers	2	8.00	367	0.48
Grading P4	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P4	Cranes	1	7.00	231	0.29
Building Construction P4	Forklifts	3	8.00	89	0.20
Building Construction P4	Generator Sets	1	8.00	84	0.74
Building Construction P4	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P4	Welders	1	8.00	46	0.45
Architectural Coating P4	Air Compressors	1	6.00	78	0.48
Grading P5	Excavators	2	8.00	158	0.38
Grading P5	Graders	1	8.00	187	0.41
Grading P5	Rubber Tired Dozers	1	8.00	247	0.40
Grading P5	Scrapers	2	8.00	367	0.48
Grading P5	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P5	Cranes	1	7.00	231	0.29
Building Construction P5	Forklifts	3	8.00	89	0.20
Building Construction P5	Generator Sets	1	8.00	84	0.74

Building Construction P5	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P5	Welders	1	8.00	46	0.45
Architectural Coating P5	Air Compressors	1	6.00	78	0.48
Grading P6	Excavators	2	8.00	158	0.38
Grading P6	Graders	1	8.00	187	0.41
Grading P6	Rubber Tired Dozers	1	8.00	247	0.40
Grading P6	Scrapers	2	8.00	367	0.48
Grading P6	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P6	Cranes	1	7.00	231	0.29
Building Construction P6	Forklifts	3	8.00	89	0.20
Building Construction P6	Generator Sets	1	8.00	84	0.74
Building Construction P6	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P6	Welders	1	8.00	46	0.45
Architectural Coating P6	Air Compressors	1	6.00	78	0.48
Utilities P3	Cranes	1	7.00	231	0.29
Utilities P3	Forklifts	3	8.00	89	0.20
Utilities P3	Generator Sets	1	8.00	84	0.74
Utilities P3	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Utilities P3	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P2	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P2	9	494.00	171.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P3	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving P3	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P2	1	99.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P4	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P4	9	395.00	136.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P4	1	79.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P5	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P5	9	395.00	136.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P5	1	79.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P6	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P6	9	207.00	72.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P6	1	41.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities P3	9	1,491.00	515.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1782	0.0000	13.1782	4.3014	0.0000	4.3014			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**13.1782**	**1.6349**	**14.8131**	**4.3014**	**1.5041**	**5.8055**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0644	0.0357	0.4728	1.4900e-003	0.1643	1.1100e-003	0.1654	0.0436	1.0200e-003	0.0446		148.3359	148.3359	3.4900e-003		148.4233
Total	**0.0644**	**0.0357**	**0.4728**	**1.4900e-003**	**0.1643**	**1.1100e-003**	**0.1654**	**0.0436**	**1.0200e-003**	**0.0446**		**148.3359**	**148.3359**	**3.4900e-003**		**148.4233**

3.2 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.0407	0.0000	5.0407	1.6453	0.0000	1.6453			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**5.0407**	**0.1015**	**5.1422**	**1.6453**	**0.1015**	**1.7468**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0644	0.0357	0.4728	1.4900e-003	0.1643	1.1100e-003	0.1654	0.0436	1.0200e-003	0.0446		148.3359	148.3359	3.4900e-003		148.4233
Total	**0.0644**	**0.0357**	**0.4728**	**1.4900e-003**	**0.1643**	**1.1100e-003**	**0.1654**	**0.0436**	**1.0200e-003**	**0.0446**		**148.3359**	**148.3359**	**3.4900e-003**		**148.4233**

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1782	0.0000	13.1782	4.3014	0.0000	4.3014			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**13.1782**	**1.4245**	**14.6027**	**4.3014**	**1.3105**	**5.6119**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0606	0.0322	0.4370	1.4300e-003	0.1643	1.0800e-003	0.1654	0.0436	1.0000e-003	0.0446		142.6522	142.6522	3.1500e-003		142.7310
Total	**0.0606**	**0.0322**	**0.4370**	**1.4300e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**142.6522**	**142.6522**	**3.1500e-003**		**142.7310**

3.2 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.0407	0.0000	5.0407	1.6453	0.0000	1.6453			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**5.0407**	**0.1015**	**5.1422**	**1.6453**	**0.1015**	**1.7468**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0606	0.0322	0.4370	1.4300e-003	0.1643	1.0800e-003	0.1654	0.0436	1.0000e-003	0.0446		142.6522	142.6522	3.1500e-003		142.7310
Total	**0.0606**	**0.0322**	**0.4370**	**1.4300e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**142.6522**	**142.6522**	**3.1500e-003**		**142.7310**

3.3 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0455	0.0242	0.3277	1.0700e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		106.9891	106.9891	2.3600e-003		107.0482
Total	**0.0455**	**0.0242**	**0.3277**	**1.0700e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.5000e-004**	**0.0334**		**106.9891**	**106.9891**	**2.3600e-003**		**107.0482**

3.3 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2805**	**1.2154**	**17.2957**	**0.0228**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0455	0.0242	0.3277	1.0700e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		106.9891	106.9891	2.3600e-003		107.0482
Total	**0.0455**	**0.0242**	**0.3277**	**1.0700e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.5000e-004**	**0.0334**		**106.9891**	**106.9891**	**2.3600e-003**		**107.0482**

3.4 Grading P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**8.6733**	**1.4245**	**10.0978**	**3.5965**	**1.3105**	**4.9070**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0606	0.0322	0.4370	1.4300e-003	0.1643	1.0800e-003	0.1654	0.0436	1.0000e-003	0.0446		142.6522	142.6522	3.1500e-003		142.7310
Total	**0.0606**	**0.0322**	**0.4370**	**1.4300e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**142.6522**	**142.6522**	**3.1500e-003**		**142.7310**

3.4 Grading P2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3176	0.0000	3.3176	1.3757	0.0000	1.3757			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**3.3176**	**0.1015**	**3.4191**	**1.3757**	**0.1015**	**1.4772**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0606	0.0322	0.4370	1.4300e-003	0.1643	1.0800e-003	0.1654	0.0436	1.0000e-003	0.0446		142.6522	142.6522	3.1500e-003		142.7310
Total	**0.0606**	**0.0322**	**0.4370**	**1.4300e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**142.6522**	**142.6522**	**3.1500e-003**		**142.7310**

3.5 Building Construction P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3312	11.8534	3.6570	0.0423	1.1562	0.0150	1.1712	0.3327	0.0143	0.3471		4,566.8574	4,566.8574	0.3113		4,574.6389
Worker	1.4970	0.7964	10.7937	0.0353	4.0581	0.0268	4.0849	1.0764	0.0247	1.1011		3,523.5089	3,523.5089	0.0779		3,525.4551
Total	**1.8282**	**12.6498**	**14.4506**	**0.0776**	**5.2143**	**0.0418**	**5.2561**	**1.4091**	**0.0390**	**1.4481**		**8,090.3663**	**8,090.3663**	**0.3891**		**8,100.0940**

3.5 Building Construction P2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**0.3278**	**2.2347**	**17.4603**	**0.0269**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3312	11.8534	3.6570	0.0423	1.1562	0.0150	1.1712	0.3327	0.0143	0.3471		4,566.8574	4,566.8574	0.3113		4,574.6389
Worker	1.4970	0.7964	10.7937	0.0353	4.0581	0.0268	4.0849	1.0764	0.0247	1.1011		3,523.5089	3,523.5089	0.0779		3,525.4551
Total	**1.8282**	**12.6498**	**14.4506**	**0.0776**	**5.2143**	**0.0418**	**5.2561**	**1.4091**	**0.0390**	**1.4481**		**8,090.3663**	**8,090.3663**	**0.3891**		**8,100.0940**

3.5 Building Construction P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3205	11.7184	3.5660	0.0420	1.1563	0.0147	1.1710	0.3328	0.0141	0.3468		4,543.9932	4,543.9932	0.3061		4,551.6448
Worker	1.4153	0.7236	10.0514	0.0341	4.0581	0.0264	4.0845	1.0764	0.0243	1.1007		3,398.9539	3,398.9539	0.0711		3,400.7307
Total	**1.7358**	**12.4420**	**13.6174**	**0.0761**	**5.2144**	**0.0411**	**5.2555**	**1.4092**	**0.0384**	**1.4475**		**7,942.9470**	**7,942.9470**	**0.3771**		**7,952.3754**

3.5 Building Construction P2 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3205	11.7184	3.5660	0.0420	1.1563	0.0147	1.1710	0.3328	0.0141	0.3468		4,543.9932	4,543.9932	0.3061		4,551.6448
Worker	1.4153	0.7236	10.0514	0.0341	4.0581	0.0264	4.0845	1.0764	0.0243	1.1007		3,398.9539	3,398.9539	0.0711		3,400.7307
Total	**1.7358**	**12.4420**	**13.6174**	**0.0761**	**5.2144**	**0.0411**	**5.2555**	**1.4092**	**0.0384**	**1.4475**		**7,942.9470**	**7,942.9470**	**0.3771**		**7,952.3754**

3.6 Grading P3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.5752	0.0000	13.5752	4.3388	0.0000	4.3388			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**13.5752**	**1.4245**	**14.9997**	**4.3388**	**1.3105**	**5.6493**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0606	0.0322	0.4370	1.4300e-003	0.1643	1.0800e-003	0.1654	0.0436	1.0000e-003	0.0446		142.6522	142.6522	3.1500e-003		142.7310
Total	**0.0606**	**0.0322**	**0.4370**	**1.4300e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**142.6522**	**142.6522**	**3.1500e-003**		**142.7310**

3.6 Grading P3 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.1925	0.0000	5.1925	1.6596	0.0000	1.6596			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**5.1925**	**0.1015**	**5.2941**	**1.6596**	**0.1015**	**1.7611**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0606	0.0322	0.4370	1.4300e-003	0.1643	1.0800e-003	0.1654	0.0436	1.0000e-003	0.0446		142.6522	142.6522	3.1500e-003		142.7310
Total	**0.0606**	**0.0322**	**0.4370**	**1.4300e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**142.6522**	**142.6522**	**3.1500e-003**		**142.7310**

3.6 Grading P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.5752	0.0000	13.5752	4.3388	0.0000	4.3388			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**13.5752**	**1.3354**	**14.9106**	**4.3388**	**1.2286**	**5.5674**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0573	0.0293	0.4069	1.3800e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		137.6095	137.6095	2.8800e-003		137.6814
Total	**0.0573**	**0.0293**	**0.4069**	**1.3800e-003**	**0.1643**	**1.0700e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**137.6095**	**137.6095**	**2.8800e-003**		**137.6814**

3.6 Grading P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.1925	0.0000	5.1925	1.6596	0.0000	1.6596			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**5.1925**	**0.1015**	**5.2941**	**1.6596**	**0.1015**	**1.7611**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0573	0.0293	0.4069	1.3800e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		137.6095	137.6095	2.8800e-003		137.6814
Total	**0.0573**	**0.0293**	**0.4069**	**1.3800e-003**	**0.1643**	**1.0700e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**137.6095**	**137.6095**	**2.8800e-003**		**137.6814**

3.7 Utilities P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9651	35.2923	10.7396	0.1266	3.4823	0.0443	3.5266	1.0022	0.0423	1.0445		13,685.1256	13,685.1256	0.9218		13,708.1699
Worker	4.2717	2.1840	30.3374	0.1029	12.2482	0.0797	12.3279	3.2488	0.0734	3.3222		10,258.7859	10,258.7859	0.2145		10,264.1486
Total	**5.2368**	**37.4763**	**41.0770**	**0.2294**	**15.7305**	**0.1240**	**15.8545**	**4.2510**	**0.1157**	**4.3667**		**23,943.9114**	**23,943.9114**	**1.1363**		**23,972.3185**

3.7 Utilities P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9651	35.2923	10.7396	0.1266	3.4823	0.0443	3.5266	1.0022	0.0423	1.0445		13,685.1256	13,685.1256	0.9218		13,708.1699
Worker	4.2717	2.1840	30.3374	0.1029	12.2482	0.0797	12.3279	3.2488	0.0734	3.3222		10,258.7859	10,258.7859	0.2145		10,264.1486
Total	**5.2368**	**37.4763**	**41.0770**	**0.2294**	**15.7305**	**0.1240**	**15.8545**	**4.2510**	**0.1157**	**4.3667**		**23,943.9114**	**23,943.9114**	**1.1363**		**23,972.3185**

3.8 Paving P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1689	10.7434	16.4359	0.0258		0.5294	0.5294		0.4920	0.4920		2,488.9953	2,488.9953	0.7298		2,507.2406
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1689**	**10.7434**	**16.4359**	**0.0258**		**0.5294**	**0.5294**		**0.4920**	**0.4920**		**2,488.9953**	**2,488.9953**	**0.7298**		**2,507.2406**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0516	0.0264	0.3663	1.2400e-003	0.1479	9.6000e-004	0.1488	0.0392	8.9000e-004	0.0401		123.8485	123.8485	2.5900e-003		123.9133
Total	**0.0516**	**0.0264**	**0.3663**	**1.2400e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.9000e-004**	**0.0401**		**123.8485**	**123.8485**	**2.5900e-003**		**123.9133**

3.8 Paving P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3102	1.3441	19.1281	0.0258		0.0414	0.0414		0.0414	0.0414	0.0000	2,488.9953	2,488.9953	0.7298		2,507.2406
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3102**	**1.3441**	**19.1281**	**0.0258**		**0.0414**	**0.0414**		**0.0414**	**0.0414**	**0.0000**	**2,488.9953**	**2,488.9953**	**0.7298**		**2,507.2406**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0516	0.0264	0.3663	1.2400e-003	0.1479	9.6000e-004	0.1488	0.0392	8.9000e-004	0.0401		123.8485	123.8485	2.5900e-003		123.9133
Total	**0.0516**	**0.0264**	**0.3663**	**1.2400e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.9000e-004**	**0.0401**		**123.8485**	**123.8485**	**2.5900e-003**		**123.9133**

3.9 Architectural Coating P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	188.5125					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**188.6932**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2836	0.1450	2.0144	6.8300e-003	0.8133	5.2900e-003	0.8186	0.2157	4.8700e-003	0.2206		681.1669	681.1669	0.0142		681.5230
Total	**0.2836**	**0.1450**	**2.0144**	**6.8300e-003**	**0.8133**	**5.2900e-003**	**0.8186**	**0.2157**	**4.8700e-003**	**0.2206**		**681.1669**	**681.1669**	**0.0142**		**681.5230**

3.9 Architectural Coating P2 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	188.5125					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**188.5422**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2836	0.1450	2.0144	6.8300e-003	0.8133	5.2900e-003	0.8186	0.2157	4.8700e-003	0.2206		681.1669	681.1669	0.0142		681.5230
Total	**0.2836**	**0.1450**	**2.0144**	**6.8300e-003**	**0.8133**	**5.2900e-003**	**0.8186**	**0.2157**	**4.8700e-003**	**0.2206**		**681.1669**	**681.1669**	**0.0142**		**681.5230**

3.10 Grading P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**8.6733**	**1.3354**	**10.0087**	**3.5965**	**1.2286**	**4.8251**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0573	0.0293	0.4069	1.3800e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		137.6095	137.6095	2.8800e-003		137.6814
Total	**0.0573**	**0.0293**	**0.4069**	**1.3800e-003**	**0.1643**	**1.0700e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**137.6095**	**137.6095**	**2.8800e-003**		**137.6814**

3.10 Grading P4 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3176	0.0000	3.3176	1.3757	0.0000	1.3757			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**3.3176**	**0.1015**	**3.4191**	**1.3757**	**0.1015**	**1.4772**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0573	0.0293	0.4069	1.3800e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		137.6095	137.6095	2.8800e-003		137.6814
Total	**0.0573**	**0.0293**	**0.4069**	**1.3800e-003**	**0.1643**	**1.0700e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**137.6095**	**137.6095**	**2.8800e-003**		**137.6814**

3.11 Building Construction P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2549	9.3199	2.8361	0.0334	0.9196	0.0117	0.9313	0.2647	0.0112	0.2758		3,613.9361	3,613.9361	0.2434		3,620.0216
Worker	1.1317	0.5786	8.0371	0.0273	3.2448	0.0211	3.2659	0.8607	0.0194	0.8801		2,717.7870	2,717.7870	0.0568		2,719.2077
Total	**1.3865**	**9.8985**	**10.8732**	**0.0607**	**4.1644**	**0.0328**	**4.1972**	**1.1253**	**0.0306**	**1.1559**		**6,331.7231**	**6,331.7231**	**0.3003**		**6,339.2293**

3.11 Building Construction P4 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2549	9.3199	2.8361	0.0334	0.9196	0.0117	0.9313	0.2647	0.0112	0.2758		3,613.9361	3,613.9361	0.2434		3,620.0216
Worker	1.1317	0.5786	8.0371	0.0273	3.2448	0.0211	3.2659	0.8607	0.0194	0.8801		2,717.7870	2,717.7870	0.0568		2,719.2077
Total	**1.3865**	**9.8985**	**10.8732**	**0.0607**	**4.1644**	**0.0328**	**4.1972**	**1.1253**	**0.0306**	**1.1559**		**6,331.7231**	**6,331.7231**	**0.3003**		**6,339.2293**

3.11 Building Construction P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2464	9.1764	2.7813	0.0332	0.9197	0.0114	0.9311	0.2647	0.0109	0.2756		3,591.1920	3,591.1920	0.2398		3,597.1867
Worker	1.0740	0.5280	7.4639	0.0262	3.2448	0.0207	3.2656	0.8607	0.0191	0.8798		2,607.8222	2,607.8222	0.0518		2,609.1159
Total	**1.3204**	**9.7044**	**10.2453**	**0.0593**	**4.1645**	**0.0322**	**4.1967**	**1.1254**	**0.0300**	**1.1554**		**6,199.0142**	**6,199.0142**	**0.2915**		**6,206.3026**

3.11 Building Construction P4 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2464	9.1764	2.7813	0.0332	0.9197	0.0114	0.9311	0.2647	0.0109	0.2756		3,591.1920	3,591.1920	0.2398		3,597.1867
Worker	1.0740	0.5280	7.4639	0.0262	3.2448	0.0207	3.2656	0.8607	0.0191	0.8798		2,607.8222	2,607.8222	0.0518		2,609.1159
Total	**1.3204**	**9.7044**	**10.2453**	**0.0593**	**4.1645**	**0.0322**	**4.1967**	**1.1254**	**0.0300**	**1.1554**		**6,199.0142**	**6,199.0142**	**0.2915**		**6,206.3026**

3.12 Architectural Coating P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	150.8100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**150.9808**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2148	0.1056	1.4928	5.2300e-003	0.6490	4.1500e-003	0.6531	0.1721	3.8200e-003	0.1760		521.5645	521.5645	0.0104		521.8232
Total	**0.2148**	**0.1056**	**1.4928**	**5.2300e-003**	**0.6490**	**4.1500e-003**	**0.6531**	**0.1721**	**3.8200e-003**	**0.1760**		**521.5645**	**521.5645**	**0.0104**		**521.8232**

3.12 Architectural Coating P4 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	150.8100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**150.8397**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2148	0.1056	1.4928	5.2300e-003	0.6490	4.1500e-003	0.6531	0.1721	3.8200e-003	0.1760		521.5645	521.5645	0.0104		521.8232
Total	**0.2148**	**0.1056**	**1.4928**	**5.2300e-003**	**0.6490**	**4.1500e-003**	**0.6531**	**0.1721**	**3.8200e-003**	**0.1760**		**521.5645**	**521.5645**	**0.0104**		**521.8232**

3.13 Grading P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0544	0.0267	0.3779	1.3200e-003	0.1643	1.0500e-003	0.1654	0.0436	9.7000e-004	0.0446		132.0416	132.0416	2.6200e-003		132.1071
Total	**0.0544**	**0.0267**	**0.3779**	**1.3200e-003**	**0.1643**	**1.0500e-003**	**0.1654**	**0.0436**	**9.7000e-004**	**0.0446**		**132.0416**	**132.0416**	**2.6200e-003**		**132.1071**

3.13 Grading P5 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3176	0.0000	3.3176	1.3757	0.0000	1.3757			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**3.3176**	**0.1015**	**3.4191**	**1.3757**	**0.1015**	**1.4772**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0544	0.0267	0.3779	1.3200e-003	0.1643	1.0500e-003	0.1654	0.0436	9.7000e-004	0.0446		132.0416	132.0416	2.6200e-003		132.1071
Total	**0.0544**	**0.0267**	**0.3779**	**1.3200e-003**	**0.1643**	**1.0500e-003**	**0.1654**	**0.0436**	**9.7000e-004**	**0.0446**		**132.0416**	**132.0416**	**2.6200e-003**		**132.1071**

3.14 Building Construction P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2464	9.1764	2.7813	0.0332	0.9197	0.0114	0.9311	0.2647	0.0109	0.2756		3,591.1920	3,591.1920	0.2398		3,597.1867
Worker	1.0740	0.5280	7.4639	0.0262	3.2448	0.0207	3.2656	0.8607	0.0191	0.8798		2,607.8222	2,607.8222	0.0518		2,609.1159
Total	**1.3204**	**9.7044**	**10.2453**	**0.0593**	**4.1645**	**0.0322**	**4.1967**	**1.1254**	**0.0300**	**1.1554**		**6,199.0142**	**6,199.0142**	**0.2915**		**6,206.3026**

3.14 Building Construction P5 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2464	9.1764	2.7813	0.0332	0.9197	0.0114	0.9311	0.2647	0.0109	0.2756		3,591.1920	3,591.1920	0.2398		3,597.1867
Worker	1.0740	0.5280	7.4639	0.0262	3.2448	0.0207	3.2656	0.8607	0.0191	0.8798		2,607.8222	2,607.8222	0.0518		2,609.1159
Total	**1.3204**	**9.7044**	**10.2453**	**0.0593**	**4.1645**	**0.0322**	**4.1967**	**1.1254**	**0.0300**	**1.1554**		**6,199.0142**	**6,199.0142**	**0.2915**		**6,206.3026**

3.14 Building Construction P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2389	9.0375	2.7422	0.0329	0.9197	0.0111	0.9309	0.2647	0.0106	0.2753		3,569.9898	3,569.9898	0.2364		3,575.8995
Worker	1.0228	0.4848	6.9694	0.0252	3.2448	0.0201	3.2649	0.8607	0.0185	0.8792		2,512.5320	2,512.5320	0.0473		2,513.7154
Total	**1.2617**	**9.5222**	**9.7116**	**0.0581**	**4.1646**	**0.0312**	**4.1958**	**1.1254**	**0.0291**	**1.1545**		**6,082.5219**	**6,082.5219**	**0.2837**		**6,089.6149**

3.14 Building Construction P5 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2389	9.0375	2.7422	0.0329	0.9197	0.0111	0.9309	0.2647	0.0106	0.2753		3,569.9898	3,569.9898	0.2364		3,575.8995
Worker	1.0228	0.4848	6.9694	0.0252	3.2448	0.0201	3.2649	0.8607	0.0185	0.8792		2,512.5320	2,512.5320	0.0473		2,513.7154
Total	**1.2617**	**9.5222**	**9.7116**	**0.0581**	**4.1646**	**0.0312**	**4.1958**	**1.1254**	**0.0291**	**1.1545**		**6,082.5219**	**6,082.5219**	**0.2837**		**6,089.6149**

3.15 Architectural Coating P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.6286					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**143.7994**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2046	0.0970	1.3939	5.0400e-003	0.6490	4.0100e-003	0.6530	0.1721	3.6900e-003	0.1758		502.5064	502.5064	9.4700e-003		502.7431
Total	**0.2046**	**0.0970**	**1.3939**	**5.0400e-003**	**0.6490**	**4.0100e-003**	**0.6530**	**0.1721**	**3.6900e-003**	**0.1758**		**502.5064**	**502.5064**	**9.4700e-003**		**502.7431**

3.15 Architectural Coating P5 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.6286					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**143.6583**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2046	0.0970	1.3939	5.0400e-003	0.6490	4.0100e-003	0.6530	0.1721	3.6900e-003	0.1758		502.5064	502.5064	9.4700e-003		502.7431
Total	**0.2046**	**0.0970**	**1.3939**	**5.0400e-003**	**0.6490**	**4.0100e-003**	**0.6530**	**0.1721**	**3.6900e-003**	**0.1758**		**502.5064**	**502.5064**	**9.4700e-003**		**502.7431**

3.16 Grading P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0518	0.0245	0.3529	1.2800e-003	0.1643	1.0200e-003	0.1653	0.0436	9.3000e-004	0.0445		127.2168	127.2168	2.4000e-003		127.2767
Total	**0.0518**	**0.0245**	**0.3529**	**1.2800e-003**	**0.1643**	**1.0200e-003**	**0.1653**	**0.0436**	**9.3000e-004**	**0.0445**		**127.2168**	**127.2168**	**2.4000e-003**		**127.2767**

3.16 Grading P6 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3176	0.0000	3.3176	1.3757	0.0000	1.3757			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**3.3176**	**0.1015**	**3.4191**	**1.3757**	**0.1015**	**1.4772**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0518	0.0245	0.3529	1.2800e-003	0.1643	1.0200e-003	0.1653	0.0436	9.3000e-004	0.0445		127.2168	127.2168	2.4000e-003		127.2767
Total	**0.0518**	**0.0245**	**0.3529**	**1.2800e-003**	**0.1643**	**1.0200e-003**	**0.1653**	**0.0436**	**9.3000e-004**	**0.0445**		**127.2168**	**127.2168**	**2.4000e-003**		**127.2767**

3.17 Building Construction P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1265	4.7846	1.4517	0.0174	0.4869	5.8900e-003	0.4928	0.1401	5.6300e-003	0.1458		1,889.9946	1,889.9946	0.1252		1,893.1233
Worker	0.5360	0.2540	3.6523	0.0132	1.7005	0.0105	1.7110	0.4510	9.6800e-003	0.4607		1,316.6940	1,316.6940	0.0248		1,317.3142
Total	**0.6625**	**5.0386**	**5.1040**	**0.0306**	**2.1874**	**0.0164**	**2.2038**	**0.5912**	**0.0153**	**0.6065**		**3,206.6886**	**3,206.6886**	**0.1500**		**3,210.4374**

3.17 Building Construction P6 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1265	4.7846	1.4517	0.0174	0.4869	5.8900e-003	0.4928	0.1401	5.6300e-003	0.1458		1,889.9946	1,889.9946	0.1252		1,893.1233
Worker	0.5360	0.2540	3.6523	0.0132	1.7005	0.0105	1.7110	0.4510	9.6800e-003	0.4607		1,316.6940	1,316.6940	0.0248		1,317.3142
Total	**0.6625**	**5.0386**	**5.1040**	**0.0306**	**2.1874**	**0.0164**	**2.2038**	**0.5912**	**0.0153**	**0.6065**		**3,206.6886**	**3,206.6886**	**0.1500**		**3,210.4374**

3.17 Building Construction P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1232	4.7116	1.4362	0.0173	0.4870	5.7500e-003	0.4927	0.1402	5.4900e-003	0.1456		1,879.4587	1,879.4587	0.1235		1,882.5451
Worker	0.5094	0.2337	3.4201	0.0128	1.7005	9.9400e-003	1.7104	0.4510	9.1500e-003	0.4602		1,272.8590	1,272.8590	0.0227		1,273.4270
Total	**0.6326**	**4.9453**	**4.8564**	**0.0301**	**2.1874**	**0.0157**	**2.2031**	**0.5912**	**0.0146**	**0.6058**		**3,152.3177**	**3,152.3177**	**0.1462**		**3,155.9721**

3.17 Building Construction P6 - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1232	4.7116	1.4362	0.0173	0.4870	5.7500e-003	0.4927	0.1402	5.4900e-003	0.1456		1,879.4587	1,879.4587	0.1235		1,882.5451
Worker	0.5094	0.2337	3.4201	0.0128	1.7005	9.9400e-003	1.7104	0.4510	9.1500e-003	0.4602		1,272.8590	1,272.8590	0.0227		1,273.4270
Total	**0.6326**	**4.9453**	**4.8564**	**0.0301**	**2.1874**	**0.0157**	**2.2031**	**0.5912**	**0.0146**	**0.6058**		**3,152.3177**	**3,152.3177**	**0.1462**		**3,155.9721**

3.18 Architectural Coating P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.9550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**144.1259**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1009	0.0463	0.6774	2.5300e-003	0.3368	1.9700e-003	0.3388	0.0893	1.8100e-003	0.0912		252.1122	252.1122	4.5000e-003		252.2247
Total	**0.1009**	**0.0463**	**0.6774**	**2.5300e-003**	**0.3368**	**1.9700e-003**	**0.3388**	**0.0893**	**1.8100e-003**	**0.0912**		**252.1122**	**252.1122**	**4.5000e-003**		**252.2247**

3.18 Architectural Coating P6 - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.9550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**143.9847**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1009	0.0463	0.6774	2.5300e-003	0.3368	1.9700e-003	0.3388	0.0893	1.8100e-003	0.0912		252.1122	252.1122	4.5000e-003		252.2247
Total	**0.1009**	**0.0463**	**0.6774**	**2.5300e-003**	**0.3368**	**1.9700e-003**	**0.3388**	**0.0893**	**1.8100e-003**	**0.0912**		**252.1122**	**252.1122**	**4.5000e-003**		**252.2247**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.5778	23.3571	74.9661	0.3132	34.1908	0.2297	34.4205	9.1290	0.2130	9.3420		31,858.5294	31,858.5294	1.1249		31,886.6509
Unmitigated	6.7997	24.4547	81.6442	0.3460	37.9898	0.2516	38.2413	10.1433	0.2332	10.3766		35,184.3106	35,184.3106	1.2265		35,214.9736

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,188.68	2,188.68	2188.68	6,047,482	5,442,734
City Park	5.47	5.47	5.47	11,676	10,509
Single Family Housing	4,304.64	4,304.64	4304.64	11,894,033	10,704,629
Total	6,498.79	6,498.79	6,498.79	17,953,191	16,157,872

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Single Family Housing	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.606220	0.039388	0.187721	0.099847	0.014851	0.005755	0.020359	0.018389	0.001198	0.001075	0.003720	0.000404	0.001073
City Park	0.606220	0.039388	0.187721	0.099847	0.014851	0.005755	0.020359	0.018389	0.001198	0.001075	0.003720	0.000404	0.001073
Single Family Housing	0.606220	0.039388	0.187721	0.099847	0.014851	0.005755	0.020359	0.018389	0.001198	0.001075	0.003720	0.000404	0.001073

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Percent of Electricity Use Generated with Renewable Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.4604	3.9343	1.6742	0.0251		0.3181	0.3181		0.3181	0.3181		5,022.4517	5,022.4517	0.0963	0.0921	5,052.2976
NaturalGas Unmitigated	0.4604	3.9343	1.6742	0.0251		0.3181	0.3181		0.3181	0.3181		5,022.4517	5,022.4517	0.0963	0.0921	5,052.2976

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	10452.4	0.1127	0.9633	0.4099	6.1500e-003		0.0779	0.0779		0.0779	0.0779		1,229.6914	1,229.6914	0.0236	0.0225	1,236.9988
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	32238.5	0.3477	2.9710	1.2643	0.0190		0.2402	0.2402		0.2402	0.2402		3,792.7603	3,792.7603	0.0727	0.0695	3,815.2988
Total		**0.4604**	**3.9343**	**1.6742**	**0.0251**		**0.3181**	**0.3181**		**0.3181**	**0.3181**		**5,022.4517**	**5,022.4517**	**0.0963**	**0.0921**	**5,052.2976**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	10.4524	0.1127	0.9633	0.4099	6.1500e-003		0.0779	0.0779		0.0779	0.0779		1,229.6914	1,229.6914	0.0236	0.0225	1,236.9988
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	32.2385	0.3477	2.9710	1.2643	0.0190		0.2402	0.2402		0.2402	0.2402		3,792.7603	3,792.7603	0.0727	0.0695	3,815.2988
Total		**0.4604**	**3.9343**	**1.6742**	**0.0251**		**0.3181**	**0.3181**		**0.3181**	**0.3181**		**5,022.4517**	**5,022.4517**	**0.0963**	**0.0921**	**5,052.2976**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	29.0886	0.7169	62.2356	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1703	112.1703	0.1074	0.0000	114.8562
Unmitigated	29.0886	0.7169	62.2356	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1703	112.1703	0.1074	0.0000	114.8562

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.1195					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1001					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8690	0.7169	62.2356	3.2900e-003		0.3453	0.3453		0.3453	0.3453		112.1703	112.1703	0.1074		114.8562
Total	**29.0886**	**0.7169**	**62.2356**	**3.2900e-003**		**0.3453**	**0.3453**		**0.3453**	**0.3453**	**0.0000**	**112.1703**	**112.1703**	**0.1074**	**0.0000**	**114.8562**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.1195					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1001					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8690	0.7169	62.2356	3.2900e-003		0.3453	0.3453		0.3453	0.3453		112.1703	112.1703	0.1074		114.8562
Total	**29.0886**	**0.7169**	**62.2356**	**3.2900e-003**		**0.3453**	**0.3453**		**0.3453**	**0.3453**	**0.0000**	**112.1703**	**112.1703**	**0.1074**	**0.0000**	**114.8562**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Grey Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Hitch Ranch

Ventura County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	60.77	Acre	60.77	2,647,141.20	0
Apartments Low Rise	299.00	Dwelling Unit	18.69	299,000.00	915
Single Family Housing	456.00	Dwelling Unit	148.05	820,800.00	1395

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2027
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land uses consistent with Traffic Study trip generation table. City Park land use added to account for open space and recreation lots.

Construction Phase - Phase duration per project applicant.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Trips (worker and vendor) during building construction reflect proportion of project constructed during each phase. Grading material balanced on-site, no off-site hauling trips required.

Grading - Total acres graded per Hiitch Ranch Specific Plan Figure 2-1A. No import/export per project applicant for grading P1 and grading P3, balanced on-site. Other phases only fine grading for building pads; estimated acrage.

Architectural Coating - Coating square footage distributed by amount of project being constructed per phase.

Vehicle Trips - Trip rates from the TIA

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating -

Construction Off-road Equipment Mitigation - Fugitive dust mitigation reflects Section 7.4.1 "Fugitive Dust Mitigation Measures" of the VCAPCD Air Quality Assessment Guidelines Section 7.4.1.

Mobile Land Use Mitigation - The distance from the center of the project site to the Moorpark Metrolink Station is approximately 0.9 miles. General Plan requires 10 to 15% low income.

Area Mitigation -

Energy Mitigation - Mitigation requiring Energy-Star-qualified LEDs and 30% on-site renewable energy.

Water Mitigation - Consistent with CalGreen and Moorpark Water Efficient Landscape Ordinance.

Waste Mitigation - Waste Management (which serves Moorpark) states that 50% of waste in California is diverted away from landfills.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	755,865.00	105,120.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	755,865.00	200,229.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	755,865.00	200,229.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	755,865.00	250,286.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,267,595.00	315,361.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,267,595.00	600,687.00

tblArchitecturalCoating	ConstArea_Residential_Interior	2,267,595.00	600,687.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,267,595.00	750,859.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	15.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	27.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

Hitch Ranch - Ventura County, Winter

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	330.00	20.00
tblConstructionPhase	NumDays	330.00	21.00
tblConstructionPhase	NumDays	330.00	11.00
tblConstructionPhase	NumDays	330.00	20.00
tblConstructionPhase	NumDays	4,650.00	234.00
tblConstructionPhase	NumDays	4,650.00	234.00
tblConstructionPhase	NumDays	4,650.00	115.00
tblConstructionPhase	NumDays	4,650.00	367.00
tblConstructionPhase	NumDays	4,650.00	88.00
tblConstructionPhase	NumDays	465.00	218.00
tblConstructionPhase	NumDays	465.00	6.00
tblConstructionPhase	NumDays	465.00	4.00
tblConstructionPhase	NumDays	465.00	5.00
tblConstructionPhase	NumDays	465.00	86.00
tblConstructionPhase	NumDays	465.00	6.00
tblConstructionPhase	NumDays	330.00	72.00
tblConstructionPhase	NumDays	330.00	87.00
tblGrading	AcresOfGrading	545.00	437.50
tblGrading	MaterialExported	0.00	3,900,000.00
tblGrading	MaterialExported	0.00	1,500,000.00
tblGrading	MaterialImported	0.00	3,900,000.00
tblGrading	MaterialImported	0.00	1,500,000.00
tblSolidWaste	SolidWasteGenerationRate	5.23	5.14
tblTripsAndVMT	HaulingTripNumber	975,000.00	0.00
tblTripsAndVMT	HaulingTripNumber	375,000.00	0.00

tblTripsAndVMT	VendorTripNumber	515.00	136.00
tblTripsAndVMT	VendorTripNumber	515.00	136.00
tblTripsAndVMT	VendorTripNumber	515.00	72.00
tblTripsAndVMT	VendorTripNumber	515.00	171.00
tblTripsAndVMT	WorkerTripNumber	1,491.00	395.00
tblTripsAndVMT	WorkerTripNumber	298.00	79.00
tblTripsAndVMT	WorkerTripNumber	1,491.00	395.00
tblTripsAndVMT	WorkerTripNumber	298.00	79.00
tblTripsAndVMT	WorkerTripNumber	1,491.00	207.00
tblTripsAndVMT	WorkerTripNumber	298.00	41.00
tblTripsAndVMT	WorkerTripNumber	1,491.00	494.00
tblTripsAndVMT	WorkerTripNumber	298.00	99.00
tblVehicleTrips	ST_TR	7.16	7.32
tblVehicleTrips	ST_TR	22.75	0.09
tblVehicleTrips	ST_TR	9.91	9.44
tblVehicleTrips	SU_TR	6.07	7.32
tblVehicleTrips	SU_TR	16.74	0.09
tblVehicleTrips	SU_TR	8.62	9.44
tblVehicleTrips	WD_TR	6.59	7.32
tblVehicleTrips	WD_TR	1.89	0.09
tblVehicleTrips	WD_TR	9.52	9.44
tblWater	OutdoorWaterUseRate	72,406,321.62	71,155,266.20

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6980	38.8853	29.5009	0.0635	13.3425	1.6360	14.9785	4.3450	1.5051	5.8501	0.0000	6,152.5634	6,152.5634	1.9476	0.0000	6,201.2528
2023	7.0224	61.6573	59.2425	0.1653	18.9538	2.1681	21.1218	5.7915	2.0099	7.8014	0.0000	16,508.6205	16,508.6205	2.9580	0.0000	16,582.5699
2024	190.2452	77.0417	87.2572	0.3487	20.9449	1.9918	22.3401	5.7915	1.8456	7.6372	0.0000	35,887.1312	35,887.1312	2.9408	0.0000	35,956.4798
2025	151.2269	27.9742	26.6960	0.0842	8.8376	1.1319	9.9696	3.6401	1.0414	4.6815	0.0000	8,541.3052	8,541.3052	1.9457	0.0000	8,563.8602
2026	144.0345	27.9716	26.6713	0.0831	8.8376	1.1319	9.9695	3.6401	1.0414	4.6814	0.0000	8,430.5418	8,430.5418	1.9455	0.0000	8,452.8887
2027	144.2421	17.4270	20.9638	0.0560	2.1874	0.5435	2.7309	0.5912	0.5111	1.1023	0.0000	5,601.6873	5,601.6873	0.7518	0.0000	5,620.4813
Maximum	**190.2452**	**77.0417**	**87.2572**	**0.3487**	**20.9449**	**2.1681**	**22.3401**	**5.7915**	**2.0099**	**7.8014**	**0.0000**	**35,887.1312**	**35,887.1312**	**2.9580**	**0.0000**	**35,956.4798**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.8348	3.3419	33.4586	0.0635	5.2050	0.1027	5.3076	1.6889	0.1026	1.7914	0.0000	6,152.5634	6,152.5634	1.9476	0.0000	6,201.2528
2023	3.2173	18.2916	65.4067	0.1653	10.5711	0.1862	10.7572	3.1123	0.1833	3.2955	0.0000	16,508.6205	16,508.6205	2.9580	0.0000	16,582.5699
2024	189.2354	54.6235	89.8441	0.3487	20.9449	0.2501	21.1950	5.6601	0.2390	5.8991	0.0000	35,887.1312	35,887.1312	2.9408	0.0000	35,956.4798
2025	151.0858	11.9775	33.3641	0.0842	4.1645	0.1026	4.2381	1.4192	0.1025	1.5218	0.0000	8,541.3052	8,541.3052	1.9457	0.0000	8,563.8602
2026	143.8933	11.7877	33.3394	0.0831	4.1646	0.1026	4.2371	1.4192	0.1025	1.5217	0.0000	8,430.5418	8,430.5418	1.9455	0.0000	8,452.8887
2027	144.1010	7.1920	22.3394	0.0560	2.1874	0.0567	2.2442	0.5912	0.0557	0.6469	0.0000	5,601.6873	5,601.6873	0.7518	0.0000	5,620.4813
Maximum	**189.2354**	**54.6235**	**89.8441**	**0.3487**	**20.9449**	**0.2501**	**21.1950**	**5.6601**	**0.2390**	**5.8991**	**0.0000**	**35,887.1312**	**35,887.1312**	**2.9580**	**0.0000**	**35,956.4798**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.26**	**57.28**	**-10.95**	**0.00**	**35.38**	**90.69**	**40.85**	**41.63**	**90.13**	**53.78**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	29.0886	0.7169	62.2356	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1703	112.1703	0.1074	0.0000	114.8562
Energy	0.4604	3.9343	1.6742	0.0251		0.3181	0.3181		0.3181	0.3181		5,022.4517	5,022.4517	0.0963	0.0921	5,052.2976
Mobile	6.3764	25.3477	81.6490	0.3318	37.9898	0.2524	38.2422	10.1433	0.2341	10.3774		33,751.2025	33,751.2025	1.2408		33,782.2225
Total	**35.9254**	**29.9988**	**145.5588**	**0.3602**	**37.9898**	**0.9158**	**38.9056**	**10.1433**	**0.8975**	**11.0408**	**0.0000**	**38,885.8245**	**38,885.8245**	**1.4445**	**0.0921**	**38,949.3763**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	29.0886	0.7169	62.2356	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1703	112.1703	0.1074	0.0000	114.8562
Energy	0.4604	3.9343	1.6742	0.0251		0.3181	0.3181		0.3181	0.3181		5,022.4517	5,022.4517	0.0963	0.0921	5,052.2976
Mobile	6.1565	24.1511	75.4332	0.3003	34.1908	0.2306	34.4214	9.1290	0.2138	9.3428		30,553.5129	30,553.5129	1.1411		30,582.0406
Total	**35.7055**	**28.8023**	**139.3430**	**0.3287**	**34.1908**	**0.8940**	**35.0848**	**9.1290**	**0.8772**	**10.0062**	**0.0000**	**35,688.1349**	**35,688.1349**	**1.3448**	**0.0921**	**35,749.1945**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.61**	**3.99**	**4.27**	**8.73**	**10.00**	**2.39**	**9.82**	**10.00**	**2.26**	**9.37**	**0.00**	**8.22**	**8.22**	**6.90**	**0.00**	**8.22**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/1/2022	3/31/2023	5	218	
2	Paving	Paving	2/1/2023	5/11/2023	5	72	
3	Grading P2	Grading	6/1/2023	6/7/2023	5	5	
4	Building Construction P2	Building Construction	6/8/2023	11/1/2024	5	367	
5	Grading P3	Grading	12/1/2023	3/31/2024	5	86	
6	Utilities P3	Building Construction	4/1/2024	7/31/2024	5	88	
7	Paving P3	Paving	8/1/2024	11/30/2024	5	87	
8	Architectural Coating P2	Architectural Coating	11/2/2024	11/30/2024	5	20	
9	Grading P4	Grading	12/1/2024	12/9/2024	5	6	
10	Building Construction P4	Building Construction	12/10/2024	10/31/2025	5	234	
11	Architectural Coating P4	Architectural Coating	11/1/2025	11/30/2025	5	20	
12	Grading P5	Grading	12/1/2025	12/8/2025	5	6	
13	Building Construction P5	Building Construction	12/9/2025	10/31/2026	5	234	
14	Architectural Coating P5	Architectural Coating	11/1/2026	11/30/2026	5	21	
15	Grading P6	Grading	12/1/2026	12/5/2026	5	4	
16	Building Construction P6	Building Construction	12/6/2026	5/14/2027	5	115	
17	Architectural Coating P6	Architectural Coating	5/15/2027	5/31/2027	5	11	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 437.5

Acres of Paving: 0

Residential Indoor: 750,859; Residential Outdoor: 250,286; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading P2	Excavators	2	8.00	158	0.38
Grading P2	Graders	1	8.00	187	0.41
Grading P2	Rubber Tired Dozers	1	8.00	247	0.40
Grading P2	Scrapers	2	8.00	367	0.48
Grading P2	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P2	Cranes	1	7.00	231	0.29
Building Construction P2	Forklifts	3	8.00	89	0.20
Building Construction P2	Generator Sets	1	8.00	84	0.74
Building Construction P2	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P2	Welders	1	8.00	46	0.45
Grading P3	Excavators	2	8.00	158	0.38
Grading P3	Graders	1	8.00	187	0.41

Grading P3	Rubber Tired Dozers	1	8.00	247	0.40
Grading P3	Scrapers	2	8.00	367	0.48
Grading P3	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving P3	Air Compressors	1	6.00	78	0.48
Paving P3	Pavers	2	8.00	130	0.42
Paving P3	Paving Equipment	2	8.00	132	0.36
Paving P3	Rollers	2	8.00	80	0.38
Architectural Coating P2	Air Compressors	1	6.00	78	0.48
Grading P4	Excavators	2	8.00	158	0.38
Grading P4	Graders	1	8.00	187	0.41
Grading P4	Rubber Tired Dozers	1	8.00	247	0.40
Grading P4	Scrapers	2	8.00	367	0.48
Grading P4	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P4	Cranes	1	7.00	231	0.29
Building Construction P4	Forklifts	3	8.00	89	0.20
Building Construction P4	Generator Sets	1	8.00	84	0.74
Building Construction P4	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P4	Welders	1	8.00	46	0.45
Architectural Coating P4	Air Compressors	1	6.00	78	0.48
Grading P5	Excavators	2	8.00	158	0.38
Grading P5	Graders	1	8.00	187	0.41
Grading P5	Rubber Tired Dozers	1	8.00	247	0.40
Grading P5	Scrapers	2	8.00	367	0.48
Grading P5	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P5	Cranes	1	7.00	231	0.29
Building Construction P5	Forklifts	3	8.00	89	0.20
Building Construction P5	Generator Sets	1	8.00	84	0.74

Building Construction P5	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P5	Welders	1	8.00	46	0.45
Architectural Coating P5	Air Compressors	1	6.00	78	0.48
Grading P6	Excavators	2	8.00	158	0.38
Grading P6	Graders	1	8.00	187	0.41
Grading P6	Rubber Tired Dozers	1	8.00	247	0.40
Grading P6	Scrapers	2	8.00	367	0.48
Grading P6	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P6	Cranes	1	7.00	231	0.29
Building Construction P6	Forklifts	3	8.00	89	0.20
Building Construction P6	Generator Sets	1	8.00	84	0.74
Building Construction P6	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P6	Welders	1	8.00	46	0.45
Architectural Coating P6	Air Compressors	1	6.00	78	0.48
Utilities P3	Cranes	1	7.00	231	0.29
Utilities P3	Forklifts	3	8.00	89	0.20
Utilities P3	Generator Sets	1	8.00	84	0.74
Utilities P3	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Utilities P3	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P2	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P2	9	494.00	171.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P3	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving P3	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P2	1	99.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P4	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P4	9	395.00	136.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P4	1	79.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P5	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P5	9	395.00	136.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P5	1	79.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P6	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P6	9	207.00	72.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P6	1	41.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities P3	9	1,491.00	515.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1782	0.0000	13.1782	4.3014	0.0000	4.3014			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**13.1782**	**1.6349**	**14.8131**	**4.3014**	**1.5041**	**5.8055**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0732	0.0418	0.4594	1.4200e-003	0.1643	1.1100e-003	0.1654	0.0436	1.0200e-003	0.0446		141.1529	141.1529	3.3600e-003		141.2369
Total	**0.0732**	**0.0418**	**0.4594**	**1.4200e-003**	**0.1643**	**1.1100e-003**	**0.1654**	**0.0436**	**1.0200e-003**	**0.0446**		**141.1529**	**141.1529**	**3.3600e-003**		**141.2369**

3.2 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.0407	0.0000	5.0407	1.6453	0.0000	1.6453			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**5.0407**	**0.1015**	**5.1422**	**1.6453**	**0.1015**	**1.7468**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0732	0.0418	0.4594	1.4200e-003	0.1643	1.1100e-003	0.1654	0.0436	1.0200e-003	0.0446		141.1529	141.1529	3.3600e-003		141.2369
Total	**0.0732**	**0.0418**	**0.4594**	**1.4200e-003**	**0.1643**	**1.1100e-003**	**0.1654**	**0.0436**	**1.0200e-003**	**0.0446**		**141.1529**	**141.1529**	**3.3600e-003**		**141.2369**

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1782	0.0000	13.1782	4.3014	0.0000	4.3014			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**13.1782**	**1.4245**	**14.6027**	**4.3014**	**1.3105**	**5.6119**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0691	0.0378	0.4234	1.3600e-003	0.1643	1.0800e-003	0.1654	0.0436	1.0000e-003	0.0446		135.7481	135.7481	3.0300e-003		135.8238
Total	**0.0691**	**0.0378**	**0.4234**	**1.3600e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**135.7481**	**135.7481**	**3.0300e-003**		**135.8238**

3.2 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.0407	0.0000	5.0407	1.6453	0.0000	1.6453			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**5.0407**	**0.1015**	**5.1422**	**1.6453**	**0.1015**	**1.7468**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0691	0.0378	0.4234	1.3600e-003	0.1643	1.0800e-003	0.1654	0.0436	1.0000e-003	0.0446		135.7481	135.7481	3.0300e-003		135.8238
Total	**0.0691**	**0.0378**	**0.4234**	**1.3600e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**135.7481**	**135.7481**	**3.0300e-003**		**135.8238**

3.3 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0518	0.0283	0.3176	1.0200e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		101.8111	101.8111	2.2700e-003		101.8678
Total	**0.0518**	**0.0283**	**0.3176**	**1.0200e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.5000e-004**	**0.0334**		**101.8111**	**101.8111**	**2.2700e-003**		**101.8678**

3.3 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2805**	**1.2154**	**17.2957**	**0.0228**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0518	0.0283	0.3176	1.0200e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		101.8111	101.8111	2.2700e-003		101.8678
Total	**0.0518**	**0.0283**	**0.3176**	**1.0200e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.5000e-004**	**0.0334**		**101.8111**	**101.8111**	**2.2700e-003**		**101.8678**

3.4 Grading P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**8.6733**	**1.4245**	**10.0978**	**3.5965**	**1.3105**	**4.9070**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0691	0.0378	0.4234	1.3600e-003	0.1643	1.0800e-003	0.1654	0.0436	1.0000e-003	0.0446		135.7481	135.7481	3.0300e-003		135.8238
Total	**0.0691**	**0.0378**	**0.4234**	**1.3600e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**135.7481**	**135.7481**	**3.0300e-003**		**135.8238**

3.4 Grading P2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3176	0.0000	3.3176	1.3757	0.0000	1.3757			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**3.3176**	**0.1015**	**3.4191**	**1.3757**	**0.1015**	**1.4772**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0691	0.0378	0.4234	1.3600e-003	0.1643	1.0800e-003	0.1654	0.0436	1.0000e-003	0.0446		135.7481	135.7481	3.0300e-003		135.8238
Total	**0.0691**	**0.0378**	**0.4234**	**1.3600e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**135.7481**	**135.7481**	**3.0300e-003**		**135.8238**

3.5 Building Construction P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3529	11.7860	4.0656	0.0413	1.1562	0.0160	1.1721	0.3327	0.0153	0.3480		4,453.2056	4,453.2056	0.3281		4,461.4092
Worker	1.7059	0.9330	10.4583	0.0336	4.0581	0.0268	4.0849	1.0764	0.0247	1.1011		3,352.9792	3,352.9792	0.0747		3,354.8474
Total	**2.0588**	**12.7191**	**14.5239**	**0.0749**	**5.2143**	**0.0428**	**5.2570**	**1.4091**	**0.0399**	**1.4490**		**7,806.1848**	**7,806.1848**	**0.4029**		**7,816.2565**

3.5 Building Construction P2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**0.3278**	**2.2347**	**17.4603**	**0.0269**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3529	11.7860	4.0656	0.0413	1.1562	0.0160	1.1721	0.3327	0.0153	0.3480		4,453.2056	4,453.2056	0.3281		4,461.4092
Worker	1.7059	0.9330	10.4583	0.0336	4.0581	0.0268	4.0849	1.0764	0.0247	1.1011		3,352.9792	3,352.9792	0.0747		3,354.8474
Total	**2.0588**	**12.7191**	**14.5239**	**0.0749**	**5.2143**	**0.0428**	**5.2570**	**1.4091**	**0.0399**	**1.4490**		**7,806.1848**	**7,806.1848**	**0.4029**		**7,816.2565**

3.5 Building Construction P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3411	11.6530	3.9569	0.0410	1.1563	0.0156	1.1718	0.3328	0.0149	0.3477		4,431.9316	4,431.9316	0.3220		4,439.9817
Worker	1.6172	0.8476	9.7182	0.0324	4.0581	0.0264	4.0845	1.0764	0.0243	1.1007		3,234.3118	3,234.3118	0.0681		3,236.0131
Total	**1.9583**	**12.5006**	**13.6751**	**0.0734**	**5.2144**	**0.0420**	**5.2563**	**1.4092**	**0.0392**	**1.4484**		**7,666.2433**	**7,666.2433**	**0.3901**		**7,675.9948**

3.5 Building Construction P2 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3411	11.6530	3.9569	0.0410	1.1563	0.0156	1.1718	0.3328	0.0149	0.3477		4,431.9316	4,431.9316	0.3220		4,439.9817
Worker	1.6172	0.8476	9.7182	0.0324	4.0581	0.0264	4.0845	1.0764	0.0243	1.1007		3,234.3118	3,234.3118	0.0681		3,236.0131
Total	**1.9583**	**12.5006**	**13.6751**	**0.0734**	**5.2144**	**0.0420**	**5.2563**	**1.4092**	**0.0392**	**1.4484**		**7,666.2433**	**7,666.2433**	**0.3901**		**7,675.9948**

3.6 Grading P3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.5752	0.0000	13.5752	4.3388	0.0000	4.3388			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**13.5752**	**1.4245**	**14.9997**	**4.3388**	**1.3105**	**5.6493**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0691	0.0378	0.4234	1.3600e-003	0.1643	1.0800e-003	0.1654	0.0436	1.0000e-003	0.0446		135.7481	135.7481	3.0300e-003		135.8238
Total	**0.0691**	**0.0378**	**0.4234**	**1.3600e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**135.7481**	**135.7481**	**3.0300e-003**		**135.8238**

3.6 Grading P3 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.1925	0.0000	5.1925	1.6596	0.0000	1.6596			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**5.1925**	**0.1015**	**5.2941**	**1.6596**	**0.1015**	**1.7611**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0691	0.0378	0.4234	1.3600e-003	0.1643	1.0800e-003	0.1654	0.0436	1.0000e-003	0.0446		135.7481	135.7481	3.0300e-003		135.8238
Total	**0.0691**	**0.0378**	**0.4234**	**1.3600e-003**	**0.1643**	**1.0800e-003**	**0.1654**	**0.0436**	**1.0000e-003**	**0.0446**		**135.7481**	**135.7481**	**3.0300e-003**		**135.8238**

3.6 Grading P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.5752	0.0000	13.5752	4.3388	0.0000	4.3388			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**13.5752**	**1.3354**	**14.9106**	**4.3388**	**1.2286**	**5.5674**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0655	0.0343	0.3935	1.3100e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		130.9438	130.9438	2.7600e-003		131.0127
Total	**0.0655**	**0.0343**	**0.3935**	**1.3100e-003**	**0.1643**	**1.0700e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**130.9438**	**130.9438**	**2.7600e-003**		**131.0127**

3.6 Grading P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.1925	0.0000	5.1925	1.6596	0.0000	1.6596			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**5.1925**	**0.1015**	**5.2941**	**1.6596**	**0.1015**	**1.7611**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0655	0.0343	0.3935	1.3100e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		130.9438	130.9438	2.7600e-003		131.0127
Total	**0.0655**	**0.0343**	**0.3935**	**1.3100e-003**	**0.1643**	**1.0700e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**130.9438**	**130.9438**	**2.7600e-003**		**131.0127**

3.7 Utilities P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0273	35.0954	11.9169	0.1235	3.4823	0.0469	3.5292	1.0022	0.0448	1.0470		13,347.6301	13,347.6301	0.9698		13,371.8746
Worker	4.8811	2.5581	29.3316	0.0979	12.2482	0.0797	12.3279	3.2488	0.0734	3.3222		9,761.8600	9,761.8600	0.2054		9,766.9951
Total	**5.9084**	**37.6535**	**41.2485**	**0.2214**	**15.7305**	**0.1266**	**15.8571**	**4.2510**	**0.1182**	**4.3692**		**23,109.4901**	**23,109.4901**	**1.1752**		**23,138.8697**

3.7 Utilities P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0273	35.0954	11.9169	0.1235	3.4823	0.0469	3.5292	1.0022	0.0448	1.0470		13,347.6301	13,347.6301	0.9698		13,371.8746
Worker	4.8811	2.5581	29.3316	0.0979	12.2482	0.0797	12.3279	3.2488	0.0734	3.3222		9,761.8600	9,761.8600	0.2054		9,766.9951
Total	**5.9084**	**37.6535**	**41.2485**	**0.2214**	**15.7305**	**0.1266**	**15.8571**	**4.2510**	**0.1182**	**4.3692**		**23,109.4901**	**23,109.4901**	**1.1752**		**23,138.8697**

3.8 Paving P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1689	10.7434	16.4359	0.0258		0.5294	0.5294		0.4920	0.4920		2,488.9953	2,488.9953	0.7298		2,507.2406
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1689**	**10.7434**	**16.4359**	**0.0258**		**0.5294**	**0.5294**		**0.4920**	**0.4920**		**2,488.9953**	**2,488.9953**	**0.7298**		**2,507.2406**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0589	0.0309	0.3541	1.1800e-003	0.1479	9.6000e-004	0.1488	0.0392	8.9000e-004	0.0401		117.8494	117.8494	2.4800e-003		117.9114
Total	**0.0589**	**0.0309**	**0.3541**	**1.1800e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.9000e-004**	**0.0401**		**117.8494**	**117.8494**	**2.4800e-003**		**117.9114**

3.8 Paving P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3102	1.3441	19.1281	0.0258		0.0414	0.0414		0.0414	0.0414	0.0000	2,488.9953	2,488.9953	0.7298		2,507.2406
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3102**	**1.3441**	**19.1281**	**0.0258**		**0.0414**	**0.0414**		**0.0414**	**0.0414**	**0.0000**	**2,488.9953**	**2,488.9953**	**0.7298**		**2,507.2406**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0589	0.0309	0.3541	1.1800e-003	0.1479	9.6000e-004	0.1488	0.0392	8.9000e-004	0.0401		117.8494	117.8494	2.4800e-003		117.9114
Total	**0.0589**	**0.0309**	**0.3541**	**1.1800e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.9000e-004**	**0.0401**		**117.8494**	**117.8494**	**2.4800e-003**		**117.9114**

3.9 Architectural Coating P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	188.5125					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**188.6932**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3241	0.1699	1.9476	6.5000e-003	0.8133	5.2900e-003	0.8186	0.2157	4.8700e-003	0.2206		648.1718	648.1718	0.0136		648.5128
Total	**0.3241**	**0.1699**	**1.9476**	**6.5000e-003**	**0.8133**	**5.2900e-003**	**0.8186**	**0.2157**	**4.8700e-003**	**0.2206**		**648.1718**	**648.1718**	**0.0136**		**648.5128**

3.9 Architectural Coating P2 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	188.5125					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**188.5422**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3241	0.1699	1.9476	6.5000e-003	0.8133	5.2900e-003	0.8186	0.2157	4.8700e-003	0.2206		648.1718	648.1718	0.0136		648.5128
Total	**0.3241**	**0.1699**	**1.9476**	**6.5000e-003**	**0.8133**	**5.2900e-003**	**0.8186**	**0.2157**	**4.8700e-003**	**0.2206**		**648.1718**	**648.1718**	**0.0136**		**648.5128**

3.10 Grading P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**8.6733**	**1.3354**	**10.0087**	**3.5965**	**1.2286**	**4.8251**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0655	0.0343	0.3935	1.3100e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		130.9438	130.9438	2.7600e-003		131.0127
Total	**0.0655**	**0.0343**	**0.3935**	**1.3100e-003**	**0.1643**	**1.0700e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**130.9438**	**130.9438**	**2.7600e-003**		**131.0127**

3.10 Grading P4 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3176	0.0000	3.3176	1.3757	0.0000	1.3757			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**3.3176**	**0.1015**	**3.4191**	**1.3757**	**0.1015**	**1.4772**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0655	0.0343	0.3935	1.3100e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		130.9438	130.9438	2.7600e-003		131.0127
Total	**0.0655**	**0.0343**	**0.3935**	**1.3100e-003**	**0.1643**	**1.0700e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**130.9438**	**130.9438**	**2.7600e-003**		**131.0127**

3.11 Building Construction P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2713	9.2679	3.1470	0.0326	0.9196	0.0124	0.9320	0.2647	0.0118	0.2765		3,524.8111	3,524.8111	0.2561		3,531.2135
Worker	1.2931	0.6777	7.7706	0.0259	3.2448	0.0211	3.2659	0.8607	0.0194	0.8801		2,586.1400	2,586.1400	0.0544		2,587.5004
Total	**1.5644**	**9.9456**	**10.9176**	**0.0586**	**4.1644**	**0.0335**	**4.1979**	**1.1253**	**0.0313**	**1.1566**		**6,110.9510**	**6,110.9510**	**0.3105**		**6,118.7139**

3.11 Building Construction P4 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2713	9.2679	3.1470	0.0326	0.9196	0.0124	0.9320	0.2647	0.0118	0.2765		3,524.8111	3,524.8111	0.2561		3,531.2135
Worker	1.2931	0.6777	7.7706	0.0259	3.2448	0.0211	3.2659	0.8607	0.0194	0.8801		2,586.1400	2,586.1400	0.0544		2,587.5004
Total	**1.5644**	**9.9456**	**10.9176**	**0.0586**	**4.1644**	**0.0335**	**4.1979**	**1.1253**	**0.0313**	**1.1566**		**6,110.9510**	**6,110.9510**	**0.3105**		**6,118.7139**

3.11 Building Construction P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2621	9.1244	3.0812	0.0324	0.9197	0.0120	0.9317	0.2647	0.0115	0.2762		3,503.2525	3,503.2525	0.2518		3,509.5467
Worker	1.2305	0.6184	7.2069	0.0249	3.2448	0.0207	3.2656	0.8607	0.0191	0.8798		2,481.5784	2,481.5784	0.0495		2,482.8155
Total	**1.4926**	**9.7427**	**10.2881**	**0.0573**	**4.1645**	**0.0328**	**4.1973**	**1.1254**	**0.0306**	**1.1559**		**5,984.8309**	**5,984.8309**	**0.3013**		**5,992.3621**

3.11 Building Construction P4 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2621	9.1244	3.0812	0.0324	0.9197	0.0120	0.9317	0.2647	0.0115	0.2762		3,503.2525	3,503.2525	0.2518		3,509.5467
Worker	1.2305	0.6184	7.2069	0.0249	3.2448	0.0207	3.2656	0.8607	0.0191	0.8798		2,481.5784	2,481.5784	0.0495		2,482.8155
Total	**1.4926**	**9.7427**	**10.2881**	**0.0573**	**4.1645**	**0.0328**	**4.1973**	**1.1254**	**0.0306**	**1.1559**		**5,984.8309**	**5,984.8309**	**0.3013**		**5,992.3621**

3.12 Architectural Coating P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	150.8100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**150.9808**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2461	0.1237	1.4414	4.9800e-003	0.6490	4.1500e-003	0.6531	0.1721	3.8200e-003	0.1760		496.3157	496.3157	9.9000e-003		496.5631
Total	**0.2461**	**0.1237**	**1.4414**	**4.9800e-003**	**0.6490**	**4.1500e-003**	**0.6531**	**0.1721**	**3.8200e-003**	**0.1760**		**496.3157**	**496.3157**	**9.9000e-003**		**496.5631**

3.12 Architectural Coating P4 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	150.8100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**150.8397**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2461	0.1237	1.4414	4.9800e-003	0.6490	4.1500e-003	0.6531	0.1721	3.8200e-003	0.1760		496.3157	496.3157	9.9000e-003		496.5631
Total	**0.2461**	**0.1237**	**1.4414**	**4.9800e-003**	**0.6490**	**4.1500e-003**	**0.6531**	**0.1721**	**3.8200e-003**	**0.1760**		**496.3157**	**496.3157**	**9.9000e-003**		**496.5631**

3.13 Grading P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0623	0.0313	0.3649	1.2600e-003	0.1643	1.0500e-003	0.1654	0.0436	9.7000e-004	0.0446		125.6495	125.6495	2.5100e-003		125.7122
Total	**0.0623**	**0.0313**	**0.3649**	**1.2600e-003**	**0.1643**	**1.0500e-003**	**0.1654**	**0.0436**	**9.7000e-004**	**0.0446**		**125.6495**	**125.6495**	**2.5100e-003**		**125.7122**

3.13 Grading P5 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3176	0.0000	3.3176	1.3757	0.0000	1.3757			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**3.3176**	**0.1015**	**3.4191**	**1.3757**	**0.1015**	**1.4772**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0623	0.0313	0.3649	1.2600e-003	0.1643	1.0500e-003	0.1654	0.0436	9.7000e-004	0.0446		125.6495	125.6495	2.5100e-003		125.7122
Total	**0.0623**	**0.0313**	**0.3649**	**1.2600e-003**	**0.1643**	**1.0500e-003**	**0.1654**	**0.0436**	**9.7000e-004**	**0.0446**		**125.6495**	**125.6495**	**2.5100e-003**		**125.7122**

3.14 Building Construction P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2621	9.1244	3.0812	0.0324	0.9197	0.0120	0.9317	0.2647	0.0115	0.2762		3,503.2525	3,503.2525	0.2518		3,509.5467
Worker	1.2305	0.6184	7.2069	0.0249	3.2448	0.0207	3.2656	0.8607	0.0191	0.8798		2,481.5784	2,481.5784	0.0495		2,482.8155
Total	**1.4926**	**9.7427**	**10.2881**	**0.0573**	**4.1645**	**0.0328**	**4.1973**	**1.1254**	**0.0306**	**1.1559**		**5,984.8309**	**5,984.8309**	**0.3013**		**5,992.3621**

3.14 Building Construction P5 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2621	9.1244	3.0812	0.0324	0.9197	0.0120	0.9317	0.2647	0.0115	0.2762		3,503.2525	3,503.2525	0.2518		3,509.5467
Worker	1.2305	0.6184	7.2069	0.0249	3.2448	0.0207	3.2656	0.8607	0.0191	0.8798		2,481.5784	2,481.5784	0.0495		2,482.8155
Total	**1.4926**	**9.7427**	**10.2881**	**0.0573**	**4.1645**	**0.0328**	**4.1973**	**1.1254**	**0.0306**	**1.1559**		**5,984.8309**	**5,984.8309**	**0.3013**		**5,992.3621**

3.14 Building Construction P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2539	8.9853	3.0330	0.0321	0.9197	0.0117	0.9314	0.2647	0.0112	0.2759		3,483.1473	3,483.1473	0.2477		3,489.3403
Worker	1.1754	0.5676	6.7199	0.0240	3.2448	0.0201	3.2649	0.8607	0.0185	0.8792		2,390.9202	2,390.9202	0.0452		2,392.0503
Total	**1.4293**	**9.5530**	**9.7529**	**0.0561**	**4.1646**	**0.0317**	**4.1963**	**1.1254**	**0.0296**	**1.1550**		**5,874.0675**	**5,874.0675**	**0.2929**		**5,881.3906**

3.14 Building Construction P5 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2539	8.9853	3.0330	0.0321	0.9197	0.0117	0.9314	0.2647	0.0112	0.2759		3,483.1473	3,483.1473	0.2477		3,489.3403
Worker	1.1754	0.5676	6.7199	0.0240	3.2448	0.0201	3.2649	0.8607	0.0185	0.8792		2,390.9202	2,390.9202	0.0452		2,392.0503
Total	**1.4293**	**9.5530**	**9.7529**	**0.0561**	**4.1646**	**0.0317**	**4.1963**	**1.1254**	**0.0296**	**1.1550**		**5,874.0675**	**5,874.0675**	**0.2929**		**5,881.3906**

3.15 Architectural Coating P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.6286					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**143.7994**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2351	0.1135	1.3440	4.7900e-003	0.6490	4.0100e-003	0.6530	0.1721	3.6900e-003	0.1758		478.1840	478.1840	9.0400e-003		478.4101
Total	**0.2351**	**0.1135**	**1.3440**	**4.7900e-003**	**0.6490**	**4.0100e-003**	**0.6530**	**0.1721**	**3.6900e-003**	**0.1758**		**478.1840**	**478.1840**	**9.0400e-003**		**478.4101**

3.15 Architectural Coating P5 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.6286					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**143.6583**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2351	0.1135	1.3440	4.7900e-003	0.6490	4.0100e-003	0.6530	0.1721	3.6900e-003	0.1758		478.1840	478.1840	9.0400e-003		478.4101
Total	**0.2351**	**0.1135**	**1.3440**	**4.7900e-003**	**0.6490**	**4.0100e-003**	**0.6530**	**0.1721**	**3.6900e-003**	**0.1758**		**478.1840**	**478.1840**	**9.0400e-003**		**478.4101**

3.16 Grading P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0595	0.0287	0.3403	1.2100e-003	0.1643	1.0200e-003	0.1653	0.0436	9.3000e-004	0.0445		121.0593	121.0593	2.2900e-003		121.1165
Total	**0.0595**	**0.0287**	**0.3403**	**1.2100e-003**	**0.1643**	**1.0200e-003**	**0.1653**	**0.0436**	**9.3000e-004**	**0.0445**		**121.0593**	**121.0593**	**2.2900e-003**		**121.1165**

3.16 Grading P6 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3176	0.0000	3.3176	1.3757	0.0000	1.3757			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**0.7616**	**3.3000**	**32.9991**	**0.0621**	**3.3176**	**0.1015**	**3.4191**	**1.3757**	**0.1015**	**1.4772**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0595	0.0287	0.3403	1.2100e-003	0.1643	1.0200e-003	0.1653	0.0436	9.3000e-004	0.0445		121.0593	121.0593	2.2900e-003		121.1165
Total	**0.0595**	**0.0287**	**0.3403**	**1.2100e-003**	**0.1643**	**1.0200e-003**	**0.1653**	**0.0436**	**9.3000e-004**	**0.0445**		**121.0593**	**121.0593**	**2.2900e-003**		**121.1165**

3.17 Building Construction P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1344	4.7569	1.6057	0.0170	0.4869	6.1800e-003	0.4931	0.1401	5.9100e-003	0.1461		1,844.0191	1,844.0191	0.1312		1,847.2978
Worker	0.6160	0.2975	3.5216	0.0126	1.7005	0.0105	1.7110	0.4510	9.6800e-003	0.4607		1,252.9632	1,252.9632	0.0237		1,253.5555
Total	**0.7504**	**5.0544**	**5.1273**	**0.0296**	**2.1874**	**0.0167**	**2.2041**	**0.5912**	**0.0156**	**0.6068**		**3,096.9824**	**3,096.9824**	**0.1548**		**3,100.8533**

3.17 Building Construction P6 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1344	4.7569	1.6057	0.0170	0.4869	6.1800e-003	0.4931	0.1401	5.9100e-003	0.1461		1,844.0191	1,844.0191	0.1312		1,847.2978
Worker	0.6160	0.2975	3.5216	0.0126	1.7005	0.0105	1.7110	0.4510	9.6800e-003	0.4607		1,252.9632	1,252.9632	0.0237		1,253.5555
Total	**0.7504**	**5.0544**	**5.1273**	**0.0296**	**2.1874**	**0.0167**	**2.2041**	**0.5912**	**0.0156**	**0.6068**		**3,096.9824**	**3,096.9824**	**0.1548**		**3,100.8533**

3.17 Building Construction P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1309	4.6837	1.5863	0.0169	0.4870	6.0000e-003	0.4930	0.1402	5.7400e-003	0.1459		1,833.9851	1,833.9851	0.1291		1,837.2136
Worker	0.5870	0.2736	3.2928	0.0121	1.7005	9.9400e-003	1.7104	0.4510	9.1500e-003	0.4602		1,211.2279	1,211.2279	0.0217		1,211.7696
Total	**0.7179**	**4.9573**	**4.8791**	**0.0291**	**2.1874**	**0.0159**	**2.2034**	**0.5912**	**0.0149**	**0.6061**		**3,045.2129**	**3,045.2129**	**0.1508**		**3,048.9832**

3.17 Building Construction P6 - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**0.3278**	**2.2347**	**17.4603**	**0.0270**		**0.0408**	**0.0408**		**0.0408**	**0.0408**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1309	4.6837	1.5863	0.0169	0.4870	6.0000e-003	0.4930	0.1402	5.7400e-003	0.1459		1,833.9851	1,833.9851	0.1291		1,837.2136
Worker	0.5870	0.2736	3.2928	0.0121	1.7005	9.9400e-003	1.7104	0.4510	9.1500e-003	0.4602		1,211.2279	1,211.2279	0.0217		1,211.7696
Total	**0.7179**	**4.9573**	**4.8791**	**0.0291**	**2.1874**	**0.0159**	**2.2034**	**0.5912**	**0.0149**	**0.6061**		**3,045.2129**	**3,045.2129**	**0.1508**		**3,048.9832**

3.18 Architectural Coating P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.9550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**144.1259**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1163	0.0542	0.6522	2.4000e-003	0.3368	1.9700e-003	0.3388	0.0893	1.8100e-003	0.0912		239.9050	239.9050	4.2900e-003		240.0123
Total	**0.1163**	**0.0542**	**0.6522**	**2.4000e-003**	**0.3368**	**1.9700e-003**	**0.3388**	**0.0893**	**1.8100e-003**	**0.0912**		**239.9050**	**239.9050**	**4.2900e-003**		**240.0123**

3.18 Architectural Coating P6 - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.9550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**143.9847**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1163	0.0542	0.6522	2.4000e-003	0.3368	1.9700e-003	0.3388	0.0893	1.8100e-003	0.0912		239.9050	239.9050	4.2900e-003		240.0123
Total	**0.1163**	**0.0542**	**0.6522**	**2.4000e-003**	**0.3368**	**1.9700e-003**	**0.3388**	**0.0893**	**1.8100e-003**	**0.0912**		**239.9050**	**239.9050**	**4.2900e-003**		**240.0123**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.1565	24.1511	75.4332	0.3003	34.1908	0.2306	34.4214	9.1290	0.2138	9.3428		30,553.5129	30,553.5129	1.1411		30,582.0406
Unmitigated	6.3764	25.3477	81.6490	0.3318	37.9898	0.2524	38.2422	10.1433	0.2341	10.3774		33,751.2025	33,751.2025	1.2408		33,782.2225

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,188.68	2,188.68	2188.68	6,047,482	5,442,734
City Park	5.47	5.47	5.47	11,676	10,509
Single Family Housing	4,304.64	4,304.64	4304.64	11,894,033	10,704,629
Total	6,498.79	6,498.79	6,498.79	17,953,191	16,157,872

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Single Family Housing	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.606220	0.039388	0.187721	0.099847	0.014851	0.005755	0.020359	0.018389	0.001198	0.001075	0.003720	0.000404	0.001073
City Park	0.606220	0.039388	0.187721	0.099847	0.014851	0.005755	0.020359	0.018389	0.001198	0.001075	0.003720	0.000404	0.001073
Single Family Housing	0.606220	0.039388	0.187721	0.099847	0.014851	0.005755	0.020359	0.018389	0.001198	0.001075	0.003720	0.000404	0.001073

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Percent of Electricity Use Generated with Renewable Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.4604	3.9343	1.6742	0.0251		0.3181	0.3181		0.3181	0.3181		5,022.4517	5,022.4517	0.0963	0.0921	5,052.2976
NaturalGas Unmitigated	0.4604	3.9343	1.6742	0.0251		0.3181	0.3181		0.3181	0.3181		5,022.4517	5,022.4517	0.0963	0.0921	5,052.2976

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	10452.4	0.1127	0.9633	0.4099	6.1500e-003		0.0779	0.0779		0.0779	0.0779		1,229.6914	1,229.6914	0.0236	0.0225	1,236.9988
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	32238.5	0.3477	2.9710	1.2643	0.0190		0.2402	0.2402		0.2402	0.2402		3,792.7603	3,792.7603	0.0727	0.0695	3,815.2988
Total		**0.4604**	**3.9343**	**1.6742**	**0.0251**		**0.3181**	**0.3181**		**0.3181**	**0.3181**		**5,022.4517**	**5,022.4517**	**0.0963**	**0.0921**	**5,052.2976**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	10.4524	0.1127	0.9633	0.4099	6.1500e-003		0.0779	0.0779		0.0779	0.0779		1,229.6914	1,229.6914	0.0236	0.0225	1,236.9988
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	32.2385	0.3477	2.9710	1.2643	0.0190		0.2402	0.2402		0.2402	0.2402		3,792.7603	3,792.7603	0.0727	0.0695	3,815.2988
Total		**0.4604**	**3.9343**	**1.6742**	**0.0251**		**0.3181**	**0.3181**		**0.3181**	**0.3181**		**5,022.4517**	**5,022.4517**	**0.0963**	**0.0921**	**5,052.2976**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	29.0886	0.7169	62.2356	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1703	112.1703	0.1074	0.0000	114.8562
Unmitigated	29.0886	0.7169	62.2356	3.2900e-003		0.3453	0.3453		0.3453	0.3453	0.0000	112.1703	112.1703	0.1074	0.0000	114.8562

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.1195					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1001					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8690	0.7169	62.2356	3.2900e-003		0.3453	0.3453		0.3453	0.3453		112.1703	112.1703	0.1074		114.8562
Total	**29.0886**	**0.7169**	**62.2356**	**3.2900e-003**		**0.3453**	**0.3453**		**0.3453**	**0.3453**	**0.0000**	**112.1703**	**112.1703**	**0.1074**	**0.0000**	**114.8562**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.1195					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1001					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8690	0.7169	62.2356	3.2900e-003		0.3453	0.3453		0.3453	0.3453		112.1703	112.1703	0.1074		114.8562
Total	**29.0886**	**0.7169**	**62.2356**	**3.2900e-003**		**0.3453**	**0.3453**		**0.3453**	**0.3453**	**0.0000**	**112.1703**	**112.1703**	**0.1074**	**0.0000**	**114.8562**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Grey Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD View\11.3\11.3.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 1\Hitch Ranch_Phase 1.isc
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL 11.3.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325048.840  3795233.290      145.140
** Source Parameters **
   SRCPARAM PAREA1       4.9501E-09     3.000        17
   AREAVERT PAREA1       325048.840 3795233.290 325002.320 3795338.940
   AREAVERT PAREA1       324649.150 3795252.700 324649.150 3795514.450
   AREAVERT PAREA1       325044.060 3795513.690 325044.060 3795684.570
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326288.670 3795758.120 326277.560 3795694.020
   AREAVERT PAREA1       326166.380 3795525.260 326425.650 3795493.540
   AREAVERT PAREA1       326479.010 3795469.120 326469.840 3795364.180
   AREAVERT PAREA1       325735.780 3795372.310
   SRCGROUP ALL
SO FINISHED
**
**************************************
```

```
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED 11.3.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST 11.3.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL 11.3.AD\AN00GALL.PLT 32
   SUMMFILE 11.3.sum
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD View\11.3\11.3.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 1\Hitch Ranch_Phase 1.isc
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL 11.3.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325048.840  3795233.290      145.140
** Source Parameters **
   SRCPARAM PAREA1       4.9501E-09     3.000        17
   AREAVERT PAREA1       325048.840 3795233.290 325002.320 3795338.940
   AREAVERT PAREA1       324649.150 3795252.700 324649.150 3795514.450
   AREAVERT PAREA1       325044.060 3795513.690 325044.060 3795684.570
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326288.670 3795758.120 326277.560 3795694.020
   AREAVERT PAREA1       326166.380 3795525.260 326425.650 3795493.540
   AREAVERT PAREA1       326479.010 3795469.120 326469.840 3795364.180
   AREAVERT PAREA1       325735.780 3795372.310
   SRCGROUP ALL
SO FINISHED
**
**************************************
```

```
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED 11.3.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST 11.3.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL 11.3.AD\AN00GALL.PLT 32
   SUMMFILE 11.3.sum
OU FINISHED

 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       14:09:21

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          ***     MODEL SETUP OPTIONS SUMMARY
```

```
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     834
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
```

```
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    24.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   11.3.err

 **File for Summary of Results:   11.3.sum

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        14:09:21

                                   PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL


                                                  *** AREAPOLY SOURCE DATA ***

              NUMBER EMISSION RATE   LOCATION OF AREA  BASE     RELEASE  NUMBER
  INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC       X        Y      ELEV.    HEIGHT  OF VERTS.
   SZ     SOURCE  SCALAR VARY
     ID         CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
(METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
```

*** SOURCE IDs DEFINING SOURCE GROUPS
***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326346.0, 3795634.0, 172.5, 190.0, 0.0); (326414.1,
3795779.7, 180.0, 277.0, 0.0);
(326435.8, 3795773.5, 176.6, 277.0, 0.0); (326458.3,
3795772.8, 174.6, 277.0, 0.0);
(326424.2, 3795858.8, 178.9, 295.0, 0.0); (326400.2,
3795799.8, 182.9, 277.0, 0.0);
(326400.9, 3795767.9, 180.8, 277.0, 0.0); (326424.2,
3795858.8, 178.9, 295.0, 0.0);
(326611.8, 3795763.0, 168.9, 277.0, 0.0); (326611.8,
3795763.0, 168.9, 277.0, 0.0);
(326610.9, 3795777.7, 169.0, 277.0, 0.0); (326605.9,
3795792.9, 169.0, 277.0, 0.0);
(326623.9, 3795809.0, 169.6, 277.0, 0.0); (326627.2,
3795836.6, 170.1, 295.0, 0.0);
(326640.1, 3795836.6, 170.2, 277.0, 0.0); (326654.5,
3795868.7, 171.6, 291.0, 0.0);
(326665.5, 3795883.1, 172.0, 295.0, 0.0); (326588.3,
3795867.6, 175.1, 277.0, 0.0);
(326640.5, 3795951.9, 177.0, 295.0, 0.0); (326658.5,

```
3795975.6,     175.5,     295.0,       0.0);
     ( 326759.5, 3796019.3,     178.2,     277.0,       0.0);         ( 326763.6,
3796031.8,     178.1,     291.0,       0.0);
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
     ( 326806.7, 3795493.9,     157.9,     217.0,       0.0);         ( 326824.1,
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     (326853.5, 3795481.7,   157.5,   217.0,   0.0);   (326898.8,
3795534.4,   158.0,   217.0,   0.0);
     (325796.1, 3795215.6,   149.4,   149.4,   0.0);   (325823.1,
3795215.6,   149.0,   149.0,   0.0);
     (326012.1, 3795215.6,   150.0,   150.0,   0.0);   (326120.1,
3795215.6,   151.0,   151.0,   0.0);
     (326147.1, 3795215.6,   151.0,   151.0,   0.0);   (325796.1,
3795254.6,   149.4,   185.0,   0.0);
     (325823.1, 3795254.6,   149.0,   185.0,   0.0);   (325850.1,
3795254.6,   149.0,   149.0,   0.0);
     (325877.1, 3795254.6,   149.0,   149.0,   0.0);   (325904.1,
3795254.6,   149.2,   149.2,   0.0);
     (325931.1, 3795254.6,   149.9,   149.9,   0.0);   (325958.1,
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     (325985.1, 3795254.6,   150.0,   150.0,   0.0);   (326012.1,
3795254.6,   150.7,   150.7,   0.0);
     (326039.1, 3795254.6,   151.0,   151.0,   0.0);   (326066.1,
3795254.6,   151.0,   151.0,   0.0);
     (326093.1, 3795254.6,   151.0,   151.0,   0.0);   (326120.1,
3795254.6,   151.0,   151.0,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (326147.1, 3795254.6,   151.0,   151.0,   0.0);   (325796.1,
3795293.6,   150.1,   185.0,   0.0);
     (325823.1, 3795293.6,   150.1,   185.0,   0.0);   (325850.1,
3795293.6,   149.7,   185.0,   0.0);
     (325877.1, 3795293.6,   149.2,   185.0,   0.0);   (325904.1,
3795293.6,   149.2,   149.2,   0.0);
     (325931.1, 3795293.6,   150.0,   150.0,   0.0);   (325958.1,
3795293.6,   150.0,   150.0,   0.0);
     (325985.1, 3795293.6,   150.9,   150.9,   0.0);   (326012.1,
3795293.6,   151.2,   151.2,   0.0);
     (326039.1, 3795293.6,   151.2,   151.2,   0.0);   (326066.1,
3795293.6,   151.7,   151.7,   0.0);
     (326093.1, 3795293.6,   152.0,   152.0,   0.0);   (326120.1,
3795293.6,   152.0,   152.0,   0.0);
     (326147.1, 3795293.6,   152.0,   152.0,   0.0);   (325796.1,
3795332.6,   151.1,   185.0,   0.0);
     (325823.1, 3795332.6,   151.0,   185.0,   0.0);   (325850.1,

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     ( 325877.1, 3795332.6,     150.2,     185.0,       0.0);         ( 325904.1,
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     ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
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     ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
     ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
     ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
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     ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
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     ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
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3795004.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
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3795004.9,     150.3,     150.3,       0.0);
     ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
     ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
     ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795088.9,     150.2,     150.2,       0.0);
     ( 326122.4, 3795088.9,     150.7,     150.7,       0.0);         ( 326147.4,
```

3795088.9,   151.0,   151.0,   0.0);
     (325847.4, 3795130.9,   149.0,   149.0,   0.0);   (325872.4,
3795130.9,   149.0,   149.0,   0.0);
     (325897.4, 3795130.9,   149.0,   149.0,   0.0);   (325922.4,
3795130.9,   149.0,   149.0,   0.0);
     (325947.4, 3795130.9,   149.6,   149.6,   0.0);   (325972.4,
3795130.9,   150.0,   150.0,   0.0);
     (325997.4, 3795130.9,   150.0,   150.0,   0.0);   (326022.4,
3795130.9,   150.0,   150.0,   0.0);
     (326047.4, 3795130.9,   150.0,   150.0,   0.0);   (326072.4,
3795130.9,   150.0,   150.0,   0.0);
     (326097.4, 3795130.9,   150.6,   150.6,   0.0);   (326122.4,
3795130.9,   151.0,   151.0,   0.0);
     (326147.4, 3795130.9,   151.0,   151.0,   0.0);   (325847.4,
3795172.9,   149.0,   149.0,   0.0);
     (325872.4, 3795172.9,   149.0,   149.0,   0.0);   (325897.4,
3795172.9,   149.0,   149.0,   0.0);
     (325922.4, 3795172.9,   149.0,   149.0,   0.0);   (325947.4,
3795172.9,   149.6,   149.6,   0.0);
     (325972.4, 3795172.9,   150.0,   150.0,   0.0);   (325997.4,
3795172.9,   150.0,   150.0,   0.0);
     (326022.4, 3795172.9,   150.0,   150.0,   0.0);   (326047.4,
3795172.9,   150.2,   150.2,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                              (METERS)

     (326072.4, 3795172.9,   150.8,   150.8,   0.0);   (325847.4,
3795214.9,   149.0,   149.0,   0.0);
     (325872.4, 3795214.9,   149.0,   149.0,   0.0);   (325897.4,
3795214.9,   149.0,   149.0,   0.0);
     (325922.4, 3795214.9,   149.0,   149.0,   0.0);   (325947.4,
3795214.9,   149.6,   149.6,   0.0);
     (325972.4, 3795214.9,   150.0,   150.0,   0.0);   (325997.4,
3795214.9,   150.0,   150.0,   0.0);
     (326047.4, 3795214.9,   151.0,   151.0,   0.0);   (326072.4,
3795214.9,   151.0,   151.0,   0.0);
     (326097.4, 3795214.9,   151.0,   151.0,   0.0);   (326147.4,
3795214.9,   151.0,   151.0,   0.0);
     (326096.6, 3795181.5,   151.0,   151.0,   0.0);   (326118.6,
3795182.6,   151.0,   151.0,   0.0);
     (326144.3, 3795184.1,   151.0,   151.0,   0.0);   (325849.7,

3794829.6,   148.0,   148.0,   0.0);
     (325892.6, 3794829.6,   148.0,   148.0,   0.0);   (325935.5,
3794829.6,   148.8,   148.8,   0.0);
     (325978.3, 3794829.6,   149.0,   149.0,   0.0);   (326021.2,
3794829.6,   149.0,   149.0,   0.0);
     (326064.1, 3794829.6,   149.5,   149.5,   0.0);   (325849.7,
3794867.5,   148.0,   148.0,   0.0);
     (325892.6, 3794867.5,   148.8,   148.8,   0.0);   (325935.5,
3794867.5,   149.0,   149.0,   0.0);
     (325978.3, 3794867.5,   149.0,   149.0,   0.0);   (326021.2,
3794867.5,   149.0,   149.0,   0.0);
     (326064.1, 3794867.5,   149.5,   149.5,   0.0);   (325849.7,
3794905.5,   148.1,   148.1,   0.0);
     (325892.6, 3794905.5,   148.9,   148.9,   0.0);   (325935.5,
3794905.5,   149.0,   149.0,   0.0);
     (325978.3, 3794905.5,   149.0,   149.0,   0.0);   (326021.2,
3794905.5,   149.1,   149.1,   0.0);
     (326064.1, 3794905.5,   150.0,   150.0,   0.0);   (325849.7,
3794943.4,   148.4,   148.4,   0.0);
     (325892.6, 3794943.4,   149.0,   149.0,   0.0);   (325935.5,
3794943.4,   149.0,   149.0,   0.0);
     (325978.3, 3794943.4,   149.0,   149.0,   0.0);   (326021.2,
3794943.4,   149.1,   149.1,   0.0);
     (326064.1, 3794943.4,   150.0,   150.0,   0.0);   (325849.7,
3794981.3,   148.9,   148.9,   0.0);
     (325892.6, 3794981.3,   149.0,   149.0,   0.0);   (325935.5,
3794981.3,   149.0,   149.0,   0.0);
     (325978.3, 3794981.3,   149.0,   149.0,   0.0);   (326021.2,
3794981.3,   149.8,   149.8,   0.0);
     (326064.1, 3794981.3,   150.0,   150.0,   0.0);   (325855.3,
3794726.6,   148.0,   148.0,   0.0);
     (325902.6, 3794726.6,   148.0,   148.0,   0.0);   (325855.3,
3794745.5,   148.0,   148.0,   0.0);
     (325902.6, 3794745.5,   148.0,   148.0,   0.0);   (325855.3,
3794764.4,   148.0,   148.0,   0.0);
     (325902.6, 3794764.4,   148.0,   148.0,   0.0);   (325855.3,
3794783.3,   148.0,   148.0,   0.0);
     (325902.6, 3794783.3,   148.0,   148.0,   0.0);   (325855.3,
3794802.2,   148.0,   148.0,   0.0);
     (325902.6, 3794802.2,   148.0,   148.0,   0.0);   (325855.3,
3794821.1,   148.0,   148.0,   0.0);
     (325902.6, 3794821.1,   148.1,   148.1,   0.0);   (326402.8,
3795249.3,   152.8,   152.8,   0.0);
     (325380.5, 3795776.2,   161.0,   295.0,   0.0);   (325415.9,
3795858.3,   176.6,   271.0,   0.0);
     (325409.9, 3795995.0,   190.3,   271.0,   0.0);   (325416.6,
3796058.1,   193.4,   282.0,   0.0);
     (325409.6, 3796164.9,   201.8,   291.0,   0.0);   (325322.7,
3796083.9,   190.0,   292.0,   0.0);
     (325297.9, 3796111.1,   184.9,   295.0,   0.0);   (325246.7,

3796076.1,   181.2,   295.0,   0.0);
     (325280.0, 3796260.7,   211.4,   292.0,   0.0);   (325237.0,
3796200.4,   205.0,   292.0,   0.0);
     (325163.0, 3796071.1,   180.4,   292.0,   0.0);   (325215.7,
3795991.4,   177.4,   292.0,   0.0);
     (325208.3, 3795926.9,   173.0,   292.0,   0.0);   (325249.5,
3795829.2,   171.2,   291.0,   0.0);
     (325171.5, 3795759.2,   160.9,   292.0,   0.0);   (325129.2,
3795756.4,   158.4,   292.0,   0.0);
     (325154.8, 3795886.2,   167.8,   292.0,   0.0);   (325068.5,
3795885.4,   171.6,   292.0,   0.0);
     (325047.9, 3795938.0,   175.5,   292.0,   0.0);   (325045.8,
3795982.7,   176.4,   292.0,   0.0);
     (325072.0, 3796106.7,   179.6,   292.0,   0.0);   (325060.6,
3796290.4,   197.1,   292.0,   0.0);
     (324903.7, 3796379.8,   214.8,   292.0,   0.0);   (324787.8,
3796510.4,   197.3,   292.0,   0.0);
     (324916.5, 3796618.3,   201.7,   292.0,   0.0);   (326493.0,
3796356.3,   198.5,   295.0,   0.0);
     (326552.7, 3796900.0,   235.2,   295.0,   0.0);   (326599.3,
3796893.6,   237.6,   293.0,   0.0);
     (326617.4, 3796889.5,   237.6,   293.0,   0.0);   (326639.4,
3796881.9,   233.8,   293.0,   0.0);
     (326663.7, 3796864.1,   225.7,   295.0,   0.0);   (326679.5,
3796885.2,   227.5,   293.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (326697.8, 3796898.3,   229.7,   293.0,   0.0);   (326712.3,
3796916.6,   233.6,   293.0,   0.0);
     (326726.6, 3796931.1,   236.4,   290.0,   0.0);   (326742.2,
3796948.0,   240.5,   290.0,   0.0);
     (326756.6, 3796965.7,   242.1,   290.0,   0.0);   (326772.1,
3796973.3,   239.2,   290.0,   0.0);
     (326785.2, 3796890.5,   223.1,   293.0,   0.0);   (326800.1,
3797003.9,   233.0,   290.0,   0.0);
     (326818.0, 3797014.9,   229.2,   290.0,   0.0);   (326813.7,
3796843.9,   215.1,   293.0,   0.0);
     (326833.9, 3796853.6,   216.3,   293.0,   0.0);   (326848.6,
3796873.4,   217.5,   293.0,   0.0);
     (326864.2, 3796885.1,   217.7,   293.0,   0.0);   (326877.9,

3796901.2,   218.2,   292.0,   0.0);
     (326893.8, 3796917.1,   220.4,   292.0,   0.0);   (326904.5,
3796938.8,   223.9,   292.0,   0.0);
     (326907.6, 3796966.2,   224.5,   292.0,   0.0);   (326914.5,
3796991.7,   227.6,   292.0,   0.0);
     (326921.9, 3797038.4,   232.7,   292.0,   0.0);   (326596.6,
3797264.1,   273.2,   288.0,   0.0);
     (326830.0, 3795735.4,   183.6,   217.0,   0.0);   (326866.5,
3795706.9,   182.8,   217.0,   0.0);
     (326831.5, 3795646.6,   161.0,   217.0,   0.0);   (326872.9,
3795644.9,   160.9,   217.0,   0.0);
     (326898.9, 3795644.7,   160.9,   217.0,   0.0);   (326924.7,
3795650.1,   161.6,   217.0,   0.0);
     (326949.7, 3795646.4,   161.1,   217.0,   0.0);   (326975.6,
3795638.8,   162.5,   217.0,   0.0);
     (326917.9, 3795602.8,   159.0,   217.0,   0.0);   (326918.6,
3795584.1,   158.0,   217.0,   0.0);
     (326921.6, 3795563.5,   158.0,   217.0,   0.0);   (326917.2,
3795537.1,   158.0,   217.0,   0.0);
     (326935.0, 3795592.2,   158.8,   217.0,   0.0);   (326951.0,
3795599.5,   159.5,   217.0,   0.0);
     (326950.3, 3795555.9,   158.0,   217.0,   0.0);   (326951.6,
3795535.1,   158.0,   217.0,   0.0);
     (326961.8, 3795537.6,   158.0,   217.0,   0.0);   (326982.2,
3795538.3,   158.0,   217.0,   0.0);
     (326992.4, 3795539.1,   158.0,   217.0,   0.0);   (327009.0,
3795535.6,   158.0,   217.0,   0.0);
     (326987.7, 3795581.0,   159.0,   217.0,   0.0);   (327024.8,
3795588.4,   160.1,   217.0,   0.0);
     (326925.1, 3795485.9,   158.0,   217.0,   0.0);   (326937.8,
3795488.3,   158.0,   217.0,   0.0);
     (326956.5, 3795489.3,   158.0,   217.0,   0.0);   (326970.9,
3795491.0,   158.0,   217.0,   0.0);
     (326990.0, 3795487.7,   158.0,   217.0,   0.0);   (325049.3,
3794362.9,   143.0,   143.0,   0.0);
     (325086.8, 3794362.9,   143.0,   143.0,   0.0);   (325124.3,
3794362.9,   143.0,   143.0,   0.0);
     (325161.8, 3794362.9,   143.2,   143.2,   0.0);   (325199.3,
3794362.9,   143.2,   143.2,   0.0);
     (325236.8, 3794362.9,   143.0,   143.0,   0.0);   (325274.3,
3794362.9,   143.0,   143.0,   0.0);
     (325049.3, 3794386.1,   143.0,   143.0,   0.0);   (325086.8,
3794386.1,   143.0,   143.0,   0.0);
     (325124.3, 3794386.1,   143.2,   143.2,   0.0);   (325161.8,
3794386.1,   144.0,   144.0,   0.0);
     (325199.3, 3794386.1,   144.0,   144.0,   0.0);   (325236.8,
3794386.1,   143.1,   143.1,   0.0);
     (325274.3, 3794386.1,   143.0,   143.0,   0.0);   (325049.3,
3794409.3,   143.0,   143.0,   0.0);
     (325086.8, 3794409.3,   143.0,   143.0,   0.0);   (325124.3,

3794409.3,   143.2,   143.2,   0.0);
     (325161.8, 3794409.3,   144.0,   144.0,   0.0);   (325199.3,
3794409.3,   144.0,   144.0,   0.0);
     (325236.8, 3794409.3,   143.8,   143.8,   0.0);   (325274.3,
3794409.3,   143.7,   143.7,   0.0);
     (325049.3, 3794432.5,   143.0,   143.0,   0.0);   (325086.8,
3794432.5,   143.0,   143.0,   0.0);
     (325124.3, 3794432.5,   143.6,   143.6,   0.0);   (325161.8,
3794432.5,   144.0,   144.0,   0.0);
     (325199.3, 3794432.5,   144.0,   144.0,   0.0);   (325236.8,
3794432.5,   144.0,   144.0,   0.0);
     (325274.3, 3794432.5,   144.0,   144.0,   0.0);   (325049.3,
3794455.7,   143.0,   143.0,   0.0);
     (325086.8, 3794455.7,   143.3,   143.3,   0.0);   (325124.3,
3794455.7,   144.0,   144.0,   0.0);
     (325161.8, 3794455.7,   144.0,   144.0,   0.0);   (325199.3,
3794455.7,   144.0,   144.0,   0.0);
     (325236.8, 3794455.7,   144.0,   144.0,   0.0);   (325274.3,
3794455.7,   144.0,   144.0,   0.0);
     (325049.3, 3794478.9,   143.0,   143.0,   0.0);   (325086.8,
3794478.9,   144.0,   144.0,   0.0);
     (325124.3, 3794478.9,   144.0,   144.0,   0.0);   (325161.8,
3794478.9,   144.0,   144.0,   0.0);
     (325199.3, 3794478.9,   144.0,   144.0,   0.0);   (325236.8,
3794478.9,   144.0,   144.0,   0.0);
     (325274.3, 3794478.9,   144.0,   144.0,   0.0);   (325049.3,
3794502.1,   143.0,   143.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (325086.8, 3794502.1,   144.0,   144.0,   0.0);   (325124.3,
3794502.1,   144.0,   144.0,   0.0);
     (325161.8, 3794502.1,   144.0,   144.0,   0.0);   (325199.3,
3794502.1,   144.0,   144.0,   0.0);
     (325236.8, 3794502.1,   144.0,   144.0,   0.0);   (325274.3,
3794502.1,   144.0,   144.0,   0.0);
     (325049.3, 3794525.3,   143.0,   143.0,   0.0);   (325086.8,
3794525.3,   144.0,   144.0,   0.0);
     (325124.3, 3794525.3,   144.0,   144.0,   0.0);   (325161.8,
3794525.3,   144.0,   144.0,   0.0);
     (325199.3, 3794525.3,   144.0,   144.0,   0.0);   (325236.8,

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3794525.3,     144.0,     144.0,       0.0);
     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
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3794687.7,   145.0,   145.0,   0.0);
     (324871.6, 3794298.6,   141.0,   141.0,   0.0);   (324910.5,
3794298.6,   141.1,   141.1,   0.0);
     (324949.4, 3794298.6,   142.0,   142.0,   0.0);   (324988.3,
3794298.6,   142.0,   142.0,   0.0);
     (324871.6, 3794320.4,   141.0,   141.0,   0.0);   (324910.5,
3794320.4,   141.8,   141.8,   0.0);
     (324949.4, 3794320.4,   142.0,   142.0,   0.0);   (324988.3,
3794320.4,   142.0,   142.0,   0.0);
     (324871.6, 3794342.2,   141.0,   141.0,   0.0);   (324910.5,
3794342.2,   142.0,   142.0,   0.0);
     (324949.4, 3794342.2,   142.0,   142.0,   0.0);   (324988.3,
3794342.2,   142.0,   142.0,   0.0);
     (324871.6, 3794364.0,   141.2,   141.2,   0.0);   (324910.5,
3794364.0,   142.0,   142.0,   0.0);
     (324949.4, 3794364.0,   142.0,   142.0,   0.0);   (324988.3,
3794364.0,   142.2,   142.2,   0.0);
     (324871.6, 3794385.8,   141.7,   141.7,   0.0);   (324910.5,
3794385.8,   142.0,   142.0,   0.0);
     (324949.4, 3794385.8,   142.0,   142.0,   0.0);   (324988.3,
3794385.8,   142.6,   142.6,   0.0);
     (324871.6, 3794407.6,   141.8,   141.8,   0.0);   (324910.5,
3794407.6,   142.0,   142.0,   0.0);
     (324949.4, 3794407.6,   142.0,   142.0,   0.0);   (324988.3,
3794407.6,   142.7,   142.7,   0.0);
     (324871.6, 3794429.4,   141.8,   141.8,   0.0);   (324910.5,
3794429.4,   142.0,   142.0,   0.0);
     (324949.4, 3794429.4,   142.0,   142.0,   0.0);   (324988.3,
3794429.4,   142.7,   142.7,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                       (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (324871.6, 3794451.2,   141.8,   141.8,   0.0);   (324910.5,
3794451.2,   142.0,   142.0,   0.0);
     (324949.4, 3794451.2,   142.1,   142.1,   0.0);   (324988.3,
3794451.2,   142.7,   142.7,   0.0);
     (324871.6, 3794473.0,   141.8,   141.8,   0.0);   (324910.5,
3794473.0,   142.0,   142.0,   0.0);
     (324949.4, 3794473.0,   142.3,   142.3,   0.0);   (324988.3,
3794473.0,   143.0,   143.0,   0.0);
     (324871.6, 3794494.8,   141.9,   141.9,   0.0);   (324910.5,

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3794494.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794494.8,     142.4,     142.4,       0.0);         ( 324988.3,
3794494.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794074.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794074.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794074.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794074.7,     137.8,     137.8,       0.0);
     ( 324596.8, 3794074.7,     137.6,     137.6,       0.0);         ( 324633.8,
3794074.7,     137.1,     137.1,       0.0);
     ( 324670.7, 3794074.7,     137.0,     137.0,       0.0);         ( 324707.7,
3794074.7,     137.2,     137.2,       0.0);
     ( 324744.6, 3794074.7,     137.9,     137.9,       0.0);         ( 324781.6,
3794074.7,     139.3,     139.3,       0.0);
     ( 324449.0, 3794106.7,     138.0,     138.0,       0.0);         ( 324486.0,
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3794106.7,   138.0,   138.0,   0.0);
     (324522.9, 3794106.7,   138.0,   138.0,   0.0);   (324559.9,
3794106.7,   138.0,   138.0,   0.0);
     (324596.8, 3794106.7,   138.0,   138.0,   0.0);   (324633.8,
3794106.7,   137.7,   137.7,   0.0);
     (324670.7, 3794106.7,   137.7,   137.7,   0.0);   (324707.7,
3794106.7,   138.0,   138.0,   0.0);
     (324744.6, 3794106.7,   139.2,   139.2,   0.0);   (324781.6,
3794106.7,   139.9,   139.9,   0.0);
     (324449.0, 3794138.6,   138.0,   138.0,   0.0);   (324486.0,
3794138.6,   138.0,   138.0,   0.0);
     (324522.9, 3794138.6,   138.0,   138.0,   0.0);   (324559.9,
3794138.6,   138.0,   138.0,   0.0);
     (324596.8, 3794138.6,   138.0,   138.0,   0.0);   (324633.8,
3794138.6,   138.6,   138.6,   0.0);
     (324670.7, 3794138.6,   138.7,   138.7,   0.0);   (324707.7,
3794138.6,   139.0,   139.0,   0.0);
     (324744.6, 3794138.6,   139.9,   139.9,   0.0);   (324781.6,
3794138.6,   140.0,   140.0,   0.0);
     (324449.0, 3794170.6,   138.0,   138.0,   0.0);   (324486.0,
3794170.6,   138.0,   138.0,   0.0);
     (324522.9, 3794170.6,   138.1,   138.1,   0.0);   (324559.9,
3794170.6,   138.8,   138.8,   0.0);
     (324596.8, 3794170.6,   138.8,   138.8,   0.0);   (324633.8,
3794170.6,   139.0,   139.0,   0.0);
     (324670.7, 3794170.6,   139.1,   139.1,   0.0);   (324707.7,
3794170.6,   139.9,   139.9,   0.0);
     (324744.6, 3794170.6,   140.0,   140.0,   0.0);   (324781.6,
3794170.6,   140.6,   140.6,   0.0);
     (324449.0, 3794202.6,   138.0,   138.0,   0.0);   (324486.0,
3794202.6,   138.0,   138.0,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (324522.9, 3794202.6,   138.2,   138.2,   0.0);   (324559.9,
3794202.6,   139.0,   139.0,   0.0);
     (324596.8, 3794202.6,   139.0,   139.0,   0.0);   (324633.8,
3794202.6,   139.0,   139.0,   0.0);
     (324670.7, 3794202.6,   139.9,   139.9,   0.0);   (324707.7,
3794202.6,   140.0,   140.0,   0.0);
     (324744.6, 3794202.6,   140.0,   140.0,   0.0);   (324781.6,

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3794202.6,     140.8,     140.8,       0.0);
     ( 324449.0, 3794234.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794234.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794234.5,     138.2,     138.2,       0.0);         ( 324559.9,
3794234.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794234.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794234.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794234.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794234.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794234.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794234.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794266.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794266.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794266.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794266.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794266.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794266.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794266.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794266.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794266.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794266.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794298.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794298.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794298.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794298.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794298.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794298.5,     139.9,     139.9,       0.0);
     ( 324670.7, 3794298.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794298.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794298.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794298.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794330.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794330.4,     138.1,     138.1,       0.0);
     ( 324522.9, 3794330.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794330.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794330.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794330.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794330.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794330.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794330.4,     140.1,     140.1,       0.0);         ( 324781.6,
3794330.4,     140.8,     140.8,       0.0);
     ( 324449.0, 3794362.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794362.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794362.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794362.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794362.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794362.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794362.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794362.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794362.4,     140.6,     140.6,       0.0);         ( 324781.6,
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3794362.4,   141.0,   141.0,   0.0);
     (324449.0, 3794394.4,   138.0,   138.0,   0.0);   (324486.0,
3794394.4,   138.9,   138.9,   0.0);
     (324522.9, 3794394.4,   139.0,   139.0,   0.0);   (324559.9,
3794394.4,   139.0,   139.0,   0.0);
     (324596.8, 3794394.4,   139.0,   139.0,   0.0);   (324633.8,
3794394.4,   139.9,   139.9,   0.0);
     (324670.7, 3794394.4,   140.0,   140.0,   0.0);   (324707.7,
3794394.4,   140.0,   140.0,   0.0);
     (324744.6, 3794394.4,   140.6,   140.6,   0.0);   (324781.6,
3794394.4,   141.0,   141.0,   0.0);
     (324449.0, 3794426.4,   138.2,   138.2,   0.0);   (324486.0,
3794426.4,   139.0,   139.0,   0.0);
     (324522.9, 3794426.4,   139.0,   139.0,   0.0);   (324559.9,
3794426.4,   139.0,   139.0,   0.0);
     (324596.8, 3794426.4,   139.0,   139.0,   0.0);   (324633.8,
3794426.4,   139.9,   139.9,   0.0);
     (324670.7, 3794426.4,   140.0,   140.0,   0.0);   (324707.7,
3794426.4,   140.1,   140.1,   0.0);
     (324744.6, 3794426.4,   140.7,   140.7,   0.0);   (324781.6,
3794426.4,   141.0,   141.0,   0.0);
     (324449.0, 3794458.3,   138.7,   138.7,   0.0);   (324486.0,
3794458.3,   139.0,   139.0,   0.0);
     (324522.9, 3794458.3,   139.0,   139.0,   0.0);   (324559.9,
3794458.3,   139.0,   139.0,   0.0);
     (324596.8, 3794458.3,   139.2,   139.2,   0.0);   (324633.8,
3794458.3,   139.9,   139.9,   0.0);
     (324670.7, 3794458.3,   140.0,   140.0,   0.0);   (324707.7,
3794458.3,   140.3,   140.3,   0.0);
     (324744.6, 3794458.3,   141.0,   141.0,   0.0);   (324781.6,
3794458.3,   141.0,   141.0,   0.0);
     (324449.0, 3794490.3,   138.7,   138.7,   0.0);   (324486.0,
3794490.3,   139.0,   139.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (324522.9, 3794490.3,   139.0,   139.0,   0.0);   (324559.9,
3794490.3,   139.0,   139.0,   0.0);
     (324596.8, 3794490.3,   139.6,   139.6,   0.0);   (324633.8,
3794490.3,   140.0,   140.0,   0.0);
     (324670.7, 3794490.3,   140.0,   140.0,   0.0);   (324707.7,

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3794490.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794490.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794490.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794522.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794522.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794522.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794522.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794554.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794554.2,     139.2,     139.2,       0.0);
     ( 324596.8, 3794554.2,     139.8,     139.8,       0.0);         ( 324633.8,
3794554.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794554.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794554.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794586.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794586.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794586.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794586.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794586.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794586.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794586.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794586.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794586.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794586.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794618.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794618.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794618.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794618.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794618.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794618.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794618.2,     140.1,     140.1,       0.0);         ( 324707.7,
3794618.2,     140.8,     140.8,       0.0);
     ( 324744.6, 3794618.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794618.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794650.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
```

3794650.1,   141.0,   141.0,   0.0);
     (324744.6, 3794650.1,   141.0,   141.0,   0.0);   (324781.6,
3794650.1,   141.0,   141.0,   0.0);
     (324449.0, 3794682.1,   139.0,   139.0,   0.0);   (324486.0,
3794682.1,   139.0,   139.0,   0.0);
     (324522.9, 3794682.1,   139.1,   139.1,   0.0);   (324559.9,
3794682.1,   139.9,   139.9,   0.0);
     (324596.8, 3794682.1,   140.0,   140.0,   0.0);   (324633.8,
3794682.1,   140.0,   140.0,   0.0);
     (324670.7, 3794682.1,   140.1,   140.1,   0.0);   (324707.7,
3794682.1,   141.0,   141.0,   0.0);
     (324744.6, 3794682.1,   141.0,   141.0,   0.0);   (324781.6,
3794682.1,   141.0,   141.0,   0.0);
     (326547.4, 3795022.1,   153.0,   153.0,   0.0);   (326594.7,
3795022.1,   153.3,   153.3,   0.0);
     (326642.0, 3795022.1,   154.0,   154.0,   0.0);   (326547.4,
3795042.5,   153.0,   153.0,   0.0);
     (326594.7, 3795042.5,   153.9,   153.9,   0.0);   (326642.0,
3795042.5,   154.0,   154.0,   0.0);
     (326547.4, 3795062.9,   153.0,   153.0,   0.0);   (326594.7,
3795062.9,   154.0,   154.0,   0.0);
     (326642.0, 3795062.9,   154.0,   154.0,   0.0);   (326547.4,
3795083.3,   153.1,   153.1,   0.0);
     (326594.7, 3795083.3,   154.0,   154.0,   0.0);   (326642.0,
3795083.3,   154.0,   154.0,   0.0);
     (326547.4, 3795103.7,   153.6,   153.6,   0.0);   (326594.7,
3795103.7,   154.0,   154.0,   0.0);
     (326642.0, 3795103.7,   154.0,   154.0,   0.0);   (326547.4,
3795124.1,   153.6,   153.6,   0.0);
     (326594.7, 3795124.1,   154.0,   154.0,   0.0);   (326642.0,
3795124.1,   154.0,   154.0,   0.0);
     (326547.4, 3795144.5,   153.7,   153.7,   0.0);   (326594.7,
3795144.5,   154.0,   154.0,   0.0);
     (326642.0, 3795144.5,   154.0,   154.0,   0.0);   (326547.4,
3795164.9,   154.0,   154.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (326594.7, 3795164.9,   154.0,   154.0,   0.0);   (326642.0,
3795164.9,   154.0,   154.0,   0.0);
     (326547.4, 3795185.3,   154.0,   154.0,   0.0);   (326594.7,

3795185.3,   154.0,   154.0,   0.0);
     (326642.0, 3795185.3,   154.0,   154.0,   0.0);   (326547.4,
3795205.7,   154.0,   154.0,   0.0);
     (326594.7, 3795205.7,   154.0,   154.0,   0.0);   (326642.0,
3795205.7,   154.2,   154.2,   0.0);
     (326547.4, 3795226.1,   154.0,   154.0,   0.0);   (326594.7,
3795226.1,   154.0,   154.0,   0.0);
     (326642.0, 3795226.1,   154.8,   154.8,   0.0);   (326547.4,
3795246.5,   154.0,   154.0,   0.0);
     (326594.7, 3795246.5,   154.1,   154.1,   0.0);   (326642.0,
3795246.5,   154.9,   154.9,   0.0);
     (326690.4, 3795243.4,   155.0,   155.0,   0.0);   (326688.7,
3795223.0,   155.0,   155.0,   0.0);
     (326686.0, 3795005.8,   154.0,   154.0,   0.0);   (326686.0,
3795033.7,   154.1,   154.1,   0.0);
     (326686.0, 3795061.5,   154.3,   154.3,   0.0);   (326686.0,
3795089.4,   154.3,   154.3,   0.0);
     (326686.0, 3795117.3,   154.3,   154.3,   0.0);   (326686.0,
3795145.2,   154.3,   154.3,   0.0);
     (326686.0, 3795173.1,   154.4,   154.4,   0.0);   (326686.0,
3795201.0,   155.0,   155.0,   0.0);
     (326832.8, 3795263.3,   155.3,   155.3,   0.0);   (326849.7,
3795263.3,   155.8,   155.8,   0.0);
     (326866.5, 3795263.3,   156.0,   156.0,   0.0);   (326883.4,
3795263.3,   156.0,   156.0,   0.0);
     (326900.3, 3795263.3,   156.0,   156.0,   0.0);   (326917.1,
3795263.3,   156.0,   156.0,   0.0);
     (326934.0, 3795263.3,   156.5,   156.5,   0.0);   (326950.9,
3795263.3,   157.0,   157.0,   0.0);
     (326967.8, 3795263.3,   157.0,   157.0,   0.0);   (326984.6,
3795263.3,   157.2,   157.2,   0.0);
     (327001.5, 3795263.3,   157.8,   157.8,   0.0);   (327036.8,
3795141.3,   157.0,   157.0,   0.0);
     (327075.7, 3795141.3,   158.0,   158.0,   0.0);   (327036.8,
3795160.9,   157.0,   157.0,   0.0);
     (327075.7, 3795160.9,   158.0,   158.0,   0.0);   (327036.8,
3795180.5,   157.0,   157.0,   0.0);
     (327075.7, 3795180.5,   158.0,   158.0,   0.0);   (327036.8,
3795200.0,   157.1,   157.1,   0.0);
     (327075.7, 3795200.0,   158.0,   158.0,   0.0);   (327036.8,
3795219.6,   157.7,   157.7,   0.0);
     (327075.7, 3795219.6,   158.0,   158.0,   0.0);   (327036.8,
3795239.1,   158.0,   158.0,   0.0);
     (327075.7, 3795239.1,   158.0,   158.0,   0.0);   (327036.8,
3795258.7,   158.0,   158.0,   0.0);
     (327075.7, 3795258.7,   158.0,   158.0,   0.0);   (327036.8,
3795278.3,   158.0,   158.0,   0.0);
     (327075.7, 3795278.3,   158.0,   158.0,   0.0);   (326840.0,
3795223.2,   155.4,   155.4,   0.0);
     (326860.6, 3795224.2,   156.0,   156.0,   0.0);   (326877.3,

3795222.7,   156.0,   156.0,   0.0);
     (326929.7, 3795223.7,   156.4,   156.4,   0.0);   (326932.9,
3795200.0,   156.5,   156.5,   0.0);
     (326972.3, 3795217.0,   157.0,   157.0,   0.0);   (326970.8,
3795177.6,   157.0,   157.0,   0.0);
     (326968.2, 3795152.5,   157.0,   157.0,   0.0);   (326998.4,
3795149.8,   157.0,   157.0,   0.0);
     (326997.5, 3795176.6,   157.0,   157.0,   0.0);   (326995.6,
3795193.0,   157.0,   157.0,   0.0);
     (326996.9, 3795215.8,   157.0,   157.0,   0.0);   (326917.0,
3795152.2,   156.0,   156.0,   0.0);
     (326902.0, 3795150.5,   156.0,   156.0,   0.0);   (326884.2,
3795164.4,   156.0,   156.0,   0.0);
     (326867.3, 3795151.3,   156.0,   156.0,   0.0);   (326873.2,
3795163.4,   156.0,   156.0,   0.0);
     (326845.5, 3795152.1,   155.6,   155.6,   0.0);   (326824.9,
3795151.4,   155.0,   155.0,   0.0);
     (326826.6, 3795170.6,   155.0,   155.0,   0.0);   (326840.5,
3795180.2,   155.4,   155.4,   0.0);
     (326799.4, 3795148.0,   155.0,   155.0,   0.0);   (326776.8,
3795147.9,   155.0,   155.0,   0.0);
     (326738.0, 3795152.7,   155.0,   155.0,   0.0);   (326781.3,
3795110.8,   155.0,   155.0,   0.0);
     (326806.1, 3795109.0,   155.2,   155.2,   0.0);   (326804.5,
3795090.7,   155.2,   155.2,   0.0);
     (326781.8, 3795086.7,   155.0,   155.0,   0.0);   (326787.4,
3795061.8,   155.0,   155.0,   0.0);
     (326794.0, 3795031.2,   155.0,   155.0,   0.0);   (326977.5,
3795110.7,   157.0,   157.0,   0.0);
     (326994.0, 3795107.9,   157.0,   157.0,   0.0);   (326984.5,
3795093.8,   157.0,   157.0,   0.0);
     (326972.8, 3795082.4,   157.0,   157.0,   0.0);   (326995.4,
3795072.5,   157.0,   157.0,   0.0);
     (326993.2, 3795060.0,   157.0,   157.0,   0.0);   (326984.6,
3795040.8,   157.0,   157.0,   0.0);
     (326981.7, 3795027.2,   157.0,   157.0,   0.0);   (327041.5,
3795102.1,   157.1,   157.1,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (327065.2, 3795095.8,   157.9,   157.9,   0.0);   (327040.9,

3795076.3,   157.1,   157.1,   0.0);
     (327061.2, 3795058.3,   157.8,   157.8,   0.0);   (327037.8,
3795061.1,   157.0,   157.0,   0.0);
     (327035.6, 3795040.6,   157.0,   157.0,   0.0);   (327058.9,
3795038.4,   157.7,   157.7,   0.0);
     (327051.5, 3795017.8,   157.4,   157.4,   0.0);   (327033.3,
3795021.7,   157.0,   157.0,   0.0);
     (326826.3, 3795110.8,   155.8,   155.8,   0.0);   (326843.3,
3795110.8,   155.9,   155.9,   0.0);
     (326860.3, 3795110.8,   156.0,   156.0,   0.0);   (326877.3,
3795110.8,   156.0,   156.0,   0.0);
     (326894.4, 3795110.8,   156.0,   156.0,   0.0);   (326911.4,
3795110.8,   156.0,   156.0,   0.0);
     (326928.4, 3795110.8,   156.3,   156.3,   0.0);   (326945.5,
3795110.8,   156.9,   156.9,   0.0);
     (326820.0, 3795048.9,   155.7,   155.7,   0.0);   (326838.2,
3795048.9,   156.0,   156.0,   0.0);
     (326856.4, 3795048.9,   156.0,   156.0,   0.0);   (326874.6,
3795048.9,   156.0,   156.0,   0.0);
     (326892.8, 3795048.9,   156.0,   156.0,   0.0);   (326911.0,
3795048.9,   156.0,   156.0,   0.0);
     (326929.2, 3795048.9,   156.4,   156.4,   0.0);   (326947.4,
3795048.9,   157.0,   157.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                              (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926. Met Version: 14134
Profile file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926.
Surface format: FREE

Profile format: FREE

Surface station no.: 23136 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	281.4	2.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.9	2.0
09	01	01	1	03	-3.3	0.067	-9.000	-9.000	-999.	42.	8.3	0.05	0.81	1.00	1.76	214.	10.0	280.9	2.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.4	2.0
09	01	01	1	05	-6.6	0.115	-9.000	-9.000	-999.	94.	21.1	0.03	0.81						

```
1.00    2.36   93.   10.0  280.4    2.0
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00   281.5   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       14:09:21
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
326345.95	3795634.03	0.01161	326414.12	3795779.67	0.01133
326435.80	3795773.48	0.01089	326458.31	3795772.83	0.01073
326424.24	3795858.77	0.01261	326400.20	3795799.84	0.01220
326400.93	3795767.87	0.01094	326424.24	3795858.77	0.01261
326611.84	3795762.99	0.00967	326611.84	3795762.99	0.00967
326610.94	3795777.66	0.00970	326605.86	3795792.89	0.00985
326623.93	3795809.00	0.00937	326627.22	3795836.58	0.00923
326640.09	3795836.58	0.00897	326654.45	3795868.68	0.00835
326665.45	3795883.13	0.00808	326588.30	3795867.62	0.00850
326640.52	3795951.95	0.00729	326658.45	3795975.58	0.00730
326759.52	3796019.28	0.00548	326763.60	3796031.85	0.00542
326775.94	3796048.05	0.00526	326774.23	3796062.19	0.00524
326801.34	3796078.38	0.00490	326809.46	3796094.93	0.00471
326736.80	3796108.96	0.00499	326835.84	3796126.62	0.00422
326836.27	3796140.13	0.00415	326800.95	3796123.31	0.00466
326762.39	3796138.51	0.00437	326766.63	3796155.18	0.00393

```
         326774.14    3796169.68        0.00369                      326798.07
3796201.57        0.00324
         326808.84    3796229.51        0.00288                      326880.95
3796184.59        0.00345
         326915.56    3796260.01        0.00290                      326941.07
3796261.11        0.00274
         326958.24    3796277.25        0.00262                      326964.89
3796291.08        0.00250
         326984.47    3796322.92        0.00236                      326993.31
3796349.42        0.00227
         326993.49    3796365.88        0.00223                      327007.03
3796382.47        0.00216
         326972.07    3796390.18        0.00209                      326996.78
3796414.54        0.00205
         326693.51    3795789.66        0.00547                      326695.37
3795771.29        0.00557
         326727.00    3795761.34        0.00540                      326758.55
3795787.48        0.00435
         326761.76    3795813.54        0.00387                      326742.22
3795837.06        0.00386
         326838.64    3795823.91        0.00321                      326811.45
3795889.81        0.00302
         326823.87    3795855.97        0.00297                      326876.62
3795837.29        0.00280
         326889.30    3795888.54        0.00264                      326687.45
3795683.69        0.00987
         326829.20    3795731.31        0.00442                      326859.14
3795703.62        0.00422
         326881.10    3795705.58        0.00439                      326787.44
3795607.00        0.01076
         326780.76    3795563.55        0.01163                      326800.04
3795542.65        0.01180
         326808.89    3795540.15        0.01182                      326825.79
3795543.65        0.01176
         326856.70    3795545.31        0.01141                      326792.33
3795494.19        0.01219
         326806.68    3795493.93        0.01201                      326824.07
3795494.42        0.01177
         326853.52    3795481.71        0.01167                      326898.80
3795534.37        0.01090
         325796.15    3795215.59        0.03387                      325823.15
3795215.59        0.03337
         326012.15    3795215.59        0.02705                      326120.15
3795215.59        0.02178
         326147.15    3795215.59        0.02123                      325796.15
3795254.59        0.03985
         325823.15    3795254.59        0.03933                      325850.15
3795254.59        0.03843
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
```

*** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
INCLUDING SOURCE(S):   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325877.15	3795254.59	0.03749	325904.15	3795254.59	0.03639
325931.15	3795254.59	0.03474	325958.15	3795254.59	0.03377
325985.15	3795254.59	0.03291	326012.15	3795254.59	0.02879
326039.15	3795254.59	0.02762	326066.15	3795254.59	0.02689
326093.15	3795254.59	0.02625	326120.15	3795254.59	0.02562
326147.15	3795254.59	0.02499	325796.15	3795293.59	0.04636
325823.15	3795293.59	0.04531	325850.15	3795293.59	0.04494
325877.15	3795293.59	0.04469	325904.15	3795293.59	0.04368
325931.15	3795293.59	0.04155	325958.15	3795293.59	0.04059
325985.15	3795293.59	0.03457	326012.15	3795293.59	0.03302
326039.15	3795293.59	0.03216	326066.15	3795293.59	0.03021
326093.15	3795293.59	0.02875	326120.15	3795293.59	0.02814
326147.15	3795293.59	0.02752	325796.15	3795332.59	0.04705
325823.15	3795332.59	0.04639	325850.15	3795332.59	0.04763
325877.15	3795332.59	0.04787	325904.15	3795332.59	0.05292

```
         325931.15    3795332.59        0.05076                    325958.15
3795332.59        0.04368
         325985.15    3795332.59        0.03904                    326012.15
3795332.59        0.03629
         326039.15    3795332.59        0.03515                    326066.15
3795332.59        0.03444
         326093.15    3795332.59        0.03377                    326120.15
3795332.59        0.03359
         326147.15    3795332.59        0.03298                    325847.44
3795004.89        0.01525
         325872.44    3795004.89        0.01493                    325897.44
3795004.89        0.01461
         325922.44    3795004.89        0.01430                    325947.44
3795004.89        0.01401
         325972.44    3795004.89        0.01367                    325997.44
3795004.89        0.01332
         326022.44    3795004.89        0.01301                    326047.44
3795004.89        0.01279
         326072.44    3795004.89        0.01258                    326097.44
3795004.89        0.01237
         326122.44    3795004.89        0.01218                    326147.44
3795004.89        0.01143
         325847.44    3795046.89        0.01748                    325872.44
3795046.89        0.01708
         325897.44    3795046.89        0.01670                    325922.44
3795046.89        0.01633
         325947.44    3795046.89        0.01596                    325972.44
3795046.89        0.01550
         325997.44    3795046.89        0.01503                    326022.44
3795046.89        0.01472
         326047.44    3795046.89        0.01444                    326072.44
3795046.89        0.01416
         326097.44    3795046.89        0.01390                    326122.44
3795046.89        0.01287
         326147.44    3795046.89        0.01240                    325847.44
3795088.89        0.02017
         325872.44    3795088.89        0.01970                    325897.44
3795088.89        0.01924
         325922.44    3795088.89        0.01878                    325947.44
3795088.89        0.01813
         325972.44    3795088.89        0.01758                    325997.44
3795088.89        0.01718
         326022.44    3795088.89        0.01680                    326047.44
3795088.89        0.01644
         326072.44    3795088.89        0.01609                    326097.44
3795088.89        0.01493
         326122.44    3795088.89        0.01437                    326147.44
3795088.89        0.01390
         325847.44    3795130.89        0.02347                    325872.44
3795130.89        0.02290
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         326047.44    3795214.89        0.02329                    326072.44
3795214.89        0.02271
         326097.44    3795214.89        0.02219                    326147.44
3795214.89        0.02117
         326096.58    3795181.52        0.01957                    326118.63
3795182.57        0.01925
         326144.35    3795184.14        0.01891                    325849.74
3794829.62        0.00931
         325892.61    3794829.62        0.00907                    325935.48
3794829.62        0.00880
         325978.35    3794829.62        0.00860                    326021.22
3794829.62        0.00843
         326064.09    3794829.62        0.00823                    325849.74
3794867.55        0.01030
         325892.61    3794867.55        0.00992                    325935.48
3794867.55        0.00965
         325978.35    3794867.55        0.00943                    326021.22
3794867.55        0.00923
         326064.09    3794867.55        0.00898                    325849.74
3794905.48        0.01143
         325892.61    3794905.48        0.01098                    325935.48
3794905.48        0.01065
         325978.35    3794905.48        0.01038                    326021.22
3794905.48        0.01012
         326064.09    3794905.48        0.00978                    325849.74
3794943.41        0.01272
         325892.61    3794943.41        0.01220                    325935.48
3794943.41        0.01182
         325978.35    3794943.41        0.01148                    326021.22
3794943.41        0.01116
         326064.09    3794943.41        0.01075                    325849.74
3794981.34        0.01417
         325892.61    3794981.34        0.01365                    325935.48
3794981.34        0.01318
         325978.35    3794981.34        0.01276                    326021.22
3794981.34        0.01223
         326064.09    3794981.34        0.01186                    325855.31
3794726.62        0.00721
         325902.64    3794726.62        0.00706                    325855.31
3794745.52        0.00753
         325902.64    3794745.52        0.00737                    325855.31
3794764.42        0.00788
         325902.64    3794764.42        0.00770                    325855.31
3794783.32        0.00825
         325902.64    3794783.32        0.00805                    325855.31
3794802.22        0.00865
         325902.64    3794802.22        0.00843                    325855.31
3794821.12        0.00907
         325902.64    3794821.12        0.00883                    326402.77
3795249.33        0.01705
```

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         325409.93   3795994.97   0.00518   325416.60
3796058.09   0.00427
         325409.65   3796164.95   0.00194   325322.71
3796083.91   0.00263
         325297.93   3796111.07   0.00237   325246.73
3796076.15   0.00274
         325280.01   3796260.66   0.00061   325237.05
3796200.45   0.00078
         325163.03   3796071.11   0.00232   325215.74
3795991.41   0.00414
         325208.29   3795926.88   0.00610   325249.48
3795829.20   0.00943
         325171.49   3795759.19   0.01682   325129.24
3795756.40   0.01836
         325154.75   3795886.20   0.00783   325068.55
3795885.45   0.00539
         325047.86   3795938.00   0.00365   325045.84
3795982.69   0.00302
         325071.95   3796106.74   0.00176   325060.64
3796290.38   0.00053
         324903.71   3796379.80   0.00024   324787.84
3796510.42   0.00029
         324916.48   3796618.27   0.00025   326492.96
3796356.32   0.00361
         326552.73   3796900.01   0.00087   326599.30
3796893.60   0.00088

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         326617.42    3796889.51        0.00089                    326639.41
3796881.91        0.00092
         326663.73    3796864.08        0.00100                    326679.47
3796885.20        0.00096
         326697.81    3796898.31        0.00092                    326712.34
3796916.60        0.00088
         326726.62    3796931.14        0.00085                    326742.23
3796948.02        0.00081
         326756.58    3796965.73        0.00079                    326772.07
3796973.30        0.00079
         326785.22    3796890.50        0.00097                    326800.10
3797003.95        0.00078
         326817.96    3797014.86        0.00079                    326813.74
3796843.93        0.00110
         326833.92    3796853.59        0.00107                    326848.61
3796873.43        0.00103
         326864.19    3796885.12        0.00101                    326877.92
3796901.20        0.00098
         326893.85    3796917.11        0.00094                    326904.49
3796938.77        0.00089
         326907.64    3796966.22        0.00086                    326914.45
3796991.73        0.00081
         326921.92    3797038.42        0.00074                    326596.56
3797264.10        0.00045
         326829.98    3795735.43        0.00429                    326866.53
3795706.88        0.00415
         326831.50    3795646.57        0.01013                    326872.90
3795644.95        0.00969
         326898.91    3795644.66        0.00942                    326924.66
3795650.14        0.00881
         326949.68    3795646.43        0.00880                    326975.59
3795638.84        0.00792
         326917.88    3795602.78        0.01016                    326918.63
3795584.13        0.01072
         326921.61    3795563.48        0.01066                    326917.18
3795537.15        0.01070
         326934.99    3795592.17        0.01010                    326951.04
3795599.47        0.00957
         326950.26    3795555.95        0.01036                    326951.59
3795535.07        0.01034
         326961.83    3795537.57        0.01023                    326982.25
3795538.33        0.01003
         326992.41    3795539.09        0.00993                    327008.98
3795535.58        0.00977
         326987.68    3795580.97        0.00944                    327024.81
3795588.42        0.00859
         326925.07    3795485.95        0.01057                    326937.83
3795488.27        0.01044
         326956.45    3795489.28        0.01026                    326970.89
3795491.03        0.01012
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         326989.96    3795487.68        0.00994                      325049.27
3794362.92        0.00609
         325086.77    3794362.92        0.00592                      325124.27
3794362.92        0.00576
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:09:21

                                  PAGE  20
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         325161.77    3794362.92        0.00561                      325199.27
3794362.92        0.00545
         325236.77    3794362.92        0.00527                      325274.27
3794362.92        0.00510
         325049.27    3794386.12        0.00633                      325086.77
3794386.12        0.00616
         325124.27    3794386.12        0.00601                      325161.77
3794386.12        0.00589
         325199.27    3794386.12        0.00572                      325236.77
3794386.12        0.00549
         325274.27    3794386.12        0.00532                      325049.27
3794409.32        0.00659
         325086.77    3794409.32        0.00641                      325124.27
3794409.32        0.00625
         325161.77    3794409.32        0.00614                      325199.27
3794409.32        0.00597
         325236.77    3794409.32        0.00578                      325274.27
3794409.32        0.00560
         325049.27    3794432.52        0.00686                      325086.77
3794432.52        0.00667
         325124.27    3794432.52        0.00655                      325161.77
3794432.52        0.00640
         325199.27    3794432.52        0.00622                      325236.77
3794432.52        0.00604
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         325274.27    3794432.52        0.00586                    325049.27
3794455.72        0.00715
         325086.77    3794455.72        0.00698                    325124.27
3794455.72        0.00685
         325161.77    3794455.72        0.00667                    325199.27
3794455.72        0.00649
         325236.77    3794455.72        0.00631                    325274.27
3794455.72        0.00612
         325049.27    3794478.92        0.00745                    325086.77
3794478.92        0.00734
         325124.27    3794478.92        0.00715                    325161.77
3794478.92        0.00696
         325199.27    3794478.92        0.00677                    325236.77
3794478.92        0.00658
         325274.27    3794478.92        0.00640                    325049.27
3794502.12        0.00778
         325086.77    3794502.12        0.00766                    325124.27
3794502.12        0.00746
         325161.77    3794502.12        0.00726                    325199.27
3794502.12        0.00707
         325236.77    3794502.12        0.00688                    325274.27
3794502.12        0.00669
         325049.27    3794525.32        0.00812                    325086.77
3794525.32        0.00800
         325124.27    3794525.32        0.00779                    325161.77
3794525.32        0.00759
         325199.27    3794525.32        0.00739                    325236.77
3794525.32        0.00719
         325274.27    3794525.32        0.00699                    325049.27
3794548.52        0.00849
         325086.77    3794548.52        0.00837                    325124.27
3794548.52        0.00815
         325161.77    3794548.52        0.00794                    325199.27
3794548.52        0.00773
         325236.77    3794548.52        0.00752                    325274.27
3794548.52        0.00732
         325049.27    3794571.72        0.00889                    325086.77
3794571.72        0.00876
         325124.27    3794571.72        0.00853                    325161.77
3794571.72        0.00831
         325199.27    3794571.72        0.00809                    325236.77
3794571.72        0.00788
         325274.27    3794571.72        0.00767                    325049.27
3794594.92        0.00930
         325086.77    3794594.92        0.00918                    325124.27
3794594.92        0.00894
         325161.77    3794594.92        0.00870                    325199.27
3794594.92        0.00848
         325236.77    3794594.92        0.00826                    325274.27
3794594.92        0.00804
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                               ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         324871.62    3794298.63        0.00606                    324910.53
3794298.63        0.00591
         324949.44    3794298.63        0.00582                    324988.35
3794298.63        0.00566
         324871.62    3794320.43        0.00627                    324910.53
3794320.43        0.00618
         324949.44    3794320.43        0.00603                    324988.35
3794320.43        0.00586
         324871.62    3794342.23        0.00650                    324910.53
3794342.23        0.00642
         324949.44    3794342.23        0.00625                    324988.35
3794342.23        0.00607
         324871.62    3794364.03        0.00675                    324910.53
3794364.03        0.00666
         324949.44    3794364.03        0.00648                    324988.35
3794364.03        0.00631
         324871.62    3794385.83        0.00706                    324910.53
3794385.83        0.00691
         324949.44    3794385.83        0.00672                    324988.35
3794385.83        0.00659
         324871.62    3794407.63        0.00734                    324910.53
3794407.63        0.00717
         324949.44    3794407.63        0.00697                    324988.35
3794407.63        0.00684
         324871.62    3794429.43        0.00762                    324910.53
3794429.43        0.00744
         324949.44    3794429.43        0.00724                    324988.35
3794429.43        0.00711
         324871.62    3794451.23        0.00791                    324910.53
3794451.23        0.00773
         324949.44    3794451.23        0.00753                    324988.35
3794451.23        0.00739
         324871.62    3794473.03        0.00823                    324910.53
3794473.03        0.00804
         324949.44    3794473.03        0.00786                    324988.35
3794473.03        0.00771
         324871.62    3794494.83        0.00857                    324910.53
3794494.83        0.00837
         324949.44    3794494.83        0.00819                    324988.35
3794494.83        0.00803
         324871.62    3794516.63        0.00893                    324910.53
3794516.63        0.00871
         324949.44    3794516.63        0.00852                    324988.35
3794516.63        0.00836
         324871.62    3794538.43        0.00930                    324910.53
3794538.43        0.00907
         324949.44    3794538.43        0.00888                    324988.35
3794538.43        0.00872
         324871.62    3794560.23        0.00968                    324910.53
3794560.23        0.00945
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         324522.94    3794074.69        0.00518                    324559.89
3794074.69        0.00506
         324596.84    3794074.69        0.00493                    324633.79
3794074.69        0.00479
         324670.74    3794074.69        0.00467                    324707.69
3794074.69        0.00458
         324744.64    3794074.69        0.00452                    324781.59
3794074.69        0.00451
         324449.04    3794106.66        0.00562                    324485.99
3794106.66        0.00552
         324522.94    3794106.66        0.00541                    324559.89
3794106.66        0.00530
         324596.84    3794106.66        0.00518                    324633.79
3794106.66        0.00505
         324670.74    3794106.66        0.00493                    324707.69
3794106.66        0.00484
         324744.64    3794106.66        0.00482                    324781.59
3794106.66        0.00476
         324449.04    3794138.63        0.00586                    324485.99
3794138.63        0.00576
         324522.94    3794138.63        0.00565                    324559.89
3794138.63        0.00554
         324596.84    3794138.63        0.00542                    324633.79
3794138.63        0.00535
         324670.74    3794138.63        0.00524                    324707.69
3794138.63        0.00514
         324744.64    3794138.63        0.00509                    324781.59
3794138.63        0.00498
         324449.04    3794170.60        0.00613                    324485.99
3794170.60        0.00602
         324522.94    3794170.60        0.00592                    324559.89
3794170.60        0.00586
         324596.84    3794170.60        0.00574                    324633.79
3794170.60        0.00563
         324670.74    3794170.60        0.00551                    324707.69
3794170.60        0.00545
         324744.64    3794170.60        0.00534                    324781.59
3794170.60        0.00526
         324449.04    3794202.57        0.00641                    324485.99
3794202.57        0.00630
         324522.94    3794202.57        0.00620                    324559.89
3794202.57        0.00616
         324596.84    3794202.57        0.00603                    324633.79
3794202.57        0.00590
         324670.74    3794202.57        0.00584                    324707.69
3794202.57        0.00572
         324744.64    3794202.57        0.00559                    324781.59
3794202.57        0.00553
         324449.04    3794234.54        0.00670                    324485.99
3794234.54        0.00659
```

*** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         324449.04    3794330.45        0.00768                    324485.99
3794330.45        0.00758
         324522.94    3794330.45        0.00757                    324559.89
3794330.45        0.00744
         324596.84    3794330.45        0.00730                    324633.79
3794330.45        0.00725
         324670.74    3794330.45        0.00712                    324707.69
3794330.45        0.00697
         324744.64    3794330.45        0.00682                    324781.59
3794330.45        0.00674
         324449.04    3794362.42        0.00805                    324485.99
3794362.42        0.00806
         324522.94    3794362.42        0.00795                    324559.89
3794362.42        0.00781
         324596.84    3794362.42        0.00767                    324633.79
3794362.42        0.00763
         324670.74    3794362.42        0.00749                    324707.69
3794362.42        0.00734
         324744.64    3794362.42        0.00724                    324781.59
3794362.42        0.00712
         324449.04    3794394.39        0.00844                    324485.99
3794394.39        0.00845
         324522.94    3794394.39        0.00834                    324559.89
3794394.39        0.00821
         324596.84    3794394.39        0.00807                    324633.79
3794394.39        0.00803
         324670.74    3794394.39        0.00789                    324707.69
3794394.39        0.00773
         324744.64    3794394.39        0.00763                    324781.59
3794394.39        0.00751
         324449.04    3794426.36        0.00888                    324485.99
3794426.36        0.00888
         324522.94    3794426.36        0.00876                    324559.89
3794426.36        0.00863
         324596.84    3794426.36        0.00849                    324633.79
3794426.36        0.00845
         324670.74    3794426.36        0.00831                    324707.69
3794426.36        0.00816
         324744.64    3794426.36        0.00807                    324781.59
3794426.36        0.00793
         324449.04    3794458.33        0.00938                    324485.99
3794458.33        0.00933
         324522.94    3794458.33        0.00921                    324559.89
3794458.33        0.00908
         324596.84    3794458.33        0.00897                    324633.79
3794458.33        0.00891
         324670.74    3794458.33        0.00876                    324707.69
3794458.33        0.00864
         324744.64    3794458.33        0.00856                    324781.59
3794458.33        0.00838
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         324744.64    3794554.24        0.01013                    324781.59
3794554.24        0.00993
         324449.04    3794586.21        0.01148                    324485.99
3794586.21        0.01139
         324522.94    3794586.21        0.01129                    324559.89
3794586.21        0.01125
         324596.84    3794586.21        0.01123                    324633.79
3794586.21        0.01108
         324670.74    3794586.21        0.01091                    324707.69
3794586.21        0.01079
         324744.64    3794586.21        0.01073                    324781.59
3794586.21        0.01053
         324449.04    3794618.18        0.01208                    324485.99
3794618.18        0.01199
         324522.94    3794618.18        0.01190                    324559.89
3794618.18        0.01187
         324596.84    3794618.18        0.01187                    324633.79
3794618.18        0.01171
         324670.74    3794618.18        0.01156                    324707.69
3794618.18        0.01153
         324744.64    3794618.18        0.01138                    324781.59
3794618.18        0.01118
         324449.04    3794650.15        0.01272                    324485.99
3794650.15        0.01264
         324522.94    3794650.15        0.01255                    324559.89
3794650.15        0.01253
         324596.84    3794650.15        0.01254                    324633.79
3794650.15        0.01239
         324670.74    3794650.15        0.01225                    324707.69
3794650.15        0.01228
         324744.64    3794650.15        0.01209                    324781.59
3794650.15        0.01187
         324449.04    3794682.12        0.01340                    324485.99
3794682.12        0.01332
         324522.94    3794682.12        0.01327                    324559.89
3794682.12        0.01336
         324596.84    3794682.12        0.01326                    324633.79
3794682.12        0.01312
         324670.74    3794682.12        0.01299                    324707.69
3794682.12        0.01304
         324744.64    3794682.12        0.01284                    324781.59
3794682.12        0.01263
         326547.36    3795022.06        0.00956                    326594.67
3795022.06        0.00936
         326641.98    3795022.06        0.00904                    326547.36
3795042.46        0.00996
         326594.67    3795042.46        0.00951                    326641.98
3795042.46        0.00941
         326547.36    3795062.86        0.01039                    326594.67
3795062.86        0.00985
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         326641.98    3795062.86        0.00979                        326547.36
3795083.26        0.01078
         326594.67    3795083.26        0.01027                        326641.98
3795083.26        0.01020
         326547.36    3795103.66        0.01103                        326594.67
3795103.66        0.01071
         326641.98    3795103.66        0.01063                        326547.36
3795124.06        0.01148
         326594.67    3795124.06        0.01119                        326641.98
3795124.06        0.01109
         326547.36    3795144.46        0.01197                        326594.67
3795144.46        0.01169
         326641.98    3795144.46        0.01157                        326547.36
3795164.86        0.01237
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        14:09:21

                                   PAGE  25
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         326594.67    3795164.86        0.01223                        326641.98
3795164.86        0.01208
         326547.36    3795185.26        0.01294                        326594.67
3795185.26        0.01280
         326641.98    3795185.26        0.01261                        326547.36
3795205.66        0.01358
         326594.67    3795205.66        0.01340                        326641.98
3795205.66        0.01302
         326547.36    3795226.06        0.01427                        326594.67
3795226.06        0.01405
         326641.98    3795226.06        0.01321                        326547.36
3795246.46        0.01502
         326594.67    3795246.46        0.01462                        326641.98
3795246.46        0.01366
```

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         326690.43    3795243.37        0.01315                    326688.67
3795223.05        0.01267
         326686.02    3795005.77        0.00873                    326686.02
3795033.66        0.00914
         326686.02    3795061.55        0.00959                    326686.02
3795089.44        0.01013
         326686.02    3795117.33        0.01070                    326686.02
3795145.22        0.01131
         326686.02    3795173.11        0.01187                    326686.02
3795201.00        0.01215
         326832.80    3795263.26        0.01192                    326849.67
3795263.26        0.01149
         326866.54    3795263.26        0.01120                    326883.41
3795263.26        0.01105
         326900.28    3795263.26        0.01090                    326917.15
3795263.26        0.01075
         326934.02    3795263.26        0.01034                    326950.89
3795263.26        0.00997
         326967.76    3795263.26        0.00984                    326984.63
3795263.26        0.00962
         327001.50    3795263.26        0.00924                    327036.85
3795141.35        0.00841
         327075.72    3795141.35        0.00785                    327036.85
3795160.91        0.00857
         327075.72    3795160.91        0.00799                    327036.85
3795180.47        0.00873
         327075.72    3795180.47        0.00813                    327036.85
3795200.03        0.00885
         327075.72    3795200.03        0.00826                    327036.85
3795219.59        0.00873
         327075.72    3795219.59        0.00839                    327036.85
3795239.15        0.00876
         327075.72    3795239.15        0.00852                    327036.85
3795258.71        0.00888
         327075.72    3795258.71        0.00864                    327036.85
3795278.27        0.00900
         327075.72    3795278.27        0.00875                    326840.04
3795223.24        0.01127
         326860.58    3795224.16        0.01078                    326877.30
3795222.74        0.01064
         326929.68    3795223.69        0.01006                    326932.86
3795200.00        0.00975
         326972.32    3795217.03        0.00942                    326970.84
3795177.58        0.00907
         326968.20    3795152.46        0.00885                    326998.43
3795149.77        0.00867
         326997.48    3795176.61        0.00891                    326995.60
3795193.01        0.00907
         326996.92    3795215.78        0.00925                    326916.97
3795152.19        0.00955
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         326901.95    3795150.46        0.00961                        326884.24
3795164.40        0.00987
         326867.32    3795151.32        0.00979                        326873.22
3795163.36        0.00992
         326845.53    3795152.12        0.01012                        326824.91
3795151.45        0.01049
         326826.60    3795170.60        0.01079                        326840.50
3795180.17        0.01064
         326799.39    3795147.97        0.01055                        326776.77
3795147.89        0.01064
         326738.03    3795152.73        0.01088                        326781.33
3795110.75        0.00995
         326806.10    3795109.04        0.00974                        326804.45
3795090.73        0.00946
         326781.78    3795086.72        0.00953                        326787.40
3795061.79        0.00911
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:09:21

                                  PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         326794.01    3795031.22        0.00862                        326977.50
3795110.69        0.00839
         326994.05    3795107.87        0.00830                        326984.52
3795093.80        0.00820
         326972.85    3795082.37        0.00812                        326995.41
3795072.53        0.00795
         326993.23    3795060.01        0.00783                        326984.60
3795040.80        0.00765
         326981.66    3795027.22        0.00751                        327041.48
3795102.15        0.00802
         327065.19    3795095.75        0.00758                        327040.88
3795076.27        0.00780
```

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         327061.24    3795058.32        0.00734                      327037.82
3795061.09        0.00770
         327035.65    3795040.58        0.00752                      327058.94
3795038.41        0.00720
         327051.53    3795017.85        0.00712                      327033.29
3795021.71        0.00734
         326826.26    3795110.80        0.00944                      326843.29
3795110.80        0.00933
         326860.32    3795110.80        0.00925                      326877.35
3795110.80        0.00920
         326894.38    3795110.80        0.00913                      326911.41
3795110.80        0.00907
         326928.44    3795110.80        0.00886                      326945.47
3795110.80        0.00855
         326819.99    3795048.86        0.00855                      326838.19
3795048.86        0.00841
         326856.39    3795048.86        0.00838                      326874.59
3795048.86        0.00835
         326892.79    3795048.86        0.00832                      326910.99
3795048.86        0.00828
         326929.19    3795048.86        0.00810                      326947.39
3795048.86        0.00783
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:09:21

                                  PAGE  27
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        326345.95   3795634.03        0.13544  (09052906)               326414.12
 3795779.67        0.12874  (09052906)
        326435.80   3795773.48        0.13034  (09052906)               326458.31
 3795772.83        0.12977  (09052906)
        326424.24   3795858.77        0.14236  (11012717)               326400.20
 3795799.84        0.12626  (11012717)
```

```
       326400.93   3795767.87        0.12234  (09052906)                326424.24
3795858.77        0.14236  (11012717)
       326611.84   3795762.99        0.13896  (13052906)                326611.84
3795762.99        0.13896  (13052906)
       326610.94   3795777.66        0.13706  (13052906)                326605.86
3795792.89        0.13737  (13052906)
       326623.93   3795809.00        0.13352  (13052906)                326627.22
3795836.58        0.13146  (09042304)
       326640.09   3795836.58        0.12960  (09042304)                326654.45
3795868.68        0.12295  (11061701)
       326665.45   3795883.13        0.12090  (13070102)                326588.30
3795867.62        0.11238  (11012717)
       326640.52   3795951.95        0.11797  (11012717)                326658.45
3795975.58        0.12151  (11012717)
       326759.52   3796019.28        0.10937  (11012717)                326763.60
3796031.85        0.11065  (11012717)
       326775.94   3796048.05        0.11115  (11012717)                326774.23
3796062.19        0.11317  (11012717)
       326801.34   3796078.38        0.11142  (11012717)                326809.46
3796094.93        0.11139  (11012717)
       326736.80   3796108.96        0.11511  (11012717)                326835.84
3796126.62        0.10851  (11012717)
       326836.27   3796140.13        0.10899  (11012717)                326800.95
3796123.31        0.11443  (11012717)
       326762.39   3796138.51        0.10979  (11012717)                326766.63
3796155.18        0.10473  (11012717)
       326774.14   3796169.68        0.10212  (11012717)                326798.07
3796201.57        0.09641  (11012717)
       326808.84   3796229.51        0.08921  (11012717)                326880.95
3796184.59        0.10216  (11012717)
       326915.56   3796260.01        0.09535  (11012717)                326941.07
3796261.11        0.09360  (11012717)
       326958.24   3796277.25        0.09165  (11012717)                326964.89
3796291.08        0.08921  (11012717)
       326984.47   3796322.92        0.08544  (11012717)                326993.31
3796349.42        0.08172  (11012717)
       326993.49   3796365.88        0.07908  (11012717)                327007.03
3796382.47        0.07674  (11012717)
       326972.07   3796390.18        0.07115  (11012717)                326996.78
3796414.54        0.06871  (11012717)
       326693.51   3795789.66        0.09376  (09052906)                326695.37
3795771.29        0.09533  (09052906)
       326727.00   3795761.34        0.09504  (09052906)                326758.55
3795787.48        0.08422  (09052906)
       326761.76   3795813.54        0.07816  (09052906)                326742.22
3795837.06        0.07806  (09052906)
       326838.64   3795823.91        0.07146  (09052906)                326811.45
3795889.81        0.06363  (09052906)
       326823.87   3795855.97        0.06555  (09052906)                326876.62
3795837.29        0.06578  (09052906)
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        326889.30   3795888.54        0.06121  (09052906)                326687.45
 3795683.69        0.16043  (13052906)
        326829.20   3795731.31        0.08583  (09052906)                326859.14
 3795703.62        0.08323  (09053006)
        326881.10   3795705.58        0.08607  (09053006)                326787.44
 3795607.00        0.20989  (09053101)
        326780.76   3795563.55        0.24192  (13030503)                326800.04
 3795542.65        0.26667  (13030503)
        326808.89   3795540.15        0.27213  (13030503)                326825.79
 3795543.65        0.27452  (13030503)
        326856.70   3795545.31        0.27437  (12050224)                326792.33
 3795494.19        0.30512  (12012024)
        326806.68   3795493.93        0.30473  (12012024)                326824.07
 3795494.42        0.30310  (12012024)
        326853.52   3795481.71        0.32018  (09012107)                326898.80
 3795534.37        0.27860  (12050224)
        325796.15   3795215.59        0.48962  (12123121)                325823.15
 3795215.59        0.49435  (10013003)
        326012.15   3795215.59        0.47407  (11011303)                326120.15
 3795215.59        0.41052  (11012807)
        326147.15   3795215.59        0.41483  (11012807)                325796.15
 3795254.59        0.50864  (09122324)
        325823.15   3795254.59        0.51468  (12123121)                325850.15
 3795254.59        0.51306  (10013003)
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        14:09:21

                                   PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
        325877.15   3795254.59        0.50965  (13010624)                325904.15
 3795254.59        0.50300  (11121006)
        325931.15   3795254.59        0.48486  (11120907)                325958.15
 3795254.59        0.48613  (13122706)
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       325985.15   3795254.59        0.49004  (11011303)              326012.15
3795254.59        0.41774  (11121424)
       326039.15   3795254.59        0.41059  (11121424)              326066.15
3795254.59        0.41190  (11011602)
       326093.15   3795254.59        0.41769  (11012807)              326120.15
3795254.59        0.42218  (13011505)
       326147.15   3795254.59        0.42625  (13011505)              325796.15
3795293.59        0.50878  (12122922)
       325823.15   3795293.59        0.50526  (09021407)              325850.15
3795293.59        0.51505  (12122924)
       325877.15   3795293.59        0.52713  (10013003)              325904.15
3795293.59        0.52367  (13010624)
       325931.15   3795293.59        0.50085  (13122706)              325958.15
3795293.59        0.50525  (11011303)
       325985.15   3795293.59        0.41128  (11121424)              326012.15
3795293.59        0.40086  (11011602)
       326039.15   3795293.59        0.40212  (11011602)              326066.15
3795293.59        0.38354  (11012807)
       326093.15   3795293.59        0.37175  (13011505)              326120.15
3795293.59        0.37633  (09010718)
       326147.15   3795293.59        0.38138  (13122406)              325796.15
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       325823.15   3795332.59        0.39577  (11121104)              325850.15
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       325877.15   3795332.59        0.43852  (09122324)              325904.15
3795332.59        0.52578  (09122305)
       325931.15   3795332.59        0.50729  (11020101)              325958.15
3795332.59        0.42046  (11121424)
       325985.15   3795332.59        0.36926  (11011602)              326012.15
3795332.59        0.35237  (11123007)
       326039.15   3795332.59        0.34993  (11123007)              326066.15
3795332.59        0.35207  (13120705)
       326093.15   3795332.59        0.35712  (13120705)              326120.15
3795332.59        0.37158  (13122406)
       326147.15   3795332.59        0.37697  (10020123)              325847.44
3795004.89        0.40444  (09121401)
       325872.44   3795004.89        0.40330  (13122103)              325897.44
3795004.89        0.40213  (13122407)
       325922.44   3795004.89        0.39997  (13122407)              325947.44
3795004.89        0.39967  (09022002)
       325972.44   3795004.89        0.39816  (10122722)              325997.44
3795004.89        0.39478  (10122722)
       326022.44   3795004.89        0.39297  (12122704)              326047.44
3795004.89        0.39442  (12122704)
       326072.44   3795004.89        0.39620  (11120907)              326097.44
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       326122.44   3795004.89        0.39931  (13122706)              326147.44
3795004.89        0.37131  (11011303)
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3795046.89        0.41748  (09121401)
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       325947.44   3795046.89        0.41375  (10122722)               325972.44
 3795046.89        0.41003  (10122722)
       325997.44   3795046.89        0.40476  (09120405)               326022.44
 3795046.89        0.40640  (12122704)
       326047.44   3795046.89        0.40832  (11120907)               326072.44
 3795046.89        0.41018  (13122706)
       326097.44   3795046.89        0.41171  (13122706)               326122.44
 3795046.89        0.37681  (11011303)
       326147.44   3795046.89        0.36500  (11121424)               325847.44
 3795088.89        0.43437  (11122506)
       325872.44   3795088.89        0.43293  (10123020)               325897.44
 3795088.89        0.43150  (09121401)
       325922.44   3795088.89        0.43001  (13122103)               325947.44
 3795088.89        0.42094  (10122722)
       325972.44   3795088.89        0.41743  (09120405)               325997.44
 3795088.89        0.41924  (12122704)
       326022.44   3795088.89        0.42132  (11120907)               326047.44
 3795088.89        0.42337  (13122706)
       326072.44   3795088.89        0.42504  (11011303)               326097.44
 3795088.89        0.39270  (11011303)
       326122.44   3795088.89        0.38291  (11121424)               326147.44
 3795088.89        0.37650  (11121424)
       325847.44   3795130.89        0.45168  (11121006)               325872.44
 3795130.89        0.44981  (11122506)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:09:21

                                  PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - -
       325897.44   3795130.89        0.44820  (10123020)               325922.44
 3795130.89        0.44657  (09121401)
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       325997.44   3795130.89        0.43526  (11120907)               326022.44
3795130.89        0.43753  (13122706)
       326047.44   3795130.89        0.43953  (11011303)               326072.44
3795130.89        0.44220  (11011303)
       326097.44   3795130.89        0.39430  (11121424)               326122.44
3795130.89        0.38571  (11121424)
       326147.44   3795130.89        0.38736  (11121424)               325847.44
3795172.89        0.47017  (11121006)
       325872.44   3795172.89        0.46853  (11121006)               325897.44
3795172.89        0.46648  (11122506)
       325922.44   3795172.89        0.46466  (10123020)               325947.44
3795172.89        0.45437  (12122704)
       325972.44   3795172.89        0.45022  (11120907)               325997.44
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       326022.44   3795172.89        0.45456  (11011303)               326047.44
3795172.89        0.41707  (11011303)
       326072.44   3795172.89        0.39785  (11121424)               325847.44
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       325872.44   3795214.89        0.48863  (11121006)               325897.44
3795214.89        0.48673  (11121006)
       325922.44   3795214.89        0.48448  (11122506)               325947.44
3795214.89        0.47376  (11120907)
       325972.44   3795214.89        0.46903  (13122706)               325997.44
3795214.89        0.47184  (11011303)
       326047.44   3795214.89        0.40214  (11121424)               326072.44
3795214.89        0.40370  (11121424)
       326097.44   3795214.89        0.40574  (11011602)               326147.44
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       326096.58   3795181.52        0.39718  (11121424)               326118.63
3795182.57        0.39897  (11011602)
       326144.35   3795184.14        0.40391  (11012807)               325849.74
3794829.62        0.36083  (13122407)
       325892.61   3794829.62        0.36031  (13013002)               325935.48
3794829.62        0.35419  (11012303)
       325978.35   3794829.62        0.35297  (10120705)               326021.22
3794829.62        0.35434  (09022002)
       326064.09   3794829.62        0.35220  (10122722)               325849.74
3794867.55        0.37145  (13122407)
       325892.61   3794867.55        0.36419  (13013002)               325935.48
3794867.55        0.36182  (13013002)
       325978.35   3794867.55        0.36216  (09022002)               326021.22
3794867.55        0.36341  (09022002)
       326064.09   3794867.55        0.36151  (10122722)               325849.74
3794905.48        0.38148  (13122407)
       325892.61   3794905.48        0.37315  (13013002)               325935.48
3794905.48        0.37158  (13013002)
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3794905.48        0.37291  (10122722)
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 3794943.41        0.38169  (13013002)
        325978.35   3794943.41        0.38236  (09022002)                326021.22
 3794943.41        0.38385  (10122722)
        326064.09   3794943.41        0.37735  (12122704)                325849.74
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        325892.61   3794981.34        0.39490  (13122407)                325935.48
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        325978.35   3794981.34        0.39370  (10122722)                326021.22
 3794981.34        0.38788  (09120405)
        326064.09   3794981.34        0.38815  (12122704)                325855.31
 3794726.62        0.33788  (13013002)
        325902.64   3794726.62        0.33692  (11012303)                325855.31
 3794745.52        0.34178  (13013002)
        325902.64   3794745.52        0.34082  (11012303)                325855.31
 3794764.42        0.34576  (13013002)
        325902.64   3794764.42        0.34488  (13013002)                325855.31
 3794783.32        0.34985  (13013002)
        325902.64   3794783.32        0.34922  (13013002)                325855.31
 3794802.22        0.35405  (13013002)
        325902.64   3794802.22        0.35363  (13013002)                325855.31
 3794821.12        0.35836  (13013002)
        325902.64   3794821.12        0.35774  (13013002)                326402.77
 3795249.33        0.38273  (12122705)
        325380.55   3795776.17        0.17149  (09120508)                325415.88
 3795858.35        0.11102  (09120508)
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        14:09:21

                                   PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
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3796083.91        0.08620  (09012317)
       325297.93   3796111.07        0.09399  (09012317)               325246.73
3796076.15        0.09535  (09012317)
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3795991.41        0.09321  (09012317)
       325208.29   3795926.88        0.09448  (09012317)               325249.48
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       325171.49   3795759.19        0.15594  (12121219)               325129.24
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       325154.75   3795886.20        0.10818  (12032407)               325068.55
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3795982.69        0.07964  (09012317)
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3796290.38        0.05260  (09012317)
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       326697.81   3796898.31        0.02787  (13040207)               326712.34
3796916.60        0.02677  (13040207)
       326726.62   3796931.14        0.02629  (13061506)               326742.23
3796948.02        0.02571  (13061506)
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3796973.30        0.02548  (13061506)
       326785.22   3796890.50        0.03058  (09062906)               326800.10
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       326833.92   3796853.59        0.03616  (13031518)               326848.61
3796873.43        0.03513  (13031518)
       326864.19   3796885.12        0.03489  (13031518)               326877.92
3796901.20        0.03430  (13031518)
       326893.85   3796917.11        0.03316  (13031518)               326904.49
3796938.77        0.03116  (13031518)
       326907.64   3796966.22        0.02962  (13031518)               326914.45
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3797264.10        0.01823  (10102017)
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       326831.50   3795646.57        0.20567  (09053101)               326872.90
 3795644.95        0.20590  (09053101)
       326898.91   3795644.66        0.20569  (09053101)               326924.66
 3795650.14        0.19481  (09053101)
       326949.68   3795646.43        0.20139  (09053101)               326975.59
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       326917.88   3795602.78        0.23379  (13041320)               326918.63
 3795584.13        0.26014  (13122118)
       326921.61   3795563.48        0.26430  (12050224)               326917.18
 3795537.15        0.27701  (12050224)
       326934.99   3795592.17        0.23873  (13122118)               326951.04
 3795599.47        0.22614  (13041320)
       326950.26   3795555.95        0.26812  (12050224)               326951.59
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 3795488.27        0.29902  (09012107)
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 3795491.03        0.29567  (09012107)
       326989.96   3795487.68        0.29691  (09012107)               325049.27
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 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:09:21

                                  PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
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       325124.27   3794525.32        0.33492  (11122506)               325161.77
 3794525.32        0.33222  (10123020)
       325199.27   3794525.32        0.32964  (13122103)               325236.77
 3794525.32        0.32704  (13122407)
       325274.27   3794525.32        0.32369  (13122407)               325049.27
 3794548.52        0.33836  (13010624)
       325086.77   3794548.52        0.34240  (11121006)               325124.27
 3794548.52        0.33966  (11122506)
       325161.77   3794548.52        0.33697  (10123020)               325199.27
 3794548.52        0.33421  (13122103)
       325236.77   3794548.52        0.33161  (13122407)               325274.27
 3794548.52        0.32828  (13122407)
       325049.27   3794571.72        0.34351  (13010624)               325086.77
 3794571.72        0.34743  (11121006)
       325124.27   3794571.72        0.34471  (11121006)               325161.77
 3794571.72        0.34184  (10123020)
       325199.27   3794571.72        0.33900  (09121401)               325236.77
 3794571.72        0.33630  (13122407)
       325274.27   3794571.72        0.33302  (13122407)               325049.27
 3794594.92        0.34877  (13010624)
       325086.77   3794594.92        0.35259  (13010624)               325124.27
 3794594.92        0.35006  (11121006)
       325161.77   3794594.92        0.34697  (11122506)               325199.27
 3794594.92        0.34398  (09121401)
       325236.77   3794594.92        0.34111  (13122407)               325274.27
 3794594.92        0.33790  (13122407)
       325049.27   3794618.12        0.35427  (10013003)               325086.77
 3794618.12        0.35842  (13010624)
       325124.27   3794618.12        0.35555  (11121006)               325161.77
 3794618.12        0.35225  (11122506)
       325199.27   3794618.12        0.34909  (09121401)               325236.77
 3794618.12        0.34608  (13122103)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        14:09:21

                                   PAGE  32
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                   INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **
```

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325274.27	3794618.12	0.34395	(13122407)	325049.27	3794641.32	0.35999	(12123121)
325086.77	3794641.32	0.36442	(13010624)	325124.27	3794641.32	0.36118	(11121006)
325161.77	3794641.32	0.35768	(11122506)	325199.27	3794641.32	0.35446	(10123020)
325236.77	3794641.32	0.35131	(13122103)	325274.27	3794641.32	0.34963	(13122407)
325049.27	3794664.52	0.36600	(12123121)	325086.77	3794664.52	0.37060	(13010624)
325124.27	3794664.52	0.36695	(11121006)	325161.77	3794664.52	0.36340	(11121006)
325199.27	3794664.52	0.36002	(10123020)	325236.77	3794664.52	0.35670	(13122103)
325274.27	3794664.52	0.35655	(13122407)	325049.27	3794687.72	0.37231	(12020205)
325086.77	3794687.72	0.37699	(10013003)	325124.27	3794687.72	0.37318	(13010624)
325161.77	3794687.72	0.36948	(11121006)	325199.27	3794687.72	0.36579	(11122506)
325236.77	3794687.72	0.36230	(09121401)	325274.27	3794687.72	0.36629	(13122407)
324871.62	3794298.63	0.29146	(12123121)	324910.53	3794298.63	0.28989	(13010624)
324949.44	3794298.63	0.29319	(13010624)	324988.35	3794298.63	0.29120	(11121006)
324871.62	3794320.43	0.29481	(12123121)	324910.53	3794320.43	0.29779	(10013003)
324949.44	3794320.43	0.29668	(13010624)	324988.35	3794320.43	0.29427	(11121006)
324871.62	3794342.23	0.29819	(12123121)	324910.53	3794342.23	0.30275	(10013003)
324949.44	3794342.23	0.30021	(13010624)	324988.35	3794342.23	0.29734	(11121006)
324871.62	3794364.03	0.30310	(12020205)	324910.53	3794364.03	0.30634	(10013003)
324949.44	3794364.03	0.30378	(13010624)	324988.35	3794364.03	0.30180	(13010624)
324871.62	3794385.83	0.31098	(12020205)	324910.53	3794385.83	0.31009	(12123121)
324949.44	3794385.83	0.30739	(13010624)	324988.35	3794385.83	0.30894	(13010624)
324871.62	3794407.63	0.31517	(10010204)	324910.53	3794407.63	0.31396	(12123121)
324949.44	3794407.63	0.31115	(10013003)	324988.35	3794407.63	0.31310	(13010624)

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       324871.62   3794429.43        0.31928  (10010204)               324910.53
 3794429.43        0.31792  (12020205)
       324949.44   3794429.43        0.31504  (10013003)               324988.35
 3794429.43        0.31713  (13010624)
       324871.62   3794451.23        0.32344  (12122922)               324910.53
 3794451.23        0.32208  (12020205)
       324949.44   3794451.23        0.31939  (12123121)               324988.35
 3794451.23        0.32151  (13010624)
       324871.62   3794473.03        0.32785  (12122922)               324910.53
 3794473.03        0.32632  (10010204)
       324949.44   3794473.03        0.32575  (12123121)               324988.35
 3794473.03        0.32745  (13010624)
       324871.62   3794494.83        0.33343  (13021702)               324910.53
 3794494.83        0.33080  (10010204)
       324949.44   3794494.83        0.33048  (12123121)               324988.35
 3794494.83        0.33221  (10013003)
       324871.62   3794516.63        0.33897  (13021702)               324910.53
 3794516.63        0.33538  (12122922)
       324949.44   3794516.63        0.33507  (12020205)               324988.35
 3794516.63        0.33679  (10013003)
       324871.62   3794538.43        0.34393  (09021803)               324910.53
 3794538.43        0.34018  (12122922)
       324949.44   3794538.43        0.33975  (12020205)               324988.35
 3794538.43        0.34150  (12123121)
       324871.62   3794560.23        0.34908  (09021803)               324910.53
 3794560.23        0.34517  (13021702)
       324949.44   3794560.23        0.34470  (10010204)               324988.35
 3794560.23        0.34643  (12123121)
       324871.62   3794582.03        0.35450  (13120620)               324910.53
 3794582.03        0.35036  (09021803)
       324949.44   3794582.03        0.34979  (12122922)               324988.35
 3794582.03        0.35153  (12020205)
       324871.62   3794603.83        0.36004  (13120620)               324910.53
 3794603.83        0.35601  (09021803)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       14:09:21

                                  PAGE  33
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
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**

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324949.44	3794603.83	0.35644	(12122922)	324988.35	3794603.83	0.35684	(12020205)
324871.62	3794625.63	0.36606	(12021724)	324910.53	3794625.63	0.36220	(13120620)
324949.44	3794625.63	0.36636	(13021702)	324988.35	3794625.63	0.36241	(10010204)
324871.62	3794647.43	0.37227	(10012707)	324910.53	3794647.43	0.36828	(12021724)
324949.44	3794647.43	0.37265	(09021803)	324988.35	3794647.43	0.36821	(12122922)
324871.62	3794669.23	0.37883	(10010424)	324910.53	3794669.23	0.37464	(12021724)
324949.44	3794669.23	0.37898	(13120620)	324988.35	3794669.23	0.37429	(13021702)
324871.62	3794691.03	0.38568	(10010424)	324910.53	3794691.03	0.38132	(10010424)
324949.44	3794691.03	0.38564	(13120620)	324988.35	3794691.03	0.38069	(09021803)
324449.04	3794074.69	0.26633	(12021724)	324485.99	3794074.69	0.26398	(12021724)
324522.94	3794074.69	0.26234	(13120620)	324559.89	3794074.69	0.25946	(09021803)
324596.84	3794074.69	0.25605	(13021702)	324633.79	3794074.69	0.25145	(12122922)
324670.74	3794074.69	0.24909	(10010204)	324707.69	3794074.69	0.24824	(12020205)
324744.64	3794074.69	0.25045	(12123121)	324781.59	3794074.69	0.25656	(10013003)
324449.04	3794106.66	0.27041	(10012707)	324485.99	3794106.66	0.26838	(12021724)
324522.94	3794106.66	0.26614	(13120620)	324559.89	3794106.66	0.26429	(13120620)
324596.84	3794106.66	0.26228	(09021803)	324633.79	3794106.66	0.25856	(13021702)
324670.74	3794106.66	0.25632	(12122922)	324707.69	3794106.66	0.25617	(10010204)
324744.64	3794106.66	0.26149	(12020205)	324781.59	3794106.66	0.26395	(12123121)
324449.04	3794138.63	0.27490	(10012707)	324485.99	3794138.63	0.27271	(12021724)
324522.94	3794138.63	0.27037	(12021724)	324559.89	3794138.63	0.26837	(13120620)
324596.84	3794138.63	0.26625	(09021803)	324633.79	3794138.63	0.26783	(13021702)

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       324670.74   3794138.63        0.26638  (12122922)               324707.69
 3794138.63        0.26632  (10010204)
       324744.64   3794138.63        0.26950  (12020205)               324781.59
 3794138.63        0.26836  (12123121)
       324449.04   3794170.60        0.27941  (10010424)               324485.99
 3794170.60        0.27717  (10012707)
       324522.94   3794170.60        0.27566  (12021724)               324559.89
 3794170.60        0.27720  (13120620)
       324596.84   3794170.60        0.27528  (13120620)               324633.79
 3794170.60        0.27428  (09021803)
       324670.74   3794170.60        0.27268  (13021702)               324707.69
 3794170.60        0.27551  (12122922)
       324744.64   3794170.60        0.27435  (10010204)               324781.59
 3794170.60        0.27610  (12123121)
       324449.04   3794202.57        0.28422  (10010424)               324485.99
 3794202.57        0.28182  (10012707)
       324522.94   3794202.57        0.28044  (12021724)               324559.89
 3794202.57        0.28341  (12021724)
       324596.84   3794202.57        0.28112  (13120620)               324633.79
 3794202.57        0.27883  (09021803)
       324670.74   3794202.57        0.28216  (13021702)               324707.69
 3794202.57        0.28086  (12122922)
       324744.64   3794202.57        0.27869  (10010204)               324781.59
 3794202.57        0.28156  (12020205)
       324449.04   3794234.54        0.28881  (10010424)               324485.99
 3794234.54        0.28679  (10010424)
       324522.94   3794234.54        0.28534  (10012707)               324559.89
 3794234.54        0.28838  (12021724)
       324596.84   3794234.54        0.28566  (12021724)               324633.79
 3794234.54        0.28352  (13120620)
       324670.74   3794234.54        0.28778  (09021803)               324707.69
 3794234.54        0.28544  (13021702)
       324744.64   3794234.54        0.28314  (12122922)               324781.59
 3794234.54        0.28600  (12020205)
       324449.04   3794266.51        0.29441  (10011404)               324485.99
 3794266.51        0.29174  (10010424)
1 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:09:21

                                  PAGE  34
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***
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** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794266.51	0.29587	(10010424)	324559.89	3794266.51	0.29343	(10012707)
324596.84	3794266.51	0.29087	(12021724)	324633.79	3794266.51	0.28821	(13120620)
324670.74	3794266.51	0.29263	(13120620)	324707.69	3794266.51	0.29020	(13021702)
324744.64	3794266.51	0.28782	(12122922)	324781.59	3794266.51	0.29080	(10010204)
324449.04	3794298.48	0.30001	(10011404)	324485.99	3794298.48	0.29713	(10011404)
324522.94	3794298.48	0.30149	(10010424)	324559.89	3794298.48	0.29877	(10012707)
324596.84	3794298.48	0.29608	(12021724)	324633.79	3794298.48	0.29926	(12021724)
324670.74	3794298.48	0.29786	(13120620)	324707.69	3794298.48	0.29527	(09021803)
324744.64	3794298.48	0.29273	(13021702)	324781.59	3794298.48	0.29571	(12122922)
324449.04	3794330.45	0.30582	(09120921)	324485.99	3794330.45	0.30372	(10011404)
324522.94	3794330.45	0.30687	(10011404)	324559.89	3794330.45	0.30443	(10010424)
324596.84	3794330.45	0.30160	(10012707)	324633.79	3794330.45	0.30496	(12021724)
324670.74	3794330.45	0.30307	(13120620)	324707.69	3794330.45	0.30052	(13120620)
324744.64	3794330.45	0.29825	(09021803)	324781.59	3794330.45	0.30105	(12122922)
324449.04	3794362.42	0.31183	(11121923)	324485.99	3794362.42	0.31565	(09120921)
324522.94	3794362.42	0.31331	(10011404)	324559.89	3794362.42	0.31014	(10010424)
324596.84	3794362.42	0.30735	(10010424)	324633.79	3794362.42	0.31073	(10012707)
324670.74	3794362.42	0.30891	(12021724)	324707.69	3794362.42	0.30604	(13120620)
324744.64	3794362.42	0.30739	(09021803)	324781.59	3794362.42	0.30799	(13021702)
324449.04	3794394.39	0.31828	(11121923)	324485.99	3794394.39	0.32215	(09120921)
324522.94	3794394.39	0.31965	(10011404)	324559.89	3794394.39	0.31649	(10011404)

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       324596.84   3794394.39        0.31338  (10010424)               324633.79
 3794394.39        0.31686  (10012707)
       324670.74   3794394.39        0.31495  (12021724)               324707.69
 3794394.39        0.31176  (12021724)
       324744.64   3794394.39        0.31320  (13120620)               324781.59
 3794394.39        0.31371  (09021803)
       324449.04   3794426.36        0.32669  (09022006)               324485.99
 3794426.36        0.32931  (11121923)
       324522.94   3794426.36        0.32647  (09120921)               324559.89
 3794426.36        0.32317  (10011404)
       324596.84   3794426.36        0.31972  (10011404)               324633.79
 3794426.36        0.32337  (10010424)
       324670.74   3794426.36        0.32130  (10012707)               324707.69
 3794426.36        0.31888  (12021724)
       324744.64   3794426.36        0.32028  (13120620)               324781.59
 3794426.36        0.31980  (09021803)
       324449.04   3794458.33        0.33764  (12010904)               324485.99
 3794458.33        0.33695  (09022006)
       324522.94   3794458.33        0.33361  (11121923)               324559.89
 3794458.33        0.33018  (09120921)
       324596.84   3794458.33        0.32859  (10011404)               324633.79
 3794458.33        0.33046  (10010424)
       324670.74   3794458.33        0.32800  (10010424)               324707.69
 3794458.33        0.32715  (10012707)
       324744.64   3794458.33        0.32946  (12021724)               324781.59
 3794458.33        0.32623  (13120620)
       324449.04   3794490.30        0.34517  (12021707)               324485.99
 3794490.30        0.34452  (12010904)
       324522.94   3794490.30        0.34111  (09022006)               324559.89
 3794490.30        0.33755  (11121923)
       324596.84   3794490.30        0.33917  (09120921)               324633.79
 3794490.30        0.33876  (10011404)
       324670.74   3794490.30        0.33499  (10010424)               324707.69
 3794490.30        0.33413  (10010424)
       324744.64   3794490.30        0.33654  (12021724)               324781.59
 3794490.30        0.33286  (12021724)
       324449.04   3794522.27        0.35463  (12021707)               324485.99
 3794522.27        0.35256  (12010904)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:09:21

                                  PAGE  35
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                   INCLUDING SOURCE(S):     PAREA1      ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794522.27	0.34898	(12010904)	324559.89	3794522.27	0.34533	(09022006)
324596.84	3794522.27	0.34697	(11121923)	324633.79	3794522.27	0.34648	(09120921)
324670.74	3794522.27	0.34264	(10011404)	324707.69	3794522.27	0.34156	(10010424)
324744.64	3794522.27	0.34397	(10012707)	324781.59	3794522.27	0.34024	(12021724)
324449.04	3794554.24	0.36454	(13012724)	324485.99	3794554.24	0.36117	(12021707)
324522.94	3794554.24	0.35753	(12010904)	324559.89	3794554.24	0.35565	(09022006)
324596.84	3794554.24	0.35735	(11121923)	324633.79	3794554.24	0.35476	(09120921)
324670.74	3794554.24	0.35068	(10011404)	324707.69	3794554.24	0.34944	(10011404)
324744.64	3794554.24	0.35188	(10010424)	324781.59	3794554.24	0.34790	(10012707)
324449.04	3794586.21	0.37348	(12022904)	324485.99	3794586.21	0.37019	(13012724)
324522.94	3794586.21	0.36652	(12021707)	324559.89	3794586.21	0.36622	(12010904)
324596.84	3794586.21	0.36788	(09022006)	324633.79	3794586.21	0.36361	(11121923)
324670.74	3794586.21	0.35928	(09120921)	324707.69	3794586.21	0.35796	(10011404)
324744.64	3794586.21	0.36017	(10011404)	324781.59	3794586.21	0.35609	(10010424)
324449.04	3794618.18	0.38275	(12012404)	324485.99	3794618.18	0.37962	(12022904)
324522.94	3794618.18	0.37600	(13012724)	324559.89	3794618.18	0.37577	(12021707)
324596.84	3794618.18	0.37751	(12010904)	324633.79	3794618.18	0.37304	(09022006)
324670.74	3794618.18	0.36907	(11121923)	324707.69	3794618.18	0.37182	(09120921)
324744.64	3794618.18	0.36936	(10011404)	324781.59	3794618.18	0.36470	(10011404)
324449.04	3794650.15	0.39231	(11010801)	324485.99	3794650.15	0.38944	(12012404)

```
       324522.94   3794650.15        0.38596  (12022904)               324559.89
 3794650.15        0.38588  (13012724)
       324596.84   3794650.15        0.38775  (12021707)               324633.79
 3794650.15        0.38311  (12010904)
       324670.74   3794650.15        0.37914  (09022006)               324707.69
 3794650.15        0.38391  (11121923)
       324744.64   3794650.15        0.37905  (09120921)               324781.59
 3794650.15        0.37425  (10011404)
       324449.04   3794682.12        0.40209  (09020801)               324485.99
 3794682.12        0.39960  (11010801)
       324522.94   3794682.12        0.39772  (12012404)               324559.89
 3794682.12        0.40198  (12022904)
       324596.84   3794682.12        0.39865  (13012724)               324633.79
 3794682.12        0.39386  (12021707)
       324670.74   3794682.12        0.38973  (12010904)               324707.69
 3794682.12        0.39462  (09022006)
       324744.64   3794682.12        0.38947  (11121923)               324781.59
 3794682.12        0.38434  (09120921)
       326547.36   3795022.06        0.33933  (12022103)               326594.67
 3795022.06        0.33313  (10011406)
       326641.98   3795022.06        0.31627  (11121105)               326547.36
 3795042.46        0.34321  (12022103)
       326594.67   3795042.46        0.32034  (11121105)               326641.98
 3795042.46        0.31986  (12122705)
       326547.36   3795062.86        0.34858  (10011406)               326594.67
 3795062.86        0.32038  (11121105)
       326641.98   3795062.86        0.32313  (10021501)               326547.36
 3795083.26        0.34915  (10011406)
       326594.67   3795083.26        0.32400  (12122705)               326641.98
 3795083.26        0.32609  (13010623)
       326547.36   3795103.66        0.33917  (11121105)               326594.67
 3795103.66        0.32732  (10021501)
       326641.98   3795103.66        0.32901  (13010623)               326547.36
 3795124.06        0.34043  (12122705)
       326594.67   3795124.06        0.33033  (13010623)               326641.98
 3795124.06        0.33184  (13010101)
       326547.36   3795144.46        0.34119  (10021501)               326594.67
 3795144.46        0.33325  (12020806)
       326641.98   3795144.46        0.33319  (13011507)               326547.36
 3795164.86        0.33516  (12020806)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:09:21

                                  PAGE  36
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
```

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326594.67	3795164.86	0.33594	(10121122)	326641.98	3795164.86	0.33617	(13011507)
326547.36	3795185.26	0.33682	(12020806)	326594.67	3795185.26	0.33730	(13011507)
326641.98	3795185.26	0.33767	(13022723)	326547.36	3795205.66	0.33914	(11011708)
326594.67	3795205.66	0.33966	(10122507)	326641.98	3795205.66	0.33003	(09021506)
326547.36	3795226.06	0.34070	(10122507)	326594.67	3795226.06	0.34044	(13022723)
326641.98	3795226.06	0.31148	(12022407)	326547.36	3795246.46	0.34172	(10122507)
326594.67	3795246.46	0.33441	(12010407)	326641.98	3795246.46	0.30427	(13020308)
326690.43	3795243.37	0.29658	(11120708)	326688.67	3795223.05	0.29913	(13020308)
326686.02	3795005.77	0.31589	(12122705)	326686.02	3795033.66	0.31597	(10021501)
326686.02	3795061.55	0.31610	(13010623)	326686.02	3795089.44	0.31947	(13010101)
326686.02	3795117.33	0.32211	(13011507)	326686.02	3795145.22	0.32467	(13022723)
326686.02	3795173.11	0.32109	(09021506)	326686.02	3795201.00	0.30068	(12022407)
326832.80	3795263.26	0.30269	(12011002)	326849.67	3795263.26	0.29096	(12011002)
326866.54	3795263.26	0.28584	(09120419)	326883.41	3795263.26	0.28727	(09120419)
326900.28	3795263.26	0.28843	(09120419)	326917.15	3795263.26	0.28929	(09120419)
326934.02	3795263.26	0.27606	(09120419)	326950.89	3795263.26	0.26408	(09120419)
326967.76	3795263.26	0.26423	(09120419)	326984.63	3795263.26	0.25915	(13121308)
327001.50	3795263.26	0.24811	(13121308)	327036.85	3795141.35	0.22122	(12011705)
327075.72	3795141.35	0.20314	(09121202)	327036.85	3795160.91	0.22541	(12010208)

```
       327075.72   3795160.91        0.20889  (12120505)                327036.85
 3795180.47        0.23268  (13122805)
       327075.72   3795180.47        0.21901  (12120505)                327036.85
 3795200.03        0.24075  (11010918)
       327075.72   3795200.03        0.22634  (12120505)                327036.85
 3795219.59        0.23571  (12120505)
       327075.72   3795219.59        0.22957  (09120419)                327036.85
 3795239.15        0.23599  (09120419)
       327075.72   3795239.15        0.23619  (09120419)                327036.85
 3795258.71        0.24276  (13121308)
       327075.72   3795258.71        0.24467  (13121308)                327036.85
 3795278.27        0.25098  (13121308)
       327075.72   3795278.27        0.25066  (11011817)                326840.04
 3795223.24        0.27403  (13122805)
       326860.58   3795224.16        0.26211  (13122805)                326877.30
 3795222.74        0.26316  (13122805)
       326929.68   3795223.69        0.25952  (11010918)                326932.86
 3795200.00        0.24370  (13122805)
       326972.32   3795217.03        0.24651  (12120505)                326970.84
 3795177.58        0.22674  (12010208)
       326968.20   3795152.46        0.22538  (10121407)                326998.43
 3795149.77        0.22338  (09120204)
       326997.48   3795176.61        0.22824  (12010208)                326995.60
 3795193.01        0.23582  (11010918)
       326996.92   3795215.78        0.24703  (12120505)                326916.97
 3795152.19        0.24870  (12010321)
       326901.95   3795150.46        0.25065  (11120708)                326884.24
 3795164.40        0.25061  (12010321)
       326867.32   3795151.32        0.25775  (11120708)                326873.22
 3795163.36        0.25346  (11120708)
       326845.53   3795152.12        0.27081  (11120708)                326824.91
 3795151.45        0.28841  (11121808)
       326826.60   3795170.60        0.28579  (12022206)                326840.50
 3795180.17        0.26983  (11120708)
       326799.39   3795147.97        0.29160  (10010821)                326776.77
 3795147.89        0.29423  (10121023)
       326738.03   3795152.73        0.29804  (12010407)                326781.33
 3795110.75        0.29527  (12010407)
       326806.10   3795109.04        0.28643  (12010407)                326804.45
 3795090.73        0.28765  (09021506)
       326781.78   3795086.72        0.29510  (13022723)                326787.40
 3795061.79        0.29364  (10122507)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:09:21

                                  PAGE  37
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
```

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326794.01	3795031.22	0.29132	(13011507)	326977.50	3795110.69	0.22506	(12121805)
326994.05	3795107.87	0.22416	(13012606)	326984.52	3795093.80	0.22813	(12121805)
326972.85	3795082.37	0.23160	(12121805)	326995.41	3795072.53	0.22999	(12121805)
326993.23	3795060.01	0.23074	(12121805)	326984.60	3795040.80	0.23277	(13020308)
326981.66	3795027.22	0.23247	(13020308)	327041.48	3795102.15	0.21973	(13012606)
327065.19	3795095.75	0.20543	(10121407)	327040.88	3795076.27	0.21969	(11120708)
327061.24	3795058.32	0.20939	(12121805)	327037.82	3795061.09	0.22574	(11120708)
327035.65	3795040.58	0.22833	(11120708)	327058.94	3795038.41	0.21453	(12121805)
327051.53	3795017.85	0.21952	(12121805)	327033.29	3795021.71	0.22952	(13020308)
326826.26	3795110.80	0.26762	(10121023)	326843.29	3795110.80	0.26310	(10121023)
326860.32	3795110.80	0.26154	(13020308)	326877.35	3795110.80	0.26026	(13020308)
326894.38	3795110.80	0.25797	(13020308)	326911.41	3795110.80	0.25648	(11120708)
326928.44	3795110.80	0.24715	(11120708)	326945.47	3795110.80	0.23310	(12121805)
326819.99	3795048.86	0.27222	(13022723)	326838.19	3795048.86	0.26369	(13022723)
326856.39	3795048.86	0.26290	(09021506)	326874.59	3795048.86	0.26214	(12010407)
326892.79	3795048.86	0.26065	(12010407)	326910.99	3795048.86	0.25916	(12011805)
326929.19	3795048.86	0.24882	(10121023)	326947.39	3795048.86	0.23483	(13020308)

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
               **

                         NETWORK
GROUP ID   AVERAGE CONC   RECEPTOR (XR, YR,
ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
- -
- - - - - - - - - - - - - - - - - - -

ALL   1ST HIGHEST VALUE IS   0.05292 AT (325904.15, 3795332.59,
149.61,   185.00,   0.00) DC
          2ND HIGHEST VALUE IS   0.05076 AT (325931.15, 3795332.59,
150.05,   165.00,   0.00) DC
          3RD HIGHEST VALUE IS   0.04787 AT (325877.15, 3795332.59,
150.22,   185.00,   0.00) DC
          4TH HIGHEST VALUE IS   0.04763 AT (325850.15, 3795332.59,
150.51,   185.00,   0.00) DC
          5TH HIGHEST VALUE IS   0.04705 AT (325796.15, 3795332.59,
151.11,   185.00,   0.00) DC
          6TH HIGHEST VALUE IS   0.04639 AT (325823.15, 3795332.59,
151.02,   185.00,   0.00) DC
          7TH HIGHEST VALUE IS   0.04636 AT (325796.15, 3795293.59,
150.13,   185.00,   0.00) DC
          8TH HIGHEST VALUE IS   0.04531 AT (325823.15, 3795293.59,
150.11,   185.00,   0.00) DC
          9TH HIGHEST VALUE IS   0.04494 AT (325850.15, 3795293.59,
149.69,   185.00,   0.00) DC
         10TH HIGHEST VALUE IS   0.04469 AT (325877.15, 3795293.59,
149.15,   185.00,   0.00) DC

*** RECEPTOR TYPES: GC = GRIDCART
                     GP = GRIDPOLR
                     DC = DISCCART
                     DP = DISCPOLR

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE	NETWORK CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.52713	ON 10013003:	AT (325877.15, 3795293.59, 149.15, 185.00, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   1 Warning Message(s)
A Total of   15612 Informational Message(s)

A Total of   43872 Hours Were Processed

A Total of   13724 Calm Hours Identified

A Total of   1888 Missing Hours Identified (4.30 Percent)

******** FATAL ERROR MESSAGES ********

```
             ***  NONE  ***


   ********   WARNING MESSAGES   ********
MX W481   43873         MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD View\Phase 2_Unmitigated_11.3\Phase 2_Unmitigated_11.3.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 2_Construction\Hitch Ranch_Ph
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "Phase 2_Unmitigated_11.3.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       5.1516E-09     3.000        16
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325439.580 3795654.860 326387.530 3796120.560
   AREAVERT PAREA1       326397.210 3795756.410 326288.670 3795758.120
   AREAVERT PAREA1       326277.560 3795694.020 326166.380 3795525.260
   AREAVERT PAREA1       326425.650 3795493.540 326479.010 3795469.120
   AREAVERT PAREA1       326469.840 3795364.180 325735.780 3795372.310
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
```

```
**************************************
**
**
RE STARTING
   INCLUDED "Phase 2_Unmitigated_11.3.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "PHASE 2_UNMITIGATED_11.3.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "PHASE 2_UNMITIGATED_11.3.AD\AN00GALL.PLT" 32
   SUMMFILE "Phase 2_Unmitigated_11.3.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD View\Phase 2_Unmitigated_11.3\Phase 2_Unmitigated_11.3.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 2_Construction\Hitch Ranch_Ph
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "Phase 2_Unmitigated_11.3.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       5.1516E-09     3.000        16
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325439.580 3795654.860 326387.530 3796120.560
   AREAVERT PAREA1       326397.210 3795756.410 326288.670 3795758.120
   AREAVERT PAREA1       326277.560 3795694.020 326166.380 3795525.260
   AREAVERT PAREA1       326425.650 3795493.540 326479.010 3795469.120
   AREAVERT PAREA1       326469.840 3795364.180 325735.780 3795372.310
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
```

```
************************************
**
**
RE STARTING
   INCLUDED "Phase 2_Unmitigated_11.3.rou"
RE FINISHED
**
************************************
** AERMOD Meteorology Pathway
************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
************************************
** AERMOD Output Pathway
************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "PHASE 2_UNMITIGATED_11.3.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "PHASE 2_UNMITIGATED_11.3.AD\AN00GALL.PLT" 32
   SUMMFILE "Phase 2_Unmitigated_11.3.sum"
OU FINISHED

 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:30:23

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
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 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
         1. Stack-tip Downwash.
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.

 **Other Options Specified:
         CCVR_Sub - Meteorological data includes CCVR substitutions
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     834
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
```

Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) =   24.00 ; Decay
Coef. =   0.000   ; Rot. Angle =   0.0
                  Emission Units = GRAMS/SEC   ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =   3.6 MB of RAM.

 **Input Runstream File: aermod.inp

 **Output Print File: aermod.out

 **Detailed Error/Message File: Phase 2_Unmitigated_11.3.err

 **File for Summary of Results: Phase 2_Unmitigated_11.3.sum

↟ *** AERMOD - VERSION 18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***   11/03/20
 *** AERMET - VERSION 14134 ***   ***
                        ***   15:30:23

                                   PAGE   2
 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                *** AREAPOLY SOURCE DATA ***

               NUMBER EMISSION RATE   LOCATION OF AREA BASE   RELEASE NUMBER
  INIT.   URBAN EMISSION RATE
   SOURCE   PART. (GRAMS/SEC   X   Y   ELEV.   HEIGHT OF VERTS.
   SZ   SOURCE SCALAR VARY
     ID   CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
(METERS)   BY
 -
- -

 PAREA1   0   0.51516E-08 325117.2 3795248.3   146.0   3.00   16

*** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID   SOURCE IDs
 -----------   ----------

  ALL   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

     (326346.0, 3795634.0,   172.5,   190.0,   0.0);   (326414.1, 3795779.7,   180.0,   277.0,   0.0);
     (326435.8, 3795773.5,   176.6,   277.0,   0.0);   (326458.3, 3795772.8,   174.6,   277.0,   0.0);
     (326424.2, 3795858.8,   178.9,   295.0,   0.0);   (326400.2, 3795799.8,   182.9,   277.0,   0.0);
     (326400.9, 3795767.9,   180.8,   277.0,   0.0);   (326424.2, 3795858.8,   178.9,   295.0,   0.0);
     (326611.8, 3795763.0,   168.9,   277.0,   0.0);   (326611.8, 3795763.0,   168.9,   277.0,   0.0);
     (326610.9, 3795777.7,   169.0,   277.0,   0.0);   (326605.9, 3795792.9,   169.0,   277.0,   0.0);
     (326623.9, 3795809.0,   169.6,   277.0,   0.0);   (326627.2, 3795836.6,   170.1,   295.0,   0.0);
     (326640.1, 3795836.6,   170.2,   277.0,   0.0);   (326654.5, 3795868.7,   171.6,   291.0,   0.0);
     (326665.5, 3795883.1,   172.0,   295.0,   0.0);   (326588.3, 3795867.6,   175.1,   277.0,   0.0);
     (326640.5, 3795951.9,   177.0,   295.0,   0.0);   (326658.5, 3795975.6,   175.5,   295.0,   0.0);

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     ( 326759.5, 3796019.3,     178.2,     277.0,       0.0);         ( 326763.6,
3796031.8,     178.1,     291.0,       0.0);
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
     ( 326806.7, 3795493.9,     157.9,     217.0,       0.0);         ( 326824.1,
3795494.4,     157.9,     217.0,       0.0);
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     ( 326853.5, 3795481.7,     157.5,     217.0,       0.0);         ( 326898.8,
3795534.4,     158.0,     217.0,       0.0);
     ( 325796.1, 3795215.6,     149.4,     149.4,       0.0);         ( 325823.1,
3795215.6,     149.0,     149.0,       0.0);
     ( 326012.1, 3795215.6,     150.0,     150.0,       0.0);         ( 326120.1,
3795215.6,     151.0,     151.0,       0.0);
     ( 326147.1, 3795215.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795254.6,     149.4,     185.0,       0.0);
     ( 325823.1, 3795254.6,     149.0,     185.0,       0.0);         ( 325850.1,
3795254.6,     149.0,     149.0,       0.0);
     ( 325877.1, 3795254.6,     149.0,     149.0,       0.0);         ( 325904.1,
3795254.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795254.6,     149.9,     149.9,       0.0);         ( 325958.1,
3795254.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795254.6,     150.0,     150.0,       0.0);         ( 326012.1,
3795254.6,     150.7,     150.7,       0.0);
     ( 326039.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326066.1,
3795254.6,     151.0,     151.0,       0.0);
     ( 326093.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326120.1,
3795254.6,     151.0,     151.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       15:30:23

                                  PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                       (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                   (METERS)

     ( 326147.1, 3795254.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795293.6,     150.1,     185.0,       0.0);
     ( 325823.1, 3795293.6,     150.1,     185.0,       0.0);         ( 325850.1,
3795293.6,     149.7,     185.0,       0.0);
     ( 325877.1, 3795293.6,     149.2,     185.0,       0.0);         ( 325904.1,
3795293.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795293.6,     150.0,     150.0,       0.0);         ( 325958.1,
3795293.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795293.6,     150.9,     150.9,       0.0);         ( 326012.1,
3795293.6,     151.2,     151.2,       0.0);
     ( 326039.1, 3795293.6,     151.2,     151.2,       0.0);         ( 326066.1,
3795293.6,     151.7,     151.7,       0.0);
     ( 326093.1, 3795293.6,     152.0,     152.0,       0.0);         ( 326120.1,
3795293.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795293.6,     152.0,     152.0,       0.0);         ( 325796.1,
3795332.6,     151.1,     185.0,       0.0);
     ( 325823.1, 3795332.6,     151.0,     185.0,       0.0);         ( 325850.1,
3795332.6,     150.5,     185.0,       0.0);
```

```
    ( 325877.1, 3795332.6,     150.2,     185.0,       0.0);         ( 325904.1,
3795332.6,     149.6,     185.0,       0.0);
    ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
3795332.6,     150.5,     166.0,       0.0);
    ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
    ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
    ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
    ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
3795004.9,     149.0,     149.0,       0.0);
    ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795004.9,     149.0,     149.0,       0.0);
    ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795004.9,     149.0,     149.0,       0.0);
    ( 325972.4, 3795004.9,     149.3,     149.3,       0.0);         ( 325997.4,
3795004.9,     149.7,     149.7,       0.0);
    ( 326022.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795004.9,     150.0,     150.0,       0.0);
    ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795004.9,     150.0,     150.0,       0.0);
    ( 326122.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326147.4,
3795004.9,     150.3,     150.3,       0.0);
    ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
    ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795046.9,     149.0,     149.0,       0.0);
    ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
    ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
    ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
    ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
    ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
    ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
    ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
    ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
    ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
    ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795088.9,     150.2,     150.2,       0.0);
    ( 326122.4, 3795088.9,     150.7,     150.7,       0.0);         ( 326147.4,
3795088.9,     151.0,     151.0,       0.0);
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     ( 325847.4, 3795130.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795130.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795130.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795130.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795130.9,     149.6,     149.6,       0.0);         ( 325972.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 325997.4, 3795130.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795130.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795130.9,     150.6,     150.6,       0.0);         ( 326122.4,
3795130.9,     151.0,     151.0,       0.0);
     ( 326147.4, 3795130.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795172.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795172.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795172.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795172.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795172.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795172.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795172.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795172.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795172.9,     150.2,     150.2,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                          ***        15:30:23

                                    PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 326072.4, 3795172.9,     150.8,     150.8,       0.0);         ( 325847.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795214.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795214.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795214.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326072.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326097.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326147.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326096.6, 3795181.5,     151.0,     151.0,       0.0);         ( 326118.6,
3795182.6,     151.0,     151.0,       0.0);
     ( 326144.3, 3795184.1,     151.0,     151.0,       0.0);         ( 325849.7,
3794829.6,     148.0,     148.0,       0.0);
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     ( 325892.6, 3794829.6,     148.0,     148.0,       0.0);         ( 325935.5,
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     ( 325978.3, 3794829.6,     149.0,     149.0,       0.0);         ( 326021.2,
3794829.6,     149.0,     149.0,       0.0);
     ( 326064.1, 3794829.6,     149.5,     149.5,       0.0);         ( 325849.7,
3794867.5,     148.0,     148.0,       0.0);
     ( 325892.6, 3794867.5,     148.8,     148.8,       0.0);         ( 325935.5,
3794867.5,     149.0,     149.0,       0.0);
     ( 325978.3, 3794867.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794867.5,     149.0,     149.0,       0.0);
     ( 326064.1, 3794867.5,     149.5,     149.5,       0.0);         ( 325849.7,
3794905.5,     148.1,     148.1,       0.0);
     ( 325892.6, 3794905.5,     148.9,     148.9,       0.0);         ( 325935.5,
3794905.5,     149.0,     149.0,       0.0);
     ( 325978.3, 3794905.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794905.5,     149.1,     149.1,       0.0);
     ( 326064.1, 3794905.5,     150.0,     150.0,       0.0);         ( 325849.7,
3794943.4,     148.4,     148.4,       0.0);
     ( 325892.6, 3794943.4,     149.0,     149.0,       0.0);         ( 325935.5,
3794943.4,     149.0,     149.0,       0.0);
     ( 325978.3, 3794943.4,     149.0,     149.0,       0.0);         ( 326021.2,
3794943.4,     149.1,     149.1,       0.0);
     ( 326064.1, 3794943.4,     150.0,     150.0,       0.0);         ( 325849.7,
3794981.3,     148.9,     148.9,       0.0);
     ( 325892.6, 3794981.3,     149.0,     149.0,       0.0);         ( 325935.5,
3794981.3,     149.0,     149.0,       0.0);
     ( 325978.3, 3794981.3,     149.0,     149.0,       0.0);         ( 326021.2,
3794981.3,     149.8,     149.8,       0.0);
     ( 326064.1, 3794981.3,     150.0,     150.0,       0.0);         ( 325855.3,
3794726.6,     148.0,     148.0,       0.0);
     ( 325902.6, 3794726.6,     148.0,     148.0,       0.0);         ( 325855.3,
3794745.5,     148.0,     148.0,       0.0);
     ( 325902.6, 3794745.5,     148.0,     148.0,       0.0);         ( 325855.3,
3794764.4,     148.0,     148.0,       0.0);
     ( 325902.6, 3794764.4,     148.0,     148.0,       0.0);         ( 325855.3,
3794783.3,     148.0,     148.0,       0.0);
     ( 325902.6, 3794783.3,     148.0,     148.0,       0.0);         ( 325855.3,
3794802.2,     148.0,     148.0,       0.0);
     ( 325902.6, 3794802.2,     148.0,     148.0,       0.0);         ( 325855.3,
3794821.1,     148.0,     148.0,       0.0);
     ( 325902.6, 3794821.1,     148.1,     148.1,       0.0);         ( 326402.8,
3795249.3,     152.8,     152.8,       0.0);
     ( 325380.5, 3795776.2,     161.0,     295.0,       0.0);         ( 325415.9,
3795858.3,     176.6,     271.0,       0.0);
     ( 325409.9, 3795995.0,     190.3,     271.0,       0.0);         ( 325416.6,
3796058.1,     193.4,     282.0,       0.0);
     ( 325409.6, 3796164.9,     201.8,     291.0,       0.0);         ( 325322.7,
3796083.9,     190.0,     292.0,       0.0);
     ( 325297.9, 3796111.1,     184.9,     295.0,       0.0);         ( 325246.7,
3796076.1,     181.2,     295.0,       0.0);
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(325280.0, 3796260.7, 211.4, 292.0, 0.0); (325237.0, 3796200.4, 205.0, 292.0, 0.0);
(325163.0, 3796071.1, 180.4, 292.0, 0.0); (325215.7, 3795991.4, 177.4, 292.0, 0.0);
(325208.3, 3795926.9, 173.0, 292.0, 0.0); (325249.5, 3795829.2, 171.2, 291.0, 0.0);
(325171.5, 3795759.2, 160.9, 292.0, 0.0); (325129.2, 3795756.4, 158.4, 292.0, 0.0);
(325154.8, 3795886.2, 167.8, 292.0, 0.0); (325068.5, 3795885.4, 171.6, 292.0, 0.0);
(325047.9, 3795938.0, 175.5, 292.0, 0.0); (325045.8, 3795982.7, 176.4, 292.0, 0.0);
(325072.0, 3796106.7, 179.6, 292.0, 0.0); (325060.6, 3796290.4, 197.1, 292.0, 0.0);
(324903.7, 3796379.8, 214.8, 292.0, 0.0); (324787.8, 3796510.4, 197.3, 292.0, 0.0);
(324916.5, 3796618.3, 201.7, 292.0, 0.0); (326493.0, 3796356.3, 198.5, 295.0, 0.0);
(326552.7, 3796900.0, 235.2, 295.0, 0.0); (326599.3, 3796893.6, 237.6, 293.0, 0.0);
(326617.4, 3796889.5, 237.6, 293.0, 0.0); (326639.4, 3796881.9, 233.8, 293.0, 0.0);
(326663.7, 3796864.1, 225.7, 295.0, 0.0); (326679.5, 3796885.2, 227.5, 293.0, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326697.8, 3796898.3, 229.7, 293.0, 0.0); (326712.3, 3796916.6, 233.6, 293.0, 0.0);
(326726.6, 3796931.1, 236.4, 290.0, 0.0); (326742.2, 3796948.0, 240.5, 290.0, 0.0);
(326756.6, 3796965.7, 242.1, 290.0, 0.0); (326772.1, 3796973.3, 239.2, 290.0, 0.0);
(326785.2, 3796890.5, 223.1, 293.0, 0.0); (326800.1, 3797003.9, 233.0, 290.0, 0.0);
(326818.0, 3797014.9, 229.2, 290.0, 0.0); (326813.7, 3796843.9, 215.1, 293.0, 0.0);
(326833.9, 3796853.6, 216.3, 293.0, 0.0); (326848.6, 3796873.4, 217.5, 293.0, 0.0);
(326864.2, 3796885.1, 217.7, 293.0, 0.0); (326877.9, 3796901.2, 218.2, 292.0, 0.0);

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     ( 326893.8, 3796917.1,     220.4,     292.0,       0.0);         ( 326904.5,
3796938.8,     223.9,     292.0,       0.0);
     ( 326907.6, 3796966.2,     224.5,     292.0,       0.0);         ( 326914.5,
3796991.7,     227.6,     292.0,       0.0);
     ( 326921.9, 3797038.4,     232.7,     292.0,       0.0);         ( 326596.6,
3797264.1,     273.2,     288.0,       0.0);
     ( 326830.0, 3795735.4,     183.6,     217.0,       0.0);         ( 326866.5,
3795706.9,     182.8,     217.0,       0.0);
     ( 326831.5, 3795646.6,     161.0,     217.0,       0.0);         ( 326872.9,
3795644.9,     160.9,     217.0,       0.0);
     ( 326898.9, 3795644.7,     160.9,     217.0,       0.0);         ( 326924.7,
3795650.1,     161.6,     217.0,       0.0);
     ( 326949.7, 3795646.4,     161.1,     217.0,       0.0);         ( 326975.6,
3795638.8,     162.5,     217.0,       0.0);
     ( 326917.9, 3795602.8,     159.0,     217.0,       0.0);         ( 326918.6,
3795584.1,     158.0,     217.0,       0.0);
     ( 326921.6, 3795563.5,     158.0,     217.0,       0.0);         ( 326917.2,
3795537.1,     158.0,     217.0,       0.0);
     ( 326935.0, 3795592.2,     158.8,     217.0,       0.0);         ( 326951.0,
3795599.5,     159.5,     217.0,       0.0);
     ( 326950.3, 3795555.9,     158.0,     217.0,       0.0);         ( 326951.6,
3795535.1,     158.0,     217.0,       0.0);
     ( 326961.8, 3795537.6,     158.0,     217.0,       0.0);         ( 326982.2,
3795538.3,     158.0,     217.0,       0.0);
     ( 326992.4, 3795539.1,     158.0,     217.0,       0.0);         ( 327009.0,
3795535.6,     158.0,     217.0,       0.0);
     ( 326987.7, 3795581.0,     159.0,     217.0,       0.0);         ( 327024.8,
3795588.4,     160.1,     217.0,       0.0);
     ( 326925.1, 3795485.9,     158.0,     217.0,       0.0);         ( 326937.8,
3795488.3,     158.0,     217.0,       0.0);
     ( 326956.5, 3795489.3,     158.0,     217.0,       0.0);         ( 326970.9,
3795491.0,     158.0,     217.0,       0.0);
     ( 326990.0, 3795487.7,     158.0,     217.0,       0.0);         ( 325049.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325124.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325161.8, 3794362.9,     143.2,     143.2,       0.0);         ( 325199.3,
3794362.9,     143.2,     143.2,       0.0);
     ( 325236.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325274.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325049.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794386.1,     143.0,     143.0,       0.0);
     ( 325124.3, 3794386.1,     143.2,     143.2,       0.0);         ( 325161.8,
3794386.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794386.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794386.1,     143.1,     143.1,       0.0);
     ( 325274.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325049.3,
3794409.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794409.3,     143.0,     143.0,       0.0);         ( 325124.3,
3794409.3,     143.2,     143.2,       0.0);
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     ( 325161.8, 3794409.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794409.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794409.3,     143.8,     143.8,       0.0);         ( 325274.3,
3794409.3,     143.7,     143.7,       0.0);
     ( 325049.3, 3794432.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794432.5,     143.0,     143.0,       0.0);
     ( 325124.3, 3794432.5,     143.6,     143.6,       0.0);         ( 325161.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325049.3,
3794455.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794455.7,     143.3,     143.3,       0.0);         ( 325124.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325049.3, 3794478.9,     143.0,     143.0,       0.0);         ( 325086.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325124.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325161.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325199.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325236.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325274.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325049.3,
3794502.1,     143.0,     143.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                          ***        15:30:23

                                    PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                              *** DISCRETE CARTESIAN RECEPTORS ***
                                            (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                        (METERS)

     ( 325086.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325124.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325161.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325199.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325236.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325274.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325049.3, 3794525.3,     143.0,     143.0,       0.0);         ( 325086.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325124.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325161.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325199.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325236.8,
3794525.3,     144.0,     144.0,       0.0);
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     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794687.7,     145.0,     145.0,       0.0);
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     ( 324871.6, 3794298.6,     141.0,     141.0,       0.0);         ( 324910.5,
3794298.6,     141.1,     141.1,       0.0);
     ( 324949.4, 3794298.6,     142.0,     142.0,       0.0);         ( 324988.3,
3794298.6,     142.0,     142.0,       0.0);
     ( 324871.6, 3794320.4,     141.0,     141.0,       0.0);         ( 324910.5,
3794320.4,     141.8,     141.8,       0.0);
     ( 324949.4, 3794320.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794320.4,     142.0,     142.0,       0.0);
     ( 324871.6, 3794342.2,     141.0,     141.0,       0.0);         ( 324910.5,
3794342.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794342.2,     142.0,     142.0,       0.0);         ( 324988.3,
3794342.2,     142.0,     142.0,       0.0);
     ( 324871.6, 3794364.0,     141.2,     141.2,       0.0);         ( 324910.5,
3794364.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794364.0,     142.0,     142.0,       0.0);         ( 324988.3,
3794364.0,     142.2,     142.2,       0.0);
     ( 324871.6, 3794385.8,     141.7,     141.7,       0.0);         ( 324910.5,
3794385.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794385.8,     142.0,     142.0,       0.0);         ( 324988.3,
3794385.8,     142.6,     142.6,       0.0);
     ( 324871.6, 3794407.6,     141.8,     141.8,       0.0);         ( 324910.5,
3794407.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794407.6,     142.0,     142.0,       0.0);         ( 324988.3,
3794407.6,     142.7,     142.7,       0.0);
     ( 324871.6, 3794429.4,     141.8,     141.8,       0.0);         ( 324910.5,
3794429.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794429.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794429.4,     142.7,     142.7,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       15:30:23

                                  PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                            *** DISCRETE CARTESIAN RECEPTORS ***
                                           (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                      (METERS)

     ( 324871.6, 3794451.2,     141.8,     141.8,       0.0);         ( 324910.5,
3794451.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794451.2,     142.1,     142.1,       0.0);         ( 324988.3,
3794451.2,     142.7,     142.7,       0.0);
     ( 324871.6, 3794473.0,     141.8,     141.8,       0.0);         ( 324910.5,
3794473.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794473.0,     142.3,     142.3,       0.0);         ( 324988.3,
3794473.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794494.8,     141.9,     141.9,       0.0);         ( 324910.5,
3794494.8,     142.0,     142.0,       0.0);
```

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     ( 324949.4, 3794494.8,     142.4,     142.4,       0.0);         ( 324988.3,
3794494.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794074.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794074.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794074.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794074.7,     137.8,     137.8,       0.0);
     ( 324596.8, 3794074.7,     137.6,     137.6,       0.0);         ( 324633.8,
3794074.7,     137.1,     137.1,       0.0);
     ( 324670.7, 3794074.7,     137.0,     137.0,       0.0);         ( 324707.7,
3794074.7,     137.2,     137.2,       0.0);
     ( 324744.6, 3794074.7,     137.9,     137.9,       0.0);         ( 324781.6,
3794074.7,     139.3,     139.3,       0.0);
     ( 324449.0, 3794106.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794106.7,     138.0,     138.0,       0.0);
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     ( 324522.9, 3794106.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794106.7,     138.0,     138.0,       0.0);
     ( 324596.8, 3794106.7,     138.0,     138.0,       0.0);         ( 324633.8,
3794106.7,     137.7,     137.7,       0.0);
     ( 324670.7, 3794106.7,     137.7,     137.7,       0.0);         ( 324707.7,
3794106.7,     138.0,     138.0,       0.0);
     ( 324744.6, 3794106.7,     139.2,     139.2,       0.0);         ( 324781.6,
3794106.7,     139.9,     139.9,       0.0);
     ( 324449.0, 3794138.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794138.6,     138.0,     138.0,       0.0);
     ( 324522.9, 3794138.6,     138.0,     138.0,       0.0);         ( 324559.9,
3794138.6,     138.0,     138.0,       0.0);
     ( 324596.8, 3794138.6,     138.0,     138.0,       0.0);         ( 324633.8,
3794138.6,     138.6,     138.6,       0.0);
     ( 324670.7, 3794138.6,     138.7,     138.7,       0.0);         ( 324707.7,
3794138.6,     139.0,     139.0,       0.0);
     ( 324744.6, 3794138.6,     139.9,     139.9,       0.0);         ( 324781.6,
3794138.6,     140.0,     140.0,       0.0);
     ( 324449.0, 3794170.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794170.6,     138.0,     138.0,       0.0);
     ( 324522.9, 3794170.6,     138.1,     138.1,       0.0);         ( 324559.9,
3794170.6,     138.8,     138.8,       0.0);
     ( 324596.8, 3794170.6,     138.8,     138.8,       0.0);         ( 324633.8,
3794170.6,     139.0,     139.0,       0.0);
     ( 324670.7, 3794170.6,     139.1,     139.1,       0.0);         ( 324707.7,
3794170.6,     139.9,     139.9,       0.0);
     ( 324744.6, 3794170.6,     140.0,     140.0,       0.0);         ( 324781.6,
3794170.6,     140.6,     140.6,       0.0);
     ( 324449.0, 3794202.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794202.6,     138.0,     138.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:30:23

                                   PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 324522.9, 3794202.6,     138.2,     138.2,       0.0);         ( 324559.9,
3794202.6,     139.0,     139.0,       0.0);
     ( 324596.8, 3794202.6,     139.0,     139.0,       0.0);         ( 324633.8,
3794202.6,     139.0,     139.0,       0.0);
     ( 324670.7, 3794202.6,     139.9,     139.9,       0.0);         ( 324707.7,
3794202.6,     140.0,     140.0,       0.0);
     ( 324744.6, 3794202.6,     140.0,     140.0,       0.0);         ( 324781.6,
3794202.6,     140.8,     140.8,       0.0);
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     ( 324449.0, 3794234.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794234.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794234.5,     138.2,     138.2,       0.0);         ( 324559.9,
3794234.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794234.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794234.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794234.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794234.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794234.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794234.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794266.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794266.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794266.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794266.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794266.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794266.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794266.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794266.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794266.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794266.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794298.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794298.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794298.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794298.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794298.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794298.5,     139.9,     139.9,       0.0);
     ( 324670.7, 3794298.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794298.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794298.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794298.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794330.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794330.4,     138.1,     138.1,       0.0);
     ( 324522.9, 3794330.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794330.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794330.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794330.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794330.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794330.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794330.4,     140.1,     140.1,       0.0);         ( 324781.6,
3794330.4,     140.8,     140.8,       0.0);
     ( 324449.0, 3794362.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794362.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794362.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794362.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794362.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794362.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794362.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794362.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794362.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794362.4,     141.0,     141.0,       0.0);
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     ( 324449.0, 3794394.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794394.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794394.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794394.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794394.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794394.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794394.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794394.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794394.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794394.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794426.4,     138.2,     138.2,       0.0);         ( 324486.0,
3794426.4,     139.0,     139.0,       0.0);
     ( 324522.9, 3794426.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794426.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794426.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794426.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794426.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794426.4,     140.1,     140.1,       0.0);
     ( 324744.6, 3794426.4,     140.7,     140.7,       0.0);         ( 324781.6,
3794426.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794458.3,     138.7,     138.7,       0.0);         ( 324486.0,
3794458.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794458.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794458.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794458.3,     139.2,     139.2,       0.0);         ( 324633.8,
3794458.3,     139.9,     139.9,       0.0);
     ( 324670.7, 3794458.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794458.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794458.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794458.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794490.3,     138.7,     138.7,       0.0);         ( 324486.0,
3794490.3,     139.0,     139.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       15:30:23

                                    PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                                 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                              (METERS)

     ( 324522.9, 3794490.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794490.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794490.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794490.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794490.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794490.3,     140.3,     140.3,       0.0);
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     ( 324744.6, 3794490.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794490.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794522.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794522.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794522.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794522.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794554.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794554.2,     139.2,     139.2,       0.0);
     ( 324596.8, 3794554.2,     139.8,     139.8,       0.0);         ( 324633.8,
3794554.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794554.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794554.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794586.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794586.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794586.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794586.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794586.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794586.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794586.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794586.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794586.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794586.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794618.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794618.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794618.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794618.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794618.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794618.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794618.2,     140.1,     140.1,       0.0);         ( 324707.7,
3794618.2,     140.8,     140.8,       0.0);
     ( 324744.6, 3794618.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794618.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794650.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794650.1,     141.0,     141.0,       0.0);
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     ( 324744.6, 3794650.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794650.1,     141.0,     141.0,       0.0);
     ( 324449.0, 3794682.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794682.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794682.1,     139.1,     139.1,       0.0);         ( 324559.9,
3794682.1,     139.9,     139.9,       0.0);
     ( 324596.8, 3794682.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794682.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794682.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794682.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794682.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794682.1,     141.0,     141.0,       0.0);
     ( 326547.4, 3795022.1,     153.0,     153.0,       0.0);         ( 326594.7,
3795022.1,     153.3,     153.3,       0.0);
     ( 326642.0, 3795022.1,     154.0,     154.0,       0.0);         ( 326547.4,
3795042.5,     153.0,     153.0,       0.0);
     ( 326594.7, 3795042.5,     153.9,     153.9,       0.0);         ( 326642.0,
3795042.5,     154.0,     154.0,       0.0);
     ( 326547.4, 3795062.9,     153.0,     153.0,       0.0);         ( 326594.7,
3795062.9,     154.0,     154.0,       0.0);
     ( 326642.0, 3795062.9,     154.0,     154.0,       0.0);         ( 326547.4,
3795083.3,     153.1,     153.1,       0.0);
     ( 326594.7, 3795083.3,     154.0,     154.0,       0.0);         ( 326642.0,
3795083.3,     154.0,     154.0,       0.0);
     ( 326547.4, 3795103.7,     153.6,     153.6,       0.0);         ( 326594.7,
3795103.7,     154.0,     154.0,       0.0);
     ( 326642.0, 3795103.7,     154.0,     154.0,       0.0);         ( 326547.4,
3795124.1,     153.6,     153.6,       0.0);
     ( 326594.7, 3795124.1,     154.0,     154.0,       0.0);         ( 326642.0,
3795124.1,     154.0,     154.0,       0.0);
     ( 326547.4, 3795144.5,     153.7,     153.7,       0.0);         ( 326594.7,
3795144.5,     154.0,     154.0,       0.0);
     ( 326642.0, 3795144.5,     154.0,     154.0,       0.0);         ( 326547.4,
3795164.9,     154.0,     154.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       15:30:23

                                  PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                      *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     ( 326594.7, 3795164.9,     154.0,     154.0,       0.0);         ( 326642.0,
3795164.9,     154.0,     154.0,       0.0);
     ( 326547.4, 3795185.3,     154.0,     154.0,       0.0);         ( 326594.7,
3795185.3,     154.0,     154.0,       0.0);
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     ( 326642.0, 3795185.3,     154.0,     154.0,       0.0);         ( 326547.4,
3795205.7,     154.0,     154.0,       0.0);
     ( 326594.7, 3795205.7,     154.0,     154.0,       0.0);         ( 326642.0,
3795205.7,     154.2,     154.2,       0.0);
     ( 326547.4, 3795226.1,     154.0,     154.0,       0.0);         ( 326594.7,
3795226.1,     154.0,     154.0,       0.0);
     ( 326642.0, 3795226.1,     154.8,     154.8,       0.0);         ( 326547.4,
3795246.5,     154.0,     154.0,       0.0);
     ( 326594.7, 3795246.5,     154.1,     154.1,       0.0);         ( 326642.0,
3795246.5,     154.9,     154.9,       0.0);
     ( 326690.4, 3795243.4,     155.0,     155.0,       0.0);         ( 326688.7,
3795223.0,     155.0,     155.0,       0.0);
     ( 326686.0, 3795005.8,     154.0,     154.0,       0.0);         ( 326686.0,
3795033.7,     154.1,     154.1,       0.0);
     ( 326686.0, 3795061.5,     154.3,     154.3,       0.0);         ( 326686.0,
3795089.4,     154.3,     154.3,       0.0);
     ( 326686.0, 3795117.3,     154.3,     154.3,       0.0);         ( 326686.0,
3795145.2,     154.3,     154.3,       0.0);
     ( 326686.0, 3795173.1,     154.4,     154.4,       0.0);         ( 326686.0,
3795201.0,     155.0,     155.0,       0.0);
     ( 326832.8, 3795263.3,     155.3,     155.3,       0.0);         ( 326849.7,
3795263.3,     155.8,     155.8,       0.0);
     ( 326866.5, 3795263.3,     156.0,     156.0,       0.0);         ( 326883.4,
3795263.3,     156.0,     156.0,       0.0);
     ( 326900.3, 3795263.3,     156.0,     156.0,       0.0);         ( 326917.1,
3795263.3,     156.0,     156.0,       0.0);
     ( 326934.0, 3795263.3,     156.5,     156.5,       0.0);         ( 326950.9,
3795263.3,     157.0,     157.0,       0.0);
     ( 326967.8, 3795263.3,     157.0,     157.0,       0.0);         ( 326984.6,
3795263.3,     157.2,     157.2,       0.0);
     ( 327001.5, 3795263.3,     157.8,     157.8,       0.0);         ( 327036.8,
3795141.3,     157.0,     157.0,       0.0);
     ( 327075.7, 3795141.3,     158.0,     158.0,       0.0);         ( 327036.8,
3795160.9,     157.0,     157.0,       0.0);
     ( 327075.7, 3795160.9,     158.0,     158.0,       0.0);         ( 327036.8,
3795180.5,     157.0,     157.0,       0.0);
     ( 327075.7, 3795180.5,     158.0,     158.0,       0.0);         ( 327036.8,
3795200.0,     157.1,     157.1,       0.0);
     ( 327075.7, 3795200.0,     158.0,     158.0,       0.0);         ( 327036.8,
3795219.6,     157.7,     157.7,       0.0);
     ( 327075.7, 3795219.6,     158.0,     158.0,       0.0);         ( 327036.8,
3795239.1,     158.0,     158.0,       0.0);
     ( 327075.7, 3795239.1,     158.0,     158.0,       0.0);         ( 327036.8,
3795258.7,     158.0,     158.0,       0.0);
     ( 327075.7, 3795258.7,     158.0,     158.0,       0.0);         ( 327036.8,
3795278.3,     158.0,     158.0,       0.0);
     ( 327075.7, 3795278.3,     158.0,     158.0,       0.0);         ( 326840.0,
3795223.2,     155.4,     155.4,       0.0);
     ( 326860.6, 3795224.2,     156.0,     156.0,       0.0);         ( 326877.3,
3795222.7,     156.0,     156.0,       0.0);
```

```
     ( 326929.7, 3795223.7,     156.4,     156.4,       0.0);         ( 326932.9,
3795200.0,     156.5,     156.5,       0.0);
     ( 326972.3, 3795217.0,     157.0,     157.0,       0.0);         ( 326970.8,
3795177.6,     157.0,     157.0,       0.0);
     ( 326968.2, 3795152.5,     157.0,     157.0,       0.0);         ( 326998.4,
3795149.8,     157.0,     157.0,       0.0);
     ( 326997.5, 3795176.6,     157.0,     157.0,       0.0);         ( 326995.6,
3795193.0,     157.0,     157.0,       0.0);
     ( 326996.9, 3795215.8,     157.0,     157.0,       0.0);         ( 326917.0,
3795152.2,     156.0,     156.0,       0.0);
     ( 326902.0, 3795150.5,     156.0,     156.0,       0.0);         ( 326884.2,
3795164.4,     156.0,     156.0,       0.0);
     ( 326867.3, 3795151.3,     156.0,     156.0,       0.0);         ( 326873.2,
3795163.4,     156.0,     156.0,       0.0);
     ( 326845.5, 3795152.1,     155.6,     155.6,       0.0);         ( 326824.9,
3795151.4,     155.0,     155.0,       0.0);
     ( 326826.6, 3795170.6,     155.0,     155.0,       0.0);         ( 326840.5,
3795180.2,     155.4,     155.4,       0.0);
     ( 326799.4, 3795148.0,     155.0,     155.0,       0.0);         ( 326776.8,
3795147.9,     155.0,     155.0,       0.0);
     ( 326738.0, 3795152.7,     155.0,     155.0,       0.0);         ( 326781.3,
3795110.8,     155.0,     155.0,       0.0);
     ( 326806.1, 3795109.0,     155.2,     155.2,       0.0);         ( 326804.5,
3795090.7,     155.2,     155.2,       0.0);
     ( 326781.8, 3795086.7,     155.0,     155.0,       0.0);         ( 326787.4,
3795061.8,     155.0,     155.0,       0.0);
     ( 326794.0, 3795031.2,     155.0,     155.0,       0.0);         ( 326977.5,
3795110.7,     157.0,     157.0,       0.0);
     ( 326994.0, 3795107.9,     157.0,     157.0,       0.0);         ( 326984.5,
3795093.8,     157.0,     157.0,       0.0);
     ( 326972.8, 3795082.4,     157.0,     157.0,       0.0);         ( 326995.4,
3795072.5,     157.0,     157.0,       0.0);
     ( 326993.2, 3795060.0,     157.0,     157.0,       0.0);         ( 326984.6,
3795040.8,     157.0,     157.0,       0.0);
     ( 326981.7, 3795027.2,     157.0,     157.0,       0.0);         ( 327041.5,
3795102.1,     157.1,     157.1,       0.0);
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       15:30:23

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                   (METERS)

     ( 327065.2, 3795095.8,     157.9,     157.9,       0.0);         ( 327040.9,
3795076.3,     157.1,     157.1,       0.0);
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
                                                                  (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926. Met Version: 14134
Profile file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926.
Surface format: FREE

Profile format: FREE

Surface station no.: 23136 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	281.4	2.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.9	2.0
09	01	01	1	03	-3.3	0.067	-9.000	-9.000	-999.	42.	8.3	0.05	0.81	1.00	1.76	214.	10.0	280.9	2.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.4	2.0
09	01	01	1	05	-6.6	0.115	-9.000	-9.000	-999.	94.	21.1	0.03	0.81	1.00	2.36	93.	10.0	280.4	2.0

```
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00   281.5   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       15:30:23
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
326345.95	3795634.03	0.00956	326414.12	3795779.67	0.00946
326435.80	3795773.48	0.00877	326458.31	3795772.83	0.00846
326424.24	3795858.77	0.01030	326400.20	3795799.84	0.01046
326400.93	3795767.87	0.00914	326424.24	3795858.77	0.01030
326611.84	3795762.99	0.00700	326611.84	3795762.99	0.00700
326610.94	3795777.66	0.00699	326605.86	3795792.89	0.00708
326623.93	3795809.00	0.00665	326627.22	3795836.58	0.00647
326640.09	3795836.58	0.00625	326654.45	3795868.68	0.00571
326665.45	3795883.13	0.00547	326588.30	3795867.62	0.00606
326640.52	3795951.95	0.00485	326658.45	3795975.58	0.00473
326759.52	3796019.28	0.00338	326763.60	3796031.85	0.00332
326775.94	3796048.05	0.00319	326774.23	3796062.19	0.00316
326801.34	3796078.38	0.00293	326809.46	3796094.93	0.00281
326736.80	3796108.96	0.00298	326835.84	3796126.62	0.00249
326836.27	3796140.13	0.00244	326800.95	3796123.31	0.00276
326762.39	3796138.51	0.00257	326766.63	3796155.18	0.00230
326774.14	3796169.68	0.00215	326798.07		

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3796201.57        0.00187
         326808.84    3796229.51        0.00166                      326880.95
3796184.59        0.00201
         326915.56    3796260.01        0.00169                      326941.07
3796261.11        0.00159
         326958.24    3796277.25        0.00152                      326964.89
3796291.08        0.00146
         326984.47    3796322.92        0.00138                      326993.31
3796349.42        0.00133
         326993.49    3796365.88        0.00130                      327007.03
3796382.47        0.00127
         326972.07    3796390.18        0.00121                      326996.78
3796414.54        0.00119
         326693.51    3795789.66        0.00392                      326695.37
3795771.29        0.00400
         326727.00    3795761.34        0.00384                      326758.55
3795787.48        0.00309
         326761.76    3795813.54        0.00275                      326742.22
3795837.06        0.00275
         326838.64    3795823.91        0.00223                      326811.45
3795889.81        0.00208
         326823.87    3795855.97        0.00207                      326876.62
3795837.29        0.00193
         326889.30    3795888.54        0.00178                      326687.45
3795683.69        0.00704
         326829.20    3795731.31        0.00307                      326859.14
3795703.62        0.00292
         326881.10    3795705.58        0.00299                      326787.44
3795607.00        0.00756
         326780.76    3795563.55        0.00830                      326800.04
3795542.65        0.00841
         326808.89    3795540.15        0.00841                      326825.79
3795543.65        0.00832
         326856.70    3795545.31        0.00799                      326792.33
3795494.19        0.00882
         326806.68    3795493.93        0.00865                      326824.07
3795494.42        0.00843
         326853.52    3795481.71        0.00832                      326898.80
3795534.37        0.00757
         325796.15    3795215.59        0.02477                      325823.15
3795215.59        0.02441
         326012.15    3795215.59        0.02005                      326120.15
3795215.59        0.01769
         326147.15    3795215.59        0.01725                      325796.15
3795254.59        0.02966
         325823.15    3795254.59        0.02935                      325850.15
3795254.59        0.02879
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325877.15	3795254.59	0.02823	325904.15	3795254.59	0.02757
325931.15	3795254.59	0.02650	325958.15	3795254.59	0.02591
325985.15	3795254.59	0.02539	326012.15	3795254.59	0.02428
326039.15	3795254.59	0.02359	326066.15	3795254.59	0.02309
326093.15	3795254.59	0.02262	326120.15	3795254.59	0.02214
326147.15	3795254.59	0.02164	325796.15	3795293.59	0.03519
325823.15	3795293.59	0.03469	325850.15	3795293.59	0.03470
325877.15	3795293.59	0.03479	325904.15	3795293.59	0.03434
325931.15	3795293.59	0.03308	325958.15	3795293.59	0.03262
325985.15	3795293.59	0.03101	326012.15	3795293.59	0.02741
326039.15	3795293.59	0.02686	326066.15	3795293.59	0.02532
326093.15	3795293.59	0.02415	326120.15	3795293.59	0.02373
326147.15	3795293.59	0.02329	325796.15	3795332.59	0.03760
325823.15	3795332.59	0.03766	325850.15	3795332.59	0.04261
325877.15	3795332.59	0.04306	325904.15	3795332.59	0.04399
325931.15	3795332.59	0.04284	325958.15		

```
3795332.59        0.04144
         325985.15    3795332.59        0.03426                    326012.15
3795332.59        0.03190
         326039.15    3795332.59        0.03106                    326066.15
3795332.59        0.03062
         326093.15    3795332.59        0.03018                    326120.15
3795332.59        0.03005
         326147.15    3795332.59        0.02961                    325847.44
3795004.89        0.00997
         325872.44    3795004.89        0.00969                    325897.44
3795004.89        0.00942
         325922.44    3795004.89        0.00916                    325947.44
3795004.89        0.00891
         325972.44    3795004.89        0.00864                    325997.44
3795004.89        0.00837
         326022.44    3795004.89        0.00813                    326047.44
3795004.89        0.00795
         326072.44    3795004.89        0.00779                    326097.44
3795004.89        0.00763
         326122.44    3795004.89        0.00749                    326147.44
3795004.89        0.00731
         325847.44    3795046.89        0.01168                    325872.44
3795046.89        0.01135
         325897.44    3795046.89        0.01103                    325922.44
3795046.89        0.01071
         325947.44    3795046.89        0.01041                    325972.44
3795046.89        0.01004
         325997.44    3795046.89        0.00969                    326022.44
3795046.89        0.00945
         326047.44    3795046.89        0.00922                    326072.44
3795046.89        0.00901
         326097.44    3795046.89        0.00881                    326122.44
3795046.89        0.00855
         326147.44    3795046.89        0.00829                    325847.44
3795088.89        0.01379
         325872.44    3795088.89        0.01340                    325897.44
3795088.89        0.01302
         325922.44    3795088.89        0.01264                    325947.44
3795088.89        0.01214
         325972.44    3795088.89        0.01172                    325997.44
3795088.89        0.01140
         326022.44    3795088.89        0.01110                    326047.44
3795088.89        0.01082
         326072.44    3795088.89        0.01056                    326097.44
3795088.89        0.01025
         326122.44    3795088.89        0.00992                    326147.44
3795088.89        0.00964
         325847.44    3795130.89        0.01641                    325872.44
3795130.89        0.01596
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                              ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3795214.89 0.01837
326097.44 3795214.89 0.01798 326147.44
3795214.89 0.01718
326096.58 3795181.52 0.01513 326118.63
3795182.57 0.01490
326144.35 3795184.14 0.01466 325849.74
3794829.62 0.00562
325892.61 3794829.62 0.00541 325935.48
3794829.62 0.00518
325978.35 3794829.62 0.00501 326021.22
3794829.62 0.00487
326064.09 3794829.62 0.00471 325849.74
3794867.55 0.00631
325892.61 3794867.55 0.00600 325935.48
3794867.55 0.00577
325978.35 3794867.55 0.00558 326021.22
3794867.55 0.00540
326064.09 3794867.55 0.00522 325849.74
3794905.48 0.00711
325892.61 3794905.48 0.00675 325935.48
3794905.48 0.00647
325978.35 3794905.48 0.00623 326021.22
3794905.48 0.00602
326064.09 3794905.48 0.00576 325849.74
3794943.41 0.00806
325892.61 3794943.41 0.00764 325935.48
3794943.41 0.00730
325978.35 3794943.41 0.00701 326021.22
3794943.41 0.00675
326064.09 3794943.41 0.00645 325849.74
3794981.34 0.00915
325892.61 3794981.34 0.00871 325935.48
3794981.34 0.00830
325978.35 3794981.34 0.00795 326021.22
3794981.34 0.00754
326064.09 3794981.34 0.00726 325855.31
3794726.62 0.00423
325902.64 3794726.62 0.00408 325855.31
3794745.52 0.00444
325902.64 3794745.52 0.00428 325855.31
3794764.42 0.00466
325902.64 3794764.42 0.00449 325855.31
3794783.32 0.00491
325902.64 3794783.32 0.00472 325855.31
3794802.22 0.00517
325902.64 3794802.22 0.00497 325855.31
3794821.12 0.00545
325902.64 3794821.12 0.00523 326402.77
3795249.33 0.01310
325380.55 3795776.17 0.00614 325415.88

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                               ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3796881.91 0.00041
326663.73 3796864.08 0.00045 326679.47
3796885.20 0.00043
326697.81 3796898.31 0.00042 326712.34
3796916.60 0.00040
326726.62 3796931.14 0.00039 326742.23
3796948.02 0.00037
326756.58 3796965.73 0.00036 326772.07
3796973.30 0.00036
326785.22 3796890.50 0.00046 326800.10
3797003.95 0.00036
326817.96 3797014.86 0.00037 326813.74
3796843.93 0.00052
326833.92 3796853.59 0.00051 326848.61
3796873.43 0.00049
326864.19 3796885.12 0.00048 326877.92
3796901.20 0.00047
326893.85 3796917.11 0.00045 326904.49
3796938.77 0.00043
326907.64 3796966.22 0.00041 326914.45
3796991.73 0.00039
326921.92 3797038.42 0.00036 326596.56
3797264.10 0.00019
326829.98 3795735.43 0.00298 326866.53
3795706.88 0.00286
326831.50 3795646.57 0.00693 326872.90
3795644.95 0.00655
326898.91 3795644.66 0.00631 326924.66
3795650.14 0.00585
326949.68 3795646.43 0.00581 326975.59
3795638.84 0.00520
326917.88 3795602.78 0.00687 326918.63
3795584.13 0.00730
326921.61 3795563.48 0.00730 326917.18
3795537.15 0.00739
326934.99 3795592.17 0.00682 326951.04
3795599.47 0.00642
326950.26 3795555.95 0.00705 326951.59
3795535.07 0.00707
326961.83 3795537.57 0.00697 326982.25
3795538.33 0.00680
326992.41 3795539.09 0.00671 327008.98
3795535.58 0.00658
326987.68 3795580.97 0.00631 327024.81
3795588.42 0.00567
326925.07 3795485.95 0.00737 326937.83
3795488.27 0.00725
326956.45 3795489.28 0.00709 326970.89
3795491.03 0.00696
326989.96 3795487.68 0.00681 325049.27

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5
YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_2.5 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325161.77	3794362.92	0.00375	325199.27	3794362.92	0.00364
325236.77	3794362.92	0.00351	325274.27	3794362.92	0.00339
325049.27	3794386.12	0.00421	325086.77	3794386.12	0.00411
325124.27	3794386.12	0.00401	325161.77	3794386.12	0.00395
325199.27	3794386.12	0.00383	325236.77	3794386.12	0.00367
325274.27	3794386.12	0.00354	325049.27	3794409.32	0.00438
325086.77	3794409.32	0.00427	325124.27	3794409.32	0.00418
325161.77	3794409.32	0.00412	325199.27	3794409.32	0.00400
325236.77	3794409.32	0.00387	325274.27	3794409.32	0.00374
325049.27	3794432.52	0.00455	325086.77	3794432.52	0.00445
325124.27	3794432.52	0.00438	325161.77	3794432.52	0.00429
325199.27	3794432.52	0.00418	325236.77	3794432.52	0.00406
325274.27	3794432.52	0.00393	325049.27		

3794455.72 0.00474
325086.77 3794455.72 0.00465 325124.27
3794455.72 0.00458
325161.77 3794455.72 0.00447 325199.27
3794455.72 0.00436
325236.77 3794455.72 0.00424 325274.27
3794455.72 0.00411
325049.27 3794478.92 0.00493 325086.77
3794478.92 0.00489
325124.27 3794478.92 0.00478 325161.77
3794478.92 0.00467
325199.27 3794478.92 0.00455 325236.77
3794478.92 0.00444
325274.27 3794478.92 0.00431 325049.27
3794502.12 0.00514
325086.77 3794502.12 0.00510 325124.27
3794502.12 0.00499
325161.77 3794502.12 0.00487 325199.27
3794502.12 0.00476
325236.77 3794502.12 0.00464 325274.27
3794502.12 0.00451
325049.27 3794525.32 0.00536 325086.77
3794525.32 0.00532
325124.27 3794525.32 0.00521 325161.77
3794525.32 0.00509
325199.27 3794525.32 0.00497 325236.77
3794525.32 0.00485
325274.27 3794525.32 0.00472 325049.27
3794548.52 0.00560
325086.77 3794548.52 0.00556 325124.27
3794548.52 0.00544
325161.77 3794548.52 0.00532 325199.27
3794548.52 0.00520
325236.77 3794548.52 0.00507 325274.27
3794548.52 0.00494
325049.27 3794571.72 0.00585 325086.77
3794571.72 0.00581
325124.27 3794571.72 0.00568 325161.77
3794571.72 0.00556
325199.27 3794571.72 0.00544 325236.77
3794571.72 0.00531
325274.27 3794571.72 0.00518 325049.27
3794594.92 0.00611
325086.77 3794594.92 0.00607 325124.27
3794594.92 0.00595
325161.77 3794594.92 0.00582 325199.27
3794594.92 0.00569
325236.77 3794594.92 0.00556 325274.27
3794594.92 0.00543
325049.27 3794618.12 0.00639 325086.77

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5
YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_2.5 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325274.27	3794618.12	0.00571	325049.27	3794641.32	0.00669
325086.77	3794641.32	0.00665	325124.27	3794641.32	0.00652
325161.77	3794641.32	0.00639	325199.27	3794641.32	0.00625
325236.77	3794641.32	0.00612	325274.27	3794641.32	0.00599
325049.27	3794664.52	0.00701	325086.77	3794664.52	0.00697
325124.27	3794664.52	0.00684	325161.77	3794664.52	0.00670
325199.27	3794664.52	0.00656	325236.77	3794664.52	0.00642
325274.27	3794664.52	0.00632	325049.27	3794687.72	0.00734
325086.77	3794687.72	0.00731	325124.27	3794687.72	0.00717
325161.77	3794687.72	0.00703	325199.27	3794687.72	0.00689
325236.77	3794687.72	0.00675	325274.27	3794687.72	0.00670
324871.62	3794298.63	0.00391	324910.53		

3794298.63 0.00384
324949.44 3794298.63 0.00382 324988.35
3794298.63 0.00374
324871.62 3794320.43 0.00404 324910.53
3794320.43 0.00401
324949.44 3794320.43 0.00395 324988.35
3794320.43 0.00387
324871.62 3794342.23 0.00418 324910.53
3794342.23 0.00416
324949.44 3794342.23 0.00408 324988.35
3794342.23 0.00400
324871.62 3794364.03 0.00433 324910.53
3794364.03 0.00431
324949.44 3794364.03 0.00423 324988.35
3794364.03 0.00415
324871.62 3794385.83 0.00453 324910.53
3794385.83 0.00446
324949.44 3794385.83 0.00438 324988.35
3794385.83 0.00433
324871.62 3794407.63 0.00470 324910.53
3794407.63 0.00462
324949.44 3794407.63 0.00453 324988.35
3794407.63 0.00449
324871.62 3794429.43 0.00487 324910.53
3794429.43 0.00479
324949.44 3794429.43 0.00470 324988.35
3794429.43 0.00466
324871.62 3794451.23 0.00506 324910.53
3794451.23 0.00498
324949.44 3794451.23 0.00488 324988.35
3794451.23 0.00484
324871.62 3794473.03 0.00526 324910.53
3794473.03 0.00517
324949.44 3794473.03 0.00509 324988.35
3794473.03 0.00504
324871.62 3794494.83 0.00548 324910.53
3794494.83 0.00537
324949.44 3794494.83 0.00529 324988.35
3794494.83 0.00524
324871.62 3794516.63 0.00570 324910.53
3794516.63 0.00559
324949.44 3794516.63 0.00551 324988.35
3794516.63 0.00545
324871.62 3794538.43 0.00593 324910.53
3794538.43 0.00581
324949.44 3794538.43 0.00573 324988.35
3794538.43 0.00567
324871.62 3794560.23 0.00617 324910.53
3794560.23 0.00605
324949.44 3794560.23 0.00596 324988.35

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
324949.44	3794603.83	0.00649	324988.35	3794603.83	0.00641
324871.62	3794625.63	0.00696	324910.53	3794625.63	0.00685
324949.44	3794625.63	0.00682	324988.35	3794625.63	0.00669
324871.62	3794647.43	0.00725	324910.53	3794647.43	0.00714
324949.44	3794647.43	0.00712	324988.35	3794647.43	0.00698
324871.62	3794669.23	0.00755	324910.53	3794669.23	0.00744
324949.44	3794669.23	0.00743	324988.35	3794669.23	0.00729
324871.62	3794691.03	0.00786	324910.53	3794691.03	0.00776
324949.44	3794691.03	0.00775	324988.35	3794691.03	0.00761
324449.04	3794074.69	0.00327	324485.99	3794074.69	0.00323
324522.94	3794074.69	0.00319	324559.89		

3794074.69 0.00313
324596.84 3794074.69 0.00307 324633.79
3794074.69 0.00300
324670.74 3794074.69 0.00295 324707.69
3794074.69 0.00291
324744.64 3794074.69 0.00290 324781.59
3794074.69 0.00291
324449.04 3794106.66 0.00342 324485.99
3794106.66 0.00337
324522.94 3794106.66 0.00333 324559.89
3794106.66 0.00327
324596.84 3794106.66 0.00322 324633.79
3794106.66 0.00316
324670.74 3794106.66 0.00310 324707.69
3794106.66 0.00307
324744.64 3794106.66 0.00308 324781.59
3794106.66 0.00306
324449.04 3794138.63 0.00357 324485.99
3794138.63 0.00352
324522.94 3794138.63 0.00347 324559.89
3794138.63 0.00342
324596.84 3794138.63 0.00337 324633.79
3794138.63 0.00334
324670.74 3794138.63 0.00329 324707.69
3794138.63 0.00325
324744.64 3794138.63 0.00324 324781.59
3794138.63 0.00320
324449.04 3794170.60 0.00372 324485.99
3794170.60 0.00368
324522.94 3794170.60 0.00364 324559.89
3794170.60 0.00362
324596.84 3794170.60 0.00356 324633.79
3794170.60 0.00351
324670.74 3794170.60 0.00346 324707.69
3794170.60 0.00344
324744.64 3794170.60 0.00339 324781.59
3794170.60 0.00337
324449.04 3794202.57 0.00389 324485.99
3794202.57 0.00384
324522.94 3794202.57 0.00381 324559.89
3794202.57 0.00380
324596.84 3794202.57 0.00374 324633.79
3794202.57 0.00368
324670.74 3794202.57 0.00366 324707.69
3794202.57 0.00361
324744.64 3794202.57 0.00355 324781.59
3794202.57 0.00353
324449.04 3794234.54 0.00406 324485.99
3794234.54 0.00402
324522.94 3794234.54 0.00398 324559.89

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
324522.94	3794266.51	0.00422	324559.89	3794266.51	0.00417
324596.84	3794266.51	0.00411	324633.79	3794266.51	0.00405
324670.74	3794266.51	0.00404	324707.69	3794266.51	0.00397
324744.64	3794266.51	0.00389	324781.59	3794266.51	0.00387
324449.04	3794298.48	0.00442	324485.99	3794298.48	0.00438
324522.94	3794298.48	0.00441	324559.89	3794298.48	0.00436
324596.84	3794298.48	0.00431	324633.79	3794298.48	0.00431
324670.74	3794298.48	0.00425	324707.69	3794298.48	0.00417
324744.64	3794298.48	0.00409	324781.59	3794298.48	0.00406
324449.04	3794330.45	0.00461	324485.99		

3794330.45 0.00459
324522.94 3794330.45 0.00461 324559.89
3794330.45 0.00457
324596.84 3794330.45 0.00452 324633.79
3794330.45 0.00452
324670.74 3794330.45 0.00446 324707.69
3794330.45 0.00438
324744.64 3794330.45 0.00431 324781.59
3794330.45 0.00427
324449.04 3794362.42 0.00480 324485.99
3794362.42 0.00485
324522.94 3794362.42 0.00482 324559.89
3794362.42 0.00478
324596.84 3794362.42 0.00474 324633.79
3794362.42 0.00475
324670.74 3794362.42 0.00469 324707.69
3794362.42 0.00462
324744.64 3794362.42 0.00457 324781.59
3794362.42 0.00451
324449.04 3794394.39 0.00501 324485.99
3794394.39 0.00506
324522.94 3794394.39 0.00504 324559.89
3794394.39 0.00501
324596.84 3794394.39 0.00496 324633.79
3794394.39 0.00498
324670.74 3794394.39 0.00493 324707.69
3794394.39 0.00486
324744.64 3794394.39 0.00482 324781.59
3794394.39 0.00476
324449.04 3794426.36 0.00523 324485.99
3794426.36 0.00529
324522.94 3794426.36 0.00527 324559.89
3794426.36 0.00524
324596.84 3794426.36 0.00520 324633.79
3794426.36 0.00523
324670.74 3794426.36 0.00518 324707.69
3794426.36 0.00512
324744.64 3794426.36 0.00509 324781.59
3794426.36 0.00502
324449.04 3794458.33 0.00549 324485.99
3794458.33 0.00552
324522.94 3794458.33 0.00551 324559.89
3794458.33 0.00549
324596.84 3794458.33 0.00547 324633.79
3794458.33 0.00549
324670.74 3794458.33 0.00545 324707.69
3794458.33 0.00541
324744.64 3794458.33 0.00540 324781.59
3794458.33 0.00531
324449.04 3794490.30 0.00572 324485.99

3794490.30   0.00576
         324522.94   3794490.30   0.00576   324559.89
3794490.30   0.00574
         324596.84   3794490.30   0.00577   324633.79
3794490.30   0.00577
         324670.74   3794490.30   0.00573   324707.69
3794490.30   0.00570
         324744.64   3794490.30   0.00569   324781.59
3794490.30   0.00560
         324449.04   3794522.27   0.00598   324485.99
3794522.27   0.00601

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         324522.94   3794522.27   0.00601   324559.89
3794522.27   0.00601
         324596.84   3794522.27   0.00605   324633.79
3794522.27   0.00606
         324670.74   3794522.27   0.00602   324707.69
3794522.27   0.00600
         324744.64   3794522.27   0.00600   324781.59
3794522.27   0.00592
         324449.04   3794554.24   0.00625   324485.99
3794554.24   0.00627
         324522.94   3794554.24   0.00628   324559.89
3794554.24   0.00631
         324596.84   3794554.24   0.00637   324633.79
3794554.24   0.00636
         324670.74   3794554.24   0.00633   324707.69
3794554.24   0.00631
         324744.64   3794554.24   0.00633   324781.59

3794554.24 0.00625
324449.04 3794586.21 0.00652 324485.99 3794586.21 0.00655
324522.94 3794586.21 0.00657 324559.89 3794586.21 0.00662
324596.84 3794586.21 0.00669 324633.79 3794586.21 0.00668
324670.74 3794586.21 0.00665 324707.69 3794586.21 0.00665
324744.64 3794586.21 0.00667 324781.59 3794586.21 0.00660
324449.04 3794618.18 0.00681 324485.99 3794618.18 0.00684
324522.94 3794618.18 0.00686 324559.89 3794618.18 0.00693
324596.84 3794618.18 0.00701 324633.79 3794618.18 0.00701
324670.74 3794618.18 0.00700 324707.69 3794618.18 0.00706
324744.64 3794618.18 0.00704 324781.59 3794618.18 0.00697
324449.04 3794650.15 0.00710 324485.99 3794650.15 0.00714
324522.94 3794650.15 0.00717 324559.89 3794650.15 0.00725
324596.84 3794650.15 0.00735 324633.79 3794650.15 0.00736
324670.74 3794650.15 0.00737 324707.69 3794650.15 0.00746
324744.64 3794650.15 0.00743 324781.59 3794650.15 0.00737
324449.04 3794682.12 0.00740 324485.99 3794682.12 0.00746
324522.94 3794682.12 0.00752 324559.89 3794682.12 0.00765
324596.84 3794682.12 0.00770 324633.79 3794682.12 0.00773
324670.74 3794682.12 0.00775 324707.69 3794682.12 0.00787
324744.64 3794682.12 0.00784 324781.59 3794682.12 0.00779
326547.36 3795022.06 0.00628 326594.67 3795022.06 0.00620
326641.98 3795022.06 0.00604 326547.36 3795042.46 0.00663
326594.67 3795042.46 0.00637 326641.98 3795042.46 0.00635
326547.36 3795062.86 0.00700 326594.67 3795062.86 0.00668
326641.98 3795062.86 0.00669 326547.36

```
3795083.26        0.00736
         326594.67    3795083.26        0.00705                        326641.98
3795083.26        0.00705
         326547.36    3795103.66        0.00763                        326594.67
3795103.66        0.00745
         326641.98    3795103.66        0.00744                        326547.36
3795124.06        0.00805
         326594.67    3795124.06        0.00788                        326641.98
3795124.06        0.00785
         326547.36    3795144.46        0.00851                        326594.67
3795144.46        0.00835
         326641.98    3795144.46        0.00830                        326547.36
3795164.86        0.00891
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:30:23

                                  PAGE  25
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         326594.67    3795164.86        0.00885                        326641.98
3795164.86        0.00877
         326547.36    3795185.26        0.00946                        326594.67
3795185.26        0.00939
         326641.98    3795185.26        0.00928                        326547.36
3795205.66        0.01008
         326594.67    3795205.66        0.00998                        326641.98
3795205.66        0.00969
         326547.36    3795226.06        0.01076                        326594.67
3795226.06        0.01061
         326641.98    3795226.06        0.00993                        326547.36
3795246.46        0.01151
         326594.67    3795246.46        0.01120                        326641.98
3795246.46        0.01040
         326690.43    3795243.37        0.00993                        326688.67
```

3795223.05 0.00947
326686.02 3795005.77 0.00582 326686.02
3795033.66 0.00618
326686.02 3795061.55 0.00658 326686.02
3795089.44 0.00705
326686.02 3795117.33 0.00757 326686.02
3795145.22 0.00812
326686.02 3795173.11 0.00866 326686.02
3795201.00 0.00898
326832.80 3795263.26 0.00878 326849.67
3795263.26 0.00842
326866.54 3795263.26 0.00817 326883.41
3795263.26 0.00802
326900.28 3795263.26 0.00788 326917.15
3795263.26 0.00774
326934.02 3795263.26 0.00741 326950.89
3795263.26 0.00711
326967.76 3795263.26 0.00699 326984.63
3795263.26 0.00681
327001.50 3795263.26 0.00651 327036.85
3795141.35 0.00582
327075.72 3795141.35 0.00539 327036.85
3795160.91 0.00595
327075.72 3795160.91 0.00550 327036.85
3795180.47 0.00607
327075.72 3795180.47 0.00560 327036.85
3795200.03 0.00616
327075.72 3795200.03 0.00571 327036.85
3795219.59 0.00609
327075.72 3795219.59 0.00581 327036.85
3795239.15 0.00611
327075.72 3795239.15 0.00590 327036.85
3795258.71 0.00620
327075.72 3795258.71 0.00599 327036.85
3795278.27 0.00630
327075.72 3795278.27 0.00607 326840.04
3795223.24 0.00822
326860.58 3795224.16 0.00782 326877.30
3795222.74 0.00769
326929.68 3795223.69 0.00719 326932.86
3795200.00 0.00693
326972.32 3795217.03 0.00665 326970.84
3795177.58 0.00638
326968.20 3795152.46 0.00620 326998.43
3795149.77 0.00604
326997.48 3795176.61 0.00624 326995.60
3795193.01 0.00636
326996.92 3795215.78 0.00650 326916.97
3795152.19 0.00676
326901.95 3795150.46 0.00681 326884.24

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3795164.40        0.00704
         326867.32    3795151.32        0.00697                        326873.22
3795163.36        0.00708
         326845.53    3795152.12        0.00723                        326824.91
3795151.45        0.00752
         326826.60    3795170.60        0.00778                        326840.50
3795180.17        0.00768
         326799.39    3795147.97        0.00756                        326776.77
3795147.89        0.00763
         326738.03    3795152.73        0.00783                        326781.33
3795110.75        0.00702
         326806.10    3795109.04        0.00686                        326804.45
3795090.73        0.00661
         326781.78    3795086.72        0.00665                        326787.40
3795061.79        0.00629
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:30:23

                                  PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         326794.01    3795031.22        0.00587                        326977.50
3795110.69        0.00583
         326994.05    3795107.87        0.00575                        326984.52
3795093.80        0.00567
         326972.85    3795082.37        0.00561                        326995.41
3795072.53        0.00547
         326993.23    3795060.01        0.00537                        326984.60
3795040.80        0.00522
         326981.66    3795027.22        0.00511                        327041.48
3795102.15        0.00552
         327065.19    3795095.75        0.00519                        327040.88
3795076.27        0.00535
         327061.24    3795058.32        0.00500                        327037.82
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                               *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
 -
- -
        326345.95   3795634.03   0.10732 (09053006)   326414.12
 3795779.67   0.10682 (09052906)
        326435.80   3795773.48   0.10625 (09052906)   326458.31
 3795772.83   0.10428 (09052906)
        326424.24   3795858.77   0.13342 (11012717)   326400.20
 3795799.84   0.10979 (11012717)
        326400.93   3795767.87   0.10048 (09052906)   326424.24

3795858.77 0.13342 (11012717)
326611.84 3795762.99 0.10736 (13052906) 326611.84
3795762.99 0.10736 (13052906)
326610.94 3795777.66 0.10568 (13052906) 326605.86
3795792.89 0.10616 (13052906)
326623.93 3795809.00 0.10405 (09020903) 326627.22
3795836.58 0.10520 (09051104)
326640.09 3795836.58 0.10340 (09020903) 326654.45
3795868.68 0.09907 (10060101)
326665.45 3795883.13 0.09809 (12070402) 326588.30
3795867.62 0.09311 (11012717)
326640.52 3795951.95 0.10707 (11012717) 326658.45
3795975.58 0.11048 (11012717)
326759.52 3796019.28 0.09863 (11012717) 326763.60
3796031.85 0.09960 (11012717)
326775.94 3796048.05 0.09949 (11012717) 326774.23
3796062.19 0.10026 (11012717)
326801.34 3796078.38 0.09801 (11012717) 326809.46
3796094.93 0.09652 (11012717)
326736.80 3796108.96 0.09406 (11012717) 326835.84
3796126.62 0.09125 (11012717)
326836.27 3796140.13 0.08949 (11012717) 326800.95
3796123.31 0.09442 (11012717)
326762.39 3796138.51 0.08592 (11012717) 326766.63
3796155.18 0.07910 (11012717)
326774.14 3796169.68 0.07432 (11012717) 326798.07
3796201.57 0.06358 (11012717)
326808.84 3796229.51 0.05776 (09020821) 326880.95
3796184.59 0.07900 (11012717)
326915.56 3796260.01 0.06321 (09020821) 326941.07
3796261.11 0.06087 (09020821)
326958.24 3796277.25 0.06014 (09020821) 326964.89
3796291.08 0.05910 (09020821)
326984.47 3796322.92 0.05808 (09020821) 326993.31
3796349.42 0.05635 (09020821)
326993.49 3796365.88 0.05583 (11010917) 327007.03
3796382.47 0.05555 (11010917)
326972.07 3796390.18 0.05386 (12120308) 326996.78
3796414.54 0.05646 (12120308)
326693.51 3795789.66 0.07308 (09052906) 326695.37
3795771.29 0.07411 (09052906)
326727.00 3795761.34 0.07339 (09052906) 326758.55
3795787.48 0.06586 (09052906)
326761.76 3795813.54 0.06154 (09052906) 326742.22
3795837.06 0.06194 (09052906)
326838.64 3795823.91 0.05593 (09052906) 326811.45
3795889.81 0.04972 (09052906)
326823.87 3795855.97 0.05154 (09052906) 326876.62
3795837.29 0.05149 (09052906)
326889.30 3795888.54 0.04771 (09052906) 326687.45

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325877.15	3795254.59	0.50278	(10010204)	325904.15	3795254.59	0.49632	(12123121)
325931.15	3795254.59	0.47856	(10013003)	325958.15	3795254.59	0.47161	(13010624)
325985.15	3795254.59	0.46947	(11121006)	326012.15			

```
3795254.59        0.44772  (11122506)
       326039.15   3795254.59        0.43537  (13122103)                326066.15
3795254.59        0.42487  (13122407)
       326093.15   3795254.59        0.41608  (13013002)                326120.15
3795254.59        0.40346  (11012303)
       326147.15   3795254.59        0.39269  (11121023)                325796.15
3795293.59        0.51701  (11122007)
       325823.15   3795293.59        0.51285  (11021704)                325850.15
3795293.59        0.51934  (09021803)
       325877.15   3795293.59        0.52642  (12122922)                325904.15
3795293.59        0.52194  (10010204)
       325931.15   3795293.59        0.50040  (12123121)                325958.15
3795293.59        0.49616  (13010624)
       325985.15   3795293.59        0.46405  (12012923)                326012.15
3795293.59        0.39761  (11121006)
       326039.15   3795293.59        0.39032  (09021204)                326066.15
3795293.59        0.35834  (12122923)
       326093.15   3795293.59        0.33105  (12021824)                326120.15
3795293.59        0.31763  (11020405)
       326147.15   3795293.59        0.30326  (13122104)                325796.15
3795332.59        0.43764  (10010424)
       325823.15   3795332.59        0.43774  (11122007)                325850.15
3795332.59        0.51643  (11021704)
       325877.15   3795332.59        0.52334  (13010705)                325904.15
3795332.59        0.54000  (12122922)
       325931.15   3795332.59        0.51940  (10010204)                325958.15
3795332.59        0.49521  (12122924)
       325985.15   3795332.59        0.37919  (12021701)                326012.15
3795332.59        0.34329  (10121121)
       326039.15   3795332.59        0.33263  (10120622)                326066.15
3795332.59        0.32704  (11022303)
       326093.15   3795332.59        0.31857  (10012308)                326120.15
3795332.59        0.31091  (09122106)
       326147.15   3795332.59        0.30884  (11011004)                325847.44
3795004.89        0.38029  (11121006)
       325872.44   3795004.89        0.37700  (11122506)                325897.44
3795004.89        0.37578  (11122506)
       325922.44   3795004.89        0.37329  (09121401)                325947.44
3795004.89        0.36993  (13122103)
       325972.44   3795004.89        0.36262  (13122407)                325997.44
3795004.89        0.35460  (09122106)
       326022.44   3795004.89        0.34944  (13013002)                326047.44
3795004.89        0.34497  (11012303)
       326072.44   3795004.89        0.33974  (10021506)                326097.44
3795004.89        0.33569  (09020403)
       326122.44   3795004.89        0.33096  (11121023)                326147.44
3795004.89        0.32220  (09021807)
       325847.44   3795046.89        0.39474  (10121121)                325872.44
3795046.89        0.39494  (11121006)
       325897.44   3795046.89        0.39186  (11122506)                325922.44
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325897.44	3795130.89	0.42845	(11121006)	325922.44	3795130.89	0.42767	(11121006)
325947.44	3795130.89	0.41664	(11122506)	325972.44			

3795130.89 0.40777 (09121401)
325997.44 3795130.89 0.40345 (13122103) 326022.44
3795130.89 0.39642 (12021824)
326047.44 3795130.89 0.39142 (13013002) 326072.44
3795130.89 0.38573 (11012303)
326097.44 3795130.89 0.36896 (10021506) 326122.44
3795130.89 0.35657 (11121023)
326147.44 3795130.89 0.34867 (09021807) 325847.44
3795172.89 0.45677 (12123121)
325872.44 3795172.89 0.45452 (10013003) 325897.44
3795172.89 0.45182 (13010624)
325922.44 3795172.89 0.44770 (11121006) 325947.44
3795172.89 0.43690 (11121006)
325972.44 3795172.89 0.42787 (11122506) 325997.44
3795172.89 0.42367 (09121401)
326022.44 3795172.89 0.41798 (13122407) 326047.44
3795172.89 0.40715 (12021824)
326072.44 3795172.89 0.39019 (13013002) 325847.44
3795214.89 0.48136 (10010204)
325872.44 3795214.89 0.47824 (12020205) 325897.44
3795214.89 0.47558 (10013003)
325922.44 3795214.89 0.47248 (13010624) 325947.44
3795214.89 0.45828 (11121006)
325972.44 3795214.89 0.44887 (11121006) 325997.44
3795214.89 0.44519 (10123020)
326047.44 3795214.89 0.41316 (13122407) 326072.44
3795214.89 0.40398 (13013002)
326097.44 3795214.89 0.39655 (11012303) 326147.44
3795214.89 0.37813 (11121023)
326096.58 3795181.52 0.38296 (11012303) 326118.63
3795182.57 0.37620 (10021506)
326144.35 3795184.14 0.36836 (11121023) 325849.74
3794829.62 0.32815 (09121401)
325892.61 3794829.62 0.32455 (13122407) 325935.48
3794829.62 0.31495 (09122106)
325978.35 3794829.62 0.31141 (13013002) 326021.22
3794829.62 0.30571 (11012303)
326064.09 3794829.62 0.29827 (09020403) 325849.74
3794867.55 0.33928 (10123020)
325892.61 3794867.55 0.33164 (13122103) 325935.48
3794867.55 0.32461 (12021824)
325978.35 3794867.55 0.32129 (13013002) 326021.22
3794867.55 0.31614 (11012303)
326064.09 3794867.55 0.30726 (10021506) 325849.74
3794905.48 0.35067 (11122506)
325892.61 3794905.48 0.34282 (13122103) 325935.48
3794905.48 0.33619 (13122407)
325978.35 3794905.48 0.33104 (13013002) 326021.22
3794905.48 0.32605 (11012303)
326064.09 3794905.48 0.31348 (10021506) 325849.74

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325409.93	3795994.97	0.04227	(13012417)	325416.60			

3796058.09 0.04099 (13012417)
325409.65 3796164.95 0.03739 (13012417) 325322.71
3796083.91 0.03741 (13012417)
325297.93 3796111.07 0.03893 (09021319) 325246.73
3796076.15 0.04247 (09021718)
325280.01 3796260.66 0.03014 (13012417) 325237.05
3796200.45 0.03029 (13012417)
325163.03 3796071.11 0.04676 (09021718) 325215.74
3795991.41 0.05346 (09021718)
325208.29 3795926.88 0.06244 (12021301) 325249.48
3795829.20 0.07313 (13080704)
325171.49 3795759.19 0.16118 (12121219) 325129.24
3795756.40 0.19874 (12041020)
325154.75 3795886.20 0.09012 (09120619) 325068.55
3795885.45 0.06895 (12012307)
325047.86 3795938.00 0.05595 (13081002) 325045.84
3795982.69 0.05398 (12021301)
325071.95 3796106.74 0.04645 (09021718) 325060.64
3796290.38 0.02618 (13012417)
324903.71 3796379.80 0.02004 (09062406) 324787.84
3796510.42 0.02298 (09062406)
324916.48 3796618.27 0.02485 (13012417) 326492.96
3796356.32 0.04453 (13040207)
326552.73 3796900.01 0.01877 (13040207) 326599.30
3796893.60 0.02012 (13040207)
326617.42 3796889.51 0.02072 (13040207) 326639.41
3796881.91 0.02208 (13040207)
326663.73 3796864.08 0.02426 (13040207) 326679.47
3796885.20 0.02393 (13040207)
326697.81 3796898.31 0.02384 (13040207) 326712.34
3796916.60 0.02314 (13040207)
326726.62 3796931.14 0.02267 (13040207) 326742.23
3796948.02 0.02198 (13040207)
326756.58 3796965.73 0.02163 (13040207) 326772.07
3796973.30 0.02212 (13040207)
326785.22 3796890.50 0.02434 (13040207) 326800.10
3797003.95 0.02277 (13040207)
326817.96 3797014.86 0.02304 (13040207) 326813.74
3796843.93 0.02381 (13060819)
326833.92 3796853.59 0.02352 (13060819) 326848.61
3796873.43 0.02306 (13060819)
326864.19 3796885.12 0.02288 (13060819) 326877.92
3796901.20 0.02259 (13060819)
326893.85 3796917.11 0.02192 (13060819) 326904.49
3796938.77 0.02101 (13060819)
326907.64 3796966.22 0.02066 (13060819) 326914.45
3796991.73 0.01979 (13060819)
326921.92 3797038.42 0.01824 (12061106) 326596.56
3797264.10 0.01390 (13040507)
326829.98 3795735.43 0.06307 (09053006) 326866.53

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 3795706.88        0.06249  (09053006)
       326831.50   3795646.57        0.15164  (13030503)               326872.90
 3795644.95        0.15206  (13030503)
       326898.91   3795644.66        0.15194  (13030503)               326924.66
 3795650.14        0.14298  (13030503)
       326949.68   3795646.43        0.14845  (13030503)               326975.59
 3795638.84        0.13142  (13030503)
       326917.88   3795602.78        0.17435  (12012024)               326918.63
 3795584.13        0.19151  (12012024)
       326921.61   3795563.48        0.19443  (12012024)               326917.18
 3795537.15        0.20224  (12012024)
       326934.99   3795592.17        0.17828  (12012024)               326951.04
 3795599.47        0.16756  (12012024)
       326950.26   3795555.95        0.19609  (12012024)               326951.59
 3795535.07        0.20234  (12012024)
       326961.83   3795537.57        0.20134  (12012024)               326982.25
 3795538.33        0.20070  (12012024)
       326992.41   3795539.09        0.20027  (12012024)               327008.98
 3795535.58        0.20098  (12012024)
       326987.68   3795580.97        0.17514  (12012024)               327024.81
 3795588.42        0.15914  (12012024)
       326925.07   3795485.95        0.22374  (09012107)               326937.83
 3795488.27        0.22272  (09012107)
       326956.45   3795489.28        0.22164  (09012107)               326970.89
 3795491.03        0.22059  (09012107)
       326989.96   3795487.68        0.22031  (09012107)               325049.27
 3794362.92        0.24225  (10012707)
       325086.77   3794362.92        0.24296  (12021724)               325124.27
 3794362.92        0.24222  (09020419)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:30:23

                                  PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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- - - -
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 3794525.32        0.27145  (10012707)
       325199.27   3794525.32        0.27227  (12021724)                325236.77
 3794525.32        0.27109  (09020419)
       325274.27   3794525.32        0.27268  (13120620)                325049.27
 3794548.52        0.26448  (09120921)
       325086.77   3794548.52        0.27181  (10011404)                325124.27
 3794548.52        0.27213  (10011119)
       325161.77   3794548.52        0.27495  (10010424)                325199.27
 3794548.52        0.27571  (10012707)
       325236.77   3794548.52        0.27600  (12021724)                325274.27
 3794548.52        0.27614  (13120620)
       325049.27   3794571.72        0.26677  (09120921)                325086.77
 3794571.72        0.27451  (10011404)
       325124.27   3794571.72        0.27591  (10011404)                325161.77
 3794571.72        0.27847  (10010424)
       325199.27   3794571.72        0.27967  (10012707)                325236.77
 3794571.72        0.28039  (12021724)
       325274.27   3794571.72        0.27897  (09020419)                325049.27
 3794594.92        0.27004  (11121923)
       325086.77   3794594.92        0.27808  (09120921)                325124.27
 3794594.92        0.28049  (10011404)
       325161.77   3794594.92        0.28053  (10011119)                325199.27
 3794594.92        0.28332  (10010424)
       325236.77   3794594.92        0.28392  (10012707)                325274.27
 3794594.92        0.28396  (12021724)
       325049.27   3794618.12        0.27209  (09022006)                325086.77
 3794618.12        0.28048  (11121923)
       325124.27   3794618.12        0.28322  (10011404)                325161.77
 3794618.12        0.28473  (10011404)
       325199.27   3794618.12        0.28719  (10010424)                325236.77
 3794618.12        0.28835  (10012707)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:30:23

                                   PAGE  32
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                    INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
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Y-COORD (M)        CONC     (YYMMDDHH)
 - - -
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 3794429.43        0.23888  (11121923)
       324949.44   3794429.43        0.24082  (09120921)               324988.35
 3794429.43        0.24612  (10011404)
       324871.62   3794451.23        0.23804  (09022006)               324910.53
 3794451.23        0.24118  (11121923)
       324949.44   3794451.23        0.24328  (09120921)               324988.35
 3794451.23        0.24860  (10011404)
       324871.62   3794473.03        0.23916  (09022006)               324910.53
 3794473.03        0.24278  (09022006)
       324949.44   3794473.03        0.24678  (11121923)               324988.35
 3794473.03        0.25226  (09120921)
       324871.62   3794494.83        0.24246  (12010904)               324910.53
 3794494.83        0.24522  (09022006)
       324949.44   3794494.83        0.24943  (11121923)               324988.35
 3794494.83        0.25498  (09120921)
       324871.62   3794516.63        0.24420  (12010904)               324910.53
 3794516.63        0.24665  (12010904)
       324949.44   3794516.63        0.25131  (09022006)               324988.35
 3794516.63        0.25721  (11121923)
       324871.62   3794538.43        0.24661  (12021707)               324910.53
 3794538.43        0.24910  (12010904)
       324949.44   3794538.43        0.25369  (09022006)               324988.35
 3794538.43        0.25970  (11121923)
       324871.62   3794560.23        0.24789  (12021707)               324910.53
 3794560.23        0.25048  (12021707)
       324949.44   3794560.23        0.25549  (12010904)               324988.35
 3794560.23        0.26190  (09022006)
       324871.62   3794582.03        0.25016  (13012724)               324910.53
 3794582.03        0.25285  (12021707)
       324949.44   3794582.03        0.25776  (12010904)               324988.35
 3794582.03        0.26425  (09022006)
       324871.62   3794603.83        0.25145  (13012724)               324910.53
 3794603.83        0.25436  (13012724)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:30:23

                                  PAGE  33
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                   INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **
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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324949.44	3794603.83	0.26045	(12021707)	324988.35	3794603.83	0.26647	(12010904)
324871.62	3794625.63	0.25364	(12022904)	324910.53	3794625.63	0.25688	(13012724)
324949.44	3794625.63	0.26532	(12021707)	324988.35	3794625.63	0.26857	(12010904)
324871.62	3794647.43	0.25499	(12022904)	324910.53	3794647.43	0.25838	(12022904)
324949.44	3794647.43	0.26746	(13012724)	324988.35	3794647.43	0.27086	(12021707)
324871.62	3794669.23	0.25713	(12012404)	324910.53	3794669.23	0.26044	(12022904)
324949.44	3794669.23	0.26930	(13012724)	324988.35	3794669.23	0.27258	(12021707)
324871.62	3794691.03	0.25867	(12012404)	324910.53	3794691.03	0.26195	(12012404)
324949.44	3794691.03	0.27134	(12022904)	324988.35	3794691.03	0.27498	(13012724)
324449.04	3794074.69	0.18100	(12010904)	324485.99	3794074.69	0.18133	(09022006)
324522.94	3794074.69	0.18251	(09022006)	324559.89	3794074.69	0.18286	(11121923)
324596.84	3794074.69	0.18208	(09120921)	324633.79	3794074.69	0.18173	(09120921)
324670.74	3794074.69	0.18229	(10011404)	324707.69	3794074.69	0.18256	(10011404)
324744.64	3794074.69	0.18589	(10011119)	324781.59	3794074.69	0.19340	(10010424)
324449.04	3794106.66	0.18201	(12010904)	324485.99	3794106.66	0.18356	(12010904)
324522.94	3794106.66	0.18415	(09022006)	324559.89	3794106.66	0.18498	(09022006)
324596.84	3794106.66	0.18625	(11121923)	324633.79	3794106.66	0.18563	(09120921)
324670.74	3794106.66	0.18627	(09120921)	324707.69	3794106.66	0.18872	(10011404)
324744.64	3794106.66	0.19340	(10011119)	324781.59	3794106.66	0.19777	(10010424)
324449.04	3794138.63	0.18454	(12021707)	324485.99	3794138.63	0.18478	(12010904)
324522.94	3794138.63	0.18616	(12010904)	324559.89	3794138.63	0.18703	(09022006)
324596.84	3794138.63	0.18746	(09022006)	324633.79	3794138.63	0.19144	(11121923)
324670.74	3794138.63	0.19276	(09120921)	324707.69			

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 3794138.63         0.19443  (10011404)
       324744.64    3794138.63         0.19938  (10011404)                324781.59
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       324449.04    3794170.60         0.18578  (13012724)                324485.99
 3794170.60         0.18717  (12021707)
       324522.94    3794170.60         0.18810  (12010904)                324559.89
 3794170.60         0.19188  (12010904)
       324596.84    3794170.60         0.19307  (09022006)                324633.79
 3794170.60         0.19433  (11121923)
       324670.74    3794170.60         0.19613  (11121923)                324707.69
 3794170.60         0.20074  (09120921)
       324744.64    3794170.60         0.20215  (10011404)                324781.59
 3794170.60         0.20532  (10011404)
       324449.04    3794202.57         0.18823  (13012724)                324485.99
 3794202.57         0.18831  (13012724)
       324522.94    3794202.57         0.19050  (12021707)                324559.89
 3794202.57         0.19461  (12010904)
       324596.84    3794202.57         0.19557  (12010904)                324633.79
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       324670.74    3794202.57         0.20151  (11121923)                324707.69
 3794202.57         0.20301  (11121923)
       324744.64    3794202.57         0.20464  (09120921)                324781.59
 3794202.57         0.20922  (10011404)
       324449.04    3794234.54         0.18975  (12022904)                324485.99
 3794234.54         0.19091  (13012724)
       324522.94    3794234.54         0.19179  (12021707)                324559.89
 3794234.54         0.19675  (12021707)
       324596.84    3794234.54         0.19774  (12010904)                324633.79
 3794234.54         0.19844  (12010904)
       324670.74    3794234.54         0.20451  (09022006)                324707.69
 3794234.54         0.20569  (11121923)
       324744.64    3794234.54         0.20637  (09120921)                324781.59
 3794234.54         0.21135  (09120921)
       324449.04    3794266.51         0.19218  (12022904)                324485.99
 3794266.51         0.19240  (12022904)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:30:23

                                   PAGE  34
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***
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** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794266.51	0.19771	(13012724)	324559.89	3794266.51	0.19828	(12021707)
324596.84	3794266.51	0.19975	(12021707)	324633.79	3794266.51	0.20096	(12010904)
324670.74	3794266.51	0.20600	(09022006)	324707.69	3794266.51	0.20778	(09022006)
324744.64	3794266.51	0.20926	(11121923)	324781.59	3794266.51	0.21391	(09120921)
324449.04	3794298.48	0.19404	(12012404)	324485.99	3794298.48	0.19487	(12022904)
324522.94	3794298.48	0.19932	(12022904)	324559.89	3794298.48	0.20077	(13012724)
324596.84	3794298.48	0.20146	(12021707)	324633.79	3794298.48	0.20661	(12021707)
324670.74	3794298.48	0.20881	(12010904)	324707.69	3794298.48	0.20977	(09022006)
324744.64	3794298.48	0.21110	(09022006)	324781.59	3794298.48	0.21654	(11121923)
324449.04	3794330.45	0.19666	(12012404)	324485.99	3794330.45	0.19717	(12012404)
324522.94	3794330.45	0.20193	(12022904)	324559.89	3794330.45	0.20229	(12022904)
324596.84	3794330.45	0.20387	(13012724)	324633.79	3794330.45	0.20862	(12021707)
324670.74	3794330.45	0.21060	(12021707)	324707.69	3794330.45	0.21235	(12010904)
324744.64	3794330.45	0.21389	(09022006)	324781.59	3794330.45	0.21835	(11121923)
324449.04	3794362.42	0.19890	(11010801)	324485.99	3794362.42	0.20330	(12012404)
324522.94	3794362.42	0.20390	(12012404)	324559.89	3794362.42	0.20495	(12022904)
324596.84	3794362.42	0.20537	(12022904)	324633.79	3794362.42	0.21102	(13012724)
324670.74	3794362.42	0.21288	(12021707)	324707.69	3794362.42	0.21402	(12021707)
324744.64	3794362.42	0.21868	(12010904)	324781.59	3794362.42	0.22248	(09022006)
324449.04	3794394.39	0.20207	(11010801)	324485.99	3794394.39	0.20570	(11010801)
324522.94	3794394.39	0.20655	(12012404)	324559.89	3794394.39	0.20694	(12012404)
324596.84	3794394.39	0.20806	(12022904)	324633.79			

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 3794394.39        0.21256  (12022904)
       324670.74   3794394.39        0.21521  (13012724)               324707.69
 3794394.39        0.21660  (12021707)
       324744.64   3794394.39        0.22028  (12010904)               324781.59
 3794394.39        0.22479  (12010904)
       324449.04   3794426.36        0.20594  (11010801)               324485.99
 3794426.36        0.20906  (11010801)
       324522.94   3794426.36        0.20904  (11010801)               324559.89
 3794426.36        0.20955  (12012404)
       324596.84   3794426.36        0.21010  (12012404)               324633.79
 3794426.36        0.21539  (12022904)
       324670.74   3794426.36        0.21681  (13012724)               324707.69
 3794426.36        0.21934  (13012724)
       324744.64   3794426.36        0.22390  (12021707)               324781.59
 3794426.36        0.22683  (12010904)
       324449.04   3794458.33        0.21235  (09020801)               324485.99
 3794458.33        0.21230  (11010801)
       324522.94   3794458.33        0.21221  (11010801)               324559.89
 3794458.33        0.21212  (11010801)
       324596.84   3794458.33        0.21375  (12012404)               324633.79
 3794458.33        0.21782  (12012404)
       324670.74   3794458.33        0.21966  (12022904)               324707.69
 3794458.33        0.22212  (13012724)
       324744.64   3794458.33        0.22779  (13012724)               324781.59
 3794458.33        0.22972  (12021707)
       324449.04   3794490.30        0.21714  (09020801)               324485.99
 3794490.30        0.21679  (09020801)
       324522.94   3794490.30        0.21538  (09020801)               324559.89
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       324596.84   3794490.30        0.21834  (11010801)               324633.79
 3794490.30        0.22087  (12012404)
       324670.74   3794490.30        0.22183  (12012404)               324707.69
 3794490.30        0.22496  (12022904)
       324744.64   3794490.30        0.22973  (13012724)               324781.59
 3794490.30        0.23193  (13012724)
       324449.04   3794522.27        0.22346  (09020801)               324485.99
 3794522.27        0.22173  (09020801)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:30:23

                                  PAGE  35
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
```

***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794522.27	0.21986	(09020801)	324559.89	3794522.27	0.21854	(09020801)
324596.84	3794522.27	0.22145	(11010801)	324633.79	3794522.27	0.22368	(11010801)
324670.74	3794522.27	0.22437	(12012404)	324707.69	3794522.27	0.22718	(12012404)
324744.64	3794522.27	0.23261	(12022904)	324781.59	3794522.27	0.23402	(13012724)
324449.04	3794554.24	0.23151	(12021007)	324485.99	3794554.24	0.22751	(09020801)
324522.94	3794554.24	0.22489	(09020801)	324559.89	3794554.24	0.22416	(09020801)
324596.84	3794554.24	0.22614	(09020801)	324633.79	3794554.24	0.22676	(11010801)
324670.74	3794554.24	0.22724	(11010801)	324707.69	3794554.24	0.22968	(12012404)
324744.64	3794554.24	0.23491	(12012404)	324781.59	3794554.24	0.23684	(12022904)
324449.04	3794586.21	0.23995	(12021007)	324485.99	3794586.21	0.23523	(12021007)
324522.94	3794586.21	0.23095	(12021007)	324559.89	3794586.21	0.23024	(09020801)
324596.84	3794586.21	0.23166	(09020801)	324633.79	3794586.21	0.23049	(09020801)
324670.74	3794586.21	0.23023	(11010801)	324707.69	3794586.21	0.23265	(11010801)
324744.64	3794586.21	0.23742	(12012404)	324781.59	3794586.21	0.23915	(12012404)
324449.04	3794618.18	0.24942	(13021402)	324485.99	3794618.18	0.24416	(12021007)
324522.94	3794618.18	0.23908	(12021007)	324559.89	3794618.18	0.23674	(12021007)
324596.84	3794618.18	0.23713	(09020801)	324633.79	3794618.18	0.23519	(09020801)
324670.74	3794618.18	0.23445	(09020801)	324707.69	3794618.18	0.23834	(11010801)
324744.64	3794618.18	0.24052	(11010801)	324781.59	3794618.18	0.24157	(12012404)
324449.04	3794650.15	0.26032	(13021402)	324485.99	3794650.15	0.25435	(13021402)
324522.94	3794650.15	0.24853	(12021007)	324559.89			

```
 3794650.15         0.24536  (12021007)
       324596.84   3794650.15         0.24413  (12021007)                324633.79
 3794650.15         0.24080  (09020801)
       324670.74   3794650.15         0.23929  (09020801)                324707.69
 3794650.15         0.24372  (09020801)
       324744.64   3794650.15         0.24347  (11010801)                324781.59
 3794650.15         0.24471  (11010801)
       324449.04   3794682.12         0.27240  (09120303)                324485.99
 3794682.12         0.26600  (13021402)
       324522.94   3794682.12         0.26035  (13021402)                324559.89
 3794682.12         0.25879  (12021007)
       324596.84   3794682.12         0.25338  (12021007)                324633.79
 3794682.12         0.24821  (12021007)
       324670.74   3794682.12         0.24509  (09020801)                324707.69
 3794682.12         0.24871  (09020801)
       324744.64   3794682.12         0.24779  (09020801)                324781.59
 3794682.12         0.24758  (09020801)
       326547.36   3795022.06         0.23997  (13122403)                326594.67
 3795022.06         0.23517  (12022103)
       326641.98   3795022.06         0.22390  (12122705)                326547.36
 3795042.46         0.24377  (12121322)
       326594.67   3795042.46         0.22651  (10011406)                326641.98
 3795042.46         0.22764  (10021501)
       326547.36   3795062.86         0.24779  (12022103)                326594.67
 3795062.86         0.22741  (12122705)
       326641.98   3795062.86         0.23182  (13010101)                326547.36
 3795083.26         0.24894  (10011406)
       326594.67   3795083.26         0.23144  (13010623)                326641.98
 3795083.26         0.23628  (13011507)
       326547.36   3795103.66         0.24227  (12122705)                326594.67
 3795103.66         0.23593  (13010101)
       326641.98   3795103.66         0.24134  (13122107)                326547.36
 3795124.06         0.24486  (13010623)
       326594.67   3795124.06         0.24094  (13011507)                326641.98
 3795124.06         0.24689  (10122806)
       326547.36   3795144.46         0.24780  (13011507)                326594.67
 3795144.46         0.24654  (09021506)
       326641.98   3795144.46         0.25310  (12022205)                326547.36
 3795164.86         0.24649  (09021506)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:30:23

                                  PAGE  36
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326594.67	3795164.86	0.25297	(12022205)	326641.98	3795164.86	0.26009	(13121104)
326547.36	3795185.26	0.25243	(13120806)	326594.67	3795185.26	0.26031	(13121104)
326641.98	3795185.26	0.26804	(12013005)	326547.36	3795205.66	0.26059	(12013005)
326594.67	3795205.66	0.26868	(12013005)	326641.98	3795205.66	0.26875	(12013005)
326547.36	3795226.06	0.26875	(12013005)	326594.67	3795226.06	0.27645	(12013005)
326641.98	3795226.06	0.26130	(13020420)	326547.36	3795246.46	0.27874	(09021124)
326594.67	3795246.46	0.28326	(11013105)	326641.98	3795246.46	0.26735	(12020201)
326690.43	3795243.37	0.27152	(10122506)	326688.67	3795223.05	0.26036	(11013105)
326686.02	3795005.77	0.22419	(10021501)	326686.02	3795033.66	0.22640	(13010101)
326686.02	3795061.55	0.22943	(13011507)	326686.02	3795089.44	0.23593	(09021506)
326686.02	3795117.33	0.24345	(12022205)	326686.02	3795145.22	0.25211	(13121104)
326686.02	3795173.11	0.25804	(12013005)	326686.02	3795201.00	0.24980	(13020722)
326832.80	3795263.26	0.28637	(10021404)	326849.67	3795263.26	0.27368	(12010208)
326866.54	3795263.26	0.26724	(13122805)	326883.41	3795263.26	0.26828	(13122805)
326900.28	3795263.26	0.26892	(13122805)	326917.15	3795263.26	0.26916	(13122805)
326934.02	3795263.26	0.25536	(13122805)	326950.89	3795263.26	0.24480	(11010918)
326967.76	3795263.26	0.24392	(11010918)	326984.63	3795263.26	0.23879	(12011002)
327001.50	3795263.26	0.22665	(12120505)	327036.85	3795141.35	0.21457	(10012524)
327075.72	3795141.35	0.19662	(13012604)	327036.85	3795160.91	0.21911	(13020901)
327075.72	3795160.91	0.20312	(13012604)	327036.85			

3795180.47 0.22388 (11012803)
327075.72 3795180.47 0.20748 (09121202) 327036.85
3795200.03 0.22765 (12010208)
327075.72 3795200.03 0.20950 (12010208) 327036.85
3795219.59 0.21898 (12120505)
327075.72 3795219.59 0.21566 (12120505) 327036.85
3795239.15 0.22072 (12120505)
327075.72 3795239.15 0.21854 (12120505) 327036.85
3795258.71 0.22028 (09120419)
327075.72 3795258.71 0.22056 (09120419) 327036.85
3795278.27 0.22375 (13121308)
327075.72 3795278.27 0.22478 (13121308) 326840.04
3795223.24 0.26786 (13020901)
326860.58 3795224.16 0.25326 (11020605) 326877.30
3795222.74 0.25384 (11020605)
326929.68 3795223.69 0.24689 (11012803) 326932.86
3795200.00 0.23686 (11020605)
326972.32 3795217.03 0.23249 (12010208) 326970.84
3795177.58 0.22036 (13020901)
326968.20 3795152.46 0.21382 (10022004) 326998.43
3795149.77 0.21461 (10012524)
326997.48 3795176.61 0.22135 (11020605) 326995.60
3795193.01 0.22572 (11012803)
326996.92 3795215.78 0.23287 (12010208) 326916.97
3795152.19 0.23230 (12020201)
326901.95 3795150.46 0.23069 (11013105) 326884.24
3795164.40 0.23360 (12020201)
326867.32 3795151.32 0.22803 (13020420) 326873.22
3795163.36 0.23231 (11013105)
326845.53 3795152.12 0.23647 (13020722) 326824.91
3795151.45 0.24827 (13011601)
326826.60 3795170.60 0.25556 (09021124) 326840.50
3795180.17 0.24988 (11013105)
326799.39 3795147.97 0.24441 (10013106) 326776.77
3795147.89 0.24248 (12022206)
326738.03 3795152.73 0.24092 (12022206) 326781.33
3795110.75 0.23351 (12013005)
326806.10 3795109.04 0.22980 (12022206) 326804.45
3795090.73 0.22545 (09013022)
326781.78 3795086.72 0.22713 (13121104) 326787.40
3795061.79 0.22167 (12022205)

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION

VALUES FOR SOURCE GROUP: ALL   ***
                                INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
 -
- -
        326794.01   3795031.22   0.21561 (10122806)   326977.50
 3795110.69   0.20450 (09120204)
        326994.05   3795107.87   0.20470 (12011705)   326984.52
 3795093.80   0.20058 (09120204)
        326972.85   3795082.37   0.19687 (13020722)   326995.41
 3795072.53   0.19630 (13020722)
        326993.23   3795060.01   0.19335 (13011601)   326984.60
 3795040.80   0.18944 (11120708)
        326981.66   3795027.22   0.18888 (11120708)   327041.48
 3795102.15   0.20360 (12011705)
        327065.19   3795095.75   0.18992 (12011705)   327040.88
 3795076.27   0.19827 (09120204)
        327061.24   3795058.32   0.18470 (09120204)   327037.82
 3795061.09   0.19672 (13020722)
        327035.65   3795040.58   0.19227 (13011601)   327058.94
 3795038.41   0.18176 (13012606)
        327051.53   3795017.85   0.18130 (12010321)   327033.29
 3795021.71   0.18864 (12010321)
        326826.26   3795110.80   0.21802 (11120708)   326843.29
 3795110.80   0.21615 (11120708)
        326860.32   3795110.80   0.21552 (12010321)   326877.35
 3795110.80   0.21713 (12010321)
        326894.38   3795110.80   0.21854 (13011601)   326911.41
 3795110.80   0.21992 (13011601)
        326928.44   3795110.80   0.21408 (13020722)   326945.47
 3795110.80   0.20392 (09120204)
        326819.99   3795048.86   0.20567 (10010821)   326838.19
 3795048.86   0.20117 (10020622)
        326856.39   3795048.86   0.20298 (11121808)   326874.59
 3795048.86   0.20475 (11121808)
        326892.79   3795048.86   0.20613 (11121808)   326910.99
 3795048.86   0.20743 (12022206)
        326929.19   3795048.86   0.20141 (11120708)   326947.39
 3795048.86   0.19117 (11120708)

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                   *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***

                                    ** CONC OF PM_2.5   IN MICROGRAMS/M**3
              **

                        NETWORK
GROUP ID   AVERAGE CONC   RECEPTOR (XR, YR,
ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
- -
- - - - - - - - - - - - - - - - - - -

ALL   1ST HIGHEST VALUE IS   0.04399 AT (325904.15, 3795332.59,
149.61,   185.00,   0.00) DC
          2ND HIGHEST VALUE IS   0.04306 AT (325877.15, 3795332.59,
150.22,   185.00,   0.00) DC
          3RD HIGHEST VALUE IS   0.04284 AT (325931.15, 3795332.59,
150.05,   165.00,   0.00) DC
          4TH HIGHEST VALUE IS   0.04261 AT (325850.15, 3795332.59,
150.51,   185.00,   0.00) DC
          5TH HIGHEST VALUE IS   0.04144 AT (325958.15, 3795332.59,
150.51,   166.00,   0.00) DC
          6TH HIGHEST VALUE IS   0.03766 AT (325823.15, 3795332.59,
151.02,   185.00,   0.00) DC
          7TH HIGHEST VALUE IS   0.03760 AT (325796.15, 3795332.59,
151.11,   185.00,   0.00) DC
          8TH HIGHEST VALUE IS   0.03519 AT (325796.15, 3795293.59,
150.13,   185.00,   0.00) DC
          9TH HIGHEST VALUE IS   0.03479 AT (325877.15, 3795293.59,
149.15,   185.00,   0.00) DC
         10TH HIGHEST VALUE IS   0.03470 AT (325850.15, 3795293.59,
149.69,   185.00,   0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE	CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.54000	ON 12122922:	AT (325904.15, 3795332.59, 149.61, 185.00, 0.00)	DC	

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   15612 Informational Message(s)

 A Total of   43872 Hours Were Processed

 A Total of   13724 Calm Hours Identified

 A Total of   1888 Missing Hours Identified (4.30 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

```
   ********   WARNING MESSAGES   ********
MX W481   43873         MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD
View\Phase2&3Construction_Unmitigated_11.3\Phase2&3Construction_Unmitigated_11.3.AD
I
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 1_Mitiated\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase2&3Construction_Unmitigated_11.3.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325048.840  3795233.290      145.140
** Source Parameters **
   SRCPARAM PAREA1       7.3324E-09     3.000        16
   AREAVERT PAREA1       325048.840 3795233.290 325002.320 3795338.940
   AREAVERT PAREA1       324649.150 3795252.700 324649.150 3795514.450
   AREAVERT PAREA1       325044.060 3795513.690 325044.060 3795684.570
   AREAVERT PAREA1       325432.540 3795684.570 326389.700 3796190.480
   AREAVERT PAREA1       326397.210 3795756.410 326288.670 3795758.120
   AREAVERT PAREA1       326277.560 3795694.020 326166.380 3795525.260
   AREAVERT PAREA1       326425.650 3795493.540 326479.010 3795469.120
   AREAVERT PAREA1       326469.840 3795364.180 325735.780 3795372.310
   SRCGROUP ALL
SO FINISHED
**
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**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED Phase2&3Construction_Unmitigated_11.3.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE2&3CONSTRUCTION_UNMITIGATED_11.3.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE2&3CONSTRUCTION_UNMITIGATED_11.3.AD\AN00GALL.PLT 32
   SUMMFILE Phase2&3Construction_Unmitigated_11.3.sum
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD
View\Phase2&3Construction_Unmitigated_11.3\Phase2&3Construction_Unmitigated_11.3.AD
I
**
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**
**
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** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 1_Mitiated\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase2&3Construction_Unmitigated_11.3.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325048.840  3795233.290      145.140
** Source Parameters **
   SRCPARAM PAREA1       7.3324E-09     3.000        16
   AREAVERT PAREA1       325048.840 3795233.290 325002.320 3795338.940
   AREAVERT PAREA1       324649.150 3795252.700 324649.150 3795514.450
   AREAVERT PAREA1       325044.060 3795513.690 325044.060 3795684.570
   AREAVERT PAREA1       325432.540 3795684.570 326389.700 3796190.480
   AREAVERT PAREA1       326397.210 3795756.410 326288.670 3795758.120
   AREAVERT PAREA1       326277.560 3795694.020 326166.380 3795525.260
   AREAVERT PAREA1       326425.650 3795493.540 326479.010 3795469.120
   AREAVERT PAREA1       326469.840 3795364.180 325735.780 3795372.310
   SRCGROUP ALL
SO FINISHED
**
```

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************************************
** AERMOD Receptor Pathway
************************************
**
**
RE STARTING
   INCLUDED Phase2&3Construction_Unmitigated_11.3.rou
RE FINISHED
**
************************************
** AERMOD Meteorology Pathway
************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
************************************
** AERMOD Output Pathway
************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE2&3CONSTRUCTION_UNMITIGATED_11.3.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE2&3CONSTRUCTION_UNMITIGATED_11.3.AD\AN00GALL.PLT 32
   SUMMFILE Phase2&3Construction_Unmitigated_11.3.sum
OU FINISHED

 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                         ***        16:41:18

                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
```

```
                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     834
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
```

```
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    24.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                              ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   Phase2&3Construction_Unmitigated_11.3.err

 **File for Summary of Results:   Phase2&3Construction_Unmitigated_11.3.sum

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:41:18

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL


                                                *** AREAPOLY SOURCE DATA ***

               NUMBER EMISSION RATE   LOCATION OF AREA  BASE     RELEASE  NUMBER
  INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC       X        Y      ELEV.    HEIGHT  OF VERTS.
   SZ     SOURCE  SCALAR VARY
     ID         CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
(METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -
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*** SOURCE IDs DEFINING SOURCE GROUPS
***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326346.0, 3795634.0, 172.5, 190.0, 0.0); (326414.1, 3795779.7, 180.0, 277.0, 0.0);
(326435.8, 3795773.5, 176.6, 277.0, 0.0); (326458.3, 3795772.8, 174.6, 277.0, 0.0);
(326424.2, 3795858.8, 178.9, 295.0, 0.0); (326400.2, 3795799.8, 182.9, 277.0, 0.0);
(326400.9, 3795767.9, 180.8, 277.0, 0.0); (326424.2, 3795858.8, 178.9, 295.0, 0.0);
(326611.8, 3795763.0, 168.9, 277.0, 0.0); (326611.8, 3795763.0, 168.9, 277.0, 0.0);
(326610.9, 3795777.7, 169.0, 277.0, 0.0); (326605.9, 3795792.9, 169.0, 277.0, 0.0);
(326623.9, 3795809.0, 169.6, 277.0, 0.0); (326627.2, 3795836.6, 170.1, 295.0, 0.0);
(326640.1, 3795836.6, 170.2, 277.0, 0.0); (326654.5, 3795868.7, 171.6, 291.0, 0.0);
(326665.5, 3795883.1, 172.0, 295.0, 0.0); (326588.3, 3795867.6, 175.1, 277.0, 0.0);

```
     ( 326640.5, 3795951.9,     177.0,     295.0,       0.0);         ( 326658.5,
3795975.6,     175.5,     295.0,       0.0);
     ( 326759.5, 3796019.3,     178.2,     277.0,       0.0);         ( 326763.6,
3796031.8,     178.1,     291.0,       0.0);
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
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     ( 326806.7, 3795493.9,     157.9,     217.0,       0.0);         ( 326824.1,
3795494.4,     157.9,     217.0,       0.0);
     ( 326853.5, 3795481.7,     157.5,     217.0,       0.0);         ( 326898.8,
3795534.4,     158.0,     217.0,       0.0);
     ( 325796.1, 3795215.6,     149.4,     149.4,       0.0);         ( 325823.1,
3795215.6,     149.0,     149.0,       0.0);
     ( 326012.1, 3795215.6,     150.0,     150.0,       0.0);         ( 326120.1,
3795215.6,     151.0,     151.0,       0.0);
     ( 326147.1, 3795215.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795254.6,     149.4,     185.0,       0.0);
     ( 325823.1, 3795254.6,     149.0,     185.0,       0.0);         ( 325850.1,
3795254.6,     149.0,     149.0,       0.0);
     ( 325877.1, 3795254.6,     149.0,     149.0,       0.0);         ( 325904.1,
3795254.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795254.6,     149.9,     149.9,       0.0);         ( 325958.1,
3795254.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795254.6,     150.0,     150.0,       0.0);         ( 326012.1,
3795254.6,     150.7,     150.7,       0.0);
     ( 326039.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326066.1,
3795254.6,     151.0,     151.0,       0.0);
     ( 326093.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326120.1,
3795254.6,     151.0,     151.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                          ***        16:41:18

                                    PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 326147.1, 3795254.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795293.6,     150.1,     185.0,       0.0);
     ( 325823.1, 3795293.6,     150.1,     185.0,       0.0);         ( 325850.1,
3795293.6,     149.7,     185.0,       0.0);
     ( 325877.1, 3795293.6,     149.2,     185.0,       0.0);         ( 325904.1,
3795293.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795293.6,     150.0,     150.0,       0.0);         ( 325958.1,
3795293.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795293.6,     150.9,     150.9,       0.0);         ( 326012.1,
3795293.6,     151.2,     151.2,       0.0);
     ( 326039.1, 3795293.6,     151.2,     151.2,       0.0);         ( 326066.1,
3795293.6,     151.7,     151.7,       0.0);
     ( 326093.1, 3795293.6,     152.0,     152.0,       0.0);         ( 326120.1,
3795293.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795293.6,     152.0,     152.0,       0.0);         ( 325796.1,
3795332.6,     151.1,     185.0,       0.0);
```

```
     ( 325823.1, 3795332.6,     151.0,     185.0,       0.0);         ( 325850.1,
3795332.6,     150.5,     185.0,       0.0);
     ( 325877.1, 3795332.6,     150.2,     185.0,       0.0);         ( 325904.1,
3795332.6,     149.6,     185.0,       0.0);
     ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
3795332.6,     150.5,     166.0,       0.0);
     ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
     ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
     ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325972.4, 3795004.9,     149.3,     149.3,       0.0);         ( 325997.4,
3795004.9,     149.7,     149.7,       0.0);
     ( 326022.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326122.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326147.4,
3795004.9,     150.3,     150.3,       0.0);
     ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
     ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
     ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795088.9,     150.2,     150.2,       0.0);
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(326122.4, 3795088.9, 150.7, 150.7, 0.0); (326147.4, 3795088.9, 151.0, 151.0, 0.0);
(325847.4, 3795130.9, 149.0, 149.0, 0.0); (325872.4, 3795130.9, 149.0, 149.0, 0.0);
(325897.4, 3795130.9, 149.0, 149.0, 0.0); (325922.4, 3795130.9, 149.0, 149.0, 0.0);
(325947.4, 3795130.9, 149.6, 149.6, 0.0); (325972.4, 3795130.9, 150.0, 150.0, 0.0);
(325997.4, 3795130.9, 150.0, 150.0, 0.0); (326022.4, 3795130.9, 150.0, 150.0, 0.0);
(326047.4, 3795130.9, 150.0, 150.0, 0.0); (326072.4, 3795130.9, 150.0, 150.0, 0.0);
(326097.4, 3795130.9, 150.6, 150.6, 0.0); (326122.4, 3795130.9, 151.0, 151.0, 0.0);
(326147.4, 3795130.9, 151.0, 151.0, 0.0); (325847.4, 3795172.9, 149.0, 149.0, 0.0);
(325872.4, 3795172.9, 149.0, 149.0, 0.0); (325897.4, 3795172.9, 149.0, 149.0, 0.0);
(325922.4, 3795172.9, 149.0, 149.0, 0.0); (325947.4, 3795172.9, 149.6, 149.6, 0.0);
(325972.4, 3795172.9, 150.0, 150.0, 0.0); (325997.4, 3795172.9, 150.0, 150.0, 0.0);
(326022.4, 3795172.9, 150.0, 150.0, 0.0); (326047.4, 3795172.9, 150.2, 150.2, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326072.4, 3795172.9, 150.8, 150.8, 0.0); (325847.4, 3795214.9, 149.0, 149.0, 0.0);
(325872.4, 3795214.9, 149.0, 149.0, 0.0); (325897.4, 3795214.9, 149.0, 149.0, 0.0);
(325922.4, 3795214.9, 149.0, 149.0, 0.0); (325947.4, 3795214.9, 149.6, 149.6, 0.0);
(325972.4, 3795214.9, 150.0, 150.0, 0.0); (325997.4, 3795214.9, 150.0, 150.0, 0.0);
(326047.4, 3795214.9, 151.0, 151.0, 0.0); (326072.4, 3795214.9, 151.0, 151.0, 0.0);
(326097.4, 3795214.9, 151.0, 151.0, 0.0); (326147.4, 3795214.9, 151.0, 151.0, 0.0);
(326096.6, 3795181.5, 151.0, 151.0, 0.0); (326118.6, 3795182.6, 151.0, 151.0, 0.0);

```
    ( 326144.3, 3795184.1,     151.0,     151.0,       0.0);         ( 325849.7,
3794829.6,     148.0,     148.0,       0.0);
    ( 325892.6, 3794829.6,     148.0,     148.0,       0.0);         ( 325935.5,
3794829.6,     148.8,     148.8,       0.0);
    ( 325978.3, 3794829.6,     149.0,     149.0,       0.0);         ( 326021.2,
3794829.6,     149.0,     149.0,       0.0);
    ( 326064.1, 3794829.6,     149.5,     149.5,       0.0);         ( 325849.7,
3794867.5,     148.0,     148.0,       0.0);
    ( 325892.6, 3794867.5,     148.8,     148.8,       0.0);         ( 325935.5,
3794867.5,     149.0,     149.0,       0.0);
    ( 325978.3, 3794867.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794867.5,     149.0,     149.0,       0.0);
    ( 326064.1, 3794867.5,     149.5,     149.5,       0.0);         ( 325849.7,
3794905.5,     148.1,     148.1,       0.0);
    ( 325892.6, 3794905.5,     148.9,     148.9,       0.0);         ( 325935.5,
3794905.5,     149.0,     149.0,       0.0);
    ( 325978.3, 3794905.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794905.5,     149.1,     149.1,       0.0);
    ( 326064.1, 3794905.5,     150.0,     150.0,       0.0);         ( 325849.7,
3794943.4,     148.4,     148.4,       0.0);
    ( 325892.6, 3794943.4,     149.0,     149.0,       0.0);         ( 325935.5,
3794943.4,     149.0,     149.0,       0.0);
    ( 325978.3, 3794943.4,     149.0,     149.0,       0.0);         ( 326021.2,
3794943.4,     149.1,     149.1,       0.0);
    ( 326064.1, 3794943.4,     150.0,     150.0,       0.0);         ( 325849.7,
3794981.3,     148.9,     148.9,       0.0);
    ( 325892.6, 3794981.3,     149.0,     149.0,       0.0);         ( 325935.5,
3794981.3,     149.0,     149.0,       0.0);
    ( 325978.3, 3794981.3,     149.0,     149.0,       0.0);         ( 326021.2,
3794981.3,     149.8,     149.8,       0.0);
    ( 326064.1, 3794981.3,     150.0,     150.0,       0.0);         ( 325855.3,
3794726.6,     148.0,     148.0,       0.0);
    ( 325902.6, 3794726.6,     148.0,     148.0,       0.0);         ( 325855.3,
3794745.5,     148.0,     148.0,       0.0);
    ( 325902.6, 3794745.5,     148.0,     148.0,       0.0);         ( 325855.3,
3794764.4,     148.0,     148.0,       0.0);
    ( 325902.6, 3794764.4,     148.0,     148.0,       0.0);         ( 325855.3,
3794783.3,     148.0,     148.0,       0.0);
    ( 325902.6, 3794783.3,     148.0,     148.0,       0.0);         ( 325855.3,
3794802.2,     148.0,     148.0,       0.0);
    ( 325902.6, 3794802.2,     148.0,     148.0,       0.0);         ( 325855.3,
3794821.1,     148.0,     148.0,       0.0);
    ( 325902.6, 3794821.1,     148.1,     148.1,       0.0);         ( 326402.8,
3795249.3,     152.8,     152.8,       0.0);
    ( 325380.5, 3795776.2,     161.0,     295.0,       0.0);         ( 325415.9,
3795858.3,     176.6,     271.0,       0.0);
    ( 325409.9, 3795995.0,     190.3,     271.0,       0.0);         ( 325416.6,
3796058.1,     193.4,     282.0,       0.0);
    ( 325409.6, 3796164.9,     201.8,     291.0,       0.0);         ( 325322.7,
3796083.9,     190.0,     292.0,       0.0);
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     ( 325297.9, 3796111.1,     184.9,     295.0,       0.0);         ( 325246.7,
3796076.1,     181.2,     295.0,       0.0);
     ( 325280.0, 3796260.7,     211.4,     292.0,       0.0);         ( 325237.0,
3796200.4,     205.0,     292.0,       0.0);
     ( 325163.0, 3796071.1,     180.4,     292.0,       0.0);         ( 325215.7,
3795991.4,     177.4,     292.0,       0.0);
     ( 325208.3, 3795926.9,     173.0,     292.0,       0.0);         ( 325249.5,
3795829.2,     171.2,     291.0,       0.0);
     ( 325171.5, 3795759.2,     160.9,     292.0,       0.0);         ( 325129.2,
3795756.4,     158.4,     292.0,       0.0);
     ( 325154.8, 3795886.2,     167.8,     292.0,       0.0);         ( 325068.5,
3795885.4,     171.6,     292.0,       0.0);
     ( 325047.9, 3795938.0,     175.5,     292.0,       0.0);         ( 325045.8,
3795982.7,     176.4,     292.0,       0.0);
     ( 325072.0, 3796106.7,     179.6,     292.0,       0.0);         ( 325060.6,
3796290.4,     197.1,     292.0,       0.0);
     ( 324903.7, 3796379.8,     214.8,     292.0,       0.0);         ( 324787.8,
3796510.4,     197.3,     292.0,       0.0);
     ( 324916.5, 3796618.3,     201.7,     292.0,       0.0);         ( 326493.0,
3796356.3,     198.5,     295.0,       0.0);
     ( 326552.7, 3796900.0,     235.2,     295.0,       0.0);         ( 326599.3,
3796893.6,     237.6,     293.0,       0.0);
     ( 326617.4, 3796889.5,     237.6,     293.0,       0.0);         ( 326639.4,
3796881.9,     233.8,     293.0,       0.0);
     ( 326663.7, 3796864.1,     225.7,     295.0,       0.0);         ( 326679.5,
3796885.2,     227.5,     293.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                          ***        16:41:18

                                    PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 326697.8, 3796898.3,     229.7,     293.0,       0.0);         ( 326712.3,
3796916.6,     233.6,     293.0,       0.0);
     ( 326726.6, 3796931.1,     236.4,     290.0,       0.0);         ( 326742.2,
3796948.0,     240.5,     290.0,       0.0);
     ( 326756.6, 3796965.7,     242.1,     290.0,       0.0);         ( 326772.1,
3796973.3,     239.2,     290.0,       0.0);
     ( 326785.2, 3796890.5,     223.1,     293.0,       0.0);         ( 326800.1,
3797003.9,     233.0,     290.0,       0.0);
     ( 326818.0, 3797014.9,     229.2,     290.0,       0.0);         ( 326813.7,
3796843.9,     215.1,     293.0,       0.0);
     ( 326833.9, 3796853.6,     216.3,     293.0,       0.0);         ( 326848.6,
3796873.4,     217.5,     293.0,       0.0);
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     ( 326864.2, 3796885.1,     217.7,     293.0,       0.0);         ( 326877.9,
3796901.2,     218.2,     292.0,       0.0);
     ( 326893.8, 3796917.1,     220.4,     292.0,       0.0);         ( 326904.5,
3796938.8,     223.9,     292.0,       0.0);
     ( 326907.6, 3796966.2,     224.5,     292.0,       0.0);         ( 326914.5,
3796991.7,     227.6,     292.0,       0.0);
     ( 326921.9, 3797038.4,     232.7,     292.0,       0.0);         ( 326596.6,
3797264.1,     273.2,     288.0,       0.0);
     ( 326830.0, 3795735.4,     183.6,     217.0,       0.0);         ( 326866.5,
3795706.9,     182.8,     217.0,       0.0);
     ( 326831.5, 3795646.6,     161.0,     217.0,       0.0);         ( 326872.9,
3795644.9,     160.9,     217.0,       0.0);
     ( 326898.9, 3795644.7,     160.9,     217.0,       0.0);         ( 326924.7,
3795650.1,     161.6,     217.0,       0.0);
     ( 326949.7, 3795646.4,     161.1,     217.0,       0.0);         ( 326975.6,
3795638.8,     162.5,     217.0,       0.0);
     ( 326917.9, 3795602.8,     159.0,     217.0,       0.0);         ( 326918.6,
3795584.1,     158.0,     217.0,       0.0);
     ( 326921.6, 3795563.5,     158.0,     217.0,       0.0);         ( 326917.2,
3795537.1,     158.0,     217.0,       0.0);
     ( 326935.0, 3795592.2,     158.8,     217.0,       0.0);         ( 326951.0,
3795599.5,     159.5,     217.0,       0.0);
     ( 326950.3, 3795555.9,     158.0,     217.0,       0.0);         ( 326951.6,
3795535.1,     158.0,     217.0,       0.0);
     ( 326961.8, 3795537.6,     158.0,     217.0,       0.0);         ( 326982.2,
3795538.3,     158.0,     217.0,       0.0);
     ( 326992.4, 3795539.1,     158.0,     217.0,       0.0);         ( 327009.0,
3795535.6,     158.0,     217.0,       0.0);
     ( 326987.7, 3795581.0,     159.0,     217.0,       0.0);         ( 327024.8,
3795588.4,     160.1,     217.0,       0.0);
     ( 326925.1, 3795485.9,     158.0,     217.0,       0.0);         ( 326937.8,
3795488.3,     158.0,     217.0,       0.0);
     ( 326956.5, 3795489.3,     158.0,     217.0,       0.0);         ( 326970.9,
3795491.0,     158.0,     217.0,       0.0);
     ( 326990.0, 3795487.7,     158.0,     217.0,       0.0);         ( 325049.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325124.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325161.8, 3794362.9,     143.2,     143.2,       0.0);         ( 325199.3,
3794362.9,     143.2,     143.2,       0.0);
     ( 325236.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325274.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325049.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794386.1,     143.0,     143.0,       0.0);
     ( 325124.3, 3794386.1,     143.2,     143.2,       0.0);         ( 325161.8,
3794386.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794386.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794386.1,     143.1,     143.1,       0.0);
     ( 325274.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325049.3,
3794409.3,     143.0,     143.0,       0.0);
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     ( 325086.8, 3794409.3,     143.0,     143.0,       0.0);         ( 325124.3,
3794409.3,     143.2,     143.2,       0.0);
     ( 325161.8, 3794409.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794409.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794409.3,     143.8,     143.8,       0.0);         ( 325274.3,
3794409.3,     143.7,     143.7,       0.0);
     ( 325049.3, 3794432.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794432.5,     143.0,     143.0,       0.0);
     ( 325124.3, 3794432.5,     143.6,     143.6,       0.0);         ( 325161.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325049.3,
3794455.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794455.7,     143.3,     143.3,       0.0);         ( 325124.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325049.3, 3794478.9,     143.0,     143.0,       0.0);         ( 325086.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325124.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325161.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325199.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325236.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325274.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325049.3,
3794502.1,     143.0,     143.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:41:18

                                  PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 325086.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325124.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325161.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325199.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325236.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325274.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325049.3, 3794525.3,     143.0,     143.0,       0.0);         ( 325086.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325124.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325161.8,
3794525.3,     144.0,     144.0,       0.0);
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     ( 325199.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325236.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
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     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794687.7,     145.0,     145.0,       0.0);
     ( 324871.6, 3794298.6,     141.0,     141.0,       0.0);         ( 324910.5,
3794298.6,     141.1,     141.1,       0.0);
     ( 324949.4, 3794298.6,     142.0,     142.0,       0.0);         ( 324988.3,
3794298.6,     142.0,     142.0,       0.0);
     ( 324871.6, 3794320.4,     141.0,     141.0,       0.0);         ( 324910.5,
3794320.4,     141.8,     141.8,       0.0);
     ( 324949.4, 3794320.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794320.4,     142.0,     142.0,       0.0);
     ( 324871.6, 3794342.2,     141.0,     141.0,       0.0);         ( 324910.5,
3794342.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794342.2,     142.0,     142.0,       0.0);         ( 324988.3,
3794342.2,     142.0,     142.0,       0.0);
     ( 324871.6, 3794364.0,     141.2,     141.2,       0.0);         ( 324910.5,
3794364.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794364.0,     142.0,     142.0,       0.0);         ( 324988.3,
3794364.0,     142.2,     142.2,       0.0);
     ( 324871.6, 3794385.8,     141.7,     141.7,       0.0);         ( 324910.5,
3794385.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794385.8,     142.0,     142.0,       0.0);         ( 324988.3,
3794385.8,     142.6,     142.6,       0.0);
     ( 324871.6, 3794407.6,     141.8,     141.8,       0.0);         ( 324910.5,
3794407.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794407.6,     142.0,     142.0,       0.0);         ( 324988.3,
3794407.6,     142.7,     142.7,       0.0);
     ( 324871.6, 3794429.4,     141.8,     141.8,       0.0);         ( 324910.5,
3794429.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794429.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794429.4,     142.7,     142.7,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                         ***        16:41:18

                                    PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 324871.6, 3794451.2,     141.8,     141.8,       0.0);         ( 324910.5,
3794451.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794451.2,     142.1,     142.1,       0.0);         ( 324988.3,
3794451.2,     142.7,     142.7,       0.0);
     ( 324871.6, 3794473.0,     141.8,     141.8,       0.0);         ( 324910.5,
3794473.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794473.0,     142.3,     142.3,       0.0);         ( 324988.3,
3794473.0,     143.0,     143.0,       0.0);
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     ( 324871.6, 3794494.8,     141.9,     141.9,       0.0);         ( 324910.5,
3794494.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794494.8,     142.4,     142.4,       0.0);         ( 324988.3,
3794494.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794074.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794074.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794074.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794074.7,     137.8,     137.8,       0.0);
     ( 324596.8, 3794074.7,     137.6,     137.6,       0.0);         ( 324633.8,
3794074.7,     137.1,     137.1,       0.0);
     ( 324670.7, 3794074.7,     137.0,     137.0,       0.0);         ( 324707.7,
3794074.7,     137.2,     137.2,       0.0);
     ( 324744.6, 3794074.7,     137.9,     137.9,       0.0);         ( 324781.6,
3794074.7,     139.3,     139.3,       0.0);
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(324449.0, 3794106.7, 138.0, 138.0, 0.0); (324486.0, 3794106.7, 138.0, 138.0, 0.0);
(324522.9, 3794106.7, 138.0, 138.0, 0.0); (324559.9, 3794106.7, 138.0, 138.0, 0.0);
(324596.8, 3794106.7, 138.0, 138.0, 0.0); (324633.8, 3794106.7, 137.7, 137.7, 0.0);
(324670.7, 3794106.7, 137.7, 137.7, 0.0); (324707.7, 3794106.7, 138.0, 138.0, 0.0);
(324744.6, 3794106.7, 139.2, 139.2, 0.0); (324781.6, 3794106.7, 139.9, 139.9, 0.0);
(324449.0, 3794138.6, 138.0, 138.0, 0.0); (324486.0, 3794138.6, 138.0, 138.0, 0.0);
(324522.9, 3794138.6, 138.0, 138.0, 0.0); (324559.9, 3794138.6, 138.0, 138.0, 0.0);
(324596.8, 3794138.6, 138.0, 138.0, 0.0); (324633.8, 3794138.6, 138.6, 138.6, 0.0);
(324670.7, 3794138.6, 138.7, 138.7, 0.0); (324707.7, 3794138.6, 139.0, 139.0, 0.0);
(324744.6, 3794138.6, 139.9, 139.9, 0.0); (324781.6, 3794138.6, 140.0, 140.0, 0.0);
(324449.0, 3794170.6, 138.0, 138.0, 0.0); (324486.0, 3794170.6, 138.0, 138.0, 0.0);
(324522.9, 3794170.6, 138.1, 138.1, 0.0); (324559.9, 3794170.6, 138.8, 138.8, 0.0);
(324596.8, 3794170.6, 138.8, 138.8, 0.0); (324633.8, 3794170.6, 139.0, 139.0, 0.0);
(324670.7, 3794170.6, 139.1, 139.1, 0.0); (324707.7, 3794170.6, 139.9, 139.9, 0.0);
(324744.6, 3794170.6, 140.0, 140.0, 0.0); (324781.6, 3794170.6, 140.6, 140.6, 0.0);
(324449.0, 3794202.6, 138.0, 138.0, 0.0); (324486.0, 3794202.6, 138.0, 138.0, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(324522.9, 3794202.6, 138.2, 138.2, 0.0); (324559.9, 3794202.6, 139.0, 139.0, 0.0);
(324596.8, 3794202.6, 139.0, 139.0, 0.0); (324633.8, 3794202.6, 139.0, 139.0, 0.0);
(324670.7, 3794202.6, 139.9, 139.9, 0.0); (324707.7, 3794202.6, 140.0, 140.0, 0.0);

```
     ( 324744.6, 3794202.6,     140.0,     140.0,       0.0);         ( 324781.6,
3794202.6,     140.8,     140.8,       0.0);
     ( 324449.0, 3794234.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794234.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794234.5,     138.2,     138.2,       0.0);         ( 324559.9,
3794234.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794234.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794234.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794234.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794234.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794234.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794234.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794266.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794266.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794266.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794266.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794266.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794266.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794266.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794266.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794266.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794266.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794298.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794298.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794298.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794298.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794298.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794298.5,     139.9,     139.9,       0.0);
     ( 324670.7, 3794298.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794298.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794298.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794298.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794330.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794330.4,     138.1,     138.1,       0.0);
     ( 324522.9, 3794330.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794330.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794330.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794330.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794330.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794330.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794330.4,     140.1,     140.1,       0.0);         ( 324781.6,
3794330.4,     140.8,     140.8,       0.0);
     ( 324449.0, 3794362.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794362.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794362.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794362.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794362.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794362.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794362.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794362.4,     140.0,     140.0,       0.0);
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     ( 324744.6, 3794362.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794362.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794394.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794394.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794394.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794394.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794394.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794394.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794394.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794394.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794394.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794394.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794426.4,     138.2,     138.2,       0.0);         ( 324486.0,
3794426.4,     139.0,     139.0,       0.0);
     ( 324522.9, 3794426.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794426.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794426.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794426.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794426.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794426.4,     140.1,     140.1,       0.0);
     ( 324744.6, 3794426.4,     140.7,     140.7,       0.0);         ( 324781.6,
3794426.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794458.3,     138.7,     138.7,       0.0);         ( 324486.0,
3794458.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794458.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794458.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794458.3,     139.2,     139.2,       0.0);         ( 324633.8,
3794458.3,     139.9,     139.9,       0.0);
     ( 324670.7, 3794458.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794458.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794458.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794458.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794490.3,     138.7,     138.7,       0.0);         ( 324486.0,
3794490.3,     139.0,     139.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       16:41:18

                                   PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                      *** DISCRETE CARTESIAN RECEPTORS ***
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     ( 324522.9, 3794490.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794490.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794490.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794490.3,     140.0,     140.0,       0.0);
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     ( 324670.7, 3794490.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794490.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794490.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794490.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794522.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794522.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794522.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794522.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794554.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794554.2,     139.2,     139.2,       0.0);
     ( 324596.8, 3794554.2,     139.8,     139.8,       0.0);         ( 324633.8,
3794554.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794554.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794554.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794586.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794586.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794586.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794586.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794586.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794586.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794586.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794586.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794586.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794586.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794618.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794618.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794618.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794618.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794618.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794618.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794618.2,     140.1,     140.1,       0.0);         ( 324707.7,
3794618.2,     140.8,     140.8,       0.0);
     ( 324744.6, 3794618.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794618.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794650.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
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     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794650.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794650.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794650.1,     141.0,     141.0,       0.0);
     ( 324449.0, 3794682.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794682.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794682.1,     139.1,     139.1,       0.0);         ( 324559.9,
3794682.1,     139.9,     139.9,       0.0);
     ( 324596.8, 3794682.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794682.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794682.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794682.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794682.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794682.1,     141.0,     141.0,       0.0);
     ( 326547.4, 3795022.1,     153.0,     153.0,       0.0);         ( 326594.7,
3795022.1,     153.3,     153.3,       0.0);
     ( 326642.0, 3795022.1,     154.0,     154.0,       0.0);         ( 326547.4,
3795042.5,     153.0,     153.0,       0.0);
     ( 326594.7, 3795042.5,     153.9,     153.9,       0.0);         ( 326642.0,
3795042.5,     154.0,     154.0,       0.0);
     ( 326547.4, 3795062.9,     153.0,     153.0,       0.0);         ( 326594.7,
3795062.9,     154.0,     154.0,       0.0);
     ( 326642.0, 3795062.9,     154.0,     154.0,       0.0);         ( 326547.4,
3795083.3,     153.1,     153.1,       0.0);
     ( 326594.7, 3795083.3,     154.0,     154.0,       0.0);         ( 326642.0,
3795083.3,     154.0,     154.0,       0.0);
     ( 326547.4, 3795103.7,     153.6,     153.6,       0.0);         ( 326594.7,
3795103.7,     154.0,     154.0,       0.0);
     ( 326642.0, 3795103.7,     154.0,     154.0,       0.0);         ( 326547.4,
3795124.1,     153.6,     153.6,       0.0);
     ( 326594.7, 3795124.1,     154.0,     154.0,       0.0);         ( 326642.0,
3795124.1,     154.0,     154.0,       0.0);
     ( 326547.4, 3795144.5,     153.7,     153.7,       0.0);         ( 326594.7,
3795144.5,     154.0,     154.0,       0.0);
     ( 326642.0, 3795144.5,     154.0,     154.0,       0.0);         ( 326547.4,
3795164.9,     154.0,     154.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       16:41:18

                                   PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 326594.7, 3795164.9,     154.0,     154.0,       0.0);         ( 326642.0,
3795164.9,     154.0,     154.0,       0.0);
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     ( 326547.4, 3795185.3,     154.0,     154.0,       0.0);         ( 326594.7,
3795185.3,     154.0,     154.0,       0.0);
     ( 326642.0, 3795185.3,     154.0,     154.0,       0.0);         ( 326547.4,
3795205.7,     154.0,     154.0,       0.0);
     ( 326594.7, 3795205.7,     154.0,     154.0,       0.0);         ( 326642.0,
3795205.7,     154.2,     154.2,       0.0);
     ( 326547.4, 3795226.1,     154.0,     154.0,       0.0);         ( 326594.7,
3795226.1,     154.0,     154.0,       0.0);
     ( 326642.0, 3795226.1,     154.8,     154.8,       0.0);         ( 326547.4,
3795246.5,     154.0,     154.0,       0.0);
     ( 326594.7, 3795246.5,     154.1,     154.1,       0.0);         ( 326642.0,
3795246.5,     154.9,     154.9,       0.0);
     ( 326690.4, 3795243.4,     155.0,     155.0,       0.0);         ( 326688.7,
3795223.0,     155.0,     155.0,       0.0);
     ( 326686.0, 3795005.8,     154.0,     154.0,       0.0);         ( 326686.0,
3795033.7,     154.1,     154.1,       0.0);
     ( 326686.0, 3795061.5,     154.3,     154.3,       0.0);         ( 326686.0,
3795089.4,     154.3,     154.3,       0.0);
     ( 326686.0, 3795117.3,     154.3,     154.3,       0.0);         ( 326686.0,
3795145.2,     154.3,     154.3,       0.0);
     ( 326686.0, 3795173.1,     154.4,     154.4,       0.0);         ( 326686.0,
3795201.0,     155.0,     155.0,       0.0);
     ( 326832.8, 3795263.3,     155.3,     155.3,       0.0);         ( 326849.7,
3795263.3,     155.8,     155.8,       0.0);
     ( 326866.5, 3795263.3,     156.0,     156.0,       0.0);         ( 326883.4,
3795263.3,     156.0,     156.0,       0.0);
     ( 326900.3, 3795263.3,     156.0,     156.0,       0.0);         ( 326917.1,
3795263.3,     156.0,     156.0,       0.0);
     ( 326934.0, 3795263.3,     156.5,     156.5,       0.0);         ( 326950.9,
3795263.3,     157.0,     157.0,       0.0);
     ( 326967.8, 3795263.3,     157.0,     157.0,       0.0);         ( 326984.6,
3795263.3,     157.2,     157.2,       0.0);
     ( 327001.5, 3795263.3,     157.8,     157.8,       0.0);         ( 327036.8,
3795141.3,     157.0,     157.0,       0.0);
     ( 327075.7, 3795141.3,     158.0,     158.0,       0.0);         ( 327036.8,
3795160.9,     157.0,     157.0,       0.0);
     ( 327075.7, 3795160.9,     158.0,     158.0,       0.0);         ( 327036.8,
3795180.5,     157.0,     157.0,       0.0);
     ( 327075.7, 3795180.5,     158.0,     158.0,       0.0);         ( 327036.8,
3795200.0,     157.1,     157.1,       0.0);
     ( 327075.7, 3795200.0,     158.0,     158.0,       0.0);         ( 327036.8,
3795219.6,     157.7,     157.7,       0.0);
     ( 327075.7, 3795219.6,     158.0,     158.0,       0.0);         ( 327036.8,
3795239.1,     158.0,     158.0,       0.0);
     ( 327075.7, 3795239.1,     158.0,     158.0,       0.0);         ( 327036.8,
3795258.7,     158.0,     158.0,       0.0);
     ( 327075.7, 3795258.7,     158.0,     158.0,       0.0);         ( 327036.8,
3795278.3,     158.0,     158.0,       0.0);
     ( 327075.7, 3795278.3,     158.0,     158.0,       0.0);         ( 326840.0,
3795223.2,     155.4,     155.4,       0.0);
```

```
     ( 326860.6, 3795224.2,     156.0,     156.0,       0.0);         ( 326877.3,
3795222.7,     156.0,     156.0,       0.0);
     ( 326929.7, 3795223.7,     156.4,     156.4,       0.0);         ( 326932.9,
3795200.0,     156.5,     156.5,       0.0);
     ( 326972.3, 3795217.0,     157.0,     157.0,       0.0);         ( 326970.8,
3795177.6,     157.0,     157.0,       0.0);
     ( 326968.2, 3795152.5,     157.0,     157.0,       0.0);         ( 326998.4,
3795149.8,     157.0,     157.0,       0.0);
     ( 326997.5, 3795176.6,     157.0,     157.0,       0.0);         ( 326995.6,
3795193.0,     157.0,     157.0,       0.0);
     ( 326996.9, 3795215.8,     157.0,     157.0,       0.0);         ( 326917.0,
3795152.2,     156.0,     156.0,       0.0);
     ( 326902.0, 3795150.5,     156.0,     156.0,       0.0);         ( 326884.2,
3795164.4,     156.0,     156.0,       0.0);
     ( 326867.3, 3795151.3,     156.0,     156.0,       0.0);         ( 326873.2,
3795163.4,     156.0,     156.0,       0.0);
     ( 326845.5, 3795152.1,     155.6,     155.6,       0.0);         ( 326824.9,
3795151.4,     155.0,     155.0,       0.0);
     ( 326826.6, 3795170.6,     155.0,     155.0,       0.0);         ( 326840.5,
3795180.2,     155.4,     155.4,       0.0);
     ( 326799.4, 3795148.0,     155.0,     155.0,       0.0);         ( 326776.8,
3795147.9,     155.0,     155.0,       0.0);
     ( 326738.0, 3795152.7,     155.0,     155.0,       0.0);         ( 326781.3,
3795110.8,     155.0,     155.0,       0.0);
     ( 326806.1, 3795109.0,     155.2,     155.2,       0.0);         ( 326804.5,
3795090.7,     155.2,     155.2,       0.0);
     ( 326781.8, 3795086.7,     155.0,     155.0,       0.0);         ( 326787.4,
3795061.8,     155.0,     155.0,       0.0);
     ( 326794.0, 3795031.2,     155.0,     155.0,       0.0);         ( 326977.5,
3795110.7,     157.0,     157.0,       0.0);
     ( 326994.0, 3795107.9,     157.0,     157.0,       0.0);         ( 326984.5,
3795093.8,     157.0,     157.0,       0.0);
     ( 326972.8, 3795082.4,     157.0,     157.0,       0.0);         ( 326995.4,
3795072.5,     157.0,     157.0,       0.0);
     ( 326993.2, 3795060.0,     157.0,     157.0,       0.0);         ( 326984.6,
3795040.8,     157.0,     157.0,       0.0);
     ( 326981.7, 3795027.2,     157.0,     157.0,       0.0);         ( 327041.5,
3795102.1,     157.1,     157.1,       0.0);
```


*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                *** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
                                                                    (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926. Met Version: 14134
Profile file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926.
Surface format: FREE

Profile format: FREE

Surface station no.: 23136 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	281.4	2.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.9	2.0
09	01	01	1	03	-3.3	0.067	-9.000	-9.000	-999.	42.	8.3	0.05	0.81	1.00	1.76	214.	10.0	280.9	2.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.4	2.0

```
 09 01 01   1 05   -6.6  0.115 -9.000 -9.000 -999.   94.     21.1  0.03   0.81
1.00    2.36   93.   10.0  280.4    2.0
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00   281.5   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
326345.95	3795634.03	0.01514	326414.12	3795779.67	0.01475
326435.80	3795773.48	0.01383	326458.31	3795772.83	0.01342
326424.24	3795858.77	0.01613	326400.20	3795799.84	0.01614
326400.93	3795767.87	0.01427	326424.24	3795858.77	0.01613
326611.84	3795762.99	0.01144	326611.84	3795762.99	0.01144
326610.94	3795777.66	0.01144	326605.86	3795792.89	0.01159
326623.93	3795809.00	0.01095	326627.22	3795836.58	0.01071
326640.09	3795836.58	0.01038	326654.45	3795868.68	0.00958
326665.45	3795883.13	0.00923	326588.30	3795867.62	0.01000
326640.52	3795951.95	0.00829	326658.45	3795975.58	0.00818
326759.52	3796019.28	0.00601	326763.60	3796031.85	0.00593
326775.94	3796048.05	0.00572	326774.23	3796062.19	0.00569
326801.34	3796078.38	0.00529	326809.46	3796094.93	0.00508
326736.80	3796108.96	0.00540	326835.84	3796126.62	0.00454
326836.27	3796140.13	0.00445	326800.95	3796123.31	0.00501
326762.39	3796138.51	0.00470	326766.63		

3796155.18   0.00422
         326774.14   3796169.68   0.00395   326798.07
3796201.57   0.00346
         326808.84   3796229.51   0.00306   326880.95
3796184.59   0.00369
         326915.56   3796260.01   0.00311   326941.07
3796261.11   0.00294
         326958.24   3796277.25   0.00281   326964.89
3796291.08   0.00269
         326984.47   3796322.92   0.00255   326993.31
3796349.42   0.00246
         326993.49   3796365.88   0.00242   327007.03
3796382.47   0.00236
         326972.07   3796390.18   0.00227   326996.78
3796414.54   0.00223
         326693.51   3795789.66   0.00654   326695.37
3795771.29   0.00668
         326727.00   3795761.34   0.00644   326758.55
3795787.48   0.00522
         326761.76   3795813.54   0.00467   326742.22
3795837.06   0.00465
         326838.64   3795823.91   0.00383   326811.45
3795889.81   0.00358
         326823.87   3795855.97   0.00356   326876.62
3795837.29   0.00334
         326889.30   3795888.54   0.00310   326687.45
3795683.69   0.01161
         326829.20   3795731.31   0.00525   326859.14
3795703.62   0.00502
         326881.10   3795705.58   0.00516   326787.44
3795607.00   0.01249
         326780.76   3795563.55   0.01365   326800.04
3795542.65   0.01386
         326808.89   3795540.15   0.01387   326825.79
3795543.65   0.01375
         326856.70   3795545.31   0.01327   326792.33
3795494.19   0.01454
         326806.68   3795493.93   0.01429   326824.07
3795494.42   0.01397
         326853.52   3795481.71   0.01383   326898.80
3795534.37   0.01264
         325796.15   3795215.59   0.04745   325823.15
3795215.59   0.04672
         326012.15   3795215.59   0.03744   326120.15
3795215.59   0.02976
         326147.15   3795215.59   0.02893   325796.15
3795254.59   0.05604
         325823.15   3795254.59   0.05528   325850.15
3795254.59   0.05398

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                   INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3795332.59 0.07485
325931.15 3795332.59 0.07167 325958.15
3795332.59 0.06141
325985.15 3795332.59 0.05466 326012.15
3795332.59 0.05065
326039.15 3795332.59 0.04895 326066.15
3795332.59 0.04787
326093.15 3795332.59 0.04686 326120.15
3795332.59 0.04654
326147.15 3795332.59 0.04560 325847.44
3795004.89 0.02081
325872.44 3795004.89 0.02034 325897.44
3795004.89 0.01988
325922.44 3795004.89 0.01943 325947.44
3795004.89 0.01900
325972.44 3795004.89 0.01851 325997.44
3795004.89 0.01799
326022.44 3795004.89 0.01755 326047.44
3795004.89 0.01721
326072.44 3795004.89 0.01689 326097.44
3795004.89 0.01659
326122.44 3795004.89 0.01630 326147.44
3795004.89 0.01524
325847.44 3795046.89 0.02397 325872.44
3795046.89 0.02340
325897.44 3795046.89 0.02284 325922.44
3795046.89 0.02229
325947.44 3795046.89 0.02176 325972.44
3795046.89 0.02108
325997.44 3795046.89 0.02040 326022.44
3795046.89 0.01995
326047.44 3795046.89 0.01952 326072.44
3795046.89 0.01911
326097.44 3795046.89 0.01872 326122.44
3795046.89 0.01727
326147.44 3795046.89 0.01658 325847.44
3795088.89 0.02782
325872.44 3795088.89 0.02713 325897.44
3795088.89 0.02645
325922.44 3795088.89 0.02578 325947.44
3795088.89 0.02483
325972.44 3795088.89 0.02403 325997.44
3795088.89 0.02344
326022.44 3795088.89 0.02287 326047.44
3795088.89 0.02233
326072.44 3795088.89 0.02181 326097.44
3795088.89 0.02015
326122.44 3795088.89 0.01935 326147.44
3795088.89 0.01866
325847.44 3795130.89 0.03252 325872.44

*** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3795214.89 0.03792
326047.44 3795214.89 0.03205 326072.44
3795214.89 0.03118
326097.44 3795214.89 0.03039 326147.44
3795214.89 0.02884
326096.58 3795181.52 0.02669 326118.63
3795182.57 0.02619
326144.35 3795184.14 0.02566 325849.74
3794829.62 0.01241
325892.61 3794829.62 0.01208 325935.48
3794829.62 0.01169
325978.35 3794829.62 0.01140 326021.22
3794829.62 0.01116
326064.09 3794829.62 0.01087 325849.74
3794867.55 0.01380
325892.61 3794867.55 0.01327 325935.48
3794867.55 0.01288
325978.35 3794867.55 0.01256 326021.22
3794867.55 0.01227
326064.09 3794867.55 0.01192 325849.74
3794905.48 0.01540
325892.61 3794905.48 0.01476 325935.48
3794905.48 0.01428
325978.35 3794905.48 0.01388 326021.22
3794905.48 0.01351
326064.09 3794905.48 0.01301 325849.74
3794943.41 0.01722
325892.61 3794943.41 0.01648 325935.48
3794943.41 0.01592
325978.35 3794943.41 0.01542 326021.22
3794943.41 0.01495
326064.09 3794943.41 0.01436 325849.74
3794981.34 0.01927
325892.61 3794981.34 0.01852 325935.48
3794981.34 0.01784
325978.35 3794981.34 0.01722 326021.22
3794981.34 0.01645
326064.09 3794981.34 0.01591 325855.31
3794726.62 0.00948
325902.64 3794726.62 0.00927 325855.31
3794745.52 0.00993
325902.64 3794745.52 0.00970 325855.31
3794764.42 0.01041
325902.64 3794764.42 0.01016 325855.31
3794783.32 0.01093
325902.64 3794783.32 0.01065 325855.31
3794802.22 0.01148
325902.64 3794802.22 0.01118 325855.31
3794821.12 0.01208
325902.64 3794821.12 0.01173 326402.77

```
3795249.33        0.02249
         325380.55    3795776.17        0.01790                      325415.88
3795858.35        0.00644
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:41:18

                                   PAGE  19
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
         325409.93    3795994.97        0.00246                      325416.60
3796058.09        0.00188
         325409.65    3796164.95        0.00116                      325322.71
3796083.91        0.00163
         325297.93    3796111.07        0.00173                      325246.73
3796076.15        0.00201
         325280.01    3796260.66        0.00062                      325237.05
3796200.45        0.00073
         325163.03    3796071.11        0.00183                      325215.74
3795991.41        0.00279
         325208.29    3795926.88        0.00407                      325249.48
3795829.20        0.00690
         325171.49    3795759.19        0.01372                      325129.24
3795756.40        0.01475
         325154.75    3795886.20        0.00540                      325068.55
3795885.45        0.00384
         325047.86    3795938.00        0.00266                      325045.84
3795982.69        0.00228
         325071.95    3796106.74        0.00155                      325060.64
3796290.38        0.00055
         324903.71    3796379.80        0.00025                      324787.84
3796510.42        0.00031
         324916.48    3796618.27        0.00028                      326492.96
3796356.32        0.00330
         326552.73    3796900.01        0.00079                      326599.30
```

3796893.60 0.00081
326617.42 3796889.51 0.00082 326639.41
3796881.91 0.00086
326663.73 3796864.08 0.00094 326679.47
3796885.20 0.00090
326697.81 3796898.31 0.00087 326712.34
3796916.60 0.00083
326726.62 3796931.14 0.00081 326742.23
3796948.02 0.00077
326756.58 3796965.73 0.00075 326772.07
3796973.30 0.00076
326785.22 3796890.50 0.00094 326800.10
3797003.95 0.00076
326817.96 3797014.86 0.00077 326813.74
3796843.93 0.00107
326833.92 3796853.59 0.00105 326848.61
3796873.43 0.00101
326864.19 3796885.12 0.00099 326877.92
3796901.20 0.00097
326893.85 3796917.11 0.00093 326904.49
3796938.77 0.00088
326907.64 3796966.22 0.00085 326914.45
3796991.73 0.00080
326921.92 3797038.42 0.00073 326596.56
3797264.10 0.00042
326829.98 3795735.43 0.00510 326866.53
3795706.88 0.00492
326831.50 3795646.57 0.01156 326872.90
3795644.95 0.01098
326898.91 3795644.66 0.01064 326924.66
3795650.14 0.00991
326949.68 3795646.43 0.00987 326975.59
3795638.84 0.00890
326917.88 3795602.78 0.01153 326918.63
3795584.13 0.01221
326921.61 3795563.48 0.01222 326917.18
3795537.15 0.01237
326934.99 3795592.17 0.01146 326951.04
3795599.47 0.01082
326950.26 3795555.95 0.01185 326951.59
3795535.07 0.01190
326961.83 3795537.57 0.01175 326982.25
3795538.33 0.01148
326992.41 3795539.09 0.01135 327008.98
3795535.58 0.01116
326987.68 3795580.97 0.01068 327024.81
3795588.42 0.00967
326925.07 3795485.95 0.01238 326937.83
3795488.27 0.01220
326956.45 3795489.28 0.01196 326970.89

3795491.03   0.01177
         326989.96   3795487.68   0.01154   325049.27
3794362.92   0.00781
         325086.77   3794362.92   0.00761   325124.27
3794362.92   0.00742

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                 INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                               ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 - - -

3794432.52 0.00782
325274.27 3794432.52 0.00759 325049.27
3794455.72 0.00919
325086.77 3794455.72 0.00900 325124.27
3794455.72 0.00886
325161.77 3794455.72 0.00863 325199.27
3794455.72 0.00841
325236.77 3794455.72 0.00818 325274.27
3794455.72 0.00794
325049.27 3794478.92 0.00959 325086.77
3794478.92 0.00947
325124.27 3794478.92 0.00924 325161.77
3794478.92 0.00901
325199.27 3794478.92 0.00878 325236.77
3794478.92 0.00855
325274.27 3794478.92 0.00831 325049.27
3794502.12 0.01001
325086.77 3794502.12 0.00989 325124.27
3794502.12 0.00966
325161.77 3794502.12 0.00942 325199.27
3794502.12 0.00918
325236.77 3794502.12 0.00894 325274.27
3794502.12 0.00870
325049.27 3794525.32 0.01046 325086.77
3794525.32 0.01034
325124.27 3794525.32 0.01010 325161.77
3794525.32 0.00985
325199.27 3794525.32 0.00961 325236.77
3794525.32 0.00936
325274.27 3794525.32 0.00912 325049.27
3794548.52 0.01095
325086.77 3794548.52 0.01082 325124.27
3794548.52 0.01057
325161.77 3794548.52 0.01031 325199.27
3794548.52 0.01006
325236.77 3794548.52 0.00981 325274.27
3794548.52 0.00956
325049.27 3794571.72 0.01146 325086.77
3794571.72 0.01133
325124.27 3794571.72 0.01107 325161.77
3794571.72 0.01081
325199.27 3794571.72 0.01055 325236.77
3794571.72 0.01028
325274.27 3794571.72 0.01002 325049.27
3794594.92 0.01201
325086.77 3794594.92 0.01188 325124.27
3794594.92 0.01161
325161.77 3794594.92 0.01134 325199.27
3794594.92 0.01106
325236.77 3794594.92 0.01079 325274.27

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325274.27	3794618.12	0.01107	325049.27	3794641.32	0.01321
325086.77	3794641.32	0.01310	325124.27	3794641.32	0.01281
325161.77	3794641.32	0.01251	325199.27	3794641.32	0.01221
325236.77	3794641.32	0.01192	325274.27	3794641.32	0.01165
325049.27	3794664.52	0.01388	325086.77	3794664.52	0.01377
325124.27	3794664.52	0.01347	325161.77	3794664.52	0.01316
325199.27	3794664.52	0.01285	325236.77	3794664.52	0.01254
325274.27	3794664.52	0.01230	325049.27	3794687.72	0.01459
325086.77	3794687.72	0.01449	325124.27	3794687.72	0.01418
325161.77	3794687.72	0.01386	325199.27	3794687.72	0.01354
325236.77	3794687.72	0.01322	325274.27		

3794687.72 0.01305
324871.62 3794298.63 0.00765 324910.53
3794298.63 0.00749
324949.44 3794298.63 0.00741 324988.35
3794298.63 0.00722
324871.62 3794320.43 0.00792 324910.53
3794320.43 0.00784
324949.44 3794320.43 0.00767 324988.35
3794320.43 0.00748
324871.62 3794342.23 0.00821 324910.53
3794342.23 0.00815
324949.44 3794342.23 0.00795 324988.35
3794342.23 0.00775
324871.62 3794364.03 0.00854 324910.53
3794364.03 0.00845
324949.44 3794364.03 0.00824 324988.35
3794364.03 0.00806
324871.62 3794385.83 0.00893 324910.53
3794385.83 0.00876
324949.44 3794385.83 0.00855 324988.35
3794385.83 0.00842
324871.62 3794407.63 0.00928 324910.53
3794407.63 0.00910
324949.44 3794407.63 0.00888 324988.35
3794407.63 0.00874
324871.62 3794429.43 0.00964 324910.53
3794429.43 0.00945
324949.44 3794429.43 0.00923 324988.35
3794429.43 0.00909
324871.62 3794451.23 0.01002 324910.53
3794451.23 0.00983
324949.44 3794451.23 0.00960 324988.35
3794451.23 0.00945
324871.62 3794473.03 0.01042 324910.53
3794473.03 0.01022
324949.44 3794473.03 0.01003 324988.35
3794473.03 0.00987
324871.62 3794494.83 0.01086 324910.53
3794494.83 0.01064
324949.44 3794494.83 0.01045 324988.35
3794494.83 0.01028
324871.62 3794516.63 0.01133 324910.53
3794516.63 0.01107
324949.44 3794516.63 0.01088 324988.35
3794516.63 0.01071
324871.62 3794538.43 0.01180 324910.53
3794538.43 0.01154
324949.44 3794538.43 0.01134 324988.35
3794538.43 0.01117
324871.62 3794560.23 0.01229 324910.53

3794560.23 0.01203
 324949.44 3794560.23 0.01183 324988.35
3794560.23 0.01166
 324871.62 3794582.03 0.01282 324910.53
3794582.03 0.01255
 324949.44 3794582.03 0.01234 324988.35
3794582.03 0.01217
 324871.62 3794603.83 0.01338 324910.53
3794603.83 0.01310

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
324949.44	3794603.83	0.01291	324988.35	3794603.83	0.01271
324871.62	3794625.63	0.01396	324910.53	3794625.63	0.01369
324949.44	3794625.63	0.01360	324988.35	3794625.63	0.01329
324871.62	3794647.43	0.01459	324910.53	3794647.43	0.01431
324949.44	3794647.43	0.01422	324988.35	3794647.43	0.01390
324871.62	3794669.23	0.01525	324910.53	3794669.23	0.01496
324949.44	3794669.23	0.01488	324988.35	3794669.23	0.01455
324871.62	3794691.03	0.01595	324910.53	3794691.03	0.01565
324949.44	3794691.03	0.01558	324988.35	3794691.03	0.01524
324449.04	3794074.69	0.00661	324485.99		

3794074.69 0.00649
324522.94 3794074.69 0.00637 324559.89
3794074.69 0.00623
324596.84 3794074.69 0.00608 324633.79
3794074.69 0.00592
324670.74 3794074.69 0.00579 324707.69
3794074.69 0.00569
324744.64 3794074.69 0.00564 324781.59
3794074.69 0.00565
324449.04 3794106.66 0.00690 324485.99
3794106.66 0.00678
324522.94 3794106.66 0.00666 324559.89
3794106.66 0.00653
324596.84 3794106.66 0.00640 324633.79
3794106.66 0.00624
324670.74 3794106.66 0.00611 324707.69
3794106.66 0.00602
324744.64 3794106.66 0.00601 324781.59
3794106.66 0.00596
324449.04 3794138.63 0.00722 324485.99
3794138.63 0.00709
324522.94 3794138.63 0.00697 324559.89
3794138.63 0.00683
324596.84 3794138.63 0.00669 324633.79
3794138.63 0.00662
324670.74 3794138.63 0.00649 324707.69
3794138.63 0.00640
324744.64 3794138.63 0.00635 324781.59
3794138.63 0.00624
324449.04 3794170.60 0.00755 324485.99
3794170.60 0.00742
324522.94 3794170.60 0.00730 324559.89
3794170.60 0.00724
324596.84 3794170.60 0.00709 324633.79
3794170.60 0.00697
324670.74 3794170.60 0.00684 324707.69
3794170.60 0.00678
324744.64 3794170.60 0.00666 324781.59
3794170.60 0.00659
324449.04 3794202.57 0.00790 324485.99
3794202.57 0.00777
324522.94 3794202.57 0.00766 324559.89
3794202.57 0.00761
324596.84 3794202.57 0.00746 324633.79
3794202.57 0.00731
324670.74 3794202.57 0.00725 324707.69
3794202.57 0.00712
324744.64 3794202.57 0.00698 324781.59
3794202.57 0.00693
324449.04 3794234.54 0.00828 324485.99

3794234.54   0.00815
         324522.94   3794234.54   0.00803   324559.89
3794234.54   0.00798
         324596.84   3794234.54   0.00783   324633.79
3794234.54   0.00767
         324670.74   3794234.54   0.00763   324707.69
3794234.54   0.00747
         324744.64   3794234.54   0.00733   324781.59
3794234.54   0.00727
         324449.04   3794266.51   0.00867   324485.99
3794266.51   0.00854

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 - - -

3794298.48 0.00802
324449.04 3794330.45 0.00953 324485.99
3794330.45 0.00941
324522.94 3794330.45 0.00940 324559.89
3794330.45 0.00925
324596.84 3794330.45 0.00908 324633.79
3794330.45 0.00903
324670.74 3794330.45 0.00887 324707.69
3794330.45 0.00869
324744.64 3794330.45 0.00853 324781.59
3794330.45 0.00845
324449.04 3794362.42 0.01000 324485.99
3794362.42 0.01002
324522.94 3794362.42 0.00988 324559.89
3794362.42 0.00972
324596.84 3794362.42 0.00955 324633.79
3794362.42 0.00950
324670.74 3794362.42 0.00934 324707.69
3794362.42 0.00916
324744.64 3794362.42 0.00906 324781.59
3794362.42 0.00894
324449.04 3794394.39 0.01050 324485.99
3794394.39 0.01052
324522.94 3794394.39 0.01039 324559.89
3794394.39 0.01023
324596.84 3794394.39 0.01006 324633.79
3794394.39 0.01001
324670.74 3794394.39 0.00985 324707.69
3794394.39 0.00966
324744.64 3794394.39 0.00956 324781.59
3794394.39 0.00943
324449.04 3794426.36 0.01107 324485.99
3794426.36 0.01107
324522.94 3794426.36 0.01093 324559.89
3794426.36 0.01077
324596.84 3794426.36 0.01059 324633.79
3794426.36 0.01056
324670.74 3794426.36 0.01039 324707.69
3794426.36 0.01021
324744.64 3794426.36 0.01011 324781.59
3794426.36 0.00996
324449.04 3794458.33 0.01172 324485.99
3794458.33 0.01165
324522.94 3794458.33 0.01150 324559.89
3794458.33 0.01134
324596.84 3794458.33 0.01121 324633.79
3794458.33 0.01115
324670.74 3794458.33 0.01097 324707.69
3794458.33 0.01083
324744.64 3794458.33 0.01075 324781.59

```
3794458.33        0.01054
         324449.04    3794490.30        0.01232                        324485.99
3794490.30        0.01226
         324522.94    3794490.30        0.01212                        324559.89
3794490.30        0.01196
         324596.84    3794490.30        0.01191                        324633.79
3794490.30        0.01179
         324670.74    3794490.30        0.01159                        324707.69
3794490.30        0.01145
         324744.64    3794490.30        0.01137                        324781.59
3794490.30        0.01115
         324449.04    3794522.27        0.01299                        324485.99
3794522.27        0.01290
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:41:18

                                  PAGE  24
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         324522.94    3794522.27        0.01277                        324559.89
3794522.27        0.01261
         324596.84    3794522.27        0.01257                        324633.79
3794522.27        0.01246
         324670.74    3794522.27        0.01226                        324707.69
3794522.27        0.01212
         324744.64    3794522.27        0.01205                        324781.59
3794522.27        0.01182
         324449.04    3794554.24        0.01370                        324485.99
3794554.24        0.01359
         324522.94    3794554.24        0.01346                        324559.89
3794554.24        0.01336
         324596.84    3794554.24        0.01333                        324633.79
3794554.24        0.01318
         324670.74    3794554.24        0.01297                        324707.69
```

3794554.24 0.01283
324744.64 3794554.24 0.01277 324781.59
3794554.24 0.01254
324449.04 3794586.21 0.01442 324485.99
3794586.21 0.01432
324522.94 3794586.21 0.01419 324559.89
3794586.21 0.01415
324596.84 3794586.21 0.01413 324633.79
3794586.21 0.01394
324670.74 3794586.21 0.01374 324707.69
3794586.21 0.01361
324744.64 3794586.21 0.01355 324781.59
3794586.21 0.01331
324449.04 3794618.18 0.01519 324485.99
3794618.18 0.01509
324522.94 3794618.18 0.01498 324559.89
3794618.18 0.01495
324596.84 3794618.18 0.01495 324633.79
3794618.18 0.01477
324670.74 3794618.18 0.01458 324707.69
3794618.18 0.01457
324744.64 3794618.18 0.01439 324781.59
3794618.18 0.01415
324449.04 3794650.15 0.01601 324485.99
3794650.15 0.01592
324522.94 3794650.15 0.01581 324559.89
3794650.15 0.01580
324596.84 3794650.15 0.01583 324633.79
3794650.15 0.01565
324670.74 3794650.15 0.01548 324707.69
3794650.15 0.01553
324744.64 3794650.15 0.01531 324781.59
3794650.15 0.01506
324449.04 3794682.12 0.01688 324485.99
3794682.12 0.01680
324522.94 3794682.12 0.01675 324559.89
3794682.12 0.01687
324596.84 3794682.12 0.01677 324633.79
3794682.12 0.01660
324670.74 3794682.12 0.01643 324707.69
3794682.12 0.01652
324744.64 3794682.12 0.01629 324781.59
3794682.12 0.01604
326547.36 3795022.06 0.01240 326594.67
3795022.06 0.01211
326641.98 3795022.06 0.01165 326547.36
3795042.46 0.01292
326594.67 3795042.46 0.01229 326641.98
3795042.46 0.01212
326547.36 3795062.86 0.01348 326594.67

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         326594.67   3795164.86   0.01581   326641.98
3795164.86   0.01556
         326547.36   3795185.26   0.01680   326594.67
3795185.26   0.01655
         326641.98   3795185.26   0.01625   326547.36
3795205.66   0.01763
         326594.67   3795205.66   0.01733   326641.98
3795205.66   0.01677
         326547.36   3795226.06   0.01854   326594.67
3795226.06   0.01818
         326641.98   3795226.06   0.01699   326547.36
3795246.46   0.01952
         326594.67   3795246.46   0.01893   326641.98

3795246.46 0.01758
326690.43 3795243.37 0.01682 326688.67
3795223.05 0.01622
326686.02 3795005.77 0.01121 326686.02
3795033.66 0.01174
326686.02 3795061.55 0.01231 326686.02
3795089.44 0.01300
326686.02 3795117.33 0.01373 326686.02
3795145.22 0.01451
326686.02 3795173.11 0.01522 326686.02
3795201.00 0.01557
326832.80 3795263.26 0.01490 326849.67
3795263.26 0.01432
326866.54 3795263.26 0.01392 326883.41
3795263.26 0.01369
326900.28 3795263.26 0.01347 326917.15
3795263.26 0.01325
326934.02 3795263.26 0.01271 326950.89
3795263.26 0.01222
326967.76 3795263.26 0.01204 326984.63
3795263.26 0.01174
327001.50 3795263.26 0.01124 327036.85
3795141.35 0.01036
327075.72 3795141.35 0.00962 327036.85
3795160.91 0.01054
327075.72 3795160.91 0.00977 327036.85
3795180.47 0.01070
327075.72 3795180.47 0.00991 327036.85
3795200.03 0.01082
327075.72 3795200.03 0.01005 327036.85
3795219.59 0.01064
327075.72 3795219.59 0.01018 327036.85
3795239.15 0.01064
327075.72 3795239.15 0.01030 327036.85
3795258.71 0.01076
327075.72 3795258.71 0.01041 327036.85
3795278.27 0.01087
327075.72 3795278.27 0.01051 326840.04
3795223.24 0.01414
326860.58 3795224.16 0.01348 326877.30
3795222.74 0.01326
326929.68 3795223.69 0.01245 326932.86
3795200.00 0.01209
326972.32 3795217.03 0.01159 326970.84
3795177.58 0.01122
326968.20 3795152.46 0.01098 326998.43
3795149.77 0.01072
326997.48 3795176.61 0.01099 326995.60
3795193.01 0.01116
326996.92 3795215.78 0.01135 326916.97

```
3795152.19        0.01193
         326901.95    3795150.46        0.01203                        326884.24
3795164.40        0.01238
         326867.32    3795151.32        0.01231                        326873.22
3795163.36        0.01246
         326845.53    3795152.12        0.01276                        326824.91
3795151.45        0.01326
         326826.60    3795170.60        0.01362                        326840.50
3795180.17        0.01340
         326799.39    3795147.97        0.01337                        326776.77
3795147.89        0.01352
         326738.03    3795152.73        0.01388                        326781.33
3795110.75        0.01266
         326806.10    3795109.04        0.01236                        326804.45
3795090.73        0.01201
         326781.78    3795086.72        0.01213                        326787.40
3795061.79        0.01159
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:41:18

                                  PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         326794.01    3795031.22        0.01097                        326977.50
3795110.69        0.01045
         326994.05    3795107.87        0.01032                        326984.52
3795093.80        0.01021
         326972.85    3795082.37        0.01014                        326995.41
3795072.53        0.00991
         326993.23    3795060.01        0.00977                        326984.60
3795040.80        0.00956
         326981.66    3795027.22        0.00940                        327041.48
3795102.15        0.00992
         327065.19    3795095.75        0.00936                        327040.88
```

3795076.27   0.00967
         327061.24   3795058.32   0.00910   327037.82
3795061.09   0.00957
         327035.65   3795040.58   0.00936   327058.94
3795038.41   0.00894
         327051.53   3795017.85   0.00886   327033.29
3795021.71   0.00915
         326826.26   3795110.80   0.01195   326843.29
3795110.80   0.01179
         326860.32   3795110.80   0.01167   326877.35
3795110.80   0.01158
         326894.38   3795110.80   0.01148   326911.41
3795110.80   0.01138
         326928.44   3795110.80   0.01110   326945.47
3795110.80   0.01069
         326819.99   3795048.86   0.01086   326838.19
3795048.86   0.01066
         326856.39   3795048.86   0.01060   326874.59
3795048.86   0.01055
         326892.79   3795048.86   0.01049   326910.99
3795048.86   0.01043
         326929.19   3795048.86   0.01018   326947.39
3795048.86   0.00982

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                              *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL   ***
                                 INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
 -
- -
        326345.95   3795634.03   0.20062 (09052906)   326414.12
 3795779.67   0.19059 (09052906)
        326435.80   3795773.48   0.19298 (09052906)   326458.31
 3795772.83   0.19215 (09052906)
        326424.24   3795858.77   0.21087 (11012717)   326400.20

3795799.84 0.18703 (11012717)
326400.93 3795767.87 0.18117 (09052906) 326424.24
3795858.77 0.21087 (11012717)
326611.84 3795762.99 0.20583 (13052906) 326611.84
3795762.99 0.20583 (13052906)
326610.94 3795777.66 0.20301 (13052906) 326605.86
3795792.89 0.20345 (13052906)
326623.93 3795809.00 0.19768 (13052906) 326627.22
3795836.58 0.19472 (09042304)
326640.09 3795836.58 0.19197 (09042304) 326654.45
3795868.68 0.18207 (11061701)
326665.45 3795883.13 0.17904 (13070102) 326588.30
3795867.62 0.16647 (11012717)
326640.52 3795951.95 0.17475 (11012717) 326658.45
3795975.58 0.17998 (11012717)
326759.52 3796019.28 0.16201 (11012717) 326763.60
3796031.85 0.16390 (11012717)
326775.94 3796048.05 0.16462 (11012717) 326774.23
3796062.19 0.16760 (11012717)
326801.34 3796078.38 0.16499 (11012717) 326809.46
3796094.93 0.16491 (11012717)
326736.80 3796108.96 0.17004 (11012717) 326835.84
3796126.62 0.16049 (11012717)
326836.27 3796140.13 0.16102 (11012717) 326800.95
3796123.31 0.16912 (11012717)
326762.39 3796138.51 0.16165 (11012717) 326766.63
3796155.18 0.15361 (11012717)
326774.14 3796169.68 0.14904 (11012717) 326798.07
3796201.57 0.13836 (11012717)
326808.84 3796229.51 0.12391 (11012717) 326880.95
3796184.59 0.15020 (11012717)
326915.56 3796260.01 0.13387 (11012717) 326941.07
3796261.11 0.13293 (11012717)
326958.24 3796277.25 0.12847 (11012717) 326964.89
3796291.08 0.12272 (11012717)
326984.47 3796322.92 0.11058 (11012717) 326993.31
3796349.42 0.09643 (11012717)
326993.49 3796365.88 0.09443 (09020821) 327007.03
3796382.47 0.09421 (09020821)
326972.07 3796390.18 0.09137 (09020821) 326996.78
3796414.54 0.09371 (12120308)
326693.51 3795789.66 0.13886 (09052906) 326695.37
3795771.29 0.14120 (09052906)
326727.00 3795761.34 0.14078 (09052906) 326758.55
3795787.48 0.12475 (09052906)
326761.76 3795813.54 0.11574 (09052906) 326742.22
3795837.06 0.11549 (09052906)
326838.64 3795823.91 0.10581 (09052906) 326811.45
3795889.81 0.09352 (09052906)
326823.87 3795855.97 0.09696 (09052906) 326876.62

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 3795837.29        0.09739  (09052906)
       326889.30   3795888.54        0.09026  (09052906)                326687.45
 3795683.69        0.23764  (13052906)
       326829.20   3795731.31        0.12714  (09052906)                326859.14
 3795703.62        0.12328  (09053006)
       326881.10   3795705.58        0.12749  (09053006)                326787.44
 3795607.00        0.31090  (09053101)
       326780.76   3795563.55        0.35835  (13030503)                326800.04
 3795542.65        0.39500  (13030503)
       326808.89   3795540.15        0.40310  (13030503)                326825.79
 3795543.65        0.40663  (13030503)
       326856.70   3795545.31        0.40641  (12050224)                326792.33
 3795494.19        0.45197  (12012024)
       326806.68   3795493.93        0.45139  (12012024)                326824.07
 3795494.42        0.44897  (12012024)
       326853.52   3795481.71        0.47427  (09012107)                326898.80
 3795534.37        0.41269  (12050224)
       325796.15   3795215.59        0.70022  (12122922)                325823.15
 3795215.59        0.70661  (12020205)
       326012.15   3795215.59        0.64643  (13122103)                326120.15
 3795215.59        0.49059  (11012303)
       326147.15   3795215.59        0.47611  (11121023)                325796.15
 3795254.59        0.72998  (11121104)
       325823.15   3795254.59        0.73829  (12122922)                325850.15
 3795254.59        0.73572  (12020205)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:41:18

                                   PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        325877.15   3795254.59        0.73111  (12123121)                325904.15
 3795254.59        0.72065  (13010624)
        325931.15   3795254.59        0.68889  (13010624)                325958.15
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3795254.59        0.68331  (11121006)
       325985.15   3795254.59        0.67822  (11122506)                326012.15
3795254.59        0.56486  (11022303)
       326039.15   3795254.59        0.54265  (12122923)                326066.15
3795254.59        0.53031  (13122407)
       326093.15   3795254.59        0.51704  (09122106)                326120.15
3795254.59        0.50107  (11012303)
       326147.15   3795254.59        0.48223  (13122104)                325796.15
3795293.59        0.73237  (11021704)
       325823.15   3795293.59        0.72718  (11121104)                325850.15
3795293.59        0.74100  (12122922)
       325877.15   3795293.59        0.75823  (12020205)                325904.15
3795293.59        0.75338  (12123121)
       325931.15   3795293.59        0.71445  (13010624)                325958.15
3795293.59        0.70593  (10121121)
       325985.15   3795293.59        0.56170  (11121006)                326012.15
3795293.59        0.53484  (09021204)
       326039.15   3795293.59        0.52645  (11022303)                326066.15
3795293.59        0.48354  (12122923)
       326093.15   3795293.59        0.46836  (10012524)                326120.15
3795293.59        0.47668  (13020901)
       326147.15   3795293.59        0.48496  (13020901)                325796.15
3795332.59        0.57281  (11123007)
       325823.15   3795332.59        0.57622  (11123007)                325850.15
3795332.59        0.61231  (11121104)
       325877.15   3795332.59        0.63330  (12122922)                325904.15
3795332.59        0.75823  (09122324)
       325931.15   3795332.59        0.72280  (12122924)                325958.15
3795332.59        0.58920  (11123007)
       325985.15   3795332.59        0.54584  (11123007)                326012.15
3795332.59        0.52195  (11123007)
       326039.15   3795332.59        0.51833  (11123007)                326066.15
3795332.59        0.52034  (11123007)
       326093.15   3795332.59        0.52293  (11123007)                326120.15
3795332.59        0.53495  (11123007)
       326147.15   3795332.59        0.54421  (11010905)                325847.44
3795004.89        0.56713  (11121006)
       325872.44   3795004.89        0.56496  (11122506)                325897.44
3795004.89        0.56212  (10123020)
       325922.44   3795004.89        0.55832  (13122103)                325947.44
3795004.89        0.55491  (13122407)
       325972.44   3795004.89        0.54280  (12021824)                325997.44
3795004.89        0.53078  (09122106)
       326022.44   3795004.89        0.52270  (13013002)                326047.44
3795004.89        0.51606  (11012303)
       326072.44   3795004.89        0.50762  (10021506)                326097.44
3795004.89        0.50169  (09020403)
       326122.44   3795004.89        0.49430  (11121023)                326147.44
3795004.89        0.44352  (09021807)
       325847.44   3795046.89        0.58966  (11121006)                325872.44
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 3795046.89        0.58639  (11121006)
       325897.44   3795046.89        0.58468  (11122506)                325922.44
 3795046.89        0.58093  (10123020)
       325947.44   3795046.89        0.57761  (13122103)                325972.44
 3795046.89        0.56426  (13122407)
       325997.44   3795046.89        0.54662  (12021824)                326022.44
 3795046.89        0.54173  (13013002)
       326047.44   3795046.89        0.53533  (11122402)                326072.44
 3795046.89        0.52672  (11012303)
       326097.44   3795046.89        0.51986  (10021506)                326122.44
 3795046.89        0.46078  (11121023)
       326147.44   3795046.89        0.43148  (11121023)                325847.44
 3795088.89        0.61111  (10121121)
       325872.44   3795088.89        0.61167  (11121006)                325897.44
 3795088.89        0.60722  (11122506)
       325922.44   3795088.89        0.60546  (11122506)                325947.44
 3795088.89        0.58936  (09121401)
       325972.44   3795088.89        0.57674  (13122103)                325997.44
 3795088.89        0.56896  (13122407)
       326022.44   3795088.89        0.56266  (09122106)                326047.44
 3795088.89        0.55779  (13013002)
       326072.44   3795088.89        0.54917  (11012303)                326097.44
 3795088.89        0.49193  (10021506)
       326122.44   3795088.89        0.46608  (09020403)                326147.44
 3795088.89        0.44288  (11121023)
       325847.44   3795130.89        0.64106  (13010624)                325872.44
 3795130.89        0.63477  (11121006)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:41:18

                                   PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                   INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        325897.44   3795130.89        0.63524  (11121006)                325922.44
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3795130.89        0.63115  (11122506)
       325947.44   3795130.89        0.61409  (10123020)                325972.44
3795130.89        0.60100  (09121401)
       325997.44   3795130.89        0.59600  (13122407)                326022.44
3795130.89        0.58677  (12021824)
       326047.44   3795130.89        0.58016  (13013002)                326072.44
3795130.89        0.57159  (11012303)
       326097.44   3795130.89        0.49196  (11012303)                326122.44
3795130.89        0.46557  (13122104)
       326147.44   3795130.89        0.45471  (11121023)                325847.44
3795172.89        0.67036  (10013003)
       325872.44   3795172.89        0.66686  (13010624)                325897.44
3795172.89        0.66112  (11121006)
       325922.44   3795172.89        0.66049  (11121006)                325947.44
3795172.89        0.64049  (11122506)
       325972.44   3795172.89        0.62685  (10123020)                325997.44
3795172.89        0.62189  (13122103)
       326022.44   3795172.89        0.61385  (13122407)                326047.44
3795172.89        0.55153  (12021824)
       326072.44   3795172.89        0.50996  (11020405)                325847.44
3795214.89        0.70257  (12123121)
       325872.44   3795214.89        0.69884  (10013003)                325897.44
3795214.89        0.69476  (13010624)
       325922.44   3795214.89        0.68944  (11121006)                325947.44
3795214.89        0.66924  (11121006)
       325972.44   3795214.89        0.65410  (11122506)                325997.44
3795214.89        0.64914  (09121401)
       326047.44   3795214.89        0.52881  (13122407)                326072.44
3795214.89        0.51660  (09122106)
       326097.44   3795214.89        0.50480  (11020405)                326147.44
3795214.89        0.47584  (11121023)
       326096.58   3795181.52        0.49389  (11012303)                326118.63
3795182.57        0.48244  (10012801)
       326144.35   3795184.14        0.47041  (11121023)                325849.74
3794829.62        0.49751  (09121401)
       325892.61   3794829.62        0.49249  (13122407)                325935.48
3794829.62        0.47778  (09122106)
       325978.35   3794829.62        0.47196  (13013002)                326021.22
3794829.62        0.46340  (11012303)
       326064.09   3794829.62        0.45065  (09020403)                325849.74
3794867.55        0.51353  (09121401)
       325892.61   3794867.55        0.50140  (13122407)                325935.48
3794867.55        0.49087  (12021824)
       325978.35   3794867.55        0.48635  (13013002)                326021.22
3794867.55        0.47847  (11012303)
       326064.09   3794867.55        0.46379  (10021506)                325849.74
3794905.48        0.52959  (10123020)
       325892.61   3794905.48        0.51710  (13122103)                325935.48
3794905.48        0.50606  (12021824)
       325978.35   3794905.48        0.50045  (13013002)                326021.22
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 3794905.48        0.49242  (11012303)
       326064.09   3794905.48        0.47128  (10021506)               325849.74
 3794943.41        0.54469  (11122506)
       325892.61   3794943.41        0.53245  (09121401)               325935.48
 3794943.41        0.52577  (13122407)
       325978.35   3794943.41        0.51626  (09122106)               326021.22
 3794943.41        0.50804  (11122402)
       326064.09   3794943.41        0.48496  (10021506)               325849.74
 3794981.34        0.55589  (11122506)
       325892.61   3794981.34        0.55047  (10123020)               325935.48
 3794981.34        0.54478  (13122407)
       325978.35   3794981.34        0.53403  (12021824)               326021.22
 3794981.34        0.51511  (13013002)
       326064.09   3794981.34        0.49901  (10021506)               325855.31
 3794726.62        0.45845  (13122407)
       325902.64   3794726.62        0.45120  (09122106)               325855.31
 3794745.52        0.46556  (13122407)
       325902.64   3794745.52        0.45726  (12021824)               325855.31
 3794764.42        0.47238  (13122407)
       325902.64   3794764.42        0.46436  (12021824)               325855.31
 3794783.32        0.47893  (13122407)
       325902.64   3794783.32        0.47126  (12021824)               325855.31
 3794802.22        0.48645  (13122103)
       325902.64   3794802.22        0.47797  (12021824)               325855.31
 3794821.12        0.49391  (13122103)
       325902.64   3794821.12        0.48441  (13122407)               326402.77
 3795249.33        0.45351  (13122905)
       325380.55   3795776.17        0.21504  (12012307)               325415.88
 3795858.35        0.10190  (12021301)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:41:18

                                  PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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- - - -
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 3797264.10         0.02233  (13040507)
       326829.98   3795735.43         0.12527  (09052906)                326866.53
 3795706.88         0.12220  (09053006)
       326831.50   3795646.57         0.30465  (09053101)                326872.90
 3795644.95         0.30499  (09053101)
       326898.91   3795644.66         0.30468  (09053101)                326924.66
 3795650.14         0.28857  (09053101)
       326949.68   3795646.43         0.29831  (09053101)                326975.59
 3795638.84         0.26673  (09053101)
       326917.88   3795602.78         0.34630  (13041320)                326918.63
 3795584.13         0.38534  (13122118)
       326921.61   3795563.48         0.39150  (12050224)                326917.18
 3795537.15         0.41032  (12050224)
       326934.99   3795592.17         0.35362  (13122118)                326951.04
 3795599.47         0.33497  (13041320)
       326950.26   3795555.95         0.39715  (12050224)                326951.59
 3795535.07         0.41218  (12021023)
       326961.83   3795537.57         0.41025  (12021023)                326982.25
 3795538.33         0.41001  (12021023)
       326992.41   3795539.09         0.40956  (12021023)                327008.98
 3795535.58         0.41261  (12021023)
       326987.68   3795580.97         0.35264  (13030503)                327024.81
 3795588.42         0.32340  (13030503)
       326925.07   3795485.95         0.44602  (09012107)                326937.83
 3795488.27         0.44292  (09012107)
       326956.45   3795489.28         0.44066  (09012107)                326970.89
 3795491.03         0.43797  (09012107)
       326989.96   3795487.68         0.43981  (09012107)                325049.27
 3794362.92         0.38896  (12021724)
       325086.77   3794362.92         0.38772  (13120620)                325124.27
 3794362.92         0.38691  (13120620)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:41:18

                                  PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
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Y-COORD (M)        CONC     (YYMMDDHH)
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 3794525.32        0.43737  (10012707)
       325124.27   3794525.32        0.43476  (12021724)               325161.77
 3794525.32        0.43243  (12021724)
       325199.27   3794525.32        0.42962  (13120620)               325236.77
 3794525.32        0.42891  (13120620)
       325274.27   3794525.32        0.42735  (09021803)               325049.27
 3794548.52        0.43954  (10010424)
       325086.77   3794548.52        0.44459  (10010424)               325124.27
 3794548.52        0.44231  (10012707)
       325161.77   3794548.52        0.43979  (12021724)               325199.27
 3794548.52        0.43521  (12021724)
       325236.77   3794548.52        0.43549  (13120620)               325274.27
 3794548.52        0.43370  (09021803)
       325049.27   3794571.72        0.44537  (10010424)               325086.77
 3794571.72        0.45245  (10010424)
       325124.27   3794571.72        0.44954  (10012707)               325161.77
 3794571.72        0.44649  (12021724)
       325199.27   3794571.72        0.44388  (12021724)               325236.77
 3794571.72        0.44137  (13120620)
       325274.27   3794571.72        0.44016  (13120620)               325049.27
 3794594.92        0.45491  (10011404)
       325086.77   3794594.92        0.45967  (10010424)               325124.27
 3794594.92        0.45725  (10010424)
       325161.77   3794594.92        0.45439  (10012707)               325199.27
 3794594.92        0.45176  (12021724)
       325236.77   3794594.92        0.44678  (12021724)               325274.27
 3794594.92        0.44737  (13120620)
       325049.27   3794618.12        0.46428  (10011404)               325086.77
 3794618.12        0.46627  (10010424)
       325124.27   3794618.12        0.46559  (10010424)               325161.77
 3794618.12        0.46211  (10012707)
       325199.27   3794618.12        0.45895  (12021724)               325236.77
 3794618.12        0.45604  (12021724)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:41:18

                                   PAGE  32
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                   INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **
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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325274.27	3794618.12	0.45496	(13120620)	325049.27	3794641.32	0.47289	(10011404)
325086.77	3794641.32	0.47690	(10011404)	325124.27	3794641.32	0.47329	(10010424)
325161.77	3794641.32	0.47034	(10010424)	325199.27	3794641.32	0.46724	(10012707)
325236.77	3794641.32	0.46449	(12021724)	325274.27	3794641.32	0.46135	(13120620)
325049.27	3794664.52	0.48234	(09120921)	325086.77	3794664.52	0.48718	(10011404)
325124.27	3794664.52	0.48060	(10011404)	325161.77	3794664.52	0.47920	(10010424)
325199.27	3794664.52	0.47549	(10012707)	325236.77	3794664.52	0.47222	(12021724)
325274.27	3794664.52	0.47228	(12021724)	325049.27	3794687.72	0.49212	(09120921)
325086.77	3794687.72	0.49672	(10011404)	325124.27	3794687.72	0.49212	(10011404)
325161.77	3794687.72	0.48742	(10010424)	325199.27	3794687.72	0.48432	(10010424)
325236.77	3794687.72	0.48098	(10012707)	325274.27	3794687.72	0.48580	(12021724)
324871.62	3794298.63	0.37090	(10010424)	324910.53	3794298.63	0.36944	(10012707)
324949.44	3794298.63	0.37360	(12021724)	324988.35	3794298.63	0.37167	(12021724)
324871.62	3794320.43	0.37540	(10010424)	324910.53	3794320.43	0.37881	(10010424)
324949.44	3794320.43	0.37864	(10012707)	324988.35	3794320.43	0.37672	(12021724)
324871.62	3794342.23	0.37932	(10010424)	324910.53	3794342.23	0.38606	(10010424)
324949.44	3794342.23	0.38368	(10012707)	324988.35	3794342.23	0.38120	(12021724)
324871.62	3794364.03	0.38510	(10011119)	324910.53	3794364.03	0.39114	(10010424)
324949.44	3794364.03	0.38814	(10012707)	324988.35	3794364.03	0.38724	(10012707)
324871.62	3794385.83	0.39619	(10011404)	324910.53	3794385.83	0.39564	(10010424)
324949.44	3794385.83	0.39393	(10010424)	324988.35	3794385.83	0.39650	(10012707)
324871.62	3794407.63	0.40330	(10011404)	324910.53	3794407.63	0.39998	(10011119)
324949.44	3794407.63	0.39936	(10010424)	324988.35			

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 3794407.63         0.40175  (10012707)
       324871.62   3794429.43        0.40941  (10011404)                324910.53
 3794429.43         0.40679  (10011404)
       324949.44   3794429.43        0.40421  (10010424)                324988.35
 3794429.43         0.40762  (10010424)
       324871.62   3794451.23        0.41488  (09120921)                324910.53
 3794451.23         0.41400  (10011404)
       324949.44   3794451.23        0.40906  (10011119)                324988.35
 3794451.23         0.41397  (10010424)
       324871.62   3794473.03        0.42210  (09120921)                324910.53
 3794473.03         0.42052  (10011404)
       324949.44   3794473.03        0.41852  (10011404)                324988.35
 3794473.03         0.42140  (10010424)
       324871.62   3794494.83        0.42982  (09120921)                324910.53
 3794494.83         0.42638  (09120921)
       324949.44   3794494.83        0.42666  (10011404)                324988.35
 3794494.83         0.42679  (10010424)
       324871.62   3794516.63        0.43776  (11121923)                324910.53
 3794516.63         0.43403  (09120921)
       324949.44   3794516.63        0.43370  (10011404)                324988.35
 3794516.63         0.43403  (10011404)
       324871.62   3794538.43        0.44541  (11121923)                324910.53
 3794538.43         0.44093  (09120921)
       324949.44   3794538.43        0.44005  (10011404)                324988.35
 3794538.43         0.44240  (10011404)
       324871.62   3794560.23        0.45246  (09022006)                324910.53
 3794560.23         0.44853  (11121923)
       324949.44   3794560.23        0.44820  (09120921)                324988.35
 3794560.23         0.45010  (10011404)
       324871.62   3794582.03        0.46130  (09022006)                324910.53
 3794582.03         0.45655  (11121923)
       324949.44   3794582.03        0.45564  (09120921)                324988.35
 3794582.03         0.45713  (10011404)
       324871.62   3794603.83        0.46925  (09022006)                324910.53
 3794603.83         0.46452  (09022006)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:41:18

                                  PAGE  33
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***
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** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324949.44	3794603.83	0.46539	(11121923)	324988.35	3794603.83	0.46589	(09120921)
324871.62	3794625.63	0.47862	(12010904)	324910.53	3794625.63	0.47429	(09022006)
324949.44	3794625.63	0.47888	(11121923)	324988.35	3794625.63	0.47404	(09120921)
324871.62	3794647.43	0.48769	(12010904)	324910.53	3794647.43	0.48271	(09022006)
324949.44	3794647.43	0.48802	(09022006)	324988.35	3794647.43	0.48315	(11121923)
324871.62	3794669.23	0.49760	(12021707)	324910.53	3794669.23	0.49303	(12010904)
324949.44	3794669.23	0.49814	(09022006)	324988.35	3794669.23	0.49249	(11121923)
324871.62	3794691.03	0.50788	(12021707)	324910.53	3794691.03	0.50246	(12010904)
324949.44	3794691.03	0.50762	(12010904)	324988.35	3794691.03	0.50220	(09022006)
324449.04	3794074.69	0.33021	(11121923)	324485.99	3794074.69	0.32768	(09120921)
324522.94	3794074.69	0.32592	(09120921)	324559.89	3794074.69	0.32296	(10011404)
324596.84	3794074.69	0.31864	(10011404)	324633.79	3794074.69	0.31255	(10011119)
324670.74	3794074.69	0.31154	(10010424)	324707.69	3794074.69	0.31083	(10010424)
324744.64	3794074.69	0.31430	(10012707)	324781.59	3794074.69	0.32164	(12021724)
324449.04	3794106.66	0.33538	(11121923)	324485.99	3794106.66	0.33378	(11121923)
324522.94	3794106.66	0.33152	(09120921)	324559.89	3794106.66	0.32911	(09120921)
324596.84	3794106.66	0.32755	(10011404)	324633.79	3794106.66	0.32218	(10011404)
324670.74	3794106.66	0.31944	(10010424)	324707.69	3794106.66	0.32141	(10010424)
324744.64	3794106.66	0.32757	(10012707)	324781.59	3794106.66	0.33130	(10012707)
324449.04	3794138.63	0.34213	(09022006)	324485.99	3794138.63	0.33947	(11121923)
324522.94	3794138.63	0.33729	(11121923)	324559.89	3794138.63	0.33531	(09120921)
324596.84	3794138.63	0.33238	(10011404)	324633.79			

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 3794138.63         0.33532  (10011404)
       324670.74    3794138.63         0.33206  (10011119)                324707.69
 3794138.63         0.33333  (10010424)
       324744.64    3794138.63         0.33833  (10010424)                324781.59
 3794138.63         0.33728  (10012707)
       324449.04    3794170.60         0.34792  (09022006)                324485.99
 3794170.60         0.34600  (09022006)
       324522.94    3794170.60         0.34444  (11121923)                324559.89
 3794170.60         0.34648  (11121923)
       324596.84    3794170.60         0.34479  (09120921)                324633.79
 3794170.60         0.34354  (10011404)
       324670.74    3794170.60         0.34205  (10011404)                324707.69
 3794170.60         0.34409  (10011119)
       324744.64    3794170.60         0.34465  (10010424)                324781.59
 3794170.60         0.34715  (10010424)
       324449.04    3794202.57         0.35525  (12010904)                324485.99
 3794202.57         0.35232  (09022006)
       324522.94    3794202.57         0.35109  (09022006)                324559.89
 3794202.57         0.35524  (11121923)
       324596.84    3794202.57         0.35207  (09120921)                324633.79
 3794202.57         0.35031  (09120921)
       324670.74    3794202.57         0.35447  (10011404)                324707.69
 3794202.57         0.35253  (10011404)
       324744.64    3794202.57         0.34911  (10011119)                324781.59
 3794202.57         0.35469  (10010424)
       324449.04    3794234.54         0.36159  (12010904)                324485.99
 3794234.54         0.35951  (12010904)
       324522.94    3794234.54         0.35801  (09022006)                324559.89
 3794234.54         0.36150  (09022006)
       324596.84    3794234.54         0.35954  (11121923)                324633.79
 3794234.54         0.35661  (09120921)
       324670.74    3794234.54         0.36189  (09120921)                324707.69
 3794234.54         0.35986  (10011404)
       324744.64    3794234.54         0.35605  (10011404)                324781.59
 3794234.54         0.35986  (10010424)
       324449.04    3794266.51         0.36974  (12021707)                324485.99
 3794266.51         0.36638  (12010904)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:41:18

                                   PAGE  34
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
```

***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794266.51	0.37171	(12010904)	324559.89	3794266.51	0.36929	(09022006)
324596.84	3794266.51	0.36575	(11121923)	324633.79	3794266.51	0.36381	(11121923)
324670.74	3794266.51	0.36917	(09120921)	324707.69	3794266.51	0.36590	(09120921)
324744.64	3794266.51	0.36413	(10011404)	324781.59	3794266.51	0.36574	(10011119)
324449.04	3794298.48	0.37652	(12021707)	324485.99	3794298.48	0.37451	(12021707)
324522.94	3794298.48	0.37961	(12010904)	324559.89	3794298.48	0.37645	(12010904)
324596.84	3794298.48	0.37403	(09022006)	324633.79	3794298.48	0.37778	(11121923)
324670.74	3794298.48	0.37636	(11121923)	324707.69	3794298.48	0.37391	(09120921)
324744.64	3794298.48	0.37079	(10011404)	324781.59	3794298.48	0.37463	(10011404)
324449.04	3794330.45	0.38577	(13012724)	324485.99	3794330.45	0.38267	(12021707)
324522.94	3794330.45	0.38794	(12021707)	324559.89	3794330.45	0.38480	(12010904)
324596.84	3794330.45	0.38113	(12010904)	324633.79	3794330.45	0.38612	(09022006)
324670.74	3794330.45	0.38426	(11121923)	324707.69	3794330.45	0.38086	(11121923)
324744.64	3794330.45	0.37913	(09120921)	324781.59	3794330.45	0.38250	(10011404)
324449.04	3794362.42	0.39385	(12022904)	324485.99	3794362.42	0.39933	(13012724)
324522.94	3794362.42	0.39613	(12021707)	324559.89	3794362.42	0.39317	(12021707)
324596.84	3794362.42	0.39010	(12010904)	324633.79	3794362.42	0.39377	(09022006)
324670.74	3794362.42	0.39250	(09022006)	324707.69	3794362.42	0.38948	(11121923)
324744.64	3794362.42	0.39070	(09120921)	324781.59	3794362.42	0.39196	(09120921)
324449.04	3794394.39	0.40351	(12022904)	324485.99	3794394.39	0.40782	(12022904)
324522.94	3794394.39	0.40582	(13012724)	324559.89			

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 3794394.39         0.40194  (12021707)
       324596.84    3794394.39         0.39848  (12021707)                324633.79
 3794394.39         0.40333  (12010904)
       324670.74    3794394.39         0.40090  (09022006)                324707.69
 3794394.39         0.39762  (09022006)
       324744.64    3794394.39         0.39976  (11121923)                324781.59
 3794394.39         0.40038  (09120921)
       324449.04    3794426.36         0.41518  (12012404)                324485.99
 3794426.36         0.41865  (12022904)
       324522.94    3794426.36         0.41458  (12022904)                324559.89
 3794426.36         0.41177  (13012724)
       324596.84    3794426.36         0.40787  (12021707)                324633.79
 3794426.36         0.41203  (12021707)
       324670.74    3794426.36         0.41050  (12010904)                324707.69
 3794426.36         0.40772  (09022006)
       324744.64    3794426.36         0.40918  (09022006)                324781.59
 3794426.36         0.40942  (11121923)
       324449.04    3794458.33         0.42990  (12012404)                324485.99
 3794458.33         0.42941  (12012404)
       324522.94    3794458.33         0.42567  (12022904)                324559.89
 3794458.33         0.42081  (13012724)
       324596.84    3794458.33         0.42017  (13012724)                324633.79
 3794458.33         0.42307  (12021707)
       324670.74    3794458.33         0.41935  (12021707)                324707.69
 3794458.33         0.41945  (12010904)
       324744.64    3794458.33         0.42254  (09022006)                324781.59
 3794458.33         0.41835  (11121923)
       324449.04    3794490.30         0.44177  (11010801)                324485.99
 3794490.30         0.44019  (12012404)
       324522.94    3794490.30         0.43636  (12012404)                324559.89
 3794490.30         0.43245  (12022904)
       324596.84    3794490.30         0.43398  (13012724)                324633.79
 3794490.30         0.43447  (13012724)
       324670.74    3794490.30         0.43054  (12021707)                324707.69
 3794490.30         0.42912  (12010904)
       324744.64    3794490.30         0.43254  (12010904)                324781.59
 3794490.30         0.42894  (09022006)
       324449.04    3794522.27         0.45474  (09020801)                324485.99
 3794522.27         0.45264  (11010801)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:41:18

                                  PAGE  35
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794522.27	0.44760	(12012404)	324559.89	3794522.27	0.44355	(12012404)
324596.84	3794522.27	0.44612	(12022904)	324633.79	3794522.27	0.44524	(13012724)
324670.74	3794522.27	0.44130	(13012724)	324707.69	3794522.27	0.44064	(12021707)
324744.64	3794522.27	0.44338	(12010904)	324781.59	3794522.27	0.43904	(12010904)
324449.04	3794554.24	0.46957	(09020801)	324485.99	3794554.24	0.46466	(09020801)
324522.94	3794554.24	0.46060	(11010801)	324559.89	3794554.24	0.45778	(12012404)
324596.84	3794554.24	0.46037	(12012404)	324633.79	3794554.24	0.45790	(12022904)
324670.74	3794554.24	0.45276	(13012724)	324707.69	3794554.24	0.45182	(13012724)
324744.64	3794554.24	0.45540	(12021707)	324781.59	3794554.24	0.45073	(12010904)
324449.04	3794586.21	0.48361	(12021007)	324485.99	3794586.21	0.47830	(09020801)
324522.94	3794586.21	0.47331	(09020801)	324559.89	3794586.21	0.47342	(11010801)
324596.84	3794586.21	0.47508	(12012404)	324633.79	3794586.21	0.47032	(12012404)
324670.74	3794586.21	0.46581	(12022904)	324707.69	3794586.21	0.46419	(13012724)
324744.64	3794586.21	0.46720	(13012724)	324781.59	3794586.21	0.46300	(12021707)
324449.04	3794618.18	0.49749	(13021402)	324485.99	3794618.18	0.49316	(12021007)
324522.94	3794618.18	0.48738	(09020801)	324559.89	3794618.18	0.48704	(09020801)
324596.84	3794618.18	0.48968	(11010801)	324633.79	3794618.18	0.48382	(12012404)
324670.74	3794618.18	0.47953	(12012404)	324707.69	3794618.18	0.48370	(12022904)
324744.64	3794618.18	0.48081	(13012724)	324781.59	3794618.18	0.47519	(13012724)
324449.04	3794650.15	0.51325	(13021402)	324485.99			

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 3794650.15         0.50810  (13021402)
       324522.94   3794650.15         0.50312  (12021007)                 324559.89
 3794650.15         0.50179  (09020801)
       324596.84   3794650.15         0.50442  (09020801)                 324633.79
 3794650.15         0.49910  (11010801)
       324670.74   3794650.15         0.49399  (12012404)                 324707.69
 3794650.15         0.50036  (12012404)
       324744.64   3794650.15         0.49533  (12022904)                 324781.59
 3794650.15         0.48965  (13012724)
       324449.04   3794682.12         0.53029  (09120303)                 324485.99
 3794682.12         0.52415  (13021402)
       324522.94   3794682.12         0.52086  (13021402)                 324559.89
 3794682.12         0.52560  (12021007)
       324596.84   3794682.12         0.52011  (09020801)                 324633.79
 3794682.12         0.51469  (09020801)
       324670.74   3794682.12         0.51002  (11010801)                 324707.69
 3794682.12         0.51602  (12012404)
       324744.64   3794682.12         0.51010  (12012404)                 324781.59
 3794682.12         0.50472  (12022904)
       326547.36   3795022.06         0.33306  (10020123)                 326594.67
 3795022.06         0.32563  (12022103)
       326641.98   3795022.06         0.30846  (12122705)                 326547.36
 3795042.46         0.33746  (12121322)
       326594.67   3795042.46         0.31144  (10011406)                 326641.98
 3795042.46         0.31300  (10010602)
       326547.36   3795062.86         0.34221  (12022103)                 326594.67
 3795062.86         0.31175  (12010221)
       326641.98   3795062.86         0.31805  (10121122)                 326547.36
 3795083.26         0.34245  (10011406)
       326594.67   3795083.26         0.31656  (12020806)                 326641.98
 3795083.26         0.32341  (13011507)
       326547.36   3795103.66         0.33121  (12122705)                 326594.67
 3795103.66         0.32545  (10021204)
       326641.98   3795103.66         0.33223  (10021204)                 326547.36
 3795124.06         0.34156  (10021204)
       326594.67   3795124.06         0.33827  (10021204)                 326641.98
 3795124.06         0.34393  (10021204)
       326547.36   3795144.46         0.35283  (10021204)                 326594.67
 3795144.46         0.35090  (10012524)
       326641.98   3795144.46         0.35742  (10012524)                 326547.36
 3795164.86         0.35908  (10012524)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:41:18

                                  PAGE  36
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
```

VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

```
 3795160.91        0.33186  (12010208)
       327075.72   3795160.91        0.30910  (12120505)                327036.85
 3795180.47        0.34412  (13122805)
       327075.72   3795180.47        0.32376  (12120505)                327036.85
 3795200.03        0.35555  (11010918)
       327075.72   3795200.03        0.33401  (12120505)                327036.85
 3795219.59        0.34745  (12120505)
       327075.72   3795219.59        0.33976  (09120419)                327036.85
 3795239.15        0.34914  (09120419)
       327075.72   3795239.15        0.34924  (09120419)                327036.85
 3795258.71        0.35951  (13121308)
       327075.72   3795258.71        0.36230  (13121308)                327036.85
 3795278.27        0.37158  (13121308)
       327075.72   3795278.27        0.37118  (11011817)                326840.04
 3795223.24        0.40553  (13122805)
       326860.58   3795224.16        0.38781  (13122805)                326877.30
 3795222.74        0.38929  (13122805)
       326929.68   3795223.69        0.38351  (11010918)                326932.86
 3795200.00        0.36060  (13122805)
       326972.32   3795217.03        0.36420  (12120505)                326970.84
 3795177.58        0.33409  (12010208)
       326968.20   3795152.46        0.31959  (12010208)                326998.43
 3795149.77        0.32182  (12010208)
       326997.48   3795176.61        0.33587  (12010208)                326995.60
 3795193.01        0.34876  (11010918)
       326996.92   3795215.78        0.36477  (12120505)                326916.97
 3795152.19        0.34120  (11012803)
       326901.95   3795150.46        0.33825  (11012803)                326884.24
 3795164.40        0.34477  (10021404)
       326867.32   3795151.32        0.33416  (11012803)                326873.22
 3795163.36        0.34236  (11012803)
       326845.53   3795152.12        0.34469  (12011901)                326824.91
 3795151.45        0.35844  (13122905)
       326826.60   3795170.60        0.37336  (12011901)                326840.50
 3795180.17        0.36920  (11010905)
       326799.39   3795147.97        0.35289  (13122905)                326776.77
 3795147.89        0.34969  (13122905)
       326738.03   3795152.73        0.34731  (13122905)                326781.33
 3795110.75        0.32675  (13020901)
       326806.10   3795109.04        0.32249  (13020901)                326804.45
 3795090.73        0.31260  (10012524)
       326781.78   3795086.72        0.31329  (10012524)                326787.40
 3795061.79        0.30341  (10121023)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:41:18

                                  PAGE  37
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
```

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326794.01	3795031.22	0.29594	(12010407)	326977.50	3795110.69	0.29637	(11012803)
326994.05	3795107.87	0.29699	(11012803)	326984.52	3795093.80	0.28905	(11020605)
326972.85	3795082.37	0.28220	(11020605)	326995.41	3795072.53	0.28007	(11020605)
326993.23	3795060.01	0.27456	(13020901)	326984.60	3795040.80	0.26540	(13020901)
326981.66	3795027.22	0.26261	(12121805)	327041.48	3795102.15	0.29701	(11012803)
327065.19	3795095.75	0.27827	(09121202)	327040.88	3795076.27	0.28500	(11020605)
327061.24	3795058.32	0.26310	(13012604)	327037.82	3795061.09	0.27957	(11020605)
327035.65	3795040.58	0.27107	(13020901)	327058.94	3795038.41	0.25648	(13020901)
327051.53	3795017.85	0.25359	(10012524)	327033.29	3795021.71	0.26317	(10012524)
326826.26	3795110.80	0.30987	(13020901)	326843.29	3795110.80	0.30845	(13020901)
326860.32	3795110.80	0.30893	(13122905)	326877.35	3795110.80	0.31133	(13122905)
326894.38	3795110.80	0.31361	(13122905)	326911.41	3795110.80	0.31581	(13122905)
326928.44	3795110.80	0.30848	(11020605)	326945.47	3795110.80	0.29488	(11020605)
326819.99	3795048.86	0.28304	(13020308)	326838.19	3795048.86	0.27864	(13020308)
326856.39	3795048.86	0.28095	(13020308)	326874.59	3795048.86	0.28272	(13020308)
326892.79	3795048.86	0.28447	(11120708)	326910.99	3795048.86	0.28669	(11120708)
326929.19	3795048.86	0.27890	(11120708)	326947.39	3795048.86	0.26571	(12121805)

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***

                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
              **

                        NETWORK
GROUP ID   AVERAGE CONC   RECEPTOR (XR, YR,
ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
- -
- - - - - - - - - - - - - - - - - -

ALL   1ST HIGHEST VALUE IS   0.07485 AT (325904.15, 3795332.59,
149.61,   185.00,   0.00) DC
          2ND HIGHEST VALUE IS   0.07167 AT (325931.15, 3795332.59,
150.05,   165.00,   0.00) DC
          3RD HIGHEST VALUE IS   0.06757 AT (325877.15, 3795332.59,
150.22,   185.00,   0.00) DC
          4TH HIGHEST VALUE IS   0.06726 AT (325850.15, 3795332.59,
150.51,   185.00,   0.00) DC
          5TH HIGHEST VALUE IS   0.06644 AT (325796.15, 3795332.59,
151.11,   185.00,   0.00) DC
          6TH HIGHEST VALUE IS   0.06547 AT (325823.15, 3795332.59,
151.02,   185.00,   0.00) DC
          7TH HIGHEST VALUE IS   0.06543 AT (325796.15, 3795293.59,
150.13,   185.00,   0.00) DC
          8TH HIGHEST VALUE IS   0.06391 AT (325823.15, 3795293.59,
150.11,   185.00,   0.00) DC
          9TH HIGHEST VALUE IS   0.06336 AT (325850.15, 3795293.59,
149.69,   185.00,   0.00) DC
         10TH HIGHEST VALUE IS   0.06298 AT (325877.15, 3795293.59,
149.15,   185.00,   0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                *** THE SUMMARY OF HIGHEST 1-HR
RESULTS ***

                                 ** CONC OF PM_2.5   IN MICROGRAMS/M**3
            **

                                                        DATE
                                      NETWORK
GROUP ID   AVERAGE CONC   (YYMMDDHH)   RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)   OF TYPE GRID-ID
- -
- -

ALL   HIGH   1ST HIGH VALUE IS   0.75823 ON 12020205: AT (325877.15,
3795293.59,   149.15,   185.00,   0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   15612 Informational Message(s)

 A Total of   43872 Hours Were Processed

 A Total of   13724 Calm Hours Identified

 A Total of   1888 Missing Hours Identified (4.30 Percent)

```
   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
MX W481   43873         MAIN: Data Remaining After End of Year. Number of Hours=
      48

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 5/26/2020
** File: C:\Lakes\AERMOD View\Hitch Ranch_Phase4_Construction\Hitch
Ranch_Phase4_Construction.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase4_Construction\Hitch Ranch_Pha
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "Hitch Ranch_Phase4_Construction.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       2.7293E-09     3.000        17
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326288.670 3795758.120 326277.560 3795694.020
   AREAVERT PAREA1       326166.380 3795525.260 326425.650 3795493.540
   AREAVERT PAREA1       326479.010 3795469.120 326469.840 3795364.180
   AREAVERT PAREA1       325735.780 3795372.310 325709.200 3795538.990
   AREAVERT PAREA1       325466.690 3795412.580 325320.790 3795389.270
   AREAVERT PAREA1       325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
```

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**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Hitch Ranch_Phase4_Construction.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "HITCH RANCH_PHASE4_CONSTRUCTION.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "HITCH RANCH_PHASE4_CONSTRUCTION.AD\AN00GALL.PLT" 32
   SUMMFILE "Hitch Ranch_Phase4_Construction.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 5/26/2020
** File: C:\Lakes\AERMOD View\Hitch Ranch_Phase4_Construction\Hitch
Ranch_Phase4_Construction.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase4_Construction\Hitch Ranch_Pha
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "Hitch Ranch_Phase4_Construction.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       2.7293E-09     3.000        17
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326288.670 3795758.120 326277.560 3795694.020
   AREAVERT PAREA1       326166.380 3795525.260 326425.650 3795493.540
   AREAVERT PAREA1       326479.010 3795469.120 326469.840 3795364.180
   AREAVERT PAREA1       325735.780 3795372.310 325709.200 3795538.990
   AREAVERT PAREA1       325466.690 3795412.580 325320.790 3795389.270
   AREAVERT PAREA1       325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
```

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************************************
** AERMOD Receptor Pathway
************************************
**
**
RE STARTING
   INCLUDED "Hitch Ranch_Phase4_Construction.rou"
RE FINISHED
**
************************************
** AERMOD Meteorology Pathway
************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
************************************
** AERMOD Output Pathway
************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "HITCH RANCH_PHASE4_CONSTRUCTION.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "HITCH RANCH_PHASE4_CONSTRUCTION.AD\AN00GALL.PLT" 32
   SUMMFILE "Hitch Ranch_Phase4_Construction.sum"
OU FINISHED

 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       13:46:10

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
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                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
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Model Outputs Tables of ANNUAL Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 24.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ;
Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.6 MB of RAM.

**Input Runstream File: aermod.inp

**Output Print File: aermod.out

**Detailed Error/Message File: Hitch Ranch_Phase4_Construction.err

**File for Summary of Results: Hitch Ranch_Phase4_Construction.sum

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

*** SOURCE IDs DEFINING SOURCE GROUPS
***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326346.0, 3795634.0, 172.5, 190.0, 0.0); (326414.1, 3795779.7, 180.0, 277.0, 0.0);
(326435.8, 3795773.5, 176.6, 277.0, 0.0); (326458.3, 3795772.8, 174.6, 277.0, 0.0);
(326424.2, 3795858.8, 178.9, 295.0, 0.0); (326400.2, 3795799.8, 182.9, 277.0, 0.0);
(326400.9, 3795767.9, 180.8, 277.0, 0.0); (326424.2, 3795858.8, 178.9, 295.0, 0.0);
(326611.8, 3795763.0, 168.9, 277.0, 0.0); (326611.8, 3795763.0, 168.9, 277.0, 0.0);
(326610.9, 3795777.7, 169.0, 277.0, 0.0); (326605.9, 3795792.9, 169.0, 277.0, 0.0);
(326623.9, 3795809.0, 169.6, 277.0, 0.0); (326627.2, 3795836.6, 170.1, 295.0, 0.0);
(326640.1, 3795836.6, 170.2, 277.0, 0.0); (326654.5, 3795868.7, 171.6, 291.0, 0.0);
(326665.5, 3795883.1, 172.0, 295.0, 0.0); (326588.3, 3795867.6, 175.1, 277.0, 0.0);

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     ( 326640.5, 3795951.9,     177.0,     295.0,       0.0);         ( 326658.5,
3795975.6,     175.5,     295.0,       0.0);
     ( 326759.5, 3796019.3,     178.2,     277.0,       0.0);         ( 326763.6,
3796031.8,     178.1,     291.0,       0.0);
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
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     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
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(326806.7, 3795493.9, 157.9, 217.0, 0.0); (326824.1, 3795494.4, 157.9, 217.0, 0.0);
(326853.5, 3795481.7, 157.5, 217.0, 0.0); (326898.8, 3795534.4, 158.0, 217.0, 0.0);
(325796.1, 3795215.6, 149.4, 149.4, 0.0); (325823.1, 3795215.6, 149.0, 149.0, 0.0);
(326012.1, 3795215.6, 150.0, 150.0, 0.0); (326120.1, 3795215.6, 151.0, 151.0, 0.0);
(326147.1, 3795215.6, 151.0, 151.0, 0.0); (325796.1, 3795254.6, 149.4, 185.0, 0.0);
(325823.1, 3795254.6, 149.0, 185.0, 0.0); (325850.1, 3795254.6, 149.0, 149.0, 0.0);
(325877.1, 3795254.6, 149.0, 149.0, 0.0); (325904.1, 3795254.6, 149.2, 149.2, 0.0);
(325931.1, 3795254.6, 149.9, 149.9, 0.0); (325958.1, 3795254.6, 150.0, 150.0, 0.0);
(325985.1, 3795254.6, 150.0, 150.0, 0.0); (326012.1, 3795254.6, 150.7, 150.7, 0.0);
(326039.1, 3795254.6, 151.0, 151.0, 0.0); (326066.1, 3795254.6, 151.0, 151.0, 0.0);
(326093.1, 3795254.6, 151.0, 151.0, 0.0); (326120.1, 3795254.6, 151.0, 151.0, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326147.1, 3795254.6, 151.0, 151.0, 0.0); (325796.1, 3795293.6, 150.1, 185.0, 0.0);
(325823.1, 3795293.6, 150.1, 185.0, 0.0); (325850.1, 3795293.6, 149.7, 185.0, 0.0);
(325877.1, 3795293.6, 149.2, 185.0, 0.0); (325904.1, 3795293.6, 149.2, 149.2, 0.0);
(325931.1, 3795293.6, 150.0, 150.0, 0.0); (325958.1, 3795293.6, 150.0, 150.0, 0.0);
(325985.1, 3795293.6, 150.9, 150.9, 0.0); (326012.1, 3795293.6, 151.2, 151.2, 0.0);
(326039.1, 3795293.6, 151.2, 151.2, 0.0); (326066.1, 3795293.6, 151.7, 151.7, 0.0);
(326093.1, 3795293.6, 152.0, 152.0, 0.0); (326120.1, 3795293.6, 152.0, 152.0, 0.0);
(326147.1, 3795293.6, 152.0, 152.0, 0.0); (325796.1, 3795332.6, 151.1, 185.0, 0.0);

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     ( 325823.1, 3795332.6,     151.0,     185.0,       0.0);         ( 325850.1,
3795332.6,     150.5,     185.0,       0.0);
     ( 325877.1, 3795332.6,     150.2,     185.0,       0.0);         ( 325904.1,
3795332.6,     149.6,     185.0,       0.0);
     ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
3795332.6,     150.5,     166.0,       0.0);
     ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
     ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
     ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
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     ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
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     ( 325972.4, 3795004.9,     149.3,     149.3,       0.0);         ( 325997.4,
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     ( 326022.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326047.4,
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     ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
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     ( 326122.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326147.4,
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     ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
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     ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
     ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
     ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
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    ( 326144.3, 3795184.1,     151.0,     151.0,       0.0);         ( 325849.7,
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    ( 325892.6, 3794829.6,     148.0,     148.0,       0.0);         ( 325935.5,
3794829.6,     148.8,     148.8,       0.0);
    ( 325978.3, 3794829.6,     149.0,     149.0,       0.0);         ( 326021.2,
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    ( 326064.1, 3794829.6,     149.5,     149.5,       0.0);         ( 325849.7,
3794867.5,     148.0,     148.0,       0.0);
    ( 325892.6, 3794867.5,     148.8,     148.8,       0.0);         ( 325935.5,
3794867.5,     149.0,     149.0,       0.0);
    ( 325978.3, 3794867.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794867.5,     149.0,     149.0,       0.0);
    ( 326064.1, 3794867.5,     149.5,     149.5,       0.0);         ( 325849.7,
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    ( 325892.6, 3794905.5,     148.9,     148.9,       0.0);         ( 325935.5,
3794905.5,     149.0,     149.0,       0.0);
    ( 325978.3, 3794905.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794905.5,     149.1,     149.1,       0.0);
    ( 326064.1, 3794905.5,     150.0,     150.0,       0.0);         ( 325849.7,
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    ( 325892.6, 3794943.4,     149.0,     149.0,       0.0);         ( 325935.5,
3794943.4,     149.0,     149.0,       0.0);
    ( 325978.3, 3794943.4,     149.0,     149.0,       0.0);         ( 326021.2,
3794943.4,     149.1,     149.1,       0.0);
    ( 326064.1, 3794943.4,     150.0,     150.0,       0.0);         ( 325849.7,
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    ( 325892.6, 3794981.3,     149.0,     149.0,       0.0);         ( 325935.5,
3794981.3,     149.0,     149.0,       0.0);
    ( 325978.3, 3794981.3,     149.0,     149.0,       0.0);         ( 326021.2,
3794981.3,     149.8,     149.8,       0.0);
    ( 326064.1, 3794981.3,     150.0,     150.0,       0.0);         ( 325855.3,
3794726.6,     148.0,     148.0,       0.0);
    ( 325902.6, 3794726.6,     148.0,     148.0,       0.0);         ( 325855.3,
3794745.5,     148.0,     148.0,       0.0);
    ( 325902.6, 3794745.5,     148.0,     148.0,       0.0);         ( 325855.3,
3794764.4,     148.0,     148.0,       0.0);
    ( 325902.6, 3794764.4,     148.0,     148.0,       0.0);         ( 325855.3,
3794783.3,     148.0,     148.0,       0.0);
    ( 325902.6, 3794783.3,     148.0,     148.0,       0.0);         ( 325855.3,
3794802.2,     148.0,     148.0,       0.0);
    ( 325902.6, 3794802.2,     148.0,     148.0,       0.0);         ( 325855.3,
3794821.1,     148.0,     148.0,       0.0);
    ( 325902.6, 3794821.1,     148.1,     148.1,       0.0);         ( 326402.8,
3795249.3,     152.8,     152.8,       0.0);
    ( 325380.5, 3795776.2,     161.0,     295.0,       0.0);         ( 325415.9,
3795858.3,     176.6,     271.0,       0.0);
    ( 325409.9, 3795995.0,     190.3,     271.0,       0.0);         ( 325416.6,
3796058.1,     193.4,     282.0,       0.0);
    ( 325409.6, 3796164.9,     201.8,     291.0,       0.0);         ( 325322.7,
3796083.9,     190.0,     292.0,       0.0);
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326697.8, 3796898.3, 229.7, 293.0, 0.0); (326712.3, 3796916.6, 233.6, 293.0, 0.0);
(326726.6, 3796931.1, 236.4, 290.0, 0.0); (326742.2, 3796948.0, 240.5, 290.0, 0.0);
(326756.6, 3796965.7, 242.1, 290.0, 0.0); (326772.1, 3796973.3, 239.2, 290.0, 0.0);
(326785.2, 3796890.5, 223.1, 293.0, 0.0); (326800.1, 3797003.9, 233.0, 290.0, 0.0);
(326818.0, 3797014.9, 229.2, 290.0, 0.0); (326813.7, 3796843.9, 215.1, 293.0, 0.0);
(326833.9, 3796853.6, 216.3, 293.0, 0.0); (326848.6, 3796873.4, 217.5, 293.0, 0.0);

```
     ( 326864.2, 3796885.1,     217.7,     293.0,       0.0);         ( 326877.9,
3796901.2,     218.2,     292.0,       0.0);
     ( 326893.8, 3796917.1,     220.4,     292.0,       0.0);         ( 326904.5,
3796938.8,     223.9,     292.0,       0.0);
     ( 326907.6, 3796966.2,     224.5,     292.0,       0.0);         ( 326914.5,
3796991.7,     227.6,     292.0,       0.0);
     ( 326921.9, 3797038.4,     232.7,     292.0,       0.0);         ( 326596.6,
3797264.1,     273.2,     288.0,       0.0);
     ( 326830.0, 3795735.4,     183.6,     217.0,       0.0);         ( 326866.5,
3795706.9,     182.8,     217.0,       0.0);
     ( 326831.5, 3795646.6,     161.0,     217.0,       0.0);         ( 326872.9,
3795644.9,     160.9,     217.0,       0.0);
     ( 326898.9, 3795644.7,     160.9,     217.0,       0.0);         ( 326924.7,
3795650.1,     161.6,     217.0,       0.0);
     ( 326949.7, 3795646.4,     161.1,     217.0,       0.0);         ( 326975.6,
3795638.8,     162.5,     217.0,       0.0);
     ( 326917.9, 3795602.8,     159.0,     217.0,       0.0);         ( 326918.6,
3795584.1,     158.0,     217.0,       0.0);
     ( 326921.6, 3795563.5,     158.0,     217.0,       0.0);         ( 326917.2,
3795537.1,     158.0,     217.0,       0.0);
     ( 326935.0, 3795592.2,     158.8,     217.0,       0.0);         ( 326951.0,
3795599.5,     159.5,     217.0,       0.0);
     ( 326950.3, 3795555.9,     158.0,     217.0,       0.0);         ( 326951.6,
3795535.1,     158.0,     217.0,       0.0);
     ( 326961.8, 3795537.6,     158.0,     217.0,       0.0);         ( 326982.2,
3795538.3,     158.0,     217.0,       0.0);
     ( 326992.4, 3795539.1,     158.0,     217.0,       0.0);         ( 327009.0,
3795535.6,     158.0,     217.0,       0.0);
     ( 326987.7, 3795581.0,     159.0,     217.0,       0.0);         ( 327024.8,
3795588.4,     160.1,     217.0,       0.0);
     ( 326925.1, 3795485.9,     158.0,     217.0,       0.0);         ( 326937.8,
3795488.3,     158.0,     217.0,       0.0);
     ( 326956.5, 3795489.3,     158.0,     217.0,       0.0);         ( 326970.9,
3795491.0,     158.0,     217.0,       0.0);
     ( 326990.0, 3795487.7,     158.0,     217.0,       0.0);         ( 325049.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325124.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325161.8, 3794362.9,     143.2,     143.2,       0.0);         ( 325199.3,
3794362.9,     143.2,     143.2,       0.0);
     ( 325236.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325274.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325049.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794386.1,     143.0,     143.0,       0.0);
     ( 325124.3, 3794386.1,     143.2,     143.2,       0.0);         ( 325161.8,
3794386.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794386.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794386.1,     143.1,     143.1,       0.0);
     ( 325274.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325049.3,
3794409.3,     143.0,     143.0,       0.0);
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     ( 325086.8, 3794409.3,     143.0,     143.0,       0.0);         ( 325124.3,
3794409.3,     143.2,     143.2,       0.0);
     ( 325161.8, 3794409.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794409.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794409.3,     143.8,     143.8,       0.0);         ( 325274.3,
3794409.3,     143.7,     143.7,       0.0);
     ( 325049.3, 3794432.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794432.5,     143.0,     143.0,       0.0);
     ( 325124.3, 3794432.5,     143.6,     143.6,       0.0);         ( 325161.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325049.3,
3794455.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794455.7,     143.3,     143.3,       0.0);         ( 325124.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325049.3, 3794478.9,     143.0,     143.0,       0.0);         ( 325086.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325124.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325161.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325199.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325236.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325274.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325049.3,
3794502.1,     143.0,     143.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       13:46:10

                                  PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                            *** DISCRETE CARTESIAN RECEPTORS ***
                                           (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                      (METERS)

     ( 325086.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325124.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325161.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325199.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325236.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325274.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325049.3, 3794525.3,     143.0,     143.0,       0.0);         ( 325086.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325124.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325161.8,
3794525.3,     144.0,     144.0,       0.0);
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```
     ( 325199.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325236.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
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     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794687.7,     145.0,     145.0,       0.0);
     ( 324871.6, 3794298.6,     141.0,     141.0,       0.0);         ( 324910.5,
3794298.6,     141.1,     141.1,       0.0);
     ( 324949.4, 3794298.6,     142.0,     142.0,       0.0);         ( 324988.3,
3794298.6,     142.0,     142.0,       0.0);
     ( 324871.6, 3794320.4,     141.0,     141.0,       0.0);         ( 324910.5,
3794320.4,     141.8,     141.8,       0.0);
     ( 324949.4, 3794320.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794320.4,     142.0,     142.0,       0.0);
     ( 324871.6, 3794342.2,     141.0,     141.0,       0.0);         ( 324910.5,
3794342.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794342.2,     142.0,     142.0,       0.0);         ( 324988.3,
3794342.2,     142.0,     142.0,       0.0);
     ( 324871.6, 3794364.0,     141.2,     141.2,       0.0);         ( 324910.5,
3794364.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794364.0,     142.0,     142.0,       0.0);         ( 324988.3,
3794364.0,     142.2,     142.2,       0.0);
     ( 324871.6, 3794385.8,     141.7,     141.7,       0.0);         ( 324910.5,
3794385.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794385.8,     142.0,     142.0,       0.0);         ( 324988.3,
3794385.8,     142.6,     142.6,       0.0);
     ( 324871.6, 3794407.6,     141.8,     141.8,       0.0);         ( 324910.5,
3794407.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794407.6,     142.0,     142.0,       0.0);         ( 324988.3,
3794407.6,     142.7,     142.7,       0.0);
     ( 324871.6, 3794429.4,     141.8,     141.8,       0.0);         ( 324910.5,
3794429.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794429.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794429.4,     142.7,     142.7,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                          ***        13:46:10

                                    PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                              *** DISCRETE CARTESIAN RECEPTORS ***
                                             (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                        (METERS)

     ( 324871.6, 3794451.2,     141.8,     141.8,       0.0);         ( 324910.5,
3794451.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794451.2,     142.1,     142.1,       0.0);         ( 324988.3,
3794451.2,     142.7,     142.7,       0.0);
     ( 324871.6, 3794473.0,     141.8,     141.8,       0.0);         ( 324910.5,
3794473.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794473.0,     142.3,     142.3,       0.0);         ( 324988.3,
3794473.0,     143.0,     143.0,       0.0);
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     ( 324871.6, 3794494.8,     141.9,     141.9,       0.0);         ( 324910.5,
3794494.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794494.8,     142.4,     142.4,       0.0);         ( 324988.3,
3794494.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794074.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794074.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794074.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794074.7,     137.8,     137.8,       0.0);
     ( 324596.8, 3794074.7,     137.6,     137.6,       0.0);         ( 324633.8,
3794074.7,     137.1,     137.1,       0.0);
     ( 324670.7, 3794074.7,     137.0,     137.0,       0.0);         ( 324707.7,
3794074.7,     137.2,     137.2,       0.0);
     ( 324744.6, 3794074.7,     137.9,     137.9,       0.0);         ( 324781.6,
3794074.7,     139.3,     139.3,       0.0);
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     ( 324449.0, 3794106.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794106.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794106.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794106.7,     138.0,     138.0,       0.0);
     ( 324596.8, 3794106.7,     138.0,     138.0,       0.0);         ( 324633.8,
3794106.7,     137.7,     137.7,       0.0);
     ( 324670.7, 3794106.7,     137.7,     137.7,       0.0);         ( 324707.7,
3794106.7,     138.0,     138.0,       0.0);
     ( 324744.6, 3794106.7,     139.2,     139.2,       0.0);         ( 324781.6,
3794106.7,     139.9,     139.9,       0.0);
     ( 324449.0, 3794138.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794138.6,     138.0,     138.0,       0.0);
     ( 324522.9, 3794138.6,     138.0,     138.0,       0.0);         ( 324559.9,
3794138.6,     138.0,     138.0,       0.0);
     ( 324596.8, 3794138.6,     138.0,     138.0,       0.0);         ( 324633.8,
3794138.6,     138.6,     138.6,       0.0);
     ( 324670.7, 3794138.6,     138.7,     138.7,       0.0);         ( 324707.7,
3794138.6,     139.0,     139.0,       0.0);
     ( 324744.6, 3794138.6,     139.9,     139.9,       0.0);         ( 324781.6,
3794138.6,     140.0,     140.0,       0.0);
     ( 324449.0, 3794170.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794170.6,     138.0,     138.0,       0.0);
     ( 324522.9, 3794170.6,     138.1,     138.1,       0.0);         ( 324559.9,
3794170.6,     138.8,     138.8,       0.0);
     ( 324596.8, 3794170.6,     138.8,     138.8,       0.0);         ( 324633.8,
3794170.6,     139.0,     139.0,       0.0);
     ( 324670.7, 3794170.6,     139.1,     139.1,       0.0);         ( 324707.7,
3794170.6,     139.9,     139.9,       0.0);
     ( 324744.6, 3794170.6,     140.0,     140.0,       0.0);         ( 324781.6,
3794170.6,     140.6,     140.6,       0.0);
     ( 324449.0, 3794202.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794202.6,     138.0,     138.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       13:46:10

                                    PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                                 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                              (METERS)

     ( 324522.9, 3794202.6,     138.2,     138.2,       0.0);         ( 324559.9,
3794202.6,     139.0,     139.0,       0.0);
     ( 324596.8, 3794202.6,     139.0,     139.0,       0.0);         ( 324633.8,
3794202.6,     139.0,     139.0,       0.0);
     ( 324670.7, 3794202.6,     139.9,     139.9,       0.0);         ( 324707.7,
3794202.6,     140.0,     140.0,       0.0);
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```
     ( 324744.6, 3794202.6,     140.0,     140.0,       0.0);         ( 324781.6,
3794202.6,     140.8,     140.8,       0.0);
     ( 324449.0, 3794234.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794234.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794234.5,     138.2,     138.2,       0.0);         ( 324559.9,
3794234.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794234.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794234.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794234.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794234.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794234.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794234.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794266.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794266.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794266.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794266.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794266.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794266.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794266.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794266.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794266.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794266.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794298.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794298.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794298.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794298.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794298.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794298.5,     139.9,     139.9,       0.0);
     ( 324670.7, 3794298.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794298.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794298.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794298.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794330.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794330.4,     138.1,     138.1,       0.0);
     ( 324522.9, 3794330.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794330.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794330.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794330.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794330.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794330.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794330.4,     140.1,     140.1,       0.0);         ( 324781.6,
3794330.4,     140.8,     140.8,       0.0);
     ( 324449.0, 3794362.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794362.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794362.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794362.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794362.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794362.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794362.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794362.4,     140.0,     140.0,       0.0);
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     ( 324744.6, 3794362.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794362.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794394.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794394.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794394.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794394.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794394.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794394.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794394.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794394.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794394.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794394.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794426.4,     138.2,     138.2,       0.0);         ( 324486.0,
3794426.4,     139.0,     139.0,       0.0);
     ( 324522.9, 3794426.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794426.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794426.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794426.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794426.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794426.4,     140.1,     140.1,       0.0);
     ( 324744.6, 3794426.4,     140.7,     140.7,       0.0);         ( 324781.6,
3794426.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794458.3,     138.7,     138.7,       0.0);         ( 324486.0,
3794458.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794458.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794458.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794458.3,     139.2,     139.2,       0.0);         ( 324633.8,
3794458.3,     139.9,     139.9,       0.0);
     ( 324670.7, 3794458.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794458.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794458.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794458.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794490.3,     138.7,     138.7,       0.0);         ( 324486.0,
3794490.3,     139.0,     139.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       13:46:10

                                    PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 324522.9, 3794490.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794490.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794490.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794490.3,     140.0,     140.0,       0.0);
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```
     ( 324670.7, 3794490.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794490.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794490.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794490.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794522.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794522.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794522.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794522.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794554.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794554.2,     139.2,     139.2,       0.0);
     ( 324596.8, 3794554.2,     139.8,     139.8,       0.0);         ( 324633.8,
3794554.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794554.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794554.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794586.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794586.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794586.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794586.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794586.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794586.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794586.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794586.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794586.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794586.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794618.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794618.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794618.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794618.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794618.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794618.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794618.2,     140.1,     140.1,       0.0);         ( 324707.7,
3794618.2,     140.8,     140.8,       0.0);
     ( 324744.6, 3794618.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794618.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794650.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
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     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794650.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794650.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794650.1,     141.0,     141.0,       0.0);
     ( 324449.0, 3794682.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794682.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794682.1,     139.1,     139.1,       0.0);         ( 324559.9,
3794682.1,     139.9,     139.9,       0.0);
     ( 324596.8, 3794682.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794682.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794682.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794682.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794682.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794682.1,     141.0,     141.0,       0.0);
     ( 326547.4, 3795022.1,     153.0,     153.0,       0.0);         ( 326594.7,
3795022.1,     153.3,     153.3,       0.0);
     ( 326642.0, 3795022.1,     154.0,     154.0,       0.0);         ( 326547.4,
3795042.5,     153.0,     153.0,       0.0);
     ( 326594.7, 3795042.5,     153.9,     153.9,       0.0);         ( 326642.0,
3795042.5,     154.0,     154.0,       0.0);
     ( 326547.4, 3795062.9,     153.0,     153.0,       0.0);         ( 326594.7,
3795062.9,     154.0,     154.0,       0.0);
     ( 326642.0, 3795062.9,     154.0,     154.0,       0.0);         ( 326547.4,
3795083.3,     153.1,     153.1,       0.0);
     ( 326594.7, 3795083.3,     154.0,     154.0,       0.0);         ( 326642.0,
3795083.3,     154.0,     154.0,       0.0);
     ( 326547.4, 3795103.7,     153.6,     153.6,       0.0);         ( 326594.7,
3795103.7,     154.0,     154.0,       0.0);
     ( 326642.0, 3795103.7,     154.0,     154.0,       0.0);         ( 326547.4,
3795124.1,     153.6,     153.6,       0.0);
     ( 326594.7, 3795124.1,     154.0,     154.0,       0.0);         ( 326642.0,
3795124.1,     154.0,     154.0,       0.0);
     ( 326547.4, 3795144.5,     153.7,     153.7,       0.0);         ( 326594.7,
3795144.5,     154.0,     154.0,       0.0);
     ( 326642.0, 3795144.5,     154.0,     154.0,       0.0);         ( 326547.4,
3795164.9,     154.0,     154.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       13:46:10

                                    PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     ( 326594.7, 3795164.9,     154.0,     154.0,       0.0);         ( 326642.0,
3795164.9,     154.0,     154.0,       0.0);
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     ( 326547.4, 3795185.3,     154.0,     154.0,       0.0);         ( 326594.7,
3795185.3,     154.0,     154.0,       0.0);
     ( 326642.0, 3795185.3,     154.0,     154.0,       0.0);         ( 326547.4,
3795205.7,     154.0,     154.0,       0.0);
     ( 326594.7, 3795205.7,     154.0,     154.0,       0.0);         ( 326642.0,
3795205.7,     154.2,     154.2,       0.0);
     ( 326547.4, 3795226.1,     154.0,     154.0,       0.0);         ( 326594.7,
3795226.1,     154.0,     154.0,       0.0);
     ( 326642.0, 3795226.1,     154.8,     154.8,       0.0);         ( 326547.4,
3795246.5,     154.0,     154.0,       0.0);
     ( 326594.7, 3795246.5,     154.1,     154.1,       0.0);         ( 326642.0,
3795246.5,     154.9,     154.9,       0.0);
     ( 326690.4, 3795243.4,     155.0,     155.0,       0.0);         ( 326688.7,
3795223.0,     155.0,     155.0,       0.0);
     ( 326686.0, 3795005.8,     154.0,     154.0,       0.0);         ( 326686.0,
3795033.7,     154.1,     154.1,       0.0);
     ( 326686.0, 3795061.5,     154.3,     154.3,       0.0);         ( 326686.0,
3795089.4,     154.3,     154.3,       0.0);
     ( 326686.0, 3795117.3,     154.3,     154.3,       0.0);         ( 326686.0,
3795145.2,     154.3,     154.3,       0.0);
     ( 326686.0, 3795173.1,     154.4,     154.4,       0.0);         ( 326686.0,
3795201.0,     155.0,     155.0,       0.0);
     ( 326832.8, 3795263.3,     155.3,     155.3,       0.0);         ( 326849.7,
3795263.3,     155.8,     155.8,       0.0);
     ( 326866.5, 3795263.3,     156.0,     156.0,       0.0);         ( 326883.4,
3795263.3,     156.0,     156.0,       0.0);
     ( 326900.3, 3795263.3,     156.0,     156.0,       0.0);         ( 326917.1,
3795263.3,     156.0,     156.0,       0.0);
     ( 326934.0, 3795263.3,     156.5,     156.5,       0.0);         ( 326950.9,
3795263.3,     157.0,     157.0,       0.0);
     ( 326967.8, 3795263.3,     157.0,     157.0,       0.0);         ( 326984.6,
3795263.3,     157.2,     157.2,       0.0);
     ( 327001.5, 3795263.3,     157.8,     157.8,       0.0);         ( 327036.8,
3795141.3,     157.0,     157.0,       0.0);
     ( 327075.7, 3795141.3,     158.0,     158.0,       0.0);         ( 327036.8,
3795160.9,     157.0,     157.0,       0.0);
     ( 327075.7, 3795160.9,     158.0,     158.0,       0.0);         ( 327036.8,
3795180.5,     157.0,     157.0,       0.0);
     ( 327075.7, 3795180.5,     158.0,     158.0,       0.0);         ( 327036.8,
3795200.0,     157.1,     157.1,       0.0);
     ( 327075.7, 3795200.0,     158.0,     158.0,       0.0);         ( 327036.8,
3795219.6,     157.7,     157.7,       0.0);
     ( 327075.7, 3795219.6,     158.0,     158.0,       0.0);         ( 327036.8,
3795239.1,     158.0,     158.0,       0.0);
     ( 327075.7, 3795239.1,     158.0,     158.0,       0.0);         ( 327036.8,
3795258.7,     158.0,     158.0,       0.0);
     ( 327075.7, 3795258.7,     158.0,     158.0,       0.0);         ( 327036.8,
3795278.3,     158.0,     158.0,       0.0);
     ( 327075.7, 3795278.3,     158.0,     158.0,       0.0);         ( 326840.0,
3795223.2,     155.4,     155.4,       0.0);
```

```
     ( 326860.6, 3795224.2,     156.0,     156.0,       0.0);         ( 326877.3,
3795222.7,     156.0,     156.0,       0.0);
     ( 326929.7, 3795223.7,     156.4,     156.4,       0.0);         ( 326932.9,
3795200.0,     156.5,     156.5,       0.0);
     ( 326972.3, 3795217.0,     157.0,     157.0,       0.0);         ( 326970.8,
3795177.6,     157.0,     157.0,       0.0);
     ( 326968.2, 3795152.5,     157.0,     157.0,       0.0);         ( 326998.4,
3795149.8,     157.0,     157.0,       0.0);
     ( 326997.5, 3795176.6,     157.0,     157.0,       0.0);         ( 326995.6,
3795193.0,     157.0,     157.0,       0.0);
     ( 326996.9, 3795215.8,     157.0,     157.0,       0.0);         ( 326917.0,
3795152.2,     156.0,     156.0,       0.0);
     ( 326902.0, 3795150.5,     156.0,     156.0,       0.0);         ( 326884.2,
3795164.4,     156.0,     156.0,       0.0);
     ( 326867.3, 3795151.3,     156.0,     156.0,       0.0);         ( 326873.2,
3795163.4,     156.0,     156.0,       0.0);
     ( 326845.5, 3795152.1,     155.6,     155.6,       0.0);         ( 326824.9,
3795151.4,     155.0,     155.0,       0.0);
     ( 326826.6, 3795170.6,     155.0,     155.0,       0.0);         ( 326840.5,
3795180.2,     155.4,     155.4,       0.0);
     ( 326799.4, 3795148.0,     155.0,     155.0,       0.0);         ( 326776.8,
3795147.9,     155.0,     155.0,       0.0);
     ( 326738.0, 3795152.7,     155.0,     155.0,       0.0);         ( 326781.3,
3795110.8,     155.0,     155.0,       0.0);
     ( 326806.1, 3795109.0,     155.2,     155.2,       0.0);         ( 326804.5,
3795090.7,     155.2,     155.2,       0.0);
     ( 326781.8, 3795086.7,     155.0,     155.0,       0.0);         ( 326787.4,
3795061.8,     155.0,     155.0,       0.0);
     ( 326794.0, 3795031.2,     155.0,     155.0,       0.0);         ( 326977.5,
3795110.7,     157.0,     157.0,       0.0);
     ( 326994.0, 3795107.9,     157.0,     157.0,       0.0);         ( 326984.5,
3795093.8,     157.0,     157.0,       0.0);
     ( 326972.8, 3795082.4,     157.0,     157.0,       0.0);         ( 326995.4,
3795072.5,     157.0,     157.0,       0.0);
     ( 326993.2, 3795060.0,     157.0,     157.0,       0.0);         ( 326984.6,
3795040.8,     157.0,     157.0,       0.0);
     ( 326981.7, 3795027.2,     157.0,     157.0,       0.0);         ( 327041.5,
3795102.1,     157.1,     157.1,       0.0);
```


*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
     ( 327065.2, 3795095.8,     157.9,     157.9,       0.0);         ( 327040.9,
3795076.3,     157.1,     157.1,       0.0);
     ( 327061.2, 3795058.3,     157.8,     157.8,       0.0);         ( 327037.8,
3795061.1,     157.0,     157.0,       0.0);
     ( 327035.6, 3795040.6,     157.0,     157.0,       0.0);         ( 327058.9,
3795038.4,     157.7,     157.7,       0.0);
     ( 327051.5, 3795017.8,     157.4,     157.4,       0.0);         ( 327033.3,
3795021.7,     157.0,     157.0,       0.0);
     ( 326826.3, 3795110.8,     155.8,     155.8,       0.0);         ( 326843.3,
3795110.8,     155.9,     155.9,       0.0);
     ( 326860.3, 3795110.8,     156.0,     156.0,       0.0);         ( 326877.3,
3795110.8,     156.0,     156.0,       0.0);
     ( 326894.4, 3795110.8,     156.0,     156.0,       0.0);         ( 326911.4,
3795110.8,     156.0,     156.0,       0.0);
     ( 326928.4, 3795110.8,     156.3,     156.3,       0.0);         ( 326945.5,
3795110.8,     156.9,     156.9,       0.0);
     ( 326820.0, 3795048.9,     155.7,     155.7,       0.0);         ( 326838.2,
3795048.9,     156.0,     156.0,       0.0);
     ( 326856.4, 3795048.9,     156.0,     156.0,       0.0);         ( 326874.6,
3795048.9,     156.0,     156.0,       0.0);
     ( 326892.8, 3795048.9,     156.0,     156.0,       0.0);         ( 326911.0,
3795048.9,     156.0,     156.0,       0.0);
     ( 326929.2, 3795048.9,     156.4,     156.4,       0.0);         ( 326947.4,
3795048.9,     157.0,     157.0,       0.0);
     ( 325652.3, 3795689.5,     172.4,     271.0,       0.0);         ( 325747.8,
3795796.2,     179.1,     295.0,       0.0);
     ( 326251.1, 3796043.8,     195.4,     295.0,       0.0);         ( 326263.9,
3795852.4,     183.1,     295.0,       0.0);
     ( 326170.8, 3795648.4,     173.3,     173.3,       0.0);         ( 326148.1,
3795505.9,     161.2,     182.0,       0.0);
     ( 325511.5, 3795586.4,     181.9,     181.9,       0.0);

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       13:46:10

                                    PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                              *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                                  (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
```

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926. Met Version: 14134
Profile file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926.
Surface format: FREE

Profile format: FREE

Surface station no.: 23136 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

```
 09 01 01   1 01 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  281.4    2.0
 09 01 01   1 02 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.9    2.0
 09 01 01   1 03   -3.3  0.067 -9.000 -9.000 -999.   42.      8.3  0.05   0.81
1.00    1.76  214.   10.0  280.9    2.0
 09 01 01   1 04 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 05   -6.6  0.115 -9.000 -9.000 -999.   94.     21.1  0.03   0.81
1.00    2.36   93.   10.0  280.4    2.0
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                             ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3796062.19 0.00272
326801.34 3796078.38 0.00254 326809.46
3796094.93 0.00244
326736.80 3796108.96 0.00259 326835.84
3796126.62 0.00217
326836.27 3796140.13 0.00213 326800.95
3796123.31 0.00241
326762.39 3796138.51 0.00226 326766.63
3796155.18 0.00203
326774.14 3796169.68 0.00190 326798.07
3796201.57 0.00166
326808.84 3796229.51 0.00147 326880.95
3796184.59 0.00177
326915.56 3796260.01 0.00147 326941.07
3796261.11 0.00139
326958.24 3796277.25 0.00132 326964.89
3796291.08 0.00126
326984.47 3796322.92 0.00118 326993.31
3796349.42 0.00113
326993.49 3796365.88 0.00111 327007.03
3796382.47 0.00108
326972.07 3796390.18 0.00104 326996.78
3796414.54 0.00102
326693.51 3795789.66 0.00283 326695.37
3795771.29 0.00289
326727.00 3795761.34 0.00279 326758.55
3795787.48 0.00224
326761.76 3795813.54 0.00198 326742.22
3795837.06 0.00198
326838.64 3795823.91 0.00163 326811.45
3795889.81 0.00154
326823.87 3795855.97 0.00151 326876.62
3795837.29 0.00142
326889.30 3795888.54 0.00134 326687.45
3795683.69 0.00520
326829.20 3795731.31 0.00226 326859.14
3795703.62 0.00215
326881.10 3795705.58 0.00224 326787.44
3795607.00 0.00569
326780.76 3795563.55 0.00615 326800.04
3795542.65 0.00622
326808.89 3795540.15 0.00623 326825.79
3795543.65 0.00620
326856.70 3795545.31 0.00600 326792.33
3795494.19 0.00638
326806.68 3795493.93 0.00628 326824.07
3795494.42 0.00616
326853.52 3795481.71 0.00608 326898.80
3795534.37 0.00572
325796.15 3795215.59 0.01454 325823.15

3795215.59 0.01434
  326012.15 3795215.59 0.01195 326120.15
3795215.59 0.01069
  326147.15 3795215.59 0.01047 325796.15
3795254.59 0.01728
  325823.15 3795254.59 0.01710 325850.15
3795254.59 0.01679

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

 *** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
  INCLUDING SOURCE(S): PAREA1 ,

  *** DISCRETE CARTESIAN RECEPTOR POINTS ***

  ** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325877.15	3795254.59	0.01648	325904.15	3795254.59	0.01611
325931.15	3795254.59	0.01552	325958.15	3795254.59	0.01520
325985.15	3795254.59	0.01492	326012.15	3795254.59	0.01432
326039.15	3795254.59	0.01394	326066.15	3795254.59	0.01368
326093.15	3795254.59	0.01344	326120.15	3795254.59	0.01319
326147.15	3795254.59	0.01293	325796.15	3795293.59	0.02038
325823.15	3795293.59	0.02008	325850.15	3795293.59	0.02007
325877.15	3795293.59	0.02012	325904.15	3795293.59	0.01987
325931.15	3795293.59	0.01917	325958.15	3795293.59	0.01892
325985.15	3795293.59	0.01804	326012.15	3795293.59	0.01604
326039.15	3795293.59	0.01575	326066.15		

3795293.59 0.01491
326093.15 3795293.59 0.01427 326120.15
3795293.59 0.01406
326147.15 3795293.59 0.01383 325796.15
3795332.59 0.02172
325823.15 3795332.59 0.02173 325850.15
3795332.59 0.02444
325877.15 3795332.59 0.02467 325904.15
3795332.59 0.02517
325931.15 3795332.59 0.02453 325958.15
3795332.59 0.02377
325985.15 3795332.59 0.01982 326012.15
3795332.59 0.01854
326039.15 3795332.59 0.01809 326066.15
3795332.59 0.01786
326093.15 3795332.59 0.01763 326120.15
3795332.59 0.01758
326147.15 3795332.59 0.01735 325847.44
3795004.89 0.00616
325872.44 3795004.89 0.00601 325897.44
3795004.89 0.00586
325922.44 3795004.89 0.00572 325947.44
3795004.89 0.00558
325972.44 3795004.89 0.00543 325997.44
3795004.89 0.00528
326022.44 3795004.89 0.00516 326047.44
3795004.89 0.00506
326072.44 3795004.89 0.00498 326097.44
3795004.89 0.00490
326122.44 3795004.89 0.00482 326147.44
3795004.89 0.00473
325847.44 3795046.89 0.00714 325872.44
3795046.89 0.00696
325897.44 3795046.89 0.00678 325922.44
3795046.89 0.00661
325947.44 3795046.89 0.00644 325972.44
3795046.89 0.00625
325997.44 3795046.89 0.00605 326022.44
3795046.89 0.00592
326047.44 3795046.89 0.00580 326072.44
3795046.89 0.00569
326097.44 3795046.89 0.00559 326122.44
3795046.89 0.00545
326147.44 3795046.89 0.00531 325847.44
3795088.89 0.00834
325872.44 3795088.89 0.00813 325897.44
3795088.89 0.00792
325922.44 3795088.89 0.00771 325947.44
3795088.89 0.00744
325972.44 3795088.89 0.00721 325997.44

3795088.89   0.00704
         326022.44   3795088.89   0.00688   326047.44
3795088.89   0.00673
         326072.44   3795088.89   0.00660   326097.44
3795088.89   0.00643
         326122.44   3795088.89   0.00626   326147.44
3795088.89   0.00611
         325847.44   3795130.89   0.00983   325872.44
3795130.89   0.00958

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         325897.44   3795130.89   0.00933   325922.44
3795130.89   0.00910
         325947.44   3795130.89   0.00877   325972.44
3795130.89   0.00849
         325997.44   3795130.89   0.00829   326022.44
3795130.89   0.00810
         326047.44   3795130.89   0.00792   326072.44
3795130.89   0.00775
         326097.44   3795130.89   0.00749   326122.44
3795130.89   0.00728
         326147.44   3795130.89   0.00714   325847.44
3795172.89   0.01168
         325872.44   3795172.89   0.01140   325897.44
3795172.89   0.01113
         325922.44   3795172.89   0.01086   325947.44
3795172.89   0.01047
         325972.44   3795172.89   0.01014   325997.44
3795172.89   0.00991
         326022.44   3795172.89   0.00968   326047.44

3795172.89 0.00944
326072.44 3795172.89 0.00909 325847.44
3795214.89 0.01401
325872.44 3795214.89 0.01371 325897.44
3795214.89 0.01343
325922.44 3795214.89 0.01314 325947.44
3795214.89 0.01268
325972.44 3795214.89 0.01230 325997.44
3795214.89 0.01205
326047.44 3795214.89 0.01127 326072.44
3795214.89 0.01104
326097.44 3795214.89 0.01084 326147.44
3795214.89 0.01043
326096.58 3795181.52 0.00923 326118.63
3795182.57 0.00912
326144.35 3795184.14 0.00900 325849.74
3794829.62 0.00364
325892.61 3794829.62 0.00352 325935.48
3794829.62 0.00339
325978.35 3794829.62 0.00330 326021.22
3794829.62 0.00322
326064.09 3794829.62 0.00313 325849.74
3794867.55 0.00404
325892.61 3794867.55 0.00387 325935.48
3794867.55 0.00374
325978.35 3794867.55 0.00363 326021.22
3794867.55 0.00354
326064.09 3794867.55 0.00344 325849.74
3794905.48 0.00452
325892.61 3794905.48 0.00431 325935.48
3794905.48 0.00415
325978.35 3794905.48 0.00402 326021.22
3794905.48 0.00391
326064.09 3794905.48 0.00377 325849.74
3794943.41 0.00506
325892.61 3794943.41 0.00483 325935.48
3794943.41 0.00464
325978.35 3794943.41 0.00448 326021.22
3794943.41 0.00434
326064.09 3794943.41 0.00418 325849.74
3794981.34 0.00569
325892.61 3794981.34 0.00544 325935.48
3794981.34 0.00522
325978.35 3794981.34 0.00503 326021.22
3794981.34 0.00481
326064.09 3794981.34 0.00466 325855.31
3794726.62 0.00282
325902.64 3794726.62 0.00273 325855.31
3794745.52 0.00294
325902.64 3794745.52 0.00285 325855.31

3794764.42   0.00307
         325902.64   3794764.42   0.00298   325855.31
3794783.32   0.00322
         325902.64   3794783.32   0.00311   325855.31
3794802.22   0.00338
         325902.64   3794802.22   0.00326   325855.31
3794821.12   0.00354
         325902.64   3794821.12   0.00342   326402.77
3795249.33   0.00831
         325380.55   3795776.17   0.01050   325415.88
3795858.35   0.00458

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                               ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
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3796083.91   0.00115
         325297.93   3796111.07   0.00101   325246.73
3796076.15   0.00118
         325280.01   3796260.66   0.00020   325237.05
3796200.45   0.00028
         325163.03   3796071.11   0.00098   325215.74
3795991.41   0.00183
         325208.29   3795926.88   0.00273   325249.48
3795829.20   0.00406
         325171.49   3795759.19   0.00708   325129.24
3795756.40   0.00799
         325154.75   3795886.20   0.00353   325068.55
3795885.45   0.00241
         325047.86   3795938.00   0.00162   325045.84

3795982.69 0.00133
325071.95 3796106.74 0.00074 325060.64
3796290.38 0.00020
324903.71 3796379.80 0.00009 324787.84
3796510.42 0.00012
324916.48 3796618.27 0.00010 326492.96
3796356.32 0.00184
326552.73 3796900.01 0.00042 326599.30
3796893.60 0.00042
326617.42 3796889.51 0.00043 326639.41
3796881.91 0.00044
326663.73 3796864.08 0.00048 326679.47
3796885.20 0.00046
326697.81 3796898.31 0.00044 326712.34
3796916.60 0.00042
326726.62 3796931.14 0.00041 326742.23
3796948.02 0.00039
326756.58 3796965.73 0.00038 326772.07
3796973.30 0.00038
326785.22 3796890.50 0.00047 326800.10
3797003.95 0.00037
326817.96 3797014.86 0.00038 326813.74
3796843.93 0.00053
326833.92 3796853.59 0.00052 326848.61
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326864.19 3796885.12 0.00049 326877.92
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3797264.10 0.00021
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         326925.07    3795485.95        0.00549                        326937.83
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3795491.03        0.00525
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3794362.92        0.00273
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3794362.92        0.00258
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        13:46:10

                                  PAGE  20
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
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3794362.92        0.00243
         325236.77    3794362.92        0.00235                        325274.27
3794362.92        0.00227
         325049.27    3794386.12        0.00284                        325086.77
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         325124.27    3794386.12        0.00269                        325161.77
3794386.12        0.00264
         325199.27    3794386.12        0.00256                        325236.77
3794386.12        0.00245
         325274.27    3794386.12        0.00236                        325049.27
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3794409.32        0.00280
         325161.77    3794409.32        0.00275                        325199.27
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325124.27 3794432.52 0.00293 325161.77
3794432.52 0.00286
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3794432.52 0.00270
325274.27 3794432.52 0.00261 325049.27
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325086.77 3794455.72 0.00312 325124.27
3794455.72 0.00306
325161.77 3794455.72 0.00298 325199.27
3794455.72 0.00290
325236.77 3794455.72 0.00281 325274.27
3794455.72 0.00272
325049.27 3794478.92 0.00332 325086.77
3794478.92 0.00327
325124.27 3794478.92 0.00319 325161.77
3794478.92 0.00310
325199.27 3794478.92 0.00302 325236.77
3794478.92 0.00293
325274.27 3794478.92 0.00284 325049.27
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325124.27 3794525.32 0.00347 325161.77
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3794571.72 0.00368
325199.27 3794571.72 0.00358 325236.77

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         325124.27    3794618.12        0.00413                        325161.77
3794618.12        0.00402
         325199.27    3794618.12        0.00392                        325236.77
3794618.12        0.00382
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        13:46:10

                                  PAGE  21
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
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3794641.32        0.00411
         325236.77    3794641.32        0.00400                        325274.27
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         325124.27    3794664.52        0.00453                        325161.77
3794664.52        0.00441
         325199.27    3794664.52        0.00430                        325236.77
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3794687.72 0.00451
325236.77 3794687.72 0.00440 325274.27
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3794298.63 0.00264
324949.44 3794298.63 0.00261 324988.35
3794298.63 0.00254
324871.62 3794320.43 0.00279 324910.53
3794320.43 0.00276
324949.44 3794320.43 0.00270 324988.35
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324871.62 3794342.23 0.00289 324910.53
3794342.23 0.00286
324949.44 3794342.23 0.00279 324988.35
3794342.23 0.00272
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3794364.03 0.00296
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3794407.63 0.00318
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3794407.63 0.00305
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324949.44 3794451.23 0.00334 324988.35
3794451.23 0.00329
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3794473.03 0.00342
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3794494.83 0.00356
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3794538.43        0.00398
         324949.44    3794538.43        0.00391                       324988.35
3794538.43        0.00385
         324871.62    3794560.23        0.00425                       324910.53
3794560.23        0.00414
         324949.44    3794560.23        0.00406                       324988.35
3794560.23        0.00400
         324871.62    3794582.03        0.00441                       324910.53
3794582.03        0.00431
         324949.44    3794582.03        0.00423                       324988.35
3794582.03        0.00417
         324871.62    3794603.83        0.00459                       324910.53
3794603.83        0.00449
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       13:46:10

                                 PAGE  22
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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         324871.62    3794647.43        0.00497                       324910.53
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3794691.03 0.00513
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324522.94 3794074.69 0.00230 324559.89
3794074.69 0.00225
324596.84 3794074.69 0.00220 324633.79
3794074.69 0.00214
324670.74 3794074.69 0.00210 324707.69
3794074.69 0.00206
324744.64 3794074.69 0.00204 324781.59
3794074.69 0.00203
324449.04 3794106.66 0.00247 324485.99
3794106.66 0.00243
324522.94 3794106.66 0.00240 324559.89
3794106.66 0.00235
324596.84 3794106.66 0.00231 324633.79
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3794106.66 0.00217
324744.64 3794106.66 0.00217 324781.59
3794106.66 0.00214
324449.04 3794138.63 0.00257 324485.99
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324522.94 3794138.63 0.00250 324559.89
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324596.84 3794138.63 0.00241 324633.79
3794138.63 0.00239
324670.74 3794138.63 0.00234 324707.69
3794138.63 0.00230
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3794138.63 0.00224
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3794170.60 0.00251
324670.74 3794170.60 0.00246 324707.69
3794170.60 0.00244
324744.64 3794170.60 0.00239 324781.59
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3794202.57        0.00272
         324596.84    3794202.57        0.00267                       324633.79
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         324596.84    3794234.54        0.00280                       324633.79
3794234.54        0.00275
         324670.74    3794234.54        0.00273                       324707.69
3794234.54        0.00268
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         324449.04    3794266.51        0.00304                       324485.99
3794266.51        0.00300
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       13:46:10

                                 PAGE  23
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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3794394.39 0.00355
324596.84 3794394.39 0.00351 324633.79
3794394.39 0.00352
324670.74 3794394.39 0.00347 324707.69
3794394.39 0.00341
324744.64 3794394.39 0.00338 324781.59
3794394.39 0.00333
324449.04 3794426.36 0.00374 324485.99
3794426.36 0.00377
324522.94 3794426.36 0.00375 324559.89
3794426.36 0.00372
324596.84 3794426.36 0.00368 324633.79
3794426.36 0.00369
324670.74 3794426.36 0.00365 324707.69
3794426.36 0.00359
324744.64 3794426.36 0.00356 324781.59
3794426.36 0.00351
324449.04 3794458.33 0.00393 324485.99

```
3794458.33        0.00394
         324522.94    3794458.33        0.00392                        324559.89
3794458.33        0.00389
         324596.84    3794458.33        0.00387                        324633.79
3794458.33        0.00387
         324670.74    3794458.33        0.00383                        324707.69
3794458.33        0.00379
         324744.64    3794458.33        0.00377                        324781.59
3794458.33        0.00370
         324449.04    3794490.30        0.00410                        324485.99
3794490.30        0.00411
         324522.94    3794490.30        0.00409                        324559.89
3794490.30        0.00407
         324596.84    3794490.30        0.00408                        324633.79
3794490.30        0.00406
         324670.74    3794490.30        0.00402                        324707.69
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         324744.64    3794490.30        0.00397                        324781.59
3794490.30        0.00390
         324449.04    3794522.27        0.00428                        324485.99
3794522.27        0.00429
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        13:46:10

                                   PAGE  24
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         324522.94    3794522.27        0.00428                        324559.89
3794522.27        0.00426
         324596.84    3794522.27        0.00427                        324633.79
3794522.27        0.00426
         324670.74    3794522.27        0.00422                        324707.69
3794522.27        0.00419
         324744.64    3794522.27        0.00418                        324781.59
```

3794522.27 0.00411
324449.04 3794554.24 0.00447 324485.99 3794554.24 0.00447
324522.94 3794554.24 0.00447 324559.89 3794554.24 0.00447
324596.84 3794554.24 0.00449 324633.79 3794554.24 0.00447
324670.74 3794554.24 0.00443 324707.69 3794554.24 0.00441
324744.64 3794554.24 0.00440 324781.59 3794554.24 0.00434
324449.04 3794586.21 0.00467 324485.99 3794586.21 0.00467
324522.94 3794586.21 0.00467 324559.89 3794586.21 0.00469
324596.84 3794586.21 0.00472 324633.79 3794586.21 0.00470
324670.74 3794586.21 0.00466 324707.69 3794586.21 0.00464
324744.64 3794586.21 0.00464 324781.59 3794586.21 0.00457
324449.04 3794618.18 0.00488 324485.99 3794618.18 0.00488
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324670.74 3794618.18 0.00490 324707.69 3794618.18 0.00492
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324449.04 3794650.15 0.00509 324485.99 3794650.15 0.00510
324522.94 3794650.15 0.00510 324559.89 3794650.15 0.00514
324596.84 3794650.15 0.00519 324633.79 3794650.15 0.00518
324670.74 3794650.15 0.00516 324707.69 3794650.15 0.00521
324744.64 3794650.15 0.00516 324781.59 3794650.15 0.00510
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324522.94 3794682.12 0.00535 324559.89 3794682.12 0.00543
324596.84 3794682.12 0.00544 324633.79 3794682.12 0.00543
324670.74 3794682.12 0.00543 324707.69 3794682.12 0.00548
324744.64 3794682.12 0.00544 324781.59

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3795042.46        0.00441
         326594.67    3795042.46        0.00426                        326641.98
3795042.46        0.00426
         326547.36    3795062.86        0.00465                        326594.67
3795062.86        0.00445
         326641.98    3795062.86        0.00447                        326547.36
3795083.26        0.00487
         326594.67    3795083.26        0.00469                        326641.98
3795083.26        0.00470
         326547.36    3795103.66        0.00504                        326594.67
3795103.66        0.00494
         326641.98    3795103.66        0.00495                        326547.36
3795124.06        0.00530
         326594.67    3795124.06        0.00521                        326641.98
3795124.06        0.00521
         326547.36    3795144.46        0.00559                        326594.67
3795144.46        0.00550
         326641.98    3795144.46        0.00549                        326547.36
3795164.86        0.00584
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        13:46:10

                                  PAGE  25
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         326594.67    3795164.86        0.00582                        326641.98
3795164.86        0.00579
         326547.36    3795185.26        0.00618                        326594.67
3795185.26        0.00615
         326641.98    3795185.26        0.00610                        326547.36
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3795205.66 0.00656
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3795205.66 0.00636
326547.36 3795226.06 0.00698 326594.67
3795226.06 0.00691
326641.98 3795226.06 0.00651 326547.36
3795246.46 0.00743
326594.67 3795246.46 0.00727 326641.98
3795246.46 0.00681
326690.43 3795243.37 0.00655 326688.67
3795223.05 0.00626
326686.02 3795005.77 0.00392 326686.02
3795033.66 0.00416
326686.02 3795061.55 0.00441 326686.02
3795089.44 0.00472
326686.02 3795117.33 0.00504 326686.02
3795145.22 0.00540
326686.02 3795173.11 0.00574 326686.02
3795201.00 0.00594
326832.80 3795263.26 0.00598 326849.67
3795263.26 0.00576
326866.54 3795263.26 0.00561 326883.41
3795263.26 0.00554
326900.28 3795263.26 0.00546 326917.15
3795263.26 0.00538
326934.02 3795263.26 0.00518 326950.89
3795263.26 0.00499
326967.76 3795263.26 0.00493 326984.63
3795263.26 0.00482
327001.50 3795263.26 0.00463 327036.85
3795141.35 0.00409
327075.72 3795141.35 0.00382 327036.85
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3795222.74 0.00527
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3795149.77        0.00422
         326997.48    3795176.61        0.00437                        326995.60
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         326996.92    3795215.78        0.00458                        326916.97
3795152.19        0.00464
         326901.95    3795150.46        0.00467                        326884.24
3795164.40        0.00481
         326867.32    3795151.32        0.00475                        326873.22
3795163.36        0.00483
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3795151.45        0.00508
         326826.60    3795170.60        0.00526                        326840.50
3795180.17        0.00521
         326799.39    3795147.97        0.00509                        326776.77
3795147.89        0.00513
         326738.03    3795152.73        0.00524                        326781.33
3795110.75        0.00473
         326806.10    3795109.04        0.00464                        326804.45
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         326781.78    3795086.72        0.00449                        326787.40
3795061.79        0.00425
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        13:46:10

                                  PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
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3795110.69        0.00404
         326994.05    3795107.87        0.00400                        326984.52
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3795093.80   0.00393
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3795061.09   0.00368
         327035.65   3795040.58   0.00357   327058.94
3795038.41   0.00342
         327051.53   3795017.85   0.00337   327033.29
3795021.71   0.00347
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3795110.80   0.00446
         326860.32   3795110.80   0.00443   326877.35
3795110.80   0.00441
         326894.38   3795110.80   0.00438   326911.41
3795110.80   0.00436
         326928.44   3795110.80   0.00426   326945.47
3795110.80   0.00412
         326819.99   3795048.86   0.00399   326838.19
3795048.86   0.00393
         326856.39   3795048.86   0.00393   326874.59
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         326892.79   3795048.86   0.00392   326910.99
3795048.86   0.00390
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         326251.13   3796043.75   0.00714   326263.91
3795852.39   0.00835
         326170.84   3795648.38   0.01042   326148.08
3795505.91   0.01290
         325511.50   3795586.39   0.00851

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326345.95	3795634.03	0.05750	(12012517)	326414.12	3795779.67	0.06095	(12012517)
326435.80	3795773.48	0.06371	(12012517)	326458.31	3795772.83	0.06419	(12012517)
326424.24	3795858.77	0.07075	(11012717)	326400.20	3795799.84	0.05817	(11012717)
326400.93	3795767.87	0.05942	(12012517)	326424.24	3795858.77	0.07075	(11012717)
326611.84	3795762.99	0.06069	(12012517)	326611.84	3795762.99	0.06069	(12012517)
326610.94	3795777.66	0.06033	(12012517)	326605.86	3795792.89	0.06031	(12012517)
326623.93	3795809.00	0.05791	(10021408)	326627.22	3795836.58	0.05684	(09052906)
326640.09	3795836.58	0.05616	(09052906)	326654.45	3795868.68	0.05270	(10060101)
326665.45	3795883.13	0.05219	(10060101)	326588.30	3795867.62	0.05124	(12012517)
326640.52	3795951.95	0.05682	(11012717)	326658.45	3795975.58	0.05866	(11012717)
326759.52	3796019.28	0.05238	(11012717)	326763.60	3796031.85	0.05294	(11012717)
326775.94	3796048.05	0.05294	(11012717)	326774.23	3796062.19	0.05346	(11012717)
326801.34	3796078.38	0.05233	(11012717)	326809.46	3796094.93	0.05171	(11012717)
326736.80	3796108.96	0.05142	(11012717)	326835.84	3796126.62	0.04932	(11012717)
326836.27	3796140.13	0.04879	(11012717)	326800.95	3796123.31	0.05136	(11012717)
326762.39	3796138.51	0.04797	(11012717)	326766.63	3796155.18	0.04519	(11012717)
326774.14	3796169.68	0.04359	(11012717)	326798.07	3796201.57	0.04044	(11012717)
326808.84	3796229.51	0.03685	(11012717)	326880.95	3796184.59	0.04434	(11012717)
326915.56	3796260.01	0.03920	(11012717)	326941.07	3796261.11	0.03866	(11012717)
326958.24	3796277.25	0.03766	(11012717)	326964.89			

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       326984.47   3796322.92        0.03503  (11012717)                326993.31
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 3796382.47        0.03291  (11012717)
       326972.07   3796390.18        0.03174  (11012717)                326996.78
 3796414.54        0.03132  (11012717)
       326693.51   3795789.66        0.04422  (12012517)                326695.37
 3795771.29        0.04510  (12012517)
       326727.00   3795761.34        0.04435  (12012517)                326758.55
 3795787.48        0.03865  (12012517)
       326761.76   3795813.54        0.03403  (12012517)                326742.22
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 3795683.69        0.06818  (10021408)
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 3795543.65        0.10691  (12012024)
       326856.70   3795545.31        0.10816  (13010108)                326792.33
 3795494.19        0.12182  (09012107)
       326806.68   3795493.93        0.12169  (09012107)                326824.07
 3795494.42        0.12101  (09012107)
       326853.52   3795481.71        0.12671  (09012107)                326898.80
 3795534.37        0.10861  (09012107)
       325796.15   3795215.59        0.27855  (12123121)                325823.15
 3795215.59        0.28037  (10013003)
       326012.15   3795215.59        0.27094  (11011303)                326120.15
 3795215.59        0.26651  (11012807)
       326147.15   3795215.59        0.26943  (11012807)                325796.15
 3795254.59        0.29079  (12020205)
       325823.15   3795254.59        0.29295  (12123121)                325850.15
 3795254.59        0.29154  (10013003)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        13:46:10

                                   PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
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VALUES FOR SOURCE GROUP:  ALL      ***
                                INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
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 3795254.59        0.28653  (11121006)
        325931.15   3795254.59        0.27817  (11120907)                325958.15
 3795254.59        0.27905  (13122706)
        325985.15   3795254.59        0.28118  (11011303)                326012.15
 3795254.59        0.27346  (11121424)
        326039.15   3795254.59        0.27292  (11121424)                326066.15
 3795254.59        0.27420  (11121424)
        326093.15   3795254.59        0.27635  (11012807)                326120.15
 3795254.59        0.27932  (11012807)
        326147.15   3795254.59        0.28170  (11120707)                325796.15
 3795293.59        0.29525  (12122922)
        325823.15   3795293.59        0.29330  (10010204)                325850.15
 3795293.59        0.29727  (12123121)
        325877.15   3795293.59        0.30156  (10013003)                325904.15
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        325931.15   3795293.59        0.28947  (13122706)                325958.15
 3795293.59        0.29185  (11011303)
        325985.15   3795293.59        0.27985  (11121424)                326012.15
 3795293.59        0.24629  (11121424)
        326039.15   3795293.59        0.24675  (11011602)                326066.15
 3795293.59        0.23681  (11012807)
        326093.15   3795293.59        0.23008  (13011505)                326120.15
 3795293.59        0.23243  (09010718)
        326147.15   3795293.59        0.23550  (13122406)                325796.15
 3795332.59        0.24897  (13010705)
        325823.15   3795332.59        0.24944  (11121104)                325850.15
 3795332.59        0.29409  (09021407)
        325877.15   3795332.59        0.29818  (12123121)                325904.15
 3795332.59        0.30817  (10013003)
        325931.15   3795332.59        0.29962  (11011303)                325958.15
 3795332.59        0.29175  (11121424)
        325985.15   3795332.59        0.23286  (11121424)                326012.15
 3795332.59        0.21780  (11011602)
        326039.15   3795332.59        0.21804  (11012807)                326066.15
 3795332.59        0.22091  (13011505)
        326093.15   3795332.59        0.22367  (09010718)                326120.15
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 3795332.59        0.23123  (13122406)
       326147.15   3795332.59        0.23435  (10020123)                325847.44
 3795004.89        0.22747  (09121401)
       325872.44   3795004.89        0.22686  (13122103)                325897.44
 3795004.89        0.22623  (13122407)
       325922.44   3795004.89        0.22502  (13122407)                325947.44
 3795004.89        0.22462  (13013002)
       325972.44   3795004.89        0.22357  (09022002)                325997.44
 3795004.89        0.22250  (10122722)
       326022.44   3795004.89        0.22188  (09120405)                326047.44
 3795004.89        0.22277  (12122704)
       326072.44   3795004.89        0.22370  (11120907)                326097.44
 3795004.89        0.22464  (13122706)
       326122.44   3795004.89        0.22546  (13122706)                326147.44
 3795004.89        0.22475  (11011303)
       325847.44   3795046.89        0.23587  (10123020)                325872.44
 3795046.89        0.23518  (09121401)
       325897.44   3795046.89        0.23449  (13122103)                325922.44
 3795046.89        0.23374  (13122407)
       325947.44   3795046.89        0.23243  (09022002)                325972.44
 3795046.89        0.23112  (10122722)
       325997.44   3795046.89        0.22899  (09120405)                326022.44
 3795046.89        0.22997  (12122704)
       326047.44   3795046.89        0.23099  (11120907)                326072.44
 3795046.89        0.23202  (13122706)
       326097.44   3795046.89        0.23290  (13122706)                326122.44
 3795046.89        0.23103  (11011303)
       326147.44   3795046.89        0.22816  (11011303)                325847.44
 3795088.89        0.24505  (11122506)
       325872.44   3795088.89        0.24428  (10123020)                325897.44
 3795088.89        0.24350  (09121401)
       325922.44   3795088.89        0.24270  (13122103)                325947.44
 3795088.89        0.23788  (10122722)
       325972.44   3795088.89        0.23665  (09120405)                325997.44
 3795088.89        0.23775  (12122704)
       326022.44   3795088.89        0.23886  (11120907)                326047.44
 3795088.89        0.24000  (13122706)
       326072.44   3795088.89        0.24094  (13122706)                326097.44
 3795088.89        0.24050  (11011303)
       326122.44   3795088.89        0.23808  (11011303)                326147.44
 3795088.89        0.23695  (11121424)
       325847.44   3795130.89        0.25524  (11121006)                325872.44
 3795130.89        0.25425  (11122506)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        13:46:10

                                  PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325897.44	3795130.89	0.25338	(10123020)	325922.44	3795130.89	0.25250	(09121401)
325947.44	3795130.89	0.24771	(09120405)	325972.44	3795130.89	0.24614	(12122704)
325997.44	3795130.89	0.24738	(11120907)	326022.44	3795130.89	0.24864	(13122706)
326047.44	3795130.89	0.24969	(11011303)	326072.44	3795130.89	0.25119	(11011303)
326097.44	3795130.89	0.24671	(11011303)	326122.44	3795130.89	0.24525	(11121424)
326147.44	3795130.89	0.24662	(11121424)	325847.44	3795172.89	0.26623	(11121006)
325872.44	3795172.89	0.26531	(11121006)	325897.44	3795172.89	0.26422	(11122506)
325922.44	3795172.89	0.26323	(10123020)	325947.44	3795172.89	0.25837	(12122704)
325972.44	3795172.89	0.25660	(11120907)	325997.44	3795172.89	0.25800	(13122706)
326022.44	3795172.89	0.25900	(11011303)	326047.44	3795172.89	0.25919	(11011303)
326072.44	3795172.89	0.25373	(11121424)	325847.44	3795214.89	0.27873	(13010624)
325872.44	3795214.89	0.27726	(11121006)	325897.44	3795214.89	0.27621	(11121006)
325922.44	3795214.89	0.27499	(11122506)	325947.44	3795214.89	0.27013	(11120907)
325972.44	3795214.89	0.26816	(13122706)	325997.44	3795214.89	0.26967	(11011303)
326047.44	3795214.89	0.26199	(11121424)	326072.44	3795214.89	0.26373	(11121424)
326097.44	3795214.89	0.26508	(11121424)	326147.44	3795214.89	0.26924	(11012807)
326096.58	3795181.52	0.25636	(11121424)	326118.63	3795182.57	0.25776	(11121424)
326144.35	3795184.14	0.25923	(11012807)	325849.74			

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 3794829.62         0.20112  (13122407)
       325892.61   3794829.62        0.20088  (13013002)               325935.48
 3794829.62         0.19821  (11012303)
       325978.35   3794829.62        0.19704  (10021506)               326021.22
 3794829.62         0.19769  (10120705)
       326064.09   3794829.62        0.19688  (09022002)               325849.74
 3794867.55         0.20717  (13122407)
       325892.61   3794867.55        0.20396  (13013002)               325935.48
 3794867.55         0.20281  (13013002)
       325978.35   3794867.55        0.20211  (10021506)               326021.22
 3794867.55         0.20321  (09022002)
       326064.09   3794867.55        0.20260  (10122722)               325849.74
 3794905.48         0.21303  (13122407)
       325892.61   3794905.48        0.20922  (13013002)               325935.48
 3794905.48         0.20848  (13013002)
       325978.35   3794905.48        0.20764  (10120705)               326021.22
 3794905.48         0.20861  (09022002)
       326064.09   3794905.48        0.20642  (09120405)               325849.74
 3794943.41         0.21864  (13122103)
       325892.61   3794943.41        0.21505  (13122407)               325935.48
 3794943.41         0.21439  (13013002)
       325978.35   3794943.41        0.21397  (09022002)               326021.22
 3794943.41         0.21507  (10122722)
       326064.09   3794943.41        0.21252  (12122704)               325849.74
 3794981.34         0.22356  (09121401)
       325892.61   3794981.34        0.22199  (13122407)               325935.48
 3794981.34         0.22060  (13013002)
       325978.35   3794981.34        0.22073  (09022002)               326021.22
 3794981.34         0.21850  (10122722)
       326064.09   3794981.34        0.21902  (12122704)               325855.31
 3794726.62         0.18810  (13013002)
       325902.64   3794726.62        0.18758  (11012303)               325855.31
 3794745.52         0.19031  (13013002)
       325902.64   3794745.52        0.18980  (11012303)               325855.31
 3794764.42         0.19258  (13013002)
       325902.64   3794764.42        0.19209  (13013002)               325855.31
 3794783.32         0.19491  (13013002)
       325902.64   3794783.32        0.19456  (13013002)               325855.31
 3794802.22         0.19730  (13013002)
       325902.64   3794802.22        0.19707  (13013002)               325855.31
 3794821.12         0.19977  (13013002)
       325902.64   3794821.12        0.19948  (13013002)               326402.77
 3795249.33         0.23325  (12122705)
       325380.55   3795776.17        0.09812  (09120508)               325415.88
 3795858.35         0.06290  (09120508)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       13:46:10
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325409.93	3795994.97	0.04972	(09012317)	325416.60	3796058.09	0.04879	(13012417)
325409.65	3796164.95	0.04779	(13012417)	325322.71	3796083.91	0.04843	(09012317)
325297.93	3796111.07	0.05275	(09012317)	325246.73	3796076.15	0.05317	(09012317)
325280.01	3796260.66	0.03309	(13012417)	325237.05	3796200.45	0.03058	(09012317)
325163.03	3796071.11	0.04954	(09012317)	325215.74	3795991.41	0.05202	(09012317)
325208.29	3795926.88	0.05288	(09012317)	325249.48	3795829.20	0.06486	(09120508)
325171.49	3795759.19	0.09007	(12121219)	325129.24	3795756.40	0.11026	(12041020)
325154.75	3795886.20	0.06153	(12032407)	325068.55	3795885.45	0.05083	(12032407)
325047.86	3795938.00	0.04395	(09012317)	325045.84	3795982.69	0.04449	(09012317)
325071.95	3796106.74	0.04683	(09012317)	325060.64	3796290.38	0.02946	(09012317)
324903.71	3796379.80	0.01840	(11032418)	324787.84	3796510.42	0.02087	(12021301)
324916.48	3796618.27	0.02414	(13012417)	326492.96	3796356.32	0.03524	(13031518)
326552.73	3796900.01	0.01463	(13040207)	326599.30	3796893.60	0.01464	(13040207)
326617.42	3796889.51	0.01470	(13040207)	326639.41	3796881.91	0.01521	(13040207)
326663.73	3796864.08	0.01609	(13040207)	326679.47	3796885.20	0.01575	(13040207)
326697.81	3796898.31	0.01544	(13040207)	326712.34	3796916.60	0.01485	(13040207)
326726.62	3796931.14	0.01439	(13040207)	326742.23			

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 3796948.02         0.01380  (13040207)
       326756.58   3796965.73         0.01346  (13040207)                 326772.07
 3796973.30         0.01353  (13040207)
       326785.22   3796890.50         0.01540  (09062906)                 326800.10
 3797003.95         0.01368  (13040207)
       326817.96   3797014.86         0.01361  (13040207)                 326813.74
 3796843.93         0.01777  (10121904)
       326833.92   3796853.59         0.01739  (10121904)                 326848.61
 3796873.43         0.01695  (10121904)
       326864.19   3796885.12         0.01681  (10121904)                 326877.92
 3796901.20         0.01657  (10121904)
       326893.85   3796917.11         0.01595  (10121904)                 326904.49
 3796938.77         0.01522  (09062906)
       326907.64   3796966.22         0.01493  (09062906)                 326914.45
 3796991.73         0.01434  (09062906)
       326921.92   3797038.42         0.01320  (09062906)                 326596.56
 3797264.10         0.00929  (12012617)
       326829.98   3795735.43         0.03980  (12012517)                 326866.53
 3795706.88         0.03952  (12012517)
       326831.50   3795646.57         0.08602  (13012604)                 326872.90
 3795644.95         0.08630  (13012604)
       326898.91   3795644.66         0.08646  (10021408)                 326924.66
 3795650.14         0.08259  (10021408)
       326949.68   3795646.43         0.08548  (10021408)                 326975.59
 3795638.84         0.07660  (10021408)
       326917.88   3795602.78         0.10007  (13012604)                 326918.63
 3795584.13         0.10840  (10022004)
       326921.61   3795563.48         0.10792  (10022004)                 326917.18
 3795537.15         0.10815  (13010108)
       326934.99   3795592.17         0.10146  (13012604)                 326951.04
 3795599.47         0.09620  (13012604)
       326950.26   3795555.95         0.10780  (10022004)                 326951.59
 3795535.07         0.10806  (09012107)
       326961.83   3795537.57         0.10744  (09012107)                 326982.25
 3795538.33         0.10712  (09012107)
       326992.41   3795539.09         0.10704  (10022004)                 327008.98
 3795535.58         0.10745  (09012107)
       326987.68   3795580.97         0.09910  (13012604)                 327024.81
 3795588.42         0.09069  (13012604)
       326925.07   3795485.95         0.11889  (09012107)                 326937.83
 3795488.27         0.11837  (09012107)
       326956.45   3795489.28         0.11781  (09012107)                 326970.89
 3795491.03         0.11727  (09012107)
       326989.96   3795487.68         0.11709  (09012107)                 325049.27
 3794362.92         0.14628  (13120620)
       325086.77   3794362.92         0.14797  (13120620)                 325124.27
 3794362.92         0.14899  (09021803)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325161.77	3794362.92	0.15020	(13021702)	325199.27	3794362.92	0.15079	(12122922)
325236.77	3794362.92	0.15065	(12020205)	325274.27	3794362.92	0.15106	(12123121)
325049.27	3794386.12	0.14765	(12021724)	325086.77	3794386.12	0.14916	(13120620)
325124.27	3794386.12	0.15074	(09021803)	325161.77	3794386.12	0.15387	(13021702)
325199.27	3794386.12	0.15465	(12122922)	325236.77	3794386.12	0.15247	(10010204)
325274.27	3794386.12	0.15263	(12020205)	325049.27	3794409.32	0.14927	(12021724)
325086.77	3794409.32	0.14995	(13120620)	325124.27	3794409.32	0.15210	(13120620)
325161.77	3794409.32	0.15535	(09021803)	325199.27	3794409.32	0.15610	(12122922)
325236.77	3794409.32	0.15614	(10010204)	325274.27	3794409.32	0.15665	(12020205)
325049.27	3794432.52	0.15044	(12021724)	325086.77	3794432.52	0.15114	(12021724)
325124.27	3794432.52	0.15477	(13120620)	325161.77	3794432.52	0.15698	(09021803)
325199.27	3794432.52	0.15788	(13021702)	325236.77	3794432.52	0.15857	(12122922)
325274.27	3794432.52	0.15901	(10010204)	325049.27	3794455.72	0.15158	(10012707)
325086.77	3794455.72	0.15378	(12021724)	325124.27	3794455.72	0.15692	(13120620)
325161.77	3794455.72	0.15829	(13120620)	325199.27	3794455.72	0.15933	(13021702)
325236.77	3794455.72	0.16023	(12122922)	325274.27			

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3794455.72         0.16087  (10010204)
       325049.27   3794478.92         0.15277  (10012707)                325086.77
3794478.92         0.15714  (12021724)
       325124.27   3794478.92         0.15796  (12021724)                325161.77
3794478.92         0.15999  (13120620)
       325199.27   3794478.92         0.16107  (09021803)                325236.77
3794478.92         0.16189  (13021702)
       325274.27   3794478.92         0.16246  (10010204)                325049.27
3794502.12         0.15386  (10010424)
       325086.77   3794502.12         0.15838  (10012707)                325124.27
3794502.12         0.16000  (12021724)
       325161.77   3794502.12         0.16124  (13120620)                325199.27
3794502.12         0.16256  (09021803)
       325236.77   3794502.12         0.16364  (13021702)                325274.27
3794502.12         0.16442  (12122922)
       325049.27   3794525.32         0.15503  (10010424)                325086.77
3794525.32         0.15972  (10012707)
       325124.27   3794525.32         0.16151  (12021724)                325161.77
3794525.32         0.16206  (12021724)
       325199.27   3794525.32         0.16430  (13120620)                325236.77
3794525.32         0.16530  (09021803)
       325274.27   3794525.32         0.16610  (12122922)                325049.27
3794548.52         0.15574  (10010424)
       325086.77   3794548.52         0.16094  (10010424)                325124.27
3794548.52         0.16280  (10012707)
       325161.77   3794548.52         0.16432  (12021724)                325199.27
3794548.52         0.16580  (13120620)
       325236.77   3794548.52         0.16711  (09021803)                325274.27
3794548.52         0.16809  (13021702)
       325049.27   3794571.72         0.15667  (10011404)                325086.77
3794571.72         0.16220  (10010424)
       325124.27   3794571.72         0.16424  (10012707)                325161.77
3794571.72         0.16600  (12021724)
       325199.27   3794571.72         0.16681  (13120620)                325236.77
3794571.72         0.16881  (13120620)
       325274.27   3794571.72         0.16981  (13021702)                325049.27
3794594.92         0.15839  (11121006)
       325086.77   3794594.92         0.16295  (10010424)                325124.27
3794594.92         0.16554  (10010424)
       325161.77   3794594.92         0.16734  (10012707)                325199.27
3794594.92         0.16889  (12021724)
       325236.77   3794594.92         0.17060  (13120620)                325274.27
3794594.92         0.17185  (09021803)
       325049.27   3794618.12         0.16103  (13010624)                325086.77
3794618.12         0.16422  (10011404)
       325124.27   3794618.12         0.16684  (10010424)                325161.77
3794618.12         0.16890  (10012707)
       325199.27   3794618.12         0.17078  (12021724)                325236.77
3794618.12         0.17187  (13120620)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_2.5 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325274.27	3794618.12	0.17407	(09021803)	325049.27	3794641.32	0.16382	(13010624)
325086.77	3794641.32	0.16602	(11121006)	325124.27	3794641.32	0.16757	(10010424)
325161.77	3794641.32	0.17029	(10010424)	325199.27	3794641.32	0.17219	(10012707)
325236.77	3794641.32	0.17374	(12021724)	325274.27	3794641.32	0.17642	(13120620)
325049.27	3794664.52	0.16660	(13010624)	325086.77	3794664.52	0.16843	(11121006)
325124.27	3794664.52	0.16911	(10011404)	325161.77	3794664.52	0.17164	(10010424)
325199.27	3794664.52	0.17389	(10012707)	325236.77	3794664.52	0.17588	(12021724)
325274.27	3794664.52	0.17879	(13120620)	325049.27	3794687.72	0.16937	(13010624)
325086.77	3794687.72	0.17097	(13010624)	325124.27	3794687.72	0.17061	(10011404)
325161.77	3794687.72	0.17235	(10010424)	325199.27	3794687.72	0.17537	(10010424)
325236.77	3794687.72	0.17736	(10012707)	325274.27	3794687.72	0.18260	(12021724)
324871.62	3794298.63	0.13421	(13010624)	324910.53	3794298.63	0.13473	(10012707)
324949.44	3794298.63	0.13830	(12021724)	324988.35	3794298.63	0.13864	(12021724)
324871.62	3794320.43	0.13583	(13010624)	324910.53	3794320.43	0.13740	(10012707)
324949.44	3794320.43	0.13900	(10012707)	324988.35			

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3794320.43        0.14013  (12021724)
       324871.62   3794342.23        0.13741  (13010624)                324910.53
3794342.23        0.13896  (10010424)
       324949.44   3794342.23        0.14014  (10012707)                324988.35
3794342.23        0.14127  (12021724)
       324871.62   3794364.03        0.13977  (10013003)                324910.53
3794364.03        0.14079  (13010624)
       324949.44   3794364.03        0.14094  (10012707)                324988.35
3794364.03        0.14252  (12021724)
       324871.62   3794385.83        0.14361  (10013003)                324910.53
3794385.83        0.14266  (13010624)
       324949.44   3794385.83        0.14188  (10010424)                324988.35
3794385.83        0.14511  (10012707)
       324871.62   3794407.63        0.14563  (10013003)                324910.53
3794407.63        0.14451  (13010624)
       324949.44   3794407.63        0.14281  (10010424)                324988.35
3794407.63        0.14613  (10012707)
       324871.62   3794429.43        0.14759  (12123121)                324910.53
3794429.43        0.14633  (13010624)
       324949.44   3794429.43        0.14430  (13010624)                324988.35
3794429.43        0.14709  (10010424)
       324871.62   3794451.23        0.14972  (12123121)                324910.53
3794451.23        0.14835  (10013003)
       324949.44   3794451.23        0.14651  (13010624)                324988.35
3794451.23        0.14824  (10010424)
       324871.62   3794473.03        0.15186  (12123121)                324910.53
3794473.03        0.15042  (10013003)
       324949.44   3794473.03        0.14956  (13010624)                324988.35
3794473.03        0.14968  (10010424)
       324871.62   3794494.83        0.15462  (12020205)                324910.53
3794494.83        0.15249  (10013003)
       324949.44   3794494.83        0.15180  (13010624)                324988.35
3794494.83        0.15178  (13010624)
       324871.62   3794516.63        0.15746  (12020205)                324910.53
3794516.63        0.15476  (12123121)
       324949.44   3794516.63        0.15385  (10013003)                324988.35
3794516.63        0.15410  (13010624)
       324871.62   3794538.43        0.15994  (12020205)                324910.53
3794538.43        0.15712  (12123121)
       324949.44   3794538.43        0.15614  (10013003)                324988.35
3794538.43        0.15642  (13010624)
       324871.62   3794560.23        0.16260  (10010204)                324910.53
3794560.23        0.15951  (12123121)
       324949.44   3794560.23        0.15845  (10013003)                324988.35
3794560.23        0.15873  (13010624)
       324871.62   3794582.03        0.16546  (10010204)                324910.53
3794582.03        0.16215  (12020205)
       324949.44   3794582.03        0.16082  (12123121)                324988.35
3794582.03        0.16104  (13010624)
       324871.62   3794603.83        0.16832  (10010204)                324910.53
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*** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
INCLUDING SOURCE(S):   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324949.44	3794603.83	0.16406	(12123121)	324988.35	3794603.83	0.16346	(10013003)
324871.62	3794625.63	0.17157	(12122922)	324910.53	3794625.63	0.16803	(10010204)
324949.44	3794625.63	0.16892	(12123121)	324988.35	3794625.63	0.16605	(10013003)
324871.62	3794647.43	0.17485	(12122922)	324910.53	3794647.43	0.17126	(10010204)
324949.44	3794647.43	0.17194	(12020205)	324988.35	3794647.43	0.16869	(10013003)
324871.62	3794669.23	0.17843	(13021702)	324910.53	3794669.23	0.17451	(10010204)
324949.44	3794669.23	0.17515	(12020205)	324988.35	3794669.23	0.17153	(12123121)
324871.62	3794691.03	0.18214	(13021702)	324910.53	3794691.03	0.17801	(12122922)
324949.44	3794691.03	0.17849	(12020205)	324988.35	3794691.03	0.17454	(12123121)
324449.04	3794074.69	0.12581	(13120620)	324485.99	3794074.69	0.12460	(09021803)
324522.94	3794074.69	0.12337	(13021702)	324559.89	3794074.69	0.12170	(12122922)
324596.84	3794074.69	0.11978	(10010204)	324633.79	3794074.69	0.11732	(12020205)
324670.74	3794074.69	0.11588	(12123121)	324707.69	3794074.69	0.11511	(10013003)
324744.64	3794074.69	0.11573	(10013003)	324781.59			

3794074.69 0.11936 (12021724)
324449.04 3794106.66 0.12740 (09020419) 324485.99
3794106.66 0.12684 (13120620)
324522.94 3794106.66 0.12557 (09021803) 324559.89
3794106.66 0.12427 (13021702)
324596.84 3794106.66 0.12295 (12122922) 324633.79
3794106.66 0.12086 (10010204)
324670.74 3794106.66 0.11944 (12020205) 324707.69
3794106.66 0.11897 (12123121)
324744.64 3794106.66 0.12102 (10013003) 324781.59
3794106.66 0.12189 (12021724)
324449.04 3794138.63 0.13011 (12021724) 324485.99
3794138.63 0.12899 (13120620)
324522.94 3794138.63 0.12769 (09021803) 324559.89
3794138.63 0.12636 (13021702)
324596.84 3794138.63 0.12501 (12122922) 324633.79
3794138.63 0.12532 (10010204)
324670.74 3794138.63 0.12422 (12020205) 324707.69
3794138.63 0.12376 (12123121)
324744.64 3794138.63 0.12482 (10013003) 324781.59
3794138.63 0.12392 (13010624)
324449.04 3794170.60 0.13282 (12021724) 324485.99
3794170.60 0.13079 (09020419)
324522.94 3794170.60 0.13046 (13120620) 324559.89
3794170.60 0.13094 (09021803)
324596.84 3794170.60 0.12948 (13021702) 324633.79
3794170.60 0.12856 (12122922)
324670.74 3794170.60 0.12734 (10010204) 324707.69
3794170.60 0.12821 (12020205)
324744.64 3794170.60 0.12723 (12123121) 324781.59
3794170.60 0.12764 (10013003)
324449.04 3794202.57 0.13519 (10012707) 324485.99
3794202.57 0.13379 (12021724)
324522.94 3794202.57 0.13284 (13120620) 324559.89
3794202.57 0.13394 (09021803)
324596.84 3794202.57 0.13248 (13021702) 324633.79
3794202.57 0.13097 (12122922)
324670.74 3794202.57 0.13205 (10010204) 324707.69
3794202.57 0.13094 (12020205)
324744.64 3794202.57 0.12944 (12123121) 324781.59
3794202.57 0.13035 (10013003)
324449.04 3794234.54 0.13793 (10012707) 324485.99
3794234.54 0.13657 (12021724)
324522.94 3794234.54 0.13493 (12021724) 324559.89
3794234.54 0.13665 (13120620)
324596.84 3794234.54 0.13506 (09021803) 324633.79
3794234.54 0.13342 (13021702)
324670.74 3794234.54 0.13488 (12122922) 324707.69
3794234.54 0.13322 (10010204)
324744.64 3794234.54 0.13160 (12020205) 324781.59

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794266.51	0.14079	(12021724)	324559.89	3794266.51	0.13911	(13120620)
324596.84	3794266.51	0.13759	(09021803)	324633.79	3794266.51	0.13597	(13021702)
324670.74	3794266.51	0.13752	(12122922)	324707.69	3794266.51	0.13580	(10010204)
324744.64	3794266.51	0.13410	(12020205)	324781.59	3794266.51	0.13495	(12123121)
324449.04	3794298.48	0.14328	(10010424)	324485.99	3794298.48	0.14198	(10012707)
324522.94	3794298.48	0.14378	(12021724)	324559.89	3794298.48	0.14168	(12021724)
324596.84	3794298.48	0.14052	(13120620)	324633.79	3794298.48	0.14157	(09021803)
324670.74	3794298.48	0.14021	(13021702)	324707.69	3794298.48	0.13832	(12122922)
324744.64	3794298.48	0.13647	(10010204)	324781.59	3794298.48	0.13736	(12123121)
324449.04	3794330.45	0.14620	(10011404)	324485.99	3794330.45	0.14550	(10010424)
324522.94	3794330.45	0.14692	(10012707)	324559.89	3794330.45	0.14521	(12021724)
324596.84	3794330.45	0.14312	(13120620)	324633.79	3794330.45	0.14440	(09021803)
324670.74	3794330.45	0.14311	(13021702)	324707.69			

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3794330.45        0.14121  (12122922)
       324744.64   3794330.45        0.13949  (10010204)                324781.59
3794330.45        0.14013  (12020205)
       324449.04   3794362.42        0.14986  (10011404)                324485.99
3794362.42        0.15067  (10011119)
       324522.94   3794362.42        0.15005  (10010424)                324559.89
3794362.42        0.14819  (10012707)
       324596.84   3794362.42        0.14619  (12021724)                324633.79
3794362.42        0.14768  (13120620)
       324670.74   3794362.42        0.14620  (09021803)                324707.69
3794362.42        0.14409  (13021702)
       324744.64   3794362.42        0.14393  (10010204)                324781.59
3794362.42        0.14358  (12020205)
       324449.04   3794394.39        0.15317  (09120921)                324485.99
3794394.39        0.15477  (10011404)
       324522.94   3794394.39        0.15332  (10010424)                324559.89
3794394.39        0.15171  (10012707)
       324596.84   3794394.39        0.14988  (12021724)                324633.79
3794394.39        0.15053  (13120620)
       324670.74   3794394.39        0.14928  (09021803)                324707.69
3794394.39        0.14726  (13021702)
       324744.64   3794394.39        0.14714  (12122922)                324781.59
3794394.39        0.14661  (10010204)
       324449.04   3794426.36        0.15730  (11121923)                324485.99
3794426.36        0.15834  (10011404)
       324522.94   3794426.36        0.15654  (10011404)                324559.89
3794426.36        0.15528  (10010424)
       324596.84   3794426.36        0.15328  (10012707)                324633.79
3794426.36        0.15422  (12021724)
       324670.74   3794426.36        0.15289  (13120620)                324707.69
3794426.36        0.15099  (09021803)
       324744.64   3794426.36        0.15081  (13021702)                324781.59
3794426.36        0.14972  (10010204)
       324449.04   3794458.33        0.16261  (09022006)                324485.99
3794458.33        0.16242  (09120921)
       324522.94   3794458.33        0.16083  (10011404)                324559.89
3794458.33        0.15833  (10010424)
       324596.84   3794458.33        0.15767  (10012707)                324633.79
3794458.33        0.15843  (12021724)
       324670.74   3794458.33        0.15594  (13120620)                324707.69
3794458.33        0.15524  (13120620)
       324744.64   3794458.33        0.15570  (13021702)                324781.59
3794458.33        0.15320  (12122922)
       324449.04   3794490.30        0.16659  (09022006)                324485.99
3794490.30        0.16643  (11121923)
       324522.94   3794490.30        0.16477  (09120921)                324559.89
3794490.30        0.16279  (10011404)
       324596.84   3794490.30        0.16330  (10010424)                324633.79
3794490.30        0.16276  (10012707)
       324670.74   3794490.30        0.16028  (12021724)                324707.69
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794522.27	0.16890	(11121923)	324559.89	3794522.27	0.16684	(09120921)
324596.84	3794522.27	0.16694	(10011404)	324633.79	3794522.27	0.16691	(10010424)
324670.74	3794522.27	0.16443	(12021724)	324707.69	3794522.27	0.16253	(12021724)
324744.64	3794522.27	0.16342	(13120620)	324781.59	3794522.27	0.16071	(13021702)
324449.04	3794554.24	0.17626	(12021707)	324485.99	3794554.24	0.17494	(12010904)
324522.94	3794554.24	0.17324	(09022006)	324559.89	3794554.24	0.17209	(09120921)
324596.84	3794554.24	0.17296	(10011404)	324633.79	3794554.24	0.17096	(10010424)
324670.74	3794554.24	0.16889	(10012707)	324707.69	3794554.24	0.16759	(12021724)
324744.64	3794554.24	0.16788	(13120620)	324781.59	3794554.24	0.16489	(09021803)
324449.04	3794586.21	0.18068	(13012724)	324485.99	3794586.21	0.17945	(12021707)
324522.94	3794586.21	0.17782	(12010904)	324559.89	3794586.21	0.17747	(11121923)
324596.84	3794586.21	0.17840	(09120921)	324633.79			

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3794586.21        0.17596  (10011404)
       324670.74   3794586.21        0.17358  (10010424)                324707.69
3794586.21        0.17215  (10012707)
       324744.64   3794586.21        0.17195  (12021724)                324781.59
3794586.21        0.16928  (13120620)
       324449.04   3794618.18        0.18518  (12022904)                324485.99
3794618.18        0.18412  (13012724)
       324522.94   3794618.18        0.18262  (12021707)                324559.89
3794618.18        0.18236  (12010904)
       324596.84   3794618.18        0.18341  (11121923)                324633.79
3794618.18        0.18096  (09120921)
       324670.74   3794618.18        0.17813  (10011404)                324707.69
3794618.18        0.17937  (10010424)
       324744.64   3794618.18        0.17755  (12021724)                324781.59
3794618.18        0.17415  (13120620)
       324449.04   3794650.15        0.18974  (12012404)                324485.99
3794650.15        0.18891  (12022904)
       324522.94   3794650.15        0.18763  (13012724)                324559.89
3794650.15        0.18758  (12021707)
       324596.84   3794650.15        0.18865  (09022006)                324633.79
3794650.15        0.18630  (11121923)
       324670.74   3794650.15        0.18420  (10011404)                324707.69
3794650.15        0.18581  (10010424)
       324744.64   3794650.15        0.18287  (10012707)                324781.59
3794650.15        0.17903  (12021724)
       324449.04   3794682.12        0.19426  (11010801)                324485.99
3794682.12        0.19375  (12012404)
       324522.94   3794682.12        0.19337  (12022904)                324559.89
3794682.12        0.19557  (13012724)
       324596.84   3794682.12        0.19411  (12010904)                324633.79
3794682.12        0.19197  (09022006)
       324670.74   3794682.12        0.18978  (09120921)                324707.69
3794682.12        0.19164  (10011404)
       324744.64   3794682.12        0.18858  (10010424)                324781.59
3794682.12        0.18503  (12021724)
       326547.36   3795022.06        0.20101  (12022103)                326594.67
3795022.06        0.19764  (10011406)
       326641.98   3795022.06        0.18855  (11121105)                326547.36
3795042.46        0.20371  (12022103)
       326594.67   3795042.46        0.19132  (10011406)                326641.98
3795042.46        0.19091  (12122705)
       326547.36   3795062.86        0.20701  (10011406)                326594.67
3795062.86        0.19184  (11121105)
       326641.98   3795062.86        0.19310  (10021501)                326547.36
3795083.26        0.20804  (10011406)
       326594.67   3795083.26        0.19426  (12122705)                326641.98
3795083.26        0.19515  (13010623)
       326547.36   3795103.66        0.20322  (11121105)                326594.67
3795103.66        0.19655  (10021501)
       326641.98   3795103.66        0.19724  (13010623)                326547.36
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326594.67	3795164.86	0.20276	(13010101)	326641.98	3795164.86	0.20258	(13011507)
326547.36	3795185.26	0.20401	(13010623)	326594.67	3795185.26	0.20405	(13011507)
326641.98	3795185.26	0.20384	(13122107)	326547.36	3795205.66	0.20574	(13010101)
326594.67	3795205.66	0.20573	(13011507)	326641.98	3795205.66	0.19999	(09021506)
326547.36	3795226.06	0.20691	(13011507)	326594.67	3795226.06	0.20660	(13122107)
326641.98	3795226.06	0.18845	(12010407)	326547.36	3795246.46	0.20771	(13011507)
326594.67	3795246.46	0.20362	(09021506)	326641.98	3795246.46	0.18381	(10121023)
326690.43	3795243.37	0.17835	(12022206)	326688.67	3795223.05	0.18021	(10010821)
326686.02	3795005.77	0.18783	(12122705)	326686.02	3795033.66	0.18843	(10021501)
326686.02	3795061.55	0.18907	(13010623)	326686.02	3795089.44	0.19145	(13010101)
326686.02	3795117.33	0.19344	(13011507)	326686.02

3795145.22 0.19540 (13122107)
326686.02 3795173.11 0.19393 (09021506) 326686.02
3795201.00 0.18168 (12011805)
326832.80 3795263.26 0.16137 (13020901) 326849.67
3795263.26 0.15352 (11020605)
326866.54 3795263.26 0.14957 (12010208) 326883.41
3795263.26 0.14948 (12010208)
326900.28 3795263.26 0.14918 (12010208) 326917.15
3795263.26 0.14867 (12010208)
326934.02 3795263.26 0.14085 (13122805) 326950.89
3795263.26 0.13514 (11010918)
326967.76 3795263.26 0.13491 (11010918) 326984.63
3795263.26 0.13223 (11010918)
327001.50 3795263.26 0.12583 (12120505) 327036.85
3795141.35 0.13078 (11013105)
327075.72 3795141.35 0.11840 (12011705) 327036.85
3795160.91 0.13042 (12020201)
327075.72 3795160.91 0.11819 (10022004) 327036.85
3795180.47 0.13030 (10012524)
327075.72 3795180.47 0.11852 (13012604) 327036.85
3795200.03 0.12921 (11020605)
327075.72 3795200.03 0.11929 (09121202) 327036.85
3795219.59 0.12332 (09121202)
327075.72 3795219.59 0.11886 (12010208) 327036.85
3795239.15 0.12180 (12120505)
327075.72 3795239.15 0.12114 (12120505) 327036.85
3795258.71 0.12243 (12120505)
327075.72 3795258.71 0.12066 (09120419) 327036.85
3795278.27 0.12214 (09120419)
327075.72 3795278.27 0.12175 (13121308) 326840.04
3795223.24 0.16054 (11013105)
326860.58 3795224.16 0.14982 (12020201) 326877.30
3795222.74 0.14911 (12020201)
326929.68 3795223.69 0.14150 (10012524) 326932.86
3795200.00 0.14020 (12020201)
326972.32 3795217.03 0.13187 (13012604) 326970.84
3795177.58 0.13286 (12011705)
326968.20 3795152.46 0.13339 (09120204) 326998.43
3795149.77 0.13215 (09120204)
326997.48 3795176.61 0.13145 (12020201) 326995.60
3795193.01 0.13134 (10012524)
326996.92 3795215.78 0.13141 (11020605) 326916.97
3795152.19 0.14919 (10013106)
326901.95 3795150.46 0.15005 (12010321) 326884.24
3795164.40 0.15063 (12010321)
326867.32 3795151.32 0.15357 (12022206) 326873.22
3795163.36 0.15124 (10120606)
326845.53 3795152.12 0.16211 (12022206) 326824.91
3795151.45 0.17312 (09013022)
326826.60 3795170.60 0.17204 (12013005) 326840.50

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326794.01	3795031.22	0.17424	(13011507)	326977.50	3795110.69	0.13395	(10120606)
326994.05	3795107.87	0.13343	(12010321)	326984.52	3795093.80	0.13530	(11120708)
326972.85	3795082.37	0.13733	(11120708)	326995.41	3795072.53	0.13638	(11120708)
326993.23	3795060.01	0.13690	(11121808)	326984.60	3795040.80	0.13799	(13020308)
326981.66	3795027.22	0.13836	(10010821)	327041.48	3795102.15	0.13018	(13011601)
327065.19	3795095.75	0.12094	(10121407)	327040.88	3795076.27	0.13120	(10120606)
327061.24	3795058.32	0.12357	(11120708)	327037.82	3795061.09	0.13378	(11120708)
327035.65	3795040.58	0.13530	(11120708)	327058.94	3795038.41	0.12661	(11120708)
327051.53	3795017.85	0.13030	(11121808)	327033.29	3795021.71	0.13606	(11121808)
326826.26	3795110.80	0.16123	(12011805)	326843.29			

```
 3795110.80        0.15833  (10121023)
       326860.32   3795110.80        0.15630  (10010821)                326877.35
 3795110.80        0.15517  (10020622)
       326894.38   3795110.80        0.15406  (09013022)                326911.41
 3795110.80        0.15295  (12022206)
       326928.44   3795110.80        0.14696  (12022206)                326945.47
 3795110.80        0.13834  (11120708)
       326819.99   3795048.86        0.16333  (13122107)                326838.19
 3795048.86        0.15836  (09021506)
       326856.39   3795048.86        0.15789  (09021506)                326874.59
 3795048.86        0.15719  (10122806)
       326892.79   3795048.86        0.15622  (12011805)                326910.99
 3795048.86        0.15537  (12011805)
       326929.19   3795048.86        0.14919  (10121023)                326947.39
 3795048.86        0.13966  (10010821)
       325652.30   3795689.46        0.06238  (13020608)                325747.75
 3795796.21        0.04858  (13020608)
       326251.13   3796043.75        0.05098  (10013117)                326263.91
 3795852.39        0.06661  (11012717)
       326170.84   3795648.38        0.06228  (09052906)                326148.08
 3795505.91        0.08342  (12050806)
       325511.50   3795586.39        0.06346  (13020608)

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        05/26/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       13:46:10

                                  PAGE  38
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
              **


                        NETWORK
GROUP ID                      AVERAGE CONC               RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.02517 AT (  325904.15,  3795332.59,
149.61,   185.00,    0.00)  DC
          2ND HIGHEST VALUE IS       0.02467 AT (  325877.15,  3795332.59,
150.22,   185.00,    0.00)  DC
          3RD HIGHEST VALUE IS       0.02453 AT (  325931.15,  3795332.59,
```

150.05,   165.00,   0.00) DC
          4TH HIGHEST VALUE IS   0.02444 AT (325850.15, 3795332.59,
150.51,   185.00,   0.00) DC
          5TH HIGHEST VALUE IS   0.02377 AT (325958.15, 3795332.59,
150.51,   166.00,   0.00) DC
          6TH HIGHEST VALUE IS   0.02173 AT (325823.15, 3795332.59,
151.02,   185.00,   0.00) DC
          7TH HIGHEST VALUE IS   0.02172 AT (325796.15, 3795332.59,
151.11,   185.00,   0.00) DC
          8TH HIGHEST VALUE IS   0.02038 AT (325796.15, 3795293.59,
150.13,   185.00,   0.00) DC
          9TH HIGHEST VALUE IS   0.02012 AT (325877.15, 3795293.59,
149.15,   185.00,   0.00) DC
         10TH HIGHEST VALUE IS   0.02008 AT (325823.15, 3795293.59,
150.11,   185.00,   0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                *** THE SUMMARY OF HIGHEST 1-HR
RESULTS ***

                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
             **

                                                      DATE
                                          NETWORK
GROUP ID   AVERAGE CONC   (YYMMDDHH)   RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)   OF TYPE GRID-ID
- -
- -

ALL   HIGH   1ST HIGH VALUE IS   0.30817 ON 10013003: AT (325904.15,
3795332.59,   149.61,   185.00,   0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   15612 Informational Message(s)

 A Total of   43872 Hours Were Processed

 A Total of   13724 Calm Hours Identified

 A Total of   1888 Missing Hours Identified (4.30 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 MX W481   43873   MAIN: Data Remaining After End of Year. Number of Hours=
        48

    ****
    *** AERMOD Finishes Successfully ***
    ****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/4/2020
** File: C:\Lakes\AERMOD View\Phase5_Unmitigated_11.4\Phase5_Unmitigated_11.4.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 3 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase5_Unmitigated_11.4.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       3.2841E-09     3.000        12
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326182.190 3795741.380 326108.630 3795601.370
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
```

```
**
RE STARTING
   INCLUDED Phase5_Unmitigated_11.4.rou
RE FINISHED
**
************************************
** AERMOD Meteorology Pathway
************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
************************************
** AERMOD Output Pathway
************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE5_UNMITIGATED_11.4.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE5_UNMITIGATED_11.4.AD\AN00GALL.PLT 32
   SUMMFILE Phase5_Unmitigated_11.4.sum
OU FINISHED
**
************************************
** Project Parameters
************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/4/2020
** File: C:\Lakes\AERMOD View\Phase5_Unmitigated_11.4\Phase5_Unmitigated_11.4.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 3 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase5_Unmitigated_11.4.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       3.2841E-09     3.000        12
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326182.190 3795741.380 326108.630 3795601.370
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
```

```
**
RE STARTING
   INCLUDED Phase5_Unmitigated_11.4.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE5_UNMITIGATED_11.4.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE5_UNMITIGATED_11.4.AD\AN00GALL.PLT 32
   SUMMFILE Phase5_Unmitigated_11.4.sum
OU FINISHED

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       09:33:16

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -
```

```
 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     841
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE
```

Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) =   24.00 ; Decay
Coef. =   0.000   ; Rot. Angle =   0.0
                  Emission Units = GRAMS/SEC   ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =   3.6 MB of RAM.

 **Input Runstream File: aermod.inp

 **Output Print File: aermod.out

 **Detailed Error/Message File: Phase5_Unmitigated_11.4.err

 **File for Summary of Results: Phase5_Unmitigated_11.4.sum

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                  *** AREAPOLY SOURCE DATA ***

               NUMBER EMISSION RATE   LOCATION OF AREA BASE   RELEASE NUMBER
  INIT.   URBAN EMISSION RATE
   SOURCE   PART. (GRAMS/SEC   X   Y   ELEV.   HEIGHT OF VERTS.
   SZ   SOURCE SCALAR VARY
     ID   CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
(METERS)   BY
 -
- -

 PAREA1   0   0.32841E-08 325117.2 3795248.3   146.0   3.00   12
   0.00   NO

*** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID   SOURCE IDs
 -----------   ----------

  ALL   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

     (326346.0, 3795634.0,   172.5,   190.0,   0.0);   (326414.1,
3795779.7,   180.0,   277.0,   0.0);
     (326435.8, 3795773.5,   176.6,   277.0,   0.0);   (326458.3,
3795772.8,   174.6,   277.0,   0.0);
     (326424.2, 3795858.8,   178.9,   295.0,   0.0);   (326400.2,
3795799.8,   182.9,   277.0,   0.0);
     (326400.9, 3795767.9,   180.8,   277.0,   0.0);   (326424.2,
3795858.8,   178.9,   295.0,   0.0);
     (326611.8, 3795763.0,   168.9,   277.0,   0.0);   (326611.8,
3795763.0,   168.9,   277.0,   0.0);
     (326610.9, 3795777.7,   169.0,   277.0,   0.0);   (326605.9,
3795792.9,   169.0,   277.0,   0.0);
     (326623.9, 3795809.0,   169.6,   277.0,   0.0);   (326627.2,
3795836.6,   170.1,   295.0,   0.0);
     (326640.1, 3795836.6,   170.2,   277.0,   0.0);   (326654.5,
3795868.7,   171.6,   291.0,   0.0);
     (326665.5, 3795883.1,   172.0,   295.0,   0.0);   (326588.3,
3795867.6,   175.1,   277.0,   0.0);
     (326640.5, 3795951.9,   177.0,   295.0,   0.0);   (326658.5,
3795975.6,   175.5,   295.0,   0.0);
     (326759.5, 3796019.3,   178.2,   277.0,   0.0);   (326763.6,
3796031.8,   178.1,   291.0,   0.0);

```
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
     ( 326806.7, 3795493.9,     157.9,     217.0,       0.0);         ( 326824.1,
3795494.4,     157.9,     217.0,       0.0);
     ( 326853.5, 3795481.7,     157.5,     217.0,       0.0);         ( 326898.8,
3795534.4,     158.0,     217.0,       0.0);
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     ( 325796.1, 3795215.6,     149.4,     149.4,       0.0);         ( 325823.1,
3795215.6,     149.0,     149.0,       0.0);
     ( 326012.1, 3795215.6,     150.0,     150.0,       0.0);         ( 326120.1,
3795215.6,     151.0,     151.0,       0.0);
     ( 326147.1, 3795215.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795254.6,     149.4,     185.0,       0.0);
     ( 325823.1, 3795254.6,     149.0,     185.0,       0.0);         ( 325850.1,
3795254.6,     149.0,     149.0,       0.0);
     ( 325877.1, 3795254.6,     149.0,     149.0,       0.0);         ( 325904.1,
3795254.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795254.6,     149.9,     149.9,       0.0);         ( 325958.1,
3795254.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795254.6,     150.0,     150.0,       0.0);         ( 326012.1,
3795254.6,     150.7,     150.7,       0.0);
     ( 326039.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326066.1,
3795254.6,     151.0,     151.0,       0.0);
     ( 326093.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326120.1,
3795254.6,     151.0,     151.0,       0.0);
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       09:33:16

                                   PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     ( 326147.1, 3795254.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795293.6,     150.1,     185.0,       0.0);
     ( 325823.1, 3795293.6,     150.1,     185.0,       0.0);         ( 325850.1,
3795293.6,     149.7,     185.0,       0.0);
     ( 325877.1, 3795293.6,     149.2,     185.0,       0.0);         ( 325904.1,
3795293.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795293.6,     150.0,     150.0,       0.0);         ( 325958.1,
3795293.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795293.6,     150.9,     150.9,       0.0);         ( 326012.1,
3795293.6,     151.2,     151.2,       0.0);
     ( 326039.1, 3795293.6,     151.2,     151.2,       0.0);         ( 326066.1,
3795293.6,     151.7,     151.7,       0.0);
     ( 326093.1, 3795293.6,     152.0,     152.0,       0.0);         ( 326120.1,
3795293.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795293.6,     152.0,     152.0,       0.0);         ( 325796.1,
3795332.6,     151.1,     185.0,       0.0);
     ( 325823.1, 3795332.6,     151.0,     185.0,       0.0);         ( 325850.1,
3795332.6,     150.5,     185.0,       0.0);
     ( 325877.1, 3795332.6,     150.2,     185.0,       0.0);         ( 325904.1,
3795332.6,     149.6,     185.0,       0.0);
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```
     ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
3795332.6,     150.5,     166.0,       0.0);
     ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
     ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
     ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325972.4, 3795004.9,     149.3,     149.3,       0.0);         ( 325997.4,
3795004.9,     149.7,     149.7,       0.0);
     ( 326022.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326122.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326147.4,
3795004.9,     150.3,     150.3,       0.0);
     ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
     ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
     ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795088.9,     150.2,     150.2,       0.0);
     ( 326122.4, 3795088.9,     150.7,     150.7,       0.0);         ( 326147.4,
3795088.9,     151.0,     151.0,       0.0);
     ( 325847.4, 3795130.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795130.9,     149.0,     149.0,       0.0);
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     ( 325897.4, 3795130.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795130.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795130.9,     149.6,     149.6,       0.0);         ( 325972.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 325997.4, 3795130.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795130.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795130.9,     150.6,     150.6,       0.0);         ( 326122.4,
3795130.9,     151.0,     151.0,       0.0);
     ( 326147.4, 3795130.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795172.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795172.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795172.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795172.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795172.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795172.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795172.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795172.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795172.9,     150.2,     150.2,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       09:33:16

                                    PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                               (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                           (METERS)

     ( 326072.4, 3795172.9,     150.8,     150.8,       0.0);         ( 325847.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795214.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795214.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795214.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326072.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326097.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326147.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326096.6, 3795181.5,     151.0,     151.0,       0.0);         ( 326118.6,
3795182.6,     151.0,     151.0,       0.0);
     ( 326144.3, 3795184.1,     151.0,     151.0,       0.0);         ( 325849.7,
3794829.6,     148.0,     148.0,       0.0);
     ( 325892.6, 3794829.6,     148.0,     148.0,       0.0);         ( 325935.5,
3794829.6,     148.8,     148.8,       0.0);
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     ( 325978.3, 3794829.6,     149.0,     149.0,       0.0);         ( 326021.2,
3794829.6,     149.0,     149.0,       0.0);
     ( 326064.1, 3794829.6,     149.5,     149.5,       0.0);         ( 325849.7,
3794867.5,     148.0,     148.0,       0.0);
     ( 325892.6, 3794867.5,     148.8,     148.8,       0.0);         ( 325935.5,
3794867.5,     149.0,     149.0,       0.0);
     ( 325978.3, 3794867.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794867.5,     149.0,     149.0,       0.0);
     ( 326064.1, 3794867.5,     149.5,     149.5,       0.0);         ( 325849.7,
3794905.5,     148.1,     148.1,       0.0);
     ( 325892.6, 3794905.5,     148.9,     148.9,       0.0);         ( 325935.5,
3794905.5,     149.0,     149.0,       0.0);
     ( 325978.3, 3794905.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794905.5,     149.1,     149.1,       0.0);
     ( 326064.1, 3794905.5,     150.0,     150.0,       0.0);         ( 325849.7,
3794943.4,     148.4,     148.4,       0.0);
     ( 325892.6, 3794943.4,     149.0,     149.0,       0.0);         ( 325935.5,
3794943.4,     149.0,     149.0,       0.0);
     ( 325978.3, 3794943.4,     149.0,     149.0,       0.0);         ( 326021.2,
3794943.4,     149.1,     149.1,       0.0);
     ( 326064.1, 3794943.4,     150.0,     150.0,       0.0);         ( 325849.7,
3794981.3,     148.9,     148.9,       0.0);
     ( 325892.6, 3794981.3,     149.0,     149.0,       0.0);         ( 325935.5,
3794981.3,     149.0,     149.0,       0.0);
     ( 325978.3, 3794981.3,     149.0,     149.0,       0.0);         ( 326021.2,
3794981.3,     149.8,     149.8,       0.0);
     ( 326064.1, 3794981.3,     150.0,     150.0,       0.0);         ( 325855.3,
3794726.6,     148.0,     148.0,       0.0);
     ( 325902.6, 3794726.6,     148.0,     148.0,       0.0);         ( 325855.3,
3794745.5,     148.0,     148.0,       0.0);
     ( 325902.6, 3794745.5,     148.0,     148.0,       0.0);         ( 325855.3,
3794764.4,     148.0,     148.0,       0.0);
     ( 325902.6, 3794764.4,     148.0,     148.0,       0.0);         ( 325855.3,
3794783.3,     148.0,     148.0,       0.0);
     ( 325902.6, 3794783.3,     148.0,     148.0,       0.0);         ( 325855.3,
3794802.2,     148.0,     148.0,       0.0);
     ( 325902.6, 3794802.2,     148.0,     148.0,       0.0);         ( 325855.3,
3794821.1,     148.0,     148.0,       0.0);
     ( 325902.6, 3794821.1,     148.1,     148.1,       0.0);         ( 326402.8,
3795249.3,     152.8,     152.8,       0.0);
     ( 325380.5, 3795776.2,     161.0,     295.0,       0.0);         ( 325415.9,
3795858.3,     176.6,     271.0,       0.0);
     ( 325409.9, 3795995.0,     190.3,     271.0,       0.0);         ( 325416.6,
3796058.1,     193.4,     282.0,       0.0);
     ( 325409.6, 3796164.9,     201.8,     291.0,       0.0);         ( 325322.7,
3796083.9,     190.0,     292.0,       0.0);
     ( 325297.9, 3796111.1,     184.9,     295.0,       0.0);         ( 325246.7,
3796076.1,     181.2,     295.0,       0.0);
     ( 325280.0, 3796260.7,     211.4,     292.0,       0.0);         ( 325237.0,
3796200.4,     205.0,     292.0,       0.0);
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(325163.0, 3796071.1, 180.4, 292.0, 0.0); (325215.7, 3795991.4, 177.4, 292.0, 0.0);
(325208.3, 3795926.9, 173.0, 292.0, 0.0); (325249.5, 3795829.2, 171.2, 291.0, 0.0);
(325171.5, 3795759.2, 160.9, 292.0, 0.0); (325129.2, 3795756.4, 158.4, 292.0, 0.0);
(325154.8, 3795886.2, 167.8, 292.0, 0.0); (325068.5, 3795885.4, 171.6, 292.0, 0.0);
(325047.9, 3795938.0, 175.5, 292.0, 0.0); (325045.8, 3795982.7, 176.4, 292.0, 0.0);
(325072.0, 3796106.7, 179.6, 292.0, 0.0); (325060.6, 3796290.4, 197.1, 292.0, 0.0);
(324903.7, 3796379.8, 214.8, 292.0, 0.0); (324787.8, 3796510.4, 197.3, 292.0, 0.0);
(324916.5, 3796618.3, 201.7, 292.0, 0.0); (326493.0, 3796356.3, 198.5, 295.0, 0.0);
(326552.7, 3796900.0, 235.2, 295.0, 0.0); (326599.3, 3796893.6, 237.6, 293.0, 0.0);
(326617.4, 3796889.5, 237.6, 293.0, 0.0); (326639.4, 3796881.9, 233.8, 293.0, 0.0);
(326663.7, 3796864.1, 225.7, 295.0, 0.0); (326679.5, 3796885.2, 227.5, 293.0, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326697.8, 3796898.3, 229.7, 293.0, 0.0); (326712.3, 3796916.6, 233.6, 293.0, 0.0);
(326726.6, 3796931.1, 236.4, 290.0, 0.0); (326742.2, 3796948.0, 240.5, 290.0, 0.0);
(326756.6, 3796965.7, 242.1, 290.0, 0.0); (326772.1, 3796973.3, 239.2, 290.0, 0.0);
(326785.2, 3796890.5, 223.1, 293.0, 0.0); (326800.1, 3797003.9, 233.0, 290.0, 0.0);
(326818.0, 3797014.9, 229.2, 290.0, 0.0); (326813.7, 3796843.9, 215.1, 293.0, 0.0);
(326833.9, 3796853.6, 216.3, 293.0, 0.0); (326848.6, 3796873.4, 217.5, 293.0, 0.0);
(326864.2, 3796885.1, 217.7, 293.0, 0.0); (326877.9, 3796901.2, 218.2, 292.0, 0.0);
(326893.8, 3796917.1, 220.4, 292.0, 0.0); (326904.5, 3796938.8, 223.9, 292.0, 0.0);

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     ( 326907.6, 3796966.2,     224.5,     292.0,       0.0);         ( 326914.5,
3796991.7,     227.6,     292.0,       0.0);
     ( 326921.9, 3797038.4,     232.7,     292.0,       0.0);         ( 326596.6,
3797264.1,     273.2,     288.0,       0.0);
     ( 326830.0, 3795735.4,     183.6,     217.0,       0.0);         ( 326866.5,
3795706.9,     182.8,     217.0,       0.0);
     ( 326831.5, 3795646.6,     161.0,     217.0,       0.0);         ( 326872.9,
3795644.9,     160.9,     217.0,       0.0);
     ( 326898.9, 3795644.7,     160.9,     217.0,       0.0);         ( 326924.7,
3795650.1,     161.6,     217.0,       0.0);
     ( 326949.7, 3795646.4,     161.1,     217.0,       0.0);         ( 326975.6,
3795638.8,     162.5,     217.0,       0.0);
     ( 326917.9, 3795602.8,     159.0,     217.0,       0.0);         ( 326918.6,
3795584.1,     158.0,     217.0,       0.0);
     ( 326921.6, 3795563.5,     158.0,     217.0,       0.0);         ( 326917.2,
3795537.1,     158.0,     217.0,       0.0);
     ( 326935.0, 3795592.2,     158.8,     217.0,       0.0);         ( 326951.0,
3795599.5,     159.5,     217.0,       0.0);
     ( 326950.3, 3795555.9,     158.0,     217.0,       0.0);         ( 326951.6,
3795535.1,     158.0,     217.0,       0.0);
     ( 326961.8, 3795537.6,     158.0,     217.0,       0.0);         ( 326982.2,
3795538.3,     158.0,     217.0,       0.0);
     ( 326992.4, 3795539.1,     158.0,     217.0,       0.0);         ( 327009.0,
3795535.6,     158.0,     217.0,       0.0);
     ( 326987.7, 3795581.0,     159.0,     217.0,       0.0);         ( 327024.8,
3795588.4,     160.1,     217.0,       0.0);
     ( 326925.1, 3795485.9,     158.0,     217.0,       0.0);         ( 326937.8,
3795488.3,     158.0,     217.0,       0.0);
     ( 326956.5, 3795489.3,     158.0,     217.0,       0.0);         ( 326970.9,
3795491.0,     158.0,     217.0,       0.0);
     ( 326990.0, 3795487.7,     158.0,     217.0,       0.0);         ( 325049.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325124.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325161.8, 3794362.9,     143.2,     143.2,       0.0);         ( 325199.3,
3794362.9,     143.2,     143.2,       0.0);
     ( 325236.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325274.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325049.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794386.1,     143.0,     143.0,       0.0);
     ( 325124.3, 3794386.1,     143.2,     143.2,       0.0);         ( 325161.8,
3794386.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794386.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794386.1,     143.1,     143.1,       0.0);
     ( 325274.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325049.3,
3794409.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794409.3,     143.0,     143.0,       0.0);         ( 325124.3,
3794409.3,     143.2,     143.2,       0.0);
     ( 325161.8, 3794409.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794409.3,     144.0,     144.0,       0.0);
```

```
     ( 325236.8, 3794409.3,     143.8,     143.8,       0.0);         ( 325274.3,
3794409.3,     143.7,     143.7,       0.0);
     ( 325049.3, 3794432.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794432.5,     143.0,     143.0,       0.0);
     ( 325124.3, 3794432.5,     143.6,     143.6,       0.0);         ( 325161.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325049.3,
3794455.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794455.7,     143.3,     143.3,       0.0);         ( 325124.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325049.3, 3794478.9,     143.0,     143.0,       0.0);         ( 325086.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325124.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325161.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325199.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325236.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325274.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325049.3,
3794502.1,     143.0,     143.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                          ***        09:33:16

                                    PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                              *** DISCRETE CARTESIAN RECEPTORS ***
                                           (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                        (METERS)

     ( 325086.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325124.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325161.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325199.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325236.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325274.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325049.3, 3794525.3,     143.0,     143.0,       0.0);         ( 325086.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325124.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325161.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325199.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325236.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
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```
     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794687.7,     145.0,     145.0,       0.0);
     ( 324871.6, 3794298.6,     141.0,     141.0,       0.0);         ( 324910.5,
3794298.6,     141.1,     141.1,       0.0);
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     ( 324949.4, 3794298.6,     142.0,     142.0,       0.0);         ( 324988.3,
3794298.6,     142.0,     142.0,       0.0);
     ( 324871.6, 3794320.4,     141.0,     141.0,       0.0);         ( 324910.5,
3794320.4,     141.8,     141.8,       0.0);
     ( 324949.4, 3794320.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794320.4,     142.0,     142.0,       0.0);
     ( 324871.6, 3794342.2,     141.0,     141.0,       0.0);         ( 324910.5,
3794342.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794342.2,     142.0,     142.0,       0.0);         ( 324988.3,
3794342.2,     142.0,     142.0,       0.0);
     ( 324871.6, 3794364.0,     141.2,     141.2,       0.0);         ( 324910.5,
3794364.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794364.0,     142.0,     142.0,       0.0);         ( 324988.3,
3794364.0,     142.2,     142.2,       0.0);
     ( 324871.6, 3794385.8,     141.7,     141.7,       0.0);         ( 324910.5,
3794385.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794385.8,     142.0,     142.0,       0.0);         ( 324988.3,
3794385.8,     142.6,     142.6,       0.0);
     ( 324871.6, 3794407.6,     141.8,     141.8,       0.0);         ( 324910.5,
3794407.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794407.6,     142.0,     142.0,       0.0);         ( 324988.3,
3794407.6,     142.7,     142.7,       0.0);
     ( 324871.6, 3794429.4,     141.8,     141.8,       0.0);         ( 324910.5,
3794429.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794429.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794429.4,     142.7,     142.7,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                          ***        09:33:16

                                    PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                              *** DISCRETE CARTESIAN RECEPTORS ***
                                            (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                        (METERS)

     ( 324871.6, 3794451.2,     141.8,     141.8,       0.0);         ( 324910.5,
3794451.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794451.2,     142.1,     142.1,       0.0);         ( 324988.3,
3794451.2,     142.7,     142.7,       0.0);
     ( 324871.6, 3794473.0,     141.8,     141.8,       0.0);         ( 324910.5,
3794473.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794473.0,     142.3,     142.3,       0.0);         ( 324988.3,
3794473.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794494.8,     141.9,     141.9,       0.0);         ( 324910.5,
3794494.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794494.8,     142.4,     142.4,       0.0);         ( 324988.3,
3794494.8,     143.0,     143.0,       0.0);
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     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794074.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794074.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794074.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794074.7,     137.8,     137.8,       0.0);
     ( 324596.8, 3794074.7,     137.6,     137.6,       0.0);         ( 324633.8,
3794074.7,     137.1,     137.1,       0.0);
     ( 324670.7, 3794074.7,     137.0,     137.0,       0.0);         ( 324707.7,
3794074.7,     137.2,     137.2,       0.0);
     ( 324744.6, 3794074.7,     137.9,     137.9,       0.0);         ( 324781.6,
3794074.7,     139.3,     139.3,       0.0);
     ( 324449.0, 3794106.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794106.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794106.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794106.7,     138.0,     138.0,       0.0);
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     ( 324596.8, 3794106.7,     138.0,     138.0,       0.0);         ( 324633.8,
3794106.7,     137.7,     137.7,       0.0);
     ( 324670.7, 3794106.7,     137.7,     137.7,       0.0);         ( 324707.7,
3794106.7,     138.0,     138.0,       0.0);
     ( 324744.6, 3794106.7,     139.2,     139.2,       0.0);         ( 324781.6,
3794106.7,     139.9,     139.9,       0.0);
     ( 324449.0, 3794138.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794138.6,     138.0,     138.0,       0.0);
     ( 324522.9, 3794138.6,     138.0,     138.0,       0.0);         ( 324559.9,
3794138.6,     138.0,     138.0,       0.0);
     ( 324596.8, 3794138.6,     138.0,     138.0,       0.0);         ( 324633.8,
3794138.6,     138.6,     138.6,       0.0);
     ( 324670.7, 3794138.6,     138.7,     138.7,       0.0);         ( 324707.7,
3794138.6,     139.0,     139.0,       0.0);
     ( 324744.6, 3794138.6,     139.9,     139.9,       0.0);         ( 324781.6,
3794138.6,     140.0,     140.0,       0.0);
     ( 324449.0, 3794170.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794170.6,     138.0,     138.0,       0.0);
     ( 324522.9, 3794170.6,     138.1,     138.1,       0.0);         ( 324559.9,
3794170.6,     138.8,     138.8,       0.0);
     ( 324596.8, 3794170.6,     138.8,     138.8,       0.0);         ( 324633.8,
3794170.6,     139.0,     139.0,       0.0);
     ( 324670.7, 3794170.6,     139.1,     139.1,       0.0);         ( 324707.7,
3794170.6,     139.9,     139.9,       0.0);
     ( 324744.6, 3794170.6,     140.0,     140.0,       0.0);         ( 324781.6,
3794170.6,     140.6,     140.6,       0.0);
     ( 324449.0, 3794202.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794202.6,     138.0,     138.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       09:33:16

                                   PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                   (METERS)

     ( 324522.9, 3794202.6,     138.2,     138.2,       0.0);         ( 324559.9,
3794202.6,     139.0,     139.0,       0.0);
     ( 324596.8, 3794202.6,     139.0,     139.0,       0.0);         ( 324633.8,
3794202.6,     139.0,     139.0,       0.0);
     ( 324670.7, 3794202.6,     139.9,     139.9,       0.0);         ( 324707.7,
3794202.6,     140.0,     140.0,       0.0);
     ( 324744.6, 3794202.6,     140.0,     140.0,       0.0);         ( 324781.6,
3794202.6,     140.8,     140.8,       0.0);
     ( 324449.0, 3794234.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794234.5,     138.0,     138.0,       0.0);
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     ( 324522.9, 3794234.5,     138.2,     138.2,       0.0);         ( 324559.9,
3794234.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794234.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794234.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794234.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794234.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794234.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794234.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794266.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794266.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794266.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794266.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794266.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794266.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794266.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794266.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794266.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794266.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794298.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794298.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794298.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794298.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794298.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794298.5,     139.9,     139.9,       0.0);
     ( 324670.7, 3794298.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794298.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794298.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794298.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794330.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794330.4,     138.1,     138.1,       0.0);
     ( 324522.9, 3794330.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794330.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794330.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794330.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794330.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794330.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794330.4,     140.1,     140.1,       0.0);         ( 324781.6,
3794330.4,     140.8,     140.8,       0.0);
     ( 324449.0, 3794362.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794362.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794362.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794362.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794362.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794362.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794362.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794362.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794362.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794362.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794394.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794394.4,     138.9,     138.9,       0.0);
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(324522.9, 3794394.4, 139.0, 139.0, 0.0); (324559.9, 3794394.4, 139.0, 139.0, 0.0);
(324596.8, 3794394.4, 139.0, 139.0, 0.0); (324633.8, 3794394.4, 139.9, 139.9, 0.0);
(324670.7, 3794394.4, 140.0, 140.0, 0.0); (324707.7, 3794394.4, 140.0, 140.0, 0.0);
(324744.6, 3794394.4, 140.6, 140.6, 0.0); (324781.6, 3794394.4, 141.0, 141.0, 0.0);
(324449.0, 3794426.4, 138.2, 138.2, 0.0); (324486.0, 3794426.4, 139.0, 139.0, 0.0);
(324522.9, 3794426.4, 139.0, 139.0, 0.0); (324559.9, 3794426.4, 139.0, 139.0, 0.0);
(324596.8, 3794426.4, 139.0, 139.0, 0.0); (324633.8, 3794426.4, 139.9, 139.9, 0.0);
(324670.7, 3794426.4, 140.0, 140.0, 0.0); (324707.7, 3794426.4, 140.1, 140.1, 0.0);
(324744.6, 3794426.4, 140.7, 140.7, 0.0); (324781.6, 3794426.4, 141.0, 141.0, 0.0);
(324449.0, 3794458.3, 138.7, 138.7, 0.0); (324486.0, 3794458.3, 139.0, 139.0, 0.0);
(324522.9, 3794458.3, 139.0, 139.0, 0.0); (324559.9, 3794458.3, 139.0, 139.0, 0.0);
(324596.8, 3794458.3, 139.2, 139.2, 0.0); (324633.8, 3794458.3, 139.9, 139.9, 0.0);
(324670.7, 3794458.3, 140.0, 140.0, 0.0); (324707.7, 3794458.3, 140.3, 140.3, 0.0);
(324744.6, 3794458.3, 141.0, 141.0, 0.0); (324781.6, 3794458.3, 141.0, 141.0, 0.0);
(324449.0, 3794490.3, 138.7, 138.7, 0.0); (324486.0, 3794490.3, 139.0, 139.0, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(324522.9, 3794490.3, 139.0, 139.0, 0.0); (324559.9, 3794490.3, 139.0, 139.0, 0.0);
(324596.8, 3794490.3, 139.6, 139.6, 0.0); (324633.8, 3794490.3, 140.0, 140.0, 0.0);
(324670.7, 3794490.3, 140.0, 140.0, 0.0); (324707.7, 3794490.3, 140.3, 140.3, 0.0);
(324744.6, 3794490.3, 141.0, 141.0, 0.0); (324781.6, 3794490.3, 141.0, 141.0, 0.0);

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     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794522.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794522.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794522.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794522.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794554.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794554.2,     139.2,     139.2,       0.0);
     ( 324596.8, 3794554.2,     139.8,     139.8,       0.0);         ( 324633.8,
3794554.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794554.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794554.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794586.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794586.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794586.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794586.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794586.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794586.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794586.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794586.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794586.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794586.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794618.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794618.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794618.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794618.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794618.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794618.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794618.2,     140.1,     140.1,       0.0);         ( 324707.7,
3794618.2,     140.8,     140.8,       0.0);
     ( 324744.6, 3794618.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794618.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794650.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794650.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794650.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794650.1,     141.0,     141.0,       0.0);
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     ( 324449.0, 3794682.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794682.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794682.1,     139.1,     139.1,       0.0);         ( 324559.9,
3794682.1,     139.9,     139.9,       0.0);
     ( 324596.8, 3794682.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794682.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794682.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794682.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794682.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794682.1,     141.0,     141.0,       0.0);
     ( 326547.4, 3795022.1,     153.0,     153.0,       0.0);         ( 326594.7,
3795022.1,     153.3,     153.3,       0.0);
     ( 326642.0, 3795022.1,     154.0,     154.0,       0.0);         ( 326547.4,
3795042.5,     153.0,     153.0,       0.0);
     ( 326594.7, 3795042.5,     153.9,     153.9,       0.0);         ( 326642.0,
3795042.5,     154.0,     154.0,       0.0);
     ( 326547.4, 3795062.9,     153.0,     153.0,       0.0);         ( 326594.7,
3795062.9,     154.0,     154.0,       0.0);
     ( 326642.0, 3795062.9,     154.0,     154.0,       0.0);         ( 326547.4,
3795083.3,     153.1,     153.1,       0.0);
     ( 326594.7, 3795083.3,     154.0,     154.0,       0.0);         ( 326642.0,
3795083.3,     154.0,     154.0,       0.0);
     ( 326547.4, 3795103.7,     153.6,     153.6,       0.0);         ( 326594.7,
3795103.7,     154.0,     154.0,       0.0);
     ( 326642.0, 3795103.7,     154.0,     154.0,       0.0);         ( 326547.4,
3795124.1,     153.6,     153.6,       0.0);
     ( 326594.7, 3795124.1,     154.0,     154.0,       0.0);         ( 326642.0,
3795124.1,     154.0,     154.0,       0.0);
     ( 326547.4, 3795144.5,     153.7,     153.7,       0.0);         ( 326594.7,
3795144.5,     154.0,     154.0,       0.0);
     ( 326642.0, 3795144.5,     154.0,     154.0,       0.0);         ( 326547.4,
3795164.9,     154.0,     154.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       09:33:16

                                    PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     ( 326594.7, 3795164.9,     154.0,     154.0,       0.0);         ( 326642.0,
3795164.9,     154.0,     154.0,       0.0);
     ( 326547.4, 3795185.3,     154.0,     154.0,       0.0);         ( 326594.7,
3795185.3,     154.0,     154.0,       0.0);
     ( 326642.0, 3795185.3,     154.0,     154.0,       0.0);         ( 326547.4,
3795205.7,     154.0,     154.0,       0.0);
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     ( 326594.7, 3795205.7,     154.0,     154.0,       0.0);         ( 326642.0,
3795205.7,     154.2,     154.2,       0.0);
     ( 326547.4, 3795226.1,     154.0,     154.0,       0.0);         ( 326594.7,
3795226.1,     154.0,     154.0,       0.0);
     ( 326642.0, 3795226.1,     154.8,     154.8,       0.0);         ( 326547.4,
3795246.5,     154.0,     154.0,       0.0);
     ( 326594.7, 3795246.5,     154.1,     154.1,       0.0);         ( 326642.0,
3795246.5,     154.9,     154.9,       0.0);
     ( 326690.4, 3795243.4,     155.0,     155.0,       0.0);         ( 326688.7,
3795223.0,     155.0,     155.0,       0.0);
     ( 326686.0, 3795005.8,     154.0,     154.0,       0.0);         ( 326686.0,
3795033.7,     154.1,     154.1,       0.0);
     ( 326686.0, 3795061.5,     154.3,     154.3,       0.0);         ( 326686.0,
3795089.4,     154.3,     154.3,       0.0);
     ( 326686.0, 3795117.3,     154.3,     154.3,       0.0);         ( 326686.0,
3795145.2,     154.3,     154.3,       0.0);
     ( 326686.0, 3795173.1,     154.4,     154.4,       0.0);         ( 326686.0,
3795201.0,     155.0,     155.0,       0.0);
     ( 326832.8, 3795263.3,     155.3,     155.3,       0.0);         ( 326849.7,
3795263.3,     155.8,     155.8,       0.0);
     ( 326866.5, 3795263.3,     156.0,     156.0,       0.0);         ( 326883.4,
3795263.3,     156.0,     156.0,       0.0);
     ( 326900.3, 3795263.3,     156.0,     156.0,       0.0);         ( 326917.1,
3795263.3,     156.0,     156.0,       0.0);
     ( 326934.0, 3795263.3,     156.5,     156.5,       0.0);         ( 326950.9,
3795263.3,     157.0,     157.0,       0.0);
     ( 326967.8, 3795263.3,     157.0,     157.0,       0.0);         ( 326984.6,
3795263.3,     157.2,     157.2,       0.0);
     ( 327001.5, 3795263.3,     157.8,     157.8,       0.0);         ( 327036.8,
3795141.3,     157.0,     157.0,       0.0);
     ( 327075.7, 3795141.3,     158.0,     158.0,       0.0);         ( 327036.8,
3795160.9,     157.0,     157.0,       0.0);
     ( 327075.7, 3795160.9,     158.0,     158.0,       0.0);         ( 327036.8,
3795180.5,     157.0,     157.0,       0.0);
     ( 327075.7, 3795180.5,     158.0,     158.0,       0.0);         ( 327036.8,
3795200.0,     157.1,     157.1,       0.0);
     ( 327075.7, 3795200.0,     158.0,     158.0,       0.0);         ( 327036.8,
3795219.6,     157.7,     157.7,       0.0);
     ( 327075.7, 3795219.6,     158.0,     158.0,       0.0);         ( 327036.8,
3795239.1,     158.0,     158.0,       0.0);
     ( 327075.7, 3795239.1,     158.0,     158.0,       0.0);         ( 327036.8,
3795258.7,     158.0,     158.0,       0.0);
     ( 327075.7, 3795258.7,     158.0,     158.0,       0.0);         ( 327036.8,
3795278.3,     158.0,     158.0,       0.0);
     ( 327075.7, 3795278.3,     158.0,     158.0,       0.0);         ( 326840.0,
3795223.2,     155.4,     155.4,       0.0);
     ( 326860.6, 3795224.2,     156.0,     156.0,       0.0);         ( 326877.3,
3795222.7,     156.0,     156.0,       0.0);
     ( 326929.7, 3795223.7,     156.4,     156.4,       0.0);         ( 326932.9,
3795200.0,     156.5,     156.5,       0.0);
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     ( 326972.3, 3795217.0,     157.0,     157.0,       0.0);         ( 326970.8,
3795177.6,     157.0,     157.0,       0.0);
     ( 326968.2, 3795152.5,     157.0,     157.0,       0.0);         ( 326998.4,
3795149.8,     157.0,     157.0,       0.0);
     ( 326997.5, 3795176.6,     157.0,     157.0,       0.0);         ( 326995.6,
3795193.0,     157.0,     157.0,       0.0);
     ( 326996.9, 3795215.8,     157.0,     157.0,       0.0);         ( 326917.0,
3795152.2,     156.0,     156.0,       0.0);
     ( 326902.0, 3795150.5,     156.0,     156.0,       0.0);         ( 326884.2,
3795164.4,     156.0,     156.0,       0.0);
     ( 326867.3, 3795151.3,     156.0,     156.0,       0.0);         ( 326873.2,
3795163.4,     156.0,     156.0,       0.0);
     ( 326845.5, 3795152.1,     155.6,     155.6,       0.0);         ( 326824.9,
3795151.4,     155.0,     155.0,       0.0);
     ( 326826.6, 3795170.6,     155.0,     155.0,       0.0);         ( 326840.5,
3795180.2,     155.4,     155.4,       0.0);
     ( 326799.4, 3795148.0,     155.0,     155.0,       0.0);         ( 326776.8,
3795147.9,     155.0,     155.0,       0.0);
     ( 326738.0, 3795152.7,     155.0,     155.0,       0.0);         ( 326781.3,
3795110.8,     155.0,     155.0,       0.0);
     ( 326806.1, 3795109.0,     155.2,     155.2,       0.0);         ( 326804.5,
3795090.7,     155.2,     155.2,       0.0);
     ( 326781.8, 3795086.7,     155.0,     155.0,       0.0);         ( 326787.4,
3795061.8,     155.0,     155.0,       0.0);
     ( 326794.0, 3795031.2,     155.0,     155.0,       0.0);         ( 326977.5,
3795110.7,     157.0,     157.0,       0.0);
     ( 326994.0, 3795107.9,     157.0,     157.0,       0.0);         ( 326984.5,
3795093.8,     157.0,     157.0,       0.0);
     ( 326972.8, 3795082.4,     157.0,     157.0,       0.0);         ( 326995.4,
3795072.5,     157.0,     157.0,       0.0);
     ( 326993.2, 3795060.0,     157.0,     157.0,       0.0);         ( 326984.6,
3795040.8,     157.0,     157.0,       0.0);
     ( 326981.7, 3795027.2,     157.0,     157.0,       0.0);         ( 327041.5,
3795102.1,     157.1,     157.1,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       09:33:16

                                   PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 327065.2, 3795095.8,     157.9,     157.9,       0.0);         ( 327040.9,
3795076.3,     157.1,     157.1,       0.0);
     ( 327061.2, 3795058.3,     157.8,     157.8,       0.0);         ( 327037.8,
3795061.1,     157.0,     157.0,       0.0);
```

```
     ( 327035.6, 3795040.6,     157.0,     157.0,       0.0);         ( 327058.9,
3795038.4,     157.7,     157.7,       0.0);
     ( 327051.5, 3795017.8,     157.4,     157.4,       0.0);         ( 327033.3,
3795021.7,     157.0,     157.0,       0.0);
     ( 326826.3, 3795110.8,     155.8,     155.8,       0.0);         ( 326843.3,
3795110.8,     155.9,     155.9,       0.0);
     ( 326860.3, 3795110.8,     156.0,     156.0,       0.0);         ( 326877.3,
3795110.8,     156.0,     156.0,       0.0);
     ( 326894.4, 3795110.8,     156.0,     156.0,       0.0);         ( 326911.4,
3795110.8,     156.0,     156.0,       0.0);
     ( 326928.4, 3795110.8,     156.3,     156.3,       0.0);         ( 326945.5,
3795110.8,     156.9,     156.9,       0.0);
     ( 326820.0, 3795048.9,     155.7,     155.7,       0.0);         ( 326838.2,
3795048.9,     156.0,     156.0,       0.0);
     ( 326856.4, 3795048.9,     156.0,     156.0,       0.0);         ( 326874.6,
3795048.9,     156.0,     156.0,       0.0);
     ( 326892.8, 3795048.9,     156.0,     156.0,       0.0);         ( 326911.0,
3795048.9,     156.0,     156.0,       0.0);
     ( 326929.2, 3795048.9,     156.4,     156.4,       0.0);         ( 326947.4,
3795048.9,     157.0,     157.0,       0.0);
     ( 325652.3, 3795689.5,     172.4,     271.0,       0.0);         ( 325747.8,
3795796.2,     179.1,     295.0,       0.0);
     ( 326251.1, 3796043.8,     195.4,     295.0,       0.0);         ( 326263.9,
3795852.4,     183.1,     295.0,       0.0);
     ( 326170.8, 3795648.4,     173.3,     173.3,       0.0);         ( 326148.1,
3795505.9,     161.2,     182.0,       0.0);
     ( 325511.5, 3795586.4,     181.9,     181.9,       0.0);

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       09:33:16

                                   PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                              (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
```

```
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

               NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON
WHAT IS INCLUDED IN THE DATA FILE.



                                    *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED
CATEGORIES ***
                                                          (METERS/SEC)

                                                  1.54,   3.09,   5.14,   8.23,
10.80,
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       09:33:16

                                   PAGE  15
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                    *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL
DATA ***

   Surface file:   M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.   Met Version:  14134
   Profile file:   M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.
   Surface format: FREE

   Profile format: FREE

   Surface station no.:    23136                 Upper air station no.:    93214
                 Name: UNKNOWN                                   Name: UNKNOWN

                 Year:   2009                                    Year:   2009

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN
ALBEDO  REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
 09 01 01   1 01 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  281.4    2.0
 09 01 01   1 02 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.9    2.0
```

```
 09 01 01   1 03   -3.3  0.067 -9.000 -9.000 -999.   42.      8.3  0.05   0.81
1.00    1.76  214.   10.0  280.9    2.0
 09 01 01   1 04 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 05   -6.6  0.115 -9.000 -9.000 -999.   94.     21.1  0.03   0.81
1.00    2.36   93.   10.0  280.4    2.0
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00   281.5   99.0  -99.00  -99.00
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
326345.95	3795634.03	0.00412	326414.12	3795779.67	0.00575
326435.80	3795773.48	0.00536	326458.31	3795772.83	0.00525
326424.24	3795858.77	0.00697	326400.20	3795799.84	0.00647
326400.93	3795767.87	0.00544	326424.24	3795858.77	0.00697
326611.84	3795762.99	0.00473	326611.84	3795762.99	0.00473
326610.94	3795777.66	0.00480	326605.86	3795792.89	0.00493
326623.93	3795809.00	0.00473	326627.22	3795836.58	0.00472
326640.09	3795836.58	0.00458	326654.45	3795868.68	0.00430
326665.45	3795883.13	0.00417	326588.30	3795867.62	0.00438
326640.52	3795951.95	0.00385	326658.45	3795975.58	0.00388
326759.52	3796019.28	0.00286	326763.60	3796031.85	0.00284
326775.94	3796048.05	0.00275	326774.23	3796062.19	0.00275
326801.34	3796078.38	0.00256	326809.46	3796094.93	0.00246
326736.80	3796108.96	0.00267	326835.84		

3796126.62 0.00220
326836.27 3796140.13 0.00216 326800.95
3796123.31 0.00245
326762.39 3796138.51 0.00233 326766.63
3796155.18 0.00210
326774.14 3796169.68 0.00197 326798.07
3796201.57 0.00172
326808.84 3796229.51 0.00153 326880.95
3796184.59 0.00179
326915.56 3796260.01 0.00150 326941.07
3796261.11 0.00141
326958.24 3796277.25 0.00134 326964.89
3796291.08 0.00128
326984.47 3796322.92 0.00120 326993.31
3796349.42 0.00116
326993.49 3796365.88 0.00113 327007.03
3796382.47 0.00110
326972.07 3796390.18 0.00107 326996.78
3796414.54 0.00104
326693.51 3795789.66 0.00259 326695.37
3795771.29 0.00261
326727.00 3795761.34 0.00252 326758.55
3795787.48 0.00203
326761.76 3795813.54 0.00181 326742.22
3795837.06 0.00183
326838.64 3795823.91 0.00150 326811.45
3795889.81 0.00146
326823.87 3795855.97 0.00140 326876.62
3795837.29 0.00131
326889.30 3795888.54 0.00126 326687.45
3795683.69 0.00464
326829.20 3795731.31 0.00203 326859.14
3795703.62 0.00191
326881.10 3795705.58 0.00202 326787.44
3795607.00 0.00512
326780.76 3795563.55 0.00541 326800.04
3795542.65 0.00546
326808.89 3795540.15 0.00548 326825.79
3795543.65 0.00551
326856.70 3795545.31 0.00540 326792.33
3795494.19 0.00538
326806.68 3795493.93 0.00533 326824.07
3795494.42 0.00527
326853.52 3795481.71 0.00522 326898.80
3795534.37 0.00517
325796.15 3795215.59 0.00834 325823.15
3795215.59 0.00812
326012.15 3795215.59 0.00659 326120.15
3795215.59 0.00605
326147.15 3795215.59 0.00597 325796.15

```
3795254.59        0.00959
         325823.15    3795254.59        0.00931                      325850.15
3795254.59        0.00899
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        09:33:16

                                  PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
         325877.15    3795254.59        0.00868                      325904.15
3795254.59        0.00837
         325931.15    3795254.59        0.00801                      325958.15
3795254.59        0.00777
         325985.15    3795254.59        0.00756                      326012.15
3795254.59        0.00727
         326039.15    3795254.59        0.00708                      326066.15
3795254.59        0.00693
         326093.15    3795254.59        0.00681                      326120.15
3795254.59        0.00670
         326147.15    3795254.59        0.00660                      325796.15
3795293.59        0.01095
         325823.15    3795293.59        0.01053                      325850.15
3795293.59        0.01022
         325877.15    3795293.59        0.00993                      325904.15
3795293.59        0.00956
         325931.15    3795293.59        0.00909                      325958.15
3795293.59        0.00879
         325985.15    3795293.59        0.00837                      326012.15
3795293.59        0.00766
         326039.15    3795293.59        0.00747                      326066.15
3795293.59        0.00715
         326093.15    3795293.59        0.00690                      326120.15
3795293.59        0.00679
         326147.15    3795293.59        0.00670                      325796.15
```

3795332.59 0.01165
325823.15 3795332.59 0.01123 325850.15
3795332.59 0.01162
325877.15 3795332.59 0.01122 325904.15
3795332.59 0.01091
325931.15 3795332.59 0.01039 325958.15
3795332.59 0.00990
325985.15 3795332.59 0.00875 326012.15
3795332.59 0.00827
326039.15 3795332.59 0.00801 326066.15
3795332.59 0.00782
326093.15 3795332.59 0.00766 326120.15
3795332.59 0.00756
326147.15 3795332.59 0.00744 325847.44
3795004.89 0.00414
325872.44 3795004.89 0.00408 325897.44
3795004.89 0.00402
325922.44 3795004.89 0.00397 325947.44
3795004.89 0.00393
325972.44 3795004.89 0.00388 325997.44
3795004.89 0.00383
326022.44 3795004.89 0.00379 326047.44
3795004.89 0.00376
326072.44 3795004.89 0.00374 326097.44
3795004.89 0.00372
326122.44 3795004.89 0.00371 326147.44
3795004.89 0.00368
325847.44 3795046.89 0.00466 325872.44
3795046.89 0.00458
325897.44 3795046.89 0.00450 325922.44
3795046.89 0.00444
325947.44 3795046.89 0.00438 325972.44
3795046.89 0.00431
325997.44 3795046.89 0.00423 326022.44
3795046.89 0.00419
326047.44 3795046.89 0.00416 326072.44
3795046.89 0.00413
326097.44 3795046.89 0.00410 326122.44
3795046.89 0.00406
326147.44 3795046.89 0.00401 325847.44
3795088.89 0.00527
325872.44 3795088.89 0.00516 325897.44
3795088.89 0.00506
325922.44 3795088.89 0.00498 325947.44
3795088.89 0.00487
325972.44 3795088.89 0.00477 325997.44
3795088.89 0.00471
326022.44 3795088.89 0.00466 326047.44
3795088.89 0.00461
326072.44 3795088.89 0.00457 326097.44

```
3795088.89        0.00452
         326122.44    3795088.89        0.00446                      326147.44
3795088.89        0.00441
         325847.44    3795130.89        0.00599                      325872.44
3795130.89        0.00585
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       09:33:16

                                  PAGE  18
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         325897.44    3795130.89        0.00573                      325922.44
3795130.89        0.00561
         325947.44    3795130.89        0.00547                      325972.44
3795130.89        0.00535
         325997.44    3795130.89        0.00527                      326022.44
3795130.89        0.00519
         326047.44    3795130.89        0.00513                      326072.44
3795130.89        0.00507
         326097.44    3795130.89        0.00497                      326122.44
3795130.89        0.00490
         326147.44    3795130.89        0.00486                      325847.44
3795172.89        0.00684
         325872.44    3795172.89        0.00667                      325897.44
3795172.89        0.00651
         325922.44    3795172.89        0.00636                      325947.44
3795172.89        0.00617
         325972.44    3795172.89        0.00601                      325997.44
3795172.89        0.00591
         326022.44    3795172.89        0.00581                      326047.44
3795172.89        0.00571
         326072.44    3795172.89        0.00557                      325847.44
3795214.89        0.00786
         325872.44    3795214.89        0.00764                      325897.44
```

3795214.89 0.00743
325922.44 3795214.89 0.00723 325947.44
3795214.89 0.00699
325972.44 3795214.89 0.00679 325997.44
3795214.89 0.00665
326047.44 3795214.89 0.00630 326072.44
3795214.89 0.00620
326097.44 3795214.89 0.00611 326147.44
3795214.89 0.00596
326096.58 3795181.52 0.00561 326118.63
3795182.57 0.00557
326144.35 3795184.14 0.00553 325849.74
3794829.62 0.00270
325892.61 3794829.62 0.00266 325935.48
3794829.62 0.00262
325978.35 3794829.62 0.00260 326021.22
3794829.62 0.00258
326064.09 3794829.62 0.00257 325849.74
3794867.55 0.00294
325892.61 3794867.55 0.00288 325935.48
3794867.55 0.00284
325978.35 3794867.55 0.00282 326021.22
3794867.55 0.00280
326064.09 3794867.55 0.00278 325849.74
3794905.48 0.00322
325892.61 3794905.48 0.00315 325935.48
3794905.48 0.00310
325978.35 3794905.48 0.00307 326021.22
3794905.48 0.00304
326064.09 3794905.48 0.00300 325849.74
3794943.41 0.00353
325892.61 3794943.41 0.00345 325935.48
3794943.41 0.00339
325978.35 3794943.41 0.00335 326021.22
3794943.41 0.00331
326064.09 3794943.41 0.00326 325849.74
3794981.34 0.00388
325892.61 3794981.34 0.00379 325935.48
3794981.34 0.00372
325978.35 3794981.34 0.00366 326021.22
3794981.34 0.00359
326064.09 3794981.34 0.00355 325855.31
3794726.62 0.00218
325902.64 3794726.62 0.00215 325855.31
3794745.52 0.00226
325902.64 3794745.52 0.00223 325855.31
3794764.42 0.00235
325902.64 3794764.42 0.00232 325855.31
3794783.32 0.00244
325902.64 3794783.32 0.00241 325855.31

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325409.93	3795994.97	0.00285	325416.60	3796058.09	0.00237
325409.65	3796164.95	0.00098	325322.71	3796083.91	0.00133
325297.93	3796111.07	0.00115	325246.73	3796076.15	0.00134
325280.01	3796260.66	0.00023	325237.05	3796200.45	0.00031
325163.03	3796071.11	0.00111	325215.74	3795991.41	0.00211
325208.29	3795926.88	0.00316	325249.48	3795829.20	0.00471
325171.49	3795759.19	0.00817	325129.24	3795756.40	0.00920
325154.75	3795886.20	0.00407	325068.55	3795885.45	0.00277
325047.86	3795938.00	0.00186	325045.84	3795982.69	0.00151
325071.95	3796106.74	0.00082	325060.64	3796290.38	0.00021
324903.71	3796379.80	0.00010	324787.84		

3796510.42 0.00013
324916.48 3796618.27 0.00011 326492.96
3796356.32 0.00204
326552.73 3796900.01 0.00045 326599.30
3796893.60 0.00046
326617.42 3796889.51 0.00046 326639.41
3796881.91 0.00048
326663.73 3796864.08 0.00052 326679.47
3796885.20 0.00049
326697.81 3796898.31 0.00048 326712.34
3796916.60 0.00045
326726.62 3796931.14 0.00044 326742.23
3796948.02 0.00042
326756.58 3796965.73 0.00040 326772.07
3796973.30 0.00040
326785.22 3796890.50 0.00050 326800.10
3797003.95 0.00040
326817.96 3797014.86 0.00040 326813.74
3796843.93 0.00056
326833.92 3796853.59 0.00055 326848.61
3796873.43 0.00053
326864.19 3796885.12 0.00051 326877.92
3796901.20 0.00050
326893.85 3796917.11 0.00048 326904.49
3796938.77 0.00045
326907.64 3796966.22 0.00043 326914.45
3796991.73 0.00041
326921.92 3797038.42 0.00037 326596.56
3797264.10 0.00022
326829.98 3795735.43 0.00196 326866.53
3795706.88 0.00188
326831.50 3795646.57 0.00498 326872.90
3795644.95 0.00481
326898.91 3795644.66 0.00470 326924.66
3795650.14 0.00441
326949.68 3795646.43 0.00443 326975.59
3795638.84 0.00396
326917.88 3795602.78 0.00504 326918.63
3795584.13 0.00528
326921.61 3795563.48 0.00519 326917.18
3795537.15 0.00511
326934.99 3795592.17 0.00500 326951.04
3795599.47 0.00475
326950.26 3795555.95 0.00504 326951.59
3795535.07 0.00496
326961.83 3795537.57 0.00493 326982.25
3795538.33 0.00485
326992.41 3795539.09 0.00481 327008.98
3795535.58 0.00473
326987.68 3795580.97 0.00467 327024.81

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3795588.42        0.00427
         326925.07    3795485.95        0.00486                      326937.83
3795488.27        0.00482
         326956.45    3795489.28        0.00476                      326970.89
3795491.03        0.00472
         326989.96    3795487.68        0.00464                      325049.27
3794362.92        0.00217
         325086.77    3794362.92        0.00208                      325124.27
3794362.92        0.00201
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       09:33:16

                                 PAGE  20
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -
         325161.77    3794362.92        0.00194                      325199.27
3794362.92        0.00187
         325236.77    3794362.92        0.00180                      325274.27
3794362.92        0.00173
         325049.27    3794386.12        0.00225                      325086.77
3794386.12        0.00217
         325124.27    3794386.12        0.00209                      325161.77
3794386.12        0.00203
         325199.27    3794386.12        0.00196                      325236.77
3794386.12        0.00187
         325274.27    3794386.12        0.00180                      325049.27
3794409.32        0.00234
         325086.77    3794409.32        0.00225                      325124.27
3794409.32        0.00217
         325161.77    3794409.32        0.00211                      325199.27
3794409.32        0.00204
         325236.77    3794409.32        0.00196                      325274.27
3794409.32        0.00189
         325049.27    3794432.52        0.00243                      325086.77
```

3794432.52 0.00234
325124.27 3794432.52 0.00227 325161.77
3794432.52 0.00220
325199.27 3794432.52 0.00212 325236.77
3794432.52 0.00205
325274.27 3794432.52 0.00197 325049.27
3794455.72 0.00252
325086.77 3794455.72 0.00244 325124.27
3794455.72 0.00238
325161.77 3794455.72 0.00229 325199.27
3794455.72 0.00221
325236.77 3794455.72 0.00213 325274.27
3794455.72 0.00205
325049.27 3794478.92 0.00263 325086.77
3794478.92 0.00256
325124.27 3794478.92 0.00247 325161.77
3794478.92 0.00238
325199.27 3794478.92 0.00230 325236.77
3794478.92 0.00222
325274.27 3794478.92 0.00214 325049.27
3794502.12 0.00273
325086.77 3794502.12 0.00267 325124.27
3794502.12 0.00257
325161.77 3794502.12 0.00248 325199.27
3794502.12 0.00240
325236.77 3794502.12 0.00231 325274.27
3794502.12 0.00223
325049.27 3794525.32 0.00285 325086.77
3794525.32 0.00278
325124.27 3794525.32 0.00268 325161.77
3794525.32 0.00259
325199.27 3794525.32 0.00250 325236.77
3794525.32 0.00241
325274.27 3794525.32 0.00232 325049.27
3794548.52 0.00297
325086.77 3794548.52 0.00290 325124.27
3794548.52 0.00280
325161.77 3794548.52 0.00270 325199.27
3794548.52 0.00260
325236.77 3794548.52 0.00251 325274.27
3794548.52 0.00242
325049.27 3794571.72 0.00310 325086.77
3794571.72 0.00303
325124.27 3794571.72 0.00292 325161.77
3794571.72 0.00281
325199.27 3794571.72 0.00272 325236.77
3794571.72 0.00262
325274.27 3794571.72 0.00253 325049.27
3794594.92 0.00324
325086.77 3794594.92 0.00316 325124.27

3794594.92   0.00305
         325161.77   3794594.92   0.00294   325199.27
3794594.92   0.00284
         325236.77   3794594.92   0.00274   325274.27
3794594.92   0.00264
         325049.27   3794618.12   0.00339   325086.77
3794618.12   0.00331
         325124.27   3794618.12   0.00318   325161.77
3794618.12   0.00307
         325199.27   3794618.12   0.00296   325236.77
3794618.12   0.00286

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                            ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 - - -

3794687.72 0.00366
325161.77 3794687.72 0.00352 325199.27
3794687.72 0.00340
325236.77 3794687.72 0.00328 325274.27
3794687.72 0.00321
324871.62 3794298.63 0.00223 324910.53
3794298.63 0.00216
324949.44 3794298.63 0.00212 324988.35
3794298.63 0.00204
324871.62 3794320.43 0.00231 324910.53
3794320.43 0.00226
324949.44 3794320.43 0.00219 324988.35
3794320.43 0.00212
324871.62 3794342.23 0.00238 324910.53
3794342.23 0.00234
324949.44 3794342.23 0.00227 324988.35
3794342.23 0.00219
324871.62 3794364.03 0.00248 324910.53
3794364.03 0.00242
324949.44 3794364.03 0.00234 324988.35
3794364.03 0.00227
324871.62 3794385.83 0.00259 324910.53
3794385.83 0.00251
324949.44 3794385.83 0.00243 324988.35
3794385.83 0.00237
324871.62 3794407.63 0.00268 324910.53
3794407.63 0.00260
324949.44 3794407.63 0.00251 324988.35
3794407.63 0.00245
324871.62 3794429.43 0.00278 324910.53
3794429.43 0.00270
324949.44 3794429.43 0.00261 324988.35
3794429.43 0.00254
324871.62 3794451.23 0.00289 324910.53
3794451.23 0.00280
324949.44 3794451.23 0.00271 324988.35
3794451.23 0.00264
324871.62 3794473.03 0.00300 324910.53
3794473.03 0.00291
324949.44 3794473.03 0.00282 324988.35
3794473.03 0.00275
324871.62 3794494.83 0.00313 324910.53
3794494.83 0.00302
324949.44 3794494.83 0.00293 324988.35
3794494.83 0.00286
324871.62 3794516.63 0.00326 324910.53
3794516.63 0.00314
324949.44 3794516.63 0.00305 324988.35
3794516.63 0.00297
324871.62 3794538.43 0.00339 324910.53

3794538.43   0.00327
         324949.44   3794538.43   0.00317   324988.35
3794538.43   0.00309
         324871.62   3794560.23   0.00354   324910.53
3794560.23   0.00341
         324949.44   3794560.23   0.00330   324988.35
3794560.23   0.00322
         324871.62   3794582.03   0.00369   324910.53
3794582.03   0.00356
         324949.44   3794582.03   0.00345   324988.35
3794582.03   0.00335
         324871.62   3794603.83   0.00385   324910.53
3794603.83   0.00371

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3794691.03 0.00444
324949.44 3794691.03 0.00434 324988.35
3794691.03 0.00418
324449.04 3794074.69 0.00208 324485.99
3794074.69 0.00204
324522.94 3794074.69 0.00201 324559.89
3794074.69 0.00196
324596.84 3794074.69 0.00191 324633.79
3794074.69 0.00185
324670.74 3794074.69 0.00180 324707.69
3794074.69 0.00175
324744.64 3794074.69 0.00172 324781.59
3794074.69 0.00170
324449.04 3794106.66 0.00217 324485.99
3794106.66 0.00213
324522.94 3794106.66 0.00209 324559.89
3794106.66 0.00205
324596.84 3794106.66 0.00200 324633.79
3794106.66 0.00194
324670.74 3794106.66 0.00189 324707.69
3794106.66 0.00185
324744.64 3794106.66 0.00183 324781.59
3794106.66 0.00180
324449.04 3794138.63 0.00226 324485.99
3794138.63 0.00222
324522.94 3794138.63 0.00218 324559.89
3794138.63 0.00214
324596.84 3794138.63 0.00209 324633.79
3794138.63 0.00206
324670.74 3794138.63 0.00201 324707.69
3794138.63 0.00196
324744.64 3794138.63 0.00193 324781.59
3794138.63 0.00188
324449.04 3794170.60 0.00236 324485.99
3794170.60 0.00232
324522.94 3794170.60 0.00228 324559.89
3794170.60 0.00226
324596.84 3794170.60 0.00221 324633.79
3794170.60 0.00216
324670.74 3794170.60 0.00211 324707.69
3794170.60 0.00207
324744.64 3794170.60 0.00202 324781.59
3794170.60 0.00198
324449.04 3794202.57 0.00246 324485.99
3794202.57 0.00242
324522.94 3794202.57 0.00238 324559.89
3794202.57 0.00236
324596.84 3794202.57 0.00231 324633.79
3794202.57 0.00226
324670.74 3794202.57 0.00223 324707.69

3794202.57   0.00218
         324744.64   3794202.57   0.00211   324781.59
3794202.57   0.00208
         324449.04   3794234.54   0.00257   324485.99
3794234.54   0.00253
         324522.94   3794234.54   0.00249   324559.89
3794234.54   0.00247
         324596.84   3794234.54   0.00242   324633.79
3794234.54   0.00237
         324670.74   3794234.54   0.00234   324707.69
3794234.54   0.00228
         324744.64   3794234.54   0.00221   324781.59
3794234.54   0.00218
         324449.04   3794266.51   0.00269   324485.99
3794266.51   0.00264

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                              ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3794298.48 0.00263
324670.74 3794298.48 0.00258 324707.69
3794298.48 0.00251
324744.64 3794298.48 0.00244 324781.59
3794298.48 0.00239
324449.04 3794330.45 0.00294 324485.99
3794330.45 0.00290
324522.94 3794330.45 0.00289 324559.89
3794330.45 0.00284
324596.84 3794330.45 0.00279 324633.79
3794330.45 0.00277
324670.74 3794330.45 0.00271 324707.69
3794330.45 0.00264
324744.64 3794330.45 0.00256 324781.59
3794330.45 0.00252
324449.04 3794362.42 0.00307 324485.99
3794362.42 0.00308
324522.94 3794362.42 0.00303 324559.89
3794362.42 0.00298
324596.84 3794362.42 0.00293 324633.79
3794362.42 0.00290
324670.74 3794362.42 0.00285 324707.69
3794362.42 0.00277
324744.64 3794362.42 0.00272 324781.59
3794362.42 0.00266
324449.04 3794394.39 0.00321 324485.99
3794394.39 0.00322
324522.94 3794394.39 0.00318 324559.89
3794394.39 0.00313
324596.84 3794394.39 0.00307 324633.79
3794394.39 0.00305
324670.74 3794394.39 0.00299 324707.69
3794394.39 0.00292
324744.64 3794394.39 0.00287 324781.59
3794394.39 0.00280
324449.04 3794426.36 0.00337 324485.99
3794426.36 0.00338
324522.94 3794426.36 0.00334 324559.89
3794426.36 0.00329
324596.84 3794426.36 0.00323 324633.79
3794426.36 0.00321
324670.74 3794426.36 0.00315 324707.69
3794426.36 0.00308
324744.64 3794426.36 0.00303 324781.59
3794426.36 0.00296
324449.04 3794458.33 0.00355 324485.99
3794458.33 0.00354
324522.94 3794458.33 0.00350 324559.89
3794458.33 0.00345
324596.84 3794458.33 0.00341 324633.79

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
324522.94	3794522.27	0.00385	324559.89	3794522.27	0.00381
324596.84	3794522.27	0.00380	324633.79	3794522.27	0.00376
324670.74	3794522.27	0.00369	324707.69	3794522.27	0.00364
324744.64	3794522.27	0.00359	324781.59	3794522.27	0.00350
324449.04	3794554.24	0.00409	324485.99	3794554.24	0.00407
324522.94	3794554.24	0.00404	324559.89		

3794554.24 0.00402
324596.84 3794554.24 0.00401 324633.79
3794554.24 0.00397
324670.74 3794554.24 0.00390 324707.69
3794554.24 0.00384
324744.64 3794554.24 0.00380 324781.59
3794554.24 0.00371
324449.04 3794586.21 0.00429 324485.99
3794586.21 0.00427
324522.94 3794586.21 0.00424 324559.89
3794586.21 0.00424
324596.84 3794586.21 0.00424 324633.79
3794586.21 0.00418
324670.74 3794586.21 0.00412 324707.69
3794586.21 0.00406
324744.64 3794586.21 0.00403 324781.59
3794586.21 0.00393
324449.04 3794618.18 0.00451 324485.99
3794618.18 0.00449
324522.94 3794618.18 0.00446 324559.89
3794618.18 0.00446
324596.84 3794618.18 0.00446 324633.79
3794618.18 0.00442
324670.74 3794618.18 0.00436 324707.69
3794618.18 0.00434
324744.64 3794618.18 0.00427 324781.59
3794618.18 0.00417
324449.04 3794650.15 0.00474 324485.99
3794650.15 0.00472
324522.94 3794650.15 0.00469 324559.89
3794650.15 0.00469
324596.84 3794650.15 0.00471 324633.79
3794650.15 0.00466
324670.74 3794650.15 0.00461 324707.69
3794650.15 0.00461
324744.64 3794650.15 0.00453 324781.59
3794650.15 0.00443
324449.04 3794682.12 0.00498 324485.99
3794682.12 0.00496
324522.94 3794682.12 0.00495 324559.89
3794682.12 0.00499
324596.84 3794682.12 0.00496 324633.79
3794682.12 0.00492
324670.74 3794682.12 0.00488 324707.69
3794682.12 0.00489
324744.64 3794682.12 0.00481 324781.59
3794682.12 0.00471
326547.36 3795022.06 0.00332 326594.67
3795022.06 0.00327
326641.98 3795022.06 0.00318 326547.36

3795042.46   0.00344
         326594.67   3795042.46   0.00332   326641.98
3795042.46   0.00330
         326547.36   3795062.86   0.00358   326594.67
3795062.86   0.00343
         326641.98   3795062.86   0.00342   326547.36
3795083.26   0.00370
         326594.67   3795083.26   0.00356   326641.98
3795083.26   0.00355
         326547.36   3795103.66   0.00379   326594.67
3795103.66   0.00370
         326641.98   3795103.66   0.00369   326547.36
3795124.06   0.00392
         326594.67   3795124.06   0.00385   326641.98
3795124.06   0.00383
         326547.36   3795144.46   0.00407   326594.67
3795144.46   0.00400
         326641.98   3795144.46   0.00398   326547.36
3795164.86   0.00419

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                   INCLUDING SOURCE(S):   PAREA1   ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3795226.06 0.00468
326641.98 3795226.06 0.00448 326547.36
3795246.46 0.00492
326594.67 3795246.46 0.00484 326641.98
3795246.46 0.00462
326690.43 3795243.37 0.00453 326688.67
3795223.05 0.00437
326686.02 3795005.77 0.00309 326686.02
3795033.66 0.00322
326686.02 3795061.55 0.00337 326686.02
3795089.44 0.00354
326686.02 3795117.33 0.00373 326686.02
3795145.22 0.00392
326686.02 3795173.11 0.00410 326686.02
3795201.00 0.00420
326832.80 3795263.26 0.00442 326849.67
3795263.26 0.00431
326866.54 3795263.26 0.00424 326883.41
3795263.26 0.00422
326900.28 3795263.26 0.00419 326917.15
3795263.26 0.00416
326934.02 3795263.26 0.00404 326950.89
3795263.26 0.00393
326967.76 3795263.26 0.00391 326984.63
3795263.26 0.00385
327001.50 3795263.26 0.00372 327036.85
3795141.35 0.00326
327075.72 3795141.35 0.00309 327036.85
3795160.91 0.00334
327075.72 3795160.91 0.00317 327036.85
3795180.47 0.00343
327075.72 3795180.47 0.00324 327036.85
3795200.03 0.00350
327075.72 3795200.03 0.00332 327036.85
3795219.59 0.00349
327075.72 3795219.59 0.00340 327036.85
3795239.15 0.00354
327075.72 3795239.15 0.00348 327036.85
3795258.71 0.00362
327075.72 3795258.71 0.00356 327036.85
3795278.27 0.00370
327075.72 3795278.27 0.00364 326840.04
3795223.24 0.00414
326860.58 3795224.16 0.00401 326877.30
3795222.74 0.00398
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3795200.00 0.00371
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3795177.58 0.00348
326968.20 3795152.46 0.00336 326998.43

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3795149.77        0.00333
         326997.48    3795176.61        0.00345                        326995.60
3795193.01        0.00353
         326996.92    3795215.78        0.00364                        326916.97
3795152.19        0.00355
         326901.95    3795150.46        0.00356                        326884.24
3795164.40        0.00365
         326867.32    3795151.32        0.00359                        326873.22
3795163.36        0.00365
         326845.53    3795152.12        0.00367                        326824.91
3795151.45        0.00377
         326826.60    3795170.60        0.00389                        326840.50
3795180.17        0.00387
         326799.39    3795147.97        0.00376                        326776.77
3795147.89        0.00378
         326738.03    3795152.73        0.00383                        326781.33
3795110.75        0.00354
         326806.10    3795109.04        0.00349                        326804.45
3795090.73        0.00339
         326781.78    3795086.72        0.00340                        326787.40
3795061.79        0.00326
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       09:33:16

                                  PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         326794.01    3795031.22        0.00309                        326977.50
3795110.69        0.00317
         326994.05    3795107.87        0.00314                        326984.52
3795093.80        0.00309
         326972.85    3795082.37        0.00304                        326995.41
3795072.53        0.00299
         326993.23    3795060.01        0.00294                        326984.60
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3795076.27        0.00297
         327061.24    3795058.32        0.00281                        327037.82
3795061.09        0.00292
         327035.65    3795040.58        0.00284                        327058.94
3795038.41        0.00274
         327051.53    3795017.85        0.00270                        327033.29
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3795110.80        0.00338
         326860.32    3795110.80        0.00337                        326877.35
3795110.80        0.00336
         326894.38    3795110.80        0.00335                        326911.41
3795110.80        0.00334
         326928.44    3795110.80        0.00329                        326945.47
3795110.80        0.00320
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3795048.86        0.00305
         326856.39    3795048.86        0.00305                        326874.59
3795048.86        0.00305
         326892.79    3795048.86        0.00304                        326910.99
3795048.86        0.00304
         326929.19    3795048.86        0.00299                        326947.39
3795048.86        0.00291
         325652.30    3795689.46        0.01271                        325747.75
3795796.21        0.01085
         326251.13    3796043.75        0.00828                        326263.91
3795852.39        0.00904
         326170.84    3795648.38        0.00710                        326148.08
3795505.91        0.00614
         325511.50    3795586.39        0.00993

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        09:33:16

                                   PAGE  27
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***
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** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326345.95	3795634.03	0.05673	(09051606)	326414.12	3795779.67	0.07334	(12012517)
326435.80	3795773.48	0.07666	(12012517)	326458.31	3795772.83	0.07723	(12012517)
326424.24	3795858.77	0.08363	(11012717)	326400.20	3795799.84	0.06944	(12012517)
326400.93	3795767.87	0.07150	(12012517)	326424.24	3795858.77	0.08363	(11012717)
326611.84	3795762.99	0.07303	(12012517)	326611.84	3795762.99	0.07303	(12012517)
326610.94	3795777.66	0.07260	(12012517)	326605.86	3795792.89	0.07257	(12012517)
326623.93	3795809.00	0.06968	(10021408)	326627.22	3795836.58	0.06767	(10021408)
326640.09	3795836.58	0.06681	(10021408)	326654.45	3795868.68	0.06278	(09052906)
326665.45	3795883.13	0.06102	(09052906)	326588.30	3795867.62	0.06165	(12012517)
326640.52	3795951.95	0.06650	(11012717)	326658.45	3795975.58	0.06962	(11012717)
326759.52	3796019.28	0.06205	(11012717)	326763.60	3796031.85	0.06309	(11012717)
326775.94	3796048.05	0.06333	(11012717)	326774.23	3796062.19	0.06414	(11012717)
326801.34	3796078.38	0.06281	(11012717)	326809.46	3796094.93	0.06214	(11012717)
326736.80	3796108.96	0.06187	(11012717)	326835.84	3796126.62	0.05932	(11012717)
326836.27	3796140.13	0.05869	(11012717)	326800.95	3796123.31	0.06178	(11012717)
326762.39	3796138.51	0.05773	(11012717)	326766.63	3796155.18	0.05438	(11012717)
326774.14	3796169.68	0.05244	(11012717)	326798.07	3796201.57	0.04866	(11012717)
326808.84	3796229.51	0.04434	(11012717)	326880.95	3796184.59	0.05335	(11012717)
326915.56	3796260.01	0.04717	(11012717)	326941.07	3796261.11	0.04652	(11012717)
326958.24	3796277.25	0.04531	(11012717)	326964.89	3796291.08	0.04397	(11012717)
326984.47	3796322.92	0.04215	(11012717)	326993.31	3796349.42	0.04087	(11012717)
326993.49	3796365.88	0.04025	(11012717)	327007.03			

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       326972.07   3796390.18        0.03819  (11012717)               326996.78
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       326693.51   3795789.66        0.05321  (12012517)               326695.37
 3795771.29        0.05426  (12012517)
       326727.00   3795761.34        0.05336  (12012517)               326758.55
 3795787.48        0.04651  (12012517)
       326761.76   3795813.54        0.04095  (12012517)               326742.22
 3795837.06        0.03861  (09052906)
       326838.64   3795823.91        0.03462  (11032918)               326811.45
 3795889.81        0.03358  (09052906)
       326823.87   3795855.97        0.03253  (09052906)               326876.62
 3795837.29        0.03193  (10040207)
       326889.30   3795888.54        0.03144  (09052906)               326687.45
 3795683.69        0.08253  (10021408)
       326829.20   3795731.31        0.04862  (12012517)               326859.14
 3795703.62        0.04803  (12012517)
       326881.10   3795705.58        0.04862  (12012517)               326787.44
 3795607.00        0.10599  (13010108)
       326780.76   3795563.55        0.11616  (13010108)               326800.04
 3795542.65        0.12273  (10121407)
       326808.89   3795540.15        0.12514  (10121407)               326825.79
 3795543.65        0.12836  (10121407)
       326856.70   3795545.31        0.13035  (13010108)               326792.33
 3795494.19        0.12235  (13012606)
       326806.68   3795493.93        0.12336  (13012606)               326824.07
 3795494.42        0.12425  (13012606)
       326853.52   3795481.71        0.12862  (13012606)               326898.80
 3795534.37        0.13011  (13010108)
       325796.15   3795215.59        0.23279  (10120705)               325823.15
 3795215.59        0.23358  (09022002)
       326012.15   3795215.59        0.22549  (11011303)               326120.15
 3795215.59        0.21796  (11121424)
       326147.15   3795215.59        0.21922  (11012807)               325796.15
 3795254.59        0.23982  (09022002)
       325823.15   3795254.59        0.24096  (09022002)               325850.15
 3795254.59        0.24076  (10122722)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       09:33:16

                                  PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
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** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325877.15	3795254.59	0.24042	(09120405)	325904.15	3795254.59	0.23901	(12122704)
325931.15	3795254.59	0.23397	(11120907)	325958.15	3795254.59	0.23330	(13122706)
325985.15	3795254.59	0.23339	(11011303)	326012.15	3795254.59	0.22747	(11011303)
326039.15	3795254.59	0.22615	(11121424)	326066.15	3795254.59	0.22593	(11121424)
326093.15	3795254.59	0.22513	(11121424)	326120.15	3795254.59	0.22660	(11012807)
326147.15	3795254.59	0.22698	(11120707)	325796.15	3795293.59	0.24130	(09022002)
325823.15	3795293.59	0.24044	(10122722)	325850.15	3795293.59	0.24404	(09120405)
325877.15	3795293.59	0.24812	(12122704)	325904.15	3795293.59	0.24794	(11120907)
325931.15	3795293.59	0.24185	(13122706)	325958.15	3795293.59	0.24189	(11011303)
325985.15	3795293.59	0.23387	(11011303)	326012.15	3795293.59	0.21339	(11121424)
326039.15	3795293.59	0.21254	(11121424)	326066.15	3795293.59	0.20563	(11012807)
326093.15	3795293.59	0.20136	(11012807)	326120.15	3795293.59	0.20211	(13011505)
326147.15	3795293.59	0.20224	(09010718)	325796.15	3795332.59	0.21555	(12122922)
325823.15	3795332.59	0.21720	(09120405)	325850.15	3795332.59	0.24477	(12122704)
325877.15	3795332.59	0.24782	(11120907)	325904.15	3795332.59	0.25392	(13122706)
325931.15	3795332.59	0.24979	(11011303)	325958.15	3795332.59	0.24505	(11020101)
325985.15	3795332.59	0.21251	(11121424)	326012.15	3795332.59	0.20262	(11011602)
326039.15	3795332.59	0.20172	(11012807)	326066.15	3795332.59	0.20299	(11012807)
326093.15	3795332.59	0.20388	(13011505)	326120.15	3795332.59	0.20758	(13122406)
326147.15	3795332.59	0.20918	(13122406)	325847.44	3795004.89	0.19875	(10120705)
325872.44	3795004.89	0.19804	(10120705)	325897.44			

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 3795004.89        0.19724  (09022002)
       325922.44   3795004.89        0.19636  (09022002)               325947.44
 3795004.89        0.19592  (10122722)
       325972.44   3795004.89        0.19495  (10122722)               325997.44
 3795004.89        0.19311  (09120405)
       326022.44   3795004.89        0.19184  (12122704)               326047.44
 3795004.89        0.19158  (11120907)
       326072.44   3795004.89        0.19160  (11120907)               326097.44
 3795004.89        0.19152  (13122706)
       326122.44   3795004.89        0.19137  (11011303)               326147.44
 3795004.89        0.19021  (11011303)
       325847.44   3795046.89        0.20472  (10120705)               325872.44
 3795046.89        0.20372  (09022002)
       325897.44   3795046.89        0.20287  (09022002)               325922.44
 3795046.89        0.20197  (10122722)
       325947.44   3795046.89        0.20209  (10122722)               325972.44
 3795046.89        0.20007  (09120405)
       325997.44   3795046.89        0.19767  (12122704)               326022.44
 3795046.89        0.19729  (11120907)
       326047.44   3795046.89        0.19742  (11120907)               326072.44
 3795046.89        0.19733  (13122706)
       326097.44   3795046.89        0.19716  (11011303)               326122.44
 3795046.89        0.19518  (11011303)
       326147.44   3795046.89        0.19219  (11011303)               325847.44
 3795088.89        0.21082  (10120705)
       325872.44   3795088.89        0.20988  (09022002)               325897.44
 3795088.89        0.20879  (09022002)
       325922.44   3795088.89        0.20875  (10122722)               325947.44
 3795088.89        0.20578  (09120405)
       325972.44   3795088.89        0.20390  (12122704)               325997.44
 3795088.89        0.20350  (12122704)
       326022.44   3795088.89        0.20366  (11120907)               326047.44
 3795088.89        0.20358  (13122706)
       326072.44   3795088.89        0.20339  (11011303)               326097.44
 3795088.89        0.20229  (11011303)
       326122.44   3795088.89        0.19959  (11011303)               326147.44
 3795088.89        0.19852  (11121424)
       325847.44   3795130.89        0.21747  (09022002)               325872.44
 3795130.89        0.21635  (09022002)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        09:33:16

                                   PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325897.44	3795130.89	0.21590	(10122722)	325922.44	3795130.89	0.21566	(10122722)
325947.44	3795130.89	0.21244	(12122704)	325972.44	3795130.89	0.21028	(12122704)
325997.44	3795130.89	0.21037	(11120907)	326022.44	3795130.89	0.21029	(13122706)
326047.44	3795130.89	0.21010	(11011303)	326072.44	3795130.89	0.21018	(11011303)
326097.44	3795130.89	0.20614	(11011303)	326122.44	3795130.89	0.20478	(11121424)
326147.44	3795130.89	0.20479	(11121424)	325847.44	3795172.89	0.22455	(09022002)
325872.44	3795172.89	0.22360	(10122722)	325897.44	3795172.89	0.22354	(10122722)
325922.44	3795172.89	0.22321	(09120405)	325947.44	3795172.89	0.21965	(12122704)
325972.44	3795172.89	0.21759	(11120907)	325997.44	3795172.89	0.21753	(13122706)
326022.44	3795172.89	0.21717	(11011303)	326047.44	3795172.89	0.21639	(11011303)
326072.44	3795172.89	0.21174	(11121424)	325847.44	3795214.89	0.23209	(09022002)
325872.44	3795214.89	0.23206	(10122722)	325897.44	3795214.89	0.23173	(09120405)
325922.44	3795214.89	0.23145	(12122704)	325947.44	3795214.89	0.22769	(11120907)
325972.44	3795214.89	0.22536	(13122706)	325997.44	3795214.89	0.22518	(11011303)
326047.44	3795214.89	0.21820	(11121424)	326072.44	3795214.89	0.21871	(11121424)
326097.44	3795214.89	0.21854	(11121424)	326147.44	3795214.89	0.21908	(11012807)
326096.58	3795181.52	0.21297	(11121424)	326118.63	3795182.57	0.21298	(11121424)
326144.35	3795184.14	0.21243	(11121424)	325849.74	3794829.62	0.18100	(10010503)
325892.61	3794829.62	0.17922	(10120701)	325935.48	3794829.62	0.17655	(10120705)
325978.35	3794829.62	0.17517	(09022002)	326021.22			

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 3794829.62         0.17438  (10122722)
       326064.09   3794829.62        0.17296  (09120405)                325849.74
 3794867.55         0.18500  (10010503)
       325892.61   3794867.55        0.18140  (10120701)                325935.48
 3794867.55         0.17996  (09022002)
       325978.35   3794867.55        0.17890  (09022002)                326021.22
 3794867.55         0.17863  (10122722)
       326064.09   3794867.55        0.17691  (09120405)                325849.74
 3794905.48         0.18911  (10120701)
       325892.61   3794905.48        0.18560  (10120705)                325935.48
 3794905.48         0.18418  (09022002)
       325978.35   3794905.48        0.18277  (10122722)                326021.22
 3794905.48         0.18262  (10122722)
       326064.09   3794905.48        0.17967  (12122704)                325849.74
 3794943.41         0.19299  (10120701)
       325892.61   3794943.41        0.18970  (10120705)                325935.48
 3794943.41         0.18849  (09022002)
       325978.35   3794943.41        0.18772  (10122722)                326021.22
 3794943.41         0.18715  (09120405)
       326064.09   3794943.41        0.18386  (12122704)                325849.74
 3794981.34         0.19613  (10120701)
       325892.61   3794981.34        0.19426  (09022002)                325935.48
 3794981.34         0.19295  (09022002)
       325978.35   3794981.34        0.19267  (10122722)                326021.22
 3794981.34         0.18952  (12122704)
       326064.09   3794981.34        0.18856  (11120907)                325855.31
 3794726.62         0.17076  (11011207)
       325902.64   3794726.62        0.16904  (10120701)                325855.31
 3794745.52         0.17248  (11011207)
       325902.64   3794745.52        0.17079  (10120701)                325855.31
 3794764.42         0.17420  (11011207)
       325902.64   3794764.42        0.17255  (10120701)                325855.31
 3794783.32         0.17603  (10010503)
       325902.64   3794783.32        0.17432  (10120701)                325855.31
 3794802.22         0.17795  (10010503)
       325902.64   3794802.22        0.17611  (10120701)                325855.31
 3794821.12         0.17988  (10010503)
       325902.64   3794821.12        0.17781  (10120701)                326402.77
 3795249.33         0.19073  (11121105)
       325380.55   3795776.17        0.11806  (09120508)                325415.88
 3795858.35         0.07569  (09120508)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       09:33:16

                                  PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                             *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
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VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                              ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

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 3797003.95         0.01565  (12102117)
       326817.96   3797014.86        0.01604  (12102117)                326813.74
 3796843.93         0.02138  (10121904)
       326833.92   3796853.59        0.02093  (10121904)                326848.61
 3796873.43         0.02040  (10121904)
       326864.19   3796885.12        0.02023  (10121904)                326877.92
 3796901.20         0.01994  (10121904)
       326893.85   3796917.11        0.01920  (10121904)                326904.49
 3796938.77         0.01831  (09062906)
       326907.64   3796966.22        0.01796  (09062906)                326914.45
 3796991.73         0.01725  (09062906)
       326921.92   3797038.42        0.01588  (09062906)                326596.56
 3797264.10         0.01093  (10102017)
       326829.98   3795735.43        0.04789  (12012517)                326866.53
 3795706.88         0.04756  (12012517)
       326831.50   3795646.57        0.10360  (13012604)                326872.90
 3795644.95         0.10389  (13012604)
       326898.91   3795644.66        0.10421  (10021408)                326924.66
 3795650.14         0.09952  (10021408)
       326949.68   3795646.43        0.10298  (10021408)                326975.59
 3795638.84         0.09228  (10021408)
       326917.88   3795602.78        0.12062  (13012604)                326918.63
 3795584.13         0.13060  (10022004)
       326921.61   3795563.48        0.13005  (10022004)                326917.18
 3795537.15         0.13042  (13010108)
       326934.99   3795592.17        0.12228  (13012604)                326951.04
 3795599.47         0.11592  (13012604)
       326950.26   3795555.95        0.12989  (10022004)                326951.59
 3795535.07         0.12961  (13010108)
       326961.83   3795537.57        0.12906  (13010108)                326982.25
 3795538.33         0.12883  (10022004)
       326992.41   3795539.09        0.12892  (10022004)                327008.98
 3795535.58         0.12868  (10022004)
       326987.68   3795580.97        0.11940  (13012604)                327024.81
 3795588.42         0.10922  (13012604)
       326925.07   3795485.95        0.12568  (10121407)                326937.83
 3795488.27         0.12601  (10121407)
       326956.45   3795489.28        0.12600  (09120204)                326970.89
 3795491.03         0.12649  (13010108)
       326989.96   3795487.68        0.12668  (13010108)                325049.27
 3794362.92         0.16709  (11122506)
       325086.77   3794362.92        0.16563  (09121401)                325124.27
 3794362.92         0.16442  (13122103)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        09:33:16

                                  PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325161.77	3794362.92	0.16339	(13122407)	325199.27	3794362.92	0.16128	(12021824)
325236.77	3794362.92	0.15909	(09122106)	325274.27	3794362.92	0.15879	(13013002)
325049.27	3794386.12	0.16925	(11122506)	325086.77	3794386.12	0.16764	(10123020)
325124.27	3794386.12	0.16700	(13122103)	325161.77	3794386.12	0.16825	(13122407)
325199.27	3794386.12	0.16591	(12021824)	325236.77	3794386.12	0.16123	(09122106)
325274.27	3794386.12	0.16061	(13013002)	325049.27	3794409.32	0.17134	(11122506)
325086.77	3794409.32	0.16984	(10123020)	325124.27	3794409.32	0.16901	(13122103)
325161.77	3794409.32	0.17059	(13122407)	325199.27	3794409.32	0.16803	(12021824)
325236.77	3794409.32	0.16582	(09122106)	325274.27	3794409.32	0.16524	(13013002)
325049.27	3794432.52	0.17337	(11122506)	325086.77	3794432.52	0.17199	(10123020)
325124.27	3794432.52	0.17282	(09121401)	325161.77	3794432.52	0.17277	(13122407)
325199.27	3794432.52	0.17018	(13122407)	325236.77	3794432.52	0.16879	(09122106)
325274.27	3794432.52	0.16811	(13013002)	325049.27	3794455.72	0.17541	(11121006)
325086.77	3794455.72	0.17525	(11122506)	325124.27	3794455.72	0.17661	(09121401)
325161.77	3794455.72	0.17493	(13122407)	325199.27	3794455.72	0.17275	(13122407)
325236.77	3794455.72	0.17091	(09122106)	325274.27	3794455.72	0.17007	(13013002)
325049.27	3794478.92	0.17808	(11121006)	325086.77	3794478.92	0.18044	(11122506)
325124.27	3794478.92	0.17894	(09121401)	325161.77			

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 3794478.92         0.17733  (13122103)
       325199.27   3794478.92         0.17533  (13122407)                325236.77
 3794478.92         0.17302  (09122106)
       325274.27   3794478.92         0.17205  (13013002)                325049.27
 3794502.12         0.18070  (11121006)
       325086.77   3794502.12         0.18295  (11122506)                325124.27
 3794502.12         0.18136  (10123020)
       325161.77   3794502.12         0.17978  (13122103)                325199.27
 3794502.12         0.17791  (13122407)
       325236.77   3794502.12         0.17543  (12021824)                325274.27
 3794502.12         0.17402  (13013002)
       325049.27   3794525.32         0.18326  (11121006)                325086.77
 3794525.32         0.18539  (11122506)
       325124.27   3794525.32         0.18397  (10123020)                325161.77
 3794525.32         0.18220  (13122103)
       325199.27   3794525.32         0.18049  (13122407)                325236.77
 3794525.32         0.17784  (12021824)
       325274.27   3794525.32         0.17598  (13013002)                325049.27
 3794548.52         0.18577  (11121006)
       325086.77   3794548.52         0.18777  (11122506)                325124.27
 3794548.52         0.18654  (10123020)
       325161.77   3794548.52         0.18474  (09121401)                325199.27
 3794548.52         0.18307  (13122407)
       325236.77   3794548.52         0.18025  (12021824)                325274.27
 3794548.52         0.17837  (09122106)
       325049.27   3794571.72         0.18821  (11121006)                325086.77
 3794571.72         0.19077  (11121006)
       325124.27   3794571.72         0.18923  (11122506)                325161.77
 3794571.72         0.18745  (09121401)
       325199.27   3794571.72         0.18562  (13122407)                325236.77
 3794571.72         0.18267  (13122407)
       325274.27   3794571.72         0.18094  (09122106)                325049.27
 3794594.92         0.19059  (11121006)
       325086.77   3794594.92         0.19382  (11121006)                325124.27
 3794594.92         0.19207  (11122506)
       325161.77   3794594.92         0.19012  (09121401)                325199.27
 3794594.92         0.18819  (13122103)
       325236.77   3794594.92         0.18565  (13122407)                325274.27
 3794594.92         0.18353  (09122106)
       325049.27   3794618.12         0.19375  (13010624)                325086.77
 3794618.12         0.19682  (11121006)
       325124.27   3794618.12         0.19487  (11122506)                325161.77
 3794618.12         0.19293  (10123020)
       325199.27   3794618.12         0.19106  (13122103)                325236.77
 3794618.12         0.18866  (13122407)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       09:33:16
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325274.27	3794618.12	0.18679	(09122106)	325049.27	3794641.32	0.19711	(13010624)
325086.77	3794641.32	0.19977	(11121006)	325124.27	3794641.32	0.19759	(11122506)
325161.77	3794641.32	0.19589	(10123020)	325199.27	3794641.32	0.19388	(13122103)
325236.77	3794641.32	0.19170	(13122407)	325274.27	3794641.32	0.18971	(09122106)
325049.27	3794664.52	0.20046	(13010624)	325086.77	3794664.52	0.20267	(11121006)
325124.27	3794664.52	0.20087	(11121006)	325161.77	3794664.52	0.19880	(10123020)
325199.27	3794664.52	0.19675	(09121401)	325236.77	3794664.52	0.19473	(13122407)
325274.27	3794664.52	0.19352	(12021824)	325049.27	3794687.72	0.20380	(13010624)
325086.77	3794687.72	0.20571	(13010624)	325124.27	3794687.72	0.20426	(11121006)
325161.77	3794687.72	0.20203	(11122506)	325199.27	3794687.72	0.19989	(09121401)
325236.77	3794687.72	0.19778	(13122407)	325274.27	3794687.72	0.19926	(12021824)
324871.62	3794298.63	0.16144	(13010624)	324910.53	3794298.63	0.15913	(10121121)
324949.44	3794298.63	0.16181	(11121006)	324988.35	3794298.63	0.15974	(11121006)
324871.62	3794320.43	0.16341	(13010624)	324910.53	3794320.43	0.16393	(13010624)
324949.44	3794320.43	0.16351	(11121006)	324988.35	3794320.43	0.16182	(11121006)
324871.62	3794342.23	0.16533	(13010624)	324910.53	3794342.23	0.16707	(13010624)
324949.44	3794342.23	0.16514	(11121006)	324988.35			

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 3794342.23         0.16386  (11121006)
       324871.62   3794364.03        0.16815  (10013003)                324910.53
 3794364.03         0.16936  (13010624)
       324949.44   3794364.03        0.16670  (11121006)                324988.35
 3794364.03         0.16646  (11121006)
       324871.62   3794385.83        0.17278  (10013003)                324910.53
 3794385.83         0.17163  (13010624)
       324949.44   3794385.83        0.16859  (13010624)                324988.35
 3794385.83         0.17041  (11121006)
       324871.62   3794407.63        0.17522  (10013003)                324910.53
 3794407.63         0.17386  (13010624)
       324949.44   3794407.63        0.17110  (13010624)                324988.35
 3794407.63         0.17250  (11121006)
       324871.62   3794429.43        0.17757  (12123121)                324910.53
 3794429.43         0.17606  (13010624)
       324949.44   3794429.43        0.17359  (13010624)                324988.35
 3794429.43         0.17440  (11121006)
       324871.62   3794451.23        0.18015  (12123121)                324910.53
 3794451.23         0.17849  (10013003)
       324949.44   3794451.23        0.17627  (13010624)                324988.35
 3794451.23         0.17641  (11121006)
       324871.62   3794473.03        0.18272  (12123121)                324910.53
 3794473.03         0.18099  (10013003)
       324949.44   3794473.03        0.17995  (13010624)                324988.35
 3794473.03         0.17954  (13010624)
       324871.62   3794494.83        0.18604  (12020205)                324910.53
 3794494.83         0.18348  (10013003)
       324949.44   3794494.83        0.18264  (13010624)                324988.35
 3794494.83         0.18259  (13010624)
       324871.62   3794516.63        0.18946  (12020205)                324910.53
 3794516.63         0.18621  (12123121)
       324949.44   3794516.63        0.18511  (10013003)                324988.35
 3794516.63         0.18540  (13010624)
       324871.62   3794538.43        0.19245  (12020205)                324910.53
 3794538.43         0.18906  (12123121)
       324949.44   3794538.43        0.18787  (10013003)                324988.35
 3794538.43         0.18820  (13010624)
       324871.62   3794560.23        0.19565  (10010204)                324910.53
 3794560.23         0.19193  (12123121)
       324949.44   3794560.23        0.19065  (10013003)                324988.35
 3794560.23         0.19099  (13010624)
       324871.62   3794582.03        0.19909  (10010204)                324910.53
 3794582.03         0.19511  (12020205)
       324949.44   3794582.03        0.19350  (12123121)                324988.35
 3794582.03         0.19377  (13010624)
       324871.62   3794603.83        0.20254  (10010204)                324910.53
 3794603.83         0.19852  (12020205)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324949.44	3794603.83	0.19741	(12123121)	324988.35	3794603.83	0.19668	(10013003)
324871.62	3794625.63	0.20644	(12122922)	324910.53	3794625.63	0.20218	(10010204)
324949.44	3794625.63	0.20326	(12123121)	324988.35	3794625.63	0.19981	(10013003)
324871.62	3794647.43	0.21040	(12122922)	324910.53	3794647.43	0.20608	(10010204)
324949.44	3794647.43	0.20689	(12020205)	324988.35	3794647.43	0.20298	(10013003)
324871.62	3794669.23	0.21470	(13021702)	324910.53	3794669.23	0.20998	(10010204)
324949.44	3794669.23	0.21076	(12020205)	324988.35	3794669.23	0.20639	(12123121)
324871.62	3794691.03	0.21917	(13021702)	324910.53	3794691.03	0.21419	(12122922)
324949.44	3794691.03	0.21477	(12020205)	324988.35	3794691.03	0.21002	(12123121)
324449.04	3794074.69	0.15128	(13120620)	324485.99	3794074.69	0.14984	(09021803)
324522.94	3794074.69	0.14837	(13021702)	324559.89	3794074.69	0.14637	(12122922)
324596.84	3794074.69	0.14407	(10010204)	324633.79	3794074.69	0.14111	(12020205)
324670.74	3794074.69	0.13937	(12123121)	324707.69	3794074.69	0.13845	(10013003)
324744.64	3794074.69	0.13918	(13010624)	324781.59	3794074.69	0.14200	(13010624)
324449.04	3794106.66	0.15320	(13120620)	324485.99	3794106.66	0.15249	(13120620)
324522.94	3794106.66	0.15097	(09021803)	324559.89			

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3794106.66         0.14942  (13021702)
       324596.84    3794106.66         0.14784  (12122922)                324633.79
3794106.66         0.14533  (10010204)
       324670.74    3794106.66         0.14362  (12020205)                324707.69
3794106.66         0.14306  (12123121)
       324744.64    3794106.66         0.14552  (10013003)                324781.59
3794106.66         0.14648  (13010624)
       324449.04    3794138.63         0.15634  (12021724)                324485.99
3794138.63         0.15514  (13120620)
       324522.94    3794138.63         0.15359  (09021803)                324559.89
3794138.63         0.15199  (13021702)
       324596.84    3794138.63         0.15036  (12122922)                324633.79
3794138.63         0.15074  (10010204)
       324670.74    3794138.63         0.14942  (12020205)                324707.69
3794138.63         0.14886  (12123121)
       324744.64    3794138.63         0.15014  (10013003)                324781.59
3794138.63         0.14905  (13010624)
       324449.04    3794170.60         0.15970  (12021724)                324485.99
3794170.60         0.15728  (09020419)
       324522.94    3794170.60         0.15689  (13120620)                324559.89
3794170.60         0.15747  (09021803)
       324596.84    3794170.60         0.15572  (13021702)                324633.79
3794170.60         0.15461  (12122922)
       324670.74    3794170.60         0.15315  (10010204)                324707.69
3794170.60         0.15418  (12020205)
       324744.64    3794170.60         0.15300  (12123121)                324781.59
3794170.60         0.15350  (10013003)
       324449.04    3794202.57         0.16250  (10012707)                324485.99
3794202.57         0.16084  (12021724)
       324522.94    3794202.57         0.15979  (13120620)                324559.89
3794202.57         0.16113  (09021803)
       324596.84    3794202.57         0.15936  (13021702)                324633.79
3794202.57         0.15755  (12122922)
       324670.74    3794202.57         0.15885  (10010204)                324707.69
3794202.57         0.15751  (12020205)
       324744.64    3794202.57         0.15570  (12123121)                324781.59
3794202.57         0.15679  (10013003)
       324449.04    3794234.54         0.16587  (10012707)                324485.99
3794234.54         0.16425  (12021724)
       324522.94    3794234.54         0.16224  (09020419)                324559.89
3794234.54         0.16436  (13120620)
       324596.84    3794234.54         0.16245  (09021803)                324633.79
3794234.54         0.16048  (13021702)
       324670.74    3794234.54         0.16223  (12122922)                324707.69
3794234.54         0.16024  (10010204)
       324744.64    3794234.54         0.15828  (12020205)                324781.59
3794234.54         0.15936  (10013003)
       324449.04    3794266.51         0.16922  (10010424)                324485.99
3794266.51         0.16749  (10012707)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_2.5 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794266.51	0.16931	(12021724)	324559.89	3794266.51	0.16736	(13120620)
324596.84	3794266.51	0.16552	(09021803)	324633.79	3794266.51	0.16358	(13021702)
324670.74	3794266.51	0.16545	(12122922)	324707.69	3794266.51	0.16337	(10010204)
324744.64	3794266.51	0.16132	(12020205)	324781.59	3794266.51	0.16235	(12123121)
324449.04	3794298.48	0.17234	(10010424)	324485.99	3794298.48	0.17078	(10012707)
324522.94	3794298.48	0.17296	(12021724)	324559.89	3794298.48	0.17036	(12021724)
324596.84	3794298.48	0.16905	(13120620)	324633.79	3794298.48	0.17030	(09021803)
324670.74	3794298.48	0.16867	(13021702)	324707.69	3794298.48	0.16640	(12122922)
324744.64	3794298.48	0.16419	(12020205)	324781.59	3794298.48	0.16527	(12123121)
324449.04	3794330.45	0.17571	(10011404)	324485.99	3794330.45	0.17501	(10010424)
324522.94	3794330.45	0.17673	(10012707)	324559.89	3794330.45	0.17466	(12021724)
324596.84	3794330.45	0.17219	(13120620)	324633.79	3794330.45	0.17373	(09021803)
324670.74	3794330.45	0.17218	(13021702)	324707.69	3794330.45	0.16989	(12122922)
324744.64	3794330.45	0.16782	(10010204)	324781.59	3794330.45	0.16859	(12020205)
324449.04	3794362.42	0.18022	(10011404)	324485.99			

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3794362.42        0.18120  (10011119)
       324522.94   3794362.42        0.18047  (10010424)                324559.89
3794362.42        0.17826  (12021724)
       324596.84   3794362.42        0.17583  (12021724)                324633.79
3794362.42        0.17767  (13120620)
       324670.74   3794362.42        0.17589  (09021803)                324707.69
3794362.42        0.17335  (13021702)
       324744.64   3794362.42        0.17318  (10010204)                324781.59
3794362.42        0.17275  (12020205)
       324449.04   3794394.39        0.18418  (09120921)                324485.99
3794394.39        0.18611  (10011404)
       324522.94   3794394.39        0.18444  (10010424)                324559.89
3794394.39        0.18251  (10012707)
       324596.84   3794394.39        0.18031  (12021724)                324633.79
3794394.39        0.18112  (13120620)
       324670.74   3794394.39        0.17962  (09021803)                324707.69
3794394.39        0.17718  (13021702)
       324744.64   3794394.39        0.17704  (12122922)                324781.59
3794394.39        0.17640  (10010204)
       324449.04   3794426.36        0.18911  (11121923)                324485.99
3794426.36        0.19048  (10011404)
       324522.94   3794426.36        0.18822  (10011404)                324559.89
3794426.36        0.18680  (10010424)
       324596.84   3794426.36        0.18439  (10012707)                324633.79
3794426.36        0.18553  (12021724)
       324670.74   3794426.36        0.18395  (13120620)                324707.69
3794426.36        0.18167  (09021803)
       324744.64   3794426.36        0.18145  (13021702)                324781.59
3794426.36        0.18015  (10010204)
       324449.04   3794458.33        0.19555  (11121923)                324485.99
3794458.33        0.19537  (09120921)
       324522.94   3794458.33        0.19347  (10011404)                324559.89
3794458.33        0.19050  (10010424)
       324596.84   3794458.33        0.18971  (10012707)                324633.79
3794458.33        0.19061  (12021724)
       324670.74   3794458.33        0.18764  (13120620)                324707.69
3794458.33        0.18677  (13120620)
       324744.64   3794458.33        0.18734  (13021702)                324781.59
3794458.33        0.18433  (12122922)
       324449.04   3794490.30        0.20036  (09022006)                324485.99
3794490.30        0.20019  (11121923)
       324522.94   3794490.30        0.19820  (09120921)                324559.89
3794490.30        0.19581  (10011404)
       324596.84   3794490.30        0.19647  (10010424)                324633.79
3794490.30        0.19582  (10012707)
       324670.74   3794490.30        0.19284  (12021724)                324707.69
3794490.30        0.19155  (13120620)
       324744.64   3794490.30        0.19191  (09021803)                324781.59
3794490.30        0.18854  (13021702)
       324449.04   3794522.27        0.20609  (12010904)                324485.99
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794522.27	0.20315	(11121923)	324559.89	3794522.27	0.20068	(09120921)
324596.84	3794522.27	0.20080	(10011404)	324633.79	3794522.27	0.20081	(10010424)
324670.74	3794522.27	0.19785	(12021724)	324707.69	3794522.27	0.19555	(13120620)
324744.64	3794522.27	0.19663	(13120620)	324781.59	3794522.27	0.19337	(13021702)
324449.04	3794554.24	0.21197	(12021707)	324485.99	3794554.24	0.21038	(12010904)
324522.94	3794554.24	0.20836	(09022006)	324559.89	3794554.24	0.20704	(09120921)
324596.84	3794554.24	0.20808	(10011404)	324633.79	3794554.24	0.20571	(10010424)
324670.74	3794554.24	0.20321	(10012707)	324707.69	3794554.24	0.20165	(12021724)
324744.64	3794554.24	0.20200	(13120620)	324781.59	3794554.24	0.19841	(09021803)
324449.04	3794586.21	0.21726	(13012724)	324485.99	3794586.21	0.21580	(12021707)
324522.94	3794586.21	0.21386	(12010904)	324559.89	3794586.21	0.21351	(11121923)
324596.84	3794586.21	0.21463	(09120921)	324633.79	3794586.21	0.21170	(10011404)
324670.74	3794586.21	0.20885	(10010424)	324707.69	3794586.21	0.20713	(10012707)
324744.64	3794586.21	0.20689	(12021724)	324781.59			

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3794586.21        0.20368  (13120620)
       324449.04   3794618.18        0.22266  (12022904)                 324485.99
3794618.18        0.22141  (13012724)
       324522.94   3794618.18        0.21962  (12021707)                 324559.89
3794618.18        0.21932  (12010904)
       324596.84   3794618.18        0.22065  (11121923)                 324633.79
3794618.18        0.21771  (09120921)
       324670.74   3794618.18        0.21430  (10011404)                 324707.69
3794618.18        0.21582  (10010424)
       324744.64   3794618.18        0.21364  (12021724)                 324781.59
3794618.18        0.20954  (13120620)
       324449.04   3794650.15        0.22813  (12012404)                 324485.99
3794650.15        0.22716  (12022904)
       324522.94   3794650.15        0.22564  (13012724)                 324559.89
3794650.15        0.22559  (12021707)
       324596.84   3794650.15        0.22696  (09022006)                 324633.79
3794650.15        0.22413  (11121923)
       324670.74   3794650.15        0.22163  (10011404)                 324707.69
3794650.15        0.22358  (10010424)
       324744.64   3794650.15        0.22004  (10012707)                 324781.59
3794650.15        0.21542  (12021724)
       324449.04   3794682.12        0.23356  (11010801)                 324485.99
3794682.12        0.23297  (12012404)
       324522.94   3794682.12        0.23255  (12022904)                 324559.89
3794682.12        0.23520  (13012724)
       324596.84   3794682.12        0.23352  (12010904)                 324633.79
3794682.12        0.23095  (09022006)
       324670.74   3794682.12        0.22834  (09120921)                 324707.69
3794682.12        0.23059  (10011404)
       324744.64   3794682.12        0.22691  (10010424)                 324781.59
3794682.12        0.22264  (12021724)
       326547.36   3795022.06        0.16510  (12022103)                 326594.67
3795022.06        0.16171  (10011406)
       326641.98   3795022.06        0.15491  (11121105)                 326547.36
3795042.46        0.16679  (12022103)
       326594.67   3795042.46        0.15760  (10011406)                 326641.98
3795042.46        0.15626  (12122705)
       326547.36   3795062.86        0.16861  (10011406)                 326594.67
3795062.86        0.15781  (11121105)
       326641.98   3795062.86        0.15780  (12122705)                 326547.36
3795083.26        0.16954  (10011406)
       326594.67   3795083.26        0.15926  (11121105)                 326641.98
3795083.26        0.15929  (10021501)
       326547.36   3795103.66        0.16620  (11121105)                 326594.67
3795103.66        0.16099  (12122705)
       326641.98   3795103.66        0.16055  (13010623)                 326547.36
3795124.06        0.16709  (11121105)
       326594.67   3795124.06        0.16253  (10021501)                 326641.98
3795124.06        0.16190  (13010623)
       326547.36   3795144.46        0.16791  (12122705)                 326594.67
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326594.67	3795164.86	0.16534	(13010623)	326641.98	3795164.86	0.16381	(13010101)
326547.36	3795185.26	0.16723	(13010623)	326594.67	3795185.26	0.16673	(13010101)
326641.98	3795185.26	0.16526	(13011507)	326547.36	3795205.66	0.16885	(13010623)
326594.67	3795205.66	0.16728	(13010101)	326641.98	3795205.66	0.16334	(13011507)
326547.36	3795226.06	0.17029	(13010101)	326594.67	3795226.06	0.16888	(13011507)
326641.98	3795226.06	0.15671	(13122107)	326547.36	3795246.46	0.17082	(13010101)
326594.67	3795246.46	0.16772	(13011507)	326641.98	3795246.46	0.15494	(09021506)
326690.43	3795243.37	0.15210	(10122806)	326688.67	3795223.05	0.15173	(09021506)
326686.02	3795005.77	0.15366	(12122705)	326686.02	3795033.66	0.15392	(10021501)
326686.02	3795061.55	0.15425	(13010623)	326686.02	3795089.44	0.15586	(13010623)
326686.02	3795117.33	0.15741	(13010101)	326686.02	3795145.22	0.15861	(13011507)
326686.02	3795173.11	0.15821	(13011507)	326686.02	3795201.00	0.15124	(13122107)
326832.80	3795263.26	0.14357	(13121104)	326849.67			

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3795263.26        0.13769  (13121104)
       326866.54   3795263.26        0.13455  (13121104)                326883.41
3795263.26        0.13421  (13121104)
       326900.28   3795263.26        0.13393  (09013022)                326917.15
3795263.26        0.13381  (09013022)
       326934.02   3795263.26        0.12769  (09013022)                326950.89
3795263.26        0.12216  (09013022)
       326967.76   3795263.26        0.12215  (09013022)                326984.63
3795263.26        0.11993  (12022206)
       327001.50   3795263.26        0.11452  (11120708)                327036.85
3795141.35        0.11896  (13121104)
       327075.72   3795141.35        0.10863  (13020308)                327036.85
3795160.91        0.11929  (13121104)
       327075.72   3795160.91        0.10915  (11121808)                327036.85
3795180.47        0.11959  (09013022)
       327075.72   3795180.47        0.10968  (11121808)                327036.85
3795200.03        0.11925  (09013022)
       327075.72   3795200.03        0.11021  (11121808)                327036.85
3795219.59        0.11351  (11121808)
       327075.72   3795219.59        0.11100  (11120708)                327036.85
3795239.15        0.11181  (11120708)
       327075.72   3795239.15        0.11203  (11120708)                327036.85
3795258.71        0.11258  (11120708)
       327075.72   3795258.71        0.11312  (11120708)                327036.85
3795278.27        0.11368  (11120708)
       327075.72   3795278.27        0.11414  (11120708)                326840.04
3795223.24        0.14185  (13120806)
       326860.58   3795224.16        0.13407  (13120806)                326877.30
3795222.74        0.13364  (13120806)
       326929.68   3795223.69        0.12838  (13121104)                326932.86
3795200.00        0.12663  (13121104)
       326972.32   3795217.03        0.12078  (09013022)                326970.84
3795177.58        0.12017  (13121104)
       326968.20   3795152.46        0.12000  (13120806)                326998.43
3795149.77        0.11946  (13120806)
       326997.48   3795176.61        0.11994  (13121104)                326995.60
3795193.01        0.12016  (13121104)
       326996.92   3795215.78        0.12072  (09013022)                326916.97
3795152.19        0.13191  (12022205)
       326901.95   3795150.46        0.13219  (12022205)                326884.24
3795164.40        0.13280  (12022205)
       326867.32   3795151.32        0.13307  (12011805)                326873.22
3795163.36        0.13293  (12022205)
       326845.53   3795152.12        0.13851  (12011805)                326824.91
3795151.45        0.14581  (10122806)
       326826.60   3795170.60        0.14613  (12011805)                326840.50
3795180.17        0.14093  (12011805)
       326799.39   3795147.97        0.14639  (09021506)                326776.77
3795147.89        0.14728  (09021506)
       326738.03   3795152.73        0.14854  (13122107)                326781.33
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326794.01	3795031.22	0.14272	(13010101)	326977.50	3795110.69	0.11947	(12022205)
326994.05	3795107.87	0.11914	(12022205)	326984.52	3795093.80	0.11915	(12022205)
326972.85	3795082.37	0.11926	(12011805)	326995.41	3795072.53	0.11874	(12011805)
326993.23	3795060.01	0.11875	(12011805)	326984.60	3795040.80	0.11862	(10122806)
326981.66	3795027.22	0.11855	(10122806)	327041.48	3795102.15	0.11732	(13120806)
327065.19	3795095.75	0.10915	(10010821)	327040.88	3795076.27	0.11721	(12022205)
327061.24	3795058.32	0.11023	(10121023)	327037.82	3795061.09	0.11803	(12022205)
327035.65	3795040.58	0.11783	(12011805)	327058.94	3795038.41	0.11066	(10121023)
327051.53	3795017.85	0.11311	(12011805)	327033.29	3795021.71	0.11763	(12011805)
326826.26	3795110.80	0.13550	(09021506)	326843.29	3795110.80	0.13366	(09021506)
326860.32	3795110.80	0.13260	(10122806)	326877.35	3795110.80	0.13229	(10122806)
326894.38	3795110.80	0.13174	(10122806)	326911.41			

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 3795110.80        0.13147  (12011805)
       326928.44   3795110.80        0.12742  (12011805)                326945.47
 3795110.80        0.12079  (12011805)
       326819.99   3795048.86        0.13528  (13011507)                326838.19
 3795048.86        0.13182  (13011507)
       326856.39   3795048.86        0.13150  (13122107)                326874.59
 3795048.86        0.13122  (13122107)
       326892.79   3795048.86        0.13070  (09021506)                326910.99
 3795048.86        0.13052  (09021506)
       326929.19   3795048.86        0.12625  (09021506)                326947.39
 3795048.86        0.11961  (10122806)
       325652.30   3795689.46        0.07506  (13020608)                325747.75
 3795796.21        0.05845  (13020608)
       326251.13   3796043.75        0.06134  (10013117)                326263.91
 3795852.39        0.07915  (11012717)
       326170.84   3795648.38        0.07130  (09052906)                326148.08
 3795505.91        0.09221  (12050806)
       325511.50   3795586.39        0.07636  (13020608)

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       09:33:16

                                  PAGE  38
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
               **


                        NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.01271 AT (  325652.30,  3795689.46,
172.37,   271.00,    0.00)  DC
          2ND HIGHEST VALUE IS       0.01221 AT (  325380.55,  3795776.17,
160.97,   295.00,    0.00)  DC
          3RD HIGHEST VALUE IS       0.01165 AT (  325796.15,  3795332.59,
151.11,   185.00,    0.00)  DC
          4TH HIGHEST VALUE IS       0.01162 AT (  325850.15,  3795332.59,
150.51,   185.00,    0.00)  DC
          5TH HIGHEST VALUE IS       0.01123 AT (  325823.15,  3795332.59,
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```
151.02,   185.00,    0.00)  DC
          6TH HIGHEST VALUE IS       0.01122 AT (  325877.15,  3795332.59,
150.22,   185.00,    0.00)  DC
          7TH HIGHEST VALUE IS       0.01095 AT (  325796.15,  3795293.59,
150.13,   185.00,    0.00)  DC
          8TH HIGHEST VALUE IS       0.01091 AT (  325904.15,  3795332.59,
149.61,   185.00,    0.00)  DC
          9TH HIGHEST VALUE IS       0.01085 AT (  325747.75,  3795796.21,
179.05,   295.00,    0.00)  DC
         10TH HIGHEST VALUE IS       0.01053 AT (  325823.15,  3795293.59,
150.11,   185.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       09:33:16

                                 PAGE  39
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                  ** CONC OF PM_2.5   IN MICROGRAMS/M**3
               **

                                                          DATE
                                              NETWORK
GROUP ID                          AVERAGE CONC     (YYMMDDHH)            RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       0.25392  ON 13122706: AT (  325904.15,
3795332.59,   149.61,   185.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   1 Warning Message(s)
A Total of   15612 Informational Message(s)

A Total of   43872 Hours Were Processed

A Total of   13724 Calm Hours Identified

A Total of   1888 Missing Hours Identified (4.30 Percent)

   ******** FATAL ERROR MESSAGES ********
              *** NONE ***

   ********   WARNING MESSAGES   ********
MX W481   43873   MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ****
   *** AERMOD Finishes Successfully ***
   ****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 5/26/2020
** File: C:\Lakes\AERMOD View\Hitch Ranch_Phase 6_Construction\Hitch Ranch_Phase
6_Construction.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 3 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "Hitch Ranch_Phase 6_Construction.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       2.0911E-09     3.000        12
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326372.560 3796177.700
   AREAVERT PAREA1       326098.780 3795976.790 326037.300 3795811.770
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
```

```
**
**
RE STARTING
   INCLUDED "Hitch Ranch_Phase 6_Construction.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "HITCH RANCH_PHASE 6_CONSTRUCTION.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "HITCH RANCH_PHASE 6_CONSTRUCTION.AD\AN00GALL.PLT" 32
   SUMMFILE "Hitch Ranch_Phase 6_Construction.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 5/26/2020
** File: C:\Lakes\AERMOD View\Hitch Ranch_Phase 6_Construction\Hitch Ranch_Phase
6_Construction.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 3 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "Hitch Ranch_Phase 6_Construction.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       2.0911E-09     3.000        12
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326372.560 3796177.700
   AREAVERT PAREA1       326098.780 3795976.790 326037.300 3795811.770
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
```

```
**
**
RE STARTING
   INCLUDED "Hitch Ranch_Phase 6_Construction.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "HITCH RANCH_PHASE 6_CONSTRUCTION.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "HITCH RANCH_PHASE 6_CONSTRUCTION.AD\AN00GALL.PLT" 32
   SUMMFILE "Hitch Ranch_Phase 6_Construction.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD View\Phase1_Mitigated_11.3\Phase1_Mitigated_11.3.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 1\Hitch Ranch_Phase 1.isc
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase1_Mitigated_11.3.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325048.840  3795233.290      145.140
** Source Parameters **
   SRCPARAM PAREA1       3.5646E-10     3.000        17
   AREAVERT PAREA1       325048.840 3795233.290 325002.320 3795338.940
   AREAVERT PAREA1       324649.150 3795252.700 324649.150 3795514.450
   AREAVERT PAREA1       325044.060 3795513.690 325044.060 3795684.570
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326288.670 3795758.120 326277.560 3795694.020
   AREAVERT PAREA1       326166.380 3795525.260 326425.650 3795493.540
   AREAVERT PAREA1       326479.010 3795469.120 326469.840 3795364.180
   AREAVERT PAREA1       325735.780 3795372.310
   SRCGROUP ALL
SO FINISHED
**
**************************************
```

```
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED Phase1_Mitigated_11.3.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE1_MITIGATED_11.3.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE1_MITIGATED_11.3.AD\AN00GALL.PLT 32
   SUMMFILE Phase1_Mitigated_11.3.sum
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD View\Phase1_Mitigated_11.3\Phase1_Mitigated_11.3.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 1\Hitch Ranch_Phase 1.isc
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase1_Mitigated_11.3.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325048.840  3795233.290      145.140
** Source Parameters **
   SRCPARAM PAREA1       3.5646E-10     3.000        17
   AREAVERT PAREA1       325048.840 3795233.290 325002.320 3795338.940
   AREAVERT PAREA1       324649.150 3795252.700 324649.150 3795514.450
   AREAVERT PAREA1       325044.060 3795513.690 325044.060 3795684.570
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326288.670 3795758.120 326277.560 3795694.020
   AREAVERT PAREA1       326166.380 3795525.260 326425.650 3795493.540
   AREAVERT PAREA1       326479.010 3795469.120 326469.840 3795364.180
   AREAVERT PAREA1       325735.780 3795372.310
   SRCGROUP ALL
SO FINISHED
**
**************************************
```

```
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED Phase1_Mitigated_11.3.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE1_MITIGATED_11.3.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE1_MITIGATED_11.3.AD\AN00GALL.PLT 32
   SUMMFILE Phase1_Mitigated_11.3.sum
OU FINISHED

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       14:41:25

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          ***     MODEL SETUP OPTIONS SUMMARY
```

```
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     834
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
```

```
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    24.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   Phase1_Mitigated_11.3.err

 **File for Summary of Results:   Phase1_Mitigated_11.3.sum

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        14:41:25

                                   PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL


                                                *** AREAPOLY SOURCE DATA ***

              NUMBER EMISSION RATE   LOCATION OF AREA  BASE     RELEASE  NUMBER
  INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC       X        Y      ELEV.    HEIGHT  OF VERTS.
   SZ     SOURCE  SCALAR VARY
     ID         CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
```

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326346.0, 3795634.0, 172.5, 190.0, 0.0); (326414.1, 3795779.7, 180.0, 277.0, 0.0);
(326435.8, 3795773.5, 176.6, 277.0, 0.0); (326458.3, 3795772.8, 174.6, 277.0, 0.0);
(326424.2, 3795858.8, 178.9, 295.0, 0.0); (326400.2, 3795799.8, 182.9, 277.0, 0.0);
(326400.9, 3795767.9, 180.8, 277.0, 0.0); (326424.2, 3795858.8, 178.9, 295.0, 0.0);
(326611.8, 3795763.0, 168.9, 277.0, 0.0); (326611.8, 3795763.0, 168.9, 277.0, 0.0);
(326610.9, 3795777.7, 169.0, 277.0, 0.0); (326605.9, 3795792.9, 169.0, 277.0, 0.0);
(326623.9, 3795809.0, 169.6, 277.0, 0.0); (326627.2, 3795836.6, 170.1, 295.0, 0.0);
(326640.1, 3795836.6, 170.2, 277.0, 0.0); (326654.5, 3795868.7, 171.6, 291.0, 0.0);
(326665.5, 3795883.1, 172.0, 295.0, 0.0); (326588.3, 3795867.6, 175.1, 277.0, 0.0);
(326640.5, 3795951.9, 177.0, 295.0, 0.0); (326658.5,

```
3795975.6,     175.5,     295.0,       0.0);
     ( 326759.5, 3796019.3,     178.2,     277.0,       0.0);         ( 326763.6,
3796031.8,     178.1,     291.0,       0.0);
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
     ( 326806.7, 3795493.9,     157.9,     217.0,       0.0);         ( 326824.1,
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3795494.4,   157.9,   217.0,   0.0);
     (326853.5, 3795481.7,   157.5,   217.0,   0.0);   (326898.8,
3795534.4,   158.0,   217.0,   0.0);
     (325796.1, 3795215.6,   149.4,   149.4,   0.0);   (325823.1,
3795215.6,   149.0,   149.0,   0.0);
     (326012.1, 3795215.6,   150.0,   150.0,   0.0);   (326120.1,
3795215.6,   151.0,   151.0,   0.0);
     (326147.1, 3795215.6,   151.0,   151.0,   0.0);   (325796.1,
3795254.6,   149.4,   185.0,   0.0);
     (325823.1, 3795254.6,   149.0,   185.0,   0.0);   (325850.1,
3795254.6,   149.0,   149.0,   0.0);
     (325877.1, 3795254.6,   149.0,   149.0,   0.0);   (325904.1,
3795254.6,   149.2,   149.2,   0.0);
     (325931.1, 3795254.6,   149.9,   149.9,   0.0);   (325958.1,
3795254.6,   150.0,   150.0,   0.0);
     (325985.1, 3795254.6,   150.0,   150.0,   0.0);   (326012.1,
3795254.6,   150.7,   150.7,   0.0);
     (326039.1, 3795254.6,   151.0,   151.0,   0.0);   (326066.1,
3795254.6,   151.0,   151.0,   0.0);
     (326093.1, 3795254.6,   151.0,   151.0,   0.0);   (326120.1,
3795254.6,   151.0,   151.0,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (326147.1, 3795254.6,   151.0,   151.0,   0.0);   (325796.1,
3795293.6,   150.1,   185.0,   0.0);
     (325823.1, 3795293.6,   150.1,   185.0,   0.0);   (325850.1,
3795293.6,   149.7,   185.0,   0.0);
     (325877.1, 3795293.6,   149.2,   185.0,   0.0);   (325904.1,
3795293.6,   149.2,   149.2,   0.0);
     (325931.1, 3795293.6,   150.0,   150.0,   0.0);   (325958.1,
3795293.6,   150.0,   150.0,   0.0);
     (325985.1, 3795293.6,   150.9,   150.9,   0.0);   (326012.1,
3795293.6,   151.2,   151.2,   0.0);
     (326039.1, 3795293.6,   151.2,   151.2,   0.0);   (326066.1,
3795293.6,   151.7,   151.7,   0.0);
     (326093.1, 3795293.6,   152.0,   152.0,   0.0);   (326120.1,
3795293.6,   152.0,   152.0,   0.0);
     (326147.1, 3795293.6,   152.0,   152.0,   0.0);   (325796.1,
3795332.6,   151.1,   185.0,   0.0);
     (325823.1, 3795332.6,   151.0,   185.0,   0.0);   (325850.1,

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3795332.6,     150.5,     185.0,       0.0);
     ( 325877.1, 3795332.6,     150.2,     185.0,       0.0);         ( 325904.1,
3795332.6,     149.6,     185.0,       0.0);
     ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
3795332.6,     150.5,     166.0,       0.0);
     ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
     ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
     ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325972.4, 3795004.9,     149.3,     149.3,       0.0);         ( 325997.4,
3795004.9,     149.7,     149.7,       0.0);
     ( 326022.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326122.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326147.4,
3795004.9,     150.3,     150.3,       0.0);
     ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
     ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
     ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795088.9,     150.2,     150.2,       0.0);
     ( 326122.4, 3795088.9,     150.7,     150.7,       0.0);         ( 326147.4,
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3795088.9,   151.0,   151.0,   0.0);
     (325847.4, 3795130.9,   149.0,   149.0,   0.0);   (325872.4,
3795130.9,   149.0,   149.0,   0.0);
     (325897.4, 3795130.9,   149.0,   149.0,   0.0);   (325922.4,
3795130.9,   149.0,   149.0,   0.0);
     (325947.4, 3795130.9,   149.6,   149.6,   0.0);   (325972.4,
3795130.9,   150.0,   150.0,   0.0);
     (325997.4, 3795130.9,   150.0,   150.0,   0.0);   (326022.4,
3795130.9,   150.0,   150.0,   0.0);
     (326047.4, 3795130.9,   150.0,   150.0,   0.0);   (326072.4,
3795130.9,   150.0,   150.0,   0.0);
     (326097.4, 3795130.9,   150.6,   150.6,   0.0);   (326122.4,
3795130.9,   151.0,   151.0,   0.0);
     (326147.4, 3795130.9,   151.0,   151.0,   0.0);   (325847.4,
3795172.9,   149.0,   149.0,   0.0);
     (325872.4, 3795172.9,   149.0,   149.0,   0.0);   (325897.4,
3795172.9,   149.0,   149.0,   0.0);
     (325922.4, 3795172.9,   149.0,   149.0,   0.0);   (325947.4,
3795172.9,   149.6,   149.6,   0.0);
     (325972.4, 3795172.9,   150.0,   150.0,   0.0);   (325997.4,
3795172.9,   150.0,   150.0,   0.0);
     (326022.4, 3795172.9,   150.0,   150.0,   0.0);   (326047.4,
3795172.9,   150.2,   150.2,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (326072.4, 3795172.9,   150.8,   150.8,   0.0);   (325847.4,
3795214.9,   149.0,   149.0,   0.0);
     (325872.4, 3795214.9,   149.0,   149.0,   0.0);   (325897.4,
3795214.9,   149.0,   149.0,   0.0);
     (325922.4, 3795214.9,   149.0,   149.0,   0.0);   (325947.4,
3795214.9,   149.6,   149.6,   0.0);
     (325972.4, 3795214.9,   150.0,   150.0,   0.0);   (325997.4,
3795214.9,   150.0,   150.0,   0.0);
     (326047.4, 3795214.9,   151.0,   151.0,   0.0);   (326072.4,
3795214.9,   151.0,   151.0,   0.0);
     (326097.4, 3795214.9,   151.0,   151.0,   0.0);   (326147.4,
3795214.9,   151.0,   151.0,   0.0);
     (326096.6, 3795181.5,   151.0,   151.0,   0.0);   (326118.6,
3795182.6,   151.0,   151.0,   0.0);
     (326144.3, 3795184.1,   151.0,   151.0,   0.0);   (325849.7,

3794829.6,   148.0,   148.0,   0.0);
     (325892.6, 3794829.6,   148.0,   148.0,   0.0);   (325935.5,
3794829.6,   148.8,   148.8,   0.0);
     (325978.3, 3794829.6,   149.0,   149.0,   0.0);   (326021.2,
3794829.6,   149.0,   149.0,   0.0);
     (326064.1, 3794829.6,   149.5,   149.5,   0.0);   (325849.7,
3794867.5,   148.0,   148.0,   0.0);
     (325892.6, 3794867.5,   148.8,   148.8,   0.0);   (325935.5,
3794867.5,   149.0,   149.0,   0.0);
     (325978.3, 3794867.5,   149.0,   149.0,   0.0);   (326021.2,
3794867.5,   149.0,   149.0,   0.0);
     (326064.1, 3794867.5,   149.5,   149.5,   0.0);   (325849.7,
3794905.5,   148.1,   148.1,   0.0);
     (325892.6, 3794905.5,   148.9,   148.9,   0.0);   (325935.5,
3794905.5,   149.0,   149.0,   0.0);
     (325978.3, 3794905.5,   149.0,   149.0,   0.0);   (326021.2,
3794905.5,   149.1,   149.1,   0.0);
     (326064.1, 3794905.5,   150.0,   150.0,   0.0);   (325849.7,
3794943.4,   148.4,   148.4,   0.0);
     (325892.6, 3794943.4,   149.0,   149.0,   0.0);   (325935.5,
3794943.4,   149.0,   149.0,   0.0);
     (325978.3, 3794943.4,   149.0,   149.0,   0.0);   (326021.2,
3794943.4,   149.1,   149.1,   0.0);
     (326064.1, 3794943.4,   150.0,   150.0,   0.0);   (325849.7,
3794981.3,   148.9,   148.9,   0.0);
     (325892.6, 3794981.3,   149.0,   149.0,   0.0);   (325935.5,
3794981.3,   149.0,   149.0,   0.0);
     (325978.3, 3794981.3,   149.0,   149.0,   0.0);   (326021.2,
3794981.3,   149.8,   149.8,   0.0);
     (326064.1, 3794981.3,   150.0,   150.0,   0.0);   (325855.3,
3794726.6,   148.0,   148.0,   0.0);
     (325902.6, 3794726.6,   148.0,   148.0,   0.0);   (325855.3,
3794745.5,   148.0,   148.0,   0.0);
     (325902.6, 3794745.5,   148.0,   148.0,   0.0);   (325855.3,
3794764.4,   148.0,   148.0,   0.0);
     (325902.6, 3794764.4,   148.0,   148.0,   0.0);   (325855.3,
3794783.3,   148.0,   148.0,   0.0);
     (325902.6, 3794783.3,   148.0,   148.0,   0.0);   (325855.3,
3794802.2,   148.0,   148.0,   0.0);
     (325902.6, 3794802.2,   148.0,   148.0,   0.0);   (325855.3,
3794821.1,   148.0,   148.0,   0.0);
     (325902.6, 3794821.1,   148.1,   148.1,   0.0);   (326402.8,
3795249.3,   152.8,   152.8,   0.0);
     (325380.5, 3795776.2,   161.0,   295.0,   0.0);   (325415.9,
3795858.3,   176.6,   271.0,   0.0);
     (325409.9, 3795995.0,   190.3,   271.0,   0.0);   (325416.6,
3796058.1,   193.4,   282.0,   0.0);
     (325409.6, 3796164.9,   201.8,   291.0,   0.0);   (325322.7,
3796083.9,   190.0,   292.0,   0.0);
     (325297.9, 3796111.1,   184.9,   295.0,   0.0);   (325246.7,

3796076.1,   181.2,   295.0,   0.0);
     (325280.0, 3796260.7,   211.4,   292.0,   0.0);   (325237.0,
3796200.4,   205.0,   292.0,   0.0);
     (325163.0, 3796071.1,   180.4,   292.0,   0.0);   (325215.7,
3795991.4,   177.4,   292.0,   0.0);
     (325208.3, 3795926.9,   173.0,   292.0,   0.0);   (325249.5,
3795829.2,   171.2,   291.0,   0.0);
     (325171.5, 3795759.2,   160.9,   292.0,   0.0);   (325129.2,
3795756.4,   158.4,   292.0,   0.0);
     (325154.8, 3795886.2,   167.8,   292.0,   0.0);   (325068.5,
3795885.4,   171.6,   292.0,   0.0);
     (325047.9, 3795938.0,   175.5,   292.0,   0.0);   (325045.8,
3795982.7,   176.4,   292.0,   0.0);
     (325072.0, 3796106.7,   179.6,   292.0,   0.0);   (325060.6,
3796290.4,   197.1,   292.0,   0.0);
     (324903.7, 3796379.8,   214.8,   292.0,   0.0);   (324787.8,
3796510.4,   197.3,   292.0,   0.0);
     (324916.5, 3796618.3,   201.7,   292.0,   0.0);   (326493.0,
3796356.3,   198.5,   295.0,   0.0);
     (326552.7, 3796900.0,   235.2,   295.0,   0.0);   (326599.3,
3796893.6,   237.6,   293.0,   0.0);
     (326617.4, 3796889.5,   237.6,   293.0,   0.0);   (326639.4,
3796881.9,   233.8,   293.0,   0.0);
     (326663.7, 3796864.1,   225.7,   295.0,   0.0);   (326679.5,
3796885.2,   227.5,   293.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (326697.8, 3796898.3,   229.7,   293.0,   0.0);   (326712.3,
3796916.6,   233.6,   293.0,   0.0);
     (326726.6, 3796931.1,   236.4,   290.0,   0.0);   (326742.2,
3796948.0,   240.5,   290.0,   0.0);
     (326756.6, 3796965.7,   242.1,   290.0,   0.0);   (326772.1,
3796973.3,   239.2,   290.0,   0.0);
     (326785.2, 3796890.5,   223.1,   293.0,   0.0);   (326800.1,
3797003.9,   233.0,   290.0,   0.0);
     (326818.0, 3797014.9,   229.2,   290.0,   0.0);   (326813.7,
3796843.9,   215.1,   293.0,   0.0);
     (326833.9, 3796853.6,   216.3,   293.0,   0.0);   (326848.6,
3796873.4,   217.5,   293.0,   0.0);
     (326864.2, 3796885.1,   217.7,   293.0,   0.0);   (326877.9,

3796901.2,   218.2,   292.0,   0.0);
     (326893.8, 3796917.1,   220.4,   292.0,   0.0);   (326904.5,
3796938.8,   223.9,   292.0,   0.0);
     (326907.6, 3796966.2,   224.5,   292.0,   0.0);   (326914.5,
3796991.7,   227.6,   292.0,   0.0);
     (326921.9, 3797038.4,   232.7,   292.0,   0.0);   (326596.6,
3797264.1,   273.2,   288.0,   0.0);
     (326830.0, 3795735.4,   183.6,   217.0,   0.0);   (326866.5,
3795706.9,   182.8,   217.0,   0.0);
     (326831.5, 3795646.6,   161.0,   217.0,   0.0);   (326872.9,
3795644.9,   160.9,   217.0,   0.0);
     (326898.9, 3795644.7,   160.9,   217.0,   0.0);   (326924.7,
3795650.1,   161.6,   217.0,   0.0);
     (326949.7, 3795646.4,   161.1,   217.0,   0.0);   (326975.6,
3795638.8,   162.5,   217.0,   0.0);
     (326917.9, 3795602.8,   159.0,   217.0,   0.0);   (326918.6,
3795584.1,   158.0,   217.0,   0.0);
     (326921.6, 3795563.5,   158.0,   217.0,   0.0);   (326917.2,
3795537.1,   158.0,   217.0,   0.0);
     (326935.0, 3795592.2,   158.8,   217.0,   0.0);   (326951.0,
3795599.5,   159.5,   217.0,   0.0);
     (326950.3, 3795555.9,   158.0,   217.0,   0.0);   (326951.6,
3795535.1,   158.0,   217.0,   0.0);
     (326961.8, 3795537.6,   158.0,   217.0,   0.0);   (326982.2,
3795538.3,   158.0,   217.0,   0.0);
     (326992.4, 3795539.1,   158.0,   217.0,   0.0);   (327009.0,
3795535.6,   158.0,   217.0,   0.0);
     (326987.7, 3795581.0,   159.0,   217.0,   0.0);   (327024.8,
3795588.4,   160.1,   217.0,   0.0);
     (326925.1, 3795485.9,   158.0,   217.0,   0.0);   (326937.8,
3795488.3,   158.0,   217.0,   0.0);
     (326956.5, 3795489.3,   158.0,   217.0,   0.0);   (326970.9,
3795491.0,   158.0,   217.0,   0.0);
     (326990.0, 3795487.7,   158.0,   217.0,   0.0);   (325049.3,
3794362.9,   143.0,   143.0,   0.0);
     (325086.8, 3794362.9,   143.0,   143.0,   0.0);   (325124.3,
3794362.9,   143.0,   143.0,   0.0);
     (325161.8, 3794362.9,   143.2,   143.2,   0.0);   (325199.3,
3794362.9,   143.2,   143.2,   0.0);
     (325236.8, 3794362.9,   143.0,   143.0,   0.0);   (325274.3,
3794362.9,   143.0,   143.0,   0.0);
     (325049.3, 3794386.1,   143.0,   143.0,   0.0);   (325086.8,
3794386.1,   143.0,   143.0,   0.0);
     (325124.3, 3794386.1,   143.2,   143.2,   0.0);   (325161.8,
3794386.1,   144.0,   144.0,   0.0);
     (325199.3, 3794386.1,   144.0,   144.0,   0.0);   (325236.8,
3794386.1,   143.1,   143.1,   0.0);
     (325274.3, 3794386.1,   143.0,   143.0,   0.0);   (325049.3,
3794409.3,   143.0,   143.0,   0.0);
     (325086.8, 3794409.3,   143.0,   143.0,   0.0);   (325124.3,

3794409.3,   143.2,   143.2,   0.0);
     (325161.8, 3794409.3,   144.0,   144.0,   0.0);   (325199.3,
3794409.3,   144.0,   144.0,   0.0);
     (325236.8, 3794409.3,   143.8,   143.8,   0.0);   (325274.3,
3794409.3,   143.7,   143.7,   0.0);
     (325049.3, 3794432.5,   143.0,   143.0,   0.0);   (325086.8,
3794432.5,   143.0,   143.0,   0.0);
     (325124.3, 3794432.5,   143.6,   143.6,   0.0);   (325161.8,
3794432.5,   144.0,   144.0,   0.0);
     (325199.3, 3794432.5,   144.0,   144.0,   0.0);   (325236.8,
3794432.5,   144.0,   144.0,   0.0);
     (325274.3, 3794432.5,   144.0,   144.0,   0.0);   (325049.3,
3794455.7,   143.0,   143.0,   0.0);
     (325086.8, 3794455.7,   143.3,   143.3,   0.0);   (325124.3,
3794455.7,   144.0,   144.0,   0.0);
     (325161.8, 3794455.7,   144.0,   144.0,   0.0);   (325199.3,
3794455.7,   144.0,   144.0,   0.0);
     (325236.8, 3794455.7,   144.0,   144.0,   0.0);   (325274.3,
3794455.7,   144.0,   144.0,   0.0);
     (325049.3, 3794478.9,   143.0,   143.0,   0.0);   (325086.8,
3794478.9,   144.0,   144.0,   0.0);
     (325124.3, 3794478.9,   144.0,   144.0,   0.0);   (325161.8,
3794478.9,   144.0,   144.0,   0.0);
     (325199.3, 3794478.9,   144.0,   144.0,   0.0);   (325236.8,
3794478.9,   144.0,   144.0,   0.0);
     (325274.3, 3794478.9,   144.0,   144.0,   0.0);   (325049.3,
3794502.1,   143.0,   143.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (325086.8, 3794502.1,   144.0,   144.0,   0.0);   (325124.3,
3794502.1,   144.0,   144.0,   0.0);
     (325161.8, 3794502.1,   144.0,   144.0,   0.0);   (325199.3,
3794502.1,   144.0,   144.0,   0.0);
     (325236.8, 3794502.1,   144.0,   144.0,   0.0);   (325274.3,
3794502.1,   144.0,   144.0,   0.0);
     (325049.3, 3794525.3,   143.0,   143.0,   0.0);   (325086.8,
3794525.3,   144.0,   144.0,   0.0);
     (325124.3, 3794525.3,   144.0,   144.0,   0.0);   (325161.8,
3794525.3,   144.0,   144.0,   0.0);
     (325199.3, 3794525.3,   144.0,   144.0,   0.0);   (325236.8,

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3794525.3,     144.0,     144.0,       0.0);
     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
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3794687.7,   145.0,   145.0,   0.0);
     (324871.6, 3794298.6,   141.0,   141.0,   0.0);   (324910.5,
3794298.6,   141.1,   141.1,   0.0);
     (324949.4, 3794298.6,   142.0,   142.0,   0.0);   (324988.3,
3794298.6,   142.0,   142.0,   0.0);
     (324871.6, 3794320.4,   141.0,   141.0,   0.0);   (324910.5,
3794320.4,   141.8,   141.8,   0.0);
     (324949.4, 3794320.4,   142.0,   142.0,   0.0);   (324988.3,
3794320.4,   142.0,   142.0,   0.0);
     (324871.6, 3794342.2,   141.0,   141.0,   0.0);   (324910.5,
3794342.2,   142.0,   142.0,   0.0);
     (324949.4, 3794342.2,   142.0,   142.0,   0.0);   (324988.3,
3794342.2,   142.0,   142.0,   0.0);
     (324871.6, 3794364.0,   141.2,   141.2,   0.0);   (324910.5,
3794364.0,   142.0,   142.0,   0.0);
     (324949.4, 3794364.0,   142.0,   142.0,   0.0);   (324988.3,
3794364.0,   142.2,   142.2,   0.0);
     (324871.6, 3794385.8,   141.7,   141.7,   0.0);   (324910.5,
3794385.8,   142.0,   142.0,   0.0);
     (324949.4, 3794385.8,   142.0,   142.0,   0.0);   (324988.3,
3794385.8,   142.6,   142.6,   0.0);
     (324871.6, 3794407.6,   141.8,   141.8,   0.0);   (324910.5,
3794407.6,   142.0,   142.0,   0.0);
     (324949.4, 3794407.6,   142.0,   142.0,   0.0);   (324988.3,
3794407.6,   142.7,   142.7,   0.0);
     (324871.6, 3794429.4,   141.8,   141.8,   0.0);   (324910.5,
3794429.4,   142.0,   142.0,   0.0);
     (324949.4, 3794429.4,   142.0,   142.0,   0.0);   (324988.3,
3794429.4,   142.7,   142.7,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                *** DISCRETE CARTESIAN RECEPTORS ***
                                              (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                           (METERS)

     (324871.6, 3794451.2,   141.8,   141.8,   0.0);   (324910.5,
3794451.2,   142.0,   142.0,   0.0);
     (324949.4, 3794451.2,   142.1,   142.1,   0.0);   (324988.3,
3794451.2,   142.7,   142.7,   0.0);
     (324871.6, 3794473.0,   141.8,   141.8,   0.0);   (324910.5,
3794473.0,   142.0,   142.0,   0.0);
     (324949.4, 3794473.0,   142.3,   142.3,   0.0);   (324988.3,
3794473.0,   143.0,   143.0,   0.0);
     (324871.6, 3794494.8,   141.9,   141.9,   0.0);   (324910.5,

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3794494.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794494.8,     142.4,     142.4,       0.0);         ( 324988.3,
3794494.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794074.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794074.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794074.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794074.7,     137.8,     137.8,       0.0);
     ( 324596.8, 3794074.7,     137.6,     137.6,       0.0);         ( 324633.8,
3794074.7,     137.1,     137.1,       0.0);
     ( 324670.7, 3794074.7,     137.0,     137.0,       0.0);         ( 324707.7,
3794074.7,     137.2,     137.2,       0.0);
     ( 324744.6, 3794074.7,     137.9,     137.9,       0.0);         ( 324781.6,
3794074.7,     139.3,     139.3,       0.0);
     ( 324449.0, 3794106.7,     138.0,     138.0,       0.0);         ( 324486.0,
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3794106.7,   138.0,   138.0,   0.0);
     (324522.9, 3794106.7,   138.0,   138.0,   0.0);   (324559.9,
3794106.7,   138.0,   138.0,   0.0);
     (324596.8, 3794106.7,   138.0,   138.0,   0.0);   (324633.8,
3794106.7,   137.7,   137.7,   0.0);
     (324670.7, 3794106.7,   137.7,   137.7,   0.0);   (324707.7,
3794106.7,   138.0,   138.0,   0.0);
     (324744.6, 3794106.7,   139.2,   139.2,   0.0);   (324781.6,
3794106.7,   139.9,   139.9,   0.0);
     (324449.0, 3794138.6,   138.0,   138.0,   0.0);   (324486.0,
3794138.6,   138.0,   138.0,   0.0);
     (324522.9, 3794138.6,   138.0,   138.0,   0.0);   (324559.9,
3794138.6,   138.0,   138.0,   0.0);
     (324596.8, 3794138.6,   138.0,   138.0,   0.0);   (324633.8,
3794138.6,   138.6,   138.6,   0.0);
     (324670.7, 3794138.6,   138.7,   138.7,   0.0);   (324707.7,
3794138.6,   139.0,   139.0,   0.0);
     (324744.6, 3794138.6,   139.9,   139.9,   0.0);   (324781.6,
3794138.6,   140.0,   140.0,   0.0);
     (324449.0, 3794170.6,   138.0,   138.0,   0.0);   (324486.0,
3794170.6,   138.0,   138.0,   0.0);
     (324522.9, 3794170.6,   138.1,   138.1,   0.0);   (324559.9,
3794170.6,   138.8,   138.8,   0.0);
     (324596.8, 3794170.6,   138.8,   138.8,   0.0);   (324633.8,
3794170.6,   139.0,   139.0,   0.0);
     (324670.7, 3794170.6,   139.1,   139.1,   0.0);   (324707.7,
3794170.6,   139.9,   139.9,   0.0);
     (324744.6, 3794170.6,   140.0,   140.0,   0.0);   (324781.6,
3794170.6,   140.6,   140.6,   0.0);
     (324449.0, 3794202.6,   138.0,   138.0,   0.0);   (324486.0,
3794202.6,   138.0,   138.0,   0.0);

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     (324522.9, 3794202.6,   138.2,   138.2,   0.0);   (324559.9,
3794202.6,   139.0,   139.0,   0.0);
     (324596.8, 3794202.6,   139.0,   139.0,   0.0);   (324633.8,
3794202.6,   139.0,   139.0,   0.0);
     (324670.7, 3794202.6,   139.9,   139.9,   0.0);   (324707.7,
3794202.6,   140.0,   140.0,   0.0);
     (324744.6, 3794202.6,   140.0,   140.0,   0.0);   (324781.6,

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3794202.6,     140.8,     140.8,       0.0);
     ( 324449.0, 3794234.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794234.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794234.5,     138.2,     138.2,       0.0);         ( 324559.9,
3794234.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794234.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794234.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794234.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794234.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794234.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794234.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794266.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794266.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794266.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794266.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794266.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794266.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794266.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794266.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794266.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794266.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794298.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794298.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794298.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794298.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794298.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794298.5,     139.9,     139.9,       0.0);
     ( 324670.7, 3794298.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794298.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794298.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794298.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794330.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794330.4,     138.1,     138.1,       0.0);
     ( 324522.9, 3794330.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794330.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794330.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794330.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794330.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794330.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794330.4,     140.1,     140.1,       0.0);         ( 324781.6,
3794330.4,     140.8,     140.8,       0.0);
     ( 324449.0, 3794362.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794362.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794362.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794362.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794362.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794362.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794362.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794362.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794362.4,     140.6,     140.6,       0.0);         ( 324781.6,
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3794362.4,   141.0,   141.0,   0.0);
     (324449.0, 3794394.4,   138.0,   138.0,   0.0);   (324486.0,
3794394.4,   138.9,   138.9,   0.0);
     (324522.9, 3794394.4,   139.0,   139.0,   0.0);   (324559.9,
3794394.4,   139.0,   139.0,   0.0);
     (324596.8, 3794394.4,   139.0,   139.0,   0.0);   (324633.8,
3794394.4,   139.9,   139.9,   0.0);
     (324670.7, 3794394.4,   140.0,   140.0,   0.0);   (324707.7,
3794394.4,   140.0,   140.0,   0.0);
     (324744.6, 3794394.4,   140.6,   140.6,   0.0);   (324781.6,
3794394.4,   141.0,   141.0,   0.0);
     (324449.0, 3794426.4,   138.2,   138.2,   0.0);   (324486.0,
3794426.4,   139.0,   139.0,   0.0);
     (324522.9, 3794426.4,   139.0,   139.0,   0.0);   (324559.9,
3794426.4,   139.0,   139.0,   0.0);
     (324596.8, 3794426.4,   139.0,   139.0,   0.0);   (324633.8,
3794426.4,   139.9,   139.9,   0.0);
     (324670.7, 3794426.4,   140.0,   140.0,   0.0);   (324707.7,
3794426.4,   140.1,   140.1,   0.0);
     (324744.6, 3794426.4,   140.7,   140.7,   0.0);   (324781.6,
3794426.4,   141.0,   141.0,   0.0);
     (324449.0, 3794458.3,   138.7,   138.7,   0.0);   (324486.0,
3794458.3,   139.0,   139.0,   0.0);
     (324522.9, 3794458.3,   139.0,   139.0,   0.0);   (324559.9,
3794458.3,   139.0,   139.0,   0.0);
     (324596.8, 3794458.3,   139.2,   139.2,   0.0);   (324633.8,
3794458.3,   139.9,   139.9,   0.0);
     (324670.7, 3794458.3,   140.0,   140.0,   0.0);   (324707.7,
3794458.3,   140.3,   140.3,   0.0);
     (324744.6, 3794458.3,   141.0,   141.0,   0.0);   (324781.6,
3794458.3,   141.0,   141.0,   0.0);
     (324449.0, 3794490.3,   138.7,   138.7,   0.0);   (324486.0,
3794490.3,   139.0,   139.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (324522.9, 3794490.3,   139.0,   139.0,   0.0);   (324559.9,
3794490.3,   139.0,   139.0,   0.0);
     (324596.8, 3794490.3,   139.6,   139.6,   0.0);   (324633.8,
3794490.3,   140.0,   140.0,   0.0);
     (324670.7, 3794490.3,   140.0,   140.0,   0.0);   (324707.7,

```
3794490.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794490.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794490.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794522.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794522.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794522.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794522.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794554.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794554.2,     139.2,     139.2,       0.0);
     ( 324596.8, 3794554.2,     139.8,     139.8,       0.0);         ( 324633.8,
3794554.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794554.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794554.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794586.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794586.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794586.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794586.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794586.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794586.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794586.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794586.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794586.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794586.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794618.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794618.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794618.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794618.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794618.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794618.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794618.2,     140.1,     140.1,       0.0);         ( 324707.7,
3794618.2,     140.8,     140.8,       0.0);
     ( 324744.6, 3794618.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794618.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794650.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
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3794650.1,   141.0,   141.0,   0.0);
     (324744.6, 3794650.1,   141.0,   141.0,   0.0);   (324781.6,
3794650.1,   141.0,   141.0,   0.0);
     (324449.0, 3794682.1,   139.0,   139.0,   0.0);   (324486.0,
3794682.1,   139.0,   139.0,   0.0);
     (324522.9, 3794682.1,   139.1,   139.1,   0.0);   (324559.9,
3794682.1,   139.9,   139.9,   0.0);
     (324596.8, 3794682.1,   140.0,   140.0,   0.0);   (324633.8,
3794682.1,   140.0,   140.0,   0.0);
     (324670.7, 3794682.1,   140.1,   140.1,   0.0);   (324707.7,
3794682.1,   141.0,   141.0,   0.0);
     (324744.6, 3794682.1,   141.0,   141.0,   0.0);   (324781.6,
3794682.1,   141.0,   141.0,   0.0);
     (326547.4, 3795022.1,   153.0,   153.0,   0.0);   (326594.7,
3795022.1,   153.3,   153.3,   0.0);
     (326642.0, 3795022.1,   154.0,   154.0,   0.0);   (326547.4,
3795042.5,   153.0,   153.0,   0.0);
     (326594.7, 3795042.5,   153.9,   153.9,   0.0);   (326642.0,
3795042.5,   154.0,   154.0,   0.0);
     (326547.4, 3795062.9,   153.0,   153.0,   0.0);   (326594.7,
3795062.9,   154.0,   154.0,   0.0);
     (326642.0, 3795062.9,   154.0,   154.0,   0.0);   (326547.4,
3795083.3,   153.1,   153.1,   0.0);
     (326594.7, 3795083.3,   154.0,   154.0,   0.0);   (326642.0,
3795083.3,   154.0,   154.0,   0.0);
     (326547.4, 3795103.7,   153.6,   153.6,   0.0);   (326594.7,
3795103.7,   154.0,   154.0,   0.0);
     (326642.0, 3795103.7,   154.0,   154.0,   0.0);   (326547.4,
3795124.1,   153.6,   153.6,   0.0);
     (326594.7, 3795124.1,   154.0,   154.0,   0.0);   (326642.0,
3795124.1,   154.0,   154.0,   0.0);
     (326547.4, 3795144.5,   153.7,   153.7,   0.0);   (326594.7,
3795144.5,   154.0,   154.0,   0.0);
     (326642.0, 3795144.5,   154.0,   154.0,   0.0);   (326547.4,
3795164.9,   154.0,   154.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (326594.7, 3795164.9,   154.0,   154.0,   0.0);   (326642.0,
3795164.9,   154.0,   154.0,   0.0);
     (326547.4, 3795185.3,   154.0,   154.0,   0.0);   (326594.7,

3795185.3,   154.0,   154.0,   0.0);
     (326642.0, 3795185.3,   154.0,   154.0,   0.0);   (326547.4,
3795205.7,   154.0,   154.0,   0.0);
     (326594.7, 3795205.7,   154.0,   154.0,   0.0);   (326642.0,
3795205.7,   154.2,   154.2,   0.0);
     (326547.4, 3795226.1,   154.0,   154.0,   0.0);   (326594.7,
3795226.1,   154.0,   154.0,   0.0);
     (326642.0, 3795226.1,   154.8,   154.8,   0.0);   (326547.4,
3795246.5,   154.0,   154.0,   0.0);
     (326594.7, 3795246.5,   154.1,   154.1,   0.0);   (326642.0,
3795246.5,   154.9,   154.9,   0.0);
     (326690.4, 3795243.4,   155.0,   155.0,   0.0);   (326688.7,
3795223.0,   155.0,   155.0,   0.0);
     (326686.0, 3795005.8,   154.0,   154.0,   0.0);   (326686.0,
3795033.7,   154.1,   154.1,   0.0);
     (326686.0, 3795061.5,   154.3,   154.3,   0.0);   (326686.0,
3795089.4,   154.3,   154.3,   0.0);
     (326686.0, 3795117.3,   154.3,   154.3,   0.0);   (326686.0,
3795145.2,   154.3,   154.3,   0.0);
     (326686.0, 3795173.1,   154.4,   154.4,   0.0);   (326686.0,
3795201.0,   155.0,   155.0,   0.0);
     (326832.8, 3795263.3,   155.3,   155.3,   0.0);   (326849.7,
3795263.3,   155.8,   155.8,   0.0);
     (326866.5, 3795263.3,   156.0,   156.0,   0.0);   (326883.4,
3795263.3,   156.0,   156.0,   0.0);
     (326900.3, 3795263.3,   156.0,   156.0,   0.0);   (326917.1,
3795263.3,   156.0,   156.0,   0.0);
     (326934.0, 3795263.3,   156.5,   156.5,   0.0);   (326950.9,
3795263.3,   157.0,   157.0,   0.0);
     (326967.8, 3795263.3,   157.0,   157.0,   0.0);   (326984.6,
3795263.3,   157.2,   157.2,   0.0);
     (327001.5, 3795263.3,   157.8,   157.8,   0.0);   (327036.8,
3795141.3,   157.0,   157.0,   0.0);
     (327075.7, 3795141.3,   158.0,   158.0,   0.0);   (327036.8,
3795160.9,   157.0,   157.0,   0.0);
     (327075.7, 3795160.9,   158.0,   158.0,   0.0);   (327036.8,
3795180.5,   157.0,   157.0,   0.0);
     (327075.7, 3795180.5,   158.0,   158.0,   0.0);   (327036.8,
3795200.0,   157.1,   157.1,   0.0);
     (327075.7, 3795200.0,   158.0,   158.0,   0.0);   (327036.8,
3795219.6,   157.7,   157.7,   0.0);
     (327075.7, 3795219.6,   158.0,   158.0,   0.0);   (327036.8,
3795239.1,   158.0,   158.0,   0.0);
     (327075.7, 3795239.1,   158.0,   158.0,   0.0);   (327036.8,
3795258.7,   158.0,   158.0,   0.0);
     (327075.7, 3795258.7,   158.0,   158.0,   0.0);   (327036.8,
3795278.3,   158.0,   158.0,   0.0);
     (327075.7, 3795278.3,   158.0,   158.0,   0.0);   (326840.0,
3795223.2,   155.4,   155.4,   0.0);
     (326860.6, 3795224.2,   156.0,   156.0,   0.0);   (326877.3,

3795222.7,   156.0,   156.0,   0.0);
     (326929.7, 3795223.7,   156.4,   156.4,   0.0);   (326932.9,
3795200.0,   156.5,   156.5,   0.0);
     (326972.3, 3795217.0,   157.0,   157.0,   0.0);   (326970.8,
3795177.6,   157.0,   157.0,   0.0);
     (326968.2, 3795152.5,   157.0,   157.0,   0.0);   (326998.4,
3795149.8,   157.0,   157.0,   0.0);
     (326997.5, 3795176.6,   157.0,   157.0,   0.0);   (326995.6,
3795193.0,   157.0,   157.0,   0.0);
     (326996.9, 3795215.8,   157.0,   157.0,   0.0);   (326917.0,
3795152.2,   156.0,   156.0,   0.0);
     (326902.0, 3795150.5,   156.0,   156.0,   0.0);   (326884.2,
3795164.4,   156.0,   156.0,   0.0);
     (326867.3, 3795151.3,   156.0,   156.0,   0.0);   (326873.2,
3795163.4,   156.0,   156.0,   0.0);
     (326845.5, 3795152.1,   155.6,   155.6,   0.0);   (326824.9,
3795151.4,   155.0,   155.0,   0.0);
     (326826.6, 3795170.6,   155.0,   155.0,   0.0);   (326840.5,
3795180.2,   155.4,   155.4,   0.0);
     (326799.4, 3795148.0,   155.0,   155.0,   0.0);   (326776.8,
3795147.9,   155.0,   155.0,   0.0);
     (326738.0, 3795152.7,   155.0,   155.0,   0.0);   (326781.3,
3795110.8,   155.0,   155.0,   0.0);
     (326806.1, 3795109.0,   155.2,   155.2,   0.0);   (326804.5,
3795090.7,   155.2,   155.2,   0.0);
     (326781.8, 3795086.7,   155.0,   155.0,   0.0);   (326787.4,
3795061.8,   155.0,   155.0,   0.0);
     (326794.0, 3795031.2,   155.0,   155.0,   0.0);   (326977.5,
3795110.7,   157.0,   157.0,   0.0);
     (326994.0, 3795107.9,   157.0,   157.0,   0.0);   (326984.5,
3795093.8,   157.0,   157.0,   0.0);
     (326972.8, 3795082.4,   157.0,   157.0,   0.0);   (326995.4,
3795072.5,   157.0,   157.0,   0.0);
     (326993.2, 3795060.0,   157.0,   157.0,   0.0);   (326984.6,
3795040.8,   157.0,   157.0,   0.0);
     (326981.7, 3795027.2,   157.0,   157.0,   0.0);   (327041.5,
3795102.1,   157.1,   157.1,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (327065.2, 3795095.8,   157.9,   157.9,   0.0);   (327040.9,

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                              (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926. Met Version: 14134
Profile file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926.
Surface format: FREE

Profile format: FREE

Surface station no.: 23136 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	281.4	2.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.9	2.0
09	01	01	1	03	-3.3	0.067	-9.000	-9.000	-999.	42.	8.3	0.05	0.81	1.00	1.76	214.	10.0	280.9	2.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.4	2.0
09	01	01	1	05	-6.6	0.115	-9.000	-9.000	-999.	94.	21.1	0.03	0.81						

```
1.00    2.36   93.   10.0  280.4    2.0
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00   281.5   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       14:41:25
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
326345.95	3795634.03	0.00084	326414.12	3795779.67	0.00082
326435.80	3795773.48	0.00078	326458.31	3795772.83	0.00077
326424.24	3795858.77	0.00091	326400.20	3795799.84	0.00088
326400.93	3795767.87	0.00079	326424.24	3795858.77	0.00091
326611.84	3795762.99	0.00070	326611.84	3795762.99	0.00070
326610.94	3795777.66	0.00070	326605.86	3795792.89	0.00071
326623.93	3795809.00	0.00067	326627.22	3795836.58	0.00066
326640.09	3795836.58	0.00065	326654.45	3795868.68	0.00060
326665.45	3795883.13	0.00058	326588.30	3795867.62	0.00061
326640.52	3795951.95	0.00052	326658.45	3795975.58	0.00053
326759.52	3796019.28	0.00039	326763.60	3796031.85	0.00039
326775.94	3796048.05	0.00038	326774.23	3796062.19	0.00038
326801.34	3796078.38	0.00035	326809.46	3796094.93	0.00034
326736.80	3796108.96	0.00036	326835.84	3796126.62	0.00030
326836.27	3796140.13	0.00030	326800.95	3796123.31	0.00034
326762.39	3796138.51	0.00031	326766.63	3796155.18	0.00028

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         326774.14    3796169.68        0.00027                      326798.07
3796201.57        0.00023
         326808.84    3796229.51        0.00021                      326880.95
3796184.59        0.00025
         326915.56    3796260.01        0.00021                      326941.07
3796261.11        0.00020
         326958.24    3796277.25        0.00019                      326964.89
3796291.08        0.00018
         326984.47    3796322.92        0.00017                      326993.31
3796349.42        0.00016
         326993.49    3796365.88        0.00016                      327007.03
3796382.47        0.00016
         326972.07    3796390.18        0.00015                      326996.78
3796414.54        0.00015
         326693.51    3795789.66        0.00039                      326695.37
3795771.29        0.00040
         326727.00    3795761.34        0.00039                      326758.55
3795787.48        0.00031
         326761.76    3795813.54        0.00028                      326742.22
3795837.06        0.00028
         326838.64    3795823.91        0.00023                      326811.45
3795889.81        0.00022
         326823.87    3795855.97        0.00021                      326876.62
3795837.29        0.00020
         326889.30    3795888.54        0.00019                      326687.45
3795683.69        0.00071
         326829.20    3795731.31        0.00032                      326859.14
3795703.62        0.00030
         326881.10    3795705.58        0.00032                      326787.44
3795607.00        0.00077
         326780.76    3795563.55        0.00084                      326800.04
3795542.65        0.00085
         326808.89    3795540.15        0.00085                      326825.79
3795543.65        0.00085
         326856.70    3795545.31        0.00082                      326792.33
3795494.19        0.00088
         326806.68    3795493.93        0.00086                      326824.07
3795494.42        0.00085
         326853.52    3795481.71        0.00084                      326898.80
3795534.37        0.00079
         325796.15    3795215.59        0.00244                      325823.15
3795215.59        0.00240
         326012.15    3795215.59        0.00195                      326120.15
3795215.59        0.00157
         326147.15    3795215.59        0.00153                      325796.15
3795254.59        0.00287
         325823.15    3795254.59        0.00283                      325850.15
3795254.59        0.00277
1 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
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*** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
INCLUDING SOURCE(S):   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325877.15	3795254.59	0.00270	325904.15	3795254.59	0.00262
325931.15	3795254.59	0.00250	325958.15	3795254.59	0.00243
325985.15	3795254.59	0.00237	326012.15	3795254.59	0.00207
326039.15	3795254.59	0.00199	326066.15	3795254.59	0.00194
326093.15	3795254.59	0.00189	326120.15	3795254.59	0.00184
326147.15	3795254.59	0.00180	325796.15	3795293.59	0.00334
325823.15	3795293.59	0.00326	325850.15	3795293.59	0.00324
325877.15	3795293.59	0.00322	325904.15	3795293.59	0.00315
325931.15	3795293.59	0.00299	325958.15	3795293.59	0.00292
325985.15	3795293.59	0.00249	326012.15	3795293.59	0.00238
326039.15	3795293.59	0.00232	326066.15	3795293.59	0.00218
326093.15	3795293.59	0.00207	326120.15	3795293.59	0.00203
326147.15	3795293.59	0.00198	325796.15	3795332.59	0.00339
325823.15	3795332.59	0.00334	325850.15	3795332.59	0.00343
325877.15	3795332.59	0.00345	325904.15	3795332.59	0.00381

```
         325931.15    3795332.59        0.00366                    325958.15
3795332.59        0.00315
         325985.15    3795332.59        0.00281                    326012.15
3795332.59        0.00261
         326039.15    3795332.59        0.00253                    326066.15
3795332.59        0.00248
         326093.15    3795332.59        0.00243                    326120.15
3795332.59        0.00242
         326147.15    3795332.59        0.00237                    325847.44
3795004.89        0.00110
         325872.44    3795004.89        0.00107                    325897.44
3795004.89        0.00105
         325922.44    3795004.89        0.00103                    325947.44
3795004.89        0.00101
         325972.44    3795004.89        0.00098                    325997.44
3795004.89        0.00096
         326022.44    3795004.89        0.00094                    326047.44
3795004.89        0.00092
         326072.44    3795004.89        0.00091                    326097.44
3795004.89        0.00089
         326122.44    3795004.89        0.00088                    326147.44
3795004.89        0.00082
         325847.44    3795046.89        0.00126                    325872.44
3795046.89        0.00123
         325897.44    3795046.89        0.00120                    325922.44
3795046.89        0.00118
         325947.44    3795046.89        0.00115                    325972.44
3795046.89        0.00112
         325997.44    3795046.89        0.00108                    326022.44
3795046.89        0.00106
         326047.44    3795046.89        0.00104                    326072.44
3795046.89        0.00102
         326097.44    3795046.89        0.00100                    326122.44
3795046.89        0.00093
         326147.44    3795046.89        0.00089                    325847.44
3795088.89        0.00145
         325872.44    3795088.89        0.00142                    325897.44
3795088.89        0.00139
         325922.44    3795088.89        0.00135                    325947.44
3795088.89        0.00131
         325972.44    3795088.89        0.00127                    325997.44
3795088.89        0.00124
         326022.44    3795088.89        0.00121                    326047.44
3795088.89        0.00118
         326072.44    3795088.89        0.00116                    326097.44
3795088.89        0.00107
         326122.44    3795088.89        0.00103                    326147.44
3795088.89        0.00100
         325847.44    3795130.89        0.00169                    325872.44
3795130.89        0.00165
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         326047.44    3795214.89        0.00168                    326072.44
3795214.89        0.00164
         326097.44    3795214.89        0.00160                    326147.44
3795214.89        0.00152
         326096.58    3795181.52        0.00141                    326118.63
3795182.57        0.00139
         326144.35    3795184.14        0.00136                    325849.74
3794829.62        0.00067
         325892.61    3794829.62        0.00065                    325935.48
3794829.62        0.00063
         325978.35    3794829.62        0.00062                    326021.22
3794829.62        0.00061
         326064.09    3794829.62        0.00059                    325849.74
3794867.55        0.00074
         325892.61    3794867.55        0.00071                    325935.48
3794867.55        0.00069
         325978.35    3794867.55        0.00068                    326021.22
3794867.55        0.00066
         326064.09    3794867.55        0.00065                    325849.74
3794905.48        0.00082
         325892.61    3794905.48        0.00079                    325935.48
3794905.48        0.00077
         325978.35    3794905.48        0.00075                    326021.22
3794905.48        0.00073
         326064.09    3794905.48        0.00070                    325849.74
3794943.41        0.00092
         325892.61    3794943.41        0.00088                    325935.48
3794943.41        0.00085
         325978.35    3794943.41        0.00083                    326021.22
3794943.41        0.00080
         326064.09    3794943.41        0.00077                    325849.74
3794981.34        0.00102
         325892.61    3794981.34        0.00098                    325935.48
3794981.34        0.00095
         325978.35    3794981.34        0.00092                    326021.22
3794981.34        0.00088
         326064.09    3794981.34        0.00085                    325855.31
3794726.62        0.00052
         325902.64    3794726.62        0.00051                    325855.31
3794745.52        0.00054
         325902.64    3794745.52        0.00053                    325855.31
3794764.42        0.00057
         325902.64    3794764.42        0.00055                    325855.31
3794783.32        0.00059
         325902.64    3794783.32        0.00058                    325855.31
3794802.22        0.00062
         325902.64    3794802.22        0.00061                    325855.31
3794821.12        0.00065
         325902.64    3794821.12        0.00064                    326402.77
3795249.33        0.00123
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5
YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_2.5 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325409.93	3795994.97	0.00037	325416.60	3796058.09	0.00031
325409.65	3796164.95	0.00014	325322.71	3796083.91	0.00019
325297.93	3796111.07	0.00017	325246.73	3796076.15	0.00020
325280.01	3796260.66	0.00004	325237.05	3796200.45	0.00006
325163.03	3796071.11	0.00017	325215.74	3795991.41	0.00030
325208.29	3795926.88	0.00044	325249.48	3795829.20	0.00068
325171.49	3795759.19	0.00121	325129.24	3795756.40	0.00132
325154.75	3795886.20	0.00056	325068.55	3795885.45	0.00039
325047.86	3795938.00	0.00026	325045.84	3795982.69	0.00022
325071.95	3796106.74	0.00013	325060.64	3796290.38	0.00004
324903.71	3796379.80	0.00002	324787.84	3796510.42	0.00002
324916.48	3796618.27	0.00002	326492.96	3796356.32	0.00026
326552.73	3796900.01	0.00006	326599.30	3796893.60	0.00006

```
         326617.42    3796889.51        0.00006                    326639.41
3796881.91        0.00007
         326663.73    3796864.08        0.00007                    326679.47
3796885.20        0.00007
         326697.81    3796898.31        0.00007                    326712.34
3796916.60        0.00006
         326726.62    3796931.14        0.00006                    326742.23
3796948.02        0.00006
         326756.58    3796965.73        0.00006                    326772.07
3796973.30        0.00006
         326785.22    3796890.50        0.00007                    326800.10
3797003.95        0.00006
         326817.96    3797014.86        0.00006                    326813.74
3796843.93        0.00008
         326833.92    3796853.59        0.00008                    326848.61
3796873.43        0.00007
         326864.19    3796885.12        0.00007                    326877.92
3796901.20        0.00007
         326893.85    3796917.11        0.00007                    326904.49
3796938.77        0.00006
         326907.64    3796966.22        0.00006                    326914.45
3796991.73        0.00006
         326921.92    3797038.42        0.00005                    326596.56
3797264.10        0.00003
         326829.98    3795735.43        0.00031                    326866.53
3795706.88        0.00030
         326831.50    3795646.57        0.00073                    326872.90
3795644.95        0.00070
         326898.91    3795644.66        0.00068                    326924.66
3795650.14        0.00063
         326949.68    3795646.43        0.00063                    326975.59
3795638.84        0.00057
         326917.88    3795602.78        0.00073                    326918.63
3795584.13        0.00077
         326921.61    3795563.48        0.00077                    326917.18
3795537.15        0.00077
         326934.99    3795592.17        0.00073                    326951.04
3795599.47        0.00069
         326950.26    3795555.95        0.00075                    326951.59
3795535.07        0.00074
         326961.83    3795537.57        0.00074                    326982.25
3795538.33        0.00072
         326992.41    3795539.09        0.00071                    327008.98
3795535.58        0.00070
         326987.68    3795580.97        0.00068                    327024.81
3795588.42        0.00062
         326925.07    3795485.95        0.00076                    326937.83
3795488.27        0.00075
         326956.45    3795489.28        0.00074                    326970.89
3795491.03        0.00073
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 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                   INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                               ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         325274.27    3794432.52        0.00042                    325049.27
3794455.72        0.00051
         325086.77    3794455.72        0.00050                    325124.27
3794455.72        0.00049
         325161.77    3794455.72        0.00048                    325199.27
3794455.72        0.00047
         325236.77    3794455.72        0.00045                    325274.27
3794455.72        0.00044
         325049.27    3794478.92        0.00054                    325086.77
3794478.92        0.00053
         325124.27    3794478.92        0.00051                    325161.77
3794478.92        0.00050
         325199.27    3794478.92        0.00049                    325236.77
3794478.92        0.00047
         325274.27    3794478.92        0.00046                    325049.27
3794502.12        0.00056
         325086.77    3794502.12        0.00055                    325124.27
3794502.12        0.00054
         325161.77    3794502.12        0.00052                    325199.27
3794502.12        0.00051
         325236.77    3794502.12        0.00050                    325274.27
3794502.12        0.00048
         325049.27    3794525.32        0.00059                    325086.77
3794525.32        0.00058
         325124.27    3794525.32        0.00056                    325161.77
3794525.32        0.00055
         325199.27    3794525.32        0.00053                    325236.77
3794525.32        0.00052
         325274.27    3794525.32        0.00050                    325049.27
3794548.52        0.00061
         325086.77    3794548.52        0.00060                    325124.27
3794548.52        0.00059
         325161.77    3794548.52        0.00057                    325199.27
3794548.52        0.00056
         325236.77    3794548.52        0.00054                    325274.27
3794548.52        0.00053
         325049.27    3794571.72        0.00064                    325086.77
3794571.72        0.00063
         325124.27    3794571.72        0.00061                    325161.77
3794571.72        0.00060
         325199.27    3794571.72        0.00058                    325236.77
3794571.72        0.00057
         325274.27    3794571.72        0.00055                    325049.27
3794594.92        0.00067
         325086.77    3794594.92        0.00066                    325124.27
3794594.92        0.00064
         325161.77    3794594.92        0.00063                    325199.27
3794594.92        0.00061
         325236.77    3794594.92        0.00059                    325274.27
3794594.92        0.00058
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                               ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         324871.62    3794298.63        0.00044                    324910.53
3794298.63        0.00043
         324949.44    3794298.63        0.00042                    324988.35
3794298.63        0.00041
         324871.62    3794320.43        0.00045                    324910.53
3794320.43        0.00045
         324949.44    3794320.43        0.00043                    324988.35
3794320.43        0.00042
         324871.62    3794342.23        0.00047                    324910.53
3794342.23        0.00046
         324949.44    3794342.23        0.00045                    324988.35
3794342.23        0.00044
         324871.62    3794364.03        0.00049                    324910.53
3794364.03        0.00048
         324949.44    3794364.03        0.00047                    324988.35
3794364.03        0.00045
         324871.62    3794385.83        0.00051                    324910.53
3794385.83        0.00050
         324949.44    3794385.83        0.00048                    324988.35
3794385.83        0.00047
         324871.62    3794407.63        0.00053                    324910.53
3794407.63        0.00052
         324949.44    3794407.63        0.00050                    324988.35
3794407.63        0.00049
         324871.62    3794429.43        0.00055                    324910.53
3794429.43        0.00054
         324949.44    3794429.43        0.00052                    324988.35
3794429.43        0.00051
         324871.62    3794451.23        0.00057                    324910.53
3794451.23        0.00056
         324949.44    3794451.23        0.00054                    324988.35
3794451.23        0.00053
         324871.62    3794473.03        0.00059                    324910.53
3794473.03        0.00058
         324949.44    3794473.03        0.00057                    324988.35
3794473.03        0.00056
         324871.62    3794494.83        0.00062                    324910.53
3794494.83        0.00060
         324949.44    3794494.83        0.00059                    324988.35
3794494.83        0.00058
         324871.62    3794516.63        0.00064                    324910.53
3794516.63        0.00063
         324949.44    3794516.63        0.00061                    324988.35
3794516.63        0.00060
         324871.62    3794538.43        0.00067                    324910.53
3794538.43        0.00065
         324949.44    3794538.43        0.00064                    324988.35
3794538.43        0.00063
         324871.62    3794560.23        0.00070                    324910.53
3794560.23        0.00068
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         324949.44    3794560.23        0.00067                       324988.35
3794560.23        0.00065
         324871.62    3794582.03        0.00073                       324910.53
3794582.03        0.00071
         324949.44    3794582.03        0.00070                       324988.35
3794582.03        0.00068
         324871.62    3794603.83        0.00076                       324910.53
3794603.83        0.00074
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:41:25

                                  PAGE  22
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
         324949.44    3794603.83        0.00073                       324988.35
3794603.83        0.00071
         324871.62    3794625.63        0.00079                       324910.53
3794625.63        0.00077
         324949.44    3794625.63        0.00076                       324988.35
3794625.63        0.00074
         324871.62    3794647.43        0.00082                       324910.53
3794647.43        0.00081
         324949.44    3794647.43        0.00080                       324988.35
3794647.43        0.00078
         324871.62    3794669.23        0.00086                       324910.53
3794669.23        0.00084
         324949.44    3794669.23        0.00084                       324988.35
3794669.23        0.00081
         324871.62    3794691.03        0.00090                       324910.53
3794691.03        0.00088
         324949.44    3794691.03        0.00087                       324988.35
3794691.03        0.00085
         324449.04    3794074.69        0.00039                       324485.99
3794074.69        0.00038
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         324522.94    3794074.69        0.00037                    324559.89
3794074.69        0.00036
         324596.84    3794074.69        0.00036                    324633.79
3794074.69        0.00034
         324670.74    3794074.69        0.00034                    324707.69
3794074.69        0.00033
         324744.64    3794074.69        0.00033                    324781.59
3794074.69        0.00032
         324449.04    3794106.66        0.00040                    324485.99
3794106.66        0.00040
         324522.94    3794106.66        0.00039                    324559.89
3794106.66        0.00038
         324596.84    3794106.66        0.00037                    324633.79
3794106.66        0.00036
         324670.74    3794106.66        0.00035                    324707.69
3794106.66        0.00035
         324744.64    3794106.66        0.00035                    324781.59
3794106.66        0.00034
         324449.04    3794138.63        0.00042                    324485.99
3794138.63        0.00041
         324522.94    3794138.63        0.00041                    324559.89
3794138.63        0.00040
         324596.84    3794138.63        0.00039                    324633.79
3794138.63        0.00039
         324670.74    3794138.63        0.00038                    324707.69
3794138.63        0.00037
         324744.64    3794138.63        0.00037                    324781.59
3794138.63        0.00036
         324449.04    3794170.60        0.00044                    324485.99
3794170.60        0.00043
         324522.94    3794170.60        0.00043                    324559.89
3794170.60        0.00042
         324596.84    3794170.60        0.00041                    324633.79
3794170.60        0.00041
         324670.74    3794170.60        0.00040                    324707.69
3794170.60        0.00039
         324744.64    3794170.60        0.00038                    324781.59
3794170.60        0.00038
         324449.04    3794202.57        0.00046                    324485.99
3794202.57        0.00045
         324522.94    3794202.57        0.00045                    324559.89
3794202.57        0.00044
         324596.84    3794202.57        0.00043                    324633.79
3794202.57        0.00042
         324670.74    3794202.57        0.00042                    324707.69
3794202.57        0.00041
         324744.64    3794202.57        0.00040                    324781.59
3794202.57        0.00040
         324449.04    3794234.54        0.00048                    324485.99
3794234.54        0.00047
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*** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         324449.04    3794330.45        0.00055                    324485.99
3794330.45        0.00055
         324522.94    3794330.45        0.00055                    324559.89
3794330.45        0.00054
         324596.84    3794330.45        0.00053                    324633.79
3794330.45        0.00052
         324670.74    3794330.45        0.00051                    324707.69
3794330.45        0.00050
         324744.64    3794330.45        0.00049                    324781.59
3794330.45        0.00049
         324449.04    3794362.42        0.00058                    324485.99
3794362.42        0.00058
         324522.94    3794362.42        0.00057                    324559.89
3794362.42        0.00056
         324596.84    3794362.42        0.00055                    324633.79
3794362.42        0.00055
         324670.74    3794362.42        0.00054                    324707.69
3794362.42        0.00053
         324744.64    3794362.42        0.00052                    324781.59
3794362.42        0.00051
         324449.04    3794394.39        0.00061                    324485.99
3794394.39        0.00061
         324522.94    3794394.39        0.00060                    324559.89
3794394.39        0.00059
         324596.84    3794394.39        0.00058                    324633.79
3794394.39        0.00058
         324670.74    3794394.39        0.00057                    324707.69
3794394.39        0.00056
         324744.64    3794394.39        0.00055                    324781.59
3794394.39        0.00054
         324449.04    3794426.36        0.00064                    324485.99
3794426.36        0.00064
         324522.94    3794426.36        0.00063                    324559.89
3794426.36        0.00062
         324596.84    3794426.36        0.00061                    324633.79
3794426.36        0.00061
         324670.74    3794426.36        0.00060                    324707.69
3794426.36        0.00059
         324744.64    3794426.36        0.00058                    324781.59
3794426.36        0.00057
         324449.04    3794458.33        0.00068                    324485.99
3794458.33        0.00067
         324522.94    3794458.33        0.00066                    324559.89
3794458.33        0.00065
         324596.84    3794458.33        0.00065                    324633.79
3794458.33        0.00064
         324670.74    3794458.33        0.00063                    324707.69
3794458.33        0.00062
         324744.64    3794458.33        0.00062                    324781.59
3794458.33        0.00060
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         324744.64    3794554.24        0.00073                    324781.59
3794554.24        0.00072
         324449.04    3794586.21        0.00083                    324485.99
3794586.21        0.00082
         324522.94    3794586.21        0.00081                    324559.89
3794586.21        0.00081
         324596.84    3794586.21        0.00081                    324633.79
3794586.21        0.00080
         324670.74    3794586.21        0.00079                    324707.69
3794586.21        0.00078
         324744.64    3794586.21        0.00077                    324781.59
3794586.21        0.00076
         324449.04    3794618.18        0.00087                    324485.99
3794618.18        0.00086
         324522.94    3794618.18        0.00086                    324559.89
3794618.18        0.00085
         324596.84    3794618.18        0.00085                    324633.79
3794618.18        0.00084
         324670.74    3794618.18        0.00083                    324707.69
3794618.18        0.00083
         324744.64    3794618.18        0.00082                    324781.59
3794618.18        0.00080
         324449.04    3794650.15        0.00092                    324485.99
3794650.15        0.00091
         324522.94    3794650.15        0.00090                    324559.89
3794650.15        0.00090
         324596.84    3794650.15        0.00090                    324633.79
3794650.15        0.00089
         324670.74    3794650.15        0.00088                    324707.69
3794650.15        0.00088
         324744.64    3794650.15        0.00087                    324781.59
3794650.15        0.00086
         324449.04    3794682.12        0.00096                    324485.99
3794682.12        0.00096
         324522.94    3794682.12        0.00096                    324559.89
3794682.12        0.00096
         324596.84    3794682.12        0.00096                    324633.79
3794682.12        0.00095
         324670.74    3794682.12        0.00094                    324707.69
3794682.12        0.00094
         324744.64    3794682.12        0.00092                    324781.59
3794682.12        0.00091
         326547.36    3795022.06        0.00069                    326594.67
3795022.06        0.00067
         326641.98    3795022.06        0.00065                    326547.36
3795042.46        0.00072
         326594.67    3795042.46        0.00068                    326641.98
3795042.46        0.00068
         326547.36    3795062.86        0.00075                    326594.67
3795062.86        0.00071
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         326641.98    3795062.86        0.00071                        326547.36
3795083.26        0.00078
         326594.67    3795083.26        0.00074                        326641.98
3795083.26        0.00073
         326547.36    3795103.66        0.00079                        326594.67
3795103.66        0.00077
         326641.98    3795103.66        0.00077                        326547.36
3795124.06        0.00083
         326594.67    3795124.06        0.00081                        326641.98
3795124.06        0.00080
         326547.36    3795144.46        0.00086                        326594.67
3795144.46        0.00084
         326641.98    3795144.46        0.00083                        326547.36
3795164.86        0.00089
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        14:41:25

                                   PAGE  25
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         326594.67    3795164.86        0.00088                        326641.98
3795164.86        0.00087
         326547.36    3795185.26        0.00093                        326594.67
3795185.26        0.00092
         326641.98    3795185.26        0.00091                        326547.36
3795205.66        0.00098
         326594.67    3795205.66        0.00097                        326641.98
3795205.66        0.00094
         326547.36    3795226.06        0.00103                        326594.67
3795226.06        0.00101
         326641.98    3795226.06        0.00095                        326547.36
3795246.46        0.00108
         326594.67    3795246.46        0.00105                        326641.98
3795246.46        0.00098
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         326690.43    3795243.37        0.00095                    326688.67
3795223.05        0.00091
         326686.02    3795005.77        0.00063                    326686.02
3795033.66        0.00066
         326686.02    3795061.55        0.00069                    326686.02
3795089.44        0.00073
         326686.02    3795117.33        0.00077                    326686.02
3795145.22        0.00081
         326686.02    3795173.11        0.00085                    326686.02
3795201.00        0.00088
         326832.80    3795263.26        0.00086                    326849.67
3795263.26        0.00083
         326866.54    3795263.26        0.00081                    326883.41
3795263.26        0.00080
         326900.28    3795263.26        0.00078                    326917.15
3795263.26        0.00077
         326934.02    3795263.26        0.00074                    326950.89
3795263.26        0.00072
         326967.76    3795263.26        0.00071                    326984.63
3795263.26        0.00069
         327001.50    3795263.26        0.00067                    327036.85
3795141.35        0.00061
         327075.72    3795141.35        0.00057                    327036.85
3795160.91        0.00062
         327075.72    3795160.91        0.00058                    327036.85
3795180.47        0.00063
         327075.72    3795180.47        0.00059                    327036.85
3795200.03        0.00064
         327075.72    3795200.03        0.00059                    327036.85
3795219.59        0.00063
         327075.72    3795219.59        0.00060                    327036.85
3795239.15        0.00063
         327075.72    3795239.15        0.00061                    327036.85
3795258.71        0.00064
         327075.72    3795258.71        0.00062                    327036.85
3795278.27        0.00065
         327075.72    3795278.27        0.00063                    326840.04
3795223.24        0.00081
         326860.58    3795224.16        0.00078                    326877.30
3795222.74        0.00077
         326929.68    3795223.69        0.00072                    326932.86
3795200.00        0.00070
         326972.32    3795217.03        0.00068                    326970.84
3795177.58        0.00065
         326968.20    3795152.46        0.00064                    326998.43
3795149.77        0.00062
         326997.48    3795176.61        0.00064                    326995.60
3795193.01        0.00065
         326996.92    3795215.78        0.00067                    326916.97
3795152.19        0.00069
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*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5
YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_2.5 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
326794.01	3795031.22	0.00062	326977.50	3795110.69	0.00060
326994.05	3795107.87	0.00060	326984.52	3795093.80	0.00059
326972.85	3795082.37	0.00058	326995.41	3795072.53	0.00057
326993.23	3795060.01	0.00056	326984.60	3795040.80	0.00055
326981.66	3795027.22	0.00054	327041.48	3795102.15	0.00058
327065.19	3795095.75	0.00055	327040.88	3795076.27	0.00056

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         327061.24    3795058.32        0.00053                        327037.82
3795061.09        0.00055
         327035.65    3795040.58        0.00054                        327058.94
3795038.41        0.00052
         327051.53    3795017.85        0.00051                        327033.29
3795021.71        0.00053
         326826.26    3795110.80        0.00068                        326843.29
3795110.80        0.00067
         326860.32    3795110.80        0.00067                        326877.35
3795110.80        0.00066
         326894.38    3795110.80        0.00066                        326911.41
3795110.80        0.00065
         326928.44    3795110.80        0.00064                        326945.47
3795110.80        0.00062
         326819.99    3795048.86        0.00062                        326838.19
3795048.86        0.00061
         326856.39    3795048.86        0.00060                        326874.59
3795048.86        0.00060
         326892.79    3795048.86        0.00060                        326910.99
3795048.86        0.00060
         326929.19    3795048.86        0.00058                        326947.39
3795048.86        0.00056
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:41:25

                                  PAGE  27
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
        326345.95   3795634.03        0.00975  (09052906)                326414.12
 3795779.67        0.00927  (09052906)
        326435.80   3795773.48        0.00939  (09052906)                326458.31
 3795772.83        0.00934  (09052906)
        326424.24   3795858.77        0.01025  (11012717)                326400.20
 3795799.84        0.00909  (11012717)
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       326400.93   3795767.87        0.00881  (09052906)                326424.24
3795858.77        0.01025  (11012717)
       326611.84   3795762.99        0.01001  (13052906)                326611.84
3795762.99        0.01001  (13052906)
       326610.94   3795777.66        0.00987  (13052906)                326605.86
3795792.89        0.00989  (13052906)
       326623.93   3795809.00        0.00961  (13052906)                326627.22
3795836.58        0.00947  (09042304)
       326640.09   3795836.58        0.00933  (09042304)                326654.45
3795868.68        0.00885  (11061701)
       326665.45   3795883.13        0.00871  (13070102)                326588.30
3795867.62        0.00809  (11012717)
       326640.52   3795951.95        0.00850  (11012717)                326658.45
3795975.58        0.00875  (11012717)
       326759.52   3796019.28        0.00788  (11012717)                326763.60
3796031.85        0.00797  (11012717)
       326775.94   3796048.05        0.00800  (11012717)                326774.23
3796062.19        0.00815  (11012717)
       326801.34   3796078.38        0.00802  (11012717)                326809.46
3796094.93        0.00802  (11012717)
       326736.80   3796108.96        0.00829  (11012717)                326835.84
3796126.62        0.00781  (11012717)
       326836.27   3796140.13        0.00785  (11012717)                326800.95
3796123.31        0.00824  (11012717)
       326762.39   3796138.51        0.00791  (11012717)                326766.63
3796155.18        0.00754  (11012717)
       326774.14   3796169.68        0.00735  (11012717)                326798.07
3796201.57        0.00694  (11012717)
       326808.84   3796229.51        0.00642  (11012717)                326880.95
3796184.59        0.00736  (11012717)
       326915.56   3796260.01        0.00687  (11012717)                326941.07
3796261.11        0.00674  (11012717)
       326958.24   3796277.25        0.00660  (11012717)                326964.89
3796291.08        0.00642  (11012717)
       326984.47   3796322.92        0.00615  (11012717)                326993.31
3796349.42        0.00588  (11012717)
       326993.49   3796365.88        0.00569  (11012717)                327007.03
3796382.47        0.00553  (11012717)
       326972.07   3796390.18        0.00512  (11012717)                326996.78
3796414.54        0.00495  (11012717)
       326693.51   3795789.66        0.00675  (09052906)                326695.37
3795771.29        0.00686  (09052906)
       326727.00   3795761.34        0.00684  (09052906)                326758.55
3795787.48        0.00607  (09052906)
       326761.76   3795813.54        0.00563  (09052906)                326742.22
3795837.06        0.00562  (09052906)
       326838.64   3795823.91        0.00515  (09052906)                326811.45
3795889.81        0.00458  (09052906)
       326823.87   3795855.97        0.00472  (09052906)                326876.62
3795837.29        0.00474  (09052906)
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 3795683.69        0.01155  (13052906)
        326829.20   3795731.31        0.00618  (09052906)                326859.14
 3795703.62        0.00599  (09053006)
        326881.10   3795705.58        0.00620  (09053006)                326787.44
 3795607.00        0.01511  (09053101)
        326780.76   3795563.55        0.01742  (13030503)                326800.04
 3795542.65        0.01920  (13030503)
        326808.89   3795540.15        0.01960  (13030503)                326825.79
 3795543.65        0.01977  (13030503)
        326856.70   3795545.31        0.01976  (12050224)                326792.33
 3795494.19        0.02197  (12012024)
        326806.68   3795493.93        0.02194  (12012024)                326824.07
 3795494.42        0.02183  (12012024)
        326853.52   3795481.71        0.02306  (09012107)                326898.80
 3795534.37        0.02006  (12050224)
        325796.15   3795215.59        0.03526  (12123121)                325823.15
 3795215.59        0.03560  (10013003)
        326012.15   3795215.59        0.03414  (11011303)                326120.15
 3795215.59        0.02956  (11012807)
        326147.15   3795215.59        0.02987  (11012807)                325796.15
 3795254.59        0.03663  (09122324)
        325823.15   3795254.59        0.03706  (12123121)                325850.15
 3795254.59        0.03695  (10013003)
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        14:41:25

                                   PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
        325877.15   3795254.59        0.03670  (13010624)                325904.15
 3795254.59        0.03622  (11121006)
        325931.15   3795254.59        0.03492  (11120907)                325958.15
 3795254.59        0.03501  (13122706)
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       325985.15   3795254.59        0.03529  (11011303)              326012.15
3795254.59        0.03008  (11121424)
       326039.15   3795254.59        0.02957  (11121424)              326066.15
3795254.59        0.02966  (11011602)
       326093.15   3795254.59        0.03008  (11012807)              326120.15
3795254.59        0.03040  (13011505)
       326147.15   3795254.59        0.03069  (13011505)              325796.15
3795293.59        0.03664  (12122922)
       325823.15   3795293.59        0.03638  (09021407)              325850.15
3795293.59        0.03709  (12122924)
       325877.15   3795293.59        0.03796  (10013003)              325904.15
3795293.59        0.03771  (13010624)
       325931.15   3795293.59        0.03607  (13122706)              325958.15
3795293.59        0.03638  (11011303)
       325985.15   3795293.59        0.02962  (11121424)              326012.15
3795293.59        0.02887  (11011602)
       326039.15   3795293.59        0.02896  (11011602)              326066.15
3795293.59        0.02762  (11012807)
       326093.15   3795293.59        0.02677  (13011505)              326120.15
3795293.59        0.02710  (09010718)
       326147.15   3795293.59        0.02746  (13122406)              325796.15
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       325823.15   3795332.59        0.02850  (11121104)              325850.15
3795332.59        0.03054  (09021407)
       325877.15   3795332.59        0.03158  (09122324)              325904.15
3795332.59        0.03786  (09122305)
       325931.15   3795332.59        0.03653  (11020101)              325958.15
3795332.59        0.03028  (11121424)
       325985.15   3795332.59        0.02659  (11011602)              326012.15
3795332.59        0.02537  (11123007)
       326039.15   3795332.59        0.02520  (11123007)              326066.15
3795332.59        0.02535  (13120705)
       326093.15   3795332.59        0.02572  (13120705)              326120.15
3795332.59        0.02676  (13122406)
       326147.15   3795332.59        0.02715  (10020123)              325847.44
3795004.89        0.02912  (09121401)
       325872.44   3795004.89        0.02904  (13122103)              325897.44
3795004.89        0.02896  (13122407)
       325922.44   3795004.89        0.02880  (13122407)              325947.44
3795004.89        0.02878  (09022002)
       325972.44   3795004.89        0.02867  (10122722)              325997.44
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       326022.44   3795004.89        0.02830  (12122704)              326047.44
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3795004.89        0.02865  (13122706)
       326122.44   3795004.89        0.02875  (13122706)              326147.44
3795004.89        0.02674  (11011303)
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3795046.89        0.03006  (09121401)
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 3795046.89        0.02953  (10122722)
       325997.44   3795046.89        0.02915  (09120405)               326022.44
 3795046.89        0.02927  (12122704)
       326047.44   3795046.89        0.02940  (11120907)               326072.44
 3795046.89        0.02954  (13122706)
       326097.44   3795046.89        0.02965  (13122706)               326122.44
 3795046.89        0.02713  (11011303)
       326147.44   3795046.89        0.02628  (11121424)               325847.44
 3795088.89        0.03128  (11122506)
       325872.44   3795088.89        0.03118  (10123020)               325897.44
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       325922.44   3795088.89        0.03097  (13122103)               325947.44
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 3795088.89        0.03019  (12122704)
       326022.44   3795088.89        0.03034  (11120907)               326047.44
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       326072.44   3795088.89        0.03061  (11011303)               326097.44
 3795088.89        0.02828  (11011303)
       326122.44   3795088.89        0.02757  (11121424)               326147.44
 3795088.89        0.02711  (11121424)
       325847.44   3795130.89        0.03253  (11121006)               325872.44
 3795130.89        0.03239  (11122506)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:41:25

                                  PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 3795130.89        0.03216  (09121401)
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       325997.44   3795130.89        0.03134  (11120907)               326022.44
3795130.89        0.03151  (13122706)
       326047.44   3795130.89        0.03165  (11011303)               326072.44
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3795130.89        0.02777  (11121424)
       326147.44   3795130.89        0.02789  (11121424)               325847.44
3795172.89        0.03386  (11121006)
       325872.44   3795172.89        0.03374  (11121006)               325897.44
3795172.89        0.03359  (11122506)
       325922.44   3795172.89        0.03346  (10123020)               325947.44
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       325972.44   3795172.89        0.03242  (11120907)               325997.44
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       326072.44   3795172.89        0.02865  (11121424)               325847.44
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       325872.44   3795214.89        0.03519  (11121006)               325897.44
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3795214.89        0.03412  (11120907)
       325972.44   3795214.89        0.03378  (13122706)               325997.44
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3795214.89        0.02907  (11121424)
       326097.44   3795214.89        0.02922  (11011602)               326147.44
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       326096.58   3795181.52        0.02860  (11121424)               326118.63
3795182.57        0.02873  (11011602)
       326144.35   3795184.14        0.02909  (11012807)               325849.74
3794829.62        0.02598  (13122407)
       325892.61   3794829.62        0.02595  (13013002)               325935.48
3794829.62        0.02551  (11012303)
       325978.35   3794829.62        0.02542  (10120705)               326021.22
3794829.62        0.02552  (09022002)
       326064.09   3794829.62        0.02536  (10122722)               325849.74
3794867.55        0.02675  (13122407)
       325892.61   3794867.55        0.02623  (13013002)               325935.48
3794867.55        0.02606  (13013002)
       325978.35   3794867.55        0.02608  (09022002)               326021.22
3794867.55        0.02617  (09022002)
       326064.09   3794867.55        0.02603  (10122722)               325849.74
3794905.48        0.02747  (13122407)
       325892.61   3794905.48        0.02687  (13013002)               325935.48
3794905.48        0.02676  (13013002)
       325978.35   3794905.48        0.02679  (09022002)               326021.22
3794905.48        0.02685  (10122722)
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 3794943.41        0.02749  (13013002)
        325978.35   3794943.41        0.02753  (09022002)                326021.22
 3794943.41        0.02764  (10122722)
        326064.09   3794943.41        0.02717  (12122704)                325849.74
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        325892.61   3794981.34        0.02844  (13122407)                325935.48
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        325978.35   3794981.34        0.02835  (10122722)                326021.22
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        325902.64   3794726.62        0.02426  (11012303)                325855.31
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 3794764.42        0.02490  (13013002)
        325902.64   3794764.42        0.02483  (13013002)                325855.31
 3794783.32        0.02519  (13013002)
        325902.64   3794783.32        0.02515  (13013002)                325855.31
 3794802.22        0.02550  (13013002)
        325902.64   3794802.22        0.02547  (13013002)                325855.31
 3794821.12        0.02581  (13013002)
        325902.64   3794821.12        0.02576  (13013002)                326402.77
 3795249.33        0.02756  (12122705)
        325380.55   3795776.17        0.01235  (09120508)                325415.88
 3795858.35        0.00799  (09120508)
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        14:41:25

                                   PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
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       325297.93   3796111.07        0.00677  (09012317)               325246.73
3796076.15        0.00687  (09012317)
       325280.01   3796260.66        0.00428  (13012417)               325237.05
3796200.45        0.00388  (09012317)
       325163.03   3796071.11        0.00640  (09012317)               325215.74
3795991.41        0.00671  (09012317)
       325208.29   3795926.88        0.00680  (09012317)               325249.48
3795829.20        0.00831  (09120508)
       325171.49   3795759.19        0.01123  (12121219)               325129.24
3795756.40        0.01386  (12041020)
       325154.75   3795886.20        0.00779  (12032407)               325068.55
3795885.45        0.00644  (12032407)
       325047.86   3795938.00        0.00566  (09012317)               325045.84
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       325071.95   3796106.74        0.00605  (09012317)               325060.64
3796290.38        0.00379  (09012317)
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3796510.42        0.00268  (12021301)
       324916.48   3796618.27        0.00313  (13012417)               326492.96
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       326552.73   3796900.01        0.00194  (13040207)               326599.30
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       326617.42   3796889.51        0.00192  (13061506)               326639.41
3796881.91        0.00198  (13040207)
       326663.73   3796864.08        0.00210  (09062906)               326679.47
3796885.20        0.00205  (13040207)
       326697.81   3796898.31        0.00201  (13040207)               326712.34
3796916.60        0.00193  (13040207)
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3796973.30        0.00183  (13061506)
       326785.22   3796890.50        0.00220  (09062906)               326800.10
3797003.95        0.00186  (12102117)
       326817.96   3797014.86        0.00191  (12102117)               326813.74
3796843.93        0.00264  (13031518)
       326833.92   3796853.59        0.00260  (13031518)               326848.61
3796873.43        0.00253  (13031518)
       326864.19   3796885.12        0.00251  (13031518)               326877.92
3796901.20        0.00247  (13031518)
       326893.85   3796917.11        0.00239  (13031518)               326904.49
3796938.77        0.00224  (13031518)
       326907.64   3796966.22        0.00213  (13031518)               326914.45
3796991.73        0.00204  (09062906)
       326921.92   3797038.42        0.00191  (09062906)               326596.56
3797264.10        0.00131  (10102017)
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       326829.98   3795735.43        0.00609  (09052906)               326866.53
 3795706.88        0.00594  (09053006)
       326831.50   3795646.57        0.01481  (09053101)               326872.90
 3795644.95        0.01483  (09053101)
       326898.91   3795644.66        0.01481  (09053101)               326924.66
 3795650.14        0.01403  (09053101)
       326949.68   3795646.43        0.01450  (09053101)               326975.59
 3795638.84        0.01297  (09053101)
       326917.88   3795602.78        0.01684  (13041320)               326918.63
 3795584.13        0.01873  (13122118)
       326921.61   3795563.48        0.01903  (12050224)               326917.18
 3795537.15        0.01995  (12050224)
       326934.99   3795592.17        0.01719  (13122118)               326951.04
 3795599.47        0.01628  (13041320)
       326950.26   3795555.95        0.01931  (12050224)               326951.59
 3795535.07        0.02004  (12021023)
       326961.83   3795537.57        0.01994  (12021023)               326982.25
 3795538.33        0.01993  (12021023)
       326992.41   3795539.09        0.01991  (12021023)               327008.98
 3795535.58        0.02006  (12021023)
       326987.68   3795580.97        0.01714  (13030503)               327024.81
 3795588.42        0.01572  (13030503)
       326925.07   3795485.95        0.02168  (09012107)               326937.83
 3795488.27        0.02153  (09012107)
       326956.45   3795489.28        0.02142  (09012107)               326970.89
 3795491.03        0.02129  (09012107)
       326989.96   3795487.68        0.02138  (09012107)               325049.27
 3794362.92        0.02188  (11121006)
       325086.77   3794362.92        0.02173  (11122506)               325124.27
 3794362.92        0.02160  (09121401)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:41:25

                                  PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
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       325124.27   3794525.32        0.02412  (11122506)               325161.77
 3794525.32        0.02392  (10123020)
       325199.27   3794525.32        0.02374  (13122103)               325236.77
 3794525.32        0.02355  (13122407)
       325274.27   3794525.32        0.02331  (13122407)               325049.27
 3794548.52        0.02437  (13010624)
       325086.77   3794548.52        0.02466  (11121006)               325124.27
 3794548.52        0.02446  (11122506)
       325161.77   3794548.52        0.02427  (10123020)               325199.27
 3794548.52        0.02407  (13122103)
       325236.77   3794548.52        0.02388  (13122407)               325274.27
 3794548.52        0.02364  (13122407)
       325049.27   3794571.72        0.02474  (13010624)               325086.77
 3794571.72        0.02502  (11121006)
       325124.27   3794571.72        0.02482  (11121006)               325161.77
 3794571.72        0.02462  (10123020)
       325199.27   3794571.72        0.02441  (09121401)               325236.77
 3794571.72        0.02422  (13122407)
       325274.27   3794571.72        0.02398  (13122407)               325049.27
 3794594.92        0.02511  (13010624)
       325086.77   3794594.92        0.02539  (13010624)               325124.27
 3794594.92        0.02521  (11121006)
       325161.77   3794594.92        0.02499  (11122506)               325199.27
 3794594.92        0.02477  (09121401)
       325236.77   3794594.92        0.02456  (13122407)               325274.27
 3794594.92        0.02433  (13122407)
       325049.27   3794618.12        0.02551  (10013003)               325086.77
 3794618.12        0.02581  (13010624)
       325124.27   3794618.12        0.02560  (11121006)               325161.77
 3794618.12        0.02537  (11122506)
       325199.27   3794618.12        0.02514  (09121401)               325236.77
 3794618.12        0.02492  (13122103)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        14:41:25

                                   PAGE  32
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **
```

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325274.27	3794618.12	0.02477	(13122407)	325049.27	3794641.32	0.02592	(12123121)
325086.77	3794641.32	0.02624	(13010624)	325124.27	3794641.32	0.02601	(11121006)
325161.77	3794641.32	0.02576	(11122506)	325199.27	3794641.32	0.02552	(10123020)
325236.77	3794641.32	0.02530	(13122103)	325274.27	3794641.32	0.02518	(13122407)
325049.27	3794664.52	0.02636	(12123121)	325086.77	3794664.52	0.02669	(13010624)
325124.27	3794664.52	0.02642	(11121006)	325161.77	3794664.52	0.02617	(11121006)
325199.27	3794664.52	0.02593	(10123020)	325236.77	3794664.52	0.02569	(13122103)
325274.27	3794664.52	0.02568	(13122407)	325049.27	3794687.72	0.02681	(12020205)
325086.77	3794687.72	0.02715	(10013003)	325124.27	3794687.72	0.02687	(13010624)
325161.77	3794687.72	0.02661	(11121006)	325199.27	3794687.72	0.02634	(11122506)
325236.77	3794687.72	0.02609	(09121401)	325274.27	3794687.72	0.02638	(13122407)
324871.62	3794298.63	0.02099	(12123121)	324910.53	3794298.63	0.02088	(13010624)
324949.44	3794298.63	0.02111	(13010624)	324988.35	3794298.63	0.02097	(11121006)
324871.62	3794320.43	0.02123	(12123121)	324910.53	3794320.43	0.02144	(10013003)
324949.44	3794320.43	0.02136	(13010624)	324988.35	3794320.43	0.02119	(11121006)
324871.62	3794342.23	0.02147	(12123121)	324910.53	3794342.23	0.02180	(10013003)
324949.44	3794342.23	0.02162	(13010624)	324988.35	3794342.23	0.02141	(11121006)
324871.62	3794364.03	0.02183	(12020205)	324910.53	3794364.03	0.02206	(10013003)
324949.44	3794364.03	0.02188	(13010624)	324988.35	3794364.03	0.02173	(13010624)
324871.62	3794385.83	0.02239	(12020205)	324910.53	3794385.83	0.02233	(12123121)
324949.44	3794385.83	0.02214	(13010624)	324988.35	3794385.83	0.02225	(13010624)
324871.62	3794407.63	0.02270	(10010204)	324910.53	3794407.63	0.02261	(12123121)
324949.44	3794407.63	0.02241	(10013003)	324988.35	3794407.63	0.02255	(13010624)

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       324871.62   3794429.43        0.02299  (10010204)                324910.53
 3794429.43        0.02289  (12020205)
       324949.44   3794429.43        0.02269  (10013003)                324988.35
 3794429.43        0.02284  (13010624)
       324871.62   3794451.23        0.02329  (12122922)                324910.53
 3794451.23        0.02319  (12020205)
       324949.44   3794451.23        0.02300  (12123121)                324988.35
 3794451.23        0.02315  (13010624)
       324871.62   3794473.03        0.02361  (12122922)                324910.53
 3794473.03        0.02350  (10010204)
       324949.44   3794473.03        0.02346  (12123121)                324988.35
 3794473.03        0.02358  (13010624)
       324871.62   3794494.83        0.02401  (13021702)                324910.53
 3794494.83        0.02382  (10010204)
       324949.44   3794494.83        0.02380  (12123121)                324988.35
 3794494.83        0.02392  (10013003)
       324871.62   3794516.63        0.02441  (13021702)                324910.53
 3794516.63        0.02415  (12122922)
       324949.44   3794516.63        0.02413  (12020205)                324988.35
 3794516.63        0.02425  (10013003)
       324871.62   3794538.43        0.02477  (09021803)                324910.53
 3794538.43        0.02450  (12122922)
       324949.44   3794538.43        0.02447  (12020205)                324988.35
 3794538.43        0.02459  (12123121)
       324871.62   3794560.23        0.02514  (09021803)                324910.53
 3794560.23        0.02486  (13021702)
       324949.44   3794560.23        0.02482  (10010204)                324988.35
 3794560.23        0.02495  (12123121)
       324871.62   3794582.03        0.02553  (13120620)                324910.53
 3794582.03        0.02523  (09021803)
       324949.44   3794582.03        0.02519  (12122922)                324988.35
 3794582.03        0.02531  (12020205)
       324871.62   3794603.83        0.02593  (13120620)                324910.53
 3794603.83        0.02564  (09021803)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        14:41:25

                                   PAGE  33
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                    INCLUDING SOURCE(S):     PAREA1      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
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**

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324949.44	3794603.83	0.02567	(12122922)	324988.35	3794603.83	0.02570	(12020205)
324871.62	3794625.63	0.02636	(12021724)	324910.53	3794625.63	0.02608	(13120620)
324949.44	3794625.63	0.02638	(13021702)	324988.35	3794625.63	0.02610	(10010204)
324871.62	3794647.43	0.02681	(10012707)	324910.53	3794647.43	0.02652	(12021724)
324949.44	3794647.43	0.02683	(09021803)	324988.35	3794647.43	0.02651	(12122922)
324871.62	3794669.23	0.02728	(10010424)	324910.53	3794669.23	0.02698	(12021724)
324949.44	3794669.23	0.02729	(13120620)	324988.35	3794669.23	0.02695	(13021702)
324871.62	3794691.03	0.02777	(10010424)	324910.53	3794691.03	0.02746	(10010424)
324949.44	3794691.03	0.02777	(13120620)	324988.35	3794691.03	0.02741	(09021803)
324449.04	3794074.69	0.01918	(12021724)	324485.99	3794074.69	0.01901	(12021724)
324522.94	3794074.69	0.01889	(13120620)	324559.89	3794074.69	0.01868	(09021803)
324596.84	3794074.69	0.01844	(13021702)	324633.79	3794074.69	0.01811	(12122922)
324670.74	3794074.69	0.01794	(10010204)	324707.69	3794074.69	0.01788	(12020205)
324744.64	3794074.69	0.01803	(12123121)	324781.59	3794074.69	0.01847	(10013003)
324449.04	3794106.66	0.01947	(10012707)	324485.99	3794106.66	0.01933	(12021724)
324522.94	3794106.66	0.01916	(13120620)	324559.89	3794106.66	0.01903	(13120620)
324596.84	3794106.66	0.01889	(09021803)	324633.79	3794106.66	0.01862	(13021702)
324670.74	3794106.66	0.01846	(12122922)	324707.69	3794106.66	0.01845	(10010204)
324744.64	3794106.66	0.01883	(12020205)	324781.59	3794106.66	0.01901	(12123121)
324449.04	3794138.63	0.01980	(10012707)	324485.99	3794138.63	0.01964	(12021724)
324522.94	3794138.63	0.01947	(12021724)	324559.89	3794138.63	0.01933	(13120620)
324596.84	3794138.63	0.01917	(09021803)	324633.79	3794138.63	0.01929	(13021702)

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       324670.74   3794138.63        0.01918  (12122922)               324707.69
 3794138.63        0.01918  (10010204)
       324744.64   3794138.63        0.01941  (12020205)               324781.59
 3794138.63        0.01932  (12123121)
       324449.04   3794170.60        0.02012  (10010424)               324485.99
 3794170.60        0.01996  (10012707)
       324522.94   3794170.60        0.01985  (12021724)               324559.89
 3794170.60        0.01996  (13120620)
       324596.84   3794170.60        0.01982  (13120620)               324633.79
 3794170.60        0.01975  (09021803)
       324670.74   3794170.60        0.01964  (13021702)               324707.69
 3794170.60        0.01984  (12122922)
       324744.64   3794170.60        0.01976  (10010204)               324781.59
 3794170.60        0.01988  (12123121)
       324449.04   3794202.57        0.02047  (10010424)               324485.99
 3794202.57        0.02029  (10012707)
       324522.94   3794202.57        0.02019  (12021724)               324559.89
 3794202.57        0.02041  (12021724)
       324596.84   3794202.57        0.02024  (13120620)               324633.79
 3794202.57        0.02008  (09021803)
       324670.74   3794202.57        0.02032  (13021702)               324707.69
 3794202.57        0.02022  (12122922)
       324744.64   3794202.57        0.02007  (10010204)               324781.59
 3794202.57        0.02028  (12020205)
       324449.04   3794234.54        0.02080  (10010424)               324485.99
 3794234.54        0.02065  (10010424)
       324522.94   3794234.54        0.02055  (10012707)               324559.89
 3794234.54        0.02077  (12021724)
       324596.84   3794234.54        0.02057  (12021724)               324633.79
 3794234.54        0.02042  (13120620)
       324670.74   3794234.54        0.02072  (09021803)               324707.69
 3794234.54        0.02055  (13021702)
       324744.64   3794234.54        0.02039  (12122922)               324781.59
 3794234.54        0.02060  (12020205)
       324449.04   3794266.51        0.02120  (10011404)               324485.99
 3794266.51        0.02101  (10010424)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:41:25

                                  PAGE  34
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***
```

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794266.51	0.02131	(10010424)	324559.89	3794266.51	0.02113	(10012707)
324596.84	3794266.51	0.02095	(12021724)	324633.79	3794266.51	0.02075	(13120620)
324670.74	3794266.51	0.02107	(13120620)	324707.69	3794266.51	0.02090	(13021702)
324744.64	3794266.51	0.02073	(12122922)	324781.59	3794266.51	0.02094	(10010204)
324449.04	3794298.48	0.02160	(10011404)	324485.99	3794298.48	0.02140	(10011404)
324522.94	3794298.48	0.02171	(10010424)	324559.89	3794298.48	0.02151	(10012707)
324596.84	3794298.48	0.02132	(12021724)	324633.79	3794298.48	0.02155	(12021724)
324670.74	3794298.48	0.02145	(13120620)	324707.69	3794298.48	0.02126	(09021803)
324744.64	3794298.48	0.02108	(13021702)	324781.59	3794298.48	0.02129	(12122922)
324449.04	3794330.45	0.02202	(09120921)	324485.99	3794330.45	0.02187	(10011404)
324522.94	3794330.45	0.02210	(10011404)	324559.89	3794330.45	0.02192	(10010424)
324596.84	3794330.45	0.02172	(10012707)	324633.79	3794330.45	0.02196	(12021724)
324670.74	3794330.45	0.02182	(13120620)	324707.69	3794330.45	0.02164	(13120620)
324744.64	3794330.45	0.02148	(09021803)	324781.59	3794330.45	0.02168	(12122922)
324449.04	3794362.42	0.02245	(11121923)	324485.99	3794362.42	0.02273	(09120921)
324522.94	3794362.42	0.02256	(10011404)	324559.89	3794362.42	0.02233	(10010424)
324596.84	3794362.42	0.02213	(10010424)	324633.79	3794362.42	0.02238	(10012707)
324670.74	3794362.42	0.02224	(12021724)	324707.69	3794362.42	0.02204	(13120620)
324744.64	3794362.42	0.02214	(09021803)	324781.59	3794362.42	0.02218	(13021702)
324449.04	3794394.39	0.02292	(11121923)	324485.99	3794394.39	0.02320	(09120921)
324522.94	3794394.39	0.02302	(10011404)	324559.89	3794394.39	0.02279	(10011404)

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       324596.84   3794394.39        0.02257  (10010424)               324633.79
 3794394.39        0.02282  (10012707)
       324670.74   3794394.39        0.02268  (12021724)               324707.69
 3794394.39        0.02245  (12021724)
       324744.64   3794394.39        0.02255  (13120620)               324781.59
 3794394.39        0.02259  (09021803)
       324449.04   3794426.36        0.02353  (09022006)               324485.99
 3794426.36        0.02371  (11121923)
       324522.94   3794426.36        0.02351  (09120921)               324559.89
 3794426.36        0.02327  (10011404)
       324596.84   3794426.36        0.02302  (10011404)               324633.79
 3794426.36        0.02329  (10010424)
       324670.74   3794426.36        0.02314  (10012707)               324707.69
 3794426.36        0.02296  (12021724)
       324744.64   3794426.36        0.02306  (13120620)               324781.59
 3794426.36        0.02303  (09021803)
       324449.04   3794458.33        0.02431  (12010904)               324485.99
 3794458.33        0.02426  (09022006)
       324522.94   3794458.33        0.02402  (11121923)               324559.89
 3794458.33        0.02378  (09120921)
       324596.84   3794458.33        0.02366  (10011404)               324633.79
 3794458.33        0.02380  (10010424)
       324670.74   3794458.33        0.02362  (10010424)               324707.69
 3794458.33        0.02356  (10012707)
       324744.64   3794458.33        0.02372  (12021724)               324781.59
 3794458.33        0.02349  (13120620)
       324449.04   3794490.30        0.02486  (12021707)               324485.99
 3794490.30        0.02481  (12010904)
       324522.94   3794490.30        0.02456  (09022006)               324559.89
 3794490.30        0.02431  (11121923)
       324596.84   3794490.30        0.02442  (09120921)               324633.79
 3794490.30        0.02439  (10011404)
       324670.74   3794490.30        0.02412  (10010424)               324707.69
 3794490.30        0.02406  (10010424)
       324744.64   3794490.30        0.02423  (12021724)               324781.59
 3794490.30        0.02397  (12021724)
       324449.04   3794522.27        0.02554  (12021707)               324485.99
 3794522.27        0.02539  (12010904)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:41:25

                                  PAGE  35
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                   INCLUDING SOURCE(S):     PAREA1      ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794522.27	0.02513	(12010904)	324559.89	3794522.27	0.02487	(09022006)
324596.84	3794522.27	0.02499	(11121923)	324633.79	3794522.27	0.02495	(09120921)
324670.74	3794522.27	0.02467	(10011404)	324707.69	3794522.27	0.02460	(10010424)
324744.64	3794522.27	0.02477	(10012707)	324781.59	3794522.27	0.02450	(12021724)
324449.04	3794554.24	0.02625	(13012724)	324485.99	3794554.24	0.02601	(12021707)
324522.94	3794554.24	0.02575	(12010904)	324559.89	3794554.24	0.02561	(09022006)
324596.84	3794554.24	0.02573	(11121923)	324633.79	3794554.24	0.02555	(09120921)
324670.74	3794554.24	0.02525	(10011404)	324707.69	3794554.24	0.02516	(10011404)
324744.64	3794554.24	0.02534	(10010424)	324781.59	3794554.24	0.02505	(10012707)
324449.04	3794586.21	0.02689	(12022904)	324485.99	3794586.21	0.02666	(13012724)
324522.94	3794586.21	0.02639	(12021707)	324559.89	3794586.21	0.02637	(12010904)
324596.84	3794586.21	0.02649	(09022006)	324633.79	3794586.21	0.02618	(11121923)
324670.74	3794586.21	0.02587	(09120921)	324707.69	3794586.21	0.02578	(10011404)
324744.64	3794586.21	0.02594	(10011404)	324781.59	3794586.21	0.02564	(10010424)
324449.04	3794618.18	0.02756	(12012404)	324485.99	3794618.18	0.02734	(12022904)
324522.94	3794618.18	0.02708	(13012724)	324559.89	3794618.18	0.02706	(12021707)
324596.84	3794618.18	0.02718	(12010904)	324633.79	3794618.18	0.02686	(09022006)
324670.74	3794618.18	0.02658	(11121923)	324707.69	3794618.18	0.02678	(09120921)
324744.64	3794618.18	0.02660	(10011404)	324781.59	3794618.18	0.02626	(10011404)
324449.04	3794650.15	0.02825	(11010801)	324485.99	3794650.15	0.02804	(12012404)

```
       324522.94   3794650.15        0.02779  (12022904)               324559.89
 3794650.15        0.02779  (13012724)
       324596.84   3794650.15        0.02792  (12021707)               324633.79
 3794650.15        0.02759  (12010904)
       324670.74   3794650.15        0.02730  (09022006)               324707.69
 3794650.15        0.02765  (11121923)
       324744.64   3794650.15        0.02730  (09120921)               324781.59
 3794650.15        0.02695  (10011404)
       324449.04   3794682.12        0.02895  (09020801)               324485.99
 3794682.12        0.02878  (11010801)
       324522.94   3794682.12        0.02864  (12012404)               324559.89
 3794682.12        0.02895  (12022904)
       324596.84   3794682.12        0.02871  (13012724)               324633.79
 3794682.12        0.02836  (12021707)
       324670.74   3794682.12        0.02806  (12010904)               324707.69
 3794682.12        0.02842  (09022006)
       324744.64   3794682.12        0.02805  (11121923)               324781.59
 3794682.12        0.02768  (09120921)
       326547.36   3795022.06        0.02444  (12022103)               326594.67
 3795022.06        0.02399  (10011406)
       326641.98   3795022.06        0.02277  (11121105)               326547.36
 3795042.46        0.02471  (12022103)
       326594.67   3795042.46        0.02307  (11121105)               326641.98
 3795042.46        0.02303  (12122705)
       326547.36   3795062.86        0.02510  (10011406)               326594.67
 3795062.86        0.02307  (11121105)
       326641.98   3795062.86        0.02327  (10021501)               326547.36
 3795083.26        0.02514  (10011406)
       326594.67   3795083.26        0.02333  (12122705)               326641.98
 3795083.26        0.02348  (13010623)
       326547.36   3795103.66        0.02442  (11121105)               326594.67
 3795103.66        0.02357  (10021501)
       326641.98   3795103.66        0.02369  (13010623)               326547.36
 3795124.06        0.02451  (12122705)
       326594.67   3795124.06        0.02379  (13010623)               326641.98
 3795124.06        0.02390  (13010101)
       326547.36   3795144.46        0.02457  (10021501)               326594.67
 3795144.46        0.02400  (12020806)
       326641.98   3795144.46        0.02399  (13011507)               326547.36
 3795164.86        0.02414  (12020806)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:41:25

                                  PAGE  36
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
```

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326594.67	3795164.86	0.02419	(10121122)	326641.98	3795164.86	0.02421	(13011507)
326547.36	3795185.26	0.02425	(12020806)	326594.67	3795185.26	0.02429	(13011507)
326641.98	3795185.26	0.02432	(13022723)	326547.36	3795205.66	0.02442	(11011708)
326594.67	3795205.66	0.02446	(10122507)	326641.98	3795205.66	0.02377	(09021506)
326547.36	3795226.06	0.02453	(10122507)	326594.67	3795226.06	0.02452	(13022723)
326641.98	3795226.06	0.02243	(12022407)	326547.36	3795246.46	0.02461	(10122507)
326594.67	3795246.46	0.02408	(12010407)	326641.98	3795246.46	0.02191	(13020308)
326690.43	3795243.37	0.02136	(11120708)	326688.67	3795223.05	0.02154	(13020308)
326686.02	3795005.77	0.02275	(12122705)	326686.02	3795033.66	0.02275	(10021501)
326686.02	3795061.55	0.02276	(13010623)	326686.02	3795089.44	0.02300	(13010101)
326686.02	3795117.33	0.02320	(13011507)	326686.02	3795145.22	0.02338	(13022723)
326686.02	3795173.11	0.02312	(09021506)	326686.02	3795201.00	0.02165	(12022407)
326832.80	3795263.26	0.02180	(12011002)	326849.67	3795263.26	0.02095	(12011002)
326866.54	3795263.26	0.02058	(09120419)	326883.41	3795263.26	0.02069	(09120419)
326900.28	3795263.26	0.02077	(09120419)	326917.15	3795263.26	0.02083	(09120419)
326934.02	3795263.26	0.01988	(09120419)	326950.89	3795263.26	0.01902	(09120419)
326967.76	3795263.26	0.01903	(09120419)	326984.63	3795263.26	0.01866	(13121308)
327001.50	3795263.26	0.01787	(13121308)	327036.85	3795141.35	0.01593	(12011705)
327075.72	3795141.35	0.01463	(09121202)	327036.85	3795160.91	0.01623	(12010208)

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       327075.72   3795160.91        0.01504  (12120505)                327036.85
 3795180.47        0.01676  (13122805)
       327075.72   3795180.47        0.01577  (12120505)                327036.85
 3795200.03        0.01734  (11010918)
       327075.72   3795200.03        0.01630  (12120505)                327036.85
 3795219.59        0.01697  (12120505)
       327075.72   3795219.59        0.01653  (09120419)                327036.85
 3795239.15        0.01699  (09120419)
       327075.72   3795239.15        0.01701  (09120419)                327036.85
 3795258.71        0.01748  (13121308)
       327075.72   3795258.71        0.01762  (13121308)                327036.85
 3795278.27        0.01807  (13121308)
       327075.72   3795278.27        0.01805  (11011817)                326840.04
 3795223.24        0.01973  (13122805)
       326860.58   3795224.16        0.01887  (13122805)                326877.30
 3795222.74        0.01895  (13122805)
       326929.68   3795223.69        0.01869  (11010918)                326932.86
 3795200.00        0.01755  (13122805)
       326972.32   3795217.03        0.01775  (12120505)                326970.84
 3795177.58        0.01633  (12010208)
       326968.20   3795152.46        0.01623  (10121407)                326998.43
 3795149.77        0.01609  (09120204)
       326997.48   3795176.61        0.01644  (12010208)                326995.60
 3795193.01        0.01698  (11010918)
       326996.92   3795215.78        0.01779  (12120505)                326916.97
 3795152.19        0.01791  (12010321)
       326901.95   3795150.46        0.01805  (11120708)                326884.24
 3795164.40        0.01805  (12010321)
       326867.32   3795151.32        0.01856  (11120708)                326873.22
 3795163.36        0.01825  (11120708)
       326845.53   3795152.12        0.01950  (11120708)                326824.91
 3795151.45        0.02077  (11121808)
       326826.60   3795170.60        0.02058  (12022206)                326840.50
 3795180.17        0.01943  (11120708)
       326799.39   3795147.97        0.02100  (10010821)                326776.77
 3795147.89        0.02119  (10121023)
       326738.03   3795152.73        0.02146  (12010407)                326781.33
 3795110.75        0.02126  (12010407)
       326806.10   3795109.04        0.02063  (12010407)                326804.45
 3795090.73        0.02071  (09021506)
       326781.78   3795086.72        0.02125  (13022723)                326787.40
 3795061.79        0.02115  (10122507)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1\Hitch Ranch_Phase 1.isc     ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        14:41:25

                                  PAGE  37
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
```

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326794.01	3795031.22	0.02098	(13011507)	326977.50	3795110.69	0.01621	(12121805)
326994.05	3795107.87	0.01614	(13012606)	326984.52	3795093.80	0.01643	(12121805)
326972.85	3795082.37	0.01668	(12121805)	326995.41	3795072.53	0.01656	(12121805)
326993.23	3795060.01	0.01662	(12121805)	326984.60	3795040.80	0.01676	(13020308)
326981.66	3795027.22	0.01674	(13020308)	327041.48	3795102.15	0.01582	(13012606)
327065.19	3795095.75	0.01479	(10121407)	327040.88	3795076.27	0.01582	(11120708)
327061.24	3795058.32	0.01508	(12121805)	327037.82	3795061.09	0.01626	(11120708)
327035.65	3795040.58	0.01644	(11120708)	327058.94	3795038.41	0.01545	(12121805)
327051.53	3795017.85	0.01581	(12121805)	327033.29	3795021.71	0.01653	(13020308)
326826.26	3795110.80	0.01927	(10121023)	326843.29	3795110.80	0.01895	(10121023)
326860.32	3795110.80	0.01883	(13020308)	326877.35	3795110.80	0.01874	(13020308)
326894.38	3795110.80	0.01858	(13020308)	326911.41	3795110.80	0.01847	(11120708)
326928.44	3795110.80	0.01780	(11120708)	326945.47	3795110.80	0.01679	(12121805)
326819.99	3795048.86	0.01960	(13022723)	326838.19	3795048.86	0.01899	(13022723)
326856.39	3795048.86	0.01893	(09021506)	326874.59	3795048.86	0.01888	(12010407)
326892.79	3795048.86	0.01877	(12010407)	326910.99	3795048.86	0.01866	(12011805)
326929.19	3795048.86	0.01792	(10121023)	326947.39	3795048.86	0.01691	(13020308)

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
               **

                         NETWORK
GROUP ID   AVERAGE CONC   RECEPTOR (XR, YR,
ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
- -
- - - - - - - - - - - - - - - - - - -

ALL   1ST HIGHEST VALUE IS   0.00381 AT (325904.15, 3795332.59,
149.61,   185.00,   0.00) DC
          2ND HIGHEST VALUE IS   0.00366 AT (325931.15, 3795332.59,
150.05,   165.00,   0.00) DC
          3RD HIGHEST VALUE IS   0.00345 AT (325877.15, 3795332.59,
150.22,   185.00,   0.00) DC
          4TH HIGHEST VALUE IS   0.00343 AT (325850.15, 3795332.59,
150.51,   185.00,   0.00) DC
          5TH HIGHEST VALUE IS   0.00339 AT (325796.15, 3795332.59,
151.11,   185.00,   0.00) DC
          6TH HIGHEST VALUE IS   0.00334 AT (325823.15, 3795332.59,
151.02,   185.00,   0.00) DC
          7TH HIGHEST VALUE IS   0.00334 AT (325796.15, 3795293.59,
150.13,   185.00,   0.00) DC
          8TH HIGHEST VALUE IS   0.00326 AT (325823.15, 3795293.59,
150.11,   185.00,   0.00) DC
          9TH HIGHEST VALUE IS   0.00324 AT (325850.15, 3795293.59,
149.69,   185.00,   0.00) DC
         10TH HIGHEST VALUE IS   0.00322 AT (325877.15, 3795293.59,
149.15,   185.00,   0.00) DC

*** RECEPTOR TYPES: GC = GRIDCART
                     GP = GRIDPOLR
                     DC = DISCCART
                     DP = DISCPOLR

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE	NETWORK CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.03796	ON 10013003:	AT (325877.15, 3795293.59, 149.15, 185.00, 0.00)	DC	

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
 *** AERMOD - VERSION 18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 1\Hitch Ranch_Phase 1.isc   ***   11/03/20
 *** AERMET - VERSION 14134 ***   ***
                       ***   14:41:25

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   15612 Informational Message(s)

 A Total of   43872 Hours Were Processed

 A Total of   13724 Calm Hours Identified

 A Total of   1888 Missing Hours Identified (4.30 Percent)

    ******** FATAL ERROR MESSAGES ********

```
             ***  NONE  ***


   ********   WARNING MESSAGES   ********
MX W481   43873         MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD View\Phase2_Mitigated_11.3\Phase2_Mitigated_11.3.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 2_Construction\Hitch Ranch_Ph
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase2_Mitigated_11.3.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       1.1156E-09     3.000        16
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325439.580 3795654.860 326387.530 3796120.560
   AREAVERT PAREA1       326397.210 3795756.410 326288.670 3795758.120
   AREAVERT PAREA1       326277.560 3795694.020 326166.380 3795525.260
   AREAVERT PAREA1       326425.650 3795493.540 326479.010 3795469.120
   AREAVERT PAREA1       326469.840 3795364.180 325735.780 3795372.310
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
```

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**************************************
**
**
RE STARTING
   INCLUDED Phase2_Mitigated_11.3.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE2_MITIGATED_11.3.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE2_MITIGATED_11.3.AD\AN00GALL.PLT 32
   SUMMFILE Phase2_Mitigated_11.3.sum
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD View\Phase2_Mitigated_11.3\Phase2_Mitigated_11.3.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 2_Construction\Hitch Ranch_Ph
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase2_Mitigated_11.3.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       1.1156E-09     3.000        16
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325439.580 3795654.860 326387.530 3796120.560
   AREAVERT PAREA1       326397.210 3795756.410 326288.670 3795758.120
   AREAVERT PAREA1       326277.560 3795694.020 326166.380 3795525.260
   AREAVERT PAREA1       326425.650 3795493.540 326479.010 3795469.120
   AREAVERT PAREA1       326469.840 3795364.180 325735.780 3795372.310
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
```

```
************************************
**
**
RE STARTING
   INCLUDED Phase2_Mitigated_11.3.rou
RE FINISHED
**
************************************
** AERMOD Meteorology Pathway
************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
************************************
** AERMOD Output Pathway
************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE2_MITIGATED_11.3.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE2_MITIGATED_11.3.AD\AN00GALL.PLT 32
   SUMMFILE Phase2_Mitigated_11.3.sum
OU FINISHED

 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:00:28

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
```

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 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
         1. Stack-tip Downwash.
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.

 **Other Options Specified:
         CCVR_Sub - Meteorological data includes CCVR substitutions
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     834
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
```

Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) =   24.00 ; Decay
Coef. =   0.000   ; Rot. Angle =   0.0
                  Emission Units = GRAMS/SEC   ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =   3.6 MB of RAM.

 **Input Runstream File: aermod.inp

 **Output Print File: aermod.out

 **Detailed Error/Message File: Phase2_Mitigated_11.3.err

 **File for Summary of Results: Phase2_Mitigated_11.3.sum

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                *** AREAPOLY SOURCE DATA ***

              NUMBER EMISSION RATE   LOCATION OF AREA BASE   RELEASE NUMBER
  INIT.   URBAN EMISSION RATE
   SOURCE   PART. (GRAMS/SEC   X   Y   ELEV.   HEIGHT OF VERTS.
   SZ   SOURCE SCALAR VARY
     ID   CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
(METERS)   BY
 -
- -

 PAREA1   0   0.11156E-08 325117.2 3795248.3   146.0   3.00   16

*** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID   SOURCE IDs
 -----------   ----------

  ALL   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

     (326346.0, 3795634.0,   172.5,   190.0,   0.0);   (326414.1, 3795779.7,   180.0,   277.0,   0.0);
     (326435.8, 3795773.5,   176.6,   277.0,   0.0);   (326458.3, 3795772.8,   174.6,   277.0,   0.0);
     (326424.2, 3795858.8,   178.9,   295.0,   0.0);   (326400.2, 3795799.8,   182.9,   277.0,   0.0);
     (326400.9, 3795767.9,   180.8,   277.0,   0.0);   (326424.2, 3795858.8,   178.9,   295.0,   0.0);
     (326611.8, 3795763.0,   168.9,   277.0,   0.0);   (326611.8, 3795763.0,   168.9,   277.0,   0.0);
     (326610.9, 3795777.7,   169.0,   277.0,   0.0);   (326605.9, 3795792.9,   169.0,   277.0,   0.0);
     (326623.9, 3795809.0,   169.6,   277.0,   0.0);   (326627.2, 3795836.6,   170.1,   295.0,   0.0);
     (326640.1, 3795836.6,   170.2,   277.0,   0.0);   (326654.5, 3795868.7,   171.6,   291.0,   0.0);
     (326665.5, 3795883.1,   172.0,   295.0,   0.0);   (326588.3, 3795867.6,   175.1,   277.0,   0.0);
     (326640.5, 3795951.9,   177.0,   295.0,   0.0);   (326658.5, 3795975.6,   175.5,   295.0,   0.0);

```
     ( 326759.5, 3796019.3,     178.2,     277.0,       0.0);         ( 326763.6,
3796031.8,     178.1,     291.0,       0.0);
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
     ( 326806.7, 3795493.9,     157.9,     217.0,       0.0);         ( 326824.1,
3795494.4,     157.9,     217.0,       0.0);
```

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     ( 326853.5, 3795481.7,     157.5,     217.0,       0.0);         ( 326898.8,
3795534.4,     158.0,     217.0,       0.0);
     ( 325796.1, 3795215.6,     149.4,     149.4,       0.0);         ( 325823.1,
3795215.6,     149.0,     149.0,       0.0);
     ( 326012.1, 3795215.6,     150.0,     150.0,       0.0);         ( 326120.1,
3795215.6,     151.0,     151.0,       0.0);
     ( 326147.1, 3795215.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795254.6,     149.4,     185.0,       0.0);
     ( 325823.1, 3795254.6,     149.0,     185.0,       0.0);         ( 325850.1,
3795254.6,     149.0,     149.0,       0.0);
     ( 325877.1, 3795254.6,     149.0,     149.0,       0.0);         ( 325904.1,
3795254.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795254.6,     149.9,     149.9,       0.0);         ( 325958.1,
3795254.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795254.6,     150.0,     150.0,       0.0);         ( 326012.1,
3795254.6,     150.7,     150.7,       0.0);
     ( 326039.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326066.1,
3795254.6,     151.0,     151.0,       0.0);
     ( 326093.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326120.1,
3795254.6,     151.0,     151.0,       0.0);
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:00:28

                                  PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                      (METERS)

     ( 326147.1, 3795254.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795293.6,     150.1,     185.0,       0.0);
     ( 325823.1, 3795293.6,     150.1,     185.0,       0.0);         ( 325850.1,
3795293.6,     149.7,     185.0,       0.0);
     ( 325877.1, 3795293.6,     149.2,     185.0,       0.0);         ( 325904.1,
3795293.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795293.6,     150.0,     150.0,       0.0);         ( 325958.1,
3795293.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795293.6,     150.9,     150.9,       0.0);         ( 326012.1,
3795293.6,     151.2,     151.2,       0.0);
     ( 326039.1, 3795293.6,     151.2,     151.2,       0.0);         ( 326066.1,
3795293.6,     151.7,     151.7,       0.0);
     ( 326093.1, 3795293.6,     152.0,     152.0,       0.0);         ( 326120.1,
3795293.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795293.6,     152.0,     152.0,       0.0);         ( 325796.1,
3795332.6,     151.1,     185.0,       0.0);
     ( 325823.1, 3795332.6,     151.0,     185.0,       0.0);         ( 325850.1,
3795332.6,     150.5,     185.0,       0.0);
```

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    ( 325877.1, 3795332.6,     150.2,     185.0,       0.0);         ( 325904.1,
3795332.6,     149.6,     185.0,       0.0);
    ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
3795332.6,     150.5,     166.0,       0.0);
    ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
    ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
    ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
    ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
3795004.9,     149.0,     149.0,       0.0);
    ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795004.9,     149.0,     149.0,       0.0);
    ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795004.9,     149.0,     149.0,       0.0);
    ( 325972.4, 3795004.9,     149.3,     149.3,       0.0);         ( 325997.4,
3795004.9,     149.7,     149.7,       0.0);
    ( 326022.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795004.9,     150.0,     150.0,       0.0);
    ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795004.9,     150.0,     150.0,       0.0);
    ( 326122.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326147.4,
3795004.9,     150.3,     150.3,       0.0);
    ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
    ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795046.9,     149.0,     149.0,       0.0);
    ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
    ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
    ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
    ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
    ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
    ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
    ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
    ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
    ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
    ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795088.9,     150.2,     150.2,       0.0);
    ( 326122.4, 3795088.9,     150.7,     150.7,       0.0);         ( 326147.4,
3795088.9,     151.0,     151.0,       0.0);
```

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     ( 325847.4, 3795130.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795130.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795130.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795130.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795130.9,     149.6,     149.6,       0.0);         ( 325972.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 325997.4, 3795130.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795130.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795130.9,     150.6,     150.6,       0.0);         ( 326122.4,
3795130.9,     151.0,     151.0,       0.0);
     ( 326147.4, 3795130.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795172.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795172.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795172.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795172.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795172.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795172.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795172.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795172.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795172.9,     150.2,     150.2,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                          ***        16:00:28

                                    PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 326072.4, 3795172.9,     150.8,     150.8,       0.0);         ( 325847.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795214.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795214.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795214.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326072.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326097.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326147.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326096.6, 3795181.5,     151.0,     151.0,       0.0);         ( 326118.6,
3795182.6,     151.0,     151.0,       0.0);
     ( 326144.3, 3795184.1,     151.0,     151.0,       0.0);         ( 325849.7,
3794829.6,     148.0,     148.0,       0.0);
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     ( 325892.6, 3794829.6,     148.0,     148.0,       0.0);         ( 325935.5,
3794829.6,     148.8,     148.8,       0.0);
     ( 325978.3, 3794829.6,     149.0,     149.0,       0.0);         ( 326021.2,
3794829.6,     149.0,     149.0,       0.0);
     ( 326064.1, 3794829.6,     149.5,     149.5,       0.0);         ( 325849.7,
3794867.5,     148.0,     148.0,       0.0);
     ( 325892.6, 3794867.5,     148.8,     148.8,       0.0);         ( 325935.5,
3794867.5,     149.0,     149.0,       0.0);
     ( 325978.3, 3794867.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794867.5,     149.0,     149.0,       0.0);
     ( 326064.1, 3794867.5,     149.5,     149.5,       0.0);         ( 325849.7,
3794905.5,     148.1,     148.1,       0.0);
     ( 325892.6, 3794905.5,     148.9,     148.9,       0.0);         ( 325935.5,
3794905.5,     149.0,     149.0,       0.0);
     ( 325978.3, 3794905.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794905.5,     149.1,     149.1,       0.0);
     ( 326064.1, 3794905.5,     150.0,     150.0,       0.0);         ( 325849.7,
3794943.4,     148.4,     148.4,       0.0);
     ( 325892.6, 3794943.4,     149.0,     149.0,       0.0);         ( 325935.5,
3794943.4,     149.0,     149.0,       0.0);
     ( 325978.3, 3794943.4,     149.0,     149.0,       0.0);         ( 326021.2,
3794943.4,     149.1,     149.1,       0.0);
     ( 326064.1, 3794943.4,     150.0,     150.0,       0.0);         ( 325849.7,
3794981.3,     148.9,     148.9,       0.0);
     ( 325892.6, 3794981.3,     149.0,     149.0,       0.0);         ( 325935.5,
3794981.3,     149.0,     149.0,       0.0);
     ( 325978.3, 3794981.3,     149.0,     149.0,       0.0);         ( 326021.2,
3794981.3,     149.8,     149.8,       0.0);
     ( 326064.1, 3794981.3,     150.0,     150.0,       0.0);         ( 325855.3,
3794726.6,     148.0,     148.0,       0.0);
     ( 325902.6, 3794726.6,     148.0,     148.0,       0.0);         ( 325855.3,
3794745.5,     148.0,     148.0,       0.0);
     ( 325902.6, 3794745.5,     148.0,     148.0,       0.0);         ( 325855.3,
3794764.4,     148.0,     148.0,       0.0);
     ( 325902.6, 3794764.4,     148.0,     148.0,       0.0);         ( 325855.3,
3794783.3,     148.0,     148.0,       0.0);
     ( 325902.6, 3794783.3,     148.0,     148.0,       0.0);         ( 325855.3,
3794802.2,     148.0,     148.0,       0.0);
     ( 325902.6, 3794802.2,     148.0,     148.0,       0.0);         ( 325855.3,
3794821.1,     148.0,     148.0,       0.0);
     ( 325902.6, 3794821.1,     148.1,     148.1,       0.0);         ( 326402.8,
3795249.3,     152.8,     152.8,       0.0);
     ( 325380.5, 3795776.2,     161.0,     295.0,       0.0);         ( 325415.9,
3795858.3,     176.6,     271.0,       0.0);
     ( 325409.9, 3795995.0,     190.3,     271.0,       0.0);         ( 325416.6,
3796058.1,     193.4,     282.0,       0.0);
     ( 325409.6, 3796164.9,     201.8,     291.0,       0.0);         ( 325322.7,
3796083.9,     190.0,     292.0,       0.0);
     ( 325297.9, 3796111.1,     184.9,     295.0,       0.0);         ( 325246.7,
3796076.1,     181.2,     295.0,       0.0);
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     ( 325280.0, 3796260.7,     211.4,     292.0,       0.0);         ( 325237.0,
3796200.4,     205.0,     292.0,       0.0);
     ( 325163.0, 3796071.1,     180.4,     292.0,       0.0);         ( 325215.7,
3795991.4,     177.4,     292.0,       0.0);
     ( 325208.3, 3795926.9,     173.0,     292.0,       0.0);         ( 325249.5,
3795829.2,     171.2,     291.0,       0.0);
     ( 325171.5, 3795759.2,     160.9,     292.0,       0.0);         ( 325129.2,
3795756.4,     158.4,     292.0,       0.0);
     ( 325154.8, 3795886.2,     167.8,     292.0,       0.0);         ( 325068.5,
3795885.4,     171.6,     292.0,       0.0);
     ( 325047.9, 3795938.0,     175.5,     292.0,       0.0);         ( 325045.8,
3795982.7,     176.4,     292.0,       0.0);
     ( 325072.0, 3796106.7,     179.6,     292.0,       0.0);         ( 325060.6,
3796290.4,     197.1,     292.0,       0.0);
     ( 324903.7, 3796379.8,     214.8,     292.0,       0.0);         ( 324787.8,
3796510.4,     197.3,     292.0,       0.0);
     ( 324916.5, 3796618.3,     201.7,     292.0,       0.0);         ( 326493.0,
3796356.3,     198.5,     295.0,       0.0);
     ( 326552.7, 3796900.0,     235.2,     295.0,       0.0);         ( 326599.3,
3796893.6,     237.6,     293.0,       0.0);
     ( 326617.4, 3796889.5,     237.6,     293.0,       0.0);         ( 326639.4,
3796881.9,     233.8,     293.0,       0.0);
     ( 326663.7, 3796864.1,     225.7,     295.0,       0.0);         ( 326679.5,
3796885.2,     227.5,     293.0,       0.0);
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:00:28

                                   PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                      (METERS)

     ( 326697.8, 3796898.3,     229.7,     293.0,       0.0);         ( 326712.3,
3796916.6,     233.6,     293.0,       0.0);
     ( 326726.6, 3796931.1,     236.4,     290.0,       0.0);         ( 326742.2,
3796948.0,     240.5,     290.0,       0.0);
     ( 326756.6, 3796965.7,     242.1,     290.0,       0.0);         ( 326772.1,
3796973.3,     239.2,     290.0,       0.0);
     ( 326785.2, 3796890.5,     223.1,     293.0,       0.0);         ( 326800.1,
3797003.9,     233.0,     290.0,       0.0);
     ( 326818.0, 3797014.9,     229.2,     290.0,       0.0);         ( 326813.7,
3796843.9,     215.1,     293.0,       0.0);
     ( 326833.9, 3796853.6,     216.3,     293.0,       0.0);         ( 326848.6,
3796873.4,     217.5,     293.0,       0.0);
     ( 326864.2, 3796885.1,     217.7,     293.0,       0.0);         ( 326877.9,
3796901.2,     218.2,     292.0,       0.0);
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     ( 326893.8, 3796917.1,     220.4,     292.0,       0.0);         ( 326904.5,
3796938.8,     223.9,     292.0,       0.0);
     ( 326907.6, 3796966.2,     224.5,     292.0,       0.0);         ( 326914.5,
3796991.7,     227.6,     292.0,       0.0);
     ( 326921.9, 3797038.4,     232.7,     292.0,       0.0);         ( 326596.6,
3797264.1,     273.2,     288.0,       0.0);
     ( 326830.0, 3795735.4,     183.6,     217.0,       0.0);         ( 326866.5,
3795706.9,     182.8,     217.0,       0.0);
     ( 326831.5, 3795646.6,     161.0,     217.0,       0.0);         ( 326872.9,
3795644.9,     160.9,     217.0,       0.0);
     ( 326898.9, 3795644.7,     160.9,     217.0,       0.0);         ( 326924.7,
3795650.1,     161.6,     217.0,       0.0);
     ( 326949.7, 3795646.4,     161.1,     217.0,       0.0);         ( 326975.6,
3795638.8,     162.5,     217.0,       0.0);
     ( 326917.9, 3795602.8,     159.0,     217.0,       0.0);         ( 326918.6,
3795584.1,     158.0,     217.0,       0.0);
     ( 326921.6, 3795563.5,     158.0,     217.0,       0.0);         ( 326917.2,
3795537.1,     158.0,     217.0,       0.0);
     ( 326935.0, 3795592.2,     158.8,     217.0,       0.0);         ( 326951.0,
3795599.5,     159.5,     217.0,       0.0);
     ( 326950.3, 3795555.9,     158.0,     217.0,       0.0);         ( 326951.6,
3795535.1,     158.0,     217.0,       0.0);
     ( 326961.8, 3795537.6,     158.0,     217.0,       0.0);         ( 326982.2,
3795538.3,     158.0,     217.0,       0.0);
     ( 326992.4, 3795539.1,     158.0,     217.0,       0.0);         ( 327009.0,
3795535.6,     158.0,     217.0,       0.0);
     ( 326987.7, 3795581.0,     159.0,     217.0,       0.0);         ( 327024.8,
3795588.4,     160.1,     217.0,       0.0);
     ( 326925.1, 3795485.9,     158.0,     217.0,       0.0);         ( 326937.8,
3795488.3,     158.0,     217.0,       0.0);
     ( 326956.5, 3795489.3,     158.0,     217.0,       0.0);         ( 326970.9,
3795491.0,     158.0,     217.0,       0.0);
     ( 326990.0, 3795487.7,     158.0,     217.0,       0.0);         ( 325049.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325124.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325161.8, 3794362.9,     143.2,     143.2,       0.0);         ( 325199.3,
3794362.9,     143.2,     143.2,       0.0);
     ( 325236.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325274.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325049.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794386.1,     143.0,     143.0,       0.0);
     ( 325124.3, 3794386.1,     143.2,     143.2,       0.0);         ( 325161.8,
3794386.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794386.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794386.1,     143.1,     143.1,       0.0);
     ( 325274.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325049.3,
3794409.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794409.3,     143.0,     143.0,       0.0);         ( 325124.3,
3794409.3,     143.2,     143.2,       0.0);
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     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
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     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
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     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
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     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
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     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794687.7,     145.0,     145.0,       0.0);
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     ( 324871.6, 3794298.6,     141.0,     141.0,       0.0);         ( 324910.5,
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     ( 324949.4, 3794298.6,     142.0,     142.0,       0.0);         ( 324988.3,
3794298.6,     142.0,     142.0,       0.0);
     ( 324871.6, 3794320.4,     141.0,     141.0,       0.0);         ( 324910.5,
3794320.4,     141.8,     141.8,       0.0);
     ( 324949.4, 3794320.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794320.4,     142.0,     142.0,       0.0);
     ( 324871.6, 3794342.2,     141.0,     141.0,       0.0);         ( 324910.5,
3794342.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794342.2,     142.0,     142.0,       0.0);         ( 324988.3,
3794342.2,     142.0,     142.0,       0.0);
     ( 324871.6, 3794364.0,     141.2,     141.2,       0.0);         ( 324910.5,
3794364.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794364.0,     142.0,     142.0,       0.0);         ( 324988.3,
3794364.0,     142.2,     142.2,       0.0);
     ( 324871.6, 3794385.8,     141.7,     141.7,       0.0);         ( 324910.5,
3794385.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794385.8,     142.0,     142.0,       0.0);         ( 324988.3,
3794385.8,     142.6,     142.6,       0.0);
     ( 324871.6, 3794407.6,     141.8,     141.8,       0.0);         ( 324910.5,
3794407.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794407.6,     142.0,     142.0,       0.0);         ( 324988.3,
3794407.6,     142.7,     142.7,       0.0);
     ( 324871.6, 3794429.4,     141.8,     141.8,       0.0);         ( 324910.5,
3794429.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794429.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794429.4,     142.7,     142.7,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       16:00:28

                                   PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                              *** DISCRETE CARTESIAN RECEPTORS ***
                                             (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                          (METERS)

     ( 324871.6, 3794451.2,     141.8,     141.8,       0.0);         ( 324910.5,
3794451.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794451.2,     142.1,     142.1,       0.0);         ( 324988.3,
3794451.2,     142.7,     142.7,       0.0);
     ( 324871.6, 3794473.0,     141.8,     141.8,       0.0);         ( 324910.5,
3794473.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794473.0,     142.3,     142.3,       0.0);         ( 324988.3,
3794473.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794494.8,     141.9,     141.9,       0.0);         ( 324910.5,
3794494.8,     142.0,     142.0,       0.0);
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     ( 324949.4, 3794494.8,     142.4,     142.4,       0.0);         ( 324988.3,
3794494.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794074.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794074.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794074.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794074.7,     137.8,     137.8,       0.0);
     ( 324596.8, 3794074.7,     137.6,     137.6,       0.0);         ( 324633.8,
3794074.7,     137.1,     137.1,       0.0);
     ( 324670.7, 3794074.7,     137.0,     137.0,       0.0);         ( 324707.7,
3794074.7,     137.2,     137.2,       0.0);
     ( 324744.6, 3794074.7,     137.9,     137.9,       0.0);         ( 324781.6,
3794074.7,     139.3,     139.3,       0.0);
     ( 324449.0, 3794106.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794106.7,     138.0,     138.0,       0.0);
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     ( 324522.9, 3794106.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794106.7,     138.0,     138.0,       0.0);
     ( 324596.8, 3794106.7,     138.0,     138.0,       0.0);         ( 324633.8,
3794106.7,     137.7,     137.7,       0.0);
     ( 324670.7, 3794106.7,     137.7,     137.7,       0.0);         ( 324707.7,
3794106.7,     138.0,     138.0,       0.0);
     ( 324744.6, 3794106.7,     139.2,     139.2,       0.0);         ( 324781.6,
3794106.7,     139.9,     139.9,       0.0);
     ( 324449.0, 3794138.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794138.6,     138.0,     138.0,       0.0);
     ( 324522.9, 3794138.6,     138.0,     138.0,       0.0);         ( 324559.9,
3794138.6,     138.0,     138.0,       0.0);
     ( 324596.8, 3794138.6,     138.0,     138.0,       0.0);         ( 324633.8,
3794138.6,     138.6,     138.6,       0.0);
     ( 324670.7, 3794138.6,     138.7,     138.7,       0.0);         ( 324707.7,
3794138.6,     139.0,     139.0,       0.0);
     ( 324744.6, 3794138.6,     139.9,     139.9,       0.0);         ( 324781.6,
3794138.6,     140.0,     140.0,       0.0);
     ( 324449.0, 3794170.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794170.6,     138.0,     138.0,       0.0);
     ( 324522.9, 3794170.6,     138.1,     138.1,       0.0);         ( 324559.9,
3794170.6,     138.8,     138.8,       0.0);
     ( 324596.8, 3794170.6,     138.8,     138.8,       0.0);         ( 324633.8,
3794170.6,     139.0,     139.0,       0.0);
     ( 324670.7, 3794170.6,     139.1,     139.1,       0.0);         ( 324707.7,
3794170.6,     139.9,     139.9,       0.0);
     ( 324744.6, 3794170.6,     140.0,     140.0,       0.0);         ( 324781.6,
3794170.6,     140.6,     140.6,       0.0);
     ( 324449.0, 3794202.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794202.6,     138.0,     138.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                         ***        16:00:28

                                    PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                              *** DISCRETE CARTESIAN RECEPTORS ***
                                            (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                        (METERS)

     ( 324522.9, 3794202.6,     138.2,     138.2,       0.0);         ( 324559.9,
3794202.6,     139.0,     139.0,       0.0);
     ( 324596.8, 3794202.6,     139.0,     139.0,       0.0);         ( 324633.8,
3794202.6,     139.0,     139.0,       0.0);
     ( 324670.7, 3794202.6,     139.9,     139.9,       0.0);         ( 324707.7,
3794202.6,     140.0,     140.0,       0.0);
     ( 324744.6, 3794202.6,     140.0,     140.0,       0.0);         ( 324781.6,
3794202.6,     140.8,     140.8,       0.0);
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     ( 324449.0, 3794234.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794234.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794234.5,     138.2,     138.2,       0.0);         ( 324559.9,
3794234.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794234.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794234.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794234.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794234.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794234.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794234.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794266.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794266.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794266.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794266.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794266.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794266.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794266.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794266.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794266.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794266.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794298.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794298.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794298.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794298.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794298.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794298.5,     139.9,     139.9,       0.0);
     ( 324670.7, 3794298.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794298.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794298.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794298.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794330.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794330.4,     138.1,     138.1,       0.0);
     ( 324522.9, 3794330.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794330.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794330.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794330.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794330.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794330.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794330.4,     140.1,     140.1,       0.0);         ( 324781.6,
3794330.4,     140.8,     140.8,       0.0);
     ( 324449.0, 3794362.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794362.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794362.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794362.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794362.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794362.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794362.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794362.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794362.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794362.4,     141.0,     141.0,       0.0);
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     ( 324449.0, 3794394.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794394.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794394.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794394.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794394.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794394.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794394.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794394.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794394.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794394.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794426.4,     138.2,     138.2,       0.0);         ( 324486.0,
3794426.4,     139.0,     139.0,       0.0);
     ( 324522.9, 3794426.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794426.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794426.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794426.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794426.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794426.4,     140.1,     140.1,       0.0);
     ( 324744.6, 3794426.4,     140.7,     140.7,       0.0);         ( 324781.6,
3794426.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794458.3,     138.7,     138.7,       0.0);         ( 324486.0,
3794458.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794458.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794458.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794458.3,     139.2,     139.2,       0.0);         ( 324633.8,
3794458.3,     139.9,     139.9,       0.0);
     ( 324670.7, 3794458.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794458.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794458.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794458.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794490.3,     138.7,     138.7,       0.0);         ( 324486.0,
3794490.3,     139.0,     139.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       16:00:28

                                   PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                                 *** DISCRETE CARTESIAN RECEPTORS ***
                                               (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                           (METERS)

     ( 324522.9, 3794490.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794490.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794490.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794490.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794490.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794490.3,     140.3,     140.3,       0.0);
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     ( 324744.6, 3794490.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794490.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794522.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794522.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794522.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794522.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794554.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794554.2,     139.2,     139.2,       0.0);
     ( 324596.8, 3794554.2,     139.8,     139.8,       0.0);         ( 324633.8,
3794554.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794554.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794554.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794586.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794586.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794586.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794586.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794586.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794586.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794586.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794586.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794586.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794586.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794618.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794618.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794618.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794618.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794618.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794618.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794618.2,     140.1,     140.1,       0.0);         ( 324707.7,
3794618.2,     140.8,     140.8,       0.0);
     ( 324744.6, 3794618.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794618.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794650.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794650.1,     141.0,     141.0,       0.0);
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     ( 324744.6, 3794650.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794650.1,     141.0,     141.0,       0.0);
     ( 324449.0, 3794682.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794682.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794682.1,     139.1,     139.1,       0.0);         ( 324559.9,
3794682.1,     139.9,     139.9,       0.0);
     ( 324596.8, 3794682.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794682.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794682.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794682.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794682.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794682.1,     141.0,     141.0,       0.0);
     ( 326547.4, 3795022.1,     153.0,     153.0,       0.0);         ( 326594.7,
3795022.1,     153.3,     153.3,       0.0);
     ( 326642.0, 3795022.1,     154.0,     154.0,       0.0);         ( 326547.4,
3795042.5,     153.0,     153.0,       0.0);
     ( 326594.7, 3795042.5,     153.9,     153.9,       0.0);         ( 326642.0,
3795042.5,     154.0,     154.0,       0.0);
     ( 326547.4, 3795062.9,     153.0,     153.0,       0.0);         ( 326594.7,
3795062.9,     154.0,     154.0,       0.0);
     ( 326642.0, 3795062.9,     154.0,     154.0,       0.0);         ( 326547.4,
3795083.3,     153.1,     153.1,       0.0);
     ( 326594.7, 3795083.3,     154.0,     154.0,       0.0);         ( 326642.0,
3795083.3,     154.0,     154.0,       0.0);
     ( 326547.4, 3795103.7,     153.6,     153.6,       0.0);         ( 326594.7,
3795103.7,     154.0,     154.0,       0.0);
     ( 326642.0, 3795103.7,     154.0,     154.0,       0.0);         ( 326547.4,
3795124.1,     153.6,     153.6,       0.0);
     ( 326594.7, 3795124.1,     154.0,     154.0,       0.0);         ( 326642.0,
3795124.1,     154.0,     154.0,       0.0);
     ( 326547.4, 3795144.5,     153.7,     153.7,       0.0);         ( 326594.7,
3795144.5,     154.0,     154.0,       0.0);
     ( 326642.0, 3795144.5,     154.0,     154.0,       0.0);         ( 326547.4,
3795164.9,     154.0,     154.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       16:00:28

                                   PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 326594.7, 3795164.9,     154.0,     154.0,       0.0);         ( 326642.0,
3795164.9,     154.0,     154.0,       0.0);
     ( 326547.4, 3795185.3,     154.0,     154.0,       0.0);         ( 326594.7,
3795185.3,     154.0,     154.0,       0.0);
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     ( 326642.0, 3795185.3,     154.0,     154.0,       0.0);         ( 326547.4,
3795205.7,     154.0,     154.0,       0.0);
     ( 326594.7, 3795205.7,     154.0,     154.0,       0.0);         ( 326642.0,
3795205.7,     154.2,     154.2,       0.0);
     ( 326547.4, 3795226.1,     154.0,     154.0,       0.0);         ( 326594.7,
3795226.1,     154.0,     154.0,       0.0);
     ( 326642.0, 3795226.1,     154.8,     154.8,       0.0);         ( 326547.4,
3795246.5,     154.0,     154.0,       0.0);
     ( 326594.7, 3795246.5,     154.1,     154.1,       0.0);         ( 326642.0,
3795246.5,     154.9,     154.9,       0.0);
     ( 326690.4, 3795243.4,     155.0,     155.0,       0.0);         ( 326688.7,
3795223.0,     155.0,     155.0,       0.0);
     ( 326686.0, 3795005.8,     154.0,     154.0,       0.0);         ( 326686.0,
3795033.7,     154.1,     154.1,       0.0);
     ( 326686.0, 3795061.5,     154.3,     154.3,       0.0);         ( 326686.0,
3795089.4,     154.3,     154.3,       0.0);
     ( 326686.0, 3795117.3,     154.3,     154.3,       0.0);         ( 326686.0,
3795145.2,     154.3,     154.3,       0.0);
     ( 326686.0, 3795173.1,     154.4,     154.4,       0.0);         ( 326686.0,
3795201.0,     155.0,     155.0,       0.0);
     ( 326832.8, 3795263.3,     155.3,     155.3,       0.0);         ( 326849.7,
3795263.3,     155.8,     155.8,       0.0);
     ( 326866.5, 3795263.3,     156.0,     156.0,       0.0);         ( 326883.4,
3795263.3,     156.0,     156.0,       0.0);
     ( 326900.3, 3795263.3,     156.0,     156.0,       0.0);         ( 326917.1,
3795263.3,     156.0,     156.0,       0.0);
     ( 326934.0, 3795263.3,     156.5,     156.5,       0.0);         ( 326950.9,
3795263.3,     157.0,     157.0,       0.0);
     ( 326967.8, 3795263.3,     157.0,     157.0,       0.0);         ( 326984.6,
3795263.3,     157.2,     157.2,       0.0);
     ( 327001.5, 3795263.3,     157.8,     157.8,       0.0);         ( 327036.8,
3795141.3,     157.0,     157.0,       0.0);
     ( 327075.7, 3795141.3,     158.0,     158.0,       0.0);         ( 327036.8,
3795160.9,     157.0,     157.0,       0.0);
     ( 327075.7, 3795160.9,     158.0,     158.0,       0.0);         ( 327036.8,
3795180.5,     157.0,     157.0,       0.0);
     ( 327075.7, 3795180.5,     158.0,     158.0,       0.0);         ( 327036.8,
3795200.0,     157.1,     157.1,       0.0);
     ( 327075.7, 3795200.0,     158.0,     158.0,       0.0);         ( 327036.8,
3795219.6,     157.7,     157.7,       0.0);
     ( 327075.7, 3795219.6,     158.0,     158.0,       0.0);         ( 327036.8,
3795239.1,     158.0,     158.0,       0.0);
     ( 327075.7, 3795239.1,     158.0,     158.0,       0.0);         ( 327036.8,
3795258.7,     158.0,     158.0,       0.0);
     ( 327075.7, 3795258.7,     158.0,     158.0,       0.0);         ( 327036.8,
3795278.3,     158.0,     158.0,       0.0);
     ( 327075.7, 3795278.3,     158.0,     158.0,       0.0);         ( 326840.0,
3795223.2,     155.4,     155.4,       0.0);
     ( 326860.6, 3795224.2,     156.0,     156.0,       0.0);         ( 326877.3,
3795222.7,     156.0,     156.0,       0.0);
```

```
     ( 326929.7, 3795223.7,     156.4,     156.4,       0.0);         ( 326932.9,
3795200.0,     156.5,     156.5,       0.0);
     ( 326972.3, 3795217.0,     157.0,     157.0,       0.0);         ( 326970.8,
3795177.6,     157.0,     157.0,       0.0);
     ( 326968.2, 3795152.5,     157.0,     157.0,       0.0);         ( 326998.4,
3795149.8,     157.0,     157.0,       0.0);
     ( 326997.5, 3795176.6,     157.0,     157.0,       0.0);         ( 326995.6,
3795193.0,     157.0,     157.0,       0.0);
     ( 326996.9, 3795215.8,     157.0,     157.0,       0.0);         ( 326917.0,
3795152.2,     156.0,     156.0,       0.0);
     ( 326902.0, 3795150.5,     156.0,     156.0,       0.0);         ( 326884.2,
3795164.4,     156.0,     156.0,       0.0);
     ( 326867.3, 3795151.3,     156.0,     156.0,       0.0);         ( 326873.2,
3795163.4,     156.0,     156.0,       0.0);
     ( 326845.5, 3795152.1,     155.6,     155.6,       0.0);         ( 326824.9,
3795151.4,     155.0,     155.0,       0.0);
     ( 326826.6, 3795170.6,     155.0,     155.0,       0.0);         ( 326840.5,
3795180.2,     155.4,     155.4,       0.0);
     ( 326799.4, 3795148.0,     155.0,     155.0,       0.0);         ( 326776.8,
3795147.9,     155.0,     155.0,       0.0);
     ( 326738.0, 3795152.7,     155.0,     155.0,       0.0);         ( 326781.3,
3795110.8,     155.0,     155.0,       0.0);
     ( 326806.1, 3795109.0,     155.2,     155.2,       0.0);         ( 326804.5,
3795090.7,     155.2,     155.2,       0.0);
     ( 326781.8, 3795086.7,     155.0,     155.0,       0.0);         ( 326787.4,
3795061.8,     155.0,     155.0,       0.0);
     ( 326794.0, 3795031.2,     155.0,     155.0,       0.0);         ( 326977.5,
3795110.7,     157.0,     157.0,       0.0);
     ( 326994.0, 3795107.9,     157.0,     157.0,       0.0);         ( 326984.5,
3795093.8,     157.0,     157.0,       0.0);
     ( 326972.8, 3795082.4,     157.0,     157.0,       0.0);         ( 326995.4,
3795072.5,     157.0,     157.0,       0.0);
     ( 326993.2, 3795060.0,     157.0,     157.0,       0.0);         ( 326984.6,
3795040.8,     157.0,     157.0,       0.0);
     ( 326981.7, 3795027.2,     157.0,     157.0,       0.0);         ( 327041.5,
3795102.1,     157.1,     157.1,       0.0);
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       16:00:28

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     ( 327065.2, 3795095.8,     157.9,     157.9,       0.0);         ( 327040.9,
3795076.3,     157.1,     157.1,       0.0);
```

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

```
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926. Met Version: 14134
Profile file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926.
Surface format: FREE

Profile format: FREE

Surface station no.: 23136 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	281.4	2.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.9	2.0
09	01	01	1	03	-3.3	0.067	-9.000	-9.000	-999.	42.	8.3	0.05	0.81	1.00	1.76	214.	10.0	280.9	2.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.4	2.0
09	01	01	1	05	-6.6	0.115	-9.000	-9.000	-999.	94.	21.1	0.03	0.81	1.00	2.36	93.	10.0	280.4	2.0

```
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00   281.5   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       16:00:28
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
326345.95	3795634.03	0.00207	326414.12	3795779.67	0.00205
326435.80	3795773.48	0.00190	326458.31	3795772.83	0.00183
326424.24	3795858.77	0.00223	326400.20	3795799.84	0.00226
326400.93	3795767.87	0.00198	326424.24	3795858.77	0.00223
326611.84	3795762.99	0.00152	326611.84	3795762.99	0.00152
326610.94	3795777.66	0.00151	326605.86	3795792.89	0.00153
326623.93	3795809.00	0.00144	326627.22	3795836.58	0.00140
326640.09	3795836.58	0.00135	326654.45	3795868.68	0.00124
326665.45	3795883.13	0.00118	326588.30	3795867.62	0.00131
326640.52	3795951.95	0.00105	326658.45	3795975.58	0.00102
326759.52	3796019.28	0.00073	326763.60	3796031.85	0.00072
326775.94	3796048.05	0.00069	326774.23	3796062.19	0.00069
326801.34	3796078.38	0.00063	326809.46	3796094.93	0.00061
326736.80	3796108.96	0.00064	326835.84	3796126.62	0.00054
326836.27	3796140.13	0.00053	326800.95	3796123.31	0.00060
326762.39	3796138.51	0.00056	326766.63	3796155.18	0.00050
326774.14	3796169.68	0.00047	326798.07		

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3796201.57        0.00041
         326808.84    3796229.51        0.00036                       326880.95
3796184.59        0.00044
         326915.56    3796260.01        0.00037                       326941.07
3796261.11        0.00035
         326958.24    3796277.25        0.00033                       326964.89
3796291.08        0.00032
         326984.47    3796322.92        0.00030                       326993.31
3796349.42        0.00029
         326993.49    3796365.88        0.00028                       327007.03
3796382.47        0.00027
         326972.07    3796390.18        0.00026                       326996.78
3796414.54        0.00026
         326693.51    3795789.66        0.00085                       326695.37
3795771.29        0.00087
         326727.00    3795761.34        0.00083                       326758.55
3795787.48        0.00067
         326761.76    3795813.54        0.00060                       326742.22
3795837.06        0.00060
         326838.64    3795823.91        0.00048                       326811.45
3795889.81        0.00045
         326823.87    3795855.97        0.00045                       326876.62
3795837.29        0.00042
         326889.30    3795888.54        0.00039                       326687.45
3795683.69        0.00153
         326829.20    3795731.31        0.00066                       326859.14
3795703.62        0.00063
         326881.10    3795705.58        0.00065                       326787.44
3795607.00        0.00164
         326780.76    3795563.55        0.00180                       326800.04
3795542.65        0.00182
         326808.89    3795540.15        0.00182                       326825.79
3795543.65        0.00180
         326856.70    3795545.31        0.00173                       326792.33
3795494.19        0.00191
         326806.68    3795493.93        0.00187                       326824.07
3795494.42        0.00183
         326853.52    3795481.71        0.00180                       326898.80
3795534.37        0.00164
         325796.15    3795215.59        0.00536                       325823.15
3795215.59        0.00529
         326012.15    3795215.59        0.00434                       326120.15
3795215.59        0.00383
         326147.15    3795215.59        0.00374                       325796.15
3795254.59        0.00642
         325823.15    3795254.59        0.00636                       325850.15
3795254.59        0.00624
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325877.15	3795254.59	0.00611	325904.15	3795254.59	0.00597
325931.15	3795254.59	0.00574	325958.15	3795254.59	0.00561
325985.15	3795254.59	0.00550	326012.15	3795254.59	0.00526
326039.15	3795254.59	0.00511	326066.15	3795254.59	0.00500
326093.15	3795254.59	0.00490	326120.15	3795254.59	0.00480
326147.15	3795254.59	0.00469	325796.15	3795293.59	0.00762
325823.15	3795293.59	0.00751	325850.15	3795293.59	0.00751
325877.15	3795293.59	0.00753	325904.15	3795293.59	0.00744
325931.15	3795293.59	0.00716	325958.15	3795293.59	0.00706
325985.15	3795293.59	0.00672	326012.15	3795293.59	0.00594
326039.15	3795293.59	0.00582	326066.15	3795293.59	0.00548
326093.15	3795293.59	0.00523	326120.15	3795293.59	0.00514
326147.15	3795293.59	0.00504	325796.15	3795332.59	0.00814
325823.15	3795332.59	0.00816	325850.15	3795332.59	0.00923
325877.15	3795332.59	0.00933	325904.15	3795332.59	0.00953
325931.15	3795332.59	0.00928	325958.15		

```
3795332.59        0.00898
         325985.15    3795332.59        0.00742                     326012.15
3795332.59        0.00691
         326039.15    3795332.59        0.00673                     326066.15
3795332.59        0.00663
         326093.15    3795332.59        0.00654                     326120.15
3795332.59        0.00651
         326147.15    3795332.59        0.00641                     325847.44
3795004.89        0.00216
         325872.44    3795004.89        0.00210                     325897.44
3795004.89        0.00204
         325922.44    3795004.89        0.00198                     325947.44
3795004.89        0.00193
         325972.44    3795004.89        0.00187                     325997.44
3795004.89        0.00181
         326022.44    3795004.89        0.00176                     326047.44
3795004.89        0.00172
         326072.44    3795004.89        0.00169                     326097.44
3795004.89        0.00165
         326122.44    3795004.89        0.00162                     326147.44
3795004.89        0.00158
         325847.44    3795046.89        0.00253                     325872.44
3795046.89        0.00246
         325897.44    3795046.89        0.00239                     325922.44
3795046.89        0.00232
         325947.44    3795046.89        0.00225                     325972.44
3795046.89        0.00218
         325997.44    3795046.89        0.00210                     326022.44
3795046.89        0.00205
         326047.44    3795046.89        0.00200                     326072.44
3795046.89        0.00195
         326097.44    3795046.89        0.00191                     326122.44
3795046.89        0.00185
         326147.44    3795046.89        0.00179                     325847.44
3795088.89        0.00299
         325872.44    3795088.89        0.00290                     325897.44
3795088.89        0.00282
         325922.44    3795088.89        0.00274                     325947.44
3795088.89        0.00263
         325972.44    3795088.89        0.00254                     325997.44
3795088.89        0.00247
         326022.44    3795088.89        0.00240                     326047.44
3795088.89        0.00234
         326072.44    3795088.89        0.00229                     326097.44
3795088.89        0.00222
         326122.44    3795088.89        0.00215                     326147.44
3795088.89        0.00209
         325847.44    3795130.89        0.00355                     325872.44
3795130.89        0.00346
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                              ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3795214.89 0.00398
326097.44 3795214.89 0.00389 326147.44
3795214.89 0.00372
326096.58 3795181.52 0.00328 326118.63
3795182.57 0.00323
326144.35 3795184.14 0.00318 325849.74
3794829.62 0.00122
325892.61 3794829.62 0.00117 325935.48
3794829.62 0.00112
325978.35 3794829.62 0.00109 326021.22
3794829.62 0.00105
326064.09 3794829.62 0.00102 325849.74
3794867.55 0.00137
325892.61 3794867.55 0.00130 325935.48
3794867.55 0.00125
325978.35 3794867.55 0.00121 326021.22
3794867.55 0.00117
326064.09 3794867.55 0.00113 325849.74
3794905.48 0.00154
325892.61 3794905.48 0.00146 325935.48
3794905.48 0.00140
325978.35 3794905.48 0.00135 326021.22
3794905.48 0.00130
326064.09 3794905.48 0.00125 325849.74
3794943.41 0.00174
325892.61 3794943.41 0.00165 325935.48
3794943.41 0.00158
325978.35 3794943.41 0.00152 326021.22
3794943.41 0.00146
326064.09 3794943.41 0.00140 325849.74
3794981.34 0.00198
325892.61 3794981.34 0.00189 325935.48
3794981.34 0.00180
325978.35 3794981.34 0.00172 326021.22
3794981.34 0.00163
326064.09 3794981.34 0.00157 325855.31
3794726.62 0.00092
325902.64 3794726.62 0.00088 325855.31
3794745.52 0.00096
325902.64 3794745.52 0.00093 325855.31
3794764.42 0.00101
325902.64 3794764.42 0.00097 325855.31
3794783.32 0.00106
325902.64 3794783.32 0.00102 325855.31
3794802.22 0.00112
325902.64 3794802.22 0.00108 325855.31
3794821.12 0.00118
325902.64 3794821.12 0.00113 326402.77
3795249.33 0.00284
325380.55 3795776.17 0.00133 325415.88

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                               ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3796881.91 0.00009
326663.73 3796864.08 0.00010 326679.47
3796885.20 0.00009
326697.81 3796898.31 0.00009 326712.34
3796916.60 0.00009
326726.62 3796931.14 0.00008 326742.23
3796948.02 0.00008
326756.58 3796965.73 0.00008 326772.07
3796973.30 0.00008
326785.22 3796890.50 0.00010 326800.10
3797003.95 0.00008
326817.96 3797014.86 0.00008 326813.74
3796843.93 0.00011
326833.92 3796853.59 0.00011 326848.61
3796873.43 0.00011
326864.19 3796885.12 0.00010 326877.92
3796901.20 0.00010
326893.85 3796917.11 0.00010 326904.49
3796938.77 0.00009
326907.64 3796966.22 0.00009 326914.45
3796991.73 0.00008
326921.92 3797038.42 0.00008 326596.56
3797264.10 0.00004
326829.98 3795735.43 0.00065 326866.53
3795706.88 0.00062
326831.50 3795646.57 0.00150 326872.90
3795644.95 0.00142
326898.91 3795644.66 0.00137 326924.66
3795650.14 0.00127
326949.68 3795646.43 0.00126 326975.59
3795638.84 0.00113
326917.88 3795602.78 0.00149 326918.63
3795584.13 0.00158
326921.61 3795563.48 0.00158 326917.18
3795537.15 0.00160
326934.99 3795592.17 0.00148 326951.04
3795599.47 0.00139
326950.26 3795555.95 0.00153 326951.59
3795535.07 0.00153
326961.83 3795537.57 0.00151 326982.25
3795538.33 0.00147
326992.41 3795539.09 0.00145 327008.98
3795535.58 0.00142
326987.68 3795580.97 0.00137 327024.81
3795588.42 0.00123
326925.07 3795485.95 0.00160 326937.83
3795488.27 0.00157
326956.45 3795489.28 0.00154 326970.89
3795491.03 0.00151
326989.96 3795487.68 0.00147 325049.27

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3794362.92        0.00088
         325086.77    3794362.92        0.00086                      325124.27
3794362.92        0.00083
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:00:28

                                   PAGE  20
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         325161.77    3794362.92        0.00081                      325199.27
3794362.92        0.00079
         325236.77    3794362.92        0.00076                      325274.27
3794362.92        0.00073
         325049.27    3794386.12        0.00091                      325086.77
3794386.12        0.00089
         325124.27    3794386.12        0.00087                      325161.77
3794386.12        0.00085
         325199.27    3794386.12        0.00083                      325236.77
3794386.12        0.00079
         325274.27    3794386.12        0.00077                      325049.27
3794409.32        0.00095
         325086.77    3794409.32        0.00093                      325124.27
3794409.32        0.00090
         325161.77    3794409.32        0.00089                      325199.27
3794409.32        0.00087
         325236.77    3794409.32        0.00084                      325274.27
3794409.32        0.00081
         325049.27    3794432.52        0.00099                      325086.77
3794432.52        0.00096
         325124.27    3794432.52        0.00095                      325161.77
3794432.52        0.00093
         325199.27    3794432.52        0.00090                      325236.77
3794432.52        0.00088
         325274.27    3794432.52        0.00085                      325049.27
```

3794455.72 0.00103
325086.77 3794455.72 0.00101 325124.27
3794455.72 0.00099
325161.77 3794455.72 0.00097 325199.27
3794455.72 0.00094
325236.77 3794455.72 0.00092 325274.27
3794455.72 0.00089
325049.27 3794478.92 0.00107 325086.77
3794478.92 0.00106
325124.27 3794478.92 0.00104 325161.77
3794478.92 0.00101
325199.27 3794478.92 0.00099 325236.77
3794478.92 0.00096
325274.27 3794478.92 0.00093 325049.27
3794502.12 0.00111
325086.77 3794502.12 0.00110 325124.27
3794502.12 0.00108
325161.77 3794502.12 0.00105 325199.27
3794502.12 0.00103
325236.77 3794502.12 0.00100 325274.27
3794502.12 0.00098
325049.27 3794525.32 0.00116 325086.77
3794525.32 0.00115
325124.27 3794525.32 0.00113 325161.77
3794525.32 0.00110
325199.27 3794525.32 0.00108 325236.77
3794525.32 0.00105
325274.27 3794525.32 0.00102 325049.27
3794548.52 0.00121
325086.77 3794548.52 0.00120 325124.27
3794548.52 0.00118
325161.77 3794548.52 0.00115 325199.27
3794548.52 0.00113
325236.77 3794548.52 0.00110 325274.27
3794548.52 0.00107
325049.27 3794571.72 0.00127 325086.77
3794571.72 0.00126
325124.27 3794571.72 0.00123 325161.77
3794571.72 0.00120
325199.27 3794571.72 0.00118 325236.77
3794571.72 0.00115
325274.27 3794571.72 0.00112 325049.27
3794594.92 0.00132
325086.77 3794594.92 0.00131 325124.27
3794594.92 0.00129
325161.77 3794594.92 0.00126 325199.27
3794594.92 0.00123
325236.77 3794594.92 0.00120 325274.27
3794594.92 0.00118
325049.27 3794618.12 0.00138 325086.77

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5
YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_2.5 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325274.27	3794618.12	0.00124	325049.27	3794641.32	0.00145
325086.77	3794641.32	0.00144	325124.27	3794641.32	0.00141
325161.77	3794641.32	0.00138	325199.27	3794641.32	0.00135
325236.77	3794641.32	0.00132	325274.27	3794641.32	0.00130
325049.27	3794664.52	0.00152	325086.77	3794664.52	0.00151
325124.27	3794664.52	0.00148	325161.77	3794664.52	0.00145
325199.27	3794664.52	0.00142	325236.77	3794664.52	0.00139
325274.27	3794664.52	0.00137	325049.27	3794687.72	0.00159
325086.77	3794687.72	0.00158	325124.27	3794687.72	0.00155
325161.77	3794687.72	0.00152	325199.27	3794687.72	0.00149
325236.77	3794687.72	0.00146	325274.27	3794687.72	0.00145
324871.62	3794298.63	0.00085	324910.53		

3794298.63 0.00083
324949.44 3794298.63 0.00083 324988.35
3794298.63 0.00081
324871.62 3794320.43 0.00087 324910.53
3794320.43 0.00087
324949.44 3794320.43 0.00085 324988.35
3794320.43 0.00084
324871.62 3794342.23 0.00090 324910.53
3794342.23 0.00090
324949.44 3794342.23 0.00088 324988.35
3794342.23 0.00087
324871.62 3794364.03 0.00094 324910.53
3794364.03 0.00093
324949.44 3794364.03 0.00092 324988.35
3794364.03 0.00090
324871.62 3794385.83 0.00098 324910.53
3794385.83 0.00097
324949.44 3794385.83 0.00095 324988.35
3794385.83 0.00094
324871.62 3794407.63 0.00102 324910.53
3794407.63 0.00100
324949.44 3794407.63 0.00098 324988.35
3794407.63 0.00097
324871.62 3794429.43 0.00106 324910.53
3794429.43 0.00104
324949.44 3794429.43 0.00102 324988.35
3794429.43 0.00101
324871.62 3794451.23 0.00110 324910.53
3794451.23 0.00108
324949.44 3794451.23 0.00106 324988.35
3794451.23 0.00105
324871.62 3794473.03 0.00114 324910.53
3794473.03 0.00112
324949.44 3794473.03 0.00110 324988.35
3794473.03 0.00109
324871.62 3794494.83 0.00119 324910.53
3794494.83 0.00116
324949.44 3794494.83 0.00115 324988.35
3794494.83 0.00114
324871.62 3794516.63 0.00123 324910.53
3794516.63 0.00121
324949.44 3794516.63 0.00119 324988.35
3794516.63 0.00118
324871.62 3794538.43 0.00128 324910.53
3794538.43 0.00126
324949.44 3794538.43 0.00124 324988.35
3794538.43 0.00123
324871.62 3794560.23 0.00134 324910.53
3794560.23 0.00131
324949.44 3794560.23 0.00129 324988.35

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
324949.44	3794603.83	0.00141	324988.35	3794603.83	0.00139
324871.62	3794625.63	0.00151	324910.53	3794625.63	0.00148
324949.44	3794625.63	0.00148	324988.35	3794625.63	0.00145
324871.62	3794647.43	0.00157	324910.53	3794647.43	0.00155
324949.44	3794647.43	0.00154	324988.35	3794647.43	0.00151
324871.62	3794669.23	0.00164	324910.53	3794669.23	0.00161
324949.44	3794669.23	0.00161	324988.35	3794669.23	0.00158
324871.62	3794691.03	0.00170	324910.53	3794691.03	0.00168
324949.44	3794691.03	0.00168	324988.35	3794691.03	0.00165
324449.04	3794074.69	0.00071	324485.99	3794074.69	0.00070
324522.94	3794074.69	0.00069	324559.89		

3794074.69 0.00068
324596.84 3794074.69 0.00066 324633.79
3794074.69 0.00065
324670.74 3794074.69 0.00064 324707.69
3794074.69 0.00063
324744.64 3794074.69 0.00063 324781.59
3794074.69 0.00063
324449.04 3794106.66 0.00074 324485.99
3794106.66 0.00073
324522.94 3794106.66 0.00072 324559.89
3794106.66 0.00071
324596.84 3794106.66 0.00070 324633.79
3794106.66 0.00068
324670.74 3794106.66 0.00067 324707.69
3794106.66 0.00066
324744.64 3794106.66 0.00067 324781.59
3794106.66 0.00066
324449.04 3794138.63 0.00077 324485.99
3794138.63 0.00076
324522.94 3794138.63 0.00075 324559.89
3794138.63 0.00074
324596.84 3794138.63 0.00073 324633.79
3794138.63 0.00072
324670.74 3794138.63 0.00071 324707.69
3794138.63 0.00070
324744.64 3794138.63 0.00070 324781.59
3794138.63 0.00069
324449.04 3794170.60 0.00081 324485.99
3794170.60 0.00080
324522.94 3794170.60 0.00079 324559.89
3794170.60 0.00078
324596.84 3794170.60 0.00077 324633.79
3794170.60 0.00076
324670.74 3794170.60 0.00075 324707.69
3794170.60 0.00075
324744.64 3794170.60 0.00073 324781.59
3794170.60 0.00073
324449.04 3794202.57 0.00084 324485.99
3794202.57 0.00083
324522.94 3794202.57 0.00082 324559.89
3794202.57 0.00082
324596.84 3794202.57 0.00081 324633.79
3794202.57 0.00080
324670.74 3794202.57 0.00079 324707.69
3794202.57 0.00078
324744.64 3794202.57 0.00077 324781.59
3794202.57 0.00076
324449.04 3794234.54 0.00088 324485.99
3794234.54 0.00087
324522.94 3794234.54 0.00086 324559.89

```
3794234.54        0.00086
         324596.84    3794234.54        0.00085                       324633.79
3794234.54        0.00084
         324670.74    3794234.54        0.00083                       324707.69
3794234.54        0.00082
         324744.64    3794234.54        0.00080                       324781.59
3794234.54        0.00080
         324449.04    3794266.51        0.00092                       324485.99
3794266.51        0.00091
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:00:28

                                  PAGE  23
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         324522.94    3794266.51        0.00091                       324559.89
3794266.51        0.00090
         324596.84    3794266.51        0.00089                       324633.79
3794266.51        0.00088
         324670.74    3794266.51        0.00088                       324707.69
3794266.51        0.00086
         324744.64    3794266.51        0.00084                       324781.59
3794266.51        0.00084
         324449.04    3794298.48        0.00096                       324485.99
3794298.48        0.00095
         324522.94    3794298.48        0.00096                       324559.89
3794298.48        0.00095
         324596.84    3794298.48        0.00093                       324633.79
3794298.48        0.00093
         324670.74    3794298.48        0.00092                       324707.69
3794298.48        0.00090
         324744.64    3794298.48        0.00089                       324781.59
3794298.48        0.00088
         324449.04    3794330.45        0.00100                       324485.99
```

3794330.45 0.00099
324522.94 3794330.45 0.00100 324559.89
3794330.45 0.00099
324596.84 3794330.45 0.00098 324633.79
3794330.45 0.00098
324670.74 3794330.45 0.00097 324707.69
3794330.45 0.00095
324744.64 3794330.45 0.00093 324781.59
3794330.45 0.00093
324449.04 3794362.42 0.00104 324485.99
3794362.42 0.00105
324522.94 3794362.42 0.00104 324559.89
3794362.42 0.00104
324596.84 3794362.42 0.00103 324633.79
3794362.42 0.00103
324670.74 3794362.42 0.00102 324707.69
3794362.42 0.00100
324744.64 3794362.42 0.00099 324781.59
3794362.42 0.00098
324449.04 3794394.39 0.00108 324485.99
3794394.39 0.00110
324522.94 3794394.39 0.00109 324559.89
3794394.39 0.00108
324596.84 3794394.39 0.00108 324633.79
3794394.39 0.00108
324670.74 3794394.39 0.00107 324707.69
3794394.39 0.00105
324744.64 3794394.39 0.00104 324781.59
3794394.39 0.00103
324449.04 3794426.36 0.00113 324485.99
3794426.36 0.00114
324522.94 3794426.36 0.00114 324559.89
3794426.36 0.00114
324596.84 3794426.36 0.00113 324633.79
3794426.36 0.00113
324670.74 3794426.36 0.00112 324707.69
3794426.36 0.00111
324744.64 3794426.36 0.00110 324781.59
3794426.36 0.00109
324449.04 3794458.33 0.00119 324485.99
3794458.33 0.00120
324522.94 3794458.33 0.00119 324559.89
3794458.33 0.00119
324596.84 3794458.33 0.00119 324633.79
3794458.33 0.00119
324670.74 3794458.33 0.00118 324707.69
3794458.33 0.00117
324744.64 3794458.33 0.00117 324781.59
3794458.33 0.00115
324449.04 3794490.30 0.00124 324485.99

3794490.30   0.00125
         324522.94   3794490.30   0.00125   324559.89
3794490.30   0.00124
         324596.84   3794490.30   0.00125   324633.79
3794490.30   0.00125
         324670.74   3794490.30   0.00124   324707.69
3794490.30   0.00123
         324744.64   3794490.30   0.00123   324781.59
3794490.30   0.00121
         324449.04   3794522.27   0.00130   324485.99
3794522.27   0.00130

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 - - -

3794554.24 0.00135
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3794586.21 0.00142
324522.94 3794586.21 0.00142 324559.89
3794586.21 0.00143
324596.84 3794586.21 0.00145 324633.79
3794586.21 0.00145
324670.74 3794586.21 0.00144 324707.69
3794586.21 0.00144
324744.64 3794586.21 0.00144 324781.59
3794586.21 0.00143
324449.04 3794618.18 0.00147 324485.99
3794618.18 0.00148
324522.94 3794618.18 0.00149 324559.89
3794618.18 0.00150
324596.84 3794618.18 0.00152 324633.79
3794618.18 0.00152
324670.74 3794618.18 0.00152 324707.69
3794618.18 0.00153
324744.64 3794618.18 0.00152 324781.59
3794618.18 0.00151
324449.04 3794650.15 0.00154 324485.99
3794650.15 0.00155
324522.94 3794650.15 0.00155 324559.89
3794650.15 0.00157
324596.84 3794650.15 0.00159 324633.79
3794650.15 0.00159
324670.74 3794650.15 0.00160 324707.69
3794650.15 0.00162
324744.64 3794650.15 0.00161 324781.59
3794650.15 0.00160
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3794682.12 0.00161
324522.94 3794682.12 0.00163 324559.89
3794682.12 0.00166
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3794682.12 0.00167
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3794682.12 0.00169
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3795022.06 0.00134
326641.98 3795022.06 0.00131 326547.36
3795042.46 0.00144
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3795062.86 0.00145
326641.98 3795062.86 0.00145 326547.36

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         326594.67    3795083.26        0.00153                        326641.98
3795083.26        0.00153
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3795103.66        0.00161
         326641.98    3795103.66        0.00161                        326547.36
3795124.06        0.00174
         326594.67    3795124.06        0.00171                        326641.98
3795124.06        0.00170
         326547.36    3795144.46        0.00184                        326594.67
3795144.46        0.00181
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3795164.86        0.00193
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:00:28

                                  PAGE  25
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         326594.67    3795164.86        0.00192                        326641.98
3795164.86        0.00190
         326547.36    3795185.26        0.00205                        326594.67
3795185.26        0.00203
         326641.98    3795185.26        0.00201                        326547.36
3795205.66        0.00218
         326594.67    3795205.66        0.00216                        326641.98
3795205.66        0.00210
         326547.36    3795226.06        0.00233                        326594.67
3795226.06        0.00230
         326641.98    3795226.06        0.00215                        326547.36
3795246.46        0.00249
         326594.67    3795246.46        0.00243                        326641.98
3795246.46        0.00225
         326690.43    3795243.37        0.00215                        326688.67
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3795145.22 0.00176
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3795263.26 0.00182
326866.54 3795263.26 0.00177 326883.41
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326934.02 3795263.26 0.00161 326950.89
3795263.26 0.00154
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326997.48 3795176.61 0.00135 326995.60
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3795152.19 0.00146
326901.95 3795150.46 0.00147 326884.24

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3795180.17        0.00166
         326799.39    3795147.97        0.00164                        326776.77
3795147.89        0.00165
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         326806.10    3795109.04        0.00149                        326804.45
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3795061.79        0.00136
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:00:28

                                   PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         326794.01    3795031.22        0.00127                        326977.50
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3795093.80        0.00123
         326972.85    3795082.37        0.00121                        326995.41
3795072.53        0.00118
         326993.23    3795060.01        0.00116                        326984.60
3795040.80        0.00113
         326981.66    3795027.22        0.00111                        327041.48
3795102.15        0.00119
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3795076.27        0.00116
         327061.24    3795058.32        0.00108                        327037.82
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3795038.41   0.00106
         327051.53   3795017.85   0.00104   327033.29
3795021.71   0.00108
         326826.26   3795110.80   0.00144   326843.29
3795110.80   0.00142
         326860.32   3795110.80   0.00141   326877.35
3795110.80   0.00140
         326894.38   3795110.80   0.00139   326911.41
3795110.80   0.00138
         326928.44   3795110.80   0.00134   326945.47
3795110.80   0.00129
         326819.99   3795048.86   0.00127   326838.19
3795048.86   0.00125
         326856.39   3795048.86   0.00125   326874.59
3795048.86   0.00124
         326892.79   3795048.86   0.00124   326910.99
3795048.86   0.00123
         326929.19   3795048.86   0.00120   326947.39
3795048.86   0.00116

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                               *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
 -
- -
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        326424.24   3795858.77   0.02889 (11012717)   326400.20
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        326400.93   3795767.87   0.02176 (09052906)   326424.24

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3795762.99 0.02325 (13052906)
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       325823.15   3795254.59         0.11031  (09021803)                325850.15
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 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:00:28

                                   PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        325877.15   3795254.59        0.10888  (10010204)                325904.15
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       325931.15   3795254.59         0.10363  (10013003)                325958.15
 3795254.59         0.10213  (13010624)
       325985.15   3795254.59         0.10167  (11121006)                326012.15
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
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325947.44	3795130.89	0.09022	(11122506)	325972.44			

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326147.44 3795130.89 0.07551 (09021807) 325847.44
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325922.44 3795214.89 0.10232 (13010624) 325947.44
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325972.44 3795214.89 0.09720 (11121006) 325997.44
3795214.89 0.09641 (10123020)
326047.44 3795214.89 0.08947 (13122407) 326072.44
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326097.44 3795214.89 0.08588 (11012303) 326147.44
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325892.61 3794829.62 0.07028 (13122407) 325935.48
3794829.62 0.06820 (09122106)
325978.35 3794829.62 0.06744 (13013002) 326021.22
3794829.62 0.06620 (11012303)
326064.09 3794829.62 0.06459 (09020403) 325849.74
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325978.35 3794867.55 0.06958 (13013002) 326021.22
3794867.55 0.06846 (11012303)
326064.09 3794867.55 0.06654 (10021506) 325849.74
3794905.48 0.07594 (11122506)
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325978.35 3794905.48 0.07169 (13013002) 326021.22
3794905.48 0.07061 (11012303)
326064.09 3794905.48 0.06789 (10021506) 325849.74

 3794943.41   0.07829 (11122506)
       325892.61   3794943.41   0.07674 (09121401)   325935.48
 3794943.41   0.07577 (13122407)
       325978.35   3794943.41   0.07418 (09122106)   326021.22
 3794943.41   0.07298 (11122402)
       326064.09   3794943.41   0.07002 (10021506)   325849.74
 3794981.34   0.08062 (11121006)
       325892.61   3794981.34   0.07961 (10123020)   325935.48
 3794981.34   0.07860 (13122103)
       325978.35   3794981.34   0.07696 (12021824)   326021.22
 3794981.34   0.07442 (13013002)
       326064.09   3794981.34   0.07222 (10021506)   325855.31
 3794726.62   0.06520 (13122407)
       325902.64   3794726.62   0.06398 (09122106)   325855.31
 3794745.52   0.06618 (13122407)
       325902.64   3794745.52   0.06498 (12021824)   325855.31
 3794764.42   0.06713 (13122407)
       325902.64   3794764.42   0.06599 (12021824)   325855.31
 3794783.32   0.06824 (13122103)
       325902.64   3794783.32   0.06696 (12021824)   325855.31
 3794802.22   0.06932 (13122103)
       325902.64   3794802.22   0.06796 (13122407)   325855.31
 3794821.12   0.07040 (09121401)
       325902.64   3794821.12   0.06928 (13122407)   326402.77
 3795249.33   0.06337 (12013005)
       325380.55   3795776.17   0.03308 (12012307)   325415.88
 3795858.35   0.01443 (12021301)

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

3796058.09 0.00888 (13012417)
325409.65 3796164.95 0.00810 (13012417) 325322.71
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325297.93 3796111.07 0.00843 (09021319) 325246.73
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325280.01 3796260.66 0.00653 (13012417) 325237.05
3796200.45 0.00656 (13012417)
325163.03 3796071.11 0.01013 (09021718) 325215.74
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       326831.50   3795646.57        0.03284  (13030503)               326872.90
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       326898.91   3795644.66        0.03290  (13030503)               326924.66
 3795650.14        0.03096  (13030503)
       326949.68   3795646.43        0.03215  (13030503)               326975.59
 3795638.84        0.02846  (13030503)
       326917.88   3795602.78        0.03776  (12012024)               326918.63
 3795584.13        0.04147  (12012024)
       326921.61   3795563.48        0.04210  (12012024)               326917.18
 3795537.15        0.04380  (12012024)
       326934.99   3795592.17        0.03861  (12012024)               326951.04
 3795599.47        0.03629  (12012024)
       326950.26   3795555.95        0.04246  (12012024)               326951.59
 3795535.07        0.04382  (12012024)
       326961.83   3795537.57        0.04360  (12012024)               326982.25
 3795538.33        0.04346  (12012024)
       326992.41   3795539.09        0.04337  (12012024)               327008.98
 3795535.58        0.04352  (12012024)
       326987.68   3795580.97        0.03793  (12012024)               327024.81
 3795588.42        0.03446  (12012024)
       326925.07   3795485.95        0.04845  (09012107)               326937.83
 3795488.27        0.04823  (09012107)
       326956.45   3795489.28        0.04800  (09012107)               326970.89
 3795491.03        0.04777  (09012107)
       326989.96   3795487.68        0.04771  (09012107)               325049.27
 3794362.92        0.05246  (10012707)
       325086.77   3794362.92        0.05261  (12021724)               325124.27
 3794362.92        0.05245  (09020419)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:00:28

                                  PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 3794525.32        0.05878  (10012707)
       325199.27   3794525.32        0.05896  (12021724)               325236.77
 3794525.32        0.05871  (09020419)
       325274.27   3794525.32        0.05905  (13120620)               325049.27
 3794548.52        0.05727  (09120921)
       325086.77   3794548.52        0.05886  (10011404)               325124.27
 3794548.52        0.05893  (10011119)
       325161.77   3794548.52        0.05954  (10010424)               325199.27
 3794548.52        0.05971  (10012707)
       325236.77   3794548.52        0.05977  (12021724)               325274.27
 3794548.52        0.05980  (13120620)
       325049.27   3794571.72        0.05777  (09120921)               325086.77
 3794571.72        0.05945  (10011404)
       325124.27   3794571.72        0.05975  (10011404)               325161.77
 3794571.72        0.06030  (10010424)
       325199.27   3794571.72        0.06056  (10012707)               325236.77
 3794571.72        0.06072  (12021724)
       325274.27   3794571.72        0.06041  (09020419)               325049.27
 3794594.92        0.05848  (11121923)
       325086.77   3794594.92        0.06022  (09120921)               325124.27
 3794594.92        0.06074  (10011404)
       325161.77   3794594.92        0.06075  (10011119)               325199.27
 3794594.92        0.06135  (10010424)
       325236.77   3794594.92        0.06148  (10012707)               325274.27
 3794594.92        0.06149  (12021724)
       325049.27   3794618.12        0.05892  (09022006)               325086.77
 3794618.12        0.06074  (11121923)
       325124.27   3794618.12        0.06133  (10011404)               325161.77
 3794618.12        0.06166  (10011404)
       325199.27   3794618.12        0.06219  (10010424)               325236.77
 3794618.12        0.06244  (10012707)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:00:28

                                   PAGE  32
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                    INCLUDING SOURCE(S):     PAREA1      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
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Y-COORD (M)        CONC     (YYMMDDHH)
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 3794429.43        0.05173  (11121923)
       324949.44   3794429.43        0.05215  (09120921)               324988.35
 3794429.43        0.05330  (10011404)
       324871.62   3794451.23        0.05155  (09022006)               324910.53
 3794451.23        0.05223  (11121923)
       324949.44   3794451.23        0.05268  (09120921)               324988.35
 3794451.23        0.05384  (10011404)
       324871.62   3794473.03        0.05179  (09022006)               324910.53
 3794473.03        0.05258  (09022006)
       324949.44   3794473.03        0.05344  (11121923)               324988.35
 3794473.03        0.05463  (09120921)
       324871.62   3794494.83        0.05251  (12010904)               324910.53
 3794494.83        0.05310  (09022006)
       324949.44   3794494.83        0.05401  (11121923)               324988.35
 3794494.83        0.05522  (09120921)
       324871.62   3794516.63        0.05288  (12010904)               324910.53
 3794516.63        0.05341  (12010904)
       324949.44   3794516.63        0.05442  (09022006)               324988.35
 3794516.63        0.05570  (11121923)
       324871.62   3794538.43        0.05341  (12021707)               324910.53
 3794538.43        0.05394  (12010904)
       324949.44   3794538.43        0.05494  (09022006)               324988.35
 3794538.43        0.05624  (11121923)
       324871.62   3794560.23        0.05368  (12021707)               324910.53
 3794560.23        0.05424  (12021707)
       324949.44   3794560.23        0.05533  (12010904)               324988.35
 3794560.23        0.05671  (09022006)
       324871.62   3794582.03        0.05417  (13012724)               324910.53
 3794582.03        0.05476  (12021707)
       324949.44   3794582.03        0.05582  (12010904)               324988.35
 3794582.03        0.05723  (09022006)
       324871.62   3794603.83        0.05445  (13012724)               324910.53
 3794603.83        0.05508  (13012724)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:00:28

                                  PAGE  33
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                   INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **
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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324949.44	3794603.83	0.05640	(12021707)	324988.35	3794603.83	0.05770	(12010904)
324871.62	3794625.63	0.05493	(12022904)	324910.53	3794625.63	0.05563	(13012724)
324949.44	3794625.63	0.05746	(12021707)	324988.35	3794625.63	0.05816	(12010904)
324871.62	3794647.43	0.05522	(12022904)	324910.53	3794647.43	0.05595	(12022904)
324949.44	3794647.43	0.05792	(13012724)	324988.35	3794647.43	0.05866	(12021707)
324871.62	3794669.23	0.05568	(12012404)	324910.53	3794669.23	0.05640	(12022904)
324949.44	3794669.23	0.05832	(13012724)	324988.35	3794669.23	0.05903	(12021707)
324871.62	3794691.03	0.05602	(12012404)	324910.53	3794691.03	0.05673	(12012404)
324949.44	3794691.03	0.05876	(12022904)	324988.35	3794691.03	0.05955	(13012724)
324449.04	3794074.69	0.03920	(12010904)	324485.99	3794074.69	0.03927	(09022006)
324522.94	3794074.69	0.03952	(09022006)	324559.89	3794074.69	0.03960	(11121923)
324596.84	3794074.69	0.03943	(09120921)	324633.79	3794074.69	0.03936	(09120921)
324670.74	3794074.69	0.03948	(10011404)	324707.69	3794074.69	0.03953	(10011404)
324744.64	3794074.69	0.04026	(10011119)	324781.59	3794074.69	0.04188	(10010424)
324449.04	3794106.66	0.03942	(12010904)	324485.99	3794106.66	0.03975	(12010904)
324522.94	3794106.66	0.03988	(09022006)	324559.89	3794106.66	0.04006	(09022006)
324596.84	3794106.66	0.04033	(11121923)	324633.79	3794106.66	0.04020	(09120921)
324670.74	3794106.66	0.04034	(09120921)	324707.69	3794106.66	0.04087	(10011404)
324744.64	3794106.66	0.04188	(10011119)	324781.59	3794106.66	0.04283	(10010424)
324449.04	3794138.63	0.03996	(12021707)	324485.99	3794138.63	0.04001	(12010904)
324522.94	3794138.63	0.04031	(12010904)	324559.89	3794138.63	0.04050	(09022006)
324596.84	3794138.63	0.04060	(09022006)	324633.79	3794138.63	0.04146	(11121923)
324670.74	3794138.63	0.04174	(09120921)	324707.69			

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794266.51	0.04281	(13012724)	324559.89	3794266.51	0.04294	(12021707)
324596.84	3794266.51	0.04326	(12021707)	324633.79	3794266.51	0.04352	(12010904)
324670.74	3794266.51	0.04461	(09022006)	324707.69	3794266.51	0.04500	(09022006)
324744.64	3794266.51	0.04532	(11121923)	324781.59	3794266.51	0.04632	(09120921)
324449.04	3794298.48	0.04202	(12012404)	324485.99	3794298.48	0.04220	(12022904)
324522.94	3794298.48	0.04316	(12022904)	324559.89	3794298.48	0.04348	(13012724)
324596.84	3794298.48	0.04363	(12021707)	324633.79	3794298.48	0.04474	(12021707)
324670.74	3794298.48	0.04522	(12010904)	324707.69	3794298.48	0.04543	(09022006)
324744.64	3794298.48	0.04571	(09022006)	324781.59	3794298.48	0.04689	(11121923)
324449.04	3794330.45	0.04259	(12012404)	324485.99	3794330.45	0.04270	(12012404)
324522.94	3794330.45	0.04373	(12022904)	324559.89	3794330.45	0.04381	(12022904)
324596.84	3794330.45	0.04415	(13012724)	324633.79	3794330.45	0.04518	(12021707)
324670.74	3794330.45	0.04561	(12021707)	324707.69	3794330.45	0.04599	(12010904)
324744.64	3794330.45	0.04632	(09022006)	324781.59	3794330.45	0.04728	(11121923)
324449.04	3794362.42	0.04307	(11010801)	324485.99	3794362.42	0.04402	(12012404)
324522.94	3794362.42	0.04416	(12012404)	324559.89	3794362.42	0.04438	(12022904)
324596.84	3794362.42	0.04447	(12022904)	324633.79	3794362.42	0.04570	(13012724)
324670.74	3794362.42	0.04610	(12021707)	324707.69	3794362.42	0.04635	(12021707)
324744.64	3794362.42	0.04736	(12010904)	324781.59	3794362.42	0.04818	(09022006)
324449.04	3794394.39	0.04376	(11010801)	324485.99	3794394.39	0.04455	(11010801)
324522.94	3794394.39	0.04473	(12012404)	324559.89	3794394.39	0.04481	(12012404)
324596.84	3794394.39	0.04506	(12022904)	324633.79			

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 3794394.39        0.04603  (12022904)
       324670.74   3794394.39        0.04661  (13012724)               324707.69
 3794394.39        0.04691  (12021707)
       324744.64   3794394.39        0.04770  (12010904)               324781.59
 3794394.39        0.04868  (12010904)
       324449.04   3794426.36        0.04460  (11010801)               324485.99
 3794426.36        0.04527  (11010801)
       324522.94   3794426.36        0.04527  (11010801)               324559.89
 3794426.36        0.04538  (12012404)
       324596.84   3794426.36        0.04550  (12012404)               324633.79
 3794426.36        0.04664  (12022904)
       324670.74   3794426.36        0.04695  (13012724)               324707.69
 3794426.36        0.04750  (13012724)
       324744.64   3794426.36        0.04849  (12021707)               324781.59
 3794426.36        0.04912  (12010904)
       324449.04   3794458.33        0.04599  (09020801)               324485.99
 3794458.33        0.04598  (11010801)
       324522.94   3794458.33        0.04596  (11010801)               324559.89
 3794458.33        0.04593  (11010801)
       324596.84   3794458.33        0.04629  (12012404)               324633.79
 3794458.33        0.04717  (12012404)
       324670.74   3794458.33        0.04757  (12022904)               324707.69
 3794458.33        0.04810  (13012724)
       324744.64   3794458.33        0.04933  (13012724)               324781.59
 3794458.33        0.04975  (12021707)
       324449.04   3794490.30        0.04702  (09020801)               324485.99
 3794490.30        0.04695  (09020801)
       324522.94   3794490.30        0.04664  (09020801)               324559.89
 3794490.30        0.04661  (11010801)
       324596.84   3794490.30        0.04728  (11010801)               324633.79
 3794490.30        0.04783  (12012404)
       324670.74   3794490.30        0.04804  (12012404)               324707.69
 3794490.30        0.04872  (12022904)
       324744.64   3794490.30        0.04975  (13012724)               324781.59
 3794490.30        0.05023  (13012724)
       324449.04   3794522.27        0.04839  (09020801)               324485.99
 3794522.27        0.04802  (09020801)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       16:00:28

                                  PAGE  35
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
```

***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794522.27	0.04761	(09020801)	324559.89	3794522.27	0.04733	(09020801)
324596.84	3794522.27	0.04796	(11010801)	324633.79	3794522.27	0.04844	(11010801)
324670.74	3794522.27	0.04859	(12012404)	324707.69	3794522.27	0.04920	(12012404)
324744.64	3794522.27	0.05037	(12022904)	324781.59	3794522.27	0.05068	(13012724)
324449.04	3794554.24	0.05014	(12021007)	324485.99	3794554.24	0.04927	(09020801)
324522.94	3794554.24	0.04870	(09020801)	324559.89	3794554.24	0.04854	(09020801)
324596.84	3794554.24	0.04897	(09020801)	324633.79	3794554.24	0.04911	(11010801)
324670.74	3794554.24	0.04921	(11010801)	324707.69	3794554.24	0.04974	(12012404)
324744.64	3794554.24	0.05087	(12012404)	324781.59	3794554.24	0.05129	(12022904)
324449.04	3794586.21	0.05196	(12021007)	324485.99	3794586.21	0.05094	(12021007)
324522.94	3794586.21	0.05001	(12021007)	324559.89	3794586.21	0.04986	(09020801)
324596.84	3794586.21	0.05017	(09020801)	324633.79	3794586.21	0.04991	(09020801)
324670.74	3794586.21	0.04986	(11010801)	324707.69	3794586.21	0.05038	(11010801)
324744.64	3794586.21	0.05141	(12012404)	324781.59	3794586.21	0.05179	(12012404)
324449.04	3794618.18	0.05401	(13021402)	324485.99	3794618.18	0.05287	(12021007)
324522.94	3794618.18	0.05177	(12021007)	324559.89	3794618.18	0.05127	(12021007)
324596.84	3794618.18	0.05135	(09020801)	324633.79	3794618.18	0.05093	(09020801)
324670.74	3794618.18	0.05077	(09020801)	324707.69	3794618.18	0.05161	(11010801)
324744.64	3794618.18	0.05209	(11010801)	324781.59	3794618.18	0.05231	(12012404)
324449.04	3794650.15	0.05637	(13021402)	324485.99	3794650.15	0.05508	(13021402)
324522.94	3794650.15	0.05382	(12021007)	324559.89			

```
 3794650.15         0.05313  (12021007)
       324596.84   3794650.15         0.05287  (12021007)                324633.79
 3794650.15         0.05215  (09020801)
       324670.74   3794650.15         0.05182  (09020801)                324707.69
 3794650.15         0.05278  (09020801)
       324744.64   3794650.15         0.05272  (11010801)                324781.59
 3794650.15         0.05299  (11010801)
       324449.04   3794682.12         0.05899  (09120303)                324485.99
 3794682.12         0.05760  (13021402)
       324522.94   3794682.12         0.05638  (13021402)                324559.89
 3794682.12         0.05604  (12021007)
       324596.84   3794682.12         0.05487  (12021007)                324633.79
 3794682.12         0.05375  (12021007)
       324670.74   3794682.12         0.05308  (09020801)                324707.69
 3794682.12         0.05386  (09020801)
       324744.64   3794682.12         0.05366  (09020801)                324781.59
 3794682.12         0.05361  (09020801)
       326547.36   3795022.06         0.05197  (13122403)                326594.67
 3795022.06         0.05093  (12022103)
       326641.98   3795022.06         0.04849  (12122705)                326547.36
 3795042.46         0.05279  (12121322)
       326594.67   3795042.46         0.04905  (10011406)                326641.98
 3795042.46         0.04930  (10021501)
       326547.36   3795062.86         0.05366  (12022103)                326594.67
 3795062.86         0.04925  (12122705)
       326641.98   3795062.86         0.05020  (13010101)                326547.36
 3795083.26         0.05391  (10011406)
       326594.67   3795083.26         0.05012  (13010623)                326641.98
 3795083.26         0.05117  (13011507)
       326547.36   3795103.66         0.05246  (12122705)                326594.67
 3795103.66         0.05109  (13010101)
       326641.98   3795103.66         0.05226  (13122107)                326547.36
 3795124.06         0.05302  (13010623)
       326594.67   3795124.06         0.05218  (13011507)                326641.98
 3795124.06         0.05346  (10122806)
       326547.36   3795144.46         0.05366  (13011507)                326594.67
 3795144.46         0.05339  (09021506)
       326641.98   3795144.46         0.05481  (12022205)                326547.36
 3795164.86         0.05338  (09021506)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:00:28

                                  PAGE  36
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326594.67	3795164.86	0.05478	(12022205)	326641.98	3795164.86	0.05632	(13121104)
326547.36	3795185.26	0.05467	(13120806)	326594.67	3795185.26	0.05637	(13121104)
326641.98	3795185.26	0.05804	(12013005)	326547.36	3795205.66	0.05643	(12013005)
326594.67	3795205.66	0.05818	(12013005)	326641.98	3795205.66	0.05820	(12013005)
326547.36	3795226.06	0.05820	(12013005)	326594.67	3795226.06	0.05987	(12013005)
326641.98	3795226.06	0.05659	(13020420)	326547.36	3795246.46	0.06036	(09021124)
326594.67	3795246.46	0.06134	(11013105)	326641.98	3795246.46	0.05790	(12020201)
326690.43	3795243.37	0.05880	(10122506)	326688.67	3795223.05	0.05638	(11013105)
326686.02	3795005.77	0.04855	(10021501)	326686.02	3795033.66	0.04903	(13010101)
326686.02	3795061.55	0.04968	(13011507)	326686.02	3795089.44	0.05109	(09021506)
326686.02	3795117.33	0.05272	(12022205)	326686.02	3795145.22	0.05460	(13121104)
326686.02	3795173.11	0.05588	(12013005)	326686.02	3795201.00	0.05409	(13020722)
326832.80	3795263.26	0.06201	(10021404)	326849.67	3795263.26	0.05927	(12010208)
326866.54	3795263.26	0.05787	(13122805)	326883.41	3795263.26	0.05810	(13122805)
326900.28	3795263.26	0.05824	(13122805)	326917.15	3795263.26	0.05829	(13122805)
326934.02	3795263.26	0.05530	(13122805)	326950.89	3795263.26	0.05301	(11010918)
326967.76	3795263.26	0.05282	(11010918)	326984.63	3795263.26	0.05171	(12011002)
327001.50	3795263.26	0.04908	(12120505)	327036.85	3795141.35	0.04647	(10012524)
327075.72	3795141.35	0.04258	(13012604)	327036.85	3795160.91	0.04745	(13020901)
327075.72	3795160.91	0.04399	(13012604)	327036.85			

```
 3795180.47        0.04848  (11012803)
       327075.72   3795180.47        0.04493  (09121202)                327036.85
 3795200.03        0.04930  (12010208)
       327075.72   3795200.03        0.04537  (12010208)                327036.85
 3795219.59        0.04742  (12120505)
       327075.72   3795219.59        0.04670  (12120505)                327036.85
 3795239.15        0.04780  (12120505)
       327075.72   3795239.15        0.04733  (12120505)                327036.85
 3795258.71        0.04770  (09120419)
       327075.72   3795258.71        0.04776  (09120419)                327036.85
 3795278.27        0.04845  (13121308)
       327075.72   3795278.27        0.04868  (13121308)                326840.04
 3795223.24        0.05801  (13020901)
       326860.58   3795224.16        0.05485  (11020605)                326877.30
 3795222.74        0.05497  (11020605)
       326929.68   3795223.69        0.05346  (11012803)                326932.86
 3795200.00        0.05129  (11020605)
       326972.32   3795217.03        0.05035  (12010208)                326970.84
 3795177.58        0.04772  (13020901)
       326968.20   3795152.46        0.04630  (10022004)                326998.43
 3795149.77        0.04648  (10012524)
       326997.48   3795176.61        0.04793  (11020605)                326995.60
 3795193.01        0.04888  (11012803)
       326996.92   3795215.78        0.05043  (12010208)                326916.97
 3795152.19        0.05031  (12020201)
       326901.95   3795150.46        0.04996  (11013105)                326884.24
 3795164.40        0.05059  (12020201)
       326867.32   3795151.32        0.04938  (13020420)                326873.22
 3795163.36        0.05031  (11013105)
       326845.53   3795152.12        0.05121  (13020722)                326824.91
 3795151.45        0.05376  (13011601)
       326826.60   3795170.60        0.05534  (09021124)                326840.50
 3795180.17        0.05411  (11013105)
       326799.39   3795147.97        0.05293  (10013106)                326776.77
 3795147.89        0.05251  (12022206)
       326738.03   3795152.73        0.05217  (12022206)                326781.33
 3795110.75        0.05057  (12013005)
       326806.10   3795109.04        0.04976  (12022206)                326804.45
 3795090.73        0.04882  (09013022)
       326781.78   3795086.72        0.04919  (13121104)                326787.40
 3795061.79        0.04800  (12022205)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
2_Construction\Hitch Ranch_Ph ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:00:28

                                  PAGE  37
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                             *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
```

VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
 -
- -
        326794.01   3795031.22   0.04669 (10122806)   326977.50
 3795110.69   0.04429 (09120204)
        326994.05   3795107.87   0.04433 (12011705)   326984.52
 3795093.80   0.04344 (09120204)
        326972.85   3795082.37   0.04263 (13020722)   326995.41
 3795072.53   0.04251 (13020722)
        326993.23   3795060.01   0.04187 (13011601)   326984.60
 3795040.80   0.04102 (11120708)
        326981.66   3795027.22   0.04090 (11120708)   327041.48
 3795102.15   0.04409 (12011705)
        327065.19   3795095.75   0.04113 (12011705)   327040.88
 3795076.27   0.04294 (09120204)
        327061.24   3795058.32   0.04000 (09120204)   327037.82
 3795061.09   0.04260 (13020722)
        327035.65   3795040.58   0.04164 (13011601)   327058.94
 3795038.41   0.03936 (13012606)
        327051.53   3795017.85   0.03926 (12010321)   327033.29
 3795021.71   0.04085 (12010321)
        326826.26   3795110.80   0.04721 (11120708)   326843.29
 3795110.80   0.04681 (11120708)
        326860.32   3795110.80   0.04667 (12010321)   326877.35
 3795110.80   0.04702 (12010321)
        326894.38   3795110.80   0.04733 (13011601)   326911.41
 3795110.80   0.04762 (13011601)
        326928.44   3795110.80   0.04636 (13020722)   326945.47
 3795110.80   0.04416 (09120204)
        326819.99   3795048.86   0.04454 (10010821)   326838.19
 3795048.86   0.04357 (10020622)
        326856.39   3795048.86   0.04396 (11121808)   326874.59
 3795048.86   0.04434 (11121808)
        326892.79   3795048.86   0.04464 (11121808)   326910.99
 3795048.86   0.04492 (12022206)
        326929.19   3795048.86   0.04362 (11120708)   326947.39
 3795048.86   0.04140 (11120708)

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***

                                 ** CONC OF PM_2.5   IN MICROGRAMS/M**3
             **

                      NETWORK
GROUP ID   AVERAGE CONC   RECEPTOR (XR, YR,
ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
- -
- - - - - - - - - - - - - - - - - - -

ALL   1ST HIGHEST VALUE IS   0.00953 AT (325904.15, 3795332.59,
149.61,   185.00,   0.00) DC
          2ND HIGHEST VALUE IS   0.00933 AT (325877.15, 3795332.59,
150.22,   185.00,   0.00) DC
          3RD HIGHEST VALUE IS   0.00928 AT (325931.15, 3795332.59,
150.05,   165.00,   0.00) DC
          4TH HIGHEST VALUE IS   0.00923 AT (325850.15, 3795332.59,
150.51,   185.00,   0.00) DC
          5TH HIGHEST VALUE IS   0.00898 AT (325958.15, 3795332.59,
150.51,   166.00,   0.00) DC
          6TH HIGHEST VALUE IS   0.00816 AT (325823.15, 3795332.59,
151.02,   185.00,   0.00) DC
          7TH HIGHEST VALUE IS   0.00814 AT (325796.15, 3795332.59,
151.11,   185.00,   0.00) DC
          8TH HIGHEST VALUE IS   0.00762 AT (325796.15, 3795293.59,
150.13,   185.00,   0.00) DC
          9TH HIGHEST VALUE IS   0.00753 AT (325877.15, 3795293.59,
149.15,   185.00,   0.00) DC
         10TH HIGHEST VALUE IS   0.00751 AT (325850.15, 3795293.59,
149.69,   185.00,   0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE	CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.11694	ON 12122922:	AT (325904.15, 3795332.59, 149.61, 185.00, 0.00)	DC	

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   15612 Informational Message(s)

 A Total of   43872 Hours Were Processed

 A Total of   13724 Calm Hours Identified

 A Total of   1888 Missing Hours Identified (4.30 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

```
   ********   WARNING MESSAGES   ********
MX W481   43873         MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD
View\Phase&3Construction_Mitigated_11.3\Phase&3Construction_Mitigated_11.3.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 1_Mitiated\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase&3Construction_Mitigated_11.3.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325048.840  3795233.290      145.140
** Source Parameters **
   SRCPARAM PAREA1       1.2244E-09     3.000        16
   AREAVERT PAREA1       325048.840 3795233.290 325002.320 3795338.940
   AREAVERT PAREA1       324649.150 3795252.700 324649.150 3795514.450
   AREAVERT PAREA1       325044.060 3795513.690 325044.060 3795684.570
   AREAVERT PAREA1       325432.540 3795684.570 326389.700 3796190.480
   AREAVERT PAREA1       326397.210 3795756.410 326288.670 3795758.120
   AREAVERT PAREA1       326277.560 3795694.020 326166.380 3795525.260
   AREAVERT PAREA1       326425.650 3795493.540 326479.010 3795469.120
   AREAVERT PAREA1       326469.840 3795364.180 325735.780 3795372.310
   SRCGROUP ALL
SO FINISHED
**
**************************************
```

```
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED Phase&3Construction_Mitigated_11.3.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE&3CONSTRUCTION_MITIGATED_11.3.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE&3CONSTRUCTION_MITIGATED_11.3.AD\AN00GALL.PLT 32
   SUMMFILE Phase&3Construction_Mitigated_11.3.sum
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD
View\Phase&3Construction_Mitigated_11.3\Phase&3Construction_Mitigated_11.3.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 1_Mitiated\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase&3Construction_Mitigated_11.3.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325048.840  3795233.290      145.140
** Source Parameters **
   SRCPARAM PAREA1       1.2244E-09     3.000        16
   AREAVERT PAREA1       325048.840 3795233.290 325002.320 3795338.940
   AREAVERT PAREA1       324649.150 3795252.700 324649.150 3795514.450
   AREAVERT PAREA1       325044.060 3795513.690 325044.060 3795684.570
   AREAVERT PAREA1       325432.540 3795684.570 326389.700 3796190.480
   AREAVERT PAREA1       326397.210 3795756.410 326288.670 3795758.120
   AREAVERT PAREA1       326277.560 3795694.020 326166.380 3795525.260
   AREAVERT PAREA1       326425.650 3795493.540 326479.010 3795469.120
   AREAVERT PAREA1       326469.840 3795364.180 325735.780 3795372.310
   SRCGROUP ALL
SO FINISHED
**
**************************************
```

```
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED Phase&3Construction_Mitigated_11.3.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE&3CONSTRUCTION_MITIGATED_11.3.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE&3CONSTRUCTION_MITIGATED_11.3.AD\AN00GALL.PLT 32
   SUMMFILE Phase&3Construction_Mitigated_11.3.sum
OU FINISHED

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       17:10:51

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          ***     MODEL SETUP OPTIONS SUMMARY
```

```
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     834
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
```

```
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    24.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   Phase&3Construction_Mitigated_11.3.err

 **File for Summary of Results:   Phase&3Construction_Mitigated_11.3.sum

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:10:51

                                   PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL


                                                  *** AREAPOLY SOURCE DATA ***

              NUMBER EMISSION RATE   LOCATION OF AREA  BASE     RELEASE  NUMBER
  INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC       X        Y      ELEV.    HEIGHT  OF VERTS.
   SZ     SOURCE  SCALAR VARY
     ID         CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
(METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
```

```
 PAREA1           0   0.12244E-08  325048.8 3795233.3   145.1     3.00      16
   0.00     NO
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:10:51

                                   PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL


                                          *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                                 SOURCE IDs
 -----------                                                 ----------


  ALL        PAREA1      ,
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:10:51

                                   PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                            *** DISCRETE CARTESIAN RECEPTORS ***
                                          (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                       (METERS)

     ( 326346.0, 3795634.0,     172.5,     190.0,       0.0);         ( 326414.1,
3795779.7,     180.0,     277.0,       0.0);
     ( 326435.8, 3795773.5,     176.6,     277.0,       0.0);         ( 326458.3,
3795772.8,     174.6,     277.0,       0.0);
     ( 326424.2, 3795858.8,     178.9,     295.0,       0.0);         ( 326400.2,
3795799.8,     182.9,     277.0,       0.0);
     ( 326400.9, 3795767.9,     180.8,     277.0,       0.0);         ( 326424.2,
3795858.8,     178.9,     295.0,       0.0);
     ( 326611.8, 3795763.0,     168.9,     277.0,       0.0);         ( 326611.8,
3795763.0,     168.9,     277.0,       0.0);
     ( 326610.9, 3795777.7,     169.0,     277.0,       0.0);         ( 326605.9,
3795792.9,     169.0,     277.0,       0.0);
     ( 326623.9, 3795809.0,     169.6,     277.0,       0.0);         ( 326627.2,
3795836.6,     170.1,     295.0,       0.0);
     ( 326640.1, 3795836.6,     170.2,     277.0,       0.0);         ( 326654.5,
3795868.7,     171.6,     291.0,       0.0);
     ( 326665.5, 3795883.1,     172.0,     295.0,       0.0);         ( 326588.3,
3795867.6,     175.1,     277.0,       0.0);
     ( 326640.5, 3795951.9,     177.0,     295.0,       0.0);         ( 326658.5,
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     ( 326759.5, 3796019.3,     178.2,     277.0,       0.0);         ( 326763.6,
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     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
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     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
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     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
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     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
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3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
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     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
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     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
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     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
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     ( 326806.7, 3795493.9,     157.9,     217.0,       0.0);         ( 326824.1,
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     (326012.1, 3795215.6,   150.0,   150.0,   0.0);   (326120.1,
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     (325931.1, 3795254.6,   149.9,   149.9,   0.0);   (325958.1,
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     (325985.1, 3795254.6,   150.0,   150.0,   0.0);   (326012.1,
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     (326039.1, 3795254.6,   151.0,   151.0,   0.0);   (326066.1,
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3795254.6,   151.0,   151.0,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (326147.1, 3795254.6,   151.0,   151.0,   0.0);   (325796.1,
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     ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
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     ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
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     ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
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     ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
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     ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
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     ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
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     ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
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3795130.9,     150.0,     150.0,       0.0);
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3795172.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795172.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795172.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795172.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795172.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795172.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795172.9,     150.2,     150.2,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       17:10:51

                                    PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     ( 326072.4, 3795172.9,     150.8,     150.8,       0.0);         ( 325847.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795214.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795214.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795214.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326072.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326097.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326147.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326096.6, 3795181.5,     151.0,     151.0,       0.0);         ( 326118.6,
3795182.6,     151.0,     151.0,       0.0);
     ( 326144.3, 3795184.1,     151.0,     151.0,       0.0);         ( 325849.7,
```

3794829.6,   148.0,   148.0,   0.0);
     (325892.6, 3794829.6,   148.0,   148.0,   0.0);   (325935.5,
3794829.6,   148.8,   148.8,   0.0);
     (325978.3, 3794829.6,   149.0,   149.0,   0.0);   (326021.2,
3794829.6,   149.0,   149.0,   0.0);
     (326064.1, 3794829.6,   149.5,   149.5,   0.0);   (325849.7,
3794867.5,   148.0,   148.0,   0.0);
     (325892.6, 3794867.5,   148.8,   148.8,   0.0);   (325935.5,
3794867.5,   149.0,   149.0,   0.0);
     (325978.3, 3794867.5,   149.0,   149.0,   0.0);   (326021.2,
3794867.5,   149.0,   149.0,   0.0);
     (326064.1, 3794867.5,   149.5,   149.5,   0.0);   (325849.7,
3794905.5,   148.1,   148.1,   0.0);
     (325892.6, 3794905.5,   148.9,   148.9,   0.0);   (325935.5,
3794905.5,   149.0,   149.0,   0.0);
     (325978.3, 3794905.5,   149.0,   149.0,   0.0);   (326021.2,
3794905.5,   149.1,   149.1,   0.0);
     (326064.1, 3794905.5,   150.0,   150.0,   0.0);   (325849.7,
3794943.4,   148.4,   148.4,   0.0);
     (325892.6, 3794943.4,   149.0,   149.0,   0.0);   (325935.5,
3794943.4,   149.0,   149.0,   0.0);
     (325978.3, 3794943.4,   149.0,   149.0,   0.0);   (326021.2,
3794943.4,   149.1,   149.1,   0.0);
     (326064.1, 3794943.4,   150.0,   150.0,   0.0);   (325849.7,
3794981.3,   148.9,   148.9,   0.0);
     (325892.6, 3794981.3,   149.0,   149.0,   0.0);   (325935.5,
3794981.3,   149.0,   149.0,   0.0);
     (325978.3, 3794981.3,   149.0,   149.0,   0.0);   (326021.2,
3794981.3,   149.8,   149.8,   0.0);
     (326064.1, 3794981.3,   150.0,   150.0,   0.0);   (325855.3,
3794726.6,   148.0,   148.0,   0.0);
     (325902.6, 3794726.6,   148.0,   148.0,   0.0);   (325855.3,
3794745.5,   148.0,   148.0,   0.0);
     (325902.6, 3794745.5,   148.0,   148.0,   0.0);   (325855.3,
3794764.4,   148.0,   148.0,   0.0);
     (325902.6, 3794764.4,   148.0,   148.0,   0.0);   (325855.3,
3794783.3,   148.0,   148.0,   0.0);
     (325902.6, 3794783.3,   148.0,   148.0,   0.0);   (325855.3,
3794802.2,   148.0,   148.0,   0.0);
     (325902.6, 3794802.2,   148.0,   148.0,   0.0);   (325855.3,
3794821.1,   148.0,   148.0,   0.0);
     (325902.6, 3794821.1,   148.1,   148.1,   0.0);   (326402.8,
3795249.3,   152.8,   152.8,   0.0);
     (325380.5, 3795776.2,   161.0,   295.0,   0.0);   (325415.9,
3795858.3,   176.6,   271.0,   0.0);
     (325409.9, 3795995.0,   190.3,   271.0,   0.0);   (325416.6,
3796058.1,   193.4,   282.0,   0.0);
     (325409.6, 3796164.9,   201.8,   291.0,   0.0);   (325322.7,
3796083.9,   190.0,   292.0,   0.0);
     (325297.9, 3796111.1,   184.9,   295.0,   0.0);   (325246.7,

3796076.1,   181.2,   295.0,   0.0);
     (325280.0, 3796260.7,   211.4,   292.0,   0.0);   (325237.0,
3796200.4,   205.0,   292.0,   0.0);
     (325163.0, 3796071.1,   180.4,   292.0,   0.0);   (325215.7,
3795991.4,   177.4,   292.0,   0.0);
     (325208.3, 3795926.9,   173.0,   292.0,   0.0);   (325249.5,
3795829.2,   171.2,   291.0,   0.0);
     (325171.5, 3795759.2,   160.9,   292.0,   0.0);   (325129.2,
3795756.4,   158.4,   292.0,   0.0);
     (325154.8, 3795886.2,   167.8,   292.0,   0.0);   (325068.5,
3795885.4,   171.6,   292.0,   0.0);
     (325047.9, 3795938.0,   175.5,   292.0,   0.0);   (325045.8,
3795982.7,   176.4,   292.0,   0.0);
     (325072.0, 3796106.7,   179.6,   292.0,   0.0);   (325060.6,
3796290.4,   197.1,   292.0,   0.0);
     (324903.7, 3796379.8,   214.8,   292.0,   0.0);   (324787.8,
3796510.4,   197.3,   292.0,   0.0);
     (324916.5, 3796618.3,   201.7,   292.0,   0.0);   (326493.0,
3796356.3,   198.5,   295.0,   0.0);
     (326552.7, 3796900.0,   235.2,   295.0,   0.0);   (326599.3,
3796893.6,   237.6,   293.0,   0.0);
     (326617.4, 3796889.5,   237.6,   293.0,   0.0);   (326639.4,
3796881.9,   233.8,   293.0,   0.0);
     (326663.7, 3796864.1,   225.7,   295.0,   0.0);   (326679.5,
3796885.2,   227.5,   293.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)

     (326697.8, 3796898.3,   229.7,   293.0,   0.0);   (326712.3,
3796916.6,   233.6,   293.0,   0.0);
     (326726.6, 3796931.1,   236.4,   290.0,   0.0);   (326742.2,
3796948.0,   240.5,   290.0,   0.0);
     (326756.6, 3796965.7,   242.1,   290.0,   0.0);   (326772.1,
3796973.3,   239.2,   290.0,   0.0);
     (326785.2, 3796890.5,   223.1,   293.0,   0.0);   (326800.1,
3797003.9,   233.0,   290.0,   0.0);
     (326818.0, 3797014.9,   229.2,   290.0,   0.0);   (326813.7,
3796843.9,   215.1,   293.0,   0.0);
     (326833.9, 3796853.6,   216.3,   293.0,   0.0);   (326848.6,
3796873.4,   217.5,   293.0,   0.0);
     (326864.2, 3796885.1,   217.7,   293.0,   0.0);   (326877.9,

3796901.2,   218.2,   292.0,   0.0);
     (326893.8, 3796917.1,   220.4,   292.0,   0.0);   (326904.5,
3796938.8,   223.9,   292.0,   0.0);
     (326907.6, 3796966.2,   224.5,   292.0,   0.0);   (326914.5,
3796991.7,   227.6,   292.0,   0.0);
     (326921.9, 3797038.4,   232.7,   292.0,   0.0);   (326596.6,
3797264.1,   273.2,   288.0,   0.0);
     (326830.0, 3795735.4,   183.6,   217.0,   0.0);   (326866.5,
3795706.9,   182.8,   217.0,   0.0);
     (326831.5, 3795646.6,   161.0,   217.0,   0.0);   (326872.9,
3795644.9,   160.9,   217.0,   0.0);
     (326898.9, 3795644.7,   160.9,   217.0,   0.0);   (326924.7,
3795650.1,   161.6,   217.0,   0.0);
     (326949.7, 3795646.4,   161.1,   217.0,   0.0);   (326975.6,
3795638.8,   162.5,   217.0,   0.0);
     (326917.9, 3795602.8,   159.0,   217.0,   0.0);   (326918.6,
3795584.1,   158.0,   217.0,   0.0);
     (326921.6, 3795563.5,   158.0,   217.0,   0.0);   (326917.2,
3795537.1,   158.0,   217.0,   0.0);
     (326935.0, 3795592.2,   158.8,   217.0,   0.0);   (326951.0,
3795599.5,   159.5,   217.0,   0.0);
     (326950.3, 3795555.9,   158.0,   217.0,   0.0);   (326951.6,
3795535.1,   158.0,   217.0,   0.0);
     (326961.8, 3795537.6,   158.0,   217.0,   0.0);   (326982.2,
3795538.3,   158.0,   217.0,   0.0);
     (326992.4, 3795539.1,   158.0,   217.0,   0.0);   (327009.0,
3795535.6,   158.0,   217.0,   0.0);
     (326987.7, 3795581.0,   159.0,   217.0,   0.0);   (327024.8,
3795588.4,   160.1,   217.0,   0.0);
     (326925.1, 3795485.9,   158.0,   217.0,   0.0);   (326937.8,
3795488.3,   158.0,   217.0,   0.0);
     (326956.5, 3795489.3,   158.0,   217.0,   0.0);   (326970.9,
3795491.0,   158.0,   217.0,   0.0);
     (326990.0, 3795487.7,   158.0,   217.0,   0.0);   (325049.3,
3794362.9,   143.0,   143.0,   0.0);
     (325086.8, 3794362.9,   143.0,   143.0,   0.0);   (325124.3,
3794362.9,   143.0,   143.0,   0.0);
     (325161.8, 3794362.9,   143.2,   143.2,   0.0);   (325199.3,
3794362.9,   143.2,   143.2,   0.0);
     (325236.8, 3794362.9,   143.0,   143.0,   0.0);   (325274.3,
3794362.9,   143.0,   143.0,   0.0);
     (325049.3, 3794386.1,   143.0,   143.0,   0.0);   (325086.8,
3794386.1,   143.0,   143.0,   0.0);
     (325124.3, 3794386.1,   143.2,   143.2,   0.0);   (325161.8,
3794386.1,   144.0,   144.0,   0.0);
     (325199.3, 3794386.1,   144.0,   144.0,   0.0);   (325236.8,
3794386.1,   143.1,   143.1,   0.0);
     (325274.3, 3794386.1,   143.0,   143.0,   0.0);   (325049.3,
3794409.3,   143.0,   143.0,   0.0);
     (325086.8, 3794409.3,   143.0,   143.0,   0.0);   (325124.3,

3794409.3,   143.2,   143.2,   0.0);
     (325161.8, 3794409.3,   144.0,   144.0,   0.0);   (325199.3,
3794409.3,   144.0,   144.0,   0.0);
     (325236.8, 3794409.3,   143.8,   143.8,   0.0);   (325274.3,
3794409.3,   143.7,   143.7,   0.0);
     (325049.3, 3794432.5,   143.0,   143.0,   0.0);   (325086.8,
3794432.5,   143.0,   143.0,   0.0);
     (325124.3, 3794432.5,   143.6,   143.6,   0.0);   (325161.8,
3794432.5,   144.0,   144.0,   0.0);
     (325199.3, 3794432.5,   144.0,   144.0,   0.0);   (325236.8,
3794432.5,   144.0,   144.0,   0.0);
     (325274.3, 3794432.5,   144.0,   144.0,   0.0);   (325049.3,
3794455.7,   143.0,   143.0,   0.0);
     (325086.8, 3794455.7,   143.3,   143.3,   0.0);   (325124.3,
3794455.7,   144.0,   144.0,   0.0);
     (325161.8, 3794455.7,   144.0,   144.0,   0.0);   (325199.3,
3794455.7,   144.0,   144.0,   0.0);
     (325236.8, 3794455.7,   144.0,   144.0,   0.0);   (325274.3,
3794455.7,   144.0,   144.0,   0.0);
     (325049.3, 3794478.9,   143.0,   143.0,   0.0);   (325086.8,
3794478.9,   144.0,   144.0,   0.0);
     (325124.3, 3794478.9,   144.0,   144.0,   0.0);   (325161.8,
3794478.9,   144.0,   144.0,   0.0);
     (325199.3, 3794478.9,   144.0,   144.0,   0.0);   (325236.8,
3794478.9,   144.0,   144.0,   0.0);
     (325274.3, 3794478.9,   144.0,   144.0,   0.0);   (325049.3,
3794502.1,   143.0,   143.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                            *** DISCRETE CARTESIAN RECEPTORS ***
                                          (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                       (METERS)

     (325086.8, 3794502.1,   144.0,   144.0,   0.0);   (325124.3,
3794502.1,   144.0,   144.0,   0.0);
     (325161.8, 3794502.1,   144.0,   144.0,   0.0);   (325199.3,
3794502.1,   144.0,   144.0,   0.0);
     (325236.8, 3794502.1,   144.0,   144.0,   0.0);   (325274.3,
3794502.1,   144.0,   144.0,   0.0);
     (325049.3, 3794525.3,   143.0,   143.0,   0.0);   (325086.8,
3794525.3,   144.0,   144.0,   0.0);
     (325124.3, 3794525.3,   144.0,   144.0,   0.0);   (325161.8,
3794525.3,   144.0,   144.0,   0.0);
     (325199.3, 3794525.3,   144.0,   144.0,   0.0);   (325236.8,

```
3794525.3,     144.0,     144.0,       0.0);
     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
```

3794687.7,   145.0,   145.0,   0.0);
     (324871.6, 3794298.6,   141.0,   141.0,   0.0);   (324910.5,
3794298.6,   141.1,   141.1,   0.0);
     (324949.4, 3794298.6,   142.0,   142.0,   0.0);   (324988.3,
3794298.6,   142.0,   142.0,   0.0);
     (324871.6, 3794320.4,   141.0,   141.0,   0.0);   (324910.5,
3794320.4,   141.8,   141.8,   0.0);
     (324949.4, 3794320.4,   142.0,   142.0,   0.0);   (324988.3,
3794320.4,   142.0,   142.0,   0.0);
     (324871.6, 3794342.2,   141.0,   141.0,   0.0);   (324910.5,
3794342.2,   142.0,   142.0,   0.0);
     (324949.4, 3794342.2,   142.0,   142.0,   0.0);   (324988.3,
3794342.2,   142.0,   142.0,   0.0);
     (324871.6, 3794364.0,   141.2,   141.2,   0.0);   (324910.5,
3794364.0,   142.0,   142.0,   0.0);
     (324949.4, 3794364.0,   142.0,   142.0,   0.0);   (324988.3,
3794364.0,   142.2,   142.2,   0.0);
     (324871.6, 3794385.8,   141.7,   141.7,   0.0);   (324910.5,
3794385.8,   142.0,   142.0,   0.0);
     (324949.4, 3794385.8,   142.0,   142.0,   0.0);   (324988.3,
3794385.8,   142.6,   142.6,   0.0);
     (324871.6, 3794407.6,   141.8,   141.8,   0.0);   (324910.5,
3794407.6,   142.0,   142.0,   0.0);
     (324949.4, 3794407.6,   142.0,   142.0,   0.0);   (324988.3,
3794407.6,   142.7,   142.7,   0.0);
     (324871.6, 3794429.4,   141.8,   141.8,   0.0);   (324910.5,
3794429.4,   142.0,   142.0,   0.0);
     (324949.4, 3794429.4,   142.0,   142.0,   0.0);   (324988.3,
3794429.4,   142.7,   142.7,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                *** DISCRETE CARTESIAN RECEPTORS ***
                                              (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                           (METERS)

     (324871.6, 3794451.2,   141.8,   141.8,   0.0);   (324910.5,
3794451.2,   142.0,   142.0,   0.0);
     (324949.4, 3794451.2,   142.1,   142.1,   0.0);   (324988.3,
3794451.2,   142.7,   142.7,   0.0);
     (324871.6, 3794473.0,   141.8,   141.8,   0.0);   (324910.5,
3794473.0,   142.0,   142.0,   0.0);
     (324949.4, 3794473.0,   142.3,   142.3,   0.0);   (324988.3,
3794473.0,   143.0,   143.0,   0.0);
     (324871.6, 3794494.8,   141.9,   141.9,   0.0);   (324910.5,

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3794494.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794494.8,     142.4,     142.4,       0.0);         ( 324988.3,
3794494.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794074.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794074.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794074.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794074.7,     137.8,     137.8,       0.0);
     ( 324596.8, 3794074.7,     137.6,     137.6,       0.0);         ( 324633.8,
3794074.7,     137.1,     137.1,       0.0);
     ( 324670.7, 3794074.7,     137.0,     137.0,       0.0);         ( 324707.7,
3794074.7,     137.2,     137.2,       0.0);
     ( 324744.6, 3794074.7,     137.9,     137.9,       0.0);         ( 324781.6,
3794074.7,     139.3,     139.3,       0.0);
     ( 324449.0, 3794106.7,     138.0,     138.0,       0.0);         ( 324486.0,
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3794106.7,   138.0,   138.0,   0.0);
     (324522.9, 3794106.7,   138.0,   138.0,   0.0);   (324559.9,
3794106.7,   138.0,   138.0,   0.0);
     (324596.8, 3794106.7,   138.0,   138.0,   0.0);   (324633.8,
3794106.7,   137.7,   137.7,   0.0);
     (324670.7, 3794106.7,   137.7,   137.7,   0.0);   (324707.7,
3794106.7,   138.0,   138.0,   0.0);
     (324744.6, 3794106.7,   139.2,   139.2,   0.0);   (324781.6,
3794106.7,   139.9,   139.9,   0.0);
     (324449.0, 3794138.6,   138.0,   138.0,   0.0);   (324486.0,
3794138.6,   138.0,   138.0,   0.0);
     (324522.9, 3794138.6,   138.0,   138.0,   0.0);   (324559.9,
3794138.6,   138.0,   138.0,   0.0);
     (324596.8, 3794138.6,   138.0,   138.0,   0.0);   (324633.8,
3794138.6,   138.6,   138.6,   0.0);
     (324670.7, 3794138.6,   138.7,   138.7,   0.0);   (324707.7,
3794138.6,   139.0,   139.0,   0.0);
     (324744.6, 3794138.6,   139.9,   139.9,   0.0);   (324781.6,
3794138.6,   140.0,   140.0,   0.0);
     (324449.0, 3794170.6,   138.0,   138.0,   0.0);   (324486.0,
3794170.6,   138.0,   138.0,   0.0);
     (324522.9, 3794170.6,   138.1,   138.1,   0.0);   (324559.9,
3794170.6,   138.8,   138.8,   0.0);
     (324596.8, 3794170.6,   138.8,   138.8,   0.0);   (324633.8,
3794170.6,   139.0,   139.0,   0.0);
     (324670.7, 3794170.6,   139.1,   139.1,   0.0);   (324707.7,
3794170.6,   139.9,   139.9,   0.0);
     (324744.6, 3794170.6,   140.0,   140.0,   0.0);   (324781.6,
3794170.6,   140.6,   140.6,   0.0);
     (324449.0, 3794202.6,   138.0,   138.0,   0.0);   (324486.0,
3794202.6,   138.0,   138.0,   0.0);

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     (324522.9, 3794202.6,   138.2,   138.2,   0.0);   (324559.9,
3794202.6,   139.0,   139.0,   0.0);
     (324596.8, 3794202.6,   139.0,   139.0,   0.0);   (324633.8,
3794202.6,   139.0,   139.0,   0.0);
     (324670.7, 3794202.6,   139.9,   139.9,   0.0);   (324707.7,
3794202.6,   140.0,   140.0,   0.0);
     (324744.6, 3794202.6,   140.0,   140.0,   0.0);   (324781.6,

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3794202.6,     140.8,     140.8,       0.0);
     ( 324449.0, 3794234.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794234.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794234.5,     138.2,     138.2,       0.0);         ( 324559.9,
3794234.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794234.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794234.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794234.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794234.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794234.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794234.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794266.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794266.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794266.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794266.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794266.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794266.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794266.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794266.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794266.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794266.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794298.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794298.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794298.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794298.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794298.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794298.5,     139.9,     139.9,       0.0);
     ( 324670.7, 3794298.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794298.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794298.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794298.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794330.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794330.4,     138.1,     138.1,       0.0);
     ( 324522.9, 3794330.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794330.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794330.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794330.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794330.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794330.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794330.4,     140.1,     140.1,       0.0);         ( 324781.6,
3794330.4,     140.8,     140.8,       0.0);
     ( 324449.0, 3794362.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794362.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794362.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794362.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794362.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794362.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794362.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794362.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794362.4,     140.6,     140.6,       0.0);         ( 324781.6,
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3794490.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794490.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794490.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794522.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794522.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794522.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794522.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794554.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794554.2,     139.2,     139.2,       0.0);
     ( 324596.8, 3794554.2,     139.8,     139.8,       0.0);         ( 324633.8,
3794554.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794554.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794554.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794586.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794586.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794586.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794586.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794586.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794586.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794586.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794586.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794586.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794586.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794618.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794618.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794618.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794618.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794618.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794618.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794618.2,     140.1,     140.1,       0.0);         ( 324707.7,
3794618.2,     140.8,     140.8,       0.0);
     ( 324744.6, 3794618.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794618.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794650.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
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3794650.1,   141.0,   141.0,   0.0);
     (324744.6, 3794650.1,   141.0,   141.0,   0.0);   (324781.6,
3794650.1,   141.0,   141.0,   0.0);
     (324449.0, 3794682.1,   139.0,   139.0,   0.0);   (324486.0,
3794682.1,   139.0,   139.0,   0.0);
     (324522.9, 3794682.1,   139.1,   139.1,   0.0);   (324559.9,
3794682.1,   139.9,   139.9,   0.0);
     (324596.8, 3794682.1,   140.0,   140.0,   0.0);   (324633.8,
3794682.1,   140.0,   140.0,   0.0);
     (324670.7, 3794682.1,   140.1,   140.1,   0.0);   (324707.7,
3794682.1,   141.0,   141.0,   0.0);
     (324744.6, 3794682.1,   141.0,   141.0,   0.0);   (324781.6,
3794682.1,   141.0,   141.0,   0.0);
     (326547.4, 3795022.1,   153.0,   153.0,   0.0);   (326594.7,
3795022.1,   153.3,   153.3,   0.0);
     (326642.0, 3795022.1,   154.0,   154.0,   0.0);   (326547.4,
3795042.5,   153.0,   153.0,   0.0);
     (326594.7, 3795042.5,   153.9,   153.9,   0.0);   (326642.0,
3795042.5,   154.0,   154.0,   0.0);
     (326547.4, 3795062.9,   153.0,   153.0,   0.0);   (326594.7,
3795062.9,   154.0,   154.0,   0.0);
     (326642.0, 3795062.9,   154.0,   154.0,   0.0);   (326547.4,
3795083.3,   153.1,   153.1,   0.0);
     (326594.7, 3795083.3,   154.0,   154.0,   0.0);   (326642.0,
3795083.3,   154.0,   154.0,   0.0);
     (326547.4, 3795103.7,   153.6,   153.6,   0.0);   (326594.7,
3795103.7,   154.0,   154.0,   0.0);
     (326642.0, 3795103.7,   154.0,   154.0,   0.0);   (326547.4,
3795124.1,   153.6,   153.6,   0.0);
     (326594.7, 3795124.1,   154.0,   154.0,   0.0);   (326642.0,
3795124.1,   154.0,   154.0,   0.0);
     (326547.4, 3795144.5,   153.7,   153.7,   0.0);   (326594.7,
3795144.5,   154.0,   154.0,   0.0);
     (326642.0, 3795144.5,   154.0,   154.0,   0.0);   (326547.4,
3795164.9,   154.0,   154.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (326594.7, 3795164.9,   154.0,   154.0,   0.0);   (326642.0,
3795164.9,   154.0,   154.0,   0.0);
     (326547.4, 3795185.3,   154.0,   154.0,   0.0);   (326594.7,

3795185.3,   154.0,   154.0,   0.0);
     (326642.0, 3795185.3,   154.0,   154.0,   0.0);   (326547.4,
3795205.7,   154.0,   154.0,   0.0);
     (326594.7, 3795205.7,   154.0,   154.0,   0.0);   (326642.0,
3795205.7,   154.2,   154.2,   0.0);
     (326547.4, 3795226.1,   154.0,   154.0,   0.0);   (326594.7,
3795226.1,   154.0,   154.0,   0.0);
     (326642.0, 3795226.1,   154.8,   154.8,   0.0);   (326547.4,
3795246.5,   154.0,   154.0,   0.0);
     (326594.7, 3795246.5,   154.1,   154.1,   0.0);   (326642.0,
3795246.5,   154.9,   154.9,   0.0);
     (326690.4, 3795243.4,   155.0,   155.0,   0.0);   (326688.7,
3795223.0,   155.0,   155.0,   0.0);
     (326686.0, 3795005.8,   154.0,   154.0,   0.0);   (326686.0,
3795033.7,   154.1,   154.1,   0.0);
     (326686.0, 3795061.5,   154.3,   154.3,   0.0);   (326686.0,
3795089.4,   154.3,   154.3,   0.0);
     (326686.0, 3795117.3,   154.3,   154.3,   0.0);   (326686.0,
3795145.2,   154.3,   154.3,   0.0);
     (326686.0, 3795173.1,   154.4,   154.4,   0.0);   (326686.0,
3795201.0,   155.0,   155.0,   0.0);
     (326832.8, 3795263.3,   155.3,   155.3,   0.0);   (326849.7,
3795263.3,   155.8,   155.8,   0.0);
     (326866.5, 3795263.3,   156.0,   156.0,   0.0);   (326883.4,
3795263.3,   156.0,   156.0,   0.0);
     (326900.3, 3795263.3,   156.0,   156.0,   0.0);   (326917.1,
3795263.3,   156.0,   156.0,   0.0);
     (326934.0, 3795263.3,   156.5,   156.5,   0.0);   (326950.9,
3795263.3,   157.0,   157.0,   0.0);
     (326967.8, 3795263.3,   157.0,   157.0,   0.0);   (326984.6,
3795263.3,   157.2,   157.2,   0.0);
     (327001.5, 3795263.3,   157.8,   157.8,   0.0);   (327036.8,
3795141.3,   157.0,   157.0,   0.0);
     (327075.7, 3795141.3,   158.0,   158.0,   0.0);   (327036.8,
3795160.9,   157.0,   157.0,   0.0);
     (327075.7, 3795160.9,   158.0,   158.0,   0.0);   (327036.8,
3795180.5,   157.0,   157.0,   0.0);
     (327075.7, 3795180.5,   158.0,   158.0,   0.0);   (327036.8,
3795200.0,   157.1,   157.1,   0.0);
     (327075.7, 3795200.0,   158.0,   158.0,   0.0);   (327036.8,
3795219.6,   157.7,   157.7,   0.0);
     (327075.7, 3795219.6,   158.0,   158.0,   0.0);   (327036.8,
3795239.1,   158.0,   158.0,   0.0);
     (327075.7, 3795239.1,   158.0,   158.0,   0.0);   (327036.8,
3795258.7,   158.0,   158.0,   0.0);
     (327075.7, 3795258.7,   158.0,   158.0,   0.0);   (327036.8,
3795278.3,   158.0,   158.0,   0.0);
     (327075.7, 3795278.3,   158.0,   158.0,   0.0);   (326840.0,
3795223.2,   155.4,   155.4,   0.0);
     (326860.6, 3795224.2,   156.0,   156.0,   0.0);   (326877.3,

3795222.7,   156.0,   156.0,   0.0);
     (326929.7, 3795223.7,   156.4,   156.4,   0.0);   (326932.9,
3795200.0,   156.5,   156.5,   0.0);
     (326972.3, 3795217.0,   157.0,   157.0,   0.0);   (326970.8,
3795177.6,   157.0,   157.0,   0.0);
     (326968.2, 3795152.5,   157.0,   157.0,   0.0);   (326998.4,
3795149.8,   157.0,   157.0,   0.0);
     (326997.5, 3795176.6,   157.0,   157.0,   0.0);   (326995.6,
3795193.0,   157.0,   157.0,   0.0);
     (326996.9, 3795215.8,   157.0,   157.0,   0.0);   (326917.0,
3795152.2,   156.0,   156.0,   0.0);
     (326902.0, 3795150.5,   156.0,   156.0,   0.0);   (326884.2,
3795164.4,   156.0,   156.0,   0.0);
     (326867.3, 3795151.3,   156.0,   156.0,   0.0);   (326873.2,
3795163.4,   156.0,   156.0,   0.0);
     (326845.5, 3795152.1,   155.6,   155.6,   0.0);   (326824.9,
3795151.4,   155.0,   155.0,   0.0);
     (326826.6, 3795170.6,   155.0,   155.0,   0.0);   (326840.5,
3795180.2,   155.4,   155.4,   0.0);
     (326799.4, 3795148.0,   155.0,   155.0,   0.0);   (326776.8,
3795147.9,   155.0,   155.0,   0.0);
     (326738.0, 3795152.7,   155.0,   155.0,   0.0);   (326781.3,
3795110.8,   155.0,   155.0,   0.0);
     (326806.1, 3795109.0,   155.2,   155.2,   0.0);   (326804.5,
3795090.7,   155.2,   155.2,   0.0);
     (326781.8, 3795086.7,   155.0,   155.0,   0.0);   (326787.4,
3795061.8,   155.0,   155.0,   0.0);
     (326794.0, 3795031.2,   155.0,   155.0,   0.0);   (326977.5,
3795110.7,   157.0,   157.0,   0.0);
     (326994.0, 3795107.9,   157.0,   157.0,   0.0);   (326984.5,
3795093.8,   157.0,   157.0,   0.0);
     (326972.8, 3795082.4,   157.0,   157.0,   0.0);   (326995.4,
3795072.5,   157.0,   157.0,   0.0);
     (326993.2, 3795060.0,   157.0,   157.0,   0.0);   (326984.6,
3795040.8,   157.0,   157.0,   0.0);
     (326981.7, 3795027.2,   157.0,   157.0,   0.0);   (327041.5,
3795102.1,   157.1,   157.1,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (327065.2, 3795095.8,   157.9,   157.9,   0.0);   (327040.9,

3795076.3,   157.1,   157.1,   0.0);
     (327061.2, 3795058.3,   157.8,   157.8,   0.0);   (327037.8,
3795061.1,   157.0,   157.0,   0.0);
     (327035.6, 3795040.6,   157.0,   157.0,   0.0);   (327058.9,
3795038.4,   157.7,   157.7,   0.0);
     (327051.5, 3795017.8,   157.4,   157.4,   0.0);   (327033.3,
3795021.7,   157.0,   157.0,   0.0);
     (326826.3, 3795110.8,   155.8,   155.8,   0.0);   (326843.3,
3795110.8,   155.9,   155.9,   0.0);
     (326860.3, 3795110.8,   156.0,   156.0,   0.0);   (326877.3,
3795110.8,   156.0,   156.0,   0.0);
     (326894.4, 3795110.8,   156.0,   156.0,   0.0);   (326911.4,
3795110.8,   156.0,   156.0,   0.0);
     (326928.4, 3795110.8,   156.3,   156.3,   0.0);   (326945.5,
3795110.8,   156.9,   156.9,   0.0);
     (326820.0, 3795048.9,   155.7,   155.7,   0.0);   (326838.2,
3795048.9,   156.0,   156.0,   0.0);
     (326856.4, 3795048.9,   156.0,   156.0,   0.0);   (326874.6,
3795048.9,   156.0,   156.0,   0.0);
     (326892.8, 3795048.9,   156.0,   156.0,   0.0);   (326911.0,
3795048.9,   156.0,   156.0,   0.0);
     (326929.2, 3795048.9,   156.4,   156.4,   0.0);   (326947.4,
3795048.9,   157.0,   157.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                              (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926. Met Version: 14134
Profile file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926.
Surface format: FREE

Profile format: FREE

Surface station no.: 23136 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	281.4	2.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.9	2.0
09	01	01	1	03	-3.3	0.067	-9.000	-9.000	-999.	42.	8.3	0.05	0.81	1.00	1.76	214.	10.0	280.9	2.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.4	2.0
09	01	01	1	05	-6.6	0.115	-9.000	-9.000	-999.	94.	21.1	0.03	0.81						

```
1.00    2.36   93.   10.0  280.4    2.0
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00   281.5   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       17:10:51
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
326345.95	3795634.03	0.00253	326414.12	3795779.67	0.00246
326435.80	3795773.48	0.00231	326458.31	3795772.83	0.00224
326424.24	3795858.77	0.00269	326400.20	3795799.84	0.00269
326400.93	3795767.87	0.00238	326424.24	3795858.77	0.00269
326611.84	3795762.99	0.00191	326611.84	3795762.99	0.00191
326610.94	3795777.66	0.00191	326605.86	3795792.89	0.00193
326623.93	3795809.00	0.00183	326627.22	3795836.58	0.00179
326640.09	3795836.58	0.00173	326654.45	3795868.68	0.00160
326665.45	3795883.13	0.00154	326588.30	3795867.62	0.00167
326640.52	3795951.95	0.00138	326658.45	3795975.58	0.00137
326759.52	3796019.28	0.00100	326763.60	3796031.85	0.00099
326775.94	3796048.05	0.00095	326774.23	3796062.19	0.00095
326801.34	3796078.38	0.00088	326809.46	3796094.93	0.00085
326736.80	3796108.96	0.00090	326835.84	3796126.62	0.00076
326836.27	3796140.13	0.00074	326800.95	3796123.31	0.00084
326762.39	3796138.51	0.00078	326766.63	3796155.18	0.00070

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         326774.14    3796169.68        0.00066                       326798.07
3796201.57        0.00058
         326808.84    3796229.51        0.00051                       326880.95
3796184.59        0.00062
         326915.56    3796260.01        0.00052                       326941.07
3796261.11        0.00049
         326958.24    3796277.25        0.00047                       326964.89
3796291.08        0.00045
         326984.47    3796322.92        0.00043                       326993.31
3796349.42        0.00041
         326993.49    3796365.88        0.00040                       327007.03
3796382.47        0.00039
         326972.07    3796390.18        0.00038                       326996.78
3796414.54        0.00037
         326693.51    3795789.66        0.00109                       326695.37
3795771.29        0.00112
         326727.00    3795761.34        0.00108                       326758.55
3795787.48        0.00087
         326761.76    3795813.54        0.00078                       326742.22
3795837.06        0.00078
         326838.64    3795823.91        0.00064                       326811.45
3795889.81        0.00060
         326823.87    3795855.97        0.00059                       326876.62
3795837.29        0.00056
         326889.30    3795888.54        0.00052                       326687.45
3795683.69        0.00194
         326829.20    3795731.31        0.00088                       326859.14
3795703.62        0.00084
         326881.10    3795705.58        0.00086                       326787.44
3795607.00        0.00209
         326780.76    3795563.55        0.00228                       326800.04
3795542.65        0.00232
         326808.89    3795540.15        0.00232                       326825.79
3795543.65        0.00230
         326856.70    3795545.31        0.00222                       326792.33
3795494.19        0.00243
         326806.68    3795493.93        0.00239                       326824.07
3795494.42        0.00233
         326853.52    3795481.71        0.00231                       326898.80
3795534.37        0.00211
         325796.15    3795215.59        0.00792                       325823.15
3795215.59        0.00780
         326012.15    3795215.59        0.00625                       326120.15
3795215.59        0.00497
         326147.15    3795215.59        0.00483                       325796.15
3795254.59        0.00936
         325823.15    3795254.59        0.00923                       325850.15
3795254.59        0.00901
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
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*** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
INCLUDING SOURCE(S):   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325877.15	3795254.59	0.00878	325904.15	3795254.59	0.00851
325931.15	3795254.59	0.00811	325958.15	3795254.59	0.00787
325985.15	3795254.59	0.00766	326012.15	3795254.59	0.00667
326039.15	3795254.59	0.00638	326066.15	3795254.59	0.00620
326093.15	3795254.59	0.00604	326120.15	3795254.59	0.00588
326147.15	3795254.59	0.00572	325796.15	3795293.59	0.01093
325823.15	3795293.59	0.01067	325850.15	3795293.59	0.01058
325877.15	3795293.59	0.01052	325904.15	3795293.59	0.01027
325931.15	3795293.59	0.00975	325958.15	3795293.59	0.00951
325985.15	3795293.59	0.00806	326012.15	3795293.59	0.00768
326039.15	3795293.59	0.00747	326066.15	3795293.59	0.00699
326093.15	3795293.59	0.00663	326120.15	3795293.59	0.00648
326147.15	3795293.59	0.00632	325796.15	3795332.59	0.01109
325823.15	3795332.59	0.01093	325850.15	3795332.59	0.01123
325877.15	3795332.59	0.01128	325904.15	3795332.59	0.01250

```
         325931.15    3795332.59        0.01197                    325958.15
3795332.59        0.01025
         325985.15    3795332.59        0.00913                    326012.15
3795332.59        0.00846
         326039.15    3795332.59        0.00817                    326066.15
3795332.59        0.00799
         326093.15    3795332.59        0.00782                    326120.15
3795332.59        0.00777
         326147.15    3795332.59        0.00761                    325847.44
3795004.89        0.00348
         325872.44    3795004.89        0.00340                    325897.44
3795004.89        0.00332
         325922.44    3795004.89        0.00324                    325947.44
3795004.89        0.00317
         325972.44    3795004.89        0.00309                    325997.44
3795004.89        0.00300
         326022.44    3795004.89        0.00293                    326047.44
3795004.89        0.00287
         326072.44    3795004.89        0.00282                    326097.44
3795004.89        0.00277
         326122.44    3795004.89        0.00272                    326147.44
3795004.89        0.00254
         325847.44    3795046.89        0.00400                    325872.44
3795046.89        0.00391
         325897.44    3795046.89        0.00381                    325922.44
3795046.89        0.00372
         325947.44    3795046.89        0.00363                    325972.44
3795046.89        0.00352
         325997.44    3795046.89        0.00341                    326022.44
3795046.89        0.00333
         326047.44    3795046.89        0.00326                    326072.44
3795046.89        0.00319
         326097.44    3795046.89        0.00313                    326122.44
3795046.89        0.00288
         326147.44    3795046.89        0.00277                    325847.44
3795088.89        0.00464
         325872.44    3795088.89        0.00453                    325897.44
3795088.89        0.00442
         325922.44    3795088.89        0.00431                    325947.44
3795088.89        0.00415
         325972.44    3795088.89        0.00401                    325997.44
3795088.89        0.00391
         326022.44    3795088.89        0.00382                    326047.44
3795088.89        0.00373
         326072.44    3795088.89        0.00364                    326097.44
3795088.89        0.00337
         326122.44    3795088.89        0.00323                    326147.44
3795088.89        0.00312
         325847.44    3795130.89        0.00543                    325872.44
3795130.89        0.00529
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         326047.44    3795214.89        0.00535                    326072.44
3795214.89        0.00521
         326097.44    3795214.89        0.00507                    326147.44
3795214.89        0.00482
         326096.58    3795181.52        0.00446                    326118.63
3795182.57        0.00437
         326144.35    3795184.14        0.00428                    325849.74
3794829.62        0.00207
         325892.61    3794829.62        0.00202                    325935.48
3794829.62        0.00195
         325978.35    3794829.62        0.00190                    326021.22
3794829.62        0.00186
         326064.09    3794829.62        0.00182                    325849.74
3794867.55        0.00230
         325892.61    3794867.55        0.00222                    325935.48
3794867.55        0.00215
         325978.35    3794867.55        0.00210                    326021.22
3794867.55        0.00205
         326064.09    3794867.55        0.00199                    325849.74
3794905.48        0.00257
         325892.61    3794905.48        0.00247                    325935.48
3794905.48        0.00239
         325978.35    3794905.48        0.00232                    326021.22
3794905.48        0.00226
         326064.09    3794905.48        0.00217                    325849.74
3794943.41        0.00288
         325892.61    3794943.41        0.00275                    325935.48
3794943.41        0.00266
         325978.35    3794943.41        0.00258                    326021.22
3794943.41        0.00250
         326064.09    3794943.41        0.00240                    325849.74
3794981.34        0.00322
         325892.61    3794981.34        0.00309                    325935.48
3794981.34        0.00298
         325978.35    3794981.34        0.00288                    326021.22
3794981.34        0.00275
         326064.09    3794981.34        0.00266                    325855.31
3794726.62        0.00158
         325902.64    3794726.62        0.00155                    325855.31
3794745.52        0.00166
         325902.64    3794745.52        0.00162                    325855.31
3794764.42        0.00174
         325902.64    3794764.42        0.00170                    325855.31
3794783.32        0.00182
         325902.64    3794783.32        0.00178                    325855.31
3794802.22        0.00192
         325902.64    3794802.22        0.00187                    325855.31
3794821.12        0.00202
         325902.64    3794821.12        0.00196                    326402.77
3795249.33        0.00376
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5
YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_2.5 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325409.93	3795994.97	0.00041	325416.60	3796058.09	0.00031
325409.65	3796164.95	0.00019	325322.71	3796083.91	0.00027
325297.93	3796111.07	0.00029	325246.73	3796076.15	0.00034
325280.01	3796260.66	0.00010	325237.05	3796200.45	0.00012
325163.03	3796071.11	0.00031	325215.74	3795991.41	0.00047
325208.29	3795926.88	0.00068	325249.48	3795829.20	0.00115
325171.49	3795759.19	0.00229	325129.24	3795756.40	0.00246
325154.75	3795886.20	0.00090	325068.55	3795885.45	0.00064
325047.86	3795938.00	0.00044	325045.84	3795982.69	0.00038
325071.95	3796106.74	0.00026	325060.64	3796290.38	0.00009
324903.71	3796379.80	0.00004	324787.84	3796510.42	0.00005
324916.48	3796618.27	0.00005	326492.96	3796356.32	0.00055
326552.73	3796900.01	0.00013	326599.30	3796893.60	0.00013

```
         326617.42    3796889.51        0.00014                    326639.41
3796881.91        0.00014
         326663.73    3796864.08        0.00016                    326679.47
3796885.20        0.00015
         326697.81    3796898.31        0.00015                    326712.34
3796916.60        0.00014
         326726.62    3796931.14        0.00013                    326742.23
3796948.02        0.00013
         326756.58    3796965.73        0.00013                    326772.07
3796973.30        0.00013
         326785.22    3796890.50        0.00016                    326800.10
3797003.95        0.00013
         326817.96    3797014.86        0.00013                    326813.74
3796843.93        0.00018
         326833.92    3796853.59        0.00017                    326848.61
3796873.43        0.00017
         326864.19    3796885.12        0.00017                    326877.92
3796901.20        0.00016
         326893.85    3796917.11        0.00016                    326904.49
3796938.77        0.00015
         326907.64    3796966.22        0.00014                    326914.45
3796991.73        0.00013
         326921.92    3797038.42        0.00012                    326596.56
3797264.10        0.00007
         326829.98    3795735.43        0.00085                    326866.53
3795706.88        0.00082
         326831.50    3795646.57        0.00193                    326872.90
3795644.95        0.00183
         326898.91    3795644.66        0.00178                    326924.66
3795650.14        0.00166
         326949.68    3795646.43        0.00165                    326975.59
3795638.84        0.00149
         326917.88    3795602.78        0.00193                    326918.63
3795584.13        0.00204
         326921.61    3795563.48        0.00204                    326917.18
3795537.15        0.00206
         326934.99    3795592.17        0.00191                    326951.04
3795599.47        0.00181
         326950.26    3795555.95        0.00198                    326951.59
3795535.07        0.00199
         326961.83    3795537.57        0.00196                    326982.25
3795538.33        0.00192
         326992.41    3795539.09        0.00190                    327008.98
3795535.58        0.00186
         326987.68    3795580.97        0.00178                    327024.81
3795588.42        0.00161
         326925.07    3795485.95        0.00207                    326937.83
3795488.27        0.00204
         326956.45    3795489.28        0.00200                    326970.89
3795491.03        0.00196
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         326989.96    3795487.68        0.00193                      325049.27
3794362.92        0.00130
         325086.77    3794362.92        0.00127                      325124.27
3794362.92        0.00124
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:10:51

                                  PAGE  20
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         325161.77    3794362.92        0.00121                      325199.27
3794362.92        0.00117
         325236.77    3794362.92        0.00113                      325274.27
3794362.92        0.00110
         325049.27    3794386.12        0.00136                      325086.77
3794386.12        0.00132
         325124.27    3794386.12        0.00129                      325161.77
3794386.12        0.00127
         325199.27    3794386.12        0.00123                      325236.77
3794386.12        0.00118
         325274.27    3794386.12        0.00115                      325049.27
3794409.32        0.00141
         325086.77    3794409.32        0.00138                      325124.27
3794409.32        0.00135
         325161.77    3794409.32        0.00132                      325199.27
3794409.32        0.00129
         325236.77    3794409.32        0.00125                      325274.27
3794409.32        0.00121
         325049.27    3794432.52        0.00147                      325086.77
3794432.52        0.00144
         325124.27    3794432.52        0.00141                      325161.77
3794432.52        0.00138
         325199.27    3794432.52        0.00134                      325236.77
3794432.52        0.00131
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         325274.27    3794432.52        0.00127                    325049.27
3794455.72        0.00153
         325086.77    3794455.72        0.00150                    325124.27
3794455.72        0.00148
         325161.77    3794455.72        0.00144                    325199.27
3794455.72        0.00140
         325236.77    3794455.72        0.00137                    325274.27
3794455.72        0.00133
         325049.27    3794478.92        0.00160                    325086.77
3794478.92        0.00158
         325124.27    3794478.92        0.00154                    325161.77
3794478.92        0.00151
         325199.27    3794478.92        0.00147                    325236.77
3794478.92        0.00143
         325274.27    3794478.92        0.00139                    325049.27
3794502.12        0.00167
         325086.77    3794502.12        0.00165                    325124.27
3794502.12        0.00161
         325161.77    3794502.12        0.00157                    325199.27
3794502.12        0.00153
         325236.77    3794502.12        0.00149                    325274.27
3794502.12        0.00145
         325049.27    3794525.32        0.00175                    325086.77
3794525.32        0.00173
         325124.27    3794525.32        0.00169                    325161.77
3794525.32        0.00165
         325199.27    3794525.32        0.00160                    325236.77
3794525.32        0.00156
         325274.27    3794525.32        0.00152                    325049.27
3794548.52        0.00183
         325086.77    3794548.52        0.00181                    325124.27
3794548.52        0.00176
         325161.77    3794548.52        0.00172                    325199.27
3794548.52        0.00168
         325236.77    3794548.52        0.00164                    325274.27
3794548.52        0.00160
         325049.27    3794571.72        0.00191                    325086.77
3794571.72        0.00189
         325124.27    3794571.72        0.00185                    325161.77
3794571.72        0.00180
         325199.27    3794571.72        0.00176                    325236.77
3794571.72        0.00172
         325274.27    3794571.72        0.00167                    325049.27
3794594.92        0.00200
         325086.77    3794594.92        0.00198                    325124.27
3794594.92        0.00194
         325161.77    3794594.92        0.00189                    325199.27
3794594.92        0.00185
         325236.77    3794594.92        0.00180                    325274.27
3794594.92        0.00176
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         325049.27    3794618.12        0.00210                       325086.77
3794618.12        0.00208
         325124.27    3794618.12        0.00204                       325161.77
3794618.12        0.00199
         325199.27    3794618.12        0.00194                       325236.77
3794618.12        0.00189
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:10:51

                                   PAGE  21
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         325274.27    3794618.12        0.00185                       325049.27
3794641.32        0.00221
         325086.77    3794641.32        0.00219                       325124.27
3794641.32        0.00214
         325161.77    3794641.32        0.00209                       325199.27
3794641.32        0.00204
         325236.77    3794641.32        0.00199                       325274.27
3794641.32        0.00195
         325049.27    3794664.52        0.00232                       325086.77
3794664.52        0.00230
         325124.27    3794664.52        0.00225                       325161.77
3794664.52        0.00220
         325199.27    3794664.52        0.00215                       325236.77
3794664.52        0.00209
         325274.27    3794664.52        0.00205                       325049.27
3794687.72        0.00244
         325086.77    3794687.72        0.00242                       325124.27
3794687.72        0.00237
         325161.77    3794687.72        0.00231                       325199.27
3794687.72        0.00226
         325236.77    3794687.72        0.00221                       325274.27
3794687.72        0.00218
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         324871.62    3794298.63        0.00128                    324910.53
3794298.63        0.00125
         324949.44    3794298.63        0.00124                    324988.35
3794298.63        0.00121
         324871.62    3794320.43        0.00132                    324910.53
3794320.43        0.00131
         324949.44    3794320.43        0.00128                    324988.35
3794320.43        0.00125
         324871.62    3794342.23        0.00137                    324910.53
3794342.23        0.00136
         324949.44    3794342.23        0.00133                    324988.35
3794342.23        0.00129
         324871.62    3794364.03        0.00143                    324910.53
3794364.03        0.00141
         324949.44    3794364.03        0.00138                    324988.35
3794364.03        0.00135
         324871.62    3794385.83        0.00149                    324910.53
3794385.83        0.00146
         324949.44    3794385.83        0.00143                    324988.35
3794385.83        0.00141
         324871.62    3794407.63        0.00155                    324910.53
3794407.63        0.00152
         324949.44    3794407.63        0.00148                    324988.35
3794407.63        0.00146
         324871.62    3794429.43        0.00161                    324910.53
3794429.43        0.00158
         324949.44    3794429.43        0.00154                    324988.35
3794429.43        0.00152
         324871.62    3794451.23        0.00167                    324910.53
3794451.23        0.00164
         324949.44    3794451.23        0.00160                    324988.35
3794451.23        0.00158
         324871.62    3794473.03        0.00174                    324910.53
3794473.03        0.00171
         324949.44    3794473.03        0.00167                    324988.35
3794473.03        0.00165
         324871.62    3794494.83        0.00181                    324910.53
3794494.83        0.00178
         324949.44    3794494.83        0.00174                    324988.35
3794494.83        0.00172
         324871.62    3794516.63        0.00189                    324910.53
3794516.63        0.00185
         324949.44    3794516.63        0.00182                    324988.35
3794516.63        0.00179
         324871.62    3794538.43        0.00197                    324910.53
3794538.43        0.00193
         324949.44    3794538.43        0.00189                    324988.35
3794538.43        0.00187
         324871.62    3794560.23        0.00205                    324910.53
3794560.23        0.00201
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         324522.94    3794074.69        0.00106                    324559.89
3794074.69        0.00104
         324596.84    3794074.69        0.00102                    324633.79
3794074.69        0.00099
         324670.74    3794074.69        0.00097                    324707.69
3794074.69        0.00095
         324744.64    3794074.69        0.00094                    324781.59
3794074.69        0.00094
         324449.04    3794106.66        0.00115                    324485.99
3794106.66        0.00113
         324522.94    3794106.66        0.00111                    324559.89
3794106.66        0.00109
         324596.84    3794106.66        0.00107                    324633.79
3794106.66        0.00104
         324670.74    3794106.66        0.00102                    324707.69
3794106.66        0.00100
         324744.64    3794106.66        0.00100                    324781.59
3794106.66        0.00100
         324449.04    3794138.63        0.00121                    324485.99
3794138.63        0.00118
         324522.94    3794138.63        0.00116                    324559.89
3794138.63        0.00114
         324596.84    3794138.63        0.00112                    324633.79
3794138.63        0.00110
         324670.74    3794138.63        0.00108                    324707.69
3794138.63        0.00107
         324744.64    3794138.63        0.00106                    324781.59
3794138.63        0.00104
         324449.04    3794170.60        0.00126                    324485.99
3794170.60        0.00124
         324522.94    3794170.60        0.00122                    324559.89
3794170.60        0.00121
         324596.84    3794170.60        0.00118                    324633.79
3794170.60        0.00116
         324670.74    3794170.60        0.00114                    324707.69
3794170.60        0.00113
         324744.64    3794170.60        0.00111                    324781.59
3794170.60        0.00110
         324449.04    3794202.57        0.00132                    324485.99
3794202.57        0.00130
         324522.94    3794202.57        0.00128                    324559.89
3794202.57        0.00127
         324596.84    3794202.57        0.00125                    324633.79
3794202.57        0.00122
         324670.74    3794202.57        0.00121                    324707.69
3794202.57        0.00119
         324744.64    3794202.57        0.00117                    324781.59
3794202.57        0.00116
         324449.04    3794234.54        0.00138                    324485.99
3794234.54        0.00136
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         324522.94    3794234.54        0.00134                       324559.89
3794234.54        0.00133
         324596.84    3794234.54        0.00131                       324633.79
3794234.54        0.00128
         324670.74    3794234.54        0.00127                       324707.69
3794234.54        0.00125
         324744.64    3794234.54        0.00122                       324781.59
3794234.54        0.00121
         324449.04    3794266.51        0.00145                       324485.99
3794266.51        0.00143
♠ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       17:10:51

                                 PAGE  23
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         324522.94    3794266.51        0.00142                       324559.89
3794266.51        0.00140
         324596.84    3794266.51        0.00137                       324633.79
3794266.51        0.00134
         324670.74    3794266.51        0.00134                       324707.69
3794266.51        0.00131
         324744.64    3794266.51        0.00128                       324781.59
3794266.51        0.00127
         324449.04    3794298.48        0.00152                       324485.99
3794298.48        0.00150
         324522.94    3794298.48        0.00150                       324559.89
3794298.48        0.00147
         324596.84    3794298.48        0.00144                       324633.79
3794298.48        0.00143
         324670.74    3794298.48        0.00141                       324707.69
3794298.48        0.00138
         324744.64    3794298.48        0.00135                       324781.59
3794298.48        0.00134
```

```
         324449.04    3794330.45        0.00159                    324485.99
3794330.45        0.00157
         324522.94    3794330.45        0.00157                    324559.89
3794330.45        0.00154
         324596.84    3794330.45        0.00152                    324633.79
3794330.45        0.00151
         324670.74    3794330.45        0.00148                    324707.69
3794330.45        0.00145
         324744.64    3794330.45        0.00142                    324781.59
3794330.45        0.00141
         324449.04    3794362.42        0.00167                    324485.99
3794362.42        0.00167
         324522.94    3794362.42        0.00165                    324559.89
3794362.42        0.00162
         324596.84    3794362.42        0.00159                    324633.79
3794362.42        0.00159
         324670.74    3794362.42        0.00156                    324707.69
3794362.42        0.00153
         324744.64    3794362.42        0.00151                    324781.59
3794362.42        0.00149
         324449.04    3794394.39        0.00175                    324485.99
3794394.39        0.00176
         324522.94    3794394.39        0.00173                    324559.89
3794394.39        0.00171
         324596.84    3794394.39        0.00168                    324633.79
3794394.39        0.00167
         324670.74    3794394.39        0.00164                    324707.69
3794394.39        0.00161
         324744.64    3794394.39        0.00160                    324781.59
3794394.39        0.00157
         324449.04    3794426.36        0.00185                    324485.99
3794426.36        0.00185
         324522.94    3794426.36        0.00183                    324559.89
3794426.36        0.00180
         324596.84    3794426.36        0.00177                    324633.79
3794426.36        0.00176
         324670.74    3794426.36        0.00174                    324707.69
3794426.36        0.00171
         324744.64    3794426.36        0.00169                    324781.59
3794426.36        0.00166
         324449.04    3794458.33        0.00196                    324485.99
3794458.33        0.00195
         324522.94    3794458.33        0.00192                    324559.89
3794458.33        0.00189
         324596.84    3794458.33        0.00187                    324633.79
3794458.33        0.00186
         324670.74    3794458.33        0.00183                    324707.69
3794458.33        0.00181
         324744.64    3794458.33        0.00179                    324781.59
3794458.33        0.00176
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         324449.04    3794490.30        0.00206                        324485.99
3794490.30        0.00205
         324522.94    3794490.30        0.00202                        324559.89
3794490.30        0.00200
         324596.84    3794490.30        0.00199                        324633.79
3794490.30        0.00197
         324670.74    3794490.30        0.00194                        324707.69
3794490.30        0.00191
         324744.64    3794490.30        0.00190                        324781.59
3794490.30        0.00186
         324449.04    3794522.27        0.00217                        324485.99
3794522.27        0.00215
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:10:51

                                  PAGE  24
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         324522.94    3794522.27        0.00213                        324559.89
3794522.27        0.00211
         324596.84    3794522.27        0.00210                        324633.79
3794522.27        0.00208
         324670.74    3794522.27        0.00205                        324707.69
3794522.27        0.00202
         324744.64    3794522.27        0.00201                        324781.59
3794522.27        0.00197
         324449.04    3794554.24        0.00229                        324485.99
3794554.24        0.00227
         324522.94    3794554.24        0.00225                        324559.89
3794554.24        0.00223
         324596.84    3794554.24        0.00223                        324633.79
3794554.24        0.00220
         324670.74    3794554.24        0.00217                        324707.69
3794554.24        0.00214
```

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         324744.64    3794554.24        0.00213                    324781.59
3794554.24        0.00209
         324449.04    3794586.21        0.00241                    324485.99
3794586.21        0.00239
         324522.94    3794586.21        0.00237                    324559.89
3794586.21        0.00236
         324596.84    3794586.21        0.00236                    324633.79
3794586.21        0.00233
         324670.74    3794586.21        0.00229                    324707.69
3794586.21        0.00227
         324744.64    3794586.21        0.00226                    324781.59
3794586.21        0.00222
         324449.04    3794618.18        0.00254                    324485.99
3794618.18        0.00252
         324522.94    3794618.18        0.00250                    324559.89
3794618.18        0.00250
         324596.84    3794618.18        0.00250                    324633.79
3794618.18        0.00247
         324670.74    3794618.18        0.00243                    324707.69
3794618.18        0.00243
         324744.64    3794618.18        0.00240                    324781.59
3794618.18        0.00236
         324449.04    3794650.15        0.00267                    324485.99
3794650.15        0.00266
         324522.94    3794650.15        0.00264                    324559.89
3794650.15        0.00264
         324596.84    3794650.15        0.00264                    324633.79
3794650.15        0.00261
         324670.74    3794650.15        0.00258                    324707.69
3794650.15        0.00259
         324744.64    3794650.15        0.00256                    324781.59
3794650.15        0.00251
         324449.04    3794682.12        0.00282                    324485.99
3794682.12        0.00281
         324522.94    3794682.12        0.00280                    324559.89
3794682.12        0.00282
         324596.84    3794682.12        0.00280                    324633.79
3794682.12        0.00277
         324670.74    3794682.12        0.00274                    324707.69
3794682.12        0.00276
         324744.64    3794682.12        0.00272                    324781.59
3794682.12        0.00268
         326547.36    3795022.06        0.00207                    326594.67
3795022.06        0.00202
         326641.98    3795022.06        0.00195                    326547.36
3795042.46        0.00216
         326594.67    3795042.46        0.00205                    326641.98
3795042.46        0.00202
         326547.36    3795062.86        0.00225                    326594.67
3795062.86        0.00213
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         326641.98    3795062.86        0.00211                       326547.36
3795083.26        0.00234
         326594.67    3795083.26        0.00222                       326641.98
3795083.26        0.00219
         326547.36    3795103.66        0.00239                       326594.67
3795103.66        0.00231
         326641.98    3795103.66        0.00229                       326547.36
3795124.06        0.00249
         326594.67    3795124.06        0.00241                       326641.98
3795124.06        0.00239
         326547.36    3795144.46        0.00259                       326594.67
3795144.46        0.00252
         326641.98    3795144.46        0.00249                       326547.36
3795164.86        0.00268
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:10:51

                                  PAGE  25
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         326594.67    3795164.86        0.00264                       326641.98
3795164.86        0.00260
         326547.36    3795185.26        0.00281                       326594.67
3795185.26        0.00276
         326641.98    3795185.26        0.00271                       326547.36
3795205.66        0.00294
         326594.67    3795205.66        0.00289                       326641.98
3795205.66        0.00280
         326547.36    3795226.06        0.00310                       326594.67
3795226.06        0.00304
         326641.98    3795226.06        0.00284                       326547.36
3795246.46        0.00326
         326594.67    3795246.46        0.00316                       326641.98
3795246.46        0.00294
```

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         326690.43    3795243.37        0.00281                    326688.67
3795223.05        0.00271
         326686.02    3795005.77        0.00187                    326686.02
3795033.66        0.00196
         326686.02    3795061.55        0.00206                    326686.02
3795089.44        0.00217
         326686.02    3795117.33        0.00229                    326686.02
3795145.22        0.00242
         326686.02    3795173.11        0.00254                    326686.02
3795201.00        0.00260
         326832.80    3795263.26        0.00249                    326849.67
3795263.26        0.00239
         326866.54    3795263.26        0.00232                    326883.41
3795263.26        0.00229
         326900.28    3795263.26        0.00225                    326917.15
3795263.26        0.00221
         326934.02    3795263.26        0.00212                    326950.89
3795263.26        0.00204
         326967.76    3795263.26        0.00201                    326984.63
3795263.26        0.00196
         327001.50    3795263.26        0.00188                    327036.85
3795141.35        0.00173
         327075.72    3795141.35        0.00161                    327036.85
3795160.91        0.00176
         327075.72    3795160.91        0.00163                    327036.85
3795180.47        0.00179
         327075.72    3795180.47        0.00165                    327036.85
3795200.03        0.00181
         327075.72    3795200.03        0.00168                    327036.85
3795219.59        0.00178
         327075.72    3795219.59        0.00170                    327036.85
3795239.15        0.00178
         327075.72    3795239.15        0.00172                    327036.85
3795258.71        0.00180
         327075.72    3795258.71        0.00174                    327036.85
3795278.27        0.00182
         327075.72    3795278.27        0.00176                    326840.04
3795223.24        0.00236
         326860.58    3795224.16        0.00225                    326877.30
3795222.74        0.00222
         326929.68    3795223.69        0.00208                    326932.86
3795200.00        0.00202
         326972.32    3795217.03        0.00193                    326970.84
3795177.58        0.00187
         326968.20    3795152.46        0.00183                    326998.43
3795149.77        0.00179
         326997.48    3795176.61        0.00183                    326995.60
3795193.01        0.00186
         326996.92    3795215.78        0.00189                    326916.97
3795152.19        0.00199
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         326901.95    3795150.46        0.00201                        326884.24
3795164.40        0.00207
         326867.32    3795151.32        0.00206                        326873.22
3795163.36        0.00208
         326845.53    3795152.12        0.00213                        326824.91
3795151.45        0.00221
         326826.60    3795170.60        0.00227                        326840.50
3795180.17        0.00224
         326799.39    3795147.97        0.00223                        326776.77
3795147.89        0.00226
         326738.03    3795152.73        0.00232                        326781.33
3795110.75        0.00211
         326806.10    3795109.04        0.00206                        326804.45
3795090.73        0.00200
         326781.78    3795086.72        0.00203                        326787.40
3795061.79        0.00194
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:10:51

                                  PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         326794.01    3795031.22        0.00183                        326977.50
3795110.69        0.00174
         326994.05    3795107.87        0.00172                        326984.52
3795093.80        0.00171
         326972.85    3795082.37        0.00169                        326995.41
3795072.53        0.00165
         326993.23    3795060.01        0.00163                        326984.60
3795040.80        0.00160
         326981.66    3795027.22        0.00157                        327041.48
3795102.15        0.00166
         327065.19    3795095.75        0.00156                        327040.88
3795076.27        0.00162
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         327061.24    3795058.32        0.00152                      327037.82
3795061.09        0.00160
         327035.65    3795040.58        0.00156                      327058.94
3795038.41        0.00149
         327051.53    3795017.85        0.00148                      327033.29
3795021.71        0.00153
         326826.26    3795110.80        0.00200                      326843.29
3795110.80        0.00197
         326860.32    3795110.80        0.00195                      326877.35
3795110.80        0.00193
         326894.38    3795110.80        0.00192                      326911.41
3795110.80        0.00190
         326928.44    3795110.80        0.00185                      326945.47
3795110.80        0.00179
         326819.99    3795048.86        0.00181                      326838.19
3795048.86        0.00178
         326856.39    3795048.86        0.00177                      326874.59
3795048.86        0.00176
         326892.79    3795048.86        0.00175                      326910.99
3795048.86        0.00174
         326929.19    3795048.86        0.00170                      326947.39
3795048.86        0.00164
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:10:51

                                  PAGE  27
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                             *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
        326345.95   3795634.03        0.03350  (09052906)                326414.12
 3795779.67        0.03183  (09052906)
        326435.80   3795773.48        0.03223  (09052906)                326458.31
 3795772.83        0.03209  (09052906)
        326424.24   3795858.77        0.03521  (11012717)                326400.20
 3795799.84        0.03123  (11012717)
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       326400.93   3795767.87        0.03025  (09052906)                326424.24
3795858.77        0.03521  (11012717)
       326611.84   3795762.99        0.03437  (13052906)                326611.84
3795762.99        0.03437  (13052906)
       326610.94   3795777.66        0.03390  (13052906)                326605.86
3795792.89        0.03397  (13052906)
       326623.93   3795809.00        0.03301  (13052906)                326627.22
3795836.58        0.03252  (09042304)
       326640.09   3795836.58        0.03206  (09042304)                326654.45
3795868.68        0.03040  (11061701)
       326665.45   3795883.13        0.02990  (13070102)                326588.30
3795867.62        0.02780  (11012717)
       326640.52   3795951.95        0.02918  (11012717)                326658.45
3795975.58        0.03005  (11012717)
       326759.52   3796019.28        0.02705  (11012717)                326763.60
3796031.85        0.02737  (11012717)
       326775.94   3796048.05        0.02749  (11012717)                326774.23
3796062.19        0.02799  (11012717)
       326801.34   3796078.38        0.02755  (11012717)                326809.46
3796094.93        0.02754  (11012717)
       326736.80   3796108.96        0.02839  (11012717)                326835.84
3796126.62        0.02680  (11012717)
       326836.27   3796140.13        0.02689  (11012717)                326800.95
3796123.31        0.02824  (11012717)
       326762.39   3796138.51        0.02699  (11012717)                326766.63
3796155.18        0.02565  (11012717)
       326774.14   3796169.68        0.02489  (11012717)                326798.07
3796201.57        0.02310  (11012717)
       326808.84   3796229.51        0.02069  (11012717)                326880.95
3796184.59        0.02508  (11012717)
       326915.56   3796260.01        0.02235  (11012717)                326941.07
3796261.11        0.02220  (11012717)
       326958.24   3796277.25        0.02145  (11012717)                326964.89
3796291.08        0.02049  (11012717)
       326984.47   3796322.92        0.01846  (11012717)                326993.31
3796349.42        0.01610  (11012717)
       326993.49   3796365.88        0.01577  (09020821)                327007.03
3796382.47        0.01573  (09020821)
       326972.07   3796390.18        0.01526  (09020821)                326996.78
3796414.54        0.01565  (12120308)
       326693.51   3795789.66        0.02319  (09052906)                326695.37
3795771.29        0.02358  (09052906)
       326727.00   3795761.34        0.02351  (09052906)                326758.55
3795787.48        0.02083  (09052906)
       326761.76   3795813.54        0.01933  (09052906)                326742.22
3795837.06        0.01928  (09052906)
       326838.64   3795823.91        0.01767  (09052906)                326811.45
3795889.81        0.01562  (09052906)
       326823.87   3795855.97        0.01619  (09052906)                326876.62
3795837.29        0.01626  (09052906)
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        326889.30   3795888.54        0.01507  (09052906)                326687.45
 3795683.69        0.03968  (13052906)
        326829.20   3795731.31        0.02123  (09052906)                326859.14
 3795703.62        0.02059  (09053006)
        326881.10   3795705.58        0.02129  (09053006)                326787.44
 3795607.00        0.05192  (09053101)
        326780.76   3795563.55        0.05984  (13030503)                326800.04
 3795542.65        0.06596  (13030503)
        326808.89   3795540.15        0.06731  (13030503)                326825.79
 3795543.65        0.06790  (13030503)
        326856.70   3795545.31        0.06786  (12050224)                326792.33
 3795494.19        0.07547  (12012024)
        326806.68   3795493.93        0.07537  (12012024)                326824.07
 3795494.42        0.07497  (12012024)
        326853.52   3795481.71        0.07920  (09012107)                326898.80
 3795534.37        0.06891  (12050224)
        325796.15   3795215.59        0.11693  (12122922)                325823.15
 3795215.59        0.11799  (12020205)
        326012.15   3795215.59        0.10794  (13122103)                326120.15
 3795215.59        0.08192  (11012303)
        326147.15   3795215.59        0.07950  (11121023)                325796.15
 3795254.59        0.12190  (11121104)
        325823.15   3795254.59        0.12328  (12122922)                325850.15
 3795254.59        0.12285  (12020205)
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:10:51

                                   PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
        325877.15   3795254.59        0.12208  (12123121)                325904.15
 3795254.59        0.12034  (13010624)
        325931.15   3795254.59        0.11503  (13010624)                325958.15
 3795254.59        0.11410  (11121006)
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       325985.15   3795254.59        0.11325  (11122506)               326012.15
3795254.59        0.09432  (11022303)
       326039.15   3795254.59        0.09061  (12122923)               326066.15
3795254.59        0.08855  (13122407)
       326093.15   3795254.59        0.08634  (09122106)               326120.15
3795254.59        0.08367  (11012303)
       326147.15   3795254.59        0.08053  (13122104)               325796.15
3795293.59        0.12230  (11021704)
       325823.15   3795293.59        0.12143  (11121104)               325850.15
3795293.59        0.12374  (12122922)
       325877.15   3795293.59        0.12661  (12020205)               325904.15
3795293.59        0.12580  (12123121)
       325931.15   3795293.59        0.11930  (13010624)               325958.15
3795293.59        0.11788  (10121121)
       325985.15   3795293.59        0.09379  (11121006)               326012.15
3795293.59        0.08931  (09021204)
       326039.15   3795293.59        0.08791  (11022303)               326066.15
3795293.59        0.08074  (12122923)
       326093.15   3795293.59        0.07821  (10012524)               326120.15
3795293.59        0.07960  (13020901)
       326147.15   3795293.59        0.08098  (13020901)               325796.15
3795332.59        0.09565  (11123007)
       325823.15   3795332.59        0.09622  (11123007)               325850.15
3795332.59        0.10225  (11121104)
       325877.15   3795332.59        0.10575  (12122922)               325904.15
3795332.59        0.12661  (09122324)
       325931.15   3795332.59        0.12070  (12122924)               325958.15
3795332.59        0.09839  (11123007)
       325985.15   3795332.59        0.09115  (11123007)               326012.15
3795332.59        0.08716  (11123007)
       326039.15   3795332.59        0.08655  (11123007)               326066.15
3795332.59        0.08689  (11123007)
       326093.15   3795332.59        0.08732  (11123007)               326120.15
3795332.59        0.08933  (11123007)
       326147.15   3795332.59        0.09087  (11010905)               325847.44
3795004.89        0.09470  (11121006)
       325872.44   3795004.89        0.09434  (11122506)               325897.44
3795004.89        0.09387  (10123020)
       325922.44   3795004.89        0.09323  (13122103)               325947.44
3795004.89        0.09266  (13122407)
       325972.44   3795004.89        0.09064  (12021824)               325997.44
3795004.89        0.08863  (09122106)
       326022.44   3795004.89        0.08728  (13013002)               326047.44
3795004.89        0.08617  (11012303)
       326072.44   3795004.89        0.08476  (10021506)               326097.44
3795004.89        0.08378  (09020403)
       326122.44   3795004.89        0.08254  (11121023)               326147.44
3795004.89        0.07406  (09021807)
       325847.44   3795046.89        0.09846  (11121006)               325872.44
3795046.89        0.09792  (11121006)
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 3795046.89        0.09701  (10123020)
       325947.44   3795046.89        0.09645  (13122103)               325972.44
 3795046.89        0.09422  (13122407)
       325997.44   3795046.89        0.09128  (12021824)               326022.44
 3795046.89        0.09046  (13013002)
       326047.44   3795046.89        0.08939  (11122402)               326072.44
 3795046.89        0.08795  (11012303)
       326097.44   3795046.89        0.08681  (10021506)               326122.44
 3795046.89        0.07694  (11121023)
       326147.44   3795046.89        0.07205  (11121023)               325847.44
 3795088.89        0.10205  (10121121)
       325872.44   3795088.89        0.10214  (11121006)               325897.44
 3795088.89        0.10140  (11122506)
       325922.44   3795088.89        0.10110  (11122506)               325947.44
 3795088.89        0.09841  (09121401)
       325972.44   3795088.89        0.09631  (13122103)               325997.44
 3795088.89        0.09501  (13122407)
       326022.44   3795088.89        0.09396  (09122106)               326047.44
 3795088.89        0.09314  (13013002)
       326072.44   3795088.89        0.09170  (11012303)               326097.44
 3795088.89        0.08215  (10021506)
       326122.44   3795088.89        0.07783  (09020403)               326147.44
 3795088.89        0.07396  (11121023)
       325847.44   3795130.89        0.10705  (13010624)               325872.44
 3795130.89        0.10600  (11121006)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:10:51

                                   PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
       325897.44   3795130.89        0.10607  (11121006)               325922.44
 3795130.89        0.10539  (11122506)
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3795130.89        0.10036  (09121401)
       325997.44   3795130.89        0.09952  (13122407)               326022.44
3795130.89        0.09798  (12021824)
       326047.44   3795130.89        0.09688  (13013002)               326072.44
3795130.89        0.09545  (11012303)
       326097.44   3795130.89        0.08215  (11012303)               326122.44
3795130.89        0.07774  (13122104)
       326147.44   3795130.89        0.07593  (11121023)               325847.44
3795172.89        0.11194  (10013003)
       325872.44   3795172.89        0.11136  (13010624)               325897.44
3795172.89        0.11040  (11121006)
       325922.44   3795172.89        0.11029  (11121006)               325947.44
3795172.89        0.10695  (11122506)
       325972.44   3795172.89        0.10468  (10123020)               325997.44
3795172.89        0.10385  (13122103)
       326022.44   3795172.89        0.10250  (13122407)               326047.44
3795172.89        0.09210  (12021824)
       326072.44   3795172.89        0.08516  (11020405)               325847.44
3795214.89        0.11732  (12123121)
       325872.44   3795214.89        0.11670  (10013003)               325897.44
3795214.89        0.11601  (13010624)
       325922.44   3795214.89        0.11513  (11121006)               325947.44
3795214.89        0.11175  (11121006)
       325972.44   3795214.89        0.10922  (11122506)               325997.44
3795214.89        0.10840  (09121401)
       326047.44   3795214.89        0.08830  (13122407)               326072.44
3795214.89        0.08626  (09122106)
       326097.44   3795214.89        0.08429  (11020405)               326147.44
3795214.89        0.07946  (11121023)
       326096.58   3795181.52        0.08247  (11012303)               326118.63
3795182.57        0.08056  (10012801)
       326144.35   3795184.14        0.07855  (11121023)               325849.74
3794829.62        0.08308  (09121401)
       325892.61   3794829.62        0.08224  (13122407)               325935.48
3794829.62        0.07978  (09122106)
       325978.35   3794829.62        0.07881  (13013002)               326021.22
3794829.62        0.07738  (11012303)
       326064.09   3794829.62        0.07525  (09020403)               325849.74
3794867.55        0.08575  (09121401)
       325892.61   3794867.55        0.08373  (13122407)               325935.48
3794867.55        0.08197  (12021824)
       325978.35   3794867.55        0.08121  (13013002)               326021.22
3794867.55        0.07990  (11012303)
       326064.09   3794867.55        0.07745  (10021506)               325849.74
3794905.48        0.08843  (10123020)
       325892.61   3794905.48        0.08635  (13122103)               325935.48
3794905.48        0.08450  (12021824)
       325978.35   3794905.48        0.08357  (13013002)               326021.22
3794905.48        0.08223  (11012303)
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        326064.09   3794905.48        0.07870  (10021506)                325849.74
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        325892.61   3794943.41        0.08891  (09121401)                325935.48
 3794943.41        0.08780  (13122407)
        325978.35   3794943.41        0.08621  (09122106)                326021.22
 3794943.41        0.08484  (11122402)
        326064.09   3794943.41        0.08098  (10021506)                325849.74
 3794981.34        0.09282  (11122506)
        325892.61   3794981.34        0.09192  (10123020)                325935.48
 3794981.34        0.09097  (13122407)
        325978.35   3794981.34        0.08918  (12021824)                326021.22
 3794981.34        0.08602  (13013002)
        326064.09   3794981.34        0.08333  (10021506)                325855.31
 3794726.62        0.07655  (13122407)
        325902.64   3794726.62        0.07534  (09122106)                325855.31
 3794745.52        0.07774  (13122407)
        325902.64   3794745.52        0.07636  (12021824)                325855.31
 3794764.42        0.07888  (13122407)
        325902.64   3794764.42        0.07754  (12021824)                325855.31
 3794783.32        0.07997  (13122407)
        325902.64   3794783.32        0.07869  (12021824)                325855.31
 3794802.22        0.08123  (13122103)
        325902.64   3794802.22        0.07981  (12021824)                325855.31
 3794821.12        0.08248  (13122103)
        325902.64   3794821.12        0.08089  (13122407)                326402.77
 3795249.33        0.07573  (13122905)
        325380.55   3795776.17        0.03591  (12012307)                325415.88
 3795858.35        0.01702  (12021301)
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:10:51

                                   PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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       325409.93   3795994.97        0.01099  (13012417)               325416.60
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       325409.65   3796164.95        0.00961  (13012417)               325322.71
3796083.91        0.00967  (13012417)
       325297.93   3796111.07        0.00974  (09021319)               325246.73
3796076.15        0.01062  (09021718)
       325280.01   3796260.66        0.00772  (13012417)               325237.05
3796200.45        0.00778  (13012417)
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       325208.29   3795926.88        0.01563  (12021301)               325249.48
3795829.20        0.01837  (12012304)
       325171.49   3795759.19        0.03832  (12121219)               325129.24
3795756.40        0.04749  (12121219)
       325154.75   3795886.20        0.02150  (09120619)               325068.55
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3795982.69        0.01348  (12021301)
       325071.95   3796106.74        0.01150  (09021718)               325060.64
3796290.38        0.00694  (13012417)
       324903.71   3796379.80        0.00516  (13012417)               324787.84
3796510.42        0.00576  (09062406)
       324916.48   3796618.27        0.00634  (13012417)               326492.96
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       326552.73   3796900.01        0.00529  (13040207)               326599.30
3796893.60        0.00553  (13040207)
       326617.42   3796889.51        0.00567  (13040207)               326639.41
3796881.91        0.00603  (13040207)
       326663.73   3796864.08        0.00663  (13040207)               326679.47
3796885.20        0.00653  (13040207)
       326697.81   3796898.31        0.00647  (13040207)               326712.34
3796916.60        0.00625  (13040207)
       326726.62   3796931.14        0.00610  (13040207)               326742.23
3796948.02        0.00588  (13040207)
       326756.58   3796965.73        0.00577  (13040207)               326772.07
3796973.30        0.00585  (13040207)
       326785.22   3796890.50        0.00611  (13040207)               326800.10
3797003.95        0.00595  (13040207)
       326817.96   3797014.86        0.00597  (13040207)               326813.74
3796843.93        0.00641  (12120304)
       326833.92   3796853.59        0.00633  (09121017)               326848.61
3796873.43        0.00617  (09121017)
       326864.19   3796885.12        0.00616  (09121017)               326877.92
3796901.20        0.00608  (09121017)
       326893.85   3796917.11        0.00587  (09121017)               326904.49
3796938.77        0.00554  (12061106)
       326907.64   3796966.22        0.00550  (12061106)               326914.45
3796991.73        0.00536  (12061106)
       326921.92   3797038.42        0.00509  (12061106)               326596.56
3797264.10        0.00373  (13040507)
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       326829.98   3795735.43        0.02092  (09052906)               326866.53
 3795706.88        0.02040  (09053006)
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 3795644.95        0.05093  (09053101)
       326898.91   3795644.66        0.05088  (09053101)               326924.66
 3795650.14        0.04819  (09053101)
       326949.68   3795646.43        0.04981  (09053101)               326975.59
 3795638.84        0.04454  (09053101)
       326917.88   3795602.78        0.05783  (13041320)               326918.63
 3795584.13        0.06435  (13122118)
       326921.61   3795563.48        0.06537  (12050224)               326917.18
 3795537.15        0.06852  (12050224)
       326934.99   3795592.17        0.05905  (13122118)               326951.04
 3795599.47        0.05594  (13041320)
       326950.26   3795555.95        0.06632  (12050224)               326951.59
 3795535.07        0.06883  (12021023)
       326961.83   3795537.57        0.06851  (12021023)               326982.25
 3795538.33        0.06847  (12021023)
       326992.41   3795539.09        0.06839  (12021023)               327008.98
 3795535.58        0.06890  (12021023)
       326987.68   3795580.97        0.05888  (13030503)               327024.81
 3795588.42        0.05400  (13030503)
       326925.07   3795485.95        0.07448  (09012107)               326937.83
 3795488.27        0.07396  (09012107)
       326956.45   3795489.28        0.07358  (09012107)               326970.89
 3795491.03        0.07313  (09012107)
       326989.96   3795487.68        0.07344  (09012107)               325049.27
 3794362.92        0.06495  (12021724)
       325086.77   3794362.92        0.06474  (13120620)               325124.27
 3794362.92        0.06461  (13120620)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:10:51

                                   PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
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       325124.27   3794525.32        0.07260  (12021724)               325161.77
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       325199.27   3794525.32        0.07174  (13120620)               325236.77
 3794525.32        0.07162  (13120620)
       325274.27   3794525.32        0.07136  (09021803)               325049.27
 3794548.52        0.07340  (10010424)
       325086.77   3794548.52        0.07424  (10010424)               325124.27
 3794548.52        0.07386  (10012707)
       325161.77   3794548.52        0.07344  (12021724)               325199.27
 3794548.52        0.07267  (12021724)
       325236.77   3794548.52        0.07272  (13120620)               325274.27
 3794548.52        0.07242  (09021803)
       325049.27   3794571.72        0.07437  (10010424)               325086.77
 3794571.72        0.07555  (10010424)
       325124.27   3794571.72        0.07507  (10012707)               325161.77
 3794571.72        0.07456  (12021724)
       325199.27   3794571.72        0.07412  (12021724)               325236.77
 3794571.72        0.07370  (13120620)
       325274.27   3794571.72        0.07350  (13120620)               325049.27
 3794594.92        0.07596  (10011404)
       325086.77   3794594.92        0.07676  (10010424)               325124.27
 3794594.92        0.07635  (10010424)
       325161.77   3794594.92        0.07588  (10012707)               325199.27
 3794594.92        0.07544  (12021724)
       325236.77   3794594.92        0.07461  (12021724)               325274.27
 3794594.92        0.07470  (13120620)
       325049.27   3794618.12        0.07753  (10011404)               325086.77
 3794618.12        0.07786  (10010424)
       325124.27   3794618.12        0.07775  (10010424)               325161.77
 3794618.12        0.07716  (10012707)
       325199.27   3794618.12        0.07664  (12021724)               325236.77
 3794618.12        0.07615  (12021724)
♠ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:10:51

                                   PAGE  32
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **
```

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325274.27	3794618.12	0.07597	(13120620)	325049.27	3794641.32	0.07897	(10011404)
325086.77	3794641.32	0.07964	(10011404)	325124.27	3794641.32	0.07903	(10010424)
325161.77	3794641.32	0.07854	(10010424)	325199.27	3794641.32	0.07802	(10012707)
325236.77	3794641.32	0.07756	(12021724)	325274.27	3794641.32	0.07704	(13120620)
325049.27	3794664.52	0.08054	(09120921)	325086.77	3794664.52	0.08135	(10011404)
325124.27	3794664.52	0.08025	(10011404)	325161.77	3794664.52	0.08002	(10010424)
325199.27	3794664.52	0.07940	(10012707)	325236.77	3794664.52	0.07885	(12021724)
325274.27	3794664.52	0.07886	(12021724)	325049.27	3794687.72	0.08218	(09120921)
325086.77	3794687.72	0.08294	(10011404)	325124.27	3794687.72	0.08218	(10011404)
325161.77	3794687.72	0.08139	(10010424)	325199.27	3794687.72	0.08087	(10010424)
325236.77	3794687.72	0.08032	(10012707)	325274.27	3794687.72	0.08112	(12021724)
324871.62	3794298.63	0.06194	(10010424)	324910.53	3794298.63	0.06169	(10012707)
324949.44	3794298.63	0.06239	(12021724)	324988.35	3794298.63	0.06206	(12021724)
324871.62	3794320.43	0.06269	(10010424)	324910.53	3794320.43	0.06326	(10010424)
324949.44	3794320.43	0.06323	(10012707)	324988.35	3794320.43	0.06291	(12021724)
324871.62	3794342.23	0.06334	(10010424)	324910.53	3794342.23	0.06447	(10010424)
324949.44	3794342.23	0.06407	(10012707)	324988.35	3794342.23	0.06366	(12021724)
324871.62	3794364.03	0.06431	(10011119)	324910.53	3794364.03	0.06531	(10010424)
324949.44	3794364.03	0.06481	(10012707)	324988.35	3794364.03	0.06466	(10012707)
324871.62	3794385.83	0.06616	(10011404)	324910.53	3794385.83	0.06607	(10010424)
324949.44	3794385.83	0.06578	(10010424)	324988.35	3794385.83	0.06621	(10012707)
324871.62	3794407.63	0.06735	(10011404)	324910.53	3794407.63	0.06679	(10011119)
324949.44	3794407.63	0.06669	(10010424)	324988.35	3794407.63	0.06709	(10012707)

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       324871.62   3794429.43        0.06837  (10011404)                324910.53
 3794429.43        0.06793  (10011404)
       324949.44   3794429.43        0.06750  (10010424)                324988.35
 3794429.43        0.06807  (10010424)
       324871.62   3794451.23        0.06928  (09120921)                324910.53
 3794451.23        0.06913  (10011404)
       324949.44   3794451.23        0.06831  (10011119)                324988.35
 3794451.23        0.06913  (10010424)
       324871.62   3794473.03        0.07048  (09120921)                324910.53
 3794473.03        0.07022  (10011404)
       324949.44   3794473.03        0.06989  (10011404)                324988.35
 3794473.03        0.07037  (10010424)
       324871.62   3794494.83        0.07177  (09120921)                324910.53
 3794494.83        0.07120  (09120921)
       324949.44   3794494.83        0.07125  (10011404)                324988.35
 3794494.83        0.07127  (10010424)
       324871.62   3794516.63        0.07310  (11121923)                324910.53
 3794516.63        0.07248  (09120921)
       324949.44   3794516.63        0.07242  (10011404)                324988.35
 3794516.63        0.07248  (10011404)
       324871.62   3794538.43        0.07438  (11121923)                324910.53
 3794538.43        0.07363  (09120921)
       324949.44   3794538.43        0.07348  (10011404)                324988.35
 3794538.43        0.07387  (10011404)
       324871.62   3794560.23        0.07555  (09022006)                324910.53
 3794560.23        0.07490  (11121923)
       324949.44   3794560.23        0.07484  (09120921)                324988.35
 3794560.23        0.07516  (10011404)
       324871.62   3794582.03        0.07703  (09022006)                324910.53
 3794582.03        0.07624  (11121923)
       324949.44   3794582.03        0.07609  (09120921)                324988.35
 3794582.03        0.07633  (10011404)
       324871.62   3794603.83        0.07836  (09022006)                324910.53
 3794603.83        0.07757  (09022006)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       17:10:51

                                  PAGE  33
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324949.44	3794603.83	0.07771	(11121923)	324988.35	3794603.83	0.07780	(09120921)
324871.62	3794625.63	0.07992	(12010904)	324910.53	3794625.63	0.07920	(09022006)
324949.44	3794625.63	0.07997	(11121923)	324988.35	3794625.63	0.07916	(09120921)
324871.62	3794647.43	0.08144	(12010904)	324910.53	3794647.43	0.08060	(09022006)
324949.44	3794647.43	0.08149	(09022006)	324988.35	3794647.43	0.08068	(11121923)
324871.62	3794669.23	0.08309	(12021707)	324910.53	3794669.23	0.08233	(12010904)
324949.44	3794669.23	0.08318	(09022006)	324988.35	3794669.23	0.08224	(11121923)
324871.62	3794691.03	0.08481	(12021707)	324910.53	3794691.03	0.08390	(12010904)
324949.44	3794691.03	0.08476	(12010904)	324988.35	3794691.03	0.08386	(09022006)
324449.04	3794074.69	0.05514	(11121923)	324485.99	3794074.69	0.05472	(09120921)
324522.94	3794074.69	0.05442	(09120921)	324559.89	3794074.69	0.05393	(10011404)
324596.84	3794074.69	0.05321	(10011404)	324633.79	3794074.69	0.05219	(10011119)
324670.74	3794074.69	0.05202	(10010424)	324707.69	3794074.69	0.05190	(10010424)
324744.64	3794074.69	0.05248	(10012707)	324781.59	3794074.69	0.05371	(12021724)
324449.04	3794106.66	0.05600	(11121923)	324485.99	3794106.66	0.05574	(11121923)
324522.94	3794106.66	0.05536	(09120921)	324559.89	3794106.66	0.05496	(09120921)
324596.84	3794106.66	0.05470	(10011404)	324633.79	3794106.66	0.05380	(10011404)
324670.74	3794106.66	0.05334	(10010424)	324707.69	3794106.66	0.05367	(10010424)
324744.64	3794106.66	0.05470	(10012707)	324781.59	3794106.66	0.05532	(10012707)
324449.04	3794138.63	0.05713	(09022006)	324485.99	3794138.63	0.05669	(11121923)
324522.94	3794138.63	0.05632	(11121923)	324559.89	3794138.63	0.05599	(09120921)
324596.84	3794138.63	0.05550	(10011404)	324633.79	3794138.63	0.05599	(10011404)

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       324670.74   3794138.63        0.05545  (10011119)               324707.69
 3794138.63        0.05566  (10010424)
       324744.64   3794138.63        0.05650  (10010424)               324781.59
 3794138.63        0.05632  (10012707)
       324449.04   3794170.60        0.05810  (09022006)               324485.99
 3794170.60        0.05778  (09022006)
       324522.94   3794170.60        0.05752  (11121923)               324559.89
 3794170.60        0.05786  (11121923)
       324596.84   3794170.60        0.05757  (09120921)               324633.79
 3794170.60        0.05737  (10011404)
       324670.74   3794170.60        0.05712  (10011404)               324707.69
 3794170.60        0.05746  (10011119)
       324744.64   3794170.60        0.05755  (10010424)               324781.59
 3794170.60        0.05797  (10010424)
       324449.04   3794202.57        0.05932  (12010904)               324485.99
 3794202.57        0.05883  (09022006)
       324522.94   3794202.57        0.05863  (09022006)               324559.89
 3794202.57        0.05932  (11121923)
       324596.84   3794202.57        0.05879  (09120921)               324633.79
 3794202.57        0.05850  (09120921)
       324670.74   3794202.57        0.05919  (10011404)               324707.69
 3794202.57        0.05887  (10011404)
       324744.64   3794202.57        0.05830  (10011119)               324781.59
 3794202.57        0.05923  (10010424)
       324449.04   3794234.54        0.06038  (12010904)               324485.99
 3794234.54        0.06003  (12010904)
       324522.94   3794234.54        0.05978  (09022006)               324559.89
 3794234.54        0.06037  (09022006)
       324596.84   3794234.54        0.06004  (11121923)               324633.79
 3794234.54        0.05955  (09120921)
       324670.74   3794234.54        0.06043  (09120921)               324707.69
 3794234.54        0.06009  (10011404)
       324744.64   3794234.54        0.05946  (10011404)               324781.59
 3794234.54        0.06009  (10010424)
       324449.04   3794266.51        0.06174  (12021707)               324485.99
 3794266.51        0.06118  (12010904)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:10:51

                                   PAGE  34
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***
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** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794266.51	0.06207	(12010904)	324559.89	3794266.51	0.06167	(09022006)
324596.84	3794266.51	0.06107	(11121923)	324633.79	3794266.51	0.06075	(11121923)
324670.74	3794266.51	0.06165	(09120921)	324707.69	3794266.51	0.06110	(09120921)
324744.64	3794266.51	0.06080	(10011404)	324781.59	3794266.51	0.06107	(10011119)
324449.04	3794298.48	0.06287	(12021707)	324485.99	3794298.48	0.06254	(12021707)
324522.94	3794298.48	0.06339	(12010904)	324559.89	3794298.48	0.06286	(12010904)
324596.84	3794298.48	0.06246	(09022006)	324633.79	3794298.48	0.06308	(11121923)
324670.74	3794298.48	0.06285	(11121923)	324707.69	3794298.48	0.06244	(09120921)
324744.64	3794298.48	0.06192	(10011404)	324781.59	3794298.48	0.06256	(10011404)
324449.04	3794330.45	0.06442	(13012724)	324485.99	3794330.45	0.06390	(12021707)
324522.94	3794330.45	0.06478	(12021707)	324559.89	3794330.45	0.06426	(12010904)
324596.84	3794330.45	0.06364	(12010904)	324633.79	3794330.45	0.06448	(09022006)
324670.74	3794330.45	0.06417	(11121923)	324707.69	3794330.45	0.06360	(11121923)
324744.64	3794330.45	0.06331	(09120921)	324781.59	3794330.45	0.06387	(10011404)
324449.04	3794362.42	0.06577	(12022904)	324485.99	3794362.42	0.06668	(13012724)
324522.94	3794362.42	0.06615	(12021707)	324559.89	3794362.42	0.06565	(12021707)
324596.84	3794362.42	0.06514	(12010904)	324633.79	3794362.42	0.06575	(09022006)
324670.74	3794362.42	0.06554	(09022006)	324707.69	3794362.42	0.06504	(11121923)
324744.64	3794362.42	0.06524	(09120921)	324781.59	3794362.42	0.06545	(09120921)
324449.04	3794394.39	0.06738	(12022904)	324485.99	3794394.39	0.06810	(12022904)
324522.94	3794394.39	0.06777	(13012724)	324559.89	3794394.39	0.06712	(12021707)

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       324596.84   3794394.39        0.06654  (12021707)               324633.79
 3794394.39        0.06735  (12010904)
       324670.74   3794394.39        0.06694  (09022006)               324707.69
 3794394.39        0.06640  (09022006)
       324744.64   3794394.39        0.06675  (11121923)               324781.59
 3794394.39        0.06686  (09120921)
       324449.04   3794426.36        0.06933  (12012404)               324485.99
 3794426.36        0.06991  (12022904)
       324522.94   3794426.36        0.06923  (12022904)               324559.89
 3794426.36        0.06876  (13012724)
       324596.84   3794426.36        0.06811  (12021707)               324633.79
 3794426.36        0.06880  (12021707)
       324670.74   3794426.36        0.06855  (12010904)               324707.69
 3794426.36        0.06808  (09022006)
       324744.64   3794426.36        0.06833  (09022006)               324781.59
 3794426.36        0.06837  (11121923)
       324449.04   3794458.33        0.07179  (12012404)               324485.99
 3794458.33        0.07171  (12012404)
       324522.94   3794458.33        0.07108  (12022904)               324559.89
 3794458.33        0.07027  (13012724)
       324596.84   3794458.33        0.07016  (13012724)               324633.79
 3794458.33        0.07065  (12021707)
       324670.74   3794458.33        0.07003  (12021707)               324707.69
 3794458.33        0.07004  (12010904)
       324744.64   3794458.33        0.07056  (09022006)               324781.59
 3794458.33        0.06986  (11121923)
       324449.04   3794490.30        0.07377  (11010801)               324485.99
 3794490.30        0.07350  (12012404)
       324522.94   3794490.30        0.07287  (12012404)               324559.89
 3794490.30        0.07221  (12022904)
       324596.84   3794490.30        0.07247  (13012724)               324633.79
 3794490.30        0.07255  (13012724)
       324670.74   3794490.30        0.07189  (12021707)               324707.69
 3794490.30        0.07166  (12010904)
       324744.64   3794490.30        0.07223  (12010904)               324781.59
 3794490.30        0.07163  (09022006)
       324449.04   3794522.27        0.07593  (09020801)               324485.99
 3794522.27        0.07558  (11010801)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:10:51

                                  PAGE  35
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,
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*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794522.27	0.07474	(12012404)	324559.89	3794522.27	0.07407	(12012404)
324596.84	3794522.27	0.07450	(12022904)	324633.79	3794522.27	0.07435	(13012724)
324670.74	3794522.27	0.07369	(13012724)	324707.69	3794522.27	0.07358	(12021707)
324744.64	3794522.27	0.07404	(12010904)	324781.59	3794522.27	0.07331	(12010904)
324449.04	3794554.24	0.07841	(09020801)	324485.99	3794554.24	0.07759	(09020801)
324522.94	3794554.24	0.07691	(11010801)	324559.89	3794554.24	0.07644	(12012404)
324596.84	3794554.24	0.07688	(12012404)	324633.79	3794554.24	0.07646	(12022904)
324670.74	3794554.24	0.07560	(13012724)	324707.69	3794554.24	0.07545	(13012724)
324744.64	3794554.24	0.07604	(12021707)	324781.59	3794554.24	0.07526	(12010904)
324449.04	3794586.21	0.08076	(12021007)	324485.99	3794586.21	0.07987	(09020801)
324522.94	3794586.21	0.07904	(09020801)	324559.89	3794586.21	0.07905	(11010801)
324596.84	3794586.21	0.07933	(12012404)	324633.79	3794586.21	0.07854	(12012404)
324670.74	3794586.21	0.07778	(12022904)	324707.69	3794586.21	0.07751	(13012724)
324744.64	3794586.21	0.07802	(13012724)	324781.59	3794586.21	0.07731	(12021707)
324449.04	3794618.18	0.08307	(13021402)	324485.99	3794618.18	0.08235	(12021007)
324522.94	3794618.18	0.08139	(09020801)	324559.89	3794618.18	0.08133	(09020801)
324596.84	3794618.18	0.08177	(11010801)	324633.79	3794618.18	0.08079	(12012404)
324670.74	3794618.18	0.08007	(12012404)	324707.69	3794618.18	0.08077	(12022904)
324744.64	3794618.18	0.08029	(13012724)	324781.59	3794618.18	0.07935	(13012724)
324449.04	3794650.15	0.08571	(13021402)	324485.99	3794650.15	0.08484	(13021402)

```
       324522.94   3794650.15        0.08401  (12021007)               324559.89
 3794650.15        0.08379  (09020801)
       324596.84   3794650.15        0.08423  (09020801)               324633.79
 3794650.15        0.08334  (11010801)
       324670.74   3794650.15        0.08249  (12012404)               324707.69
 3794650.15        0.08355  (12012404)
       324744.64   3794650.15        0.08271  (12022904)               324781.59
 3794650.15        0.08176  (13012724)
       324449.04   3794682.12        0.08855  (09120303)               324485.99
 3794682.12        0.08753  (13021402)
       324522.94   3794682.12        0.08698  (13021402)               324559.89
 3794682.12        0.08777  (12021007)
       324596.84   3794682.12        0.08685  (09020801)               324633.79
 3794682.12        0.08595  (09020801)
       324670.74   3794682.12        0.08517  (11010801)               324707.69
 3794682.12        0.08617  (12012404)
       324744.64   3794682.12        0.08518  (12012404)               324781.59
 3794682.12        0.08428  (12022904)
       326547.36   3795022.06        0.05562  (10020123)               326594.67
 3795022.06        0.05438  (12022103)
       326641.98   3795022.06        0.05151  (12122705)               326547.36
 3795042.46        0.05635  (12121322)
       326594.67   3795042.46        0.05201  (10011406)               326641.98
 3795042.46        0.05227  (10010602)
       326547.36   3795062.86        0.05714  (12022103)               326594.67
 3795062.86        0.05206  (12010221)
       326641.98   3795062.86        0.05311  (10121122)               326547.36
 3795083.26        0.05718  (10011406)
       326594.67   3795083.26        0.05286  (12020806)               326641.98
 3795083.26        0.05400  (13011507)
       326547.36   3795103.66        0.05531  (12122705)               326594.67
 3795103.66        0.05435  (10021204)
       326641.98   3795103.66        0.05548  (10021204)               326547.36
 3795124.06        0.05703  (10021204)
       326594.67   3795124.06        0.05649  (10021204)               326641.98
 3795124.06        0.05743  (10021204)
       326547.36   3795144.46        0.05892  (10021204)               326594.67
 3795144.46        0.05860  (10012524)
       326641.98   3795144.46        0.05968  (10012524)               326547.36
 3795164.86        0.05996  (10012524)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:10:51

                                  PAGE  36
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
```

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326594.67	3795164.86	0.06107	(13020901)	326641.98	3795164.86	0.06232	(13020901)
326547.36	3795185.26	0.06248	(13020901)	326594.67	3795185.26	0.06368	(13020901)
326641.98	3795185.26	0.06507	(13122905)	326547.36	3795205.66	0.06532	(13122905)
326594.67	3795205.66	0.06667	(13122905)	326641.98	3795205.66	0.06676	(12011901)
326547.36	3795226.06	0.06847	(12011901)	326594.67	3795226.06	0.06997	(12011901)
326641.98	3795226.06	0.06651	(11010905)	326547.36	3795246.46	0.07198	(11010905)
326594.67	3795246.46	0.07264	(11010905)	326641.98	3795246.46	0.06858	(12010208)
326690.43	3795243.37	0.06885	(12010208)	326688.67	3795223.05	0.06594	(11010905)
326686.02	3795005.77	0.05171	(10021501)	326686.02	3795033.66	0.05201	(10121122)
326686.02	3795061.55	0.05254	(10122507)	326686.02	3795089.44	0.05390	(10021204)
326686.02	3795117.33	0.05652	(10012524)	326686.02	3795145.22	0.05967	(13020901)
326686.02	3795173.11	0.06237	(13122905)	326686.02	3795201.00	0.06265	(12011901)
326832.80	3795263.26	0.07477	(12011002)	326849.67	3795263.26	0.07186	(12011002)
326866.54	3795263.26	0.07066	(09120419)	326883.41	3795263.26	0.07100	(09120419)
326900.28	3795263.26	0.07128	(09120419)	326917.15	3795263.26	0.07148	(09120419)
326934.02	3795263.26	0.06820	(09120419)	326950.89	3795263.26	0.06523	(09120419)
326967.76	3795263.26	0.06525	(09120419)	326984.63	3795263.26	0.06409	(13121308)
327001.50	3795263.26	0.06136	(13121308)	327036.85	3795141.35	0.05368	(12010208)
327075.72	3795141.35	0.04982	(12010208)	327036.85	3795160.91	0.05542	(12010208)

```
       327075.72   3795160.91        0.05161  (12120505)                327036.85
 3795180.47        0.05746  (13122805)
       327075.72   3795180.47        0.05406  (12120505)                327036.85
 3795200.03        0.05937  (11010918)
       327075.72   3795200.03        0.05578  (12120505)                327036.85
 3795219.59        0.05802  (12120505)
       327075.72   3795219.59        0.05673  (09120419)                327036.85
 3795239.15        0.05830  (09120419)
       327075.72   3795239.15        0.05832  (09120419)                327036.85
 3795258.71        0.06003  (13121308)
       327075.72   3795258.71        0.06050  (13121308)                327036.85
 3795278.27        0.06205  (13121308)
       327075.72   3795278.27        0.06198  (11011817)                326840.04
 3795223.24        0.06772  (13122805)
       326860.58   3795224.16        0.06476  (13122805)                326877.30
 3795222.74        0.06501  (13122805)
       326929.68   3795223.69        0.06404  (11010918)                326932.86
 3795200.00        0.06022  (13122805)
       326972.32   3795217.03        0.06082  (12120505)                326970.84
 3795177.58        0.05579  (12010208)
       326968.20   3795152.46        0.05337  (12010208)                326998.43
 3795149.77        0.05374  (12010208)
       326997.48   3795176.61        0.05608  (12010208)                326995.60
 3795193.01        0.05824  (11010918)
       326996.92   3795215.78        0.06091  (12120505)                326916.97
 3795152.19        0.05697  (11012803)
       326901.95   3795150.46        0.05648  (11012803)                326884.24
 3795164.40        0.05757  (10021404)
       326867.32   3795151.32        0.05580  (11012803)                326873.22
 3795163.36        0.05717  (11012803)
       326845.53   3795152.12        0.05756  (12011901)                326824.91
 3795151.45        0.05985  (13122905)
       326826.60   3795170.60        0.06235  (12011901)                326840.50
 3795180.17        0.06165  (11010905)
       326799.39   3795147.97        0.05893  (13122905)                326776.77
 3795147.89        0.05839  (13122905)
       326738.03   3795152.73        0.05800  (13122905)                326781.33
 3795110.75        0.05456  (13020901)
       326806.10   3795109.04        0.05385  (13020901)                326804.45
 3795090.73        0.05220  (10012524)
       326781.78   3795086.72        0.05232  (10012524)                326787.40
 3795061.79        0.05067  (10121023)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase
1_Mitiated\Hitch Ranch_Phase  ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:10:51

                                  PAGE  37
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
```

*** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
INCLUDING SOURCE(S):   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326794.01	3795031.22	0.04942	(12010407)	326977.50	3795110.69	0.04949	(11012803)
326994.05	3795107.87	0.04959	(11012803)	326984.52	3795093.80	0.04827	(11020605)
326972.85	3795082.37	0.04712	(11020605)	326995.41	3795072.53	0.04677	(11020605)
326993.23	3795060.01	0.04585	(13020901)	326984.60	3795040.80	0.04432	(13020901)
326981.66	3795027.22	0.04385	(12121805)	327041.48	3795102.15	0.04960	(11012803)
327065.19	3795095.75	0.04647	(09121202)	327040.88	3795076.27	0.04759	(11020605)
327061.24	3795058.32	0.04393	(13012604)	327037.82	3795061.09	0.04668	(11020605)
327035.65	3795040.58	0.04526	(13020901)	327058.94	3795038.41	0.04283	(13020901)
327051.53	3795017.85	0.04235	(10012524)	327033.29	3795021.71	0.04395	(10012524)
326826.26	3795110.80	0.05174	(13020901)	326843.29	3795110.80	0.05151	(13020901)
326860.32	3795110.80	0.05159	(13122905)	326877.35	3795110.80	0.05199	(13122905)
326894.38	3795110.80	0.05237	(13122905)	326911.41	3795110.80	0.05273	(13122905)
326928.44	3795110.80	0.05151	(11020605)	326945.47	3795110.80	0.04924	(11020605)
326819.99	3795048.86	0.04726	(13020308)	326838.19	3795048.86	0.04653	(13020308)
326856.39	3795048.86	0.04692	(13020308)	326874.59	3795048.86	0.04721	(13020308)
326892.79	3795048.86	0.04750	(11120708)	326910.99	3795048.86	0.04787	(11120708)
326929.19	3795048.86	0.04657	(11120708)	326947.39	3795048.86	0.04437	(12121805)

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3
**

GROUP ID	NETWORK AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	0.01250 AT (325904.15, 3795332.59, 149.61, 185.00, 0.00)	DC	
	2ND HIGHEST VALUE IS	0.01197 AT (325931.15, 3795332.59, 150.05, 165.00, 0.00)	DC	
	3RD HIGHEST VALUE IS	0.01128 AT (325877.15, 3795332.59, 150.22, 185.00, 0.00)	DC	
	4TH HIGHEST VALUE IS	0.01123 AT (325850.15, 3795332.59, 150.51, 185.00, 0.00)	DC	
	5TH HIGHEST VALUE IS	0.01109 AT (325796.15, 3795332.59, 151.11, 185.00, 0.00)	DC	
	6TH HIGHEST VALUE IS	0.01093 AT (325823.15, 3795332.59, 151.02, 185.00, 0.00)	DC	
	7TH HIGHEST VALUE IS	0.01093 AT (325796.15, 3795293.59, 150.13, 185.00, 0.00)	DC	
	8TH HIGHEST VALUE IS	0.01067 AT (325823.15, 3795293.59, 150.11, 185.00, 0.00)	DC	
	9TH HIGHEST VALUE IS	0.01058 AT (325850.15, 3795293.59, 149.69, 185.00, 0.00)	DC	
	10TH HIGHEST VALUE IS	0.01052 AT (325877.15, 3795293.59, 149.15, 185.00, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
                     GP = GRIDPOLR
                     DC = DISCCART
                     DP = DISCPOLR

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE	NETWORK CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	HIGH	1ST HIGH VALUE IS	0.12661	ON 12020205:	AT (325877.15, 3795293.59, 149.15, 185.00, 0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   1 Warning Message(s)
A Total of   15612 Informational Message(s)

A Total of   43872 Hours Were Processed

A Total of   13724 Calm Hours Identified

A Total of   1888 Missing Hours Identified (4.30 Percent)

******** FATAL ERROR MESSAGES ********

```
             ***  NONE  ***


   ********   WARNING MESSAGES   ********
MX W481   43873         MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD View\Phase4_Mitigated_11.3\Phase4_Mitigated_11.3.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase4_Construction\Hitch Ranch_Pha
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase4_Mitigated_11.3.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       6.6995E-10     3.000        17
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326288.670 3795758.120 326277.560 3795694.020
   AREAVERT PAREA1       326166.380 3795525.260 326425.650 3795493.540
   AREAVERT PAREA1       326479.010 3795469.120 326469.840 3795364.180
   AREAVERT PAREA1       325735.780 3795372.310 325709.200 3795538.990
   AREAVERT PAREA1       325466.690 3795412.580 325320.790 3795389.270
   AREAVERT PAREA1       325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
```

```
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED Phase4_Mitigated_11.3.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE4_MITIGATED_11.3.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE4_MITIGATED_11.3.AD\AN00GALL.PLT 32
   SUMMFILE Phase4_Mitigated_11.3.sum
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/3/2020
** File: C:\Lakes\AERMOD View\Phase4_Mitigated_11.3\Phase4_Mitigated_11.3.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase4_Construction\Hitch Ranch_Pha
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase4_Mitigated_11.3.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       6.6995E-10     3.000        17
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326288.670 3795758.120 326277.560 3795694.020
   AREAVERT PAREA1       326166.380 3795525.260 326425.650 3795493.540
   AREAVERT PAREA1       326479.010 3795469.120 326469.840 3795364.180
   AREAVERT PAREA1       325735.780 3795372.310 325709.200 3795538.990
   AREAVERT PAREA1       325466.690 3795412.580 325320.790 3795389.270
   AREAVERT PAREA1       325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
```

```
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED Phase4_Mitigated_11.3.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE4_MITIGATED_11.3.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE4_MITIGATED_11.3.AD\AN00GALL.PLT 32
   SUMMFILE Phase4_Mitigated_11.3.sum
OU FINISHED

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       17:43:16

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                        ***     MODEL SETUP OPTIONS SUMMARY
```

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  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     841
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
```

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 24.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ;
Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.6 MB of RAM.

**Input Runstream File: aermod.inp

**Output Print File: aermod.out

**Detailed Error/Message File: Phase4_Mitigated_11.3.err

**File for Summary of Results: Phase4_Mitigated_11.3.sum

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326346.0, 3795634.0, 172.5, 190.0, 0.0); (326414.1, 3795779.7, 180.0, 277.0, 0.0);
(326435.8, 3795773.5, 176.6, 277.0, 0.0); (326458.3, 3795772.8, 174.6, 277.0, 0.0);
(326424.2, 3795858.8, 178.9, 295.0, 0.0); (326400.2, 3795799.8, 182.9, 277.0, 0.0);
(326400.9, 3795767.9, 180.8, 277.0, 0.0); (326424.2, 3795858.8, 178.9, 295.0, 0.0);
(326611.8, 3795763.0, 168.9, 277.0, 0.0); (326611.8, 3795763.0, 168.9, 277.0, 0.0);
(326610.9, 3795777.7, 169.0, 277.0, 0.0); (326605.9, 3795792.9, 169.0, 277.0, 0.0);
(326623.9, 3795809.0, 169.6, 277.0, 0.0); (326627.2, 3795836.6, 170.1, 295.0, 0.0);
(326640.1, 3795836.6, 170.2, 277.0, 0.0); (326654.5, 3795868.7, 171.6, 291.0, 0.0);
(326665.5, 3795883.1, 172.0, 295.0, 0.0); (326588.3, 3795867.6, 175.1, 277.0, 0.0);
(326640.5, 3795951.9, 177.0, 295.0, 0.0); (326658.5,

```
3795975.6,     175.5,     295.0,       0.0);
     ( 326759.5, 3796019.3,     178.2,     277.0,       0.0);         ( 326763.6,
3796031.8,     178.1,     291.0,       0.0);
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
     ( 326806.7, 3795493.9,     157.9,     217.0,       0.0);         ( 326824.1,
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3795494.4,   157.9,   217.0,   0.0);
     (326853.5, 3795481.7,   157.5,   217.0,   0.0);   (326898.8,
3795534.4,   158.0,   217.0,   0.0);
     (325796.1, 3795215.6,   149.4,   149.4,   0.0);   (325823.1,
3795215.6,   149.0,   149.0,   0.0);
     (326012.1, 3795215.6,   150.0,   150.0,   0.0);   (326120.1,
3795215.6,   151.0,   151.0,   0.0);
     (326147.1, 3795215.6,   151.0,   151.0,   0.0);   (325796.1,
3795254.6,   149.4,   185.0,   0.0);
     (325823.1, 3795254.6,   149.0,   185.0,   0.0);   (325850.1,
3795254.6,   149.0,   149.0,   0.0);
     (325877.1, 3795254.6,   149.0,   149.0,   0.0);   (325904.1,
3795254.6,   149.2,   149.2,   0.0);
     (325931.1, 3795254.6,   149.9,   149.9,   0.0);   (325958.1,
3795254.6,   150.0,   150.0,   0.0);
     (325985.1, 3795254.6,   150.0,   150.0,   0.0);   (326012.1,
3795254.6,   150.7,   150.7,   0.0);
     (326039.1, 3795254.6,   151.0,   151.0,   0.0);   (326066.1,
3795254.6,   151.0,   151.0,   0.0);
     (326093.1, 3795254.6,   151.0,   151.0,   0.0);   (326120.1,
3795254.6,   151.0,   151.0,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (326147.1, 3795254.6,   151.0,   151.0,   0.0);   (325796.1,
3795293.6,   150.1,   185.0,   0.0);
     (325823.1, 3795293.6,   150.1,   185.0,   0.0);   (325850.1,
3795293.6,   149.7,   185.0,   0.0);
     (325877.1, 3795293.6,   149.2,   185.0,   0.0);   (325904.1,
3795293.6,   149.2,   149.2,   0.0);
     (325931.1, 3795293.6,   150.0,   150.0,   0.0);   (325958.1,
3795293.6,   150.0,   150.0,   0.0);
     (325985.1, 3795293.6,   150.9,   150.9,   0.0);   (326012.1,
3795293.6,   151.2,   151.2,   0.0);
     (326039.1, 3795293.6,   151.2,   151.2,   0.0);   (326066.1,
3795293.6,   151.7,   151.7,   0.0);
     (326093.1, 3795293.6,   152.0,   152.0,   0.0);   (326120.1,
3795293.6,   152.0,   152.0,   0.0);
     (326147.1, 3795293.6,   152.0,   152.0,   0.0);   (325796.1,
3795332.6,   151.1,   185.0,   0.0);
     (325823.1, 3795332.6,   151.0,   185.0,   0.0);   (325850.1,

```
3795332.6,     150.5,     185.0,       0.0);
     ( 325877.1, 3795332.6,     150.2,     185.0,       0.0);         ( 325904.1,
3795332.6,     149.6,     185.0,       0.0);
     ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
3795332.6,     150.5,     166.0,       0.0);
     ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
     ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
     ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325972.4, 3795004.9,     149.3,     149.3,       0.0);         ( 325997.4,
3795004.9,     149.7,     149.7,       0.0);
     ( 326022.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326122.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326147.4,
3795004.9,     150.3,     150.3,       0.0);
     ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
     ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
     ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795088.9,     150.2,     150.2,       0.0);
     ( 326122.4, 3795088.9,     150.7,     150.7,       0.0);         ( 326147.4,
```

3795088.9,   151.0,   151.0,   0.0);
     (325847.4, 3795130.9,   149.0,   149.0,   0.0);   (325872.4,
3795130.9,   149.0,   149.0,   0.0);
     (325897.4, 3795130.9,   149.0,   149.0,   0.0);   (325922.4,
3795130.9,   149.0,   149.0,   0.0);
     (325947.4, 3795130.9,   149.6,   149.6,   0.0);   (325972.4,
3795130.9,   150.0,   150.0,   0.0);
     (325997.4, 3795130.9,   150.0,   150.0,   0.0);   (326022.4,
3795130.9,   150.0,   150.0,   0.0);
     (326047.4, 3795130.9,   150.0,   150.0,   0.0);   (326072.4,
3795130.9,   150.0,   150.0,   0.0);
     (326097.4, 3795130.9,   150.6,   150.6,   0.0);   (326122.4,
3795130.9,   151.0,   151.0,   0.0);
     (326147.4, 3795130.9,   151.0,   151.0,   0.0);   (325847.4,
3795172.9,   149.0,   149.0,   0.0);
     (325872.4, 3795172.9,   149.0,   149.0,   0.0);   (325897.4,
3795172.9,   149.0,   149.0,   0.0);
     (325922.4, 3795172.9,   149.0,   149.0,   0.0);   (325947.4,
3795172.9,   149.6,   149.6,   0.0);
     (325972.4, 3795172.9,   150.0,   150.0,   0.0);   (325997.4,
3795172.9,   150.0,   150.0,   0.0);
     (326022.4, 3795172.9,   150.0,   150.0,   0.0);   (326047.4,
3795172.9,   150.2,   150.2,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (326072.4, 3795172.9,   150.8,   150.8,   0.0);   (325847.4,
3795214.9,   149.0,   149.0,   0.0);
     (325872.4, 3795214.9,   149.0,   149.0,   0.0);   (325897.4,
3795214.9,   149.0,   149.0,   0.0);
     (325922.4, 3795214.9,   149.0,   149.0,   0.0);   (325947.4,
3795214.9,   149.6,   149.6,   0.0);
     (325972.4, 3795214.9,   150.0,   150.0,   0.0);   (325997.4,
3795214.9,   150.0,   150.0,   0.0);
     (326047.4, 3795214.9,   151.0,   151.0,   0.0);   (326072.4,
3795214.9,   151.0,   151.0,   0.0);
     (326097.4, 3795214.9,   151.0,   151.0,   0.0);   (326147.4,
3795214.9,   151.0,   151.0,   0.0);
     (326096.6, 3795181.5,   151.0,   151.0,   0.0);   (326118.6,
3795182.6,   151.0,   151.0,   0.0);
     (326144.3, 3795184.1,   151.0,   151.0,   0.0);   (325849.7,

3794829.6,   148.0,   148.0,   0.0);
     (325892.6, 3794829.6,   148.0,   148.0,   0.0);   (325935.5,
3794829.6,   148.8,   148.8,   0.0);
     (325978.3, 3794829.6,   149.0,   149.0,   0.0);   (326021.2,
3794829.6,   149.0,   149.0,   0.0);
     (326064.1, 3794829.6,   149.5,   149.5,   0.0);   (325849.7,
3794867.5,   148.0,   148.0,   0.0);
     (325892.6, 3794867.5,   148.8,   148.8,   0.0);   (325935.5,
3794867.5,   149.0,   149.0,   0.0);
     (325978.3, 3794867.5,   149.0,   149.0,   0.0);   (326021.2,
3794867.5,   149.0,   149.0,   0.0);
     (326064.1, 3794867.5,   149.5,   149.5,   0.0);   (325849.7,
3794905.5,   148.1,   148.1,   0.0);
     (325892.6, 3794905.5,   148.9,   148.9,   0.0);   (325935.5,
3794905.5,   149.0,   149.0,   0.0);
     (325978.3, 3794905.5,   149.0,   149.0,   0.0);   (326021.2,
3794905.5,   149.1,   149.1,   0.0);
     (326064.1, 3794905.5,   150.0,   150.0,   0.0);   (325849.7,
3794943.4,   148.4,   148.4,   0.0);
     (325892.6, 3794943.4,   149.0,   149.0,   0.0);   (325935.5,
3794943.4,   149.0,   149.0,   0.0);
     (325978.3, 3794943.4,   149.0,   149.0,   0.0);   (326021.2,
3794943.4,   149.1,   149.1,   0.0);
     (326064.1, 3794943.4,   150.0,   150.0,   0.0);   (325849.7,
3794981.3,   148.9,   148.9,   0.0);
     (325892.6, 3794981.3,   149.0,   149.0,   0.0);   (325935.5,
3794981.3,   149.0,   149.0,   0.0);
     (325978.3, 3794981.3,   149.0,   149.0,   0.0);   (326021.2,
3794981.3,   149.8,   149.8,   0.0);
     (326064.1, 3794981.3,   150.0,   150.0,   0.0);   (325855.3,
3794726.6,   148.0,   148.0,   0.0);
     (325902.6, 3794726.6,   148.0,   148.0,   0.0);   (325855.3,
3794745.5,   148.0,   148.0,   0.0);
     (325902.6, 3794745.5,   148.0,   148.0,   0.0);   (325855.3,
3794764.4,   148.0,   148.0,   0.0);
     (325902.6, 3794764.4,   148.0,   148.0,   0.0);   (325855.3,
3794783.3,   148.0,   148.0,   0.0);
     (325902.6, 3794783.3,   148.0,   148.0,   0.0);   (325855.3,
3794802.2,   148.0,   148.0,   0.0);
     (325902.6, 3794802.2,   148.0,   148.0,   0.0);   (325855.3,
3794821.1,   148.0,   148.0,   0.0);
     (325902.6, 3794821.1,   148.1,   148.1,   0.0);   (326402.8,
3795249.3,   152.8,   152.8,   0.0);
     (325380.5, 3795776.2,   161.0,   295.0,   0.0);   (325415.9,
3795858.3,   176.6,   271.0,   0.0);
     (325409.9, 3795995.0,   190.3,   271.0,   0.0);   (325416.6,
3796058.1,   193.4,   282.0,   0.0);
     (325409.6, 3796164.9,   201.8,   291.0,   0.0);   (325322.7,
3796083.9,   190.0,   292.0,   0.0);
     (325297.9, 3796111.1,   184.9,   295.0,   0.0);   (325246.7,

3796076.1,   181.2,   295.0,   0.0);
     (325280.0, 3796260.7,   211.4,   292.0,   0.0);   (325237.0,
3796200.4,   205.0,   292.0,   0.0);
     (325163.0, 3796071.1,   180.4,   292.0,   0.0);   (325215.7,
3795991.4,   177.4,   292.0,   0.0);
     (325208.3, 3795926.9,   173.0,   292.0,   0.0);   (325249.5,
3795829.2,   171.2,   291.0,   0.0);
     (325171.5, 3795759.2,   160.9,   292.0,   0.0);   (325129.2,
3795756.4,   158.4,   292.0,   0.0);
     (325154.8, 3795886.2,   167.8,   292.0,   0.0);   (325068.5,
3795885.4,   171.6,   292.0,   0.0);
     (325047.9, 3795938.0,   175.5,   292.0,   0.0);   (325045.8,
3795982.7,   176.4,   292.0,   0.0);
     (325072.0, 3796106.7,   179.6,   292.0,   0.0);   (325060.6,
3796290.4,   197.1,   292.0,   0.0);
     (324903.7, 3796379.8,   214.8,   292.0,   0.0);   (324787.8,
3796510.4,   197.3,   292.0,   0.0);
     (324916.5, 3796618.3,   201.7,   292.0,   0.0);   (326493.0,
3796356.3,   198.5,   295.0,   0.0);
     (326552.7, 3796900.0,   235.2,   295.0,   0.0);   (326599.3,
3796893.6,   237.6,   293.0,   0.0);
     (326617.4, 3796889.5,   237.6,   293.0,   0.0);   (326639.4,
3796881.9,   233.8,   293.0,   0.0);
     (326663.7, 3796864.1,   225.7,   295.0,   0.0);   (326679.5,
3796885.2,   227.5,   293.0,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (326697.8, 3796898.3,   229.7,   293.0,   0.0);   (326712.3,
3796916.6,   233.6,   293.0,   0.0);
     (326726.6, 3796931.1,   236.4,   290.0,   0.0);   (326742.2,
3796948.0,   240.5,   290.0,   0.0);
     (326756.6, 3796965.7,   242.1,   290.0,   0.0);   (326772.1,
3796973.3,   239.2,   290.0,   0.0);
     (326785.2, 3796890.5,   223.1,   293.0,   0.0);   (326800.1,
3797003.9,   233.0,   290.0,   0.0);
     (326818.0, 3797014.9,   229.2,   290.0,   0.0);   (326813.7,
3796843.9,   215.1,   293.0,   0.0);
     (326833.9, 3796853.6,   216.3,   293.0,   0.0);   (326848.6,
3796873.4,   217.5,   293.0,   0.0);
     (326864.2, 3796885.1,   217.7,   293.0,   0.0);   (326877.9,

3796901.2,   218.2,   292.0,   0.0);
     (326893.8, 3796917.1,   220.4,   292.0,   0.0);   (326904.5,
3796938.8,   223.9,   292.0,   0.0);
     (326907.6, 3796966.2,   224.5,   292.0,   0.0);   (326914.5,
3796991.7,   227.6,   292.0,   0.0);
     (326921.9, 3797038.4,   232.7,   292.0,   0.0);   (326596.6,
3797264.1,   273.2,   288.0,   0.0);
     (326830.0, 3795735.4,   183.6,   217.0,   0.0);   (326866.5,
3795706.9,   182.8,   217.0,   0.0);
     (326831.5, 3795646.6,   161.0,   217.0,   0.0);   (326872.9,
3795644.9,   160.9,   217.0,   0.0);
     (326898.9, 3795644.7,   160.9,   217.0,   0.0);   (326924.7,
3795650.1,   161.6,   217.0,   0.0);
     (326949.7, 3795646.4,   161.1,   217.0,   0.0);   (326975.6,
3795638.8,   162.5,   217.0,   0.0);
     (326917.9, 3795602.8,   159.0,   217.0,   0.0);   (326918.6,
3795584.1,   158.0,   217.0,   0.0);
     (326921.6, 3795563.5,   158.0,   217.0,   0.0);   (326917.2,
3795537.1,   158.0,   217.0,   0.0);
     (326935.0, 3795592.2,   158.8,   217.0,   0.0);   (326951.0,
3795599.5,   159.5,   217.0,   0.0);
     (326950.3, 3795555.9,   158.0,   217.0,   0.0);   (326951.6,
3795535.1,   158.0,   217.0,   0.0);
     (326961.8, 3795537.6,   158.0,   217.0,   0.0);   (326982.2,
3795538.3,   158.0,   217.0,   0.0);
     (326992.4, 3795539.1,   158.0,   217.0,   0.0);   (327009.0,
3795535.6,   158.0,   217.0,   0.0);
     (326987.7, 3795581.0,   159.0,   217.0,   0.0);   (327024.8,
3795588.4,   160.1,   217.0,   0.0);
     (326925.1, 3795485.9,   158.0,   217.0,   0.0);   (326937.8,
3795488.3,   158.0,   217.0,   0.0);
     (326956.5, 3795489.3,   158.0,   217.0,   0.0);   (326970.9,
3795491.0,   158.0,   217.0,   0.0);
     (326990.0, 3795487.7,   158.0,   217.0,   0.0);   (325049.3,
3794362.9,   143.0,   143.0,   0.0);
     (325086.8, 3794362.9,   143.0,   143.0,   0.0);   (325124.3,
3794362.9,   143.0,   143.0,   0.0);
     (325161.8, 3794362.9,   143.2,   143.2,   0.0);   (325199.3,
3794362.9,   143.2,   143.2,   0.0);
     (325236.8, 3794362.9,   143.0,   143.0,   0.0);   (325274.3,
3794362.9,   143.0,   143.0,   0.0);
     (325049.3, 3794386.1,   143.0,   143.0,   0.0);   (325086.8,
3794386.1,   143.0,   143.0,   0.0);
     (325124.3, 3794386.1,   143.2,   143.2,   0.0);   (325161.8,
3794386.1,   144.0,   144.0,   0.0);
     (325199.3, 3794386.1,   144.0,   144.0,   0.0);   (325236.8,
3794386.1,   143.1,   143.1,   0.0);
     (325274.3, 3794386.1,   143.0,   143.0,   0.0);   (325049.3,
3794409.3,   143.0,   143.0,   0.0);
     (325086.8, 3794409.3,   143.0,   143.0,   0.0);   (325124.3,

3794409.3,   143.2,   143.2,   0.0);
     (325161.8, 3794409.3,   144.0,   144.0,   0.0);   (325199.3,
3794409.3,   144.0,   144.0,   0.0);
     (325236.8, 3794409.3,   143.8,   143.8,   0.0);   (325274.3,
3794409.3,   143.7,   143.7,   0.0);
     (325049.3, 3794432.5,   143.0,   143.0,   0.0);   (325086.8,
3794432.5,   143.0,   143.0,   0.0);
     (325124.3, 3794432.5,   143.6,   143.6,   0.0);   (325161.8,
3794432.5,   144.0,   144.0,   0.0);
     (325199.3, 3794432.5,   144.0,   144.0,   0.0);   (325236.8,
3794432.5,   144.0,   144.0,   0.0);
     (325274.3, 3794432.5,   144.0,   144.0,   0.0);   (325049.3,
3794455.7,   143.0,   143.0,   0.0);
     (325086.8, 3794455.7,   143.3,   143.3,   0.0);   (325124.3,
3794455.7,   144.0,   144.0,   0.0);
     (325161.8, 3794455.7,   144.0,   144.0,   0.0);   (325199.3,
3794455.7,   144.0,   144.0,   0.0);
     (325236.8, 3794455.7,   144.0,   144.0,   0.0);   (325274.3,
3794455.7,   144.0,   144.0,   0.0);
     (325049.3, 3794478.9,   143.0,   143.0,   0.0);   (325086.8,
3794478.9,   144.0,   144.0,   0.0);
     (325124.3, 3794478.9,   144.0,   144.0,   0.0);   (325161.8,
3794478.9,   144.0,   144.0,   0.0);
     (325199.3, 3794478.9,   144.0,   144.0,   0.0);   (325236.8,
3794478.9,   144.0,   144.0,   0.0);
     (325274.3, 3794478.9,   144.0,   144.0,   0.0);   (325049.3,
3794502.1,   143.0,   143.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                         (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (325086.8, 3794502.1,   144.0,   144.0,   0.0);   (325124.3,
3794502.1,   144.0,   144.0,   0.0);
     (325161.8, 3794502.1,   144.0,   144.0,   0.0);   (325199.3,
3794502.1,   144.0,   144.0,   0.0);
     (325236.8, 3794502.1,   144.0,   144.0,   0.0);   (325274.3,
3794502.1,   144.0,   144.0,   0.0);
     (325049.3, 3794525.3,   143.0,   143.0,   0.0);   (325086.8,
3794525.3,   144.0,   144.0,   0.0);
     (325124.3, 3794525.3,   144.0,   144.0,   0.0);   (325161.8,
3794525.3,   144.0,   144.0,   0.0);
     (325199.3, 3794525.3,   144.0,   144.0,   0.0);   (325236.8,

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3794525.3,     144.0,     144.0,       0.0);
     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
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3794687.7,   145.0,   145.0,   0.0);
     (324871.6, 3794298.6,   141.0,   141.0,   0.0);   (324910.5,
3794298.6,   141.1,   141.1,   0.0);
     (324949.4, 3794298.6,   142.0,   142.0,   0.0);   (324988.3,
3794298.6,   142.0,   142.0,   0.0);
     (324871.6, 3794320.4,   141.0,   141.0,   0.0);   (324910.5,
3794320.4,   141.8,   141.8,   0.0);
     (324949.4, 3794320.4,   142.0,   142.0,   0.0);   (324988.3,
3794320.4,   142.0,   142.0,   0.0);
     (324871.6, 3794342.2,   141.0,   141.0,   0.0);   (324910.5,
3794342.2,   142.0,   142.0,   0.0);
     (324949.4, 3794342.2,   142.0,   142.0,   0.0);   (324988.3,
3794342.2,   142.0,   142.0,   0.0);
     (324871.6, 3794364.0,   141.2,   141.2,   0.0);   (324910.5,
3794364.0,   142.0,   142.0,   0.0);
     (324949.4, 3794364.0,   142.0,   142.0,   0.0);   (324988.3,
3794364.0,   142.2,   142.2,   0.0);
     (324871.6, 3794385.8,   141.7,   141.7,   0.0);   (324910.5,
3794385.8,   142.0,   142.0,   0.0);
     (324949.4, 3794385.8,   142.0,   142.0,   0.0);   (324988.3,
3794385.8,   142.6,   142.6,   0.0);
     (324871.6, 3794407.6,   141.8,   141.8,   0.0);   (324910.5,
3794407.6,   142.0,   142.0,   0.0);
     (324949.4, 3794407.6,   142.0,   142.0,   0.0);   (324988.3,
3794407.6,   142.7,   142.7,   0.0);
     (324871.6, 3794429.4,   141.8,   141.8,   0.0);   (324910.5,
3794429.4,   142.0,   142.0,   0.0);
     (324949.4, 3794429.4,   142.0,   142.0,   0.0);   (324988.3,
3794429.4,   142.7,   142.7,   0.0);

                                                *** DISCRETE CARTESIAN RECEPTORS ***
                                              (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                           (METERS)

     (324871.6, 3794451.2,   141.8,   141.8,   0.0);   (324910.5,
3794451.2,   142.0,   142.0,   0.0);
     (324949.4, 3794451.2,   142.1,   142.1,   0.0);   (324988.3,
3794451.2,   142.7,   142.7,   0.0);
     (324871.6, 3794473.0,   141.8,   141.8,   0.0);   (324910.5,
3794473.0,   142.0,   142.0,   0.0);
     (324949.4, 3794473.0,   142.3,   142.3,   0.0);   (324988.3,
3794473.0,   143.0,   143.0,   0.0);
     (324871.6, 3794494.8,   141.9,   141.9,   0.0);   (324910.5,

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3794494.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794494.8,     142.4,     142.4,       0.0);         ( 324988.3,
3794494.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794074.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794074.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794074.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794074.7,     137.8,     137.8,       0.0);
     ( 324596.8, 3794074.7,     137.6,     137.6,       0.0);         ( 324633.8,
3794074.7,     137.1,     137.1,       0.0);
     ( 324670.7, 3794074.7,     137.0,     137.0,       0.0);         ( 324707.7,
3794074.7,     137.2,     137.2,       0.0);
     ( 324744.6, 3794074.7,     137.9,     137.9,       0.0);         ( 324781.6,
3794074.7,     139.3,     139.3,       0.0);
     ( 324449.0, 3794106.7,     138.0,     138.0,       0.0);         ( 324486.0,
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3794106.7,   138.0,   138.0,   0.0);
     (324522.9, 3794106.7,   138.0,   138.0,   0.0);   (324559.9,
3794106.7,   138.0,   138.0,   0.0);
     (324596.8, 3794106.7,   138.0,   138.0,   0.0);   (324633.8,
3794106.7,   137.7,   137.7,   0.0);
     (324670.7, 3794106.7,   137.7,   137.7,   0.0);   (324707.7,
3794106.7,   138.0,   138.0,   0.0);
     (324744.6, 3794106.7,   139.2,   139.2,   0.0);   (324781.6,
3794106.7,   139.9,   139.9,   0.0);
     (324449.0, 3794138.6,   138.0,   138.0,   0.0);   (324486.0,
3794138.6,   138.0,   138.0,   0.0);
     (324522.9, 3794138.6,   138.0,   138.0,   0.0);   (324559.9,
3794138.6,   138.0,   138.0,   0.0);
     (324596.8, 3794138.6,   138.0,   138.0,   0.0);   (324633.8,
3794138.6,   138.6,   138.6,   0.0);
     (324670.7, 3794138.6,   138.7,   138.7,   0.0);   (324707.7,
3794138.6,   139.0,   139.0,   0.0);
     (324744.6, 3794138.6,   139.9,   139.9,   0.0);   (324781.6,
3794138.6,   140.0,   140.0,   0.0);
     (324449.0, 3794170.6,   138.0,   138.0,   0.0);   (324486.0,
3794170.6,   138.0,   138.0,   0.0);
     (324522.9, 3794170.6,   138.1,   138.1,   0.0);   (324559.9,
3794170.6,   138.8,   138.8,   0.0);
     (324596.8, 3794170.6,   138.8,   138.8,   0.0);   (324633.8,
3794170.6,   139.0,   139.0,   0.0);
     (324670.7, 3794170.6,   139.1,   139.1,   0.0);   (324707.7,
3794170.6,   139.9,   139.9,   0.0);
     (324744.6, 3794170.6,   140.0,   140.0,   0.0);   (324781.6,
3794170.6,   140.6,   140.6,   0.0);
     (324449.0, 3794202.6,   138.0,   138.0,   0.0);   (324486.0,
3794202.6,   138.0,   138.0,   0.0);

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     (324522.9, 3794202.6,   138.2,   138.2,   0.0);   (324559.9,
3794202.6,   139.0,   139.0,   0.0);
     (324596.8, 3794202.6,   139.0,   139.0,   0.0);   (324633.8,
3794202.6,   139.0,   139.0,   0.0);
     (324670.7, 3794202.6,   139.9,   139.9,   0.0);   (324707.7,
3794202.6,   140.0,   140.0,   0.0);
     (324744.6, 3794202.6,   140.0,   140.0,   0.0);   (324781.6,

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3794202.6,     140.8,     140.8,       0.0);
     ( 324449.0, 3794234.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794234.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794234.5,     138.2,     138.2,       0.0);         ( 324559.9,
3794234.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794234.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794234.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794234.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794234.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794234.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794234.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794266.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794266.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794266.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794266.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794266.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794266.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794266.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794266.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794266.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794266.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794298.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794298.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794298.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794298.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794298.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794298.5,     139.9,     139.9,       0.0);
     ( 324670.7, 3794298.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794298.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794298.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794298.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794330.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794330.4,     138.1,     138.1,       0.0);
     ( 324522.9, 3794330.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794330.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794330.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794330.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794330.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794330.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794330.4,     140.1,     140.1,       0.0);         ( 324781.6,
3794330.4,     140.8,     140.8,       0.0);
     ( 324449.0, 3794362.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794362.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794362.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794362.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794362.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794362.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794362.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794362.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794362.4,     140.6,     140.6,       0.0);         ( 324781.6,
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3794362.4,   141.0,   141.0,   0.0);
     (324449.0, 3794394.4,   138.0,   138.0,   0.0);   (324486.0,
3794394.4,   138.9,   138.9,   0.0);
     (324522.9, 3794394.4,   139.0,   139.0,   0.0);   (324559.9,
3794394.4,   139.0,   139.0,   0.0);
     (324596.8, 3794394.4,   139.0,   139.0,   0.0);   (324633.8,
3794394.4,   139.9,   139.9,   0.0);
     (324670.7, 3794394.4,   140.0,   140.0,   0.0);   (324707.7,
3794394.4,   140.0,   140.0,   0.0);
     (324744.6, 3794394.4,   140.6,   140.6,   0.0);   (324781.6,
3794394.4,   141.0,   141.0,   0.0);
     (324449.0, 3794426.4,   138.2,   138.2,   0.0);   (324486.0,
3794426.4,   139.0,   139.0,   0.0);
     (324522.9, 3794426.4,   139.0,   139.0,   0.0);   (324559.9,
3794426.4,   139.0,   139.0,   0.0);
     (324596.8, 3794426.4,   139.0,   139.0,   0.0);   (324633.8,
3794426.4,   139.9,   139.9,   0.0);
     (324670.7, 3794426.4,   140.0,   140.0,   0.0);   (324707.7,
3794426.4,   140.1,   140.1,   0.0);
     (324744.6, 3794426.4,   140.7,   140.7,   0.0);   (324781.6,
3794426.4,   141.0,   141.0,   0.0);
     (324449.0, 3794458.3,   138.7,   138.7,   0.0);   (324486.0,
3794458.3,   139.0,   139.0,   0.0);
     (324522.9, 3794458.3,   139.0,   139.0,   0.0);   (324559.9,
3794458.3,   139.0,   139.0,   0.0);
     (324596.8, 3794458.3,   139.2,   139.2,   0.0);   (324633.8,
3794458.3,   139.9,   139.9,   0.0);
     (324670.7, 3794458.3,   140.0,   140.0,   0.0);   (324707.7,
3794458.3,   140.3,   140.3,   0.0);
     (324744.6, 3794458.3,   141.0,   141.0,   0.0);   (324781.6,
3794458.3,   141.0,   141.0,   0.0);
     (324449.0, 3794490.3,   138.7,   138.7,   0.0);   (324486.0,
3794490.3,   139.0,   139.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                *** DISCRETE CARTESIAN RECEPTORS ***
                                               (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                           (METERS)

     (324522.9, 3794490.3,   139.0,   139.0,   0.0);   (324559.9,
3794490.3,   139.0,   139.0,   0.0);
     (324596.8, 3794490.3,   139.6,   139.6,   0.0);   (324633.8,
3794490.3,   140.0,   140.0,   0.0);
     (324670.7, 3794490.3,   140.0,   140.0,   0.0);   (324707.7,

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3794490.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794490.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794490.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794522.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794522.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794522.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794522.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794554.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794554.2,     139.2,     139.2,       0.0);
     ( 324596.8, 3794554.2,     139.8,     139.8,       0.0);         ( 324633.8,
3794554.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794554.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794554.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794586.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794586.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794586.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794586.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794586.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794586.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794586.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794586.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794586.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794586.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794618.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794618.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794618.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794618.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794618.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794618.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794618.2,     140.1,     140.1,       0.0);         ( 324707.7,
3794618.2,     140.8,     140.8,       0.0);
     ( 324744.6, 3794618.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794618.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794650.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
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3794650.1,   141.0,   141.0,   0.0);
     (324744.6, 3794650.1,   141.0,   141.0,   0.0);   (324781.6,
3794650.1,   141.0,   141.0,   0.0);
     (324449.0, 3794682.1,   139.0,   139.0,   0.0);   (324486.0,
3794682.1,   139.0,   139.0,   0.0);
     (324522.9, 3794682.1,   139.1,   139.1,   0.0);   (324559.9,
3794682.1,   139.9,   139.9,   0.0);
     (324596.8, 3794682.1,   140.0,   140.0,   0.0);   (324633.8,
3794682.1,   140.0,   140.0,   0.0);
     (324670.7, 3794682.1,   140.1,   140.1,   0.0);   (324707.7,
3794682.1,   141.0,   141.0,   0.0);
     (324744.6, 3794682.1,   141.0,   141.0,   0.0);   (324781.6,
3794682.1,   141.0,   141.0,   0.0);
     (326547.4, 3795022.1,   153.0,   153.0,   0.0);   (326594.7,
3795022.1,   153.3,   153.3,   0.0);
     (326642.0, 3795022.1,   154.0,   154.0,   0.0);   (326547.4,
3795042.5,   153.0,   153.0,   0.0);
     (326594.7, 3795042.5,   153.9,   153.9,   0.0);   (326642.0,
3795042.5,   154.0,   154.0,   0.0);
     (326547.4, 3795062.9,   153.0,   153.0,   0.0);   (326594.7,
3795062.9,   154.0,   154.0,   0.0);
     (326642.0, 3795062.9,   154.0,   154.0,   0.0);   (326547.4,
3795083.3,   153.1,   153.1,   0.0);
     (326594.7, 3795083.3,   154.0,   154.0,   0.0);   (326642.0,
3795083.3,   154.0,   154.0,   0.0);
     (326547.4, 3795103.7,   153.6,   153.6,   0.0);   (326594.7,
3795103.7,   154.0,   154.0,   0.0);
     (326642.0, 3795103.7,   154.0,   154.0,   0.0);   (326547.4,
3795124.1,   153.6,   153.6,   0.0);
     (326594.7, 3795124.1,   154.0,   154.0,   0.0);   (326642.0,
3795124.1,   154.0,   154.0,   0.0);
     (326547.4, 3795144.5,   153.7,   153.7,   0.0);   (326594.7,
3795144.5,   154.0,   154.0,   0.0);
     (326642.0, 3795144.5,   154.0,   154.0,   0.0);   (326547.4,
3795164.9,   154.0,   154.0,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (326594.7, 3795164.9,   154.0,   154.0,   0.0);   (326642.0,
3795164.9,   154.0,   154.0,   0.0);
     (326547.4, 3795185.3,   154.0,   154.0,   0.0);   (326594.7,

3795185.3,   154.0,   154.0,   0.0);
     (326642.0, 3795185.3,   154.0,   154.0,   0.0);   (326547.4,
3795205.7,   154.0,   154.0,   0.0);
     (326594.7, 3795205.7,   154.0,   154.0,   0.0);   (326642.0,
3795205.7,   154.2,   154.2,   0.0);
     (326547.4, 3795226.1,   154.0,   154.0,   0.0);   (326594.7,
3795226.1,   154.0,   154.0,   0.0);
     (326642.0, 3795226.1,   154.8,   154.8,   0.0);   (326547.4,
3795246.5,   154.0,   154.0,   0.0);
     (326594.7, 3795246.5,   154.1,   154.1,   0.0);   (326642.0,
3795246.5,   154.9,   154.9,   0.0);
     (326690.4, 3795243.4,   155.0,   155.0,   0.0);   (326688.7,
3795223.0,   155.0,   155.0,   0.0);
     (326686.0, 3795005.8,   154.0,   154.0,   0.0);   (326686.0,
3795033.7,   154.1,   154.1,   0.0);
     (326686.0, 3795061.5,   154.3,   154.3,   0.0);   (326686.0,
3795089.4,   154.3,   154.3,   0.0);
     (326686.0, 3795117.3,   154.3,   154.3,   0.0);   (326686.0,
3795145.2,   154.3,   154.3,   0.0);
     (326686.0, 3795173.1,   154.4,   154.4,   0.0);   (326686.0,
3795201.0,   155.0,   155.0,   0.0);
     (326832.8, 3795263.3,   155.3,   155.3,   0.0);   (326849.7,
3795263.3,   155.8,   155.8,   0.0);
     (326866.5, 3795263.3,   156.0,   156.0,   0.0);   (326883.4,
3795263.3,   156.0,   156.0,   0.0);
     (326900.3, 3795263.3,   156.0,   156.0,   0.0);   (326917.1,
3795263.3,   156.0,   156.0,   0.0);
     (326934.0, 3795263.3,   156.5,   156.5,   0.0);   (326950.9,
3795263.3,   157.0,   157.0,   0.0);
     (326967.8, 3795263.3,   157.0,   157.0,   0.0);   (326984.6,
3795263.3,   157.2,   157.2,   0.0);
     (327001.5, 3795263.3,   157.8,   157.8,   0.0);   (327036.8,
3795141.3,   157.0,   157.0,   0.0);
     (327075.7, 3795141.3,   158.0,   158.0,   0.0);   (327036.8,
3795160.9,   157.0,   157.0,   0.0);
     (327075.7, 3795160.9,   158.0,   158.0,   0.0);   (327036.8,
3795180.5,   157.0,   157.0,   0.0);
     (327075.7, 3795180.5,   158.0,   158.0,   0.0);   (327036.8,
3795200.0,   157.1,   157.1,   0.0);
     (327075.7, 3795200.0,   158.0,   158.0,   0.0);   (327036.8,
3795219.6,   157.7,   157.7,   0.0);
     (327075.7, 3795219.6,   158.0,   158.0,   0.0);   (327036.8,
3795239.1,   158.0,   158.0,   0.0);
     (327075.7, 3795239.1,   158.0,   158.0,   0.0);   (327036.8,
3795258.7,   158.0,   158.0,   0.0);
     (327075.7, 3795258.7,   158.0,   158.0,   0.0);   (327036.8,
3795278.3,   158.0,   158.0,   0.0);
     (327075.7, 3795278.3,   158.0,   158.0,   0.0);   (326840.0,
3795223.2,   155.4,   155.4,   0.0);
     (326860.6, 3795224.2,   156.0,   156.0,   0.0);   (326877.3,

3795222.7,   156.0,   156.0,   0.0);
     (326929.7, 3795223.7,   156.4,   156.4,   0.0);   (326932.9,
3795200.0,   156.5,   156.5,   0.0);
     (326972.3, 3795217.0,   157.0,   157.0,   0.0);   (326970.8,
3795177.6,   157.0,   157.0,   0.0);
     (326968.2, 3795152.5,   157.0,   157.0,   0.0);   (326998.4,
3795149.8,   157.0,   157.0,   0.0);
     (326997.5, 3795176.6,   157.0,   157.0,   0.0);   (326995.6,
3795193.0,   157.0,   157.0,   0.0);
     (326996.9, 3795215.8,   157.0,   157.0,   0.0);   (326917.0,
3795152.2,   156.0,   156.0,   0.0);
     (326902.0, 3795150.5,   156.0,   156.0,   0.0);   (326884.2,
3795164.4,   156.0,   156.0,   0.0);
     (326867.3, 3795151.3,   156.0,   156.0,   0.0);   (326873.2,
3795163.4,   156.0,   156.0,   0.0);
     (326845.5, 3795152.1,   155.6,   155.6,   0.0);   (326824.9,
3795151.4,   155.0,   155.0,   0.0);
     (326826.6, 3795170.6,   155.0,   155.0,   0.0);   (326840.5,
3795180.2,   155.4,   155.4,   0.0);
     (326799.4, 3795148.0,   155.0,   155.0,   0.0);   (326776.8,
3795147.9,   155.0,   155.0,   0.0);
     (326738.0, 3795152.7,   155.0,   155.0,   0.0);   (326781.3,
3795110.8,   155.0,   155.0,   0.0);
     (326806.1, 3795109.0,   155.2,   155.2,   0.0);   (326804.5,
3795090.7,   155.2,   155.2,   0.0);
     (326781.8, 3795086.7,   155.0,   155.0,   0.0);   (326787.4,
3795061.8,   155.0,   155.0,   0.0);
     (326794.0, 3795031.2,   155.0,   155.0,   0.0);   (326977.5,
3795110.7,   157.0,   157.0,   0.0);
     (326994.0, 3795107.9,   157.0,   157.0,   0.0);   (326984.5,
3795093.8,   157.0,   157.0,   0.0);
     (326972.8, 3795082.4,   157.0,   157.0,   0.0);   (326995.4,
3795072.5,   157.0,   157.0,   0.0);
     (326993.2, 3795060.0,   157.0,   157.0,   0.0);   (326984.6,
3795040.8,   157.0,   157.0,   0.0);
     (326981.7, 3795027.2,   157.0,   157.0,   0.0);   (327041.5,
3795102.1,   157.1,   157.1,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                *** DISCRETE CARTESIAN RECEPTORS ***
                                              (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                           (METERS)

     (327065.2, 3795095.8,   157.9,   157.9,   0.0);   (327040.9,

3795076.3,   157.1,   157.1,   0.0);
     (327061.2, 3795058.3,   157.8,   157.8,   0.0);   (327037.8,
3795061.1,   157.0,   157.0,   0.0);
     (327035.6, 3795040.6,   157.0,   157.0,   0.0);   (327058.9,
3795038.4,   157.7,   157.7,   0.0);
     (327051.5, 3795017.8,   157.4,   157.4,   0.0);   (327033.3,
3795021.7,   157.0,   157.0,   0.0);
     (326826.3, 3795110.8,   155.8,   155.8,   0.0);   (326843.3,
3795110.8,   155.9,   155.9,   0.0);
     (326860.3, 3795110.8,   156.0,   156.0,   0.0);   (326877.3,
3795110.8,   156.0,   156.0,   0.0);
     (326894.4, 3795110.8,   156.0,   156.0,   0.0);   (326911.4,
3795110.8,   156.0,   156.0,   0.0);
     (326928.4, 3795110.8,   156.3,   156.3,   0.0);   (326945.5,
3795110.8,   156.9,   156.9,   0.0);
     (326820.0, 3795048.9,   155.7,   155.7,   0.0);   (326838.2,
3795048.9,   156.0,   156.0,   0.0);
     (326856.4, 3795048.9,   156.0,   156.0,   0.0);   (326874.6,
3795048.9,   156.0,   156.0,   0.0);
     (326892.8, 3795048.9,   156.0,   156.0,   0.0);   (326911.0,
3795048.9,   156.0,   156.0,   0.0);
     (326929.2, 3795048.9,   156.4,   156.4,   0.0);   (326947.4,
3795048.9,   157.0,   157.0,   0.0);
     (325652.3, 3795689.5,   172.4,   271.0,   0.0);   (325747.8,
3795796.2,   179.1,   295.0,   0.0);
     (326251.1, 3796043.8,   195.4,   295.0,   0.0);   (326263.9,
3795852.4,   183.1,   295.0,   0.0);
     (326170.8, 3795648.4,   173.3,   173.3,   0.0);   (326148.1,
3795505.9,   161.2,   182.0,   0.0);
     (325511.5, 3795586.4,   181.9,   181.9,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                              (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1

```
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

                NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON
WHAT IS INCLUDED IN THE DATA FILE.



                                     *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED
CATEGORIES ***
                                                          (METERS/SEC)

                                                 1.54,   3.09,   5.14,   8.23,
10.80,
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       17:43:16

                                    PAGE  15
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                     *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL
DATA ***

   Surface file:   M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.   Met Version:  14134
   Profile file:   M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.
   Surface format: FREE

   Profile format: FREE

   Surface station no.:    23136                 Upper air station no.:    93214
                 Name: UNKNOWN                                   Name: UNKNOWN

                 Year:   2009                                    Year:   2009

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN
ALBEDO  REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
 09 01 01   1 01 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
```

```
1.00    0.00    0.   10.0  281.4    2.0
 09 01 01   1 02 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.9    2.0
 09 01 01   1 03   -3.3  0.067 -9.000 -9.000 -999.   42.      8.3  0.05   0.81
1.00    1.76  214.   10.0  280.9    2.0
 09 01 01   1 04 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 05   -6.6  0.115 -9.000 -9.000 -999.   94.     21.1  0.03   0.81
1.00    2.36   93.   10.0  280.4    2.0
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
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*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
326345.95	3795634.03	0.00149	326414.12	3795779.67	0.00148
326435.80	3795773.48	0.00142	326458.31	3795772.83	0.00140
326424.24	3795858.77	0.00165	326400.20	3795799.84	0.00159
326400.93	3795767.87	0.00142	326424.24	3795858.77	0.00165
326611.84	3795762.99	0.00126	326611.84	3795762.99	0.00126
326610.94	3795777.66	0.00126	326605.86	3795792.89	0.00128
326623.93	3795809.00	0.00122	326627.22	3795836.58	0.00120
326640.09	3795836.58	0.00117	326654.45	3795868.68	0.00108
326665.45	3795883.13	0.00105	326588.30	3795867.62	0.00110
326640.52	3795951.95	0.00094	326658.45	3795975.58	0.00094
326759.52	3796019.28	0.00070	326763.60	3796031.85	0.00069
326775.94	3796048.05	0.00067	326774.23	3796062.19	0.00067

```
         326801.34    3796078.38        0.00062                    326809.46
3796094.93        0.00060
         326736.80    3796108.96        0.00064                    326835.84
3796126.62        0.00053
         326836.27    3796140.13        0.00052                    326800.95
3796123.31        0.00059
         326762.39    3796138.51        0.00055                    326766.63
3796155.18        0.00050
         326774.14    3796169.68        0.00047                    326798.07
3796201.57        0.00041
         326808.84    3796229.51        0.00036                    326880.95
3796184.59        0.00043
         326915.56    3796260.01        0.00036                    326941.07
3796261.11        0.00034
         326958.24    3796277.25        0.00032                    326964.89
3796291.08        0.00031
         326984.47    3796322.92        0.00029                    326993.31
3796349.42        0.00028
         326993.49    3796365.88        0.00027                    327007.03
3796382.47        0.00026
         326972.07    3796390.18        0.00026                    326996.78
3796414.54        0.00025
         326693.51    3795789.66        0.00070                    326695.37
3795771.29        0.00071
         326727.00    3795761.34        0.00069                    326758.55
3795787.48        0.00055
         326761.76    3795813.54        0.00049                    326742.22
3795837.06        0.00049
         326838.64    3795823.91        0.00040                    326811.45
3795889.81        0.00038
         326823.87    3795855.97        0.00037                    326876.62
3795837.29        0.00035
         326889.30    3795888.54        0.00033                    326687.45
3795683.69        0.00128
         326829.20    3795731.31        0.00055                    326859.14
3795703.62        0.00053
         326881.10    3795705.58        0.00055                    326787.44
3795607.00        0.00140
         326780.76    3795563.55        0.00151                    326800.04
3795542.65        0.00153
         326808.89    3795540.15        0.00153                    326825.79
3795543.65        0.00152
         326856.70    3795545.31        0.00147                    326792.33
3795494.19        0.00157
         326806.68    3795493.93        0.00154                    326824.07
3795494.42        0.00151
         326853.52    3795481.71        0.00149                    326898.80
3795534.37        0.00140
         325796.15    3795215.59        0.00357                    325823.15
3795215.59        0.00352
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*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325877.15	3795254.59	0.00404	325904.15	3795254.59	0.00395
325931.15	3795254.59	0.00381	325958.15	3795254.59	0.00373
325985.15	3795254.59	0.00366	326012.15	3795254.59	0.00351
326039.15	3795254.59	0.00342	326066.15	3795254.59	0.00336
326093.15	3795254.59	0.00330	326120.15	3795254.59	0.00324
326147.15	3795254.59	0.00317	325796.15	3795293.59	0.00500
325823.15	3795293.59	0.00493	325850.15	3795293.59	0.00493
325877.15	3795293.59	0.00494	325904.15	3795293.59	0.00488
325931.15	3795293.59	0.00470	325958.15	3795293.59	0.00464
325985.15	3795293.59	0.00443	326012.15	3795293.59	0.00394
326039.15	3795293.59	0.00387	326066.15	3795293.59	0.00366

```
         326093.15    3795293.59        0.00350                    326120.15
3795293.59        0.00345
         326147.15    3795293.59        0.00340                    325796.15
3795332.59        0.00533
         325823.15    3795332.59        0.00533                    325850.15
3795332.59        0.00600
         325877.15    3795332.59        0.00606                    325904.15
3795332.59        0.00618
         325931.15    3795332.59        0.00602                    325958.15
3795332.59        0.00583
         325985.15    3795332.59        0.00487                    326012.15
3795332.59        0.00455
         326039.15    3795332.59        0.00444                    326066.15
3795332.59        0.00438
         326093.15    3795332.59        0.00433                    326120.15
3795332.59        0.00432
         326147.15    3795332.59        0.00426                    325847.44
3795004.89        0.00151
         325872.44    3795004.89        0.00147                    325897.44
3795004.89        0.00144
         325922.44    3795004.89        0.00140                    325947.44
3795004.89        0.00137
         325972.44    3795004.89        0.00133                    325997.44
3795004.89        0.00130
         326022.44    3795004.89        0.00127                    326047.44
3795004.89        0.00124
         326072.44    3795004.89        0.00122                    326097.44
3795004.89        0.00120
         326122.44    3795004.89        0.00118                    326147.44
3795004.89        0.00116
         325847.44    3795046.89        0.00175                    325872.44
3795046.89        0.00171
         325897.44    3795046.89        0.00166                    325922.44
3795046.89        0.00162
         325947.44    3795046.89        0.00158                    325972.44
3795046.89        0.00153
         325997.44    3795046.89        0.00149                    326022.44
3795046.89        0.00145
         326047.44    3795046.89        0.00142                    326072.44
3795046.89        0.00140
         326097.44    3795046.89        0.00137                    326122.44
3795046.89        0.00134
         326147.44    3795046.89        0.00130                    325847.44
3795088.89        0.00205
         325872.44    3795088.89        0.00199                    325897.44
3795088.89        0.00194
         325922.44    3795088.89        0.00189                    325947.44
3795088.89        0.00183
         325972.44    3795088.89        0.00177                    325997.44
3795088.89        0.00173
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325897.44	3795130.89	0.00229	325922.44	3795130.89	0.00223
325947.44	3795130.89	0.00215	325972.44	3795130.89	0.00208
325997.44	3795130.89	0.00204	326022.44	3795130.89	0.00199
326047.44	3795130.89	0.00194	326072.44	3795130.89	0.00190
326097.44	3795130.89	0.00184	326122.44	3795130.89	0.00179
326147.44	3795130.89	0.00175	325847.44	3795172.89	0.00287
325872.44	3795172.89	0.00280	325897.44	3795172.89	0.00273
325922.44	3795172.89	0.00267	325947.44	3795172.89	0.00257
325972.44	3795172.89	0.00249	325997.44	3795172.89	0.00243
326022.44	3795172.89	0.00238	326047.44	3795172.89	0.00232

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         326072.44    3795172.89        0.00223                    325847.44
3795214.89        0.00344
         325872.44    3795214.89        0.00337                    325897.44
3795214.89        0.00330
         325922.44    3795214.89        0.00323                    325947.44
3795214.89        0.00311
         325972.44    3795214.89        0.00302                    325997.44
3795214.89        0.00296
         326047.44    3795214.89        0.00277                    326072.44
3795214.89        0.00271
         326097.44    3795214.89        0.00266                    326147.44
3795214.89        0.00256
         326096.58    3795181.52        0.00227                    326118.63
3795182.57        0.00224
         326144.35    3795184.14        0.00221                    325849.74
3794829.62        0.00089
         325892.61    3794829.62        0.00086                    325935.48
3794829.62        0.00083
         325978.35    3794829.62        0.00081                    326021.22
3794829.62        0.00079
         326064.09    3794829.62        0.00077                    325849.74
3794867.55        0.00099
         325892.61    3794867.55        0.00095                    325935.48
3794867.55        0.00092
         325978.35    3794867.55        0.00089                    326021.22
3794867.55        0.00087
         326064.09    3794867.55        0.00084                    325849.74
3794905.48        0.00111
         325892.61    3794905.48        0.00106                    325935.48
3794905.48        0.00102
         325978.35    3794905.48        0.00099                    326021.22
3794905.48        0.00096
         326064.09    3794905.48        0.00092                    325849.74
3794943.41        0.00124
         325892.61    3794943.41        0.00118                    325935.48
3794943.41        0.00114
         325978.35    3794943.41        0.00110                    326021.22
3794943.41        0.00107
         326064.09    3794943.41        0.00103                    325849.74
3794981.34        0.00140
         325892.61    3794981.34        0.00134                    325935.48
3794981.34        0.00128
         325978.35    3794981.34        0.00123                    326021.22
3794981.34        0.00118
         326064.09    3794981.34        0.00114                    325855.31
3794726.62        0.00069
         325902.64    3794726.62        0.00067                    325855.31
3794745.52        0.00072
         325902.64    3794745.52        0.00070                    325855.31
3794764.42        0.00075
```

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 - - -

```
         325071.95    3796106.74        0.00018                    325060.64
3796290.38        0.00005
         324903.71    3796379.80        0.00002                    324787.84
3796510.42        0.00003
         324916.48    3796618.27        0.00003                    326492.96
3796356.32        0.00045
         326552.73    3796900.01        0.00010                    326599.30
3796893.60        0.00010
         326617.42    3796889.51        0.00010                    326639.41
3796881.91        0.00011
         326663.73    3796864.08        0.00012                    326679.47
3796885.20        0.00011
         326697.81    3796898.31        0.00011                    326712.34
3796916.60        0.00010
         326726.62    3796931.14        0.00010                    326742.23
3796948.02        0.00010
         326756.58    3796965.73        0.00009                    326772.07
3796973.30        0.00009
         326785.22    3796890.50        0.00012                    326800.10
3797003.95        0.00009
         326817.96    3797014.86        0.00009                    326813.74
3796843.93        0.00013
         326833.92    3796853.59        0.00013                    326848.61
3796873.43        0.00012
         326864.19    3796885.12        0.00012                    326877.92
3796901.20        0.00012
         326893.85    3796917.11        0.00011                    326904.49
3796938.77        0.00011
         326907.64    3796966.22        0.00010                    326914.45
3796991.73        0.00010
         326921.92    3797038.42        0.00009                    326596.56
3797264.10        0.00005
         326829.98    3795735.43        0.00054                    326866.53
3795706.88        0.00052
         326831.50    3795646.57        0.00132                    326872.90
3795644.95        0.00126
         326898.91    3795644.66        0.00122                    326924.66
3795650.14        0.00114
         326949.68    3795646.43        0.00114                    326975.59
3795638.84        0.00102
         326917.88    3795602.78        0.00132                    326918.63
3795584.13        0.00139
         326921.61    3795563.48        0.00138                    326917.18
3795537.15        0.00138
         326934.99    3795592.17        0.00131                    326951.04
3795599.47        0.00124
         326950.26    3795555.95        0.00133                    326951.59
3795535.07        0.00133
         326961.83    3795537.57        0.00131                    326982.25
3795538.33        0.00129
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         326992.41    3795539.09        0.00127                       327008.98
3795535.58        0.00125
         326987.68    3795580.97        0.00122                       327024.81
3795588.42        0.00110
         326925.07    3795485.95        0.00135                       326937.83
3795488.27        0.00133
         326956.45    3795489.28        0.00131                       326970.89
3795491.03        0.00129
         326989.96    3795487.68        0.00126                       325049.27
3794362.92        0.00067
         325086.77    3794362.92        0.00065                       325124.27
3794362.92        0.00063
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       17:43:16

                                 PAGE  20
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - -
         325161.77    3794362.92        0.00062                       325199.27
3794362.92        0.00060
         325236.77    3794362.92        0.00058                       325274.27
3794362.92        0.00056
         325049.27    3794386.12        0.00070                       325086.77
3794386.12        0.00068
         325124.27    3794386.12        0.00066                       325161.77
3794386.12        0.00065
         325199.27    3794386.12        0.00063                       325236.77
3794386.12        0.00060
         325274.27    3794386.12        0.00058                       325049.27
3794409.32        0.00072
         325086.77    3794409.32        0.00070                       325124.27
3794409.32        0.00069
         325161.77    3794409.32        0.00067                       325199.27
3794409.32        0.00065
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         325236.77    3794409.32        0.00063                    325274.27
3794409.32        0.00061
         325049.27    3794432.52        0.00075                    325086.77
3794432.52        0.00073
         325124.27    3794432.52        0.00072                    325161.77
3794432.52        0.00070
         325199.27    3794432.52        0.00068                    325236.77
3794432.52        0.00066
         325274.27    3794432.52        0.00064                    325049.27
3794455.72        0.00078
         325086.77    3794455.72        0.00076                    325124.27
3794455.72        0.00075
         325161.77    3794455.72        0.00073                    325199.27
3794455.72        0.00071
         325236.77    3794455.72        0.00069                    325274.27
3794455.72        0.00067
         325049.27    3794478.92        0.00082                    325086.77
3794478.92        0.00080
         325124.27    3794478.92        0.00078                    325161.77
3794478.92        0.00076
         325199.27    3794478.92        0.00074                    325236.77
3794478.92        0.00072
         325274.27    3794478.92        0.00070                    325049.27
3794502.12        0.00085
         325086.77    3794502.12        0.00084                    325124.27
3794502.12        0.00082
         325161.77    3794502.12        0.00079                    325199.27
3794502.12        0.00077
         325236.77    3794502.12        0.00075                    325274.27
3794502.12        0.00073
         325049.27    3794525.32        0.00089                    325086.77
3794525.32        0.00087
         325124.27    3794525.32        0.00085                    325161.77
3794525.32        0.00083
         325199.27    3794525.32        0.00081                    325236.77
3794525.32        0.00078
         325274.27    3794525.32        0.00076                    325049.27
3794548.52        0.00092
         325086.77    3794548.52        0.00091                    325124.27
3794548.52        0.00089
         325161.77    3794548.52        0.00086                    325199.27
3794548.52        0.00084
         325236.77    3794548.52        0.00082                    325274.27
3794548.52        0.00080
         325049.27    3794571.72        0.00096                    325086.77
3794571.72        0.00095
         325124.27    3794571.72        0.00093                    325161.77
3794571.72        0.00090
         325199.27    3794571.72        0.00088                    325236.77
3794571.72        0.00086
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         325274.27    3794571.72        0.00083                       325049.27
3794594.92        0.00101
         325086.77    3794594.92        0.00099                       325124.27
3794594.92        0.00097
         325161.77    3794594.92        0.00094                       325199.27
3794594.92        0.00092
         325236.77    3794594.92        0.00090                       325274.27
3794594.92        0.00087
         325049.27    3794618.12        0.00105                       325086.77
3794618.12        0.00104
         325124.27    3794618.12        0.00101                       325161.77
3794618.12        0.00099
         325199.27    3794618.12        0.00096                       325236.77
3794618.12        0.00094
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                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         325274.27    3794618.12        0.00091                       325049.27
3794641.32        0.00110
         325086.77    3794641.32        0.00109                       325124.27
3794641.32        0.00106
         325161.77    3794641.32        0.00103                       325199.27
3794641.32        0.00101
         325236.77    3794641.32        0.00098                       325274.27
3794641.32        0.00096
         325049.27    3794664.52        0.00115                       325086.77
3794664.52        0.00114
         325124.27    3794664.52        0.00111                       325161.77
3794664.52        0.00108
         325199.27    3794664.52        0.00106                       325236.77
3794664.52        0.00103
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         325274.27    3794664.52        0.00101                    325049.27
3794687.72        0.00121
         325086.77    3794687.72        0.00119                    325124.27
3794687.72        0.00116
         325161.77    3794687.72        0.00114                    325199.27
3794687.72        0.00111
         325236.77    3794687.72        0.00108                    325274.27
3794687.72        0.00107
         324871.62    3794298.63        0.00066                    324910.53
3794298.63        0.00065
         324949.44    3794298.63        0.00064                    324988.35
3794298.63        0.00062
         324871.62    3794320.43        0.00069                    324910.53
3794320.43        0.00068
         324949.44    3794320.43        0.00066                    324988.35
3794320.43        0.00065
         324871.62    3794342.23        0.00071                    324910.53
3794342.23        0.00070
         324949.44    3794342.23        0.00069                    324988.35
3794342.23        0.00067
         324871.62    3794364.03        0.00074                    324910.53
3794364.03        0.00073
         324949.44    3794364.03        0.00071                    324988.35
3794364.03        0.00069
         324871.62    3794385.83        0.00077                    324910.53
3794385.83        0.00075
         324949.44    3794385.83        0.00073                    324988.35
3794385.83        0.00072
         324871.62    3794407.63        0.00080                    324910.53
3794407.63        0.00078
         324949.44    3794407.63        0.00076                    324988.35
3794407.63        0.00075
         324871.62    3794429.43        0.00083                    324910.53
3794429.43        0.00081
         324949.44    3794429.43        0.00079                    324988.35
3794429.43        0.00078
         324871.62    3794451.23        0.00086                    324910.53
3794451.23        0.00084
         324949.44    3794451.23        0.00082                    324988.35
3794451.23        0.00081
         324871.62    3794473.03        0.00089                    324910.53
3794473.03        0.00087
         324949.44    3794473.03        0.00085                    324988.35
3794473.03        0.00084
         324871.62    3794494.83        0.00093                    324910.53
3794494.83        0.00090
         324949.44    3794494.83        0.00089                    324988.35
3794494.83        0.00087
         324871.62    3794516.63        0.00096                    324910.53
3794516.63        0.00094
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         324949.44    3794516.63        0.00092                        324988.35
3794516.63        0.00091
         324871.62    3794538.43        0.00100                        324910.53
3794538.43        0.00098
         324949.44    3794538.43        0.00096                        324988.35
3794538.43        0.00094
         324871.62    3794560.23        0.00104                        324910.53
3794560.23        0.00102
         324949.44    3794560.23        0.00100                        324988.35
3794560.23        0.00098
         324871.62    3794582.03        0.00108                        324910.53
3794582.03        0.00106
         324949.44    3794582.03        0.00104                        324988.35
3794582.03        0.00102
         324871.62    3794603.83        0.00113                        324910.53
3794603.83        0.00110
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:43:16

                                  PAGE  22
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         324949.44    3794603.83        0.00108                        324988.35
3794603.83        0.00107
         324871.62    3794625.63        0.00117                        324910.53
3794625.63        0.00115
         324949.44    3794625.63        0.00114                        324988.35
3794625.63        0.00111
         324871.62    3794647.43        0.00122                        324910.53
3794647.43        0.00120
         324949.44    3794647.43        0.00119                        324988.35
3794647.43        0.00116
         324871.62    3794669.23        0.00127                        324910.53
3794669.23        0.00125
```

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         324949.44    3794669.23        0.00124                    324988.35
3794669.23        0.00121
         324871.62    3794691.03        0.00132                    324910.53
3794691.03        0.00130
         324949.44    3794691.03        0.00129                    324988.35
3794691.03        0.00126
         324449.04    3794074.69        0.00058                    324485.99
3794074.69        0.00057
         324522.94    3794074.69        0.00056                    324559.89
3794074.69        0.00055
         324596.84    3794074.69        0.00054                    324633.79
3794074.69        0.00053
         324670.74    3794074.69        0.00052                    324707.69
3794074.69        0.00051
         324744.64    3794074.69        0.00050                    324781.59
3794074.69        0.00050
         324449.04    3794106.66        0.00061                    324485.99
3794106.66        0.00060
         324522.94    3794106.66        0.00059                    324559.89
3794106.66        0.00058
         324596.84    3794106.66        0.00057                    324633.79
3794106.66        0.00055
         324670.74    3794106.66        0.00054                    324707.69
3794106.66        0.00053
         324744.64    3794106.66        0.00053                    324781.59
3794106.66        0.00053
         324449.04    3794138.63        0.00063                    324485.99
3794138.63        0.00062
         324522.94    3794138.63        0.00061                    324559.89
3794138.63        0.00060
         324596.84    3794138.63        0.00059                    324633.79
3794138.63        0.00059
         324670.74    3794138.63        0.00057                    324707.69
3794138.63        0.00057
         324744.64    3794138.63        0.00056                    324781.59
3794138.63        0.00055
         324449.04    3794170.60        0.00066                    324485.99
3794170.60        0.00065
         324522.94    3794170.60        0.00064                    324559.89
3794170.60        0.00064
         324596.84    3794170.60        0.00063                    324633.79
3794170.60        0.00062
         324670.74    3794170.60        0.00060                    324707.69
3794170.60        0.00060
         324744.64    3794170.60        0.00059                    324781.59
3794170.60        0.00058
         324449.04    3794202.57        0.00069                    324485.99
3794202.57        0.00068
         324522.94    3794202.57        0.00067                    324559.89
3794202.57        0.00067
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         324596.84    3794202.57        0.00066                       324633.79
3794202.57        0.00064
         324670.74    3794202.57        0.00064                       324707.69
3794202.57        0.00063
         324744.64    3794202.57        0.00061                       324781.59
3794202.57        0.00061
         324449.04    3794234.54        0.00072                       324485.99
3794234.54        0.00071
         324522.94    3794234.54        0.00070                       324559.89
3794234.54        0.00070
         324596.84    3794234.54        0.00069                       324633.79
3794234.54        0.00067
         324670.74    3794234.54        0.00067                       324707.69
3794234.54        0.00066
         324744.64    3794234.54        0.00064                       324781.59
3794234.54        0.00064
         324449.04    3794266.51        0.00075                       324485.99
3794266.51        0.00074
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -
         324522.94    3794266.51        0.00074                       324559.89
3794266.51        0.00073
         324596.84    3794266.51        0.00072                       324633.79
3794266.51        0.00071
         324670.74    3794266.51        0.00070                       324707.69
3794266.51        0.00069
         324744.64    3794266.51        0.00067                       324781.59
3794266.51        0.00067
         324449.04    3794298.48        0.00078                       324485.99
3794298.48        0.00077
```

```
         324522.94    3794298.48        0.00077                    324559.89
3794298.48        0.00076
         324596.84    3794298.48        0.00075                    324633.79
3794298.48        0.00075
         324670.74    3794298.48        0.00074                    324707.69
3794298.48        0.00072
         324744.64    3794298.48        0.00071                    324781.59
3794298.48        0.00070
         324449.04    3794330.45        0.00081                    324485.99
3794330.45        0.00080
         324522.94    3794330.45        0.00081                    324559.89
3794330.45        0.00080
         324596.84    3794330.45        0.00079                    324633.79
3794330.45        0.00079
         324670.74    3794330.45        0.00077                    324707.69
3794330.45        0.00076
         324744.64    3794330.45        0.00074                    324781.59
3794330.45        0.00073
         324449.04    3794362.42        0.00084                    324485.99
3794362.42        0.00085
         324522.94    3794362.42        0.00084                    324559.89
3794362.42        0.00083
         324596.84    3794362.42        0.00082                    324633.79
3794362.42        0.00082
         324670.74    3794362.42        0.00081                    324707.69
3794362.42        0.00080
         324744.64    3794362.42        0.00079                    324781.59
3794362.42        0.00078
         324449.04    3794394.39        0.00088                    324485.99
3794394.39        0.00089
         324522.94    3794394.39        0.00088                    324559.89
3794394.39        0.00087
         324596.84    3794394.39        0.00086                    324633.79
3794394.39        0.00086
         324670.74    3794394.39        0.00085                    324707.69
3794394.39        0.00084
         324744.64    3794394.39        0.00083                    324781.59
3794394.39        0.00082
         324449.04    3794426.36        0.00092                    324485.99
3794426.36        0.00093
         324522.94    3794426.36        0.00092                    324559.89
3794426.36        0.00091
         324596.84    3794426.36        0.00090                    324633.79
3794426.36        0.00090
         324670.74    3794426.36        0.00089                    324707.69
3794426.36        0.00088
         324744.64    3794426.36        0.00087                    324781.59
3794426.36        0.00086
         324449.04    3794458.33        0.00096                    324485.99
3794458.33        0.00097
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         324522.94    3794458.33        0.00096                       324559.89
3794458.33        0.00095
         324596.84    3794458.33        0.00095                       324633.79
3794458.33        0.00095
         324670.74    3794458.33        0.00094                       324707.69
3794458.33        0.00093
         324744.64    3794458.33        0.00093                       324781.59
3794458.33        0.00091
         324449.04    3794490.30        0.00101                       324485.99
3794490.30        0.00101
         324522.94    3794490.30        0.00100                       324559.89
3794490.30        0.00100
         324596.84    3794490.30        0.00100                       324633.79
3794490.30        0.00100
         324670.74    3794490.30        0.00099                       324707.69
3794490.30        0.00098
         324744.64    3794490.30        0.00097                       324781.59
3794490.30        0.00096
         324449.04    3794522.27        0.00105                       324485.99
3794522.27        0.00105
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:43:16

                                  PAGE  24
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         324522.94    3794522.27        0.00105                       324559.89
3794522.27        0.00105
         324596.84    3794522.27        0.00105                       324633.79
3794522.27        0.00105
         324670.74    3794522.27        0.00104                       324707.69
3794522.27        0.00103
         324744.64    3794522.27        0.00103                       324781.59
3794522.27        0.00101
```

```
         324449.04    3794554.24        0.00110                    324485.99
3794554.24        0.00110
         324522.94    3794554.24        0.00110                    324559.89
3794554.24        0.00110
         324596.84    3794554.24        0.00110                    324633.79
3794554.24        0.00110
         324670.74    3794554.24        0.00109                    324707.69
3794554.24        0.00108
         324744.64    3794554.24        0.00108                    324781.59
3794554.24        0.00106
         324449.04    3794586.21        0.00115                    324485.99
3794586.21        0.00115
         324522.94    3794586.21        0.00115                    324559.89
3794586.21        0.00115
         324596.84    3794586.21        0.00116                    324633.79
3794586.21        0.00115
         324670.74    3794586.21        0.00114                    324707.69
3794586.21        0.00114
         324744.64    3794586.21        0.00114                    324781.59
3794586.21        0.00112
         324449.04    3794618.18        0.00120                    324485.99
3794618.18        0.00120
         324522.94    3794618.18        0.00120                    324559.89
3794618.18        0.00120
         324596.84    3794618.18        0.00121                    324633.79
3794618.18        0.00121
         324670.74    3794618.18        0.00120                    324707.69
3794618.18        0.00121
         324744.64    3794618.18        0.00120                    324781.59
3794618.18        0.00119
         324449.04    3794650.15        0.00125                    324485.99
3794650.15        0.00125
         324522.94    3794650.15        0.00125                    324559.89
3794650.15        0.00126
         324596.84    3794650.15        0.00127                    324633.79
3794650.15        0.00127
         324670.74    3794650.15        0.00127                    324707.69
3794650.15        0.00128
         324744.64    3794650.15        0.00127                    324781.59
3794650.15        0.00125
         324449.04    3794682.12        0.00130                    324485.99
3794682.12        0.00131
         324522.94    3794682.12        0.00131                    324559.89
3794682.12        0.00133
         324596.84    3794682.12        0.00133                    324633.79
3794682.12        0.00133
         324670.74    3794682.12        0.00133                    324707.69
3794682.12        0.00135
         324744.64    3794682.12        0.00134                    324781.59
3794682.12        0.00132
```

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         326547.36    3795022.06        0.00103                        326594.67
3795022.06        0.00102
         326641.98    3795022.06        0.00100                        326547.36
3795042.46        0.00108
         326594.67    3795042.46        0.00105                        326641.98
3795042.46        0.00104
         326547.36    3795062.86        0.00114                        326594.67
3795062.86        0.00109
         326641.98    3795062.86        0.00110                        326547.36
3795083.26        0.00120
         326594.67    3795083.26        0.00115                        326641.98
3795083.26        0.00115
         326547.36    3795103.66        0.00124                        326594.67
3795103.66        0.00121
         326641.98    3795103.66        0.00121                        326547.36
3795124.06        0.00130
         326594.67    3795124.06        0.00128                        326641.98
3795124.06        0.00128
         326547.36    3795144.46        0.00137                        326594.67
3795144.46        0.00135
         326641.98    3795144.46        0.00135                        326547.36
3795164.86        0.00143
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:43:16

                                  PAGE  25
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         326594.67    3795164.86        0.00143                        326641.98
3795164.86        0.00142
         326547.36    3795185.26        0.00152                        326594.67
3795185.26        0.00151
         326641.98    3795185.26        0.00150                        326547.36
3795205.66        0.00161
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         326594.67    3795205.66        0.00160                    326641.98
3795205.66        0.00156
         326547.36    3795226.06        0.00171                    326594.67
3795226.06        0.00170
         326641.98    3795226.06        0.00160                    326547.36
3795246.46        0.00182
         326594.67    3795246.46        0.00178                    326641.98
3795246.46        0.00167
         326690.43    3795243.37        0.00161                    326688.67
3795223.05        0.00154
         326686.02    3795005.77        0.00096                    326686.02
3795033.66        0.00102
         326686.02    3795061.55        0.00108                    326686.02
3795089.44        0.00116
         326686.02    3795117.33        0.00124                    326686.02
3795145.22        0.00132
         326686.02    3795173.11        0.00141                    326686.02
3795201.00        0.00146
         326832.80    3795263.26        0.00147                    326849.67
3795263.26        0.00141
         326866.54    3795263.26        0.00138                    326883.41
3795263.26        0.00136
         326900.28    3795263.26        0.00134                    326917.15
3795263.26        0.00132
         326934.02    3795263.26        0.00127                    326950.89
3795263.26        0.00123
         326967.76    3795263.26        0.00121                    326984.63
3795263.26        0.00118
         327001.50    3795263.26        0.00114                    327036.85
3795141.35        0.00100
         327075.72    3795141.35        0.00094                    327036.85
3795160.91        0.00103
         327075.72    3795160.91        0.00096                    327036.85
3795180.47        0.00105
         327075.72    3795180.47        0.00098                    327036.85
3795200.03        0.00107
         327075.72    3795200.03        0.00100                    327036.85
3795219.59        0.00106
         327075.72    3795219.59        0.00102                    327036.85
3795239.15        0.00107
         327075.72    3795239.15        0.00104                    327036.85
3795258.71        0.00109
         327075.72    3795258.71        0.00106                    327036.85
3795278.27        0.00111
         327075.72    3795278.27        0.00108                    326840.04
3795223.24        0.00137
         326860.58    3795224.16        0.00131                    326877.30
3795222.74        0.00129
         326929.68    3795223.69        0.00123                    326932.86
3795200.00        0.00118
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         326972.32    3795217.03        0.00114                        326970.84
3795177.58        0.00109
         326968.20    3795152.46        0.00106                        326998.43
3795149.77        0.00104
         326997.48    3795176.61        0.00107                        326995.60
3795193.01        0.00110
         326996.92    3795215.78        0.00112                        326916.97
3795152.19        0.00114
         326901.95    3795150.46        0.00115                        326884.24
3795164.40        0.00118
         326867.32    3795151.32        0.00117                        326873.22
3795163.36        0.00119
         326845.53    3795152.12        0.00120                        326824.91
3795151.45        0.00125
         326826.60    3795170.60        0.00129                        326840.50
3795180.17        0.00128
         326799.39    3795147.97        0.00125                        326776.77
3795147.89        0.00126
         326738.03    3795152.73        0.00129                        326781.33
3795110.75        0.00116
         326806.10    3795109.04        0.00114                        326804.45
3795090.73        0.00110
         326781.78    3795086.72        0.00110                        326787.40
3795061.79        0.00104
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:43:16

                                   PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         326794.01    3795031.22        0.00098                        326977.50
3795110.69        0.00099
         326994.05    3795107.87        0.00098                        326984.52
3795093.80        0.00097
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         326972.85    3795082.37        0.00095                       326995.41
3795072.53        0.00093
         326993.23    3795060.01        0.00091                       326984.60
3795040.80        0.00089
         326981.66    3795027.22        0.00087                       327041.48
3795102.15        0.00095
         327065.19    3795095.75        0.00090                       327040.88
3795076.27        0.00092
         327061.24    3795058.32        0.00086                       327037.82
3795061.09        0.00090
         327035.65    3795040.58        0.00088                       327058.94
3795038.41        0.00084
         327051.53    3795017.85        0.00083                       327033.29
3795021.71        0.00085
         326826.26    3795110.80        0.00111                       326843.29
3795110.80        0.00110
         326860.32    3795110.80        0.00109                       326877.35
3795110.80        0.00108
         326894.38    3795110.80        0.00108                       326911.41
3795110.80        0.00107
         326928.44    3795110.80        0.00105                       326945.47
3795110.80        0.00101
         326819.99    3795048.86        0.00098                       326838.19
3795048.86        0.00097
         326856.39    3795048.86        0.00096                       326874.59
3795048.86        0.00096
         326892.79    3795048.86        0.00096                       326910.99
3795048.86        0.00096
         326929.19    3795048.86        0.00094                       326947.39
3795048.86        0.00091
         325652.30    3795689.46        0.00268                       325747.75
3795796.21        0.00226
         326251.13    3796043.75        0.00175                       326263.91
3795852.39        0.00205
         326170.84    3795648.38        0.00256                       326148.08
3795505.91        0.00317
         325511.50    3795586.39        0.00209

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:43:16

                                   PAGE  27
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                   INCLUDING SOURCE(S):     PAREA1      ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326345.95	3795634.03	0.01411	(12012517)	326414.12	3795779.67	0.01496	(12012517)
326435.80	3795773.48	0.01564	(12012517)	326458.31	3795772.83	0.01576	(12012517)
326424.24	3795858.77	0.01737	(11012717)	326400.20	3795799.84	0.01428	(11012717)
326400.93	3795767.87	0.01459	(12012517)	326424.24	3795858.77	0.01737	(11012717)
326611.84	3795762.99	0.01490	(12012517)	326611.84	3795762.99	0.01490	(12012517)
326610.94	3795777.66	0.01481	(12012517)	326605.86	3795792.89	0.01480	(12012517)
326623.93	3795809.00	0.01421	(10021408)	326627.22	3795836.58	0.01395	(09052906)
326640.09	3795836.58	0.01379	(09052906)	326654.45	3795868.68	0.01294	(10060101)
326665.45	3795883.13	0.01281	(10060101)	326588.30	3795867.62	0.01258	(12012517)
326640.52	3795951.95	0.01395	(11012717)	326658.45	3795975.58	0.01440	(11012717)
326759.52	3796019.28	0.01286	(11012717)	326763.60	3796031.85	0.01300	(11012717)
326775.94	3796048.05	0.01300	(11012717)	326774.23	3796062.19	0.01312	(11012717)
326801.34	3796078.38	0.01284	(11012717)	326809.46	3796094.93	0.01269	(11012717)
326736.80	3796108.96	0.01262	(11012717)	326835.84	3796126.62	0.01211	(11012717)
326836.27	3796140.13	0.01198	(11012717)	326800.95	3796123.31	0.01261	(11012717)
326762.39	3796138.51	0.01178	(11012717)	326766.63	3796155.18	0.01109	(11012717)
326774.14	3796169.68	0.01070	(11012717)	326798.07	3796201.57	0.00993	(11012717)
326808.84	3796229.51	0.00905	(11012717)	326880.95	3796184.59	0.01088	(11012717)
326915.56	3796260.01	0.00962	(11012717)	326941.07	3796261.11	0.00949	(11012717)
326958.24	3796277.25	0.00924	(11012717)	326964.89	3796291.08	0.00897	(11012717)

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       326984.47   3796322.92        0.00860  (11012717)               326993.31
 3796349.42        0.00834  (11012717)
       326993.49   3796365.88        0.00821  (11012717)               327007.03
 3796382.47        0.00808  (11012717)
       326972.07   3796390.18        0.00779  (11012717)               326996.78
 3796414.54        0.00769  (11012717)
       326693.51   3795789.66        0.01086  (12012517)               326695.37
 3795771.29        0.01107  (12012517)
       326727.00   3795761.34        0.01089  (12012517)               326758.55
 3795787.48        0.00949  (12012517)
       326761.76   3795813.54        0.00835  (12012517)               326742.22
 3795837.06        0.00831  (09052906)
       326838.64   3795823.91        0.00742  (09052906)               326811.45
 3795889.81        0.00690  (09052906)
       326823.87   3795855.97        0.00695  (09052906)               326876.62
 3795837.29        0.00685  (09052906)
       326889.30   3795888.54        0.00653  (09052906)               326687.45
 3795683.69        0.01673  (10021408)
       326829.20   3795731.31        0.00992  (12012517)               326859.14
 3795703.62        0.00980  (12012517)
       326881.10   3795705.58        0.00992  (12012517)               326787.44
 3795607.00        0.02158  (13010108)
       326780.76   3795563.55        0.02369  (13010108)               326800.04
 3795542.65        0.02530  (12012024)
       326808.89   3795540.15        0.02587  (12012024)               326825.79
 3795543.65        0.02624  (12012024)
       326856.70   3795545.31        0.02655  (13010108)               326792.33
 3795494.19        0.02990  (09012107)
       326806.68   3795493.93        0.02987  (09012107)               326824.07
 3795494.42        0.02970  (09012107)
       326853.52   3795481.71        0.03110  (09012107)               326898.80
 3795534.37        0.02666  (09012107)
       325796.15   3795215.59        0.06837  (12123121)               325823.15
 3795215.59        0.06882  (10013003)
       326012.15   3795215.59        0.06651  (11011303)               326120.15
 3795215.59        0.06542  (11012807)
       326147.15   3795215.59        0.06614  (11012807)               325796.15
 3795254.59        0.07138  (12020205)
       325823.15   3795254.59        0.07191  (12123121)               325850.15
 3795254.59        0.07156  (10013003)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:43:16

                                  PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
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INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325877.15	3795254.59	0.07110	(13010624)	325904.15	3795254.59	0.07033	(11121006)
325931.15	3795254.59	0.06828	(11120907)	325958.15	3795254.59	0.06850	(13122706)
325985.15	3795254.59	0.06902	(11011303)	326012.15	3795254.59	0.06713	(11121424)
326039.15	3795254.59	0.06699	(11121424)	326066.15	3795254.59	0.06731	(11121424)
326093.15	3795254.59	0.06784	(11012807)	326120.15	3795254.59	0.06856	(11012807)
326147.15	3795254.59	0.06915	(11120707)	325796.15	3795293.59	0.07247	(12122922)
325823.15	3795293.59	0.07200	(10010204)	325850.15	3795293.59	0.07297	(12123121)
325877.15	3795293.59	0.07402	(10013003)	325904.15	3795293.59	0.07346	(13010624)
325931.15	3795293.59	0.07105	(13122706)	325958.15	3795293.59	0.07164	(11011303)
325985.15	3795293.59	0.06869	(11121424)	326012.15	3795293.59	0.06046	(11121424)
326039.15	3795293.59	0.06057	(11011602)	326066.15	3795293.59	0.05813	(11012807)
326093.15	3795293.59	0.05648	(13011505)	326120.15	3795293.59	0.05705	(09010718)
326147.15	3795293.59	0.05781	(13122406)	325796.15	3795332.59	0.06111	(13010705)
325823.15	3795332.59	0.06123	(11121104)	325850.15	3795332.59	0.07219	(09021407)
325877.15	3795332.59	0.07319	(12123121)	325904.15	3795332.59	0.07565	(10013003)
325931.15	3795332.59	0.07355	(11011303)	325958.15	3795332.59	0.07162	(11121424)
325985.15	3795332.59	0.05716	(11121424)	326012.15	3795332.59	0.05346	(11011602)
326039.15	3795332.59	0.05352	(11012807)	326066.15	3795332.59	0.05423	(13011505)
326093.15	3795332.59	0.05490	(09010718)	326120.15	3795332.59	0.05676	(13122406)

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       326147.15   3795332.59        0.05752  (10020123)                325847.44
 3795004.89        0.05584  (09121401)
       325872.44   3795004.89        0.05569  (13122103)                325897.44
 3795004.89        0.05553  (13122407)
       325922.44   3795004.89        0.05523  (13122407)                325947.44
 3795004.89        0.05514  (13013002)
       325972.44   3795004.89        0.05488  (09022002)                325997.44
 3795004.89        0.05462  (10122722)
       326022.44   3795004.89        0.05446  (09120405)                326047.44
 3795004.89        0.05468  (12122704)
       326072.44   3795004.89        0.05491  (11120907)                326097.44
 3795004.89        0.05514  (13122706)
       326122.44   3795004.89        0.05534  (13122706)                326147.44
 3795004.89        0.05517  (11011303)
       325847.44   3795046.89        0.05790  (10123020)                325872.44
 3795046.89        0.05773  (09121401)
       325897.44   3795046.89        0.05756  (13122103)                325922.44
 3795046.89        0.05738  (13122407)
       325947.44   3795046.89        0.05705  (09022002)                325972.44
 3795046.89        0.05673  (10122722)
       325997.44   3795046.89        0.05621  (09120405)                326022.44
 3795046.89        0.05645  (12122704)
       326047.44   3795046.89        0.05670  (11120907)                326072.44
 3795046.89        0.05695  (13122706)
       326097.44   3795046.89        0.05717  (13122706)                326122.44
 3795046.89        0.05671  (11011303)
       326147.44   3795046.89        0.05600  (11011303)                325847.44
 3795088.89        0.06015  (11122506)
       325872.44   3795088.89        0.05996  (10123020)                325897.44
 3795088.89        0.05977  (09121401)
       325922.44   3795088.89        0.05957  (13122103)                325947.44
 3795088.89        0.05839  (10122722)
       325972.44   3795088.89        0.05809  (09120405)                325997.44
 3795088.89        0.05836  (12122704)
       326022.44   3795088.89        0.05863  (11120907)                326047.44
 3795088.89        0.05891  (13122706)
       326072.44   3795088.89        0.05914  (13122706)                326097.44
 3795088.89        0.05904  (11011303)
       326122.44   3795088.89        0.05844  (11011303)                326147.44
 3795088.89        0.05816  (11121424)
       325847.44   3795130.89        0.06265  (11121006)                325872.44
 3795130.89        0.06241  (11122506)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:43:16

                                  PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325897.44	3795130.89	0.06220	(10123020)	325922.44	3795130.89	0.06198	(09121401)
325947.44	3795130.89	0.06080	(09120405)	325972.44	3795130.89	0.06042	(12122704)
325997.44	3795130.89	0.06072	(11120907)	326022.44	3795130.89	0.06103	(13122706)
326047.44	3795130.89	0.06129	(11011303)	326072.44	3795130.89	0.06166	(11011303)
326097.44	3795130.89	0.06056	(11011303)	326122.44	3795130.89	0.06020	(11121424)
326147.44	3795130.89	0.06054	(11121424)	325847.44	3795172.89	0.06535	(11121006)
325872.44	3795172.89	0.06513	(11121006)	325897.44	3795172.89	0.06486	(11122506)
325922.44	3795172.89	0.06461	(10123020)	325947.44	3795172.89	0.06342	(12122704)
325972.44	3795172.89	0.06299	(11120907)	325997.44	3795172.89	0.06333	(13122706)
326022.44	3795172.89	0.06357	(11011303)	326047.44	3795172.89	0.06362	(11011303)
326072.44	3795172.89	0.06228	(11121424)	325847.44	3795214.89	0.06842	(13010624)
325872.44	3795214.89	0.06806	(11121006)	325897.44	3795214.89	0.06780	(11121006)
325922.44	3795214.89	0.06750	(11122506)	325947.44	3795214.89	0.06631	(11120907)
325972.44	3795214.89	0.06582	(13122706)	325997.44	3795214.89	0.06619	(11011303)
326047.44	3795214.89	0.06431	(11121424)	326072.44	3795214.89	0.06474	(11121424)
326097.44	3795214.89	0.06507	(11121424)	326147.44	3795214.89	0.06609	(11012807)
326096.58	3795181.52	0.06293	(11121424)	326118.63	3795182.57	0.06327	(11121424)
326144.35	3795184.14	0.06363	(11012807)	325849.74	3794829.62	0.04937	(13122407)

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       325892.61   3794829.62        0.04931  (13013002)              325935.48
 3794829.62        0.04865  (11012303)
       325978.35   3794829.62        0.04837  (10021506)              326021.22
 3794829.62        0.04853  (10120705)
       326064.09   3794829.62        0.04833  (09022002)              325849.74
 3794867.55        0.05085  (13122407)
       325892.61   3794867.55        0.05006  (13013002)              325935.48
 3794867.55        0.04978  (13013002)
       325978.35   3794867.55        0.04961  (10021506)              326021.22
 3794867.55        0.04988  (09022002)
       326064.09   3794867.55        0.04973  (10122722)              325849.74
 3794905.48        0.05229  (13122407)
       325892.61   3794905.48        0.05136  (13013002)              325935.48
 3794905.48        0.05118  (13013002)
       325978.35   3794905.48        0.05097  (10120705)              326021.22
 3794905.48        0.05121  (09022002)
       326064.09   3794905.48        0.05067  (09120405)              325849.74
 3794943.41        0.05367  (13122103)
       325892.61   3794943.41        0.05279  (13122407)              325935.48
 3794943.41        0.05263  (13013002)
       325978.35   3794943.41        0.05252  (09022002)              326021.22
 3794943.41        0.05279  (10122722)
       326064.09   3794943.41        0.05217  (12122704)              325849.74
 3794981.34        0.05488  (09121401)
       325892.61   3794981.34        0.05449  (13122407)              325935.48
 3794981.34        0.05415  (13013002)
       325978.35   3794981.34        0.05418  (09022002)              326021.22
 3794981.34        0.05363  (10122722)
       326064.09   3794981.34        0.05376  (12122704)              325855.31
 3794726.62        0.04617  (13013002)
       325902.64   3794726.62        0.04604  (11012303)              325855.31
 3794745.52        0.04672  (13013002)
       325902.64   3794745.52        0.04659  (11012303)              325855.31
 3794764.42        0.04727  (13013002)
       325902.64   3794764.42        0.04715  (13013002)              325855.31
 3794783.32        0.04784  (13013002)
       325902.64   3794783.32        0.04776  (13013002)              325855.31
 3794802.22        0.04843  (13013002)
       325902.64   3794802.22        0.04837  (13013002)              325855.31
 3794821.12        0.04904  (13013002)
       325902.64   3794821.12        0.04897  (13013002)              326402.77
 3795249.33        0.05726  (12122705)
       325380.55   3795776.17        0.02408  (09120508)              325415.88
 3795858.35        0.01544  (09120508)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                      ***        17:43:16

                                PAGE  30
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325409.93	3795994.97	0.01220	(09012317)	325416.60	3796058.09	0.01198	(13012417)
325409.65	3796164.95	0.01173	(13012417)	325322.71	3796083.91	0.01189	(09012317)
325297.93	3796111.07	0.01295	(09012317)	325246.73	3796076.15	0.01305	(09012317)
325280.01	3796260.66	0.00812	(13012417)	325237.05	3796200.45	0.00751	(09012317)
325163.03	3796071.11	0.01216	(09012317)	325215.74	3795991.41	0.01277	(09012317)
325208.29	3795926.88	0.01298	(09012317)	325249.48	3795829.20	0.01592	(09120508)
325171.49	3795759.19	0.02211	(12121219)	325129.24	3795756.40	0.02706	(12041020)
325154.75	3795886.20	0.01510	(12032407)	325068.55	3795885.45	0.01248	(12032407)
325047.86	3795938.00	0.01079	(09012317)	325045.84	3795982.69	0.01092	(09012317)
325071.95	3796106.74	0.01149	(09012317)	325060.64	3796290.38	0.00723	(09012317)
324903.71	3796379.80	0.00452	(11032418)	324787.84	3796510.42	0.00512	(12021301)
324916.48	3796618.27	0.00593	(13012417)	326492.96	3796356.32	0.00865	(13031518)
326552.73	3796900.01	0.00359	(13040207)	326599.30	3796893.60	0.00359	(13040207)
326617.42	3796889.51	0.00361	(13040207)	326639.41	3796881.91	0.00373	(13040207)
326663.73	3796864.08	0.00395	(13040207)	326679.47	3796885.20	0.00387	(13040207)
326697.81	3796898.31	0.00379	(13040207)	326712.34	3796916.60	0.00365	(13040207)
326726.62	3796931.14	0.00353	(13040207)	326742.23	3796948.02	0.00339	(13040207)

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       326756.58   3796965.73        0.00330  (13040207)               326772.07
 3796973.30        0.00332  (13040207)
       326785.22   3796890.50        0.00378  (09062906)               326800.10
 3797003.95        0.00336  (13040207)
       326817.96   3797014.86        0.00334  (13040207)               326813.74
 3796843.93        0.00436  (10121904)
       326833.92   3796853.59        0.00427  (10121904)               326848.61
 3796873.43        0.00416  (10121904)
       326864.19   3796885.12        0.00413  (10121904)               326877.92
 3796901.20        0.00407  (10121904)
       326893.85   3796917.11        0.00392  (10121904)               326904.49
 3796938.77        0.00374  (09062906)
       326907.64   3796966.22        0.00366  (09062906)               326914.45
 3796991.73        0.00352  (09062906)
       326921.92   3797038.42        0.00324  (09062906)               326596.56
 3797264.10        0.00228  (12012617)
       326829.98   3795735.43        0.00977  (12012517)               326866.53
 3795706.88        0.00970  (12012517)
       326831.50   3795646.57        0.02111  (13012604)               326872.90
 3795644.95        0.02118  (13012604)
       326898.91   3795644.66        0.02122  (10021408)               326924.66
 3795650.14        0.02027  (10021408)
       326949.68   3795646.43        0.02098  (10021408)               326975.59
 3795638.84        0.01880  (10021408)
       326917.88   3795602.78        0.02456  (13012604)               326918.63
 3795584.13        0.02661  (10022004)
       326921.61   3795563.48        0.02649  (10022004)               326917.18
 3795537.15        0.02655  (13010108)
       326934.99   3795592.17        0.02491  (13012604)               326951.04
 3795599.47        0.02361  (13012604)
       326950.26   3795555.95        0.02646  (10022004)               326951.59
 3795535.07        0.02652  (09012107)
       326961.83   3795537.57        0.02637  (09012107)               326982.25
 3795538.33        0.02629  (09012107)
       326992.41   3795539.09        0.02628  (10022004)               327008.98
 3795535.58        0.02638  (09012107)
       326987.68   3795580.97        0.02433  (13012604)               327024.81
 3795588.42        0.02226  (13012604)
       326925.07   3795485.95        0.02918  (09012107)               326937.83
 3795488.27        0.02906  (09012107)
       326956.45   3795489.28        0.02892  (09012107)               326970.89
 3795491.03        0.02879  (09012107)
       326989.96   3795487.68        0.02874  (09012107)               325049.27
 3794362.92        0.03591  (13120620)
       325086.77   3794362.92        0.03632  (13120620)               325124.27
 3794362.92        0.03657  (09021803)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       17:43:16
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325161.77	3794362.92	0.03687	(13021702)	325199.27	3794362.92	0.03701	(12122922)
325236.77	3794362.92	0.03698	(12020205)	325274.27	3794362.92	0.03708	(12123121)
325049.27	3794386.12	0.03624	(12021724)	325086.77	3794386.12	0.03661	(13120620)
325124.27	3794386.12	0.03700	(09021803)	325161.77	3794386.12	0.03777	(13021702)
325199.27	3794386.12	0.03796	(12122922)	325236.77	3794386.12	0.03743	(10010204)
325274.27	3794386.12	0.03747	(12020205)	325049.27	3794409.32	0.03664	(12021724)
325086.77	3794409.32	0.03681	(13120620)	325124.27	3794409.32	0.03734	(13120620)
325161.77	3794409.32	0.03813	(09021803)	325199.27	3794409.32	0.03832	(12122922)
325236.77	3794409.32	0.03833	(10010204)	325274.27	3794409.32	0.03845	(12020205)
325049.27	3794432.52	0.03693	(12021724)	325086.77	3794432.52	0.03710	(12021724)
325124.27	3794432.52	0.03799	(13120620)	325161.77	3794432.52	0.03853	(09021803)
325199.27	3794432.52	0.03876	(13021702)	325236.77	3794432.52	0.03892	(12122922)
325274.27	3794432.52	0.03903	(10010204)	325049.27	3794455.72	0.03721	(10012707)
325086.77	3794455.72	0.03775	(12021724)	325124.27	3794455.72	0.03852	(13120620)
325161.77	3794455.72	0.03885	(13120620)	325199.27	3794455.72	0.03911	(13021702)
325236.77	3794455.72	0.03933	(12122922)	325274.27	3794455.72	0.03949	(10010204)

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       325049.27   3794478.92        0.03750  (10012707)              325086.77
 3794478.92        0.03857  (12021724)
       325124.27   3794478.92        0.03877  (12021724)              325161.77
 3794478.92        0.03927  (13120620)
       325199.27   3794478.92        0.03954  (09021803)              325236.77
 3794478.92        0.03974  (13021702)
       325274.27   3794478.92        0.03988  (10010204)              325049.27
 3794502.12        0.03777  (10010424)
       325086.77   3794502.12        0.03888  (10012707)              325124.27
 3794502.12        0.03927  (12021724)
       325161.77   3794502.12        0.03958  (13120620)              325199.27
 3794502.12        0.03990  (09021803)
       325236.77   3794502.12        0.04017  (13021702)              325274.27
 3794502.12        0.04036  (12122922)
       325049.27   3794525.32        0.03805  (10010424)              325086.77
 3794525.32        0.03921  (10012707)
       325124.27   3794525.32        0.03965  (12021724)              325161.77
 3794525.32        0.03978  (12021724)
       325199.27   3794525.32        0.04033  (13120620)              325236.77
 3794525.32        0.04058  (09021803)
       325274.27   3794525.32        0.04077  (12122922)              325049.27
 3794548.52        0.03823  (10010424)
       325086.77   3794548.52        0.03951  (10010424)              325124.27
 3794548.52        0.03996  (10012707)
       325161.77   3794548.52        0.04033  (12021724)              325199.27
 3794548.52        0.04070  (13120620)
       325236.77   3794548.52        0.04102  (09021803)              325274.27
 3794548.52        0.04126  (13021702)
       325049.27   3794571.72        0.03846  (10011404)              325086.77
 3794571.72        0.03981  (10010424)
       325124.27   3794571.72        0.04031  (10012707)              325161.77
 3794571.72        0.04075  (12021724)
       325199.27   3794571.72        0.04095  (13120620)              325236.77
 3794571.72        0.04144  (13120620)
       325274.27   3794571.72        0.04168  (13021702)              325049.27
 3794594.92        0.03888  (11121006)
       325086.77   3794594.92        0.04000  (10010424)              325124.27
 3794594.92        0.04064  (10010424)
       325161.77   3794594.92        0.04108  (10012707)              325199.27
 3794594.92        0.04146  (12021724)
       325236.77   3794594.92        0.04188  (13120620)              325274.27
 3794594.92        0.04218  (09021803)
       325049.27   3794618.12        0.03953  (13010624)              325086.77
 3794618.12        0.04031  (10011404)
       325124.27   3794618.12        0.04095  (10010424)              325161.77
 3794618.12        0.04146  (10012707)
       325199.27   3794618.12        0.04192  (12021724)              325236.77
 3794618.12        0.04219  (13120620)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
```

*** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
INCLUDING SOURCE(S):   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325274.27	3794618.12	0.04273	(09021803)	325049.27	3794641.32	0.04021	(13010624)
325086.77	3794641.32	0.04075	(11121006)	325124.27	3794641.32	0.04113	(10010424)
325161.77	3794641.32	0.04180	(10010424)	325199.27	3794641.32	0.04227	(10012707)
325236.77	3794641.32	0.04265	(12021724)	325274.27	3794641.32	0.04331	(13120620)
325049.27	3794664.52	0.04089	(13010624)	325086.77	3794664.52	0.04134	(11121006)
325124.27	3794664.52	0.04151	(10011404)	325161.77	3794664.52	0.04213	(10010424)
325199.27	3794664.52	0.04268	(10012707)	325236.77	3794664.52	0.04317	(12021724)
325274.27	3794664.52	0.04389	(13120620)	325049.27	3794687.72	0.04158	(13010624)
325086.77	3794687.72	0.04197	(13010624)	325124.27	3794687.72	0.04188	(10011404)
325161.77	3794687.72	0.04231	(10010424)	325199.27	3794687.72	0.04305	(10010424)
325236.77	3794687.72	0.04354	(10012707)	325274.27	3794687.72	0.04482	(12021724)
324871.62	3794298.63	0.03294	(13010624)	324910.53	3794298.63	0.03307	(10012707)
324949.44	3794298.63	0.03395	(12021724)	324988.35	3794298.63	0.03403	(12021724)
324871.62	3794320.43	0.03334	(13010624)	324910.53	3794320.43	0.03373	(10012707)
324949.44	3794320.43	0.03412	(10012707)	324988.35	3794320.43	0.03440	(12021724)

```
       324871.62   3794342.23        0.03373  (13010624)               324910.53
3794342.23        0.03411  (10010424)
       324949.44   3794342.23        0.03440  (10012707)               324988.35
3794342.23        0.03468  (12021724)
       324871.62   3794364.03        0.03431  (10013003)               324910.53
3794364.03        0.03456  (13010624)
       324949.44   3794364.03        0.03460  (10012707)               324988.35
3794364.03        0.03498  (12021724)
       324871.62   3794385.83        0.03525  (10013003)               324910.53
3794385.83        0.03502  (13010624)
       324949.44   3794385.83        0.03483  (10010424)               324988.35
3794385.83        0.03562  (10012707)
       324871.62   3794407.63        0.03575  (10013003)               324910.53
3794407.63        0.03547  (13010624)
       324949.44   3794407.63        0.03506  (10010424)               324988.35
3794407.63        0.03587  (10012707)
       324871.62   3794429.43        0.03623  (12123121)               324910.53
3794429.43        0.03592  (13010624)
       324949.44   3794429.43        0.03542  (13010624)               324988.35
3794429.43        0.03611  (10010424)
       324871.62   3794451.23        0.03675  (12123121)               324910.53
3794451.23        0.03641  (10013003)
       324949.44   3794451.23        0.03596  (13010624)               324988.35
3794451.23        0.03639  (10010424)
       324871.62   3794473.03        0.03728  (12123121)               324910.53
3794473.03        0.03692  (10013003)
       324949.44   3794473.03        0.03671  (13010624)               324988.35
3794473.03        0.03674  (10010424)
       324871.62   3794494.83        0.03795  (12020205)               324910.53
3794494.83        0.03743  (10013003)
       324949.44   3794494.83        0.03726  (13010624)               324988.35
3794494.83        0.03726  (13010624)
       324871.62   3794516.63        0.03865  (12020205)               324910.53
3794516.63        0.03799  (12123121)
       324949.44   3794516.63        0.03777  (10013003)               324988.35
3794516.63        0.03783  (13010624)
       324871.62   3794538.43        0.03926  (12020205)               324910.53
3794538.43        0.03857  (12123121)
       324949.44   3794538.43        0.03833  (10013003)               324988.35
3794538.43        0.03840  (13010624)
       324871.62   3794560.23        0.03991  (10010204)               324910.53
3794560.23        0.03915  (12123121)
       324949.44   3794560.23        0.03889  (10013003)               324988.35
3794560.23        0.03896  (13010624)
       324871.62   3794582.03        0.04061  (10010204)               324910.53
3794582.03        0.03980  (12020205)
       324949.44   3794582.03        0.03947  (12123121)               324988.35
3794582.03        0.03953  (13010624)
       324871.62   3794603.83        0.04132  (10010204)               324910.53
3794603.83        0.04050  (12020205)
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                         *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
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```
       324449.04   3794106.66        0.03127  (09020419)               324485.99
3794106.66        0.03114  (13120620)
       324522.94   3794106.66        0.03082  (09021803)               324559.89
3794106.66        0.03050  (13021702)
       324596.84   3794106.66        0.03018  (12122922)               324633.79
3794106.66        0.02967  (10010204)
       324670.74   3794106.66        0.02932  (12020205)               324707.69
3794106.66        0.02920  (12123121)
       324744.64   3794106.66        0.02971  (10013003)               324781.59
3794106.66        0.02992  (12021724)
       324449.04   3794138.63        0.03194  (12021724)               324485.99
3794138.63        0.03166  (13120620)
       324522.94   3794138.63        0.03134  (09021803)               324559.89
3794138.63        0.03102  (13021702)
       324596.84   3794138.63        0.03068  (12122922)               324633.79
3794138.63        0.03076  (10010204)
       324670.74   3794138.63        0.03049  (12020205)               324707.69
3794138.63        0.03038  (12123121)
       324744.64   3794138.63        0.03064  (10013003)               324781.59
3794138.63        0.03042  (13010624)
       324449.04   3794170.60        0.03260  (12021724)               324485.99
3794170.60        0.03211  (09020419)
       324522.94   3794170.60        0.03202  (13120620)               324559.89
3794170.60        0.03214  (09021803)
       324596.84   3794170.60        0.03178  (13021702)               324633.79
3794170.60        0.03156  (12122922)
       324670.74   3794170.60        0.03126  (10010204)               324707.69
3794170.60        0.03147  (12020205)
       324744.64   3794170.60        0.03123  (12123121)               324781.59
3794170.60        0.03133  (10013003)
       324449.04   3794202.57        0.03318  (10012707)               324485.99
3794202.57        0.03284  (12021724)
       324522.94   3794202.57        0.03261  (13120620)               324559.89
3794202.57        0.03288  (09021803)
       324596.84   3794202.57        0.03252  (13021702)               324633.79
3794202.57        0.03215  (12122922)
       324670.74   3794202.57        0.03241  (10010204)               324707.69
3794202.57        0.03214  (12020205)
       324744.64   3794202.57        0.03177  (12123121)               324781.59
3794202.57        0.03200  (10013003)
       324449.04   3794234.54        0.03386  (10012707)               324485.99
3794234.54        0.03352  (12021724)
       324522.94   3794234.54        0.03312  (12021724)               324559.89
3794234.54        0.03354  (13120620)
       324596.84   3794234.54        0.03315  (09021803)               324633.79
3794234.54        0.03275  (13021702)
       324670.74   3794234.54        0.03311  (12122922)               324707.69
3794234.54        0.03270  (10010204)
       324744.64   3794234.54        0.03230  (12020205)               324781.59
3794234.54        0.03252  (10013003)
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                 *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                  ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

```
       324744.64   3794330.45        0.03424  (10010204)               324781.59
3794330.45        0.03440  (12020205)
       324449.04   3794362.42        0.03679  (10011404)               324485.99
3794362.42        0.03698  (10011119)
       324522.94   3794362.42        0.03683  (10010424)               324559.89
3794362.42        0.03638  (10012707)
       324596.84   3794362.42        0.03589  (12021724)               324633.79
3794362.42        0.03625  (13120620)
       324670.74   3794362.42        0.03589  (09021803)               324707.69
3794362.42        0.03537  (13021702)
       324744.64   3794362.42        0.03533  (10010204)               324781.59
3794362.42        0.03524  (12020205)
       324449.04   3794394.39        0.03760  (09120921)               324485.99
3794394.39        0.03799  (10011404)
       324522.94   3794394.39        0.03763  (10010424)               324559.89
3794394.39        0.03724  (10012707)
       324596.84   3794394.39        0.03679  (12021724)               324633.79
3794394.39        0.03695  (13120620)
       324670.74   3794394.39        0.03664  (09021803)               324707.69
3794394.39        0.03615  (13021702)
       324744.64   3794394.39        0.03612  (12122922)               324781.59
3794394.39        0.03599  (10010204)
       324449.04   3794426.36        0.03861  (11121923)               324485.99
3794426.36        0.03887  (10011404)
       324522.94   3794426.36        0.03842  (10011404)               324559.89
3794426.36        0.03812  (10010424)
       324596.84   3794426.36        0.03762  (10012707)               324633.79
3794426.36        0.03786  (12021724)
       324670.74   3794426.36        0.03753  (13120620)               324707.69
3794426.36        0.03706  (09021803)
       324744.64   3794426.36        0.03702  (13021702)               324781.59
3794426.36        0.03675  (10010204)
       324449.04   3794458.33        0.03992  (09022006)               324485.99
3794458.33        0.03987  (09120921)
       324522.94   3794458.33        0.03948  (10011404)               324559.89
3794458.33        0.03886  (10010424)
       324596.84   3794458.33        0.03870  (10012707)               324633.79
3794458.33        0.03889  (12021724)
       324670.74   3794458.33        0.03828  (13120620)               324707.69
3794458.33        0.03811  (13120620)
       324744.64   3794458.33        0.03822  (13021702)               324781.59
3794458.33        0.03761  (12122922)
       324449.04   3794490.30        0.04089  (09022006)               324485.99
3794490.30        0.04085  (11121923)
       324522.94   3794490.30        0.04045  (09120921)               324559.89
3794490.30        0.03996  (10011404)
       324596.84   3794490.30        0.04008  (10010424)               324633.79
3794490.30        0.03995  (10012707)
       324670.74   3794490.30        0.03934  (12021724)               324707.69
3794490.30        0.03908  (13120620)
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                 *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                  ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

```
       324670.74   3794586.21        0.04261  (10010424)              324707.69
3794586.21        0.04226  (10012707)
       324744.64   3794586.21        0.04221  (12021724)              324781.59
3794586.21        0.04155  (13120620)
       324449.04   3794618.18        0.04546  (12022904)              324485.99
3794618.18        0.04520  (13012724)
       324522.94   3794618.18        0.04483  (12021707)              324559.89
3794618.18        0.04476  (12010904)
       324596.84   3794618.18        0.04502  (11121923)              324633.79
3794618.18        0.04442  (09120921)
       324670.74   3794618.18        0.04372  (10011404)              324707.69
3794618.18        0.04403  (10010424)
       324744.64   3794618.18        0.04358  (12021724)              324781.59
3794618.18        0.04275  (13120620)
       324449.04   3794650.15        0.04657  (12012404)              324485.99
3794650.15        0.04637  (12022904)
       324522.94   3794650.15        0.04606  (13012724)              324559.89
3794650.15        0.04604  (12021707)
       324596.84   3794650.15        0.04631  (09022006)              324633.79
3794650.15        0.04573  (11121923)
       324670.74   3794650.15        0.04521  (10011404)              324707.69
3794650.15        0.04561  (10010424)
       324744.64   3794650.15        0.04489  (10012707)              324781.59
3794650.15        0.04395  (12021724)
       324449.04   3794682.12        0.04768  (11010801)              324485.99
3794682.12        0.04756  (12012404)
       324522.94   3794682.12        0.04747  (12022904)              324559.89
3794682.12        0.04801  (13012724)
       324596.84   3794682.12        0.04765  (12010904)              324633.79
3794682.12        0.04712  (09022006)
       324670.74   3794682.12        0.04658  (09120921)              324707.69
3794682.12        0.04704  (10011404)
       324744.64   3794682.12        0.04629  (10010424)              324781.59
3794682.12        0.04542  (12021724)
       326547.36   3795022.06        0.04934  (12022103)              326594.67
3795022.06        0.04851  (10011406)
       326641.98   3795022.06        0.04628  (11121105)              326547.36
3795042.46        0.05000  (12022103)
       326594.67   3795042.46        0.04696  (10011406)              326641.98
3795042.46        0.04686  (12122705)
       326547.36   3795062.86        0.05081  (10011406)              326594.67
3795062.86        0.04709  (11121105)
       326641.98   3795062.86        0.04740  (10021501)              326547.36
3795083.26        0.05107  (10011406)
       326594.67   3795083.26        0.04769  (12122705)              326641.98
3795083.26        0.04790  (13010623)
       326547.36   3795103.66        0.04988  (11121105)              326594.67
3795103.66        0.04825  (10021501)
       326641.98   3795103.66        0.04842  (13010623)              326547.36
3795124.06        0.05018  (12122705)
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326594.67	3795164.86	0.04977	(13010101)	326641.98	3795164.86	0.04973	(13011507)
326547.36	3795185.26	0.05008	(13010623)	326594.67	3795185.26	0.05009	(13011507)
326641.98	3795185.26	0.05003	(13122107)	326547.36	3795205.66	0.05050	(13010101)
326594.67	3795205.66	0.05050	(13011507)	326641.98	3795205.66	0.04909	(09021506)
326547.36	3795226.06	0.05079	(13011507)	326594.67	3795226.06	0.05071	(13122107)
326641.98	3795226.06	0.04626	(12010407)	326547.36	3795246.46	0.05099	(13011507)
326594.67	3795246.46	0.04998	(09021506)	326641.98	3795246.46	0.04512	(10121023)
326690.43	3795243.37	0.04378	(12022206)	326688.67	3795223.05	0.04423	(10010821)
326686.02	3795005.77	0.04610	(12122705)	326686.02	3795033.66	0.04625	(10021501)
326686.02	3795061.55	0.04641	(13010623)	326686.02	3795089.44	0.04699	(13010101)
326686.02	3795117.33	0.04748	(13011507)	326686.02	3795145.22	0.04796	(13122107)

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       326686.02   3795173.11        0.04760  (09021506)               326686.02
3795201.00        0.04460  (12011805)
       326832.80   3795263.26        0.03961  (13020901)               326849.67
3795263.26        0.03768  (11020605)
       326866.54   3795263.26        0.03671  (12010208)               326883.41
3795263.26        0.03669  (12010208)
       326900.28   3795263.26        0.03662  (12010208)               326917.15
3795263.26        0.03649  (12010208)
       326934.02   3795263.26        0.03457  (13122805)               326950.89
3795263.26        0.03317  (11010918)
       326967.76   3795263.26        0.03312  (11010918)               326984.63
3795263.26        0.03246  (11010918)
       327001.50   3795263.26        0.03089  (12120505)               327036.85
3795141.35        0.03210  (11013105)
       327075.72   3795141.35        0.02906  (12011705)               327036.85
3795160.91        0.03201  (12020201)
       327075.72   3795160.91        0.02901  (10022004)               327036.85
3795180.47        0.03198  (10012524)
       327075.72   3795180.47        0.02909  (13012604)               327036.85
3795200.03        0.03172  (11020605)
       327075.72   3795200.03        0.02928  (09121202)               327036.85
3795219.59        0.03027  (09121202)
       327075.72   3795219.59        0.02918  (12010208)               327036.85
3795239.15        0.02990  (12120505)
       327075.72   3795239.15        0.02974  (12120505)               327036.85
3795258.71        0.03005  (12120505)
       327075.72   3795258.71        0.02962  (09120419)               327036.85
3795278.27        0.02998  (09120419)
       327075.72   3795278.27        0.02989  (13121308)               326840.04
3795223.24        0.03941  (11013105)
       326860.58   3795224.16        0.03677  (12020201)               326877.30
3795222.74        0.03660  (12020201)
       326929.68   3795223.69        0.03473  (10012524)               326932.86
3795200.00        0.03442  (12020201)
       326972.32   3795217.03        0.03237  (13012604)               326970.84
3795177.58        0.03261  (12011705)
       326968.20   3795152.46        0.03274  (09120204)               326998.43
3795149.77        0.03244  (09120204)
       326997.48   3795176.61        0.03227  (12020201)               326995.60
3795193.01        0.03224  (10012524)
       326996.92   3795215.78        0.03226  (11020605)               326916.97
3795152.19        0.03662  (10013106)
       326901.95   3795150.46        0.03683  (12010321)               326884.24
3795164.40        0.03698  (12010321)
       326867.32   3795151.32        0.03770  (12022206)               326873.22
3795163.36        0.03712  (10120606)
       326845.53   3795152.12        0.03979  (12022206)               326824.91
3795151.45        0.04250  (09013022)
       326826.60   3795170.60        0.04223  (12013005)               326840.50
3795180.17        0.03974  (12013005)
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326794.01	3795031.22	0.04277	(13011507)	326977.50	3795110.69	0.03288	(10120606)
326994.05	3795107.87	0.03275	(12010321)	326984.52	3795093.80	0.03321	(11120708)
326972.85	3795082.37	0.03371	(11120708)	326995.41	3795072.53	0.03348	(11120708)
326993.23	3795060.01	0.03361	(11121808)	326984.60	3795040.80	0.03387	(13020308)
326981.66	3795027.22	0.03396	(10010821)	327041.48	3795102.15	0.03196	(13011601)
327065.19	3795095.75	0.02969	(10121407)	327040.88	3795076.27	0.03220	(10120606)
327061.24	3795058.32	0.03033	(11120708)	327037.82	3795061.09	0.03284	(11120708)
327035.65	3795040.58	0.03321	(11120708)	327058.94	3795038.41	0.03108	(11120708)
327051.53	3795017.85	0.03199	(11121808)	327033.29	3795021.71	0.03340	(11121808)
326826.26	3795110.80	0.03958	(12011805)	326843.29	3795110.80	0.03887	(10121023)

```
       326860.32   3795110.80        0.03837  (10010821)               326877.35
 3795110.80        0.03809  (10020622)
       326894.38   3795110.80        0.03782  (09013022)               326911.41
 3795110.80        0.03754  (12022206)
       326928.44   3795110.80        0.03607  (12022206)               326945.47
 3795110.80        0.03396  (11120708)
       326819.99   3795048.86        0.04009  (13122107)               326838.19
 3795048.86        0.03887  (09021506)
       326856.39   3795048.86        0.03876  (09021506)               326874.59
 3795048.86        0.03858  (10122806)
       326892.79   3795048.86        0.03835  (12011805)               326910.99
 3795048.86        0.03814  (12011805)
       326929.19   3795048.86        0.03662  (10121023)               326947.39
 3795048.86        0.03428  (10010821)
       325652.30   3795689.46        0.01531  (13020608)               325747.75
 3795796.21        0.01192  (13020608)
       326251.13   3796043.75        0.01251  (10013117)               326263.91
 3795852.39        0.01635  (11012717)
       326170.84   3795648.38        0.01529  (09052906)               326148.08
 3795505.91        0.02048  (12050806)
       325511.50   3795586.39        0.01558  (13020608)

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:43:16

                                   PAGE  38
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                   *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                    ** CONC OF PM_2.5   IN MICROGRAMS/M**3
              **


                         NETWORK
GROUP ID                       AVERAGE CONC               RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.00618 AT (  325904.15,  3795332.59,
149.61,   185.00,    0.00)  DC
          2ND HIGHEST VALUE IS       0.00606 AT (  325877.15,  3795332.59,
150.22,   185.00,    0.00)  DC
          3RD HIGHEST VALUE IS       0.00602 AT (  325931.15,  3795332.59,
150.05,   165.00,    0.00)  DC
```

```
          4TH HIGHEST VALUE IS       0.00600 AT (  325850.15,  3795332.59,
150.51,   185.00,    0.00)  DC
          5TH HIGHEST VALUE IS       0.00583 AT (  325958.15,  3795332.59,
150.51,   166.00,    0.00)  DC
          6TH HIGHEST VALUE IS       0.00533 AT (  325823.15,  3795332.59,
151.02,   185.00,    0.00)  DC
          7TH HIGHEST VALUE IS       0.00533 AT (  325796.15,  3795332.59,
151.11,   185.00,    0.00)  DC
          8TH HIGHEST VALUE IS       0.00500 AT (  325796.15,  3795293.59,
150.13,   185.00,    0.00)  DC
          9TH HIGHEST VALUE IS       0.00494 AT (  325877.15,  3795293.59,
149.15,   185.00,    0.00)  DC
         10TH HIGHEST VALUE IS       0.00493 AT (  325823.15,  3795293.59,
150.11,   185.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch
Ranch_Phase4_Construction\Hitch Ranch_Pha ***        11/03/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:43:16

                                  PAGE  39
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
              **

                                                      DATE
                                        NETWORK
GROUP ID                           AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       0.07565  ON 10013003: AT (  325904.15,
3795332.59,   149.61,   185.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   15612 Informational Message(s)

 A Total of   43872 Hours Were Processed

 A Total of   13724 Calm Hours Identified

 A Total of   1888 Missing Hours Identified (4.30 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 MX W481   43873   MAIN: Data Remaining After End of Year. Number of Hours=
        48

    ****
    *** AERMOD Finishes Successfully ***
    ****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/4/2020
** File: C:\Lakes\AERMOD View\Phase5_Mitigated_11.4\Phase5_Mitigated_11.4.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 3 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase5_Mitigated_11.4.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       1.4652E-09     3.000        12
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326182.190 3795741.380 326108.630 3795601.370
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
```

```
**
RE STARTING
   INCLUDED Phase5_Mitigated_11.4.rou
RE FINISHED
**
************************************
** AERMOD Meteorology Pathway
************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
************************************
** AERMOD Output Pathway
************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE5_MITIGATED_11.4.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE5_MITIGATED_11.4.AD\AN00GALL.PLT 32
   SUMMFILE Phase5_Mitigated_11.4.sum
OU FINISHED
**
************************************
** Project Parameters
************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/4/2020
** File: C:\Lakes\AERMOD View\Phase5_Mitigated_11.4\Phase5_Mitigated_11.4.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 3 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase5_Mitigated_11.4.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       1.4652E-09     3.000        12
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326182.190 3795741.380 326108.630 3795601.370
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
```

```
**
RE STARTING
   INCLUDED Phase5_Mitigated_11.4.rou
RE FINISHED
**
*************************************
** AERMOD Meteorology Pathway
*************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
*************************************
** AERMOD Output Pathway
*************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE5_MITIGATED_11.4.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE5_MITIGATED_11.4.AD\AN00GALL.PLT 32
   SUMMFILE Phase5_Mitigated_11.4.sum
OU FINISHED

 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       10:49:49

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -
```

```
 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     841
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE
```

Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) =   24.00 ; Decay
Coef. =   0.000   ; Rot. Angle =   0.0
                  Emission Units = GRAMS/SEC   ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =   3.6 MB of RAM.

 **Input Runstream File: aermod.inp

 **Output Print File: aermod.out

 **Detailed Error/Message File: Phase5_Mitigated_11.4.err

 **File for Summary of Results: Phase5_Mitigated_11.4.sum

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                *** AREAPOLY SOURCE DATA ***

              NUMBER EMISSION RATE   LOCATION OF AREA BASE   RELEASE NUMBER
  INIT.   URBAN EMISSION RATE
   SOURCE   PART. (GRAMS/SEC   X   Y   ELEV.   HEIGHT OF VERTS.
   SZ   SOURCE SCALAR VARY
     ID   CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
(METERS)   BY
 -
- -

 PAREA1   0   0.14652E-08 325117.2 3795248.3   146.0   3.00   12
   0.00   NO

*** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID   SOURCE IDs
 -----------   ----------

  ALL   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

     (326346.0, 3795634.0,   172.5,   190.0,   0.0);   (326414.1, 3795779.7,   180.0,   277.0,   0.0);
     (326435.8, 3795773.5,   176.6,   277.0,   0.0);   (326458.3, 3795772.8,   174.6,   277.0,   0.0);
     (326424.2, 3795858.8,   178.9,   295.0,   0.0);   (326400.2, 3795799.8,   182.9,   277.0,   0.0);
     (326400.9, 3795767.9,   180.8,   277.0,   0.0);   (326424.2, 3795858.8,   178.9,   295.0,   0.0);
     (326611.8, 3795763.0,   168.9,   277.0,   0.0);   (326611.8, 3795763.0,   168.9,   277.0,   0.0);
     (326610.9, 3795777.7,   169.0,   277.0,   0.0);   (326605.9, 3795792.9,   169.0,   277.0,   0.0);
     (326623.9, 3795809.0,   169.6,   277.0,   0.0);   (326627.2, 3795836.6,   170.1,   295.0,   0.0);
     (326640.1, 3795836.6,   170.2,   277.0,   0.0);   (326654.5, 3795868.7,   171.6,   291.0,   0.0);
     (326665.5, 3795883.1,   172.0,   295.0,   0.0);   (326588.3, 3795867.6,   175.1,   277.0,   0.0);
     (326640.5, 3795951.9,   177.0,   295.0,   0.0);   (326658.5, 3795975.6,   175.5,   295.0,   0.0);
     (326759.5, 3796019.3,   178.2,   277.0,   0.0);   (326763.6, 3796031.8,   178.1,   291.0,   0.0);

```
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
     ( 326806.7, 3795493.9,     157.9,     217.0,       0.0);         ( 326824.1,
3795494.4,     157.9,     217.0,       0.0);
     ( 326853.5, 3795481.7,     157.5,     217.0,       0.0);         ( 326898.8,
3795534.4,     158.0,     217.0,       0.0);
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     ( 325796.1, 3795215.6,     149.4,     149.4,       0.0);         ( 325823.1,
3795215.6,     149.0,     149.0,       0.0);
     ( 326012.1, 3795215.6,     150.0,     150.0,       0.0);         ( 326120.1,
3795215.6,     151.0,     151.0,       0.0);
     ( 326147.1, 3795215.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795254.6,     149.4,     185.0,       0.0);
     ( 325823.1, 3795254.6,     149.0,     185.0,       0.0);         ( 325850.1,
3795254.6,     149.0,     149.0,       0.0);
     ( 325877.1, 3795254.6,     149.0,     149.0,       0.0);         ( 325904.1,
3795254.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795254.6,     149.9,     149.9,       0.0);         ( 325958.1,
3795254.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795254.6,     150.0,     150.0,       0.0);         ( 326012.1,
3795254.6,     150.7,     150.7,       0.0);
     ( 326039.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326066.1,
3795254.6,     151.0,     151.0,       0.0);
     ( 326093.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326120.1,
3795254.6,     151.0,     151.0,       0.0);
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       10:49:49

                                  PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     ( 326147.1, 3795254.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795293.6,     150.1,     185.0,       0.0);
     ( 325823.1, 3795293.6,     150.1,     185.0,       0.0);         ( 325850.1,
3795293.6,     149.7,     185.0,       0.0);
     ( 325877.1, 3795293.6,     149.2,     185.0,       0.0);         ( 325904.1,
3795293.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795293.6,     150.0,     150.0,       0.0);         ( 325958.1,
3795293.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795293.6,     150.9,     150.9,       0.0);         ( 326012.1,
3795293.6,     151.2,     151.2,       0.0);
     ( 326039.1, 3795293.6,     151.2,     151.2,       0.0);         ( 326066.1,
3795293.6,     151.7,     151.7,       0.0);
     ( 326093.1, 3795293.6,     152.0,     152.0,       0.0);         ( 326120.1,
3795293.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795293.6,     152.0,     152.0,       0.0);         ( 325796.1,
3795332.6,     151.1,     185.0,       0.0);
     ( 325823.1, 3795332.6,     151.0,     185.0,       0.0);         ( 325850.1,
3795332.6,     150.5,     185.0,       0.0);
     ( 325877.1, 3795332.6,     150.2,     185.0,       0.0);         ( 325904.1,
3795332.6,     149.6,     185.0,       0.0);
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```
     ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
3795332.6,     150.5,     166.0,       0.0);
     ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
     ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
     ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325972.4, 3795004.9,     149.3,     149.3,       0.0);         ( 325997.4,
3795004.9,     149.7,     149.7,       0.0);
     ( 326022.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326122.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326147.4,
3795004.9,     150.3,     150.3,       0.0);
     ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
     ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
     ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795088.9,     150.2,     150.2,       0.0);
     ( 326122.4, 3795088.9,     150.7,     150.7,       0.0);         ( 326147.4,
3795088.9,     151.0,     151.0,       0.0);
     ( 325847.4, 3795130.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795130.9,     149.0,     149.0,       0.0);
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     ( 325897.4, 3795130.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795130.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795130.9,     149.6,     149.6,       0.0);         ( 325972.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 325997.4, 3795130.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795130.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795130.9,     150.6,     150.6,       0.0);         ( 326122.4,
3795130.9,     151.0,     151.0,       0.0);
     ( 326147.4, 3795130.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795172.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795172.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795172.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795172.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795172.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795172.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795172.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795172.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795172.9,     150.2,     150.2,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       10:49:49

                                    PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                       (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                   (METERS)

     ( 326072.4, 3795172.9,     150.8,     150.8,       0.0);         ( 325847.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795214.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795214.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795214.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326072.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326097.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326147.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326096.6, 3795181.5,     151.0,     151.0,       0.0);         ( 326118.6,
3795182.6,     151.0,     151.0,       0.0);
     ( 326144.3, 3795184.1,     151.0,     151.0,       0.0);         ( 325849.7,
3794829.6,     148.0,     148.0,       0.0);
     ( 325892.6, 3794829.6,     148.0,     148.0,       0.0);         ( 325935.5,
3794829.6,     148.8,     148.8,       0.0);
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     ( 325978.3, 3794829.6,     149.0,     149.0,       0.0);         ( 326021.2,
3794829.6,     149.0,     149.0,       0.0);
     ( 326064.1, 3794829.6,     149.5,     149.5,       0.0);         ( 325849.7,
3794867.5,     148.0,     148.0,       0.0);
     ( 325892.6, 3794867.5,     148.8,     148.8,       0.0);         ( 325935.5,
3794867.5,     149.0,     149.0,       0.0);
     ( 325978.3, 3794867.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794867.5,     149.0,     149.0,       0.0);
     ( 326064.1, 3794867.5,     149.5,     149.5,       0.0);         ( 325849.7,
3794905.5,     148.1,     148.1,       0.0);
     ( 325892.6, 3794905.5,     148.9,     148.9,       0.0);         ( 325935.5,
3794905.5,     149.0,     149.0,       0.0);
     ( 325978.3, 3794905.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794905.5,     149.1,     149.1,       0.0);
     ( 326064.1, 3794905.5,     150.0,     150.0,       0.0);         ( 325849.7,
3794943.4,     148.4,     148.4,       0.0);
     ( 325892.6, 3794943.4,     149.0,     149.0,       0.0);         ( 325935.5,
3794943.4,     149.0,     149.0,       0.0);
     ( 325978.3, 3794943.4,     149.0,     149.0,       0.0);         ( 326021.2,
3794943.4,     149.1,     149.1,       0.0);
     ( 326064.1, 3794943.4,     150.0,     150.0,       0.0);         ( 325849.7,
3794981.3,     148.9,     148.9,       0.0);
     ( 325892.6, 3794981.3,     149.0,     149.0,       0.0);         ( 325935.5,
3794981.3,     149.0,     149.0,       0.0);
     ( 325978.3, 3794981.3,     149.0,     149.0,       0.0);         ( 326021.2,
3794981.3,     149.8,     149.8,       0.0);
     ( 326064.1, 3794981.3,     150.0,     150.0,       0.0);         ( 325855.3,
3794726.6,     148.0,     148.0,       0.0);
     ( 325902.6, 3794726.6,     148.0,     148.0,       0.0);         ( 325855.3,
3794745.5,     148.0,     148.0,       0.0);
     ( 325902.6, 3794745.5,     148.0,     148.0,       0.0);         ( 325855.3,
3794764.4,     148.0,     148.0,       0.0);
     ( 325902.6, 3794764.4,     148.0,     148.0,       0.0);         ( 325855.3,
3794783.3,     148.0,     148.0,       0.0);
     ( 325902.6, 3794783.3,     148.0,     148.0,       0.0);         ( 325855.3,
3794802.2,     148.0,     148.0,       0.0);
     ( 325902.6, 3794802.2,     148.0,     148.0,       0.0);         ( 325855.3,
3794821.1,     148.0,     148.0,       0.0);
     ( 325902.6, 3794821.1,     148.1,     148.1,       0.0);         ( 326402.8,
3795249.3,     152.8,     152.8,       0.0);
     ( 325380.5, 3795776.2,     161.0,     295.0,       0.0);         ( 325415.9,
3795858.3,     176.6,     271.0,       0.0);
     ( 325409.9, 3795995.0,     190.3,     271.0,       0.0);         ( 325416.6,
3796058.1,     193.4,     282.0,       0.0);
     ( 325409.6, 3796164.9,     201.8,     291.0,       0.0);         ( 325322.7,
3796083.9,     190.0,     292.0,       0.0);
     ( 325297.9, 3796111.1,     184.9,     295.0,       0.0);         ( 325246.7,
3796076.1,     181.2,     295.0,       0.0);
     ( 325280.0, 3796260.7,     211.4,     292.0,       0.0);         ( 325237.0,
3796200.4,     205.0,     292.0,       0.0);
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326697.8, 3796898.3, 229.7, 293.0, 0.0); (326712.3, 3796916.6, 233.6, 293.0, 0.0);
(326726.6, 3796931.1, 236.4, 290.0, 0.0); (326742.2, 3796948.0, 240.5, 290.0, 0.0);
(326756.6, 3796965.7, 242.1, 290.0, 0.0); (326772.1, 3796973.3, 239.2, 290.0, 0.0);
(326785.2, 3796890.5, 223.1, 293.0, 0.0); (326800.1, 3797003.9, 233.0, 290.0, 0.0);
(326818.0, 3797014.9, 229.2, 290.0, 0.0); (326813.7, 3796843.9, 215.1, 293.0, 0.0);
(326833.9, 3796853.6, 216.3, 293.0, 0.0); (326848.6, 3796873.4, 217.5, 293.0, 0.0);
(326864.2, 3796885.1, 217.7, 293.0, 0.0); (326877.9, 3796901.2, 218.2, 292.0, 0.0);
(326893.8, 3796917.1, 220.4, 292.0, 0.0); (326904.5, 3796938.8, 223.9, 292.0, 0.0);

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     ( 326907.6, 3796966.2,     224.5,     292.0,       0.0);         ( 326914.5,
3796991.7,     227.6,     292.0,       0.0);
     ( 326921.9, 3797038.4,     232.7,     292.0,       0.0);         ( 326596.6,
3797264.1,     273.2,     288.0,       0.0);
     ( 326830.0, 3795735.4,     183.6,     217.0,       0.0);         ( 326866.5,
3795706.9,     182.8,     217.0,       0.0);
     ( 326831.5, 3795646.6,     161.0,     217.0,       0.0);         ( 326872.9,
3795644.9,     160.9,     217.0,       0.0);
     ( 326898.9, 3795644.7,     160.9,     217.0,       0.0);         ( 326924.7,
3795650.1,     161.6,     217.0,       0.0);
     ( 326949.7, 3795646.4,     161.1,     217.0,       0.0);         ( 326975.6,
3795638.8,     162.5,     217.0,       0.0);
     ( 326917.9, 3795602.8,     159.0,     217.0,       0.0);         ( 326918.6,
3795584.1,     158.0,     217.0,       0.0);
     ( 326921.6, 3795563.5,     158.0,     217.0,       0.0);         ( 326917.2,
3795537.1,     158.0,     217.0,       0.0);
     ( 326935.0, 3795592.2,     158.8,     217.0,       0.0);         ( 326951.0,
3795599.5,     159.5,     217.0,       0.0);
     ( 326950.3, 3795555.9,     158.0,     217.0,       0.0);         ( 326951.6,
3795535.1,     158.0,     217.0,       0.0);
     ( 326961.8, 3795537.6,     158.0,     217.0,       0.0);         ( 326982.2,
3795538.3,     158.0,     217.0,       0.0);
     ( 326992.4, 3795539.1,     158.0,     217.0,       0.0);         ( 327009.0,
3795535.6,     158.0,     217.0,       0.0);
     ( 326987.7, 3795581.0,     159.0,     217.0,       0.0);         ( 327024.8,
3795588.4,     160.1,     217.0,       0.0);
     ( 326925.1, 3795485.9,     158.0,     217.0,       0.0);         ( 326937.8,
3795488.3,     158.0,     217.0,       0.0);
     ( 326956.5, 3795489.3,     158.0,     217.0,       0.0);         ( 326970.9,
3795491.0,     158.0,     217.0,       0.0);
     ( 326990.0, 3795487.7,     158.0,     217.0,       0.0);         ( 325049.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325124.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325161.8, 3794362.9,     143.2,     143.2,       0.0);         ( 325199.3,
3794362.9,     143.2,     143.2,       0.0);
     ( 325236.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325274.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325049.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794386.1,     143.0,     143.0,       0.0);
     ( 325124.3, 3794386.1,     143.2,     143.2,       0.0);         ( 325161.8,
3794386.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794386.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794386.1,     143.1,     143.1,       0.0);
     ( 325274.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325049.3,
3794409.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794409.3,     143.0,     143.0,       0.0);         ( 325124.3,
3794409.3,     143.2,     143.2,       0.0);
     ( 325161.8, 3794409.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794409.3,     144.0,     144.0,       0.0);
```

```
     ( 325236.8, 3794409.3,     143.8,     143.8,       0.0);         ( 325274.3,
3794409.3,     143.7,     143.7,       0.0);
     ( 325049.3, 3794432.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794432.5,     143.0,     143.0,       0.0);
     ( 325124.3, 3794432.5,     143.6,     143.6,       0.0);         ( 325161.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325049.3,
3794455.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794455.7,     143.3,     143.3,       0.0);         ( 325124.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325049.3, 3794478.9,     143.0,     143.0,       0.0);         ( 325086.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325124.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325161.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325199.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325236.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325274.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325049.3,
3794502.1,     143.0,     143.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                          ***        10:49:49

                                    PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                       (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                   (METERS)

     ( 325086.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325124.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325161.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325199.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325236.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325274.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325049.3, 3794525.3,     143.0,     143.0,       0.0);         ( 325086.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325124.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325161.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325199.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325236.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
```

```
     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794687.7,     145.0,     145.0,       0.0);
     ( 324871.6, 3794298.6,     141.0,     141.0,       0.0);         ( 324910.5,
3794298.6,     141.1,     141.1,       0.0);
```

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     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794074.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794074.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794074.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794074.7,     137.8,     137.8,       0.0);
     ( 324596.8, 3794074.7,     137.6,     137.6,       0.0);         ( 324633.8,
3794074.7,     137.1,     137.1,       0.0);
     ( 324670.7, 3794074.7,     137.0,     137.0,       0.0);         ( 324707.7,
3794074.7,     137.2,     137.2,       0.0);
     ( 324744.6, 3794074.7,     137.9,     137.9,       0.0);         ( 324781.6,
3794074.7,     139.3,     139.3,       0.0);
     ( 324449.0, 3794106.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794106.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794106.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794106.7,     138.0,     138.0,       0.0);
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(324522.9, 3794202.6, 138.2, 138.2, 0.0); (324559.9,
3794202.6, 139.0, 139.0, 0.0);
(324596.8, 3794202.6, 139.0, 139.0, 0.0); (324633.8,
3794202.6, 139.0, 139.0, 0.0);
(324670.7, 3794202.6, 139.9, 139.9, 0.0); (324707.7,
3794202.6, 140.0, 140.0, 0.0);
(324744.6, 3794202.6, 140.0, 140.0, 0.0); (324781.6,
3794202.6, 140.8, 140.8, 0.0);
(324449.0, 3794234.5, 138.0, 138.0, 0.0); (324486.0,
3794234.5, 138.0, 138.0, 0.0);

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     ( 324522.9, 3794234.5,     138.2,     138.2,       0.0);         ( 324559.9,
3794234.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794234.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794234.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794234.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794234.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794234.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794234.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794266.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794266.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794266.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794266.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794266.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794266.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794266.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794266.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794266.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794266.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794298.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794298.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794298.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794298.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794298.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794298.5,     139.9,     139.9,       0.0);
     ( 324670.7, 3794298.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794298.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794298.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794298.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794330.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794330.4,     138.1,     138.1,       0.0);
     ( 324522.9, 3794330.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794330.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794330.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794330.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794330.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794330.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794330.4,     140.1,     140.1,       0.0);         ( 324781.6,
3794330.4,     140.8,     140.8,       0.0);
     ( 324449.0, 3794362.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794362.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794362.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794362.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794362.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794362.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794362.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794362.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794362.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794362.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794394.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794394.4,     138.9,     138.9,       0.0);
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(324522.9, 3794394.4, 139.0, 139.0, 0.0); (324559.9, 3794394.4, 139.0, 139.0, 0.0);
(324596.8, 3794394.4, 139.0, 139.0, 0.0); (324633.8, 3794394.4, 139.9, 139.9, 0.0);
(324670.7, 3794394.4, 140.0, 140.0, 0.0); (324707.7, 3794394.4, 140.0, 140.0, 0.0);
(324744.6, 3794394.4, 140.6, 140.6, 0.0); (324781.6, 3794394.4, 141.0, 141.0, 0.0);
(324449.0, 3794426.4, 138.2, 138.2, 0.0); (324486.0, 3794426.4, 139.0, 139.0, 0.0);
(324522.9, 3794426.4, 139.0, 139.0, 0.0); (324559.9, 3794426.4, 139.0, 139.0, 0.0);
(324596.8, 3794426.4, 139.0, 139.0, 0.0); (324633.8, 3794426.4, 139.9, 139.9, 0.0);
(324670.7, 3794426.4, 140.0, 140.0, 0.0); (324707.7, 3794426.4, 140.1, 140.1, 0.0);
(324744.6, 3794426.4, 140.7, 140.7, 0.0); (324781.6, 3794426.4, 141.0, 141.0, 0.0);
(324449.0, 3794458.3, 138.7, 138.7, 0.0); (324486.0, 3794458.3, 139.0, 139.0, 0.0);
(324522.9, 3794458.3, 139.0, 139.0, 0.0); (324559.9, 3794458.3, 139.0, 139.0, 0.0);
(324596.8, 3794458.3, 139.2, 139.2, 0.0); (324633.8, 3794458.3, 139.9, 139.9, 0.0);
(324670.7, 3794458.3, 140.0, 140.0, 0.0); (324707.7, 3794458.3, 140.3, 140.3, 0.0);
(324744.6, 3794458.3, 141.0, 141.0, 0.0); (324781.6, 3794458.3, 141.0, 141.0, 0.0);
(324449.0, 3794490.3, 138.7, 138.7, 0.0); (324486.0, 3794490.3, 139.0, 139.0, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(324522.9, 3794490.3, 139.0, 139.0, 0.0); (324559.9, 3794490.3, 139.0, 139.0, 0.0);
(324596.8, 3794490.3, 139.6, 139.6, 0.0); (324633.8, 3794490.3, 140.0, 140.0, 0.0);
(324670.7, 3794490.3, 140.0, 140.0, 0.0); (324707.7, 3794490.3, 140.3, 140.3, 0.0);
(324744.6, 3794490.3, 141.0, 141.0, 0.0); (324781.6, 3794490.3, 141.0, 141.0, 0.0);

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     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794522.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794522.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794522.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794522.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794554.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794554.2,     139.2,     139.2,       0.0);
     ( 324596.8, 3794554.2,     139.8,     139.8,       0.0);         ( 324633.8,
3794554.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794554.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794554.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794586.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794586.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794586.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794586.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794586.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794586.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794586.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794586.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794586.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794586.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794618.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794618.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794618.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794618.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794618.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794618.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794618.2,     140.1,     140.1,       0.0);         ( 324707.7,
3794618.2,     140.8,     140.8,       0.0);
     ( 324744.6, 3794618.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794618.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794650.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794650.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794650.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794650.1,     141.0,     141.0,       0.0);
```

```
     ( 324449.0, 3794682.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794682.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794682.1,     139.1,     139.1,       0.0);         ( 324559.9,
3794682.1,     139.9,     139.9,       0.0);
     ( 324596.8, 3794682.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794682.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794682.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794682.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794682.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794682.1,     141.0,     141.0,       0.0);
     ( 326547.4, 3795022.1,     153.0,     153.0,       0.0);         ( 326594.7,
3795022.1,     153.3,     153.3,       0.0);
     ( 326642.0, 3795022.1,     154.0,     154.0,       0.0);         ( 326547.4,
3795042.5,     153.0,     153.0,       0.0);
     ( 326594.7, 3795042.5,     153.9,     153.9,       0.0);         ( 326642.0,
3795042.5,     154.0,     154.0,       0.0);
     ( 326547.4, 3795062.9,     153.0,     153.0,       0.0);         ( 326594.7,
3795062.9,     154.0,     154.0,       0.0);
     ( 326642.0, 3795062.9,     154.0,     154.0,       0.0);         ( 326547.4,
3795083.3,     153.1,     153.1,       0.0);
     ( 326594.7, 3795083.3,     154.0,     154.0,       0.0);         ( 326642.0,
3795083.3,     154.0,     154.0,       0.0);
     ( 326547.4, 3795103.7,     153.6,     153.6,       0.0);         ( 326594.7,
3795103.7,     154.0,     154.0,       0.0);
     ( 326642.0, 3795103.7,     154.0,     154.0,       0.0);         ( 326547.4,
3795124.1,     153.6,     153.6,       0.0);
     ( 326594.7, 3795124.1,     154.0,     154.0,       0.0);         ( 326642.0,
3795124.1,     154.0,     154.0,       0.0);
     ( 326547.4, 3795144.5,     153.7,     153.7,       0.0);         ( 326594.7,
3795144.5,     154.0,     154.0,       0.0);
     ( 326642.0, 3795144.5,     154.0,     154.0,       0.0);         ( 326547.4,
3795164.9,     154.0,     154.0,       0.0);
♠ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       10:49:49

                                   PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                                 *** DISCRETE CARTESIAN RECEPTORS ***
                                               (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                          (METERS)

     ( 326594.7, 3795164.9,     154.0,     154.0,       0.0);         ( 326642.0,
3795164.9,     154.0,     154.0,       0.0);
     ( 326547.4, 3795185.3,     154.0,     154.0,       0.0);         ( 326594.7,
3795185.3,     154.0,     154.0,       0.0);
     ( 326642.0, 3795185.3,     154.0,     154.0,       0.0);         ( 326547.4,
3795205.7,     154.0,     154.0,       0.0);
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```
     ( 326594.7, 3795205.7,     154.0,     154.0,       0.0);         ( 326642.0,
3795205.7,     154.2,     154.2,       0.0);
     ( 326547.4, 3795226.1,     154.0,     154.0,       0.0);         ( 326594.7,
3795226.1,     154.0,     154.0,       0.0);
     ( 326642.0, 3795226.1,     154.8,     154.8,       0.0);         ( 326547.4,
3795246.5,     154.0,     154.0,       0.0);
     ( 326594.7, 3795246.5,     154.1,     154.1,       0.0);         ( 326642.0,
3795246.5,     154.9,     154.9,       0.0);
     ( 326690.4, 3795243.4,     155.0,     155.0,       0.0);         ( 326688.7,
3795223.0,     155.0,     155.0,       0.0);
     ( 326686.0, 3795005.8,     154.0,     154.0,       0.0);         ( 326686.0,
3795033.7,     154.1,     154.1,       0.0);
     ( 326686.0, 3795061.5,     154.3,     154.3,       0.0);         ( 326686.0,
3795089.4,     154.3,     154.3,       0.0);
     ( 326686.0, 3795117.3,     154.3,     154.3,       0.0);         ( 326686.0,
3795145.2,     154.3,     154.3,       0.0);
     ( 326686.0, 3795173.1,     154.4,     154.4,       0.0);         ( 326686.0,
3795201.0,     155.0,     155.0,       0.0);
     ( 326832.8, 3795263.3,     155.3,     155.3,       0.0);         ( 326849.7,
3795263.3,     155.8,     155.8,       0.0);
     ( 326866.5, 3795263.3,     156.0,     156.0,       0.0);         ( 326883.4,
3795263.3,     156.0,     156.0,       0.0);
     ( 326900.3, 3795263.3,     156.0,     156.0,       0.0);         ( 326917.1,
3795263.3,     156.0,     156.0,       0.0);
     ( 326934.0, 3795263.3,     156.5,     156.5,       0.0);         ( 326950.9,
3795263.3,     157.0,     157.0,       0.0);
     ( 326967.8, 3795263.3,     157.0,     157.0,       0.0);         ( 326984.6,
3795263.3,     157.2,     157.2,       0.0);
     ( 327001.5, 3795263.3,     157.8,     157.8,       0.0);         ( 327036.8,
3795141.3,     157.0,     157.0,       0.0);
     ( 327075.7, 3795141.3,     158.0,     158.0,       0.0);         ( 327036.8,
3795160.9,     157.0,     157.0,       0.0);
     ( 327075.7, 3795160.9,     158.0,     158.0,       0.0);         ( 327036.8,
3795180.5,     157.0,     157.0,       0.0);
     ( 327075.7, 3795180.5,     158.0,     158.0,       0.0);         ( 327036.8,
3795200.0,     157.1,     157.1,       0.0);
     ( 327075.7, 3795200.0,     158.0,     158.0,       0.0);         ( 327036.8,
3795219.6,     157.7,     157.7,       0.0);
     ( 327075.7, 3795219.6,     158.0,     158.0,       0.0);         ( 327036.8,
3795239.1,     158.0,     158.0,       0.0);
     ( 327075.7, 3795239.1,     158.0,     158.0,       0.0);         ( 327036.8,
3795258.7,     158.0,     158.0,       0.0);
     ( 327075.7, 3795258.7,     158.0,     158.0,       0.0);         ( 327036.8,
3795278.3,     158.0,     158.0,       0.0);
     ( 327075.7, 3795278.3,     158.0,     158.0,       0.0);         ( 326840.0,
3795223.2,     155.4,     155.4,       0.0);
     ( 326860.6, 3795224.2,     156.0,     156.0,       0.0);         ( 326877.3,
3795222.7,     156.0,     156.0,       0.0);
     ( 326929.7, 3795223.7,     156.4,     156.4,       0.0);         ( 326932.9,
3795200.0,     156.5,     156.5,       0.0);
```

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     ( 326972.3, 3795217.0,     157.0,     157.0,       0.0);         ( 326970.8,
3795177.6,     157.0,     157.0,       0.0);
     ( 326968.2, 3795152.5,     157.0,     157.0,       0.0);         ( 326998.4,
3795149.8,     157.0,     157.0,       0.0);
     ( 326997.5, 3795176.6,     157.0,     157.0,       0.0);         ( 326995.6,
3795193.0,     157.0,     157.0,       0.0);
     ( 326996.9, 3795215.8,     157.0,     157.0,       0.0);         ( 326917.0,
3795152.2,     156.0,     156.0,       0.0);
     ( 326902.0, 3795150.5,     156.0,     156.0,       0.0);         ( 326884.2,
3795164.4,     156.0,     156.0,       0.0);
     ( 326867.3, 3795151.3,     156.0,     156.0,       0.0);         ( 326873.2,
3795163.4,     156.0,     156.0,       0.0);
     ( 326845.5, 3795152.1,     155.6,     155.6,       0.0);         ( 326824.9,
3795151.4,     155.0,     155.0,       0.0);
     ( 326826.6, 3795170.6,     155.0,     155.0,       0.0);         ( 326840.5,
3795180.2,     155.4,     155.4,       0.0);
     ( 326799.4, 3795148.0,     155.0,     155.0,       0.0);         ( 326776.8,
3795147.9,     155.0,     155.0,       0.0);
     ( 326738.0, 3795152.7,     155.0,     155.0,       0.0);         ( 326781.3,
3795110.8,     155.0,     155.0,       0.0);
     ( 326806.1, 3795109.0,     155.2,     155.2,       0.0);         ( 326804.5,
3795090.7,     155.2,     155.2,       0.0);
     ( 326781.8, 3795086.7,     155.0,     155.0,       0.0);         ( 326787.4,
3795061.8,     155.0,     155.0,       0.0);
     ( 326794.0, 3795031.2,     155.0,     155.0,       0.0);         ( 326977.5,
3795110.7,     157.0,     157.0,       0.0);
     ( 326994.0, 3795107.9,     157.0,     157.0,       0.0);         ( 326984.5,
3795093.8,     157.0,     157.0,       0.0);
     ( 326972.8, 3795082.4,     157.0,     157.0,       0.0);         ( 326995.4,
3795072.5,     157.0,     157.0,       0.0);
     ( 326993.2, 3795060.0,     157.0,     157.0,       0.0);         ( 326984.6,
3795040.8,     157.0,     157.0,       0.0);
     ( 326981.7, 3795027.2,     157.0,     157.0,       0.0);         ( 327041.5,
3795102.1,     157.1,     157.1,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       10:49:49

                                    PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 327065.2, 3795095.8,     157.9,     157.9,       0.0);         ( 327040.9,
3795076.3,     157.1,     157.1,       0.0);
     ( 327061.2, 3795058.3,     157.8,     157.8,       0.0);         ( 327037.8,
3795061.1,     157.0,     157.0,       0.0);
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     ( 327035.6, 3795040.6,     157.0,     157.0,       0.0);         ( 327058.9,
3795038.4,     157.7,     157.7,       0.0);
     ( 327051.5, 3795017.8,     157.4,     157.4,       0.0);         ( 327033.3,
3795021.7,     157.0,     157.0,       0.0);
     ( 326826.3, 3795110.8,     155.8,     155.8,       0.0);         ( 326843.3,
3795110.8,     155.9,     155.9,       0.0);
     ( 326860.3, 3795110.8,     156.0,     156.0,       0.0);         ( 326877.3,
3795110.8,     156.0,     156.0,       0.0);
     ( 326894.4, 3795110.8,     156.0,     156.0,       0.0);         ( 326911.4,
3795110.8,     156.0,     156.0,       0.0);
     ( 326928.4, 3795110.8,     156.3,     156.3,       0.0);         ( 326945.5,
3795110.8,     156.9,     156.9,       0.0);
     ( 326820.0, 3795048.9,     155.7,     155.7,       0.0);         ( 326838.2,
3795048.9,     156.0,     156.0,       0.0);
     ( 326856.4, 3795048.9,     156.0,     156.0,       0.0);         ( 326874.6,
3795048.9,     156.0,     156.0,       0.0);
     ( 326892.8, 3795048.9,     156.0,     156.0,       0.0);         ( 326911.0,
3795048.9,     156.0,     156.0,       0.0);
     ( 326929.2, 3795048.9,     156.4,     156.4,       0.0);         ( 326947.4,
3795048.9,     157.0,     157.0,       0.0);
     ( 325652.3, 3795689.5,     172.4,     271.0,       0.0);         ( 325747.8,
3795796.2,     179.1,     295.0,       0.0);
     ( 326251.1, 3796043.8,     195.4,     295.0,       0.0);         ( 326263.9,
3795852.4,     183.1,     295.0,       0.0);
     ( 326170.8, 3795648.4,     173.3,     173.3,       0.0);         ( 326148.1,
3795505.9,     161.2,     182.0,       0.0);
     ( 325511.5, 3795586.4,     181.9,     181.9,       0.0);

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       10:49:49

                                   PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                              (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
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            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926. Met Version: 14134
Profile file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926.
Surface format: FREE

Profile format: FREE

Surface station no.: 23136 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	281.4	2.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.9	2.0

```
 09 01 01   1 03   -3.3  0.067 -9.000 -9.000 -999.   42.      8.3  0.05   0.81
1.00    1.76  214.   10.0  280.9    2.0
 09 01 01   1 04 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 05   -6.6  0.115 -9.000 -9.000 -999.   94.     21.1  0.03   0.81
1.00    2.36   93.   10.0  280.4    2.0
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00   281.5   99.0  -99.00  -99.00
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3796126.62 0.00098
326836.27 3796140.13 0.00097 326800.95
3796123.31 0.00109
326762.39 3796138.51 0.00104 326766.63
3796155.18 0.00094
326774.14 3796169.68 0.00088 326798.07
3796201.57 0.00077
326808.84 3796229.51 0.00068 326880.95
3796184.59 0.00080
326915.56 3796260.01 0.00067 326941.07
3796261.11 0.00063
326958.24 3796277.25 0.00060 326964.89
3796291.08 0.00057
326984.47 3796322.92 0.00054 326993.31
3796349.42 0.00052
326993.49 3796365.88 0.00051 327007.03
3796382.47 0.00049
326972.07 3796390.18 0.00048 326996.78
3796414.54 0.00047
326693.51 3795789.66 0.00116 326695.37
3795771.29 0.00116
326727.00 3795761.34 0.00112 326758.55
3795787.48 0.00091
326761.76 3795813.54 0.00081 326742.22
3795837.06 0.00082
326838.64 3795823.91 0.00067 326811.45
3795889.81 0.00065
326823.87 3795855.97 0.00063 326876.62
3795837.29 0.00058
326889.30 3795888.54 0.00056 326687.45
3795683.69 0.00207
326829.20 3795731.31 0.00090 326859.14
3795703.62 0.00085
326881.10 3795705.58 0.00090 326787.44
3795607.00 0.00229
326780.76 3795563.55 0.00241 326800.04
3795542.65 0.00243
326808.89 3795540.15 0.00244 326825.79
3795543.65 0.00246
326856.70 3795545.31 0.00241 326792.33
3795494.19 0.00240
326806.68 3795493.93 0.00238 326824.07
3795494.42 0.00235
326853.52 3795481.71 0.00233 326898.80
3795534.37 0.00231
325796.15 3795215.59 0.00372 325823.15
3795215.59 0.00362
326012.15 3795215.59 0.00294 326120.15
3795215.59 0.00270
326147.15 3795215.59 0.00267 325796.15

3795254.59   0.00428
         325823.15   3795254.59   0.00416   325850.15
3795254.59   0.00401

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 - - -

3795332.59 0.00520
325823.15 3795332.59 0.00501 325850.15
3795332.59 0.00518
325877.15 3795332.59 0.00501 325904.15
3795332.59 0.00487
325931.15 3795332.59 0.00463 325958.15
3795332.59 0.00442
325985.15 3795332.59 0.00390 326012.15
3795332.59 0.00369
326039.15 3795332.59 0.00357 326066.15
3795332.59 0.00349
326093.15 3795332.59 0.00342 326120.15
3795332.59 0.00337
326147.15 3795332.59 0.00332 325847.44
3795004.89 0.00185
325872.44 3795004.89 0.00182 325897.44
3795004.89 0.00179
325922.44 3795004.89 0.00177 325947.44
3795004.89 0.00175
325972.44 3795004.89 0.00173 325997.44
3795004.89 0.00171
326022.44 3795004.89 0.00169 326047.44
3795004.89 0.00168
326072.44 3795004.89 0.00167 326097.44
3795004.89 0.00166
326122.44 3795004.89 0.00166 326147.44
3795004.89 0.00164
325847.44 3795046.89 0.00208 325872.44
3795046.89 0.00204
325897.44 3795046.89 0.00201 325922.44
3795046.89 0.00198
325947.44 3795046.89 0.00195 325972.44
3795046.89 0.00192
325997.44 3795046.89 0.00189 326022.44
3795046.89 0.00187
326047.44 3795046.89 0.00186 326072.44
3795046.89 0.00184
326097.44 3795046.89 0.00183 326122.44
3795046.89 0.00181
326147.44 3795046.89 0.00179 325847.44
3795088.89 0.00235
325872.44 3795088.89 0.00230 325897.44
3795088.89 0.00226
325922.44 3795088.89 0.00222 325947.44
3795088.89 0.00217
325972.44 3795088.89 0.00213 325997.44
3795088.89 0.00210
326022.44 3795088.89 0.00208 326047.44
3795088.89 0.00206
326072.44 3795088.89 0.00204 326097.44

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5
YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_2.5 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325897.44	3795130.89	0.00255	325922.44	3795130.89	0.00250
325947.44	3795130.89	0.00244	325972.44	3795130.89	0.00239
325997.44	3795130.89	0.00235	326022.44	3795130.89	0.00232
326047.44	3795130.89	0.00229	326072.44	3795130.89	0.00226
326097.44	3795130.89	0.00222	326122.44	3795130.89	0.00219
326147.44	3795130.89	0.00217	325847.44	3795172.89	0.00305
325872.44	3795172.89	0.00298	325897.44	3795172.89	0.00290
325922.44	3795172.89	0.00284	325947.44	3795172.89	0.00275
325972.44	3795172.89	0.00268	325997.44	3795172.89	0.00264
326022.44	3795172.89	0.00259	326047.44	3795172.89	0.00255
326072.44	3795172.89	0.00248	325847.44	3795214.89	0.00351
325872.44	3795214.89	0.00341	325897.44		

3795214.89 0.00331
325922.44 3795214.89 0.00323 325947.44
3795214.89 0.00312
325972.44 3795214.89 0.00303 325997.44
3795214.89 0.00297
326047.44 3795214.89 0.00281 326072.44
3795214.89 0.00277
326097.44 3795214.89 0.00273 326147.44
3795214.89 0.00266
326096.58 3795181.52 0.00250 326118.63
3795182.57 0.00248
326144.35 3795184.14 0.00247 325849.74
3794829.62 0.00120
325892.61 3794829.62 0.00119 325935.48
3794829.62 0.00117
325978.35 3794829.62 0.00116 326021.22
3794829.62 0.00115
326064.09 3794829.62 0.00115 325849.74
3794867.55 0.00131
325892.61 3794867.55 0.00128 325935.48
3794867.55 0.00127
325978.35 3794867.55 0.00126 326021.22
3794867.55 0.00125
326064.09 3794867.55 0.00124 325849.74
3794905.48 0.00144
325892.61 3794905.48 0.00140 325935.48
3794905.48 0.00138
325978.35 3794905.48 0.00137 326021.22
3794905.48 0.00136
326064.09 3794905.48 0.00134 325849.74
3794943.41 0.00158
325892.61 3794943.41 0.00154 325935.48
3794943.41 0.00151
325978.35 3794943.41 0.00149 326021.22
3794943.41 0.00148
326064.09 3794943.41 0.00145 325849.74
3794981.34 0.00173
325892.61 3794981.34 0.00169 325935.48
3794981.34 0.00166
325978.35 3794981.34 0.00163 326021.22
3794981.34 0.00160
326064.09 3794981.34 0.00158 325855.31
3794726.62 0.00097
325902.64 3794726.62 0.00096 325855.31
3794745.52 0.00101
325902.64 3794745.52 0.00100 325855.31
3794764.42 0.00105
325902.64 3794764.42 0.00103 325855.31
3794783.32 0.00109
325902.64 3794783.32 0.00107 325855.31

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5
YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_2.5 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325409.93	3795994.97	0.00127	325416.60	3796058.09	0.00106
325409.65	3796164.95	0.00044	325322.71	3796083.91	0.00059
325297.93	3796111.07	0.00051	325246.73	3796076.15	0.00060
325280.01	3796260.66	0.00010	325237.05	3796200.45	0.00014
325163.03	3796071.11	0.00050	325215.74	3795991.41	0.00094
325208.29	3795926.88	0.00141	325249.48	3795829.20	0.00210
325171.49	3795759.19	0.00365	325129.24	3795756.40	0.00411
325154.75	3795886.20	0.00181	325068.55	3795885.45	0.00124
325047.86	3795938.00	0.00083	325045.84	3795982.69	0.00068
325071.95	3796106.74	0.00037	325060.64	3796290.38	0.00010
324903.71	3796379.80	0.00004	324787.84		

3796510.42 0.00006
324916.48 3796618.27 0.00005 326492.96
3796356.32 0.00091
326552.73 3796900.01 0.00020 326599.30
3796893.60 0.00020
326617.42 3796889.51 0.00021 326639.41
3796881.91 0.00021
326663.73 3796864.08 0.00023 326679.47
3796885.20 0.00022
326697.81 3796898.31 0.00021 326712.34
3796916.60 0.00020
326726.62 3796931.14 0.00019 326742.23
3796948.02 0.00019
326756.58 3796965.73 0.00018 326772.07
3796973.30 0.00018
326785.22 3796890.50 0.00022 326800.10
3797003.95 0.00018
326817.96 3797014.86 0.00018 326813.74
3796843.93 0.00025
326833.92 3796853.59 0.00024 326848.61
3796873.43 0.00023
326864.19 3796885.12 0.00023 326877.92
3796901.20 0.00022
326893.85 3796917.11 0.00021 326904.49
3796938.77 0.00020
326907.64 3796966.22 0.00019 326914.45
3796991.73 0.00018
326921.92 3797038.42 0.00017 326596.56
3797264.10 0.00010
326829.98 3795735.43 0.00087 326866.53
3795706.88 0.00084
326831.50 3795646.57 0.00222 326872.90
3795644.95 0.00215
326898.91 3795644.66 0.00210 326924.66
3795650.14 0.00197
326949.68 3795646.43 0.00198 326975.59
3795638.84 0.00177
326917.88 3795602.78 0.00225 326918.63
3795584.13 0.00235
326921.61 3795563.48 0.00231 326917.18
3795537.15 0.00228
326934.99 3795592.17 0.00223 326951.04
3795599.47 0.00212
326950.26 3795555.95 0.00225 326951.59
3795535.07 0.00221
326961.83 3795537.57 0.00220 326982.25
3795538.33 0.00216
326992.41 3795539.09 0.00215 327008.98
3795535.58 0.00211
326987.68 3795580.97 0.00208 327024.81

```
3795588.42        0.00190
         326925.07    3795485.95        0.00217                       326937.83
3795488.27        0.00215
         326956.45    3795489.28        0.00213                       326970.89
3795491.03        0.00211
         326989.96    3795487.68        0.00207                       325049.27
3794362.92        0.00097
         325086.77    3794362.92        0.00093                       325124.27
3794362.92        0.00090
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        10:49:49

                                  PAGE  20
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         325161.77    3794362.92        0.00086                       325199.27
3794362.92        0.00083
         325236.77    3794362.92        0.00080                       325274.27
3794362.92        0.00077
         325049.27    3794386.12        0.00100                       325086.77
3794386.12        0.00097
         325124.27    3794386.12        0.00093                       325161.77
3794386.12        0.00091
         325199.27    3794386.12        0.00087                       325236.77
3794386.12        0.00083
         325274.27    3794386.12        0.00080                       325049.27
3794409.32        0.00104
         325086.77    3794409.32        0.00100                       325124.27
3794409.32        0.00097
         325161.77    3794409.32        0.00094                       325199.27
3794409.32        0.00091
         325236.77    3794409.32        0.00087                       325274.27
3794409.32        0.00084
         325049.27    3794432.52        0.00108                       325086.77
```

3794432.52 0.00104
325124.27 3794432.52 0.00101 325161.77
3794432.52 0.00098
325199.27 3794432.52 0.00095 325236.77
3794432.52 0.00091
325274.27 3794432.52 0.00088 325049.27
3794455.72 0.00113
325086.77 3794455.72 0.00109 325124.27
3794455.72 0.00106
325161.77 3794455.72 0.00102 325199.27
3794455.72 0.00099
325236.77 3794455.72 0.00095 325274.27
3794455.72 0.00092
325049.27 3794478.92 0.00117 325086.77
3794478.92 0.00114
325124.27 3794478.92 0.00110 325161.77
3794478.92 0.00106
325199.27 3794478.92 0.00103 325236.77
3794478.92 0.00099
325274.27 3794478.92 0.00095 325049.27
3794502.12 0.00122
325086.77 3794502.12 0.00119 325124.27
3794502.12 0.00115
325161.77 3794502.12 0.00111 325199.27
3794502.12 0.00107
325236.77 3794502.12 0.00103 325274.27
3794502.12 0.00099
325049.27 3794525.32 0.00127 325086.77
3794525.32 0.00124
325124.27 3794525.32 0.00120 325161.77
3794525.32 0.00115
325199.27 3794525.32 0.00111 325236.77
3794525.32 0.00107
325274.27 3794525.32 0.00104 325049.27
3794548.52 0.00132
325086.77 3794548.52 0.00129 325124.27
3794548.52 0.00125
325161.77 3794548.52 0.00120 325199.27
3794548.52 0.00116
325236.77 3794548.52 0.00112 325274.27
3794548.52 0.00108
325049.27 3794571.72 0.00138 325086.77
3794571.72 0.00135
325124.27 3794571.72 0.00130 325161.77
3794571.72 0.00126
325199.27 3794571.72 0.00121 325236.77
3794571.72 0.00117
325274.27 3794571.72 0.00113 325049.27
3794594.92 0.00144
325086.77 3794594.92 0.00141 325124.27

3794594.92   0.00136
         325161.77   3794594.92   0.00131   325199.27
3794594.92   0.00127
         325236.77   3794594.92   0.00122   325274.27
3794594.92   0.00118
         325049.27   3794618.12   0.00151   325086.77
3794618.12   0.00148
         325124.27   3794618.12   0.00142   325161.77
3794618.12   0.00137
         325199.27   3794618.12   0.00132   325236.77
3794618.12   0.00128

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                            ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 - - -

3794687.72 0.00163
325161.77 3794687.72 0.00157 325199.27
3794687.72 0.00152
325236.77 3794687.72 0.00146 325274.27
3794687.72 0.00143
324871.62 3794298.63 0.00100 324910.53
3794298.63 0.00096
324949.44 3794298.63 0.00095 324988.35
3794298.63 0.00091
324871.62 3794320.43 0.00103 324910.53
3794320.43 0.00101
324949.44 3794320.43 0.00098 324988.35
3794320.43 0.00094
324871.62 3794342.23 0.00106 324910.53
3794342.23 0.00105
324949.44 3794342.23 0.00101 324988.35
3794342.23 0.00098
324871.62 3794364.03 0.00110 324910.53
3794364.03 0.00108
324949.44 3794364.03 0.00105 324988.35
3794364.03 0.00101
324871.62 3794385.83 0.00115 324910.53
3794385.83 0.00112
324949.44 3794385.83 0.00108 324988.35
3794385.83 0.00106
324871.62 3794407.63 0.00120 324910.53
3794407.63 0.00116
324949.44 3794407.63 0.00112 324988.35
3794407.63 0.00109
324871.62 3794429.43 0.00124 324910.53
3794429.43 0.00120
324949.44 3794429.43 0.00116 324988.35
3794429.43 0.00113
324871.62 3794451.23 0.00129 324910.53
3794451.23 0.00125
324949.44 3794451.23 0.00121 324988.35
3794451.23 0.00118
324871.62 3794473.03 0.00134 324910.53
3794473.03 0.00130
324949.44 3794473.03 0.00126 324988.35
3794473.03 0.00123
324871.62 3794494.83 0.00140 324910.53
3794494.83 0.00135
324949.44 3794494.83 0.00131 324988.35
3794494.83 0.00127
324871.62 3794516.63 0.00145 324910.53
3794516.63 0.00140
324949.44 3794516.63 0.00136 324988.35
3794516.63 0.00132
324871.62 3794538.43 0.00151 324910.53

3794538.43   0.00146
         324949.44   3794538.43   0.00142   324988.35
3794538.43   0.00138
         324871.62   3794560.23   0.00158   324910.53
3794560.23   0.00152
         324949.44   3794560.23   0.00147   324988.35
3794560.23   0.00144
         324871.62   3794582.03   0.00165   324910.53
3794582.03   0.00159
         324949.44   3794582.03   0.00154   324988.35
3794582.03   0.00150
         324871.62   3794603.83   0.00172   324910.53
3794603.83   0.00166

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                   INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3794691.03 0.00198
324949.44 3794691.03 0.00194 324988.35
3794691.03 0.00186
324449.04 3794074.69 0.00093 324485.99
3794074.69 0.00091
324522.94 3794074.69 0.00089 324559.89
3794074.69 0.00087
324596.84 3794074.69 0.00085 324633.79
3794074.69 0.00082
324670.74 3794074.69 0.00080 324707.69
3794074.69 0.00078
324744.64 3794074.69 0.00077 324781.59
3794074.69 0.00076
324449.04 3794106.66 0.00097 324485.99
3794106.66 0.00095
324522.94 3794106.66 0.00093 324559.89
3794106.66 0.00091
324596.84 3794106.66 0.00089 324633.79
3794106.66 0.00087
324670.74 3794106.66 0.00084 324707.69
3794106.66 0.00082
324744.64 3794106.66 0.00082 324781.59
3794106.66 0.00080
324449.04 3794138.63 0.00101 324485.99
3794138.63 0.00099
324522.94 3794138.63 0.00097 324559.89
3794138.63 0.00095
324596.84 3794138.63 0.00093 324633.79
3794138.63 0.00092
324670.74 3794138.63 0.00089 324707.69
3794138.63 0.00087
324744.64 3794138.63 0.00086 324781.59
3794138.63 0.00084
324449.04 3794170.60 0.00105 324485.99
3794170.60 0.00103
324522.94 3794170.60 0.00102 324559.89
3794170.60 0.00101
324596.84 3794170.60 0.00098 324633.79
3794170.60 0.00096
324670.74 3794170.60 0.00094 324707.69
3794170.60 0.00093
324744.64 3794170.60 0.00090 324781.59
3794170.60 0.00088
324449.04 3794202.57 0.00110 324485.99
3794202.57 0.00108
324522.94 3794202.57 0.00106 324559.89
3794202.57 0.00105
324596.84 3794202.57 0.00103 324633.79
3794202.57 0.00101
324670.74 3794202.57 0.00100 324707.69

3794202.57   0.00097
         324744.64   3794202.57   0.00094   324781.59
3794202.57   0.00093
         324449.04   3794234.54   0.00115   324485.99
3794234.54   0.00113
         324522.94   3794234.54   0.00111   324559.89
3794234.54   0.00110
         324596.84   3794234.54   0.00108   324633.79
3794234.54   0.00106
         324670.74   3794234.54   0.00104   324707.69
3794234.54   0.00102
         324744.64   3794234.54   0.00099   324781.59
3794234.54   0.00097
         324449.04   3794266.51   0.00120   324485.99
3794266.51   0.00118

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                   INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                            ** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3794298.48 0.00118
324670.74 3794298.48 0.00115 324707.69
3794298.48 0.00112
324744.64 3794298.48 0.00109 324781.59
3794298.48 0.00107
324449.04 3794330.45 0.00131 324485.99
3794330.45 0.00129
324522.94 3794330.45 0.00129 324559.89
3794330.45 0.00127
324596.84 3794330.45 0.00124 324633.79
3794330.45 0.00123
324670.74 3794330.45 0.00121 324707.69
3794330.45 0.00118
324744.64 3794330.45 0.00114 324781.59
3794330.45 0.00112
324449.04 3794362.42 0.00137 324485.99
3794362.42 0.00137
324522.94 3794362.42 0.00135 324559.89
3794362.42 0.00133
324596.84 3794362.42 0.00131 324633.79
3794362.42 0.00130
324670.74 3794362.42 0.00127 324707.69
3794362.42 0.00124
324744.64 3794362.42 0.00121 324781.59
3794362.42 0.00119
324449.04 3794394.39 0.00143 324485.99
3794394.39 0.00144
324522.94 3794394.39 0.00142 324559.89
3794394.39 0.00140
324596.84 3794394.39 0.00137 324633.79
3794394.39 0.00136
324670.74 3794394.39 0.00134 324707.69
3794394.39 0.00130
324744.64 3794394.39 0.00128 324781.59
3794394.39 0.00125
324449.04 3794426.36 0.00150 324485.99
3794426.36 0.00151
324522.94 3794426.36 0.00149 324559.89
3794426.36 0.00147
324596.84 3794426.36 0.00144 324633.79
3794426.36 0.00143
324670.74 3794426.36 0.00141 324707.69
3794426.36 0.00138
324744.64 3794426.36 0.00135 324781.59
3794426.36 0.00132
324449.04 3794458.33 0.00158 324485.99
3794458.33 0.00158
324522.94 3794458.33 0.00156 324559.89
3794458.33 0.00154
324596.84 3794458.33 0.00152 324633.79

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
324522.94	3794522.27	0.00172	324559.89	3794522.27	0.00170
324596.84	3794522.27	0.00169	324633.79	3794522.27	0.00168
324670.74	3794522.27	0.00165	324707.69	3794522.27	0.00162
324744.64	3794522.27	0.00160	324781.59	3794522.27	0.00156
324449.04	3794554.24	0.00183	324485.99	3794554.24	0.00181
324522.94	3794554.24	0.00180	324559.89		

3794554.24 0.00179
324596.84 3794554.24 0.00179 324633.79
3794554.24 0.00177
324670.74 3794554.24 0.00174 324707.69
3794554.24 0.00171
324744.64 3794554.24 0.00170 324781.59
3794554.24 0.00165
324449.04 3794586.21 0.00192 324485.99
3794586.21 0.00190
324522.94 3794586.21 0.00189 324559.89
3794586.21 0.00189
324596.84 3794586.21 0.00189 324633.79
3794586.21 0.00187
324670.74 3794586.21 0.00184 324707.69
3794586.21 0.00181
324744.64 3794586.21 0.00180 324781.59
3794586.21 0.00175
324449.04 3794618.18 0.00201 324485.99
3794618.18 0.00200
324522.94 3794618.18 0.00199 324559.89
3794618.18 0.00199
324596.84 3794618.18 0.00199 324633.79
3794618.18 0.00197
324670.74 3794618.18 0.00194 324707.69
3794618.18 0.00194
324744.64 3794618.18 0.00190 324781.59
3794618.18 0.00186
324449.04 3794650.15 0.00211 324485.99
3794650.15 0.00210
324522.94 3794650.15 0.00209 324559.89
3794650.15 0.00209
324596.84 3794650.15 0.00210 324633.79
3794650.15 0.00208
324670.74 3794650.15 0.00206 324707.69
3794650.15 0.00206
324744.64 3794650.15 0.00202 324781.59
3794650.15 0.00198
324449.04 3794682.12 0.00222 324485.99
3794682.12 0.00221
324522.94 3794682.12 0.00221 324559.89
3794682.12 0.00223
324596.84 3794682.12 0.00222 324633.79
3794682.12 0.00220
324670.74 3794682.12 0.00218 324707.69
3794682.12 0.00218
324744.64 3794682.12 0.00215 324781.59
3794682.12 0.00210
326547.36 3795022.06 0.00148 326594.67
3795022.06 0.00146
326641.98 3795022.06 0.00142 326547.36

3795042.46   0.00154
         326594.67   3795042.46   0.00148   326641.98
3795042.46   0.00147
         326547.36   3795062.86   0.00160   326594.67
3795062.86   0.00153
         326641.98   3795062.86   0.00153   326547.36
3795083.26   0.00165
         326594.67   3795083.26   0.00159   326641.98
3795083.26   0.00158
         326547.36   3795103.66   0.00169   326594.67
3795103.66   0.00165
         326641.98   3795103.66   0.00165   326547.36
3795124.06   0.00175
         326594.67   3795124.06   0.00172   326641.98
3795124.06   0.00171
         326547.36   3795144.46   0.00182   326594.67
3795144.46   0.00178
         326641.98   3795144.46   0.00177   326547.36
3795164.86   0.00187

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                               ** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3795226.06 0.00209
326641.98 3795226.06 0.00200 326547.36
3795246.46 0.00219
326594.67 3795246.46 0.00216 326641.98
3795246.46 0.00206
326690.43 3795243.37 0.00202 326688.67
3795223.05 0.00195
326686.02 3795005.77 0.00138 326686.02
3795033.66 0.00144
326686.02 3795061.55 0.00150 326686.02
3795089.44 0.00158
326686.02 3795117.33 0.00166 326686.02
3795145.22 0.00175
326686.02 3795173.11 0.00183 326686.02
3795201.00 0.00187
326832.80 3795263.26 0.00197 326849.67
3795263.26 0.00192
326866.54 3795263.26 0.00189 326883.41
3795263.26 0.00188
326900.28 3795263.26 0.00187 326917.15
3795263.26 0.00186
326934.02 3795263.26 0.00180 326950.89
3795263.26 0.00175
326967.76 3795263.26 0.00174 326984.63
3795263.26 0.00172
327001.50 3795263.26 0.00166 327036.85
3795141.35 0.00145
327075.72 3795141.35 0.00138 327036.85
3795160.91 0.00149
327075.72 3795160.91 0.00141 327036.85
3795180.47 0.00153
327075.72 3795180.47 0.00145 327036.85
3795200.03 0.00156
327075.72 3795200.03 0.00148 327036.85
3795219.59 0.00156
327075.72 3795219.59 0.00152 327036.85
3795239.15 0.00158
327075.72 3795239.15 0.00155 327036.85
3795258.71 0.00161
327075.72 3795258.71 0.00159 327036.85
3795278.27 0.00165
327075.72 3795278.27 0.00163 326840.04
3795223.24 0.00185
326860.58 3795224.16 0.00179 326877.30
3795222.74 0.00178
326929.68 3795223.69 0.00172 326932.86
3795200.00 0.00166
326972.32 3795217.03 0.00164 326970.84
3795177.58 0.00155
326968.20 3795152.46 0.00150 326998.43

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3795149.77        0.00148
         326997.48    3795176.61        0.00154                      326995.60
3795193.01        0.00158
         326996.92    3795215.78        0.00162                      326916.97
3795152.19        0.00159
         326901.95    3795150.46        0.00159                      326884.24
3795164.40        0.00163
         326867.32    3795151.32        0.00160                      326873.22
3795163.36        0.00163
         326845.53    3795152.12        0.00164                      326824.91
3795151.45        0.00168
         326826.60    3795170.60        0.00173                      326840.50
3795180.17        0.00173
         326799.39    3795147.97        0.00168                      326776.77
3795147.89        0.00168
         326738.03    3795152.73        0.00171                      326781.33
3795110.75        0.00158
         326806.10    3795109.04        0.00156                      326804.45
3795090.73        0.00151
         326781.78    3795086.72        0.00152                      326787.40
3795061.79        0.00145
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       10:49:49

                                  PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         326794.01    3795031.22        0.00138                      326977.50
3795110.69        0.00141
         326994.05    3795107.87        0.00140                      326984.52
3795093.80        0.00138
         326972.85    3795082.37        0.00136                      326995.41
3795072.53        0.00133
         326993.23    3795060.01        0.00131                      326984.60
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3795040.80        0.00128
         326981.66    3795027.22        0.00125                        327041.48
3795102.15        0.00137
         327065.19    3795095.75        0.00131                        327040.88
3795076.27        0.00133
         327061.24    3795058.32        0.00125                        327037.82
3795061.09        0.00130
         327035.65    3795040.58        0.00127                        327058.94
3795038.41        0.00122
         327051.53    3795017.85        0.00120                        327033.29
3795021.71        0.00123
         326826.26    3795110.80        0.00152                        326843.29
3795110.80        0.00151
         326860.32    3795110.80        0.00150                        326877.35
3795110.80        0.00150
         326894.38    3795110.80        0.00150                        326911.41
3795110.80        0.00149
         326928.44    3795110.80        0.00147                        326945.47
3795110.80        0.00143
         326819.99    3795048.86        0.00138                        326838.19
3795048.86        0.00136
         326856.39    3795048.86        0.00136                        326874.59
3795048.86        0.00136
         326892.79    3795048.86        0.00136                        326910.99
3795048.86        0.00136
         326929.19    3795048.86        0.00133                        326947.39
3795048.86        0.00130
         325652.30    3795689.46        0.00567                        325747.75
3795796.21        0.00484
         326251.13    3796043.75        0.00369                        326263.91
3795852.39        0.00403
         326170.84    3795648.38        0.00317                        326148.08
3795505.91        0.00274
         325511.50    3795586.39        0.00443

🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        10:49:49

                                  PAGE  27
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                             *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***
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** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326345.95	3795634.03	0.02531	(09051606)	326414.12	3795779.67	0.03272	(12012517)
326435.80	3795773.48	0.03420	(12012517)	326458.31	3795772.83	0.03446	(12012517)
326424.24	3795858.77	0.03731	(11012717)	326400.20	3795799.84	0.03098	(12012517)
326400.93	3795767.87	0.03190	(12012517)	326424.24	3795858.77	0.03731	(11012717)
326611.84	3795762.99	0.03258	(12012517)	326611.84	3795762.99	0.03258	(12012517)
326610.94	3795777.66	0.03239	(12012517)	326605.86	3795792.89	0.03238	(12012517)
326623.93	3795809.00	0.03109	(10021408)	326627.22	3795836.58	0.03019	(10021408)
326640.09	3795836.58	0.02981	(10021408)	326654.45	3795868.68	0.02801	(09052906)
326665.45	3795883.13	0.02723	(09052906)	326588.30	3795867.62	0.02751	(12012517)
326640.52	3795951.95	0.02967	(11012717)	326658.45	3795975.58	0.03106	(11012717)
326759.52	3796019.28	0.02768	(11012717)	326763.60	3796031.85	0.02815	(11012717)
326775.94	3796048.05	0.02825	(11012717)	326774.23	3796062.19	0.02862	(11012717)
326801.34	3796078.38	0.02802	(11012717)	326809.46	3796094.93	0.02772	(11012717)
326736.80	3796108.96	0.02760	(11012717)	326835.84	3796126.62	0.02646	(11012717)
326836.27	3796140.13	0.02618	(11012717)	326800.95	3796123.31	0.02756	(11012717)
326762.39	3796138.51	0.02575	(11012717)	326766.63	3796155.18	0.02426	(11012717)
326774.14	3796169.68	0.02340	(11012717)	326798.07	3796201.57	0.02171	(11012717)
326808.84	3796229.51	0.01978	(11012717)	326880.95	3796184.59	0.02380	(11012717)
326915.56	3796260.01	0.02104	(11012717)	326941.07	3796261.11	0.02076	(11012717)
326958.24	3796277.25	0.02022	(11012717)	326964.89	3796291.08	0.01962	(11012717)
326984.47	3796322.92	0.01880	(11012717)	326993.31	3796349.42	0.01824	(11012717)
326993.49	3796365.88	0.01796	(11012717)	327007.03			

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 3796382.47         0.01767  (11012717)
       326972.07   3796390.18        0.01704  (11012717)                326996.78
 3796414.54         0.01681  (11012717)
       326693.51   3795789.66        0.02374  (12012517)                326695.37
 3795771.29         0.02421  (12012517)
       326727.00   3795761.34        0.02381  (12012517)                326758.55
 3795787.48         0.02075  (12012517)
       326761.76   3795813.54        0.01827  (12012517)                326742.22
 3795837.06         0.01722  (09052906)
       326838.64   3795823.91        0.01545  (11032918)                326811.45
 3795889.81         0.01498  (09052906)
       326823.87   3795855.97        0.01451  (09052906)                326876.62
 3795837.29         0.01425  (10040207)
       326889.30   3795888.54        0.01403  (09052906)                326687.45
 3795683.69         0.03682  (10021408)
       326829.20   3795731.31        0.02169  (12012517)                326859.14
 3795703.62         0.02143  (12012517)
       326881.10   3795705.58        0.02169  (12012517)                326787.44
 3795607.00         0.04729  (13010108)
       326780.76   3795563.55        0.05182  (13010108)                326800.04
 3795542.65         0.05476  (10121407)
       326808.89   3795540.15        0.05583  (10121407)                326825.79
 3795543.65         0.05727  (10121407)
       326856.70   3795545.31        0.05816  (13010108)                326792.33
 3795494.19         0.05459  (13012606)
       326806.68   3795493.93        0.05504  (13012606)                326824.07
 3795494.42         0.05543  (13012606)
       326853.52   3795481.71        0.05738  (13012606)                326898.80
 3795534.37         0.05805  (13010108)
       325796.15   3795215.59        0.10386  (10120705)                325823.15
 3795215.59         0.10421  (09022002)
       326012.15   3795215.59        0.10060  (11011303)                326120.15
 3795215.59         0.09724  (11121424)
       326147.15   3795215.59        0.09780  (11012807)                325796.15
 3795254.59         0.10700  (09022002)
       325823.15   3795254.59        0.10750  (09022002)                325850.15
 3795254.59         0.10741  (10122722)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       10:49:49

                                  PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
```

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** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325877.15	3795254.59	0.10726	(09120405)	325904.15	3795254.59	0.10663	(12122704)
325931.15	3795254.59	0.10439	(11120907)	325958.15	3795254.59	0.10409	(13122706)
325985.15	3795254.59	0.10413	(11011303)	326012.15	3795254.59	0.10149	(11011303)
326039.15	3795254.59	0.10089	(11121424)	326066.15	3795254.59	0.10080	(11121424)
326093.15	3795254.59	0.10044	(11121424)	326120.15	3795254.59	0.10110	(11012807)
326147.15	3795254.59	0.10127	(11120707)	325796.15	3795293.59	0.10765	(09022002)
325823.15	3795293.59	0.10727	(10122722)	325850.15	3795293.59	0.10888	(09120405)
325877.15	3795293.59	0.11070	(12122704)	325904.15	3795293.59	0.11062	(11120907)
325931.15	3795293.59	0.10790	(13122706)	325958.15	3795293.59	0.10792	(11011303)
325985.15	3795293.59	0.10434	(11011303)	326012.15	3795293.59	0.09521	(11121424)
326039.15	3795293.59	0.09482	(11121424)	326066.15	3795293.59	0.09174	(11012807)
326093.15	3795293.59	0.08983	(11012807)	326120.15	3795293.59	0.09017	(13011505)
326147.15	3795293.59	0.09023	(09010718)	325796.15	3795332.59	0.09617	(12122922)
325823.15	3795332.59	0.09690	(09120405)	325850.15	3795332.59	0.10920	(12122704)
325877.15	3795332.59	0.11057	(11120907)	325904.15	3795332.59	0.11328	(13122706)
325931.15	3795332.59	0.11144	(11011303)	325958.15	3795332.59	0.10933	(11020101)
325985.15	3795332.59	0.09481	(11121424)	326012.15	3795332.59	0.09040	(11011602)
326039.15	3795332.59	0.09000	(11012807)	326066.15	3795332.59	0.09056	(11012807)
326093.15	3795332.59	0.09096	(13011505)	326120.15	3795332.59	0.09261	(13122406)
326147.15	3795332.59	0.09333	(13122406)	325847.44	3795004.89	0.08867	(10120705)
325872.44	3795004.89	0.08836	(10120705)	325897.44			

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 3795004.89        0.08800  (09022002)
       325922.44   3795004.89        0.08761  (09022002)               325947.44
 3795004.89        0.08741  (10122722)
       325972.44   3795004.89        0.08698  (10122722)               325997.44
 3795004.89        0.08616  (09120405)
       326022.44   3795004.89        0.08559  (12122704)               326047.44
 3795004.89        0.08547  (11120907)
       326072.44   3795004.89        0.08548  (11120907)               326097.44
 3795004.89        0.08545  (13122706)
       326122.44   3795004.89        0.08538  (11011303)               326147.44
 3795004.89        0.08486  (11011303)
       325847.44   3795046.89        0.09134  (10120705)               325872.44
 3795046.89        0.09089  (09022002)
       325897.44   3795046.89        0.09051  (09022002)               325922.44
 3795046.89        0.09011  (10122722)
       325947.44   3795046.89        0.09016  (10122722)               325972.44
 3795046.89        0.08926  (09120405)
       325997.44   3795046.89        0.08819  (12122704)               326022.44
 3795046.89        0.08802  (11120907)
       326047.44   3795046.89        0.08808  (11120907)               326072.44
 3795046.89        0.08804  (13122706)
       326097.44   3795046.89        0.08796  (11011303)               326122.44
 3795046.89        0.08708  (11011303)
       326147.44   3795046.89        0.08575  (11011303)               325847.44
 3795088.89        0.09406  (10120705)
       325872.44   3795088.89        0.09364  (09022002)               325897.44
 3795088.89        0.09315  (09022002)
       325922.44   3795088.89        0.09313  (10122722)               325947.44
 3795088.89        0.09181  (09120405)
       325972.44   3795088.89        0.09097  (12122704)               325997.44
 3795088.89        0.09079  (12122704)
       326022.44   3795088.89        0.09086  (11120907)               326047.44
 3795088.89        0.09083  (13122706)
       326072.44   3795088.89        0.09074  (11011303)               326097.44
 3795088.89        0.09025  (11011303)
       326122.44   3795088.89        0.08905  (11011303)               326147.44
 3795088.89        0.08857  (11121424)
       325847.44   3795130.89        0.09702  (09022002)               325872.44
 3795130.89        0.09652  (09022002)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        10:49:49

                                   PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325897.44	3795130.89	0.09632	(10122722)	325922.44	3795130.89	0.09622	(10122722)
325947.44	3795130.89	0.09478	(12122704)	325972.44	3795130.89	0.09382	(12122704)
325997.44	3795130.89	0.09385	(11120907)	326022.44	3795130.89	0.09382	(13122706)
326047.44	3795130.89	0.09374	(11011303)	326072.44	3795130.89	0.09377	(11011303)
326097.44	3795130.89	0.09197	(11011303)	326122.44	3795130.89	0.09136	(11121424)
326147.44	3795130.89	0.09137	(11121424)	325847.44	3795172.89	0.10018	(09022002)
325872.44	3795172.89	0.09976	(10122722)	325897.44	3795172.89	0.09973	(10122722)
325922.44	3795172.89	0.09958	(09120405)	325947.44	3795172.89	0.09800	(12122704)
325972.44	3795172.89	0.09708	(11120907)	325997.44	3795172.89	0.09705	(13122706)
326022.44	3795172.89	0.09689	(11011303)	326047.44	3795172.89	0.09654	(11011303)
326072.44	3795172.89	0.09447	(11121424)	325847.44	3795214.89	0.10355	(09022002)
325872.44	3795214.89	0.10353	(10122722)	325897.44	3795214.89	0.10339	(09120405)
325922.44	3795214.89	0.10326	(12122704)	325947.44	3795214.89	0.10158	(11120907)
325972.44	3795214.89	0.10055	(13122706)	325997.44	3795214.89	0.10047	(11011303)
326047.44	3795214.89	0.09735	(11121424)	326072.44	3795214.89	0.09758	(11121424)
326097.44	3795214.89	0.09750	(11121424)	326147.44	3795214.89	0.09774	(11012807)
326096.58	3795181.52	0.09502	(11121424)	326118.63	3795182.57	0.09502	(11121424)
326144.35	3795184.14	0.09478	(11121424)	325849.74	3794829.62	0.08075	(10010503)
325892.61	3794829.62	0.07996	(10120701)	325935.48	3794829.62	0.07877	(10120705)
325978.35	3794829.62	0.07815	(09022002)	326021.22			

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 3794829.62         0.07780  (10122722)
       326064.09   3794829.62         0.07717  (09120405)                325849.74
 3794867.55         0.08254  (10010503)
       325892.61   3794867.55         0.08093  (10120701)                325935.48
 3794867.55         0.08029  (09022002)
       325978.35   3794867.55         0.07982  (09022002)                326021.22
 3794867.55         0.07970  (10122722)
       326064.09   3794867.55         0.07893  (09120405)                325849.74
 3794905.48         0.08437  (10120701)
       325892.61   3794905.48         0.08281  (10120705)                325935.48
 3794905.48         0.08217  (09022002)
       325978.35   3794905.48         0.08154  (10122722)                326021.22
 3794905.48         0.08148  (10122722)
       326064.09   3794905.48         0.08016  (12122704)                325849.74
 3794943.41         0.08610  (10120701)
       325892.61   3794943.41         0.08463  (10120705)                325935.48
 3794943.41         0.08409  (09022002)
       325978.35   3794943.41         0.08375  (10122722)                326021.22
 3794943.41         0.08350  (09120405)
       326064.09   3794943.41         0.08203  (12122704)                325849.74
 3794981.34         0.08750  (10120701)
       325892.61   3794981.34         0.08667  (09022002)                325935.48
 3794981.34         0.08608  (09022002)
       325978.35   3794981.34         0.08596  (10122722)                326021.22
 3794981.34         0.08455  (12122704)
       326064.09   3794981.34         0.08412  (11120907)                325855.31
 3794726.62         0.07618  (11011207)
       325902.64   3794726.62         0.07542  (10120701)                325855.31
 3794745.52         0.07695  (11011207)
       325902.64   3794745.52         0.07620  (10120701)                325855.31
 3794764.42         0.07772  (11011207)
       325902.64   3794764.42         0.07698  (10120701)                325855.31
 3794783.32         0.07853  (10010503)
       325902.64   3794783.32         0.07777  (10120701)                325855.31
 3794802.22         0.07939  (10010503)
       325902.64   3794802.22         0.07857  (10120701)                325855.31
 3794821.12         0.08025  (10010503)
       325902.64   3794821.12         0.07933  (10120701)                326402.77
 3795249.33         0.08510  (11121105)
       325380.55   3795776.17         0.05267  (09120508)                325415.88
 3795858.35         0.03377  (09120508)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        10:49:49

                                   PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
```

VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

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 3797003.95         0.00698  (12102117)
       326817.96   3797014.86        0.00716  (12102117)                326813.74
 3796843.93         0.00954  (10121904)
       326833.92   3796853.59        0.00934  (10121904)                326848.61
 3796873.43         0.00910  (10121904)
       326864.19   3796885.12        0.00902  (10121904)                326877.92
 3796901.20         0.00890  (10121904)
       326893.85   3796917.11        0.00856  (10121904)                326904.49
 3796938.77         0.00817  (09062906)
       326907.64   3796966.22        0.00801  (09062906)                326914.45
 3796991.73         0.00770  (09062906)
       326921.92   3797038.42        0.00709  (09062906)                326596.56
 3797264.10         0.00488  (10102017)
       326829.98   3795735.43        0.02137  (12012517)                326866.53
 3795706.88         0.02122  (12012517)
       326831.50   3795646.57        0.04622  (13012604)                326872.90
 3795644.95         0.04635  (13012604)
       326898.91   3795644.66        0.04649  (10021408)                326924.66
 3795650.14         0.04440  (10021408)
       326949.68   3795646.43        0.04594  (10021408)                326975.59
 3795638.84         0.04117  (10021408)
       326917.88   3795602.78        0.05381  (13012604)                326918.63
 3795584.13         0.05827  (10022004)
       326921.61   3795563.48        0.05802  (10022004)                326917.18
 3795537.15         0.05819  (13010108)
       326934.99   3795592.17        0.05455  (13012604)                326951.04
 3795599.47         0.05172  (13012604)
       326950.26   3795555.95        0.05795  (10022004)                326951.59
 3795535.07         0.05783  (13010108)
       326961.83   3795537.57        0.05758  (13010108)                326982.25
 3795538.33         0.05748  (10022004)
       326992.41   3795539.09        0.05752  (10022004)                327008.98
 3795535.58         0.05741  (10022004)
       326987.68   3795580.97        0.05327  (13012604)                327024.81
 3795588.42         0.04873  (13012604)
       326925.07   3795485.95        0.05607  (10121407)                326937.83
 3795488.27         0.05622  (10121407)
       326956.45   3795489.28        0.05621  (09120204)                326970.89
 3795491.03         0.05643  (13010108)
       326989.96   3795487.68        0.05652  (13010108)                325049.27
 3794362.92         0.07455  (11122506)
       325086.77   3794362.92        0.07390  (09121401)                325124.27
 3794362.92         0.07336  (13122103)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        10:49:49

                                  PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325161.77	3794362.92	0.07290	(13122407)	325199.27	3794362.92	0.07196	(12021824)
325236.77	3794362.92	0.07098	(09122106)	325274.27	3794362.92	0.07084	(13013002)
325049.27	3794386.12	0.07551	(11122506)	325086.77	3794386.12	0.07479	(10123020)
325124.27	3794386.12	0.07450	(13122103)	325161.77	3794386.12	0.07506	(13122407)
325199.27	3794386.12	0.07402	(12021824)	325236.77	3794386.12	0.07193	(09122106)
325274.27	3794386.12	0.07166	(13013002)	325049.27	3794409.32	0.07644	(11122506)
325086.77	3794409.32	0.07577	(10123020)	325124.27	3794409.32	0.07541	(13122103)
325161.77	3794409.32	0.07611	(13122407)	325199.27	3794409.32	0.07497	(12021824)
325236.77	3794409.32	0.07398	(09122106)	325274.27	3794409.32	0.07372	(13013002)
325049.27	3794432.52	0.07735	(11122506)	325086.77	3794432.52	0.07673	(10123020)
325124.27	3794432.52	0.07710	(09121401)	325161.77	3794432.52	0.07708	(13122407)
325199.27	3794432.52	0.07593	(13122407)	325236.77	3794432.52	0.07531	(09122106)
325274.27	3794432.52	0.07500	(13013002)	325049.27	3794455.72	0.07826	(11121006)
325086.77	3794455.72	0.07819	(11122506)	325124.27	3794455.72	0.07880	(09121401)
325161.77	3794455.72	0.07805	(13122407)	325199.27	3794455.72	0.07707	(13122407)
325236.77	3794455.72	0.07625	(09122106)	325274.27	3794455.72	0.07588	(13013002)
325049.27	3794478.92	0.07945	(11121006)	325086.77	3794478.92	0.08050	(11122506)
325124.27	3794478.92	0.07983	(09121401)	325161.77			

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 3794478.92         0.07912  (13122103)
       325199.27   3794478.92         0.07822  (13122407)                325236.77
 3794478.92         0.07719  (09122106)
       325274.27   3794478.92         0.07676  (13013002)                325049.27
 3794502.12         0.08062  (11121006)
       325086.77   3794502.12         0.08162  (11122506)                325124.27
 3794502.12         0.08091  (10123020)
       325161.77   3794502.12         0.08021  (13122103)                325199.27
 3794502.12         0.07937  (13122407)
       325236.77   3794502.12         0.07827  (12021824)                325274.27
 3794502.12         0.07764  (13013002)
       325049.27   3794525.32         0.08176  (11121006)                325086.77
 3794525.32         0.08271  (11122506)
       325124.27   3794525.32         0.08208  (10123020)                325161.77
 3794525.32         0.08129  (13122103)
       325199.27   3794525.32         0.08053  (13122407)                325236.77
 3794525.32         0.07934  (12021824)
       325274.27   3794525.32         0.07851  (13013002)                325049.27
 3794548.52         0.08288  (11121006)
       325086.77   3794548.52         0.08377  (11122506)                325124.27
 3794548.52         0.08322  (10123020)
       325161.77   3794548.52         0.08242  (09121401)                325199.27
 3794548.52         0.08168  (13122407)
       325236.77   3794548.52         0.08042  (12021824)                325274.27
 3794548.52         0.07958  (09122106)
       325049.27   3794571.72         0.08397  (11121006)                325086.77
 3794571.72         0.08511  (11121006)
       325124.27   3794571.72         0.08442  (11122506)                325161.77
 3794571.72         0.08363  (09121401)
       325199.27   3794571.72         0.08282  (13122407)                325236.77
 3794571.72         0.08150  (13122407)
       325274.27   3794571.72         0.08073  (09122106)                325049.27
 3794594.92         0.08503  (11121006)
       325086.77   3794594.92         0.08647  (11121006)                325124.27
 3794594.92         0.08569  (11122506)
       325161.77   3794594.92         0.08482  (09121401)                325199.27
 3794594.92         0.08396  (13122103)
       325236.77   3794594.92         0.08283  (13122407)                325274.27
 3794594.92         0.08188  (09122106)
       325049.27   3794618.12         0.08644  (13010624)                325086.77
 3794618.12         0.08781  (11121006)
       325124.27   3794618.12         0.08694  (11122506)                325161.77
 3794618.12         0.08608  (10123020)
       325199.27   3794618.12         0.08524  (13122103)                325236.77
 3794618.12         0.08417  (13122407)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       10:49:49
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325274.27	3794618.12	0.08334	(09122106)	325049.27	3794641.32	0.08794	(13010624)
325086.77	3794641.32	0.08913	(11121006)	325124.27	3794641.32	0.08816	(11122506)
325161.77	3794641.32	0.08740	(10123020)	325199.27	3794641.32	0.08650	(13122103)
325236.77	3794641.32	0.08553	(13122407)	325274.27	3794641.32	0.08464	(09122106)
325049.27	3794664.52	0.08943	(13010624)	325086.77	3794664.52	0.09042	(11121006)
325124.27	3794664.52	0.08962	(11121006)	325161.77	3794664.52	0.08870	(10123020)
325199.27	3794664.52	0.08778	(09121401)	325236.77	3794664.52	0.08688	(13122407)
325274.27	3794664.52	0.08634	(12021824)	325049.27	3794687.72	0.09093	(13010624)
325086.77	3794687.72	0.09178	(13010624)	325124.27	3794687.72	0.09113	(11121006)
325161.77	3794687.72	0.09014	(11122506)	325199.27	3794687.72	0.08918	(09121401)
325236.77	3794687.72	0.08824	(13122407)	325274.27	3794687.72	0.08890	(12021824)
324871.62	3794298.63	0.07203	(13010624)	324910.53	3794298.63	0.07100	(10121121)
324949.44	3794298.63	0.07219	(11121006)	324988.35	3794298.63	0.07127	(11121006)
324871.62	3794320.43	0.07290	(13010624)	324910.53	3794320.43	0.07314	(13010624)
324949.44	3794320.43	0.07295	(11121006)	324988.35	3794320.43	0.07219	(11121006)
324871.62	3794342.23	0.07376	(13010624)	324910.53	3794342.23	0.07454	(13010624)
324949.44	3794342.23	0.07368	(11121006)	324988.35			

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 3794342.23         0.07310  (11121006)
       324871.62   3794364.03        0.07502  (10013003)                324910.53
 3794364.03         0.07556  (13010624)
       324949.44   3794364.03        0.07437  (11121006)                324988.35
 3794364.03         0.07426  (11121006)
       324871.62   3794385.83        0.07709  (10013003)                324910.53
 3794385.83         0.07657  (13010624)
       324949.44   3794385.83        0.07522  (13010624)                324988.35
 3794385.83         0.07603  (11121006)
       324871.62   3794407.63        0.07817  (10013003)                324910.53
 3794407.63         0.07757  (13010624)
       324949.44   3794407.63        0.07634  (13010624)                324988.35
 3794407.63         0.07696  (11121006)
       324871.62   3794429.43        0.07922  (12123121)                324910.53
 3794429.43         0.07855  (13010624)
       324949.44   3794429.43        0.07745  (13010624)                324988.35
 3794429.43         0.07781  (11121006)
       324871.62   3794451.23        0.08037  (12123121)                324910.53
 3794451.23         0.07963  (10013003)
       324949.44   3794451.23        0.07864  (13010624)                324988.35
 3794451.23         0.07871  (11121006)
       324871.62   3794473.03        0.08152  (12123121)                324910.53
 3794473.03         0.08075  (10013003)
       324949.44   3794473.03        0.08029  (13010624)                324988.35
 3794473.03         0.08010  (13010624)
       324871.62   3794494.83        0.08300  (12020205)                324910.53
 3794494.83         0.08186  (10013003)
       324949.44   3794494.83        0.08149  (13010624)                324988.35
 3794494.83         0.08146  (13010624)
       324871.62   3794516.63        0.08453  (12020205)                324910.53
 3794516.63         0.08308  (12123121)
       324949.44   3794516.63        0.08259  (10013003)                324988.35
 3794516.63         0.08272  (13010624)
       324871.62   3794538.43        0.08586  (12020205)                324910.53
 3794538.43         0.08435  (12123121)
       324949.44   3794538.43        0.08382  (10013003)                324988.35
 3794538.43         0.08397  (13010624)
       324871.62   3794560.23        0.08729  (10010204)                324910.53
 3794560.23         0.08563  (12123121)
       324949.44   3794560.23        0.08506  (10013003)                324988.35
 3794560.23         0.08521  (13010624)
       324871.62   3794582.03        0.08882  (10010204)                324910.53
 3794582.03         0.08705  (12020205)
       324949.44   3794582.03        0.08633  (12123121)                324988.35
 3794582.03         0.08645  (13010624)
       324871.62   3794603.83        0.09036  (10010204)                324910.53
 3794603.83         0.08857  (12020205)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324949.44	3794603.83	0.08808	(12123121)	324988.35	3794603.83	0.08775	(10013003)
324871.62	3794625.63	0.09211	(12122922)	324910.53	3794625.63	0.09020	(10010204)
324949.44	3794625.63	0.09068	(12123121)	324988.35	3794625.63	0.08914	(10013003)
324871.62	3794647.43	0.09387	(12122922)	324910.53	3794647.43	0.09194	(10010204)
324949.44	3794647.43	0.09230	(12020205)	324988.35	3794647.43	0.09056	(10013003)
324871.62	3794669.23	0.09579	(13021702)	324910.53	3794669.23	0.09368	(10010204)
324949.44	3794669.23	0.09403	(12020205)	324988.35	3794669.23	0.09208	(12123121)
324871.62	3794691.03	0.09778	(13021702)	324910.53	3794691.03	0.09556	(12122922)
324949.44	3794691.03	0.09582	(12020205)	324988.35	3794691.03	0.09370	(12123121)
324449.04	3794074.69	0.06749	(13120620)	324485.99	3794074.69	0.06685	(09021803)
324522.94	3794074.69	0.06619	(13021702)	324559.89	3794074.69	0.06530	(12122922)
324596.84	3794074.69	0.06428	(10010204)	324633.79	3794074.69	0.06295	(12020205)
324670.74	3794074.69	0.06218	(12123121)	324707.69	3794074.69	0.06177	(10013003)
324744.64	3794074.69	0.06210	(13010624)	324781.59	3794074.69	0.06335	(13010624)
324449.04	3794106.66	0.06835	(13120620)	324485.99	3794106.66	0.06803	(13120620)
324522.94	3794106.66	0.06736	(09021803)	324559.89			

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3794106.66         0.06666  (13021702)
       324596.84    3794106.66         0.06596  (12122922)                324633.79
3794106.66         0.06484  (10010204)
       324670.74    3794106.66         0.06408  (12020205)                324707.69
3794106.66         0.06382  (12123121)
       324744.64    3794106.66         0.06492  (10013003)                324781.59
3794106.66         0.06535  (13010624)
       324449.04    3794138.63         0.06975  (12021724)                324485.99
3794138.63         0.06921  (13120620)
       324522.94    3794138.63         0.06852  (09021803)                324559.89
3794138.63         0.06781  (13021702)
       324596.84    3794138.63         0.06708  (12122922)                324633.79
3794138.63         0.06725  (10010204)
       324670.74    3794138.63         0.06666  (12020205)                324707.69
3794138.63         0.06642  (12123121)
       324744.64    3794138.63         0.06698  (10013003)                324781.59
3794138.63         0.06650  (13010624)
       324449.04    3794170.60         0.07125  (12021724)                324485.99
3794170.60         0.07017  (09020419)
       324522.94    3794170.60         0.06999  (13120620)                324559.89
3794170.60         0.07026  (09021803)
       324596.84    3794170.60         0.06947  (13021702)                324633.79
3794170.60         0.06898  (12122922)
       324670.74    3794170.60         0.06833  (10010204)                324707.69
3794170.60         0.06879  (12020205)
       324744.64    3794170.60         0.06826  (12123121)                324781.59
3794170.60         0.06848  (10013003)
       324449.04    3794202.57         0.07250  (10012707)                324485.99
3794202.57         0.07176  (12021724)
       324522.94    3794202.57         0.07129  (13120620)                324559.89
3794202.57         0.07189  (09021803)
       324596.84    3794202.57         0.07110  (13021702)                324633.79
3794202.57         0.07029  (12122922)
       324670.74    3794202.57         0.07087  (10010204)                324707.69
3794202.57         0.07027  (12020205)
       324744.64    3794202.57         0.06947  (12123121)                324781.59
3794202.57         0.06995  (10013003)
       324449.04    3794234.54         0.07400  (10012707)                324485.99
3794234.54         0.07328  (12021724)
       324522.94    3794234.54         0.07238  (09020419)                324559.89
3794234.54         0.07333  (13120620)
       324596.84    3794234.54         0.07248  (09021803)                324633.79
3794234.54         0.07160  (13021702)
       324670.74    3794234.54         0.07238  (12122922)                324707.69
3794234.54         0.07149  (10010204)
       324744.64    3794234.54         0.07062  (12020205)                324781.59
3794234.54         0.07110  (10013003)
       324449.04    3794266.51         0.07550  (10010424)                324485.99
3794266.51         0.07473  (10012707)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
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 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                            *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                INCLUDING SOURCE(S):   PAREA1   ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
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3794362.42        0.08084  (10011119)
       324522.94   3794362.42        0.08052  (10010424)                324559.89
3794362.42        0.07953  (12021724)
       324596.84   3794362.42        0.07845  (12021724)                324633.79
3794362.42        0.07927  (13120620)
       324670.74   3794362.42        0.07847  (09021803)                324707.69
3794362.42        0.07734  (13021702)
       324744.64   3794362.42        0.07726  (10010204)                324781.59
3794362.42        0.07707  (12020205)
       324449.04   3794394.39        0.08217  (09120921)                324485.99
3794394.39        0.08303  (10011404)
       324522.94   3794394.39        0.08229  (10010424)                324559.89
3794394.39        0.08143  (10012707)
       324596.84   3794394.39        0.08044  (12021724)                324633.79
3794394.39        0.08081  (13120620)
       324670.74   3794394.39        0.08014  (09021803)                324707.69
3794394.39        0.07905  (13021702)
       324744.64   3794394.39        0.07898  (12122922)                324781.59
3794394.39        0.07870  (10010204)
       324449.04   3794426.36        0.08437  (11121923)                324485.99
3794426.36        0.08498  (10011404)
       324522.94   3794426.36        0.08397  (10011404)                324559.89
3794426.36        0.08334  (10010424)
       324596.84   3794426.36        0.08227  (10012707)                324633.79
3794426.36        0.08277  (12021724)
       324670.74   3794426.36        0.08207  (13120620)                324707.69
3794426.36        0.08105  (09021803)
       324744.64   3794426.36        0.08095  (13021702)                324781.59
3794426.36        0.08037  (10010204)
       324449.04   3794458.33        0.08724  (11121923)                324485.99
3794458.33        0.08716  (09120921)
       324522.94   3794458.33        0.08632  (10011404)                324559.89
3794458.33        0.08499  (10010424)
       324596.84   3794458.33        0.08464  (10012707)                324633.79
3794458.33        0.08504  (12021724)
       324670.74   3794458.33        0.08371  (13120620)                324707.69
3794458.33        0.08333  (13120620)
       324744.64   3794458.33        0.08358  (13021702)                324781.59
3794458.33        0.08224  (12122922)
       324449.04   3794490.30        0.08939  (09022006)                324485.99
3794490.30        0.08931  (11121923)
       324522.94   3794490.30        0.08842  (09120921)                324559.89
3794490.30        0.08736  (10011404)
       324596.84   3794490.30        0.08766  (10010424)                324633.79
3794490.30        0.08737  (10012707)
       324670.74   3794490.30        0.08603  (12021724)                324707.69
3794490.30        0.08546  (13120620)
       324744.64   3794490.30        0.08562  (09021803)                324781.59
3794490.30        0.08412  (13021702)
       324449.04   3794522.27        0.09195  (12010904)                324485.99
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794522.27	0.09063	(11121923)	324559.89	3794522.27	0.08953	(09120921)
324596.84	3794522.27	0.08959	(10011404)	324633.79	3794522.27	0.08959	(10010424)
324670.74	3794522.27	0.08827	(12021724)	324707.69	3794522.27	0.08724	(13120620)
324744.64	3794522.27	0.08773	(13120620)	324781.59	3794522.27	0.08627	(13021702)
324449.04	3794554.24	0.09457	(12021707)	324485.99	3794554.24	0.09386	(12010904)
324522.94	3794554.24	0.09296	(09022006)	324559.89	3794554.24	0.09237	(09120921)
324596.84	3794554.24	0.09284	(10011404)	324633.79	3794554.24	0.09178	(10010424)
324670.74	3794554.24	0.09066	(10012707)	324707.69	3794554.24	0.08996	(12021724)
324744.64	3794554.24	0.09012	(13120620)	324781.59	3794554.24	0.08852	(09021803)
324449.04	3794586.21	0.09693	(13012724)	324485.99	3794586.21	0.09628	(12021707)
324522.94	3794586.21	0.09541	(12010904)	324559.89	3794586.21	0.09526	(11121923)
324596.84	3794586.21	0.09576	(09120921)	324633.79	3794586.21	0.09445	(10011404)
324670.74	3794586.21	0.09318	(10010424)	324707.69	3794586.21	0.09241	(10012707)
324744.64	3794586.21	0.09230	(12021724)	324781.59			

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3794586.21        0.09087  (13120620)
       324449.04   3794618.18        0.09934  (12022904)                324485.99
3794618.18        0.09878  (13012724)
       324522.94   3794618.18        0.09798  (12021707)                324559.89
3794618.18        0.09785  (12010904)
       324596.84   3794618.18        0.09844  (11121923)                324633.79
3794618.18        0.09713  (09120921)
       324670.74   3794618.18        0.09561  (10011404)                324707.69
3794618.18        0.09629  (10010424)
       324744.64   3794618.18        0.09531  (12021724)                324781.59
3794618.18        0.09349  (13120620)
       324449.04   3794650.15        0.10178  (12012404)                324485.99
3794650.15        0.10135  (12022904)
       324522.94   3794650.15        0.10067  (13012724)                324559.89
3794650.15        0.10065  (12021707)
       324596.84   3794650.15        0.10126  (09022006)                324633.79
3794650.15        0.10000  (11121923)
       324670.74   3794650.15        0.09888  (10011404)                324707.69
3794650.15        0.09975  (10010424)
       324744.64   3794650.15        0.09817  (10012707)                324781.59
3794650.15        0.09611  (12021724)
       324449.04   3794682.12        0.10420  (11010801)                324485.99
3794682.12        0.10394  (12012404)
       324522.94   3794682.12        0.10375  (12022904)                324559.89
3794682.12        0.10494  (13012724)
       324596.84   3794682.12        0.10419  (12010904)                324633.79
3794682.12        0.10304  (09022006)
       324670.74   3794682.12        0.10187  (09120921)                324707.69
3794682.12        0.10288  (10011404)
       324744.64   3794682.12        0.10124  (10010424)                324781.59
3794682.12        0.09933  (12021724)
       326547.36   3795022.06        0.07366  (12022103)                326594.67
3795022.06        0.07215  (10011406)
       326641.98   3795022.06        0.06911  (11121105)                326547.36
3795042.46        0.07441  (12022103)
       326594.67   3795042.46        0.07031  (10011406)                326641.98
3795042.46        0.06972  (12122705)
       326547.36   3795062.86        0.07522  (10011406)                326594.67
3795062.86        0.07041  (11121105)
       326641.98   3795062.86        0.07040  (12122705)                326547.36
3795083.26        0.07564  (10011406)
       326594.67   3795083.26        0.07105  (11121105)                326641.98
3795083.26        0.07107  (10021501)
       326547.36   3795103.66        0.07415  (11121105)                326594.67
3795103.66        0.07183  (12122705)
       326641.98   3795103.66        0.07163  (13010623)                326547.36
3795124.06        0.07455  (11121105)
       326594.67   3795124.06        0.07251  (10021501)                326641.98
3795124.06        0.07223  (13010623)
       326547.36   3795144.46        0.07492  (12122705)                326594.67
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326594.67	3795164.86	0.07377	(13010623)	326641.98	3795164.86	0.07308	(13010101)
326547.36	3795185.26	0.07461	(13010623)	326594.67	3795185.26	0.07439	(13010101)
326641.98	3795185.26	0.07373	(13011507)	326547.36	3795205.66	0.07533	(13010623)
326594.67	3795205.66	0.07463	(13010101)	326641.98	3795205.66	0.07288	(13011507)
326547.36	3795226.06	0.07597	(13010101)	326594.67	3795226.06	0.07534	(13011507)
326641.98	3795226.06	0.06992	(13122107)	326547.36	3795246.46	0.07621	(13010101)
326594.67	3795246.46	0.07483	(13011507)	326641.98	3795246.46	0.06912	(09021506)
326690.43	3795243.37	0.06786	(10122806)	326688.67	3795223.05	0.06770	(09021506)
326686.02	3795005.77	0.06855	(12122705)	326686.02	3795033.66	0.06867	(10021501)
326686.02	3795061.55	0.06882	(13010623)	326686.02	3795089.44	0.06954	(13010623)
326686.02	3795117.33	0.07023	(13010101)	326686.02	3795145.22	0.07076	(13011507)
326686.02	3795173.11	0.07059	(13011507)	326686.02	3795201.00	0.06747	(13122107)
326832.80	3795263.26	0.06405	(13121104)	326849.67			

```
3795263.26        0.06143  (13121104)
       326866.54   3795263.26        0.06003  (13121104)                326883.41
3795263.26        0.05988  (13121104)
       326900.28   3795263.26        0.05975  (09013022)                326917.15
3795263.26        0.05970  (09013022)
       326934.02   3795263.26        0.05697  (09013022)                326950.89
3795263.26        0.05450  (09013022)
       326967.76   3795263.26        0.05450  (09013022)                326984.63
3795263.26        0.05351  (12022206)
       327001.50   3795263.26        0.05109  (11120708)                327036.85
3795141.35        0.05307  (13121104)
       327075.72   3795141.35        0.04847  (13020308)                327036.85
3795160.91        0.05322  (13121104)
       327075.72   3795160.91        0.04870  (11121808)                327036.85
3795180.47        0.05336  (09013022)
       327075.72   3795180.47        0.04893  (11121808)                327036.85
3795200.03        0.05320  (09013022)
       327075.72   3795200.03        0.04917  (11121808)                327036.85
3795219.59        0.05064  (11121808)
       327075.72   3795219.59        0.04952  (11120708)                327036.85
3795239.15        0.04988  (11120708)
       327075.72   3795239.15        0.04998  (11120708)                327036.85
3795258.71        0.05023  (11120708)
       327075.72   3795258.71        0.05047  (11120708)                327036.85
3795278.27        0.05072  (11120708)
       327075.72   3795278.27        0.05093  (11120708)                326840.04
3795223.24        0.06329  (13120806)
       326860.58   3795224.16        0.05982  (13120806)                326877.30
3795222.74        0.05962  (13120806)
       326929.68   3795223.69        0.05728  (13121104)                326932.86
3795200.00        0.05650  (13121104)
       326972.32   3795217.03        0.05389  (09013022)                326970.84
3795177.58        0.05362  (13121104)
       326968.20   3795152.46        0.05354  (13120806)                326998.43
3795149.77        0.05330  (13120806)
       326997.48   3795176.61        0.05351  (13121104)                326995.60
3795193.01        0.05361  (13121104)
       326996.92   3795215.78        0.05386  (09013022)                326916.97
3795152.19        0.05885  (12022205)
       326901.95   3795150.46        0.05898  (12022205)                326884.24
3795164.40        0.05925  (12022205)
       326867.32   3795151.32        0.05937  (12011805)                326873.22
3795163.36        0.05931  (12022205)
       326845.53   3795152.12        0.06180  (12011805)                326824.91
3795151.45        0.06506  (10122806)
       326826.60   3795170.60        0.06519  (12011805)                326840.50
3795180.17        0.06288  (12011805)
       326799.39   3795147.97        0.06531  (09021506)                326776.77
3795147.89        0.06571  (09021506)
       326738.03   3795152.73        0.06627  (13122107)                326781.33
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326794.01	3795031.22	0.06367	(13010101)	326977.50	3795110.69	0.05330	(12022205)
326994.05	3795107.87	0.05315	(12022205)	326984.52	3795093.80	0.05316	(12022205)
326972.85	3795082.37	0.05321	(12011805)	326995.41	3795072.53	0.05298	(12011805)
326993.23	3795060.01	0.05298	(12011805)	326984.60	3795040.80	0.05292	(10122806)
326981.66	3795027.22	0.05289	(10122806)	327041.48	3795102.15	0.05234	(13120806)
327065.19	3795095.75	0.04870	(10010821)	327040.88	3795076.27	0.05230	(12022205)
327061.24	3795058.32	0.04918	(10121023)	327037.82	3795061.09	0.05266	(12022205)
327035.65	3795040.58	0.05257	(12011805)	327058.94	3795038.41	0.04937	(10121023)
327051.53	3795017.85	0.05046	(12011805)	327033.29	3795021.71	0.05248	(12011805)
326826.26	3795110.80	0.06045	(09021506)	326843.29	3795110.80	0.05963	(09021506)
326860.32	3795110.80	0.05916	(10122806)	326877.35	3795110.80	0.05902	(10122806)
326894.38	3795110.80	0.05878	(10122806)	326911.41			

```
 3795110.80        0.05866  (12011805)
       326928.44   3795110.80        0.05685  (12011805)                326945.47
 3795110.80        0.05389  (12011805)
       326819.99   3795048.86        0.06035  (13011507)                326838.19
 3795048.86        0.05881  (13011507)
       326856.39   3795048.86        0.05867  (13122107)                326874.59
 3795048.86        0.05854  (13122107)
       326892.79   3795048.86        0.05831  (09021506)                326910.99
 3795048.86        0.05823  (09021506)
       326929.19   3795048.86        0.05633  (09021506)                326947.39
 3795048.86        0.05336  (10122806)
       325652.30   3795689.46        0.03349  (13020608)                325747.75
 3795796.21        0.02608  (13020608)
       326251.13   3796043.75        0.02737  (10013117)                326263.91
 3795852.39        0.03531  (11012717)
       326170.84   3795648.38        0.03181  (09052906)                326148.08
 3795505.91        0.04114  (12050806)
       325511.50   3795586.39        0.03407  (13020608)

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       10:49:49

                                  PAGE  38
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
               **


                        NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.00567 AT (  325652.30,  3795689.46,
172.37,   271.00,    0.00)  DC
          2ND HIGHEST VALUE IS       0.00545 AT (  325380.55,  3795776.17,
160.97,   295.00,    0.00)  DC
          3RD HIGHEST VALUE IS       0.00520 AT (  325796.15,  3795332.59,
151.11,   185.00,    0.00)  DC
          4TH HIGHEST VALUE IS       0.00518 AT (  325850.15,  3795332.59,
150.51,   185.00,    0.00)  DC
          5TH HIGHEST VALUE IS       0.00501 AT (  325823.15,  3795332.59,
```

```
151.02,   185.00,    0.00)  DC
          6TH HIGHEST VALUE IS       0.00501 AT (  325877.15,  3795332.59,
150.22,   185.00,    0.00)  DC
          7TH HIGHEST VALUE IS       0.00489 AT (  325796.15,  3795293.59,
150.13,   185.00,    0.00)  DC
          8TH HIGHEST VALUE IS       0.00487 AT (  325904.15,  3795332.59,
149.61,   185.00,    0.00)  DC
          9TH HIGHEST VALUE IS       0.00484 AT (  325747.75,  3795796.21,
179.05,   295.00,    0.00)  DC
         10TH HIGHEST VALUE IS       0.00470 AT (  325823.15,  3795293.59,
150.11,   185.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       10:49:49

                                  PAGE  39
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                  ** CONC OF PM_2.5   IN MICROGRAMS/M**3
               **

                                                          DATE
                                              NETWORK
GROUP ID                          AVERAGE CONC     (YYMMDDHH)            RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       0.11328  ON 13122706: AT (  325904.15,
3795332.59,   149.61,   185.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   1 Warning Message(s)
A Total of   15612 Informational Message(s)

A Total of   43872 Hours Were Processed

A Total of   13724 Calm Hours Identified

A Total of   1888 Missing Hours Identified (4.30 Percent)

   ******** FATAL ERROR MESSAGES ********
              *** NONE ***

   ********   WARNING MESSAGES   ********
MX W481   43873   MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ****
   *** AERMOD Finishes Successfully ***
   ****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/4/2020
** File: C:\Lakes\AERMOD View\Phase6_Mitigated_11.4\Phase6_Mitigated_11.4.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 3 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase6_Mitigated_11.4.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       4.4651E-10     3.000        12
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326372.560 3796177.700
   AREAVERT PAREA1       326098.780 3795976.790 326037.300 3795811.770
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
```

```
**
RE STARTING
   INCLUDED Phase6_Mitigated_11.4.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE6_MITIGATED_11.4.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE6_MITIGATED_11.4.AD\AN00GALL.PLT 32
   SUMMFILE Phase6_Mitigated_11.4.sum
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 11/4/2020
** File: C:\Lakes\AERMOD View\Phase6_Mitigated_11.4\Phase6_Mitigated_11.4.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 3 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL Phase6_Mitigated_11.4.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       4.4651E-10     3.000        12
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326372.560 3796177.700
   AREAVERT PAREA1       326098.780 3795976.790 326037.300 3795811.770
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
```

```
**
RE STARTING
   INCLUDED Phase6_Mitigated_11.4.rou
RE FINISHED
**
*************************************
** AERMOD Meteorology Pathway
*************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
*************************************
** AERMOD Output Pathway
*************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PHASE6_MITIGATED_11.4.AD\01H1GALL.PLT 31
   PLOTFILE ANNUAL ALL PHASE6_MITIGATED_11.4.AD\AN00GALL.PLT 32
   SUMMFILE Phase6_Mitigated_11.4.sum
OU FINISHED

 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       11:59:17

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -
```

```
 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     841
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE
```

Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) =   24.00 ; Decay
Coef. =   0.000   ; Rot. Angle =   0.0
                  Emission Units = GRAMS/SEC   ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =   3.6 MB of RAM.

 **Input Runstream File: aermod.inp

 **Output Print File: aermod.out

 **Detailed Error/Message File: Phase6_Mitigated_11.4.err

 **File for Summary of Results: Phase6_Mitigated_11.4.sum

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                *** AREAPOLY SOURCE DATA ***

              NUMBER EMISSION RATE   LOCATION OF AREA BASE   RELEASE NUMBER
  INIT.   URBAN EMISSION RATE
   SOURCE   PART. (GRAMS/SEC   X   Y   ELEV.   HEIGHT OF VERTS.
   SZ   SOURCE SCALAR VARY
     ID   CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
(METERS)   BY
 -
- -

 PAREA1   0   0.44651E-09 325117.2 3795248.3   146.0   3.00   12
   0.00   NO

*** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID   SOURCE IDs
 -----------   ----------

  ALL   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

     (326346.0, 3795634.0,   172.5,   190.0,   0.0);   (326414.1,
3795779.7,   180.0,   277.0,   0.0);
     (326435.8, 3795773.5,   176.6,   277.0,   0.0);   (326458.3,
3795772.8,   174.6,   277.0,   0.0);
     (326424.2, 3795858.8,   178.9,   295.0,   0.0);   (326400.2,
3795799.8,   182.9,   277.0,   0.0);
     (326400.9, 3795767.9,   180.8,   277.0,   0.0);   (326424.2,
3795858.8,   178.9,   295.0,   0.0);
     (326611.8, 3795763.0,   168.9,   277.0,   0.0);   (326611.8,
3795763.0,   168.9,   277.0,   0.0);
     (326610.9, 3795777.7,   169.0,   277.0,   0.0);   (326605.9,
3795792.9,   169.0,   277.0,   0.0);
     (326623.9, 3795809.0,   169.6,   277.0,   0.0);   (326627.2,
3795836.6,   170.1,   295.0,   0.0);
     (326640.1, 3795836.6,   170.2,   277.0,   0.0);   (326654.5,
3795868.7,   171.6,   291.0,   0.0);
     (326665.5, 3795883.1,   172.0,   295.0,   0.0);   (326588.3,
3795867.6,   175.1,   277.0,   0.0);
     (326640.5, 3795951.9,   177.0,   295.0,   0.0);   (326658.5,
3795975.6,   175.5,   295.0,   0.0);
     (326759.5, 3796019.3,   178.2,   277.0,   0.0);   (326763.6,
3796031.8,   178.1,   291.0,   0.0);

```
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
     ( 326806.7, 3795493.9,     157.9,     217.0,       0.0);         ( 326824.1,
3795494.4,     157.9,     217.0,       0.0);
     ( 326853.5, 3795481.7,     157.5,     217.0,       0.0);         ( 326898.8,
3795534.4,     158.0,     217.0,       0.0);
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     ( 325796.1, 3795215.6,     149.4,     149.4,       0.0);         ( 325823.1,
3795215.6,     149.0,     149.0,       0.0);
     ( 326012.1, 3795215.6,     150.0,     150.0,       0.0);         ( 326120.1,
3795215.6,     151.0,     151.0,       0.0);
     ( 326147.1, 3795215.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795254.6,     149.4,     185.0,       0.0);
     ( 325823.1, 3795254.6,     149.0,     185.0,       0.0);         ( 325850.1,
3795254.6,     149.0,     149.0,       0.0);
     ( 325877.1, 3795254.6,     149.0,     149.0,       0.0);         ( 325904.1,
3795254.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795254.6,     149.9,     149.9,       0.0);         ( 325958.1,
3795254.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795254.6,     150.0,     150.0,       0.0);         ( 326012.1,
3795254.6,     150.7,     150.7,       0.0);
     ( 326039.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326066.1,
3795254.6,     151.0,     151.0,       0.0);
     ( 326093.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326120.1,
3795254.6,     151.0,     151.0,       0.0);
↟ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       11:59:17

                                  PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     ( 326147.1, 3795254.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795293.6,     150.1,     185.0,       0.0);
     ( 325823.1, 3795293.6,     150.1,     185.0,       0.0);         ( 325850.1,
3795293.6,     149.7,     185.0,       0.0);
     ( 325877.1, 3795293.6,     149.2,     185.0,       0.0);         ( 325904.1,
3795293.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795293.6,     150.0,     150.0,       0.0);         ( 325958.1,
3795293.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795293.6,     150.9,     150.9,       0.0);         ( 326012.1,
3795293.6,     151.2,     151.2,       0.0);
     ( 326039.1, 3795293.6,     151.2,     151.2,       0.0);         ( 326066.1,
3795293.6,     151.7,     151.7,       0.0);
     ( 326093.1, 3795293.6,     152.0,     152.0,       0.0);         ( 326120.1,
3795293.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795293.6,     152.0,     152.0,       0.0);         ( 325796.1,
3795332.6,     151.1,     185.0,       0.0);
     ( 325823.1, 3795332.6,     151.0,     185.0,       0.0);         ( 325850.1,
3795332.6,     150.5,     185.0,       0.0);
     ( 325877.1, 3795332.6,     150.2,     185.0,       0.0);         ( 325904.1,
3795332.6,     149.6,     185.0,       0.0);
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     ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
3795332.6,     150.5,     166.0,       0.0);
     ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
     ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
     ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325972.4, 3795004.9,     149.3,     149.3,       0.0);         ( 325997.4,
3795004.9,     149.7,     149.7,       0.0);
     ( 326022.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326122.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326147.4,
3795004.9,     150.3,     150.3,       0.0);
     ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
     ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
     ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795088.9,     150.2,     150.2,       0.0);
     ( 326122.4, 3795088.9,     150.7,     150.7,       0.0);         ( 326147.4,
3795088.9,     151.0,     151.0,       0.0);
     ( 325847.4, 3795130.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795130.9,     149.0,     149.0,       0.0);
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     ( 325897.4, 3795130.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795130.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795130.9,     149.6,     149.6,       0.0);         ( 325972.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 325997.4, 3795130.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795130.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795130.9,     150.6,     150.6,       0.0);         ( 326122.4,
3795130.9,     151.0,     151.0,       0.0);
     ( 326147.4, 3795130.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795172.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795172.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795172.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795172.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795172.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795172.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795172.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795172.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795172.9,     150.2,     150.2,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       11:59:17

                                   PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                                 *** DISCRETE CARTESIAN RECEPTORS ***
                                               (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                           (METERS)

     ( 326072.4, 3795172.9,     150.8,     150.8,       0.0);         ( 325847.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795214.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795214.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795214.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326072.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326097.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326147.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326096.6, 3795181.5,     151.0,     151.0,       0.0);         ( 326118.6,
3795182.6,     151.0,     151.0,       0.0);
     ( 326144.3, 3795184.1,     151.0,     151.0,       0.0);         ( 325849.7,
3794829.6,     148.0,     148.0,       0.0);
     ( 325892.6, 3794829.6,     148.0,     148.0,       0.0);         ( 325935.5,
3794829.6,     148.8,     148.8,       0.0);
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     ( 325978.3, 3794829.6,     149.0,     149.0,       0.0);         ( 326021.2,
3794829.6,     149.0,     149.0,       0.0);
     ( 326064.1, 3794829.6,     149.5,     149.5,       0.0);         ( 325849.7,
3794867.5,     148.0,     148.0,       0.0);
     ( 325892.6, 3794867.5,     148.8,     148.8,       0.0);         ( 325935.5,
3794867.5,     149.0,     149.0,       0.0);
     ( 325978.3, 3794867.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794867.5,     149.0,     149.0,       0.0);
     ( 326064.1, 3794867.5,     149.5,     149.5,       0.0);         ( 325849.7,
3794905.5,     148.1,     148.1,       0.0);
     ( 325892.6, 3794905.5,     148.9,     148.9,       0.0);         ( 325935.5,
3794905.5,     149.0,     149.0,       0.0);
     ( 325978.3, 3794905.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794905.5,     149.1,     149.1,       0.0);
     ( 326064.1, 3794905.5,     150.0,     150.0,       0.0);         ( 325849.7,
3794943.4,     148.4,     148.4,       0.0);
     ( 325892.6, 3794943.4,     149.0,     149.0,       0.0);         ( 325935.5,
3794943.4,     149.0,     149.0,       0.0);
     ( 325978.3, 3794943.4,     149.0,     149.0,       0.0);         ( 326021.2,
3794943.4,     149.1,     149.1,       0.0);
     ( 326064.1, 3794943.4,     150.0,     150.0,       0.0);         ( 325849.7,
3794981.3,     148.9,     148.9,       0.0);
     ( 325892.6, 3794981.3,     149.0,     149.0,       0.0);         ( 325935.5,
3794981.3,     149.0,     149.0,       0.0);
     ( 325978.3, 3794981.3,     149.0,     149.0,       0.0);         ( 326021.2,
3794981.3,     149.8,     149.8,       0.0);
     ( 326064.1, 3794981.3,     150.0,     150.0,       0.0);         ( 325855.3,
3794726.6,     148.0,     148.0,       0.0);
     ( 325902.6, 3794726.6,     148.0,     148.0,       0.0);         ( 325855.3,
3794745.5,     148.0,     148.0,       0.0);
     ( 325902.6, 3794745.5,     148.0,     148.0,       0.0);         ( 325855.3,
3794764.4,     148.0,     148.0,       0.0);
     ( 325902.6, 3794764.4,     148.0,     148.0,       0.0);         ( 325855.3,
3794783.3,     148.0,     148.0,       0.0);
     ( 325902.6, 3794783.3,     148.0,     148.0,       0.0);         ( 325855.3,
3794802.2,     148.0,     148.0,       0.0);
     ( 325902.6, 3794802.2,     148.0,     148.0,       0.0);         ( 325855.3,
3794821.1,     148.0,     148.0,       0.0);
     ( 325902.6, 3794821.1,     148.1,     148.1,       0.0);         ( 326402.8,
3795249.3,     152.8,     152.8,       0.0);
     ( 325380.5, 3795776.2,     161.0,     295.0,       0.0);         ( 325415.9,
3795858.3,     176.6,     271.0,       0.0);
     ( 325409.9, 3795995.0,     190.3,     271.0,       0.0);         ( 325416.6,
3796058.1,     193.4,     282.0,       0.0);
     ( 325409.6, 3796164.9,     201.8,     291.0,       0.0);         ( 325322.7,
3796083.9,     190.0,     292.0,       0.0);
     ( 325297.9, 3796111.1,     184.9,     295.0,       0.0);         ( 325246.7,
3796076.1,     181.2,     295.0,       0.0);
     ( 325280.0, 3796260.7,     211.4,     292.0,       0.0);         ( 325237.0,
3796200.4,     205.0,     292.0,       0.0);
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(325163.0, 3796071.1, 180.4, 292.0, 0.0); (325215.7, 3795991.4, 177.4, 292.0, 0.0);
(325208.3, 3795926.9, 173.0, 292.0, 0.0); (325249.5, 3795829.2, 171.2, 291.0, 0.0);
(325171.5, 3795759.2, 160.9, 292.0, 0.0); (325129.2, 3795756.4, 158.4, 292.0, 0.0);
(325154.8, 3795886.2, 167.8, 292.0, 0.0); (325068.5, 3795885.4, 171.6, 292.0, 0.0);
(325047.9, 3795938.0, 175.5, 292.0, 0.0); (325045.8, 3795982.7, 176.4, 292.0, 0.0);
(325072.0, 3796106.7, 179.6, 292.0, 0.0); (325060.6, 3796290.4, 197.1, 292.0, 0.0);
(324903.7, 3796379.8, 214.8, 292.0, 0.0); (324787.8, 3796510.4, 197.3, 292.0, 0.0);
(324916.5, 3796618.3, 201.7, 292.0, 0.0); (326493.0, 3796356.3, 198.5, 295.0, 0.0);
(326552.7, 3796900.0, 235.2, 295.0, 0.0); (326599.3, 3796893.6, 237.6, 293.0, 0.0);
(326617.4, 3796889.5, 237.6, 293.0, 0.0); (326639.4, 3796881.9, 233.8, 293.0, 0.0);
(326663.7, 3796864.1, 225.7, 295.0, 0.0); (326679.5, 3796885.2, 227.5, 293.0, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326697.8, 3796898.3, 229.7, 293.0, 0.0); (326712.3, 3796916.6, 233.6, 293.0, 0.0);
(326726.6, 3796931.1, 236.4, 290.0, 0.0); (326742.2, 3796948.0, 240.5, 290.0, 0.0);
(326756.6, 3796965.7, 242.1, 290.0, 0.0); (326772.1, 3796973.3, 239.2, 290.0, 0.0);
(326785.2, 3796890.5, 223.1, 293.0, 0.0); (326800.1, 3797003.9, 233.0, 290.0, 0.0);
(326818.0, 3797014.9, 229.2, 290.0, 0.0); (326813.7, 3796843.9, 215.1, 293.0, 0.0);
(326833.9, 3796853.6, 216.3, 293.0, 0.0); (326848.6, 3796873.4, 217.5, 293.0, 0.0);
(326864.2, 3796885.1, 217.7, 293.0, 0.0); (326877.9, 3796901.2, 218.2, 292.0, 0.0);
(326893.8, 3796917.1, 220.4, 292.0, 0.0); (326904.5, 3796938.8, 223.9, 292.0, 0.0);

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     ( 326907.6, 3796966.2,     224.5,     292.0,       0.0);         ( 326914.5,
3796991.7,     227.6,     292.0,       0.0);
     ( 326921.9, 3797038.4,     232.7,     292.0,       0.0);         ( 326596.6,
3797264.1,     273.2,     288.0,       0.0);
     ( 326830.0, 3795735.4,     183.6,     217.0,       0.0);         ( 326866.5,
3795706.9,     182.8,     217.0,       0.0);
     ( 326831.5, 3795646.6,     161.0,     217.0,       0.0);         ( 326872.9,
3795644.9,     160.9,     217.0,       0.0);
     ( 326898.9, 3795644.7,     160.9,     217.0,       0.0);         ( 326924.7,
3795650.1,     161.6,     217.0,       0.0);
     ( 326949.7, 3795646.4,     161.1,     217.0,       0.0);         ( 326975.6,
3795638.8,     162.5,     217.0,       0.0);
     ( 326917.9, 3795602.8,     159.0,     217.0,       0.0);         ( 326918.6,
3795584.1,     158.0,     217.0,       0.0);
     ( 326921.6, 3795563.5,     158.0,     217.0,       0.0);         ( 326917.2,
3795537.1,     158.0,     217.0,       0.0);
     ( 326935.0, 3795592.2,     158.8,     217.0,       0.0);         ( 326951.0,
3795599.5,     159.5,     217.0,       0.0);
     ( 326950.3, 3795555.9,     158.0,     217.0,       0.0);         ( 326951.6,
3795535.1,     158.0,     217.0,       0.0);
     ( 326961.8, 3795537.6,     158.0,     217.0,       0.0);         ( 326982.2,
3795538.3,     158.0,     217.0,       0.0);
     ( 326992.4, 3795539.1,     158.0,     217.0,       0.0);         ( 327009.0,
3795535.6,     158.0,     217.0,       0.0);
     ( 326987.7, 3795581.0,     159.0,     217.0,       0.0);         ( 327024.8,
3795588.4,     160.1,     217.0,       0.0);
     ( 326925.1, 3795485.9,     158.0,     217.0,       0.0);         ( 326937.8,
3795488.3,     158.0,     217.0,       0.0);
     ( 326956.5, 3795489.3,     158.0,     217.0,       0.0);         ( 326970.9,
3795491.0,     158.0,     217.0,       0.0);
     ( 326990.0, 3795487.7,     158.0,     217.0,       0.0);         ( 325049.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325124.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325161.8, 3794362.9,     143.2,     143.2,       0.0);         ( 325199.3,
3794362.9,     143.2,     143.2,       0.0);
     ( 325236.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325274.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325049.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794386.1,     143.0,     143.0,       0.0);
     ( 325124.3, 3794386.1,     143.2,     143.2,       0.0);         ( 325161.8,
3794386.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794386.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794386.1,     143.1,     143.1,       0.0);
     ( 325274.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325049.3,
3794409.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794409.3,     143.0,     143.0,       0.0);         ( 325124.3,
3794409.3,     143.2,     143.2,       0.0);
     ( 325161.8, 3794409.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794409.3,     144.0,     144.0,       0.0);
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     ( 325236.8, 3794409.3,     143.8,     143.8,       0.0);         ( 325274.3,
3794409.3,     143.7,     143.7,       0.0);
     ( 325049.3, 3794432.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794432.5,     143.0,     143.0,       0.0);
     ( 325124.3, 3794432.5,     143.6,     143.6,       0.0);         ( 325161.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325049.3,
3794455.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794455.7,     143.3,     143.3,       0.0);         ( 325124.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325049.3, 3794478.9,     143.0,     143.0,       0.0);         ( 325086.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325124.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325161.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325199.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325236.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325274.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325049.3,
3794502.1,     143.0,     143.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                          ***        11:59:17

                                    PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                       (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     ( 325086.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325124.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325161.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325199.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325236.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325274.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325049.3, 3794525.3,     143.0,     143.0,       0.0);         ( 325086.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325124.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325161.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325199.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325236.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
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     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794687.7,     145.0,     145.0,       0.0);
     ( 324871.6, 3794298.6,     141.0,     141.0,       0.0);         ( 324910.5,
3794298.6,     141.1,     141.1,       0.0);
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     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
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     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794074.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794074.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794074.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794074.7,     137.8,     137.8,       0.0);
     ( 324596.8, 3794074.7,     137.6,     137.6,       0.0);         ( 324633.8,
3794074.7,     137.1,     137.1,       0.0);
     ( 324670.7, 3794074.7,     137.0,     137.0,       0.0);         ( 324707.7,
3794074.7,     137.2,     137.2,       0.0);
     ( 324744.6, 3794074.7,     137.9,     137.9,       0.0);         ( 324781.6,
3794074.7,     139.3,     139.3,       0.0);
     ( 324449.0, 3794106.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794106.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794106.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794106.7,     138.0,     138.0,       0.0);
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     ( 324596.8, 3794106.7,     138.0,     138.0,       0.0);         ( 324633.8,
3794106.7,     137.7,     137.7,       0.0);
     ( 324670.7, 3794106.7,     137.7,     137.7,       0.0);         ( 324707.7,
3794106.7,     138.0,     138.0,       0.0);
     ( 324744.6, 3794106.7,     139.2,     139.2,       0.0);         ( 324781.6,
3794106.7,     139.9,     139.9,       0.0);
     ( 324449.0, 3794138.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794138.6,     138.0,     138.0,       0.0);
     ( 324522.9, 3794138.6,     138.0,     138.0,       0.0);         ( 324559.9,
3794138.6,     138.0,     138.0,       0.0);
     ( 324596.8, 3794138.6,     138.0,     138.0,       0.0);         ( 324633.8,
3794138.6,     138.6,     138.6,       0.0);
     ( 324670.7, 3794138.6,     138.7,     138.7,       0.0);         ( 324707.7,
3794138.6,     139.0,     139.0,       0.0);
     ( 324744.6, 3794138.6,     139.9,     139.9,       0.0);         ( 324781.6,
3794138.6,     140.0,     140.0,       0.0);
     ( 324449.0, 3794170.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794170.6,     138.0,     138.0,       0.0);
     ( 324522.9, 3794170.6,     138.1,     138.1,       0.0);         ( 324559.9,
3794170.6,     138.8,     138.8,       0.0);
     ( 324596.8, 3794170.6,     138.8,     138.8,       0.0);         ( 324633.8,
3794170.6,     139.0,     139.0,       0.0);
     ( 324670.7, 3794170.6,     139.1,     139.1,       0.0);         ( 324707.7,
3794170.6,     139.9,     139.9,       0.0);
     ( 324744.6, 3794170.6,     140.0,     140.0,       0.0);         ( 324781.6,
3794170.6,     140.6,     140.6,       0.0);
     ( 324449.0, 3794202.6,     138.0,     138.0,       0.0);         ( 324486.0,
3794202.6,     138.0,     138.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       11:59:17

                                  PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     ( 324522.9, 3794202.6,     138.2,     138.2,       0.0);         ( 324559.9,
3794202.6,     139.0,     139.0,       0.0);
     ( 324596.8, 3794202.6,     139.0,     139.0,       0.0);         ( 324633.8,
3794202.6,     139.0,     139.0,       0.0);
     ( 324670.7, 3794202.6,     139.9,     139.9,       0.0);         ( 324707.7,
3794202.6,     140.0,     140.0,       0.0);
     ( 324744.6, 3794202.6,     140.0,     140.0,       0.0);         ( 324781.6,
3794202.6,     140.8,     140.8,       0.0);
     ( 324449.0, 3794234.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794234.5,     138.0,     138.0,       0.0);
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     ( 324522.9, 3794234.5,     138.2,     138.2,       0.0);         ( 324559.9,
3794234.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794234.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794234.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794234.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794234.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794234.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794234.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794266.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794266.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794266.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794266.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794266.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794266.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794266.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794266.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794266.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794266.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794298.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794298.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794298.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794298.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794298.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794298.5,     139.9,     139.9,       0.0);
     ( 324670.7, 3794298.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794298.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794298.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794298.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794330.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794330.4,     138.1,     138.1,       0.0);
     ( 324522.9, 3794330.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794330.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794330.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794330.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794330.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794330.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794330.4,     140.1,     140.1,       0.0);         ( 324781.6,
3794330.4,     140.8,     140.8,       0.0);
     ( 324449.0, 3794362.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794362.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794362.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794362.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794362.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794362.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794362.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794362.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794362.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794362.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794394.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794394.4,     138.9,     138.9,       0.0);
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(324522.9, 3794490.3, 139.0, 139.0, 0.0); (324559.9, 3794490.3, 139.0, 139.0, 0.0);
(324596.8, 3794490.3, 139.6, 139.6, 0.0); (324633.8, 3794490.3, 140.0, 140.0, 0.0);
(324670.7, 3794490.3, 140.0, 140.0, 0.0); (324707.7, 3794490.3, 140.3, 140.3, 0.0);
(324744.6, 3794490.3, 141.0, 141.0, 0.0); (324781.6, 3794490.3, 141.0, 141.0, 0.0);

```
     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794522.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794522.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794522.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794522.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794554.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794554.2,     139.2,     139.2,       0.0);
     ( 324596.8, 3794554.2,     139.8,     139.8,       0.0);         ( 324633.8,
3794554.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794554.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794554.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794586.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794586.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794586.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794586.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794586.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794586.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794586.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794586.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794586.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794586.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794618.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794618.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794618.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794618.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794618.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794618.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794618.2,     140.1,     140.1,       0.0);         ( 324707.7,
3794618.2,     140.8,     140.8,       0.0);
     ( 324744.6, 3794618.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794618.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794650.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794650.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794650.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794650.1,     141.0,     141.0,       0.0);
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     ( 324449.0, 3794682.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794682.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794682.1,     139.1,     139.1,       0.0);         ( 324559.9,
3794682.1,     139.9,     139.9,       0.0);
     ( 324596.8, 3794682.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794682.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794682.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794682.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794682.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794682.1,     141.0,     141.0,       0.0);
     ( 326547.4, 3795022.1,     153.0,     153.0,       0.0);         ( 326594.7,
3795022.1,     153.3,     153.3,       0.0);
     ( 326642.0, 3795022.1,     154.0,     154.0,       0.0);         ( 326547.4,
3795042.5,     153.0,     153.0,       0.0);
     ( 326594.7, 3795042.5,     153.9,     153.9,       0.0);         ( 326642.0,
3795042.5,     154.0,     154.0,       0.0);
     ( 326547.4, 3795062.9,     153.0,     153.0,       0.0);         ( 326594.7,
3795062.9,     154.0,     154.0,       0.0);
     ( 326642.0, 3795062.9,     154.0,     154.0,       0.0);         ( 326547.4,
3795083.3,     153.1,     153.1,       0.0);
     ( 326594.7, 3795083.3,     154.0,     154.0,       0.0);         ( 326642.0,
3795083.3,     154.0,     154.0,       0.0);
     ( 326547.4, 3795103.7,     153.6,     153.6,       0.0);         ( 326594.7,
3795103.7,     154.0,     154.0,       0.0);
     ( 326642.0, 3795103.7,     154.0,     154.0,       0.0);         ( 326547.4,
3795124.1,     153.6,     153.6,       0.0);
     ( 326594.7, 3795124.1,     154.0,     154.0,       0.0);         ( 326642.0,
3795124.1,     154.0,     154.0,       0.0);
     ( 326547.4, 3795144.5,     153.7,     153.7,       0.0);         ( 326594.7,
3795144.5,     154.0,     154.0,       0.0);
     ( 326642.0, 3795144.5,     154.0,     154.0,       0.0);         ( 326547.4,
3795164.9,     154.0,     154.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       11:59:17

                                    PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                                (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                             (METERS)

     ( 326594.7, 3795164.9,     154.0,     154.0,       0.0);         ( 326642.0,
3795164.9,     154.0,     154.0,       0.0);
     ( 326547.4, 3795185.3,     154.0,     154.0,       0.0);         ( 326594.7,
3795185.3,     154.0,     154.0,       0.0);
     ( 326642.0, 3795185.3,     154.0,     154.0,       0.0);         ( 326547.4,
3795205.7,     154.0,     154.0,       0.0);
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     ( 326594.7, 3795205.7,     154.0,     154.0,       0.0);         ( 326642.0,
3795205.7,     154.2,     154.2,       0.0);
     ( 326547.4, 3795226.1,     154.0,     154.0,       0.0);         ( 326594.7,
3795226.1,     154.0,     154.0,       0.0);
     ( 326642.0, 3795226.1,     154.8,     154.8,       0.0);         ( 326547.4,
3795246.5,     154.0,     154.0,       0.0);
     ( 326594.7, 3795246.5,     154.1,     154.1,       0.0);         ( 326642.0,
3795246.5,     154.9,     154.9,       0.0);
     ( 326690.4, 3795243.4,     155.0,     155.0,       0.0);         ( 326688.7,
3795223.0,     155.0,     155.0,       0.0);
     ( 326686.0, 3795005.8,     154.0,     154.0,       0.0);         ( 326686.0,
3795033.7,     154.1,     154.1,       0.0);
     ( 326686.0, 3795061.5,     154.3,     154.3,       0.0);         ( 326686.0,
3795089.4,     154.3,     154.3,       0.0);
     ( 326686.0, 3795117.3,     154.3,     154.3,       0.0);         ( 326686.0,
3795145.2,     154.3,     154.3,       0.0);
     ( 326686.0, 3795173.1,     154.4,     154.4,       0.0);         ( 326686.0,
3795201.0,     155.0,     155.0,       0.0);
     ( 326832.8, 3795263.3,     155.3,     155.3,       0.0);         ( 326849.7,
3795263.3,     155.8,     155.8,       0.0);
     ( 326866.5, 3795263.3,     156.0,     156.0,       0.0);         ( 326883.4,
3795263.3,     156.0,     156.0,       0.0);
     ( 326900.3, 3795263.3,     156.0,     156.0,       0.0);         ( 326917.1,
3795263.3,     156.0,     156.0,       0.0);
     ( 326934.0, 3795263.3,     156.5,     156.5,       0.0);         ( 326950.9,
3795263.3,     157.0,     157.0,       0.0);
     ( 326967.8, 3795263.3,     157.0,     157.0,       0.0);         ( 326984.6,
3795263.3,     157.2,     157.2,       0.0);
     ( 327001.5, 3795263.3,     157.8,     157.8,       0.0);         ( 327036.8,
3795141.3,     157.0,     157.0,       0.0);
     ( 327075.7, 3795141.3,     158.0,     158.0,       0.0);         ( 327036.8,
3795160.9,     157.0,     157.0,       0.0);
     ( 327075.7, 3795160.9,     158.0,     158.0,       0.0);         ( 327036.8,
3795180.5,     157.0,     157.0,       0.0);
     ( 327075.7, 3795180.5,     158.0,     158.0,       0.0);         ( 327036.8,
3795200.0,     157.1,     157.1,       0.0);
     ( 327075.7, 3795200.0,     158.0,     158.0,       0.0);         ( 327036.8,
3795219.6,     157.7,     157.7,       0.0);
     ( 327075.7, 3795219.6,     158.0,     158.0,       0.0);         ( 327036.8,
3795239.1,     158.0,     158.0,       0.0);
     ( 327075.7, 3795239.1,     158.0,     158.0,       0.0);         ( 327036.8,
3795258.7,     158.0,     158.0,       0.0);
     ( 327075.7, 3795258.7,     158.0,     158.0,       0.0);         ( 327036.8,
3795278.3,     158.0,     158.0,       0.0);
     ( 327075.7, 3795278.3,     158.0,     158.0,       0.0);         ( 326840.0,
3795223.2,     155.4,     155.4,       0.0);
     ( 326860.6, 3795224.2,     156.0,     156.0,       0.0);         ( 326877.3,
3795222.7,     156.0,     156.0,       0.0);
     ( 326929.7, 3795223.7,     156.4,     156.4,       0.0);         ( 326932.9,
3795200.0,     156.5,     156.5,       0.0);
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     ( 326972.3, 3795217.0,     157.0,     157.0,       0.0);         ( 326970.8,
3795177.6,     157.0,     157.0,       0.0);
     ( 326968.2, 3795152.5,     157.0,     157.0,       0.0);         ( 326998.4,
3795149.8,     157.0,     157.0,       0.0);
     ( 326997.5, 3795176.6,     157.0,     157.0,       0.0);         ( 326995.6,
3795193.0,     157.0,     157.0,       0.0);
     ( 326996.9, 3795215.8,     157.0,     157.0,       0.0);         ( 326917.0,
3795152.2,     156.0,     156.0,       0.0);
     ( 326902.0, 3795150.5,     156.0,     156.0,       0.0);         ( 326884.2,
3795164.4,     156.0,     156.0,       0.0);
     ( 326867.3, 3795151.3,     156.0,     156.0,       0.0);         ( 326873.2,
3795163.4,     156.0,     156.0,       0.0);
     ( 326845.5, 3795152.1,     155.6,     155.6,       0.0);         ( 326824.9,
3795151.4,     155.0,     155.0,       0.0);
     ( 326826.6, 3795170.6,     155.0,     155.0,       0.0);         ( 326840.5,
3795180.2,     155.4,     155.4,       0.0);
     ( 326799.4, 3795148.0,     155.0,     155.0,       0.0);         ( 326776.8,
3795147.9,     155.0,     155.0,       0.0);
     ( 326738.0, 3795152.7,     155.0,     155.0,       0.0);         ( 326781.3,
3795110.8,     155.0,     155.0,       0.0);
     ( 326806.1, 3795109.0,     155.2,     155.2,       0.0);         ( 326804.5,
3795090.7,     155.2,     155.2,       0.0);
     ( 326781.8, 3795086.7,     155.0,     155.0,       0.0);         ( 326787.4,
3795061.8,     155.0,     155.0,       0.0);
     ( 326794.0, 3795031.2,     155.0,     155.0,       0.0);         ( 326977.5,
3795110.7,     157.0,     157.0,       0.0);
     ( 326994.0, 3795107.9,     157.0,     157.0,       0.0);         ( 326984.5,
3795093.8,     157.0,     157.0,       0.0);
     ( 326972.8, 3795082.4,     157.0,     157.0,       0.0);         ( 326995.4,
3795072.5,     157.0,     157.0,       0.0);
     ( 326993.2, 3795060.0,     157.0,     157.0,       0.0);         ( 326984.6,
3795040.8,     157.0,     157.0,       0.0);
     ( 326981.7, 3795027.2,     157.0,     157.0,       0.0);         ( 327041.5,
3795102.1,     157.1,     157.1,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       11:59:17

                                    PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 327065.2, 3795095.8,     157.9,     157.9,       0.0);         ( 327040.9,
3795076.3,     157.1,     157.1,       0.0);
     ( 327061.2, 3795058.3,     157.8,     157.8,       0.0);         ( 327037.8,
3795061.1,     157.0,     157.0,       0.0);
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     ( 327035.6, 3795040.6,     157.0,     157.0,       0.0);         ( 327058.9,
3795038.4,     157.7,     157.7,       0.0);
     ( 327051.5, 3795017.8,     157.4,     157.4,       0.0);         ( 327033.3,
3795021.7,     157.0,     157.0,       0.0);
     ( 326826.3, 3795110.8,     155.8,     155.8,       0.0);         ( 326843.3,
3795110.8,     155.9,     155.9,       0.0);
     ( 326860.3, 3795110.8,     156.0,     156.0,       0.0);         ( 326877.3,
3795110.8,     156.0,     156.0,       0.0);
     ( 326894.4, 3795110.8,     156.0,     156.0,       0.0);         ( 326911.4,
3795110.8,     156.0,     156.0,       0.0);
     ( 326928.4, 3795110.8,     156.3,     156.3,       0.0);         ( 326945.5,
3795110.8,     156.9,     156.9,       0.0);
     ( 326820.0, 3795048.9,     155.7,     155.7,       0.0);         ( 326838.2,
3795048.9,     156.0,     156.0,       0.0);
     ( 326856.4, 3795048.9,     156.0,     156.0,       0.0);         ( 326874.6,
3795048.9,     156.0,     156.0,       0.0);
     ( 326892.8, 3795048.9,     156.0,     156.0,       0.0);         ( 326911.0,
3795048.9,     156.0,     156.0,       0.0);
     ( 326929.2, 3795048.9,     156.4,     156.4,       0.0);         ( 326947.4,
3795048.9,     157.0,     157.0,       0.0);
     ( 325652.3, 3795689.5,     172.4,     271.0,       0.0);         ( 325747.8,
3795796.2,     179.1,     295.0,       0.0);
     ( 326251.1, 3796043.8,     195.4,     295.0,       0.0);         ( 326263.9,
3795852.4,     183.1,     295.0,       0.0);
     ( 326170.8, 3795648.4,     173.3,     173.3,       0.0);         ( 326148.1,
3795505.9,     161.2,     182.0,       0.0);
     ( 325511.5, 3795586.4,     181.9,     181.9,       0.0);

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       11:59:17

                                   PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                              (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
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            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

                NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON
WHAT IS INCLUDED IN THE DATA FILE.



                                     *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED
CATEGORIES ***
                                                          (METERS/SEC)

                                                  1.54,   3.09,   5.14,   8.23,
10.80,
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       11:59:17

                                  PAGE  15
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                   *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL
DATA ***

   Surface file:   M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.   Met Version:  14134
   Profile file:   M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.
   Surface format: FREE

   Profile format: FREE

   Surface station no.:    23136                 Upper air station no.:    93214
                 Name: UNKNOWN                                     Name: UNKNOWN

                 Year:   2009                                      Year:   2009

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN
ALBEDO  REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
 09 01 01   1 01 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  281.4    2.0
 09 01 01   1 02 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.9    2.0
```

```
 09 01 01   1 03   -3.3  0.067 -9.000 -9.000 -999.   42.      8.3  0.05   0.81
1.00    1.76  214.   10.0  280.9    2.0
 09 01 01   1 04 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 05   -6.6  0.115 -9.000 -9.000 -999.   94.     21.1  0.03   0.81
1.00    2.36   93.   10.0  280.4    2.0
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00   281.5   99.0  -99.00  -99.00
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
326345.95	3795634.03	0.00034	326414.12	3795779.67	0.00030
326435.80	3795773.48	0.00032	326458.31	3795772.83	0.00034
326424.24	3795858.77	0.00033	326400.20	3795799.84	0.00028
326400.93	3795767.87	0.00029	326424.24	3795858.77	0.00033
326611.84	3795762.99	0.00036	326611.84	3795762.99	0.00036
326610.94	3795777.66	0.00036	326605.86	3795792.89	0.00037
326623.93	3795809.00	0.00035	326627.22	3795836.58	0.00035
326640.09	3795836.58	0.00034	326654.45	3795868.68	0.00032
326665.45	3795883.13	0.00031	326588.30	3795867.62	0.00030
326640.52	3795951.95	0.00028	326658.45	3795975.58	0.00028
326759.52	3796019.28	0.00022	326763.60	3796031.85	0.00022
326775.94	3796048.05	0.00022	326774.23	3796062.19	0.00022
326801.34	3796078.38	0.00021	326809.46	3796094.93	0.00020
326736.80	3796108.96	0.00021	326835.84		

3796126.62 0.00018
326836.27 3796140.13 0.00018 326800.95
3796123.31 0.00020
326762.39 3796138.51 0.00019 326766.63
3796155.18 0.00017
326774.14 3796169.68 0.00016 326798.07
3796201.57 0.00014
326808.84 3796229.51 0.00013 326880.95
3796184.59 0.00015
326915.56 3796260.01 0.00013 326941.07
3796261.11 0.00012
326958.24 3796277.25 0.00012 326964.89
3796291.08 0.00011
326984.47 3796322.92 0.00010 326993.31
3796349.42 0.00010
326993.49 3796365.88 0.00010 327007.03
3796382.47 0.00010
326972.07 3796390.18 0.00009 326996.78
3796414.54 0.00009
326693.51 3795789.66 0.00020 326695.37
3795771.29 0.00020
326727.00 3795761.34 0.00020 326758.55
3795787.48 0.00016
326761.76 3795813.54 0.00014 326742.22
3795837.06 0.00014
326838.64 3795823.91 0.00012 326811.45
3795889.81 0.00011
326823.87 3795855.97 0.00011 326876.62
3795837.29 0.00010
326889.30 3795888.54 0.00010 326687.45
3795683.69 0.00038
326829.20 3795731.31 0.00017 326859.14
3795703.62 0.00016
326881.10 3795705.58 0.00017 326787.44
3795607.00 0.00044
326780.76 3795563.55 0.00047 326800.04
3795542.65 0.00048
326808.89 3795540.15 0.00048 326825.79
3795543.65 0.00048
326856.70 3795545.31 0.00047 326792.33
3795494.19 0.00048
326806.68 3795493.93 0.00047 326824.07
3795494.42 0.00047
326853.52 3795481.71 0.00046 326898.80
3795534.37 0.00045
325796.15 3795215.59 0.00078 325823.15
3795215.59 0.00077
326012.15 3795215.59 0.00068 326120.15
3795215.59 0.00064
326147.15 3795215.59 0.00063 325796.15

3795254.59   0.00089
         325823.15   3795254.59   0.00087   325850.15
3795254.59   0.00085

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                    *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                     INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                     **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 - - -

3795332.59 0.00104
325823.15 3795332.59 0.00102 325850.15
3795332.59 0.00106
325877.15 3795332.59 0.00104 325904.15
3795332.59 0.00102
325931.15 3795332.59 0.00099 325958.15
3795332.59 0.00096
325985.15 3795332.59 0.00087 326012.15
3795332.59 0.00083
326039.15 3795332.59 0.00081 326066.15
3795332.59 0.00080
326093.15 3795332.59 0.00079 326120.15
3795332.59 0.00078
326147.15 3795332.59 0.00076 325847.44
3795004.89 0.00041
325872.44 3795004.89 0.00041 325897.44
3795004.89 0.00041
325922.44 3795004.89 0.00041 325947.44
3795004.89 0.00041
325972.44 3795004.89 0.00041 325997.44
3795004.89 0.00040
326022.44 3795004.89 0.00040 326047.44
3795004.89 0.00040
326072.44 3795004.89 0.00040 326097.44
3795004.89 0.00040
326122.44 3795004.89 0.00040 326147.44
3795004.89 0.00040
325847.44 3795046.89 0.00046 325872.44
3795046.89 0.00046
325897.44 3795046.89 0.00046 325922.44
3795046.89 0.00046
325947.44 3795046.89 0.00045 325972.44
3795046.89 0.00045
325997.44 3795046.89 0.00045 326022.44
3795046.89 0.00044
326047.44 3795046.89 0.00044 326072.44
3795046.89 0.00044
326097.44 3795046.89 0.00044 326122.44
3795046.89 0.00044
326147.44 3795046.89 0.00043 325847.44
3795088.89 0.00052
325872.44 3795088.89 0.00052 325897.44
3795088.89 0.00051
325922.44 3795088.89 0.00051 325947.44
3795088.89 0.00050
325972.44 3795088.89 0.00050 325997.44
3795088.89 0.00049
326022.44 3795088.89 0.00049 326047.44
3795088.89 0.00049
326072.44 3795088.89 0.00049 326097.44

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5
YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

** CONC OF PM_2.5 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325897.44	3795130.89	0.00058	325922.44	3795130.89	0.00057
325947.44	3795130.89	0.00056	325972.44	3795130.89	0.00056
325997.44	3795130.89	0.00055	326022.44	3795130.89	0.00055
326047.44	3795130.89	0.00054	326072.44	3795130.89	0.00054
326097.44	3795130.89	0.00053	326122.44	3795130.89	0.00052
326147.44	3795130.89	0.00052	325847.44	3795172.89	0.00067
325872.44	3795172.89	0.00066	325897.44	3795172.89	0.00065
325922.44	3795172.89	0.00064	325947.44	3795172.89	0.00063
325972.44	3795172.89	0.00062	325997.44	3795172.89	0.00061
326022.44	3795172.89	0.00061	326047.44	3795172.89	0.00060
326072.44	3795172.89	0.00059	325847.44	3795214.89	0.00076
325872.44	3795214.89	0.00074	325897.44		

3795214.89 0.00073
325922.44 3795214.89 0.00072 325947.44
3795214.89 0.00071
325972.44 3795214.89 0.00069 325997.44
3795214.89 0.00069
326047.44 3795214.89 0.00066 326072.44
3795214.89 0.00065
326097.44 3795214.89 0.00064 326147.44
3795214.89 0.00063
326096.58 3795181.52 0.00060 326118.63
3795182.57 0.00059
326144.35 3795184.14 0.00059 325849.74
3794829.62 0.00027
325892.61 3794829.62 0.00027 325935.48
3794829.62 0.00027
325978.35 3794829.62 0.00027 326021.22
3794829.62 0.00027
326064.09 3794829.62 0.00027 325849.74
3794867.55 0.00029
325892.61 3794867.55 0.00029 325935.48
3794867.55 0.00029
325978.35 3794867.55 0.00029 326021.22
3794867.55 0.00029
326064.09 3794867.55 0.00029 325849.74
3794905.48 0.00032
325892.61 3794905.48 0.00032 325935.48
3794905.48 0.00032
325978.35 3794905.48 0.00032 326021.22
3794905.48 0.00032
326064.09 3794905.48 0.00032 325849.74
3794943.41 0.00035
325892.61 3794943.41 0.00035 325935.48
3794943.41 0.00035
325978.35 3794943.41 0.00035 326021.22
3794943.41 0.00035
326064.09 3794943.41 0.00035 325849.74
3794981.34 0.00039
325892.61 3794981.34 0.00039 325935.48
3794981.34 0.00038
325978.35 3794981.34 0.00038 326021.22
3794981.34 0.00038
326064.09 3794981.34 0.00038 325855.31
3794726.62 0.00022
325902.64 3794726.62 0.00022 325855.31
3794745.52 0.00023
325902.64 3794745.52 0.00023 325855.31
3794764.42 0.00024
325902.64 3794764.42 0.00024 325855.31
3794783.32 0.00025
325902.64 3794783.32 0.00025 325855.31

```
3794802.22        0.00026
         325902.64    3794802.22        0.00026                       325855.31
3794821.12        0.00027
         325902.64    3794821.12        0.00027                       326402.77
3795249.33        0.00055
         325380.55    3795776.17        0.00149                       325415.88
3795858.35        0.00067
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        11:59:17

                                  PAGE  19
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         325409.93    3795994.97        0.00037                       325416.60
3796058.09        0.00031
         325409.65    3796164.95        0.00013                       325322.71
3796083.91        0.00017
         325297.93    3796111.07        0.00014                       325246.73
3796076.15        0.00017
         325280.01    3796260.66        0.00003                       325237.05
3796200.45        0.00004
         325163.03    3796071.11        0.00013                       325215.74
3795991.41        0.00026
         325208.29    3795926.88        0.00039                       325249.48
3795829.20        0.00058
         325171.49    3795759.19        0.00099                       325129.24
3795756.40        0.00111
         325154.75    3795886.20        0.00050                       325068.55
3795885.45        0.00034
         325047.86    3795938.00        0.00022                       325045.84
3795982.69        0.00018
         325071.95    3796106.74        0.00010                       325060.64
3796290.38        0.00002
         324903.71    3796379.80        0.00001                       324787.84
```

3796510.42 0.00001
324916.48 3796618.27 0.00001 326492.96
3796356.32 0.00020
326552.73 3796900.01 0.00005 326599.30
3796893.60 0.00005
326617.42 3796889.51 0.00005 326639.41
3796881.91 0.00005
326663.73 3796864.08 0.00005 326679.47
3796885.20 0.00005
326697.81 3796898.31 0.00005 326712.34
3796916.60 0.00005
326726.62 3796931.14 0.00005 326742.23
3796948.02 0.00004
326756.58 3796965.73 0.00004 326772.07
3796973.30 0.00004
326785.22 3796890.50 0.00005 326800.10
3797003.95 0.00004
326817.96 3797014.86 0.00004 326813.74
3796843.93 0.00006
326833.92 3796853.59 0.00006 326848.61
3796873.43 0.00005
326864.19 3796885.12 0.00005 326877.92
3796901.20 0.00005
326893.85 3796917.11 0.00005 326904.49
3796938.77 0.00005
326907.64 3796966.22 0.00004 326914.45
3796991.73 0.00004
326921.92 3797038.42 0.00004 326596.56
3797264.10 0.00002
326829.98 3795735.43 0.00016 326866.53
3795706.88 0.00016
326831.50 3795646.57 0.00042 326872.90
3795644.95 0.00041
326898.91 3795644.66 0.00040 326924.66
3795650.14 0.00038
326949.68 3795646.43 0.00038 326975.59
3795638.84 0.00034
326917.88 3795602.78 0.00043 326918.63
3795584.13 0.00045
326921.61 3795563.48 0.00045 326917.18
3795537.15 0.00044
326934.99 3795592.17 0.00043 326951.04
3795599.47 0.00041
326950.26 3795555.95 0.00044 326951.59
3795535.07 0.00043
326961.83 3795537.57 0.00043 326982.25
3795538.33 0.00042
326992.41 3795539.09 0.00042 327008.98
3795535.58 0.00041
326987.68 3795580.97 0.00040 327024.81

3795588.42 0.00037
326925.07 3795485.95 0.00043 326937.83
3795488.27 0.00043
326956.45 3795489.28 0.00042 326970.89
3795491.03 0.00042
326989.96 3795487.68 0.00041 325049.27
3794362.92 0.00019
325086.77 3794362.92 0.00018 325124.27
3794362.92 0.00018

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325161.77	3794362.92	0.00017	325199.27	3794362.92	0.00016
325236.77	3794362.92	0.00016	325274.27	3794362.92	0.00015
325049.27	3794386.12	0.00020	325086.77	3794386.12	0.00019
325124.27	3794386.12	0.00018	325161.77	3794386.12	0.00018
325199.27	3794386.12	0.00017	325236.77	3794386.12	0.00016
325274.27	3794386.12	0.00016	325049.27	3794409.32	0.00021
325086.77	3794409.32	0.00020	325124.27	3794409.32	0.00019
325161.77	3794409.32	0.00018	325199.27	3794409.32	0.00018
325236.77	3794409.32	0.00017	325274.27	3794409.32	0.00016
325049.27	3794432.52	0.00022	325086.77		

3794432.52 0.00021
325124.27 3794432.52 0.00020 325161.77
3794432.52 0.00019
325199.27 3794432.52 0.00018 325236.77
3794432.52 0.00018
325274.27 3794432.52 0.00017 325049.27
3794455.72 0.00023
325086.77 3794455.72 0.00022 325124.27
3794455.72 0.00021
325161.77 3794455.72 0.00020 325199.27
3794455.72 0.00019
325236.77 3794455.72 0.00018 325274.27
3794455.72 0.00018
325049.27 3794478.92 0.00024 325086.77
3794478.92 0.00023
325124.27 3794478.92 0.00022 325161.77
3794478.92 0.00021
325199.27 3794478.92 0.00020 325236.77
3794478.92 0.00019
325274.27 3794478.92 0.00019 325049.27
3794502.12 0.00025
325086.77 3794502.12 0.00024 325124.27
3794502.12 0.00023
325161.77 3794502.12 0.00022 325199.27
3794502.12 0.00021
325236.77 3794502.12 0.00020 325274.27
3794502.12 0.00019
325049.27 3794525.32 0.00026 325086.77
3794525.32 0.00025
325124.27 3794525.32 0.00024 325161.77
3794525.32 0.00023
325199.27 3794525.32 0.00022 325236.77
3794525.32 0.00021
325274.27 3794525.32 0.00020 325049.27
3794548.52 0.00027
325086.77 3794548.52 0.00026 325124.27
3794548.52 0.00025
325161.77 3794548.52 0.00024 325199.27
3794548.52 0.00023
325236.77 3794548.52 0.00022 325274.27
3794548.52 0.00021
325049.27 3794571.72 0.00029 325086.77
3794571.72 0.00027
325124.27 3794571.72 0.00026 325161.77
3794571.72 0.00025
325199.27 3794571.72 0.00024 325236.77
3794571.72 0.00023
325274.27 3794571.72 0.00022 325049.27
3794594.92 0.00030
325086.77 3794594.92 0.00029 325124.27

3794594.92   0.00027
         325161.77   3794594.92   0.00026   325199.27
3794594.92   0.00025
         325236.77   3794594.92   0.00024   325274.27
3794594.92   0.00023
         325049.27   3794618.12   0.00032   325086.77
3794618.12   0.00030
         325124.27   3794618.12   0.00029   325161.77
3794618.12   0.00027
         325199.27   3794618.12   0.00026   325236.77
3794618.12   0.00025

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                            ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 - - -

3794687.72 0.00033
325161.77 3794687.72 0.00032 325199.27
3794687.72 0.00030
325236.77 3794687.72 0.00029 325274.27
3794687.72 0.00028
324871.62 3794298.63 0.00021 324910.53
3794298.63 0.00020
324949.44 3794298.63 0.00019 324988.35
3794298.63 0.00018
324871.62 3794320.43 0.00022 324910.53
3794320.43 0.00021
324949.44 3794320.43 0.00020 324988.35
3794320.43 0.00019
324871.62 3794342.23 0.00022 324910.53
3794342.23 0.00022
324949.44 3794342.23 0.00021 324988.35
3794342.23 0.00020
324871.62 3794364.03 0.00023 324910.53
3794364.03 0.00023
324949.44 3794364.03 0.00021 324988.35
3794364.03 0.00020
324871.62 3794385.83 0.00025 324910.53
3794385.83 0.00024
324949.44 3794385.83 0.00022 324988.35
3794385.83 0.00021
324871.62 3794407.63 0.00026 324910.53
3794407.63 0.00024
324949.44 3794407.63 0.00023 324988.35
3794407.63 0.00022
324871.62 3794429.43 0.00027 324910.53
3794429.43 0.00026
324949.44 3794429.43 0.00024 324988.35
3794429.43 0.00023
324871.62 3794451.23 0.00028 324910.53
3794451.23 0.00027
324949.44 3794451.23 0.00025 324988.35
3794451.23 0.00024
324871.62 3794473.03 0.00029 324910.53
3794473.03 0.00028
324949.44 3794473.03 0.00027 324988.35
3794473.03 0.00025
324871.62 3794494.83 0.00030 324910.53
3794494.83 0.00029
324949.44 3794494.83 0.00028 324988.35
3794494.83 0.00027
324871.62 3794516.63 0.00032 324910.53
3794516.63 0.00030
324949.44 3794516.63 0.00029 324988.35
3794516.63 0.00028
324871.62 3794538.43 0.00033 324910.53

3794538.43   0.00032
         324949.44   3794538.43   0.00030   324988.35
3794538.43   0.00029
         324871.62   3794560.23   0.00034   324910.53
3794560.23   0.00033
         324949.44   3794560.23   0.00032   324988.35
3794560.23   0.00030
         324871.62   3794582.03   0.00036   324910.53
3794582.03   0.00034
         324949.44   3794582.03   0.00033   324988.35
3794582.03   0.00032
         324871.62   3794603.83   0.00037   324910.53
3794603.83   0.00036

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                   INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3794691.03 0.00043
324949.44 3794691.03 0.00042 324988.35
3794691.03 0.00040
324449.04 3794074.69 0.00021 324485.99
3794074.69 0.00021
324522.94 3794074.69 0.00020 324559.89
3794074.69 0.00019
324596.84 3794074.69 0.00019 324633.79
3794074.69 0.00018
324670.74 3794074.69 0.00017 324707.69
3794074.69 0.00016
324744.64 3794074.69 0.00016 324781.59
3794074.69 0.00016
324449.04 3794106.66 0.00022 324485.99
3794106.66 0.00021
324522.94 3794106.66 0.00021 324559.89
3794106.66 0.00020
324596.84 3794106.66 0.00020 324633.79
3794106.66 0.00019
324670.74 3794106.66 0.00018 324707.69
3794106.66 0.00018
324744.64 3794106.66 0.00017 324781.59
3794106.66 0.00017
324449.04 3794138.63 0.00023 324485.99
3794138.63 0.00022
324522.94 3794138.63 0.00022 324559.89
3794138.63 0.00021
324596.84 3794138.63 0.00021 324633.79
3794138.63 0.00020
324670.74 3794138.63 0.00020 324707.69
3794138.63 0.00019
324744.64 3794138.63 0.00018 324781.59
3794138.63 0.00017
324449.04 3794170.60 0.00024 324485.99
3794170.60 0.00023
324522.94 3794170.60 0.00023 324559.89
3794170.60 0.00023
324596.84 3794170.60 0.00022 324633.79
3794170.60 0.00021
324670.74 3794170.60 0.00021 324707.69
3794170.60 0.00020
324744.64 3794170.60 0.00019 324781.59
3794170.60 0.00019
324449.04 3794202.57 0.00025 324485.99
3794202.57 0.00024
324522.94 3794202.57 0.00024 324559.89
3794202.57 0.00024
324596.84 3794202.57 0.00023 324633.79
3794202.57 0.00022
324670.74 3794202.57 0.00022 324707.69

3794202.57   0.00021
         324744.64   3794202.57   0.00020   324781.59
3794202.57   0.00020
         324449.04   3794234.54   0.00026   324485.99
3794234.54   0.00025
         324522.94   3794234.54   0.00025   324559.89
3794234.54   0.00025
         324596.84   3794234.54   0.00024   324633.79
3794234.54   0.00024
         324670.74   3794234.54   0.00023   324707.69
3794234.54   0.00022
         324744.64   3794234.54   0.00021   324781.59
3794234.54   0.00021
         324449.04   3794266.51   0.00027   324485.99
3794266.51   0.00026

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                            ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 - - -

3794298.48 0.00026
324670.74 3794298.48 0.00026 324707.69
3794298.48 0.00025
324744.64 3794298.48 0.00024 324781.59
3794298.48 0.00023
324449.04 3794330.45 0.00029 324485.99
3794330.45 0.00029
324522.94 3794330.45 0.00029 324559.89
3794330.45 0.00028
324596.84 3794330.45 0.00028 324633.79
3794330.45 0.00027
324670.74 3794330.45 0.00027 324707.69
3794330.45 0.00026
324744.64 3794330.45 0.00025 324781.59
3794330.45 0.00024
324449.04 3794362.42 0.00031 324485.99
3794362.42 0.00031
324522.94 3794362.42 0.00030 324559.89
3794362.42 0.00030
324596.84 3794362.42 0.00029 324633.79
3794362.42 0.00029
324670.74 3794362.42 0.00028 324707.69
3794362.42 0.00027
324744.64 3794362.42 0.00027 324781.59
3794362.42 0.00026
324449.04 3794394.39 0.00032 324485.99
3794394.39 0.00032
324522.94 3794394.39 0.00032 324559.89
3794394.39 0.00031
324596.84 3794394.39 0.00030 324633.79
3794394.39 0.00030
324670.74 3794394.39 0.00030 324707.69
3794394.39 0.00029
324744.64 3794394.39 0.00028 324781.59
3794394.39 0.00027
324449.04 3794426.36 0.00034 324485.99
3794426.36 0.00034
324522.94 3794426.36 0.00033 324559.89
3794426.36 0.00033
324596.84 3794426.36 0.00032 324633.79
3794426.36 0.00032
324670.74 3794426.36 0.00031 324707.69
3794426.36 0.00030
324744.64 3794426.36 0.00030 324781.59
3794426.36 0.00029
324449.04 3794458.33 0.00036 324485.99
3794458.33 0.00036
324522.94 3794458.33 0.00035 324559.89
3794458.33 0.00034
324596.84 3794458.33 0.00034 324633.79

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
324522.94	3794522.27	0.00039	324559.89	3794522.27	0.00038
324596.84	3794522.27	0.00038	324633.79	3794522.27	0.00038
324670.74	3794522.27	0.00037	324707.69	3794522.27	0.00036
324744.64	3794522.27	0.00035	324781.59	3794522.27	0.00034
324449.04	3794554.24	0.00042	324485.99	3794554.24	0.00042
324522.94	3794554.24	0.00041	324559.89		

3794554.24 0.00041
324596.84 3794554.24 0.00041 324633.79
3794554.24 0.00040
324670.74 3794554.24 0.00039 324707.69
3794554.24 0.00038
324744.64 3794554.24 0.00038 324781.59
3794554.24 0.00036
324449.04 3794586.21 0.00044 324485.99
3794586.21 0.00044
324522.94 3794586.21 0.00044 324559.89
3794586.21 0.00043
324596.84 3794586.21 0.00043 324633.79
3794586.21 0.00042
324670.74 3794586.21 0.00041 324707.69
3794586.21 0.00040
324744.64 3794586.21 0.00040 324781.59
3794586.21 0.00039
324449.04 3794618.18 0.00047 324485.99
3794618.18 0.00047
324522.94 3794618.18 0.00046 324559.89
3794618.18 0.00046
324596.84 3794618.18 0.00046 324633.79
3794618.18 0.00045
324670.74 3794618.18 0.00044 324707.69
3794618.18 0.00043
324744.64 3794618.18 0.00042 324781.59
3794618.18 0.00041
324449.04 3794650.15 0.00050 324485.99
3794650.15 0.00049
324522.94 3794650.15 0.00049 324559.89
3794650.15 0.00048
324596.84 3794650.15 0.00048 324633.79
3794650.15 0.00048
324670.74 3794650.15 0.00047 324707.69
3794650.15 0.00047
324744.64 3794650.15 0.00045 324781.59
3794650.15 0.00044
324449.04 3794682.12 0.00052 324485.99
3794682.12 0.00052
324522.94 3794682.12 0.00052 324559.89
3794682.12 0.00052
324596.84 3794682.12 0.00051 324633.79
3794682.12 0.00051
324670.74 3794682.12 0.00050 324707.69
3794682.12 0.00050
324744.64 3794682.12 0.00048 324781.59
3794682.12 0.00047
326547.36 3795022.06 0.00035 326594.67
3795022.06 0.00035
326641.98 3795022.06 0.00034 326547.36

3795042.46   0.00036
         326594.67   3795042.46   0.00035   326641.98
3795042.46   0.00035
         326547.36   3795062.86   0.00038   326594.67
3795062.86   0.00036
         326641.98   3795062.86   0.00036   326547.36
3795083.26   0.00039
         326594.67   3795083.26   0.00037   326641.98
3795083.26   0.00037
         326547.36   3795103.66   0.00040   326594.67
3795103.66   0.00039
         326641.98   3795103.66   0.00038   326547.36
3795124.06   0.00041
         326594.67   3795124.06   0.00040   326641.98
3795124.06   0.00039
         326547.36   3795144.46   0.00042   326594.67
3795144.46   0.00041
         326641.98   3795144.46   0.00041   326547.36
3795164.86   0.00043

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3795226.06 0.00047
326641.98 3795226.06 0.00045 326547.36
3795246.46 0.00049
326594.67 3795246.46 0.00048 326641.98
3795246.46 0.00046
326690.43 3795243.37 0.00045 326688.67
3795223.05 0.00043
326686.02 3795005.77 0.00032 326686.02
3795033.66 0.00034
326686.02 3795061.55 0.00035 326686.02
3795089.44 0.00037
326686.02 3795117.33 0.00038 326686.02
3795145.22 0.00040
326686.02 3795173.11 0.00041 326686.02
3795201.00 0.00042
326832.80 3795263.26 0.00043 326849.67
3795263.26 0.00041
326866.54 3795263.26 0.00041 326883.41
3795263.26 0.00040
326900.28 3795263.26 0.00040 326917.15
3795263.26 0.00040
326934.02 3795263.26 0.00039 326950.89
3795263.26 0.00038
326967.76 3795263.26 0.00037 326984.63
3795263.26 0.00037
327001.50 3795263.26 0.00036 327036.85
3795141.35 0.00032
327075.72 3795141.35 0.00030 327036.85
3795160.91 0.00033
327075.72 3795160.91 0.00031 327036.85
3795180.47 0.00033
327075.72 3795180.47 0.00032 327036.85
3795200.03 0.00034
327075.72 3795200.03 0.00032 327036.85
3795219.59 0.00034
327075.72 3795219.59 0.00033 327036.85
3795239.15 0.00034
327075.72 3795239.15 0.00033 327036.85
3795258.71 0.00035
327075.72 3795258.71 0.00034 327036.85
3795278.27 0.00035
327075.72 3795278.27 0.00034 326840.04
3795223.24 0.00040
326860.58 3795224.16 0.00039 326877.30
3795222.74 0.00039
326929.68 3795223.69 0.00037 326932.86
3795200.00 0.00036
326972.32 3795217.03 0.00036 326970.84
3795177.58 0.00034
326968.20 3795152.46 0.00033 326998.43

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3795149.77        0.00033
         326997.48    3795176.61        0.00034                        326995.60
3795193.01        0.00034
         326996.92    3795215.78        0.00035                        326916.97
3795152.19        0.00035
         326901.95    3795150.46        0.00035                        326884.24
3795164.40        0.00036
         326867.32    3795151.32        0.00036                        326873.22
3795163.36        0.00036
         326845.53    3795152.12        0.00037                        326824.91
3795151.45        0.00038
         326826.60    3795170.60        0.00038                        326840.50
3795180.17        0.00038
         326799.39    3795147.97        0.00038                        326776.77
3795147.89        0.00038
         326738.03    3795152.73        0.00039                        326781.33
3795110.75        0.00036
         326806.10    3795109.04        0.00035                        326804.45
3795090.73        0.00034
         326781.78    3795086.72        0.00035                        326787.40
3795061.79        0.00033
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       11:59:17

                                  PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         326794.01    3795031.22        0.00032                        326977.50
3795110.69        0.00032
         326994.05    3795107.87        0.00031                        326984.52
3795093.80        0.00031
         326972.85    3795082.37        0.00031                        326995.41
3795072.53        0.00030
         326993.23    3795060.01        0.00030                        326984.60
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3795040.80        0.00029
         326981.66    3795027.22        0.00028                        327041.48
3795102.15        0.00030
         327065.19    3795095.75        0.00029                        327040.88
3795076.27        0.00030
         327061.24    3795058.32        0.00028                        327037.82
3795061.09        0.00029
         327035.65    3795040.58        0.00029                        327058.94
3795038.41        0.00028
         327051.53    3795017.85        0.00027                        327033.29
3795021.71        0.00028
         326826.26    3795110.80        0.00034                        326843.29
3795110.80        0.00034
         326860.32    3795110.80        0.00034                        326877.35
3795110.80        0.00034
         326894.38    3795110.80        0.00034                        326911.41
3795110.80        0.00033
         326928.44    3795110.80        0.00033                        326945.47
3795110.80        0.00032
         326819.99    3795048.86        0.00032                        326838.19
3795048.86        0.00031
         326856.39    3795048.86        0.00031                        326874.59
3795048.86        0.00031
         326892.79    3795048.86        0.00031                        326910.99
3795048.86        0.00031
         326929.19    3795048.86        0.00030                        326947.39
3795048.86        0.00029
         325652.30    3795689.46        0.00151                        325747.75
3795796.21        0.00133
         326251.13    3796043.75        0.00052                        326263.91
3795852.39        0.00039
         326170.84    3795648.38        0.00045                        326148.08
3795505.91        0.00057
         325511.50    3795586.39        0.00120

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        11:59:17

                                   PAGE  27
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***
```

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326345.95	3795634.03	0.00565	(09051606)	326414.12	3795779.67	0.00523	(12012517)
326435.80	3795773.48	0.00537	(12012517)	326458.31	3795772.83	0.00547	(12012517)
326424.24	3795858.77	0.00550	(12012517)	326400.20	3795799.84	0.00518	(12012517)
326400.93	3795767.87	0.00518	(12012517)	326424.24	3795858.77	0.00550	(12012517)
326611.84	3795762.99	0.00608	(10021408)	326611.84	3795762.99	0.00608	(10021408)
326610.94	3795777.66	0.00609	(10021408)	326605.86	3795792.89	0.00615	(10021408)
326623.93	3795809.00	0.00601	(10021408)	326627.22	3795836.58	0.00597	(10021408)
326640.09	3795836.58	0.00592	(10021408)	326654.45	3795868.68	0.00558	(10021408)
326665.45	3795883.13	0.00542	(10021408)	326588.30	3795867.62	0.00508	(12012517)
326640.52	3795951.95	0.00428	(09040107)	326658.45	3795975.58	0.00444	(12021505)
326759.52	3796019.28	0.00415	(11032918)	326763.60	3796031.85	0.00425	(11032918)
326775.94	3796048.05	0.00443	(11012717)	326774.23	3796062.19	0.00472	(11012717)
326801.34	3796078.38	0.00471	(11012717)	326809.46	3796094.93	0.00484	(11012717)
326736.80	3796108.96	0.00512	(11012717)	326835.84	3796126.62	0.00483	(11012717)
326836.27	3796140.13	0.00489	(11012717)	326800.95	3796123.31	0.00513	(11012717)
326762.39	3796138.51	0.00490	(11032918)	326766.63	3796155.18	0.00481	(11032918)
326774.14	3796169.68	0.00471	(11032918)	326798.07	3796201.57	0.00454	(09053006)
326808.84	3796229.51	0.00424	(09052906)	326880.95	3796184.59	0.00458	(11012717)
326915.56	3796260.01	0.00460	(09052906)	326941.07	3796261.11	0.00446	(09052906)
326958.24	3796277.25	0.00436	(09052906)	326964.89	3796291.08	0.00416	(09052906)
326984.47	3796322.92	0.00390	(11012717)	326993.31	3796349.42	0.00399	(11012717)
326993.49	3796365.88	0.00412	(11012717)	327007.03			

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 3796382.47         0.00422  (11012717)
       326972.07   3796390.18        0.00439  (11012717)                326996.78
 3796414.54         0.00454  (11012717)
       326693.51   3795789.66        0.00434  (12012517)                326695.37
 3795771.29         0.00439  (12012517)
       326727.00   3795761.34        0.00435  (12012517)                326758.55
 3795787.48         0.00391  (12012517)
       326761.76   3795813.54        0.00354  (12012517)                326742.22
 3795837.06         0.00338  (12012517)
       326838.64   3795823.91        0.00304  (12012517)                326811.45
 3795889.81         0.00252  (09040107)
       326823.87   3795855.97        0.00260  (09040107)                326876.62
 3795837.29         0.00266  (09040107)
       326889.30   3795888.54        0.00238  (10040207)                326687.45
 3795683.69         0.00695  (10021408)
       326829.20   3795731.31        0.00404  (12012517)                326859.14
 3795703.62         0.00396  (12012517)
       326881.10   3795705.58        0.00406  (12012517)                326787.44
 3795607.00         0.00930  (13010108)
       326780.76   3795563.55        0.01080  (13010108)                326800.04
 3795542.65         0.01146  (13010108)
       326808.89   3795540.15        0.01165  (13010108)                326825.79
 3795543.65         0.01184  (13010108)
       326856.70   3795545.31        0.01179  (13010108)                326792.33
 3795494.19         0.01201  (10121407)
       326806.68   3795493.93        0.01200  (10121407)                326824.07
 3795494.42         0.01194  (10121407)
       326853.52   3795481.71        0.01229  (10121407)                326898.80
 3795534.37         0.01166  (13010108)
       325796.15   3795215.59        0.03138  (09022002)                325823.15
 3795215.59         0.03107  (10122722)
       326012.15   3795215.59        0.02705  (11121424)                326120.15
 3795215.59         0.02498  (11012807)
       326147.15   3795215.59        0.02468  (11120707)                325796.15
 3795254.59         0.03222  (09022002)
       325823.15   3795254.59        0.03205  (10122722)                325850.15
 3795254.59         0.03151  (09120405)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       11:59:17

                                  PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS
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** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325877.15	3795254.59	0.03089	(12122704)	325904.15	3795254.59	0.03024	(11120907)
325931.15	3795254.59	0.02909	(13122706)	325958.15	3795254.59	0.02860	(11011303)
325985.15	3795254.59	0.02805	(11121424)	326012.15	3795254.59	0.02713	(11121424)
326039.15	3795254.59	0.02641	(11121424)	326066.15	3795254.59	0.02604	(11012807)
326093.15	3795254.59	0.02581	(11012807)	326120.15	3795254.59	0.02549	(11120707)
326147.15	3795254.59	0.02506	(11120707)	325796.15	3795293.59	0.03224	(10122722)
325823.15	3795293.59	0.03179	(09120405)	325850.15	3795293.59	0.03168	(12122704)
325877.15	3795293.59	0.03161	(11120907)	325904.15	3795293.59	0.03101	(13122706)
325931.15	3795293.59	0.02978	(11011303)	325958.15	3795293.59	0.02916	(11011303)
325985.15	3795293.59	0.02797	(11121424)	326012.15	3795293.59	0.02523	(11011602)
326039.15	3795293.59	0.02487	(11012807)	326066.15	3795293.59	0.02386	(11012807)
326093.15	3795293.59	0.02303	(13011505)	326120.15	3795293.59	0.02272	(09010718)
326147.15	3795293.59	0.02261	(13122406)	325796.15	3795332.59	0.02883	(10122722)
325823.15	3795332.59	0.02861	(12122704)	325850.15	3795332.59	0.03145	(11120907)
325877.15	3795332.59	0.03128	(13122706)	325904.15	3795332.59	0.03139	(11011303)
325931.15	3795332.59	0.03030	(11011303)	325958.15	3795332.59	0.02936	(11121424)
325985.15	3795332.59	0.02529	(11011602)	326012.15	3795332.59	0.02390	(11012807)
326039.15	3795332.59	0.02353	(11012807)	326066.15	3795332.59	0.02329	(13011505)
326093.15	3795332.59	0.02299	(09010718)	326120.15	3795332.59	0.02317	(13122406)
326147.15	3795332.59	0.02296	(10020123)	325847.44	3795004.89	0.02673	(10120705)
325872.44	3795004.89	0.02641	(09022002)	325897.44			

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 3795004.89        0.02594  (11020622)
       325922.44   3795004.89        0.02579  (10122722)               325947.44
 3795004.89        0.02548  (09120405)
       325972.44   3795004.89        0.02505  (12122704)               325997.44
 3795004.89        0.02451  (11120907)
       326022.44   3795004.89        0.02412  (11120907)               326047.44
 3795004.89        0.02383  (13122706)
       326072.44   3795004.89        0.02356  (11011303)               326097.44
 3795004.89        0.02328  (11011303)
       326122.44   3795004.89        0.02290  (12010820)               326147.44
 3795004.89        0.02266  (11121424)
       325847.44   3795046.89        0.02744  (09022002)               325872.44
 3795046.89        0.02703  (09022002)
       325897.44   3795046.89        0.02673  (10122722)               325922.44
 3795046.89        0.02642  (09120405)
       325947.44   3795046.89        0.02609  (12122704)               325972.44
 3795046.89        0.02546  (11120907)
       325997.44   3795046.89        0.02495  (11120907)               326022.44
 3795046.89        0.02464  (13122706)
       326047.44   3795046.89        0.02432  (11011303)               326072.44
 3795046.89        0.02405  (11011303)
       326097.44   3795046.89        0.02363  (12010820)               326122.44
 3795046.89        0.02328  (11121424)
       326147.44   3795046.89        0.02275  (11121424)               325847.44
 3795088.89        0.02818  (09022002)
       325872.44   3795088.89        0.02772  (10122722)               325897.44
 3795088.89        0.02746  (10122722)
       325922.44   3795088.89        0.02708  (09120405)               325947.44
 3795088.89        0.02636  (12122704)
       325972.44   3795088.89        0.02584  (11120907)               325997.44
 3795088.89        0.02551  (13122706)
       326022.44   3795088.89        0.02514  (11011303)               326047.44
 3795088.89        0.02486  (11011303)
       326072.44   3795088.89        0.02442  (12010820)               326097.44
 3795088.89        0.02414  (11121424)
       326122.44   3795088.89        0.02362  (11121424)               326147.44
 3795088.89        0.02306  (11011602)
       325847.44   3795130.89        0.02889  (09022002)               325872.44
 3795130.89        0.02859  (10122722)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        11:59:17

                                   PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325897.44	3795130.89	0.02819	(09120405)	325922.44	3795130.89	0.02778	(12122704)
325947.44	3795130.89	0.02702	(11120907)	325972.44	3795130.89	0.02644	(13122706)
325997.44	3795130.89	0.02603	(11011303)	326022.44	3795130.89	0.02574	(11011303)
326047.44	3795130.89	0.02529	(11011303)	326072.44	3795130.89	0.02509	(11121424)
326097.44	3795130.89	0.02441	(11121424)	326122.44	3795130.89	0.02378	(11011602)
326147.44	3795130.89	0.02354	(11012807)	325847.44	3795172.89	0.02979	(10122722)
325872.44	3795172.89	0.02938	(09120405)	325897.44	3795172.89	0.02895	(12122704)
325922.44	3795172.89	0.02848	(11120907)	325947.44	3795172.89	0.02769	(13122706)
325972.44	3795172.89	0.02700	(13122706)	325997.44	3795172.89	0.02669	(11011303)
326022.44	3795172.89	0.02620	(11011303)	326047.44	3795172.89	0.02586	(11121424)
326072.44	3795172.89	0.02509	(11121424)	325847.44	3795214.89	0.03071	(10122722)
325872.44	3795214.89	0.03021	(12122704)	325897.44	3795214.89	0.02968	(11120907)
325922.44	3795214.89	0.02926	(11120907)	325947.44	3795214.89	0.02836	(13122706)
325972.44	3795214.89	0.02772	(11011303)	325997.44	3795214.89	0.02723	(11011303)
326047.44	3795214.89	0.02585	(11121424)	326072.44	3795214.89	0.02537	(11011602)
326097.44	3795214.89	0.02516	(11012807)	326147.44	3795214.89	0.02466	(11120707)
326096.58	3795181.52	0.02464	(11011602)	326118.63	3795182.57	0.02450	(11012807)
326144.35	3795184.14	0.02432	(11012807)	325849.74	3794829.62	0.02435	(10120701)
325892.61	3794829.62	0.02394	(10120705)	325935.48	3794829.62	0.02334	(09022002)
325978.35	3794829.62	0.02285	(10122722)	326021.22			

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 3794829.62         0.02250  (09120405)
       326064.09    3794829.62         0.02190  (12122704)                325849.74
 3794867.55         0.02490  (10120701)
       325892.61    3794867.55         0.02425  (10120705)                325935.48
 3794867.55         0.02368  (09022002)
       325978.35    3794867.55         0.02335  (10122722)                326021.22
 3794867.55         0.02292  (12122704)
       326064.09    3794867.55         0.02232  (11120907)                325849.74
 3794905.48         0.02541  (10120701)
       325892.61    3794905.48         0.02475  (09022002)                325935.48
 3794905.48         0.02408  (11020622)
       325978.35    3794905.48         0.02379  (09120405)                326021.22
 3794905.48         0.02331  (12122704)
       326064.09    3794905.48         0.02257  (11120907)                325849.74
 3794943.41         0.02588  (10120705)
       325892.61    3794943.41         0.02524  (09022002)                325935.48
 3794943.41         0.02472  (10122722)
       325978.35    3794943.41         0.02428  (09120405)                326021.22
 3794943.41         0.02371  (11120907)
       326064.09    3794943.41         0.02298  (13122706)                325849.74
 3794981.34         0.02636  (10120705)
       325892.61    3794981.34         0.02575  (09022002)                325935.48
 3794981.34         0.02529  (10122722)
       325978.35    3794981.34         0.02478  (12122704)                326021.22
 3794981.34         0.02394  (11120907)
       326064.09    3794981.34         0.02336  (13122706)                325855.31
 3794726.62         0.02297  (10010503)
       325902.64    3794726.62         0.02256  (10120701)                325855.31
 3794745.52         0.02321  (10010503)
       325902.64    3794745.52         0.02275  (10120701)                325855.31
 3794764.42         0.02345  (10010503)
       325902.64    3794764.42         0.02297  (10120705)                325855.31
 3794783.32         0.02369  (10010503)
       325902.64    3794783.32         0.02324  (10120705)                325855.31
 3794802.22         0.02392  (10120701)
       325902.64    3794802.22         0.02350  (10120705)                325855.31
 3794821.12         0.02419  (10120701)
       325902.64    3794821.12         0.02374  (10120705)                326402.77
 3795249.33         0.01946  (12122705)
       325380.55    3795776.17         0.01451  (12120408)                325415.88
 3795858.35         0.00941  (13032807)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        11:59:17

                                   PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
```

VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                              ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
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 3797003.95         0.00213  (12102117)
       326817.96   3797014.86        0.00218  (12102117)                326813.74
 3796843.93         0.00291  (10121904)
       326833.92   3796853.59        0.00284  (10121904)                326848.61
 3796873.43         0.00277  (10121904)
       326864.19   3796885.12        0.00275  (10121904)                326877.92
 3796901.20         0.00271  (10121904)
       326893.85   3796917.11        0.00261  (10121904)                326904.49
 3796938.77         0.00248  (09062906)
       326907.64   3796966.22        0.00244  (09062906)                326914.45
 3796991.73         0.00234  (09062906)
       326921.92   3797038.42        0.00216  (09062906)                326596.56
 3797264.10         0.00149  (10102017)
       326829.98   3795735.43        0.00398  (12012517)                326866.53
 3795706.88         0.00394  (12012517)
       326831.50   3795646.57        0.00918  (13012604)                326872.90
 3795644.95         0.00925  (13012604)
       326898.91   3795644.66        0.00926  (13012604)                326924.66
 3795650.14         0.00868  (13012604)
       326949.68   3795646.43        0.00904  (13012604)                326975.59
 3795638.84         0.00803  (10021408)
       326917.88   3795602.78        0.01072  (13012604)                326918.63
 3795584.13         0.01158  (13012604)
       326921.61   3795563.48        0.01162  (10022004)                326917.18
 3795537.15         0.01164  (10022004)
       326934.99   3795592.17        0.01089  (13012604)                326951.04
 3795599.47         0.01031  (13012604)
       326950.26   3795555.95        0.01157  (10022004)                326951.59
 3795535.07         0.01159  (10022004)
       326961.83   3795537.57        0.01157  (10022004)                326982.25
 3795538.33         0.01152  (10022004)
       326992.41   3795539.09        0.01149  (10022004)                327008.98
 3795535.58         0.01145  (10022004)
       326987.68   3795580.97        0.01063  (13012604)                327024.81
 3795588.42         0.00974  (13012604)
       326925.07   3795485.95        0.01165  (13010108)                326937.83
 3795488.27         0.01163  (13010108)
       326956.45   3795489.28        0.01159  (12011705)                326970.89
 3795491.03         0.01155  (12011705)
       326989.96   3795487.68        0.01149  (12011705)                325049.27
 3794362.92         0.02271  (11122506)
       325086.77   3794362.92        0.02252  (09121401)                325124.27
 3794362.92         0.02235  (13122103)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        11:59:17

                                  PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325161.77	3794362.92	0.02221	(13122407)	325199.27	3794362.92	0.02192	(12021824)
325236.77	3794362.92	0.02162	(09122106)	325274.27	3794362.92	0.02158	(13013002)
325049.27	3794386.12	0.02301	(11122506)	325086.77	3794386.12	0.02279	(10123020)
325124.27	3794386.12	0.02270	(13122103)	325161.77	3794386.12	0.02287	(13122407)
325199.27	3794386.12	0.02255	(12021824)	325236.77	3794386.12	0.02192	(09122106)
325274.27	3794386.12	0.02183	(13013002)	325049.27	3794409.32	0.02329	(11122506)
325086.77	3794409.32	0.02309	(10123020)	325124.27	3794409.32	0.02298	(13122103)
325161.77	3794409.32	0.02319	(13122407)	325199.27	3794409.32	0.02284	(12021824)
325236.77	3794409.32	0.02254	(09122106)	325274.27	3794409.32	0.02246	(13013002)
325049.27	3794432.52	0.02357	(11122506)	325086.77	3794432.52	0.02338	(10123020)
325124.27	3794432.52	0.02349	(09121401)	325161.77	3794432.52	0.02349	(13122407)
325199.27	3794432.52	0.02313	(13122407)	325236.77	3794432.52	0.02295	(09122106)
325274.27	3794432.52	0.02285	(13013002)	325049.27	3794455.72	0.02384	(11121006)
325086.77	3794455.72	0.02382	(11122506)	325124.27	3794455.72	0.02401	(09121401)
325161.77	3794455.72	0.02378	(13122407)	325199.27	3794455.72	0.02348	(13122407)
325236.77	3794455.72	0.02324	(09122106)	325274.27	3794455.72	0.02312	(13013002)
325049.27	3794478.92	0.02421	(11121006)	325086.77	3794478.92	0.02453	(11122506)
325124.27	3794478.92	0.02433	(09121401)	325161.77			

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 3794478.92         0.02411  (13122103)
       325199.27   3794478.92         0.02383  (13122407)                325236.77
 3794478.92         0.02352  (09122106)
       325274.27   3794478.92         0.02339  (13013002)                325049.27
 3794502.12         0.02457  (11121006)
       325086.77   3794502.12         0.02487  (11122506)                325124.27
 3794502.12         0.02466  (10123020)
       325161.77   3794502.12         0.02444  (13122103)                325199.27
 3794502.12         0.02419  (13122407)
       325236.77   3794502.12         0.02385  (12021824)                325274.27
 3794502.12         0.02366  (13013002)
       325049.27   3794525.32         0.02491  (11121006)                325086.77
 3794525.32         0.02521  (11122506)
       325124.27   3794525.32         0.02501  (10123020)                325161.77
 3794525.32         0.02477  (13122103)
       325199.27   3794525.32         0.02454  (13122407)                325236.77
 3794525.32         0.02418  (12021824)
       325274.27   3794525.32         0.02393  (13013002)                325049.27
 3794548.52         0.02526  (11121006)
       325086.77   3794548.52         0.02553  (11122506)                325124.27
 3794548.52         0.02536  (10123020)
       325161.77   3794548.52         0.02512  (09121401)                325199.27
 3794548.52         0.02489  (13122407)
       325236.77   3794548.52         0.02451  (12021824)                325274.27
 3794548.52         0.02425  (09122106)
       325049.27   3794571.72         0.02559  (11121006)                325086.77
 3794571.72         0.02593  (11121006)
       325124.27   3794571.72         0.02573  (11122506)                325161.77
 3794571.72         0.02548  (09121401)
       325199.27   3794571.72         0.02524  (13122407)                325236.77
 3794571.72         0.02483  (12021824)
       325274.27   3794571.72         0.02460  (09122106)                325049.27
 3794594.92         0.02591  (11121006)
       325086.77   3794594.92         0.02635  (11121006)                325124.27
 3794594.92         0.02611  (11122506)
       325161.77   3794594.92         0.02585  (09121401)                325199.27
 3794594.92         0.02559  (13122103)
       325236.77   3794594.92         0.02524  (13122407)                325274.27
 3794594.92         0.02495  (09122106)
       325049.27   3794618.12         0.02634  (13010624)                325086.77
 3794618.12         0.02676  (11121006)
       325124.27   3794618.12         0.02649  (11122506)                325161.77
 3794618.12         0.02623  (10123020)
       325199.27   3794618.12         0.02598  (13122103)                325236.77
 3794618.12         0.02565  (13122407)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       11:59:17
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325274.27	3794618.12	0.02540	(09122106)	325049.27	3794641.32	0.02680	(13010624)
325086.77	3794641.32	0.02716	(11121006)	325124.27	3794641.32	0.02686	(11122506)
325161.77	3794641.32	0.02663	(10123020)	325199.27	3794641.32	0.02636	(13122103)
325236.77	3794641.32	0.02606	(13122407)	325274.27	3794641.32	0.02579	(09122106)
325049.27	3794664.52	0.02725	(13010624)	325086.77	3794664.52	0.02756	(11121006)
325124.27	3794664.52	0.02731	(11121006)	325161.77	3794664.52	0.02703	(10123020)
325199.27	3794664.52	0.02675	(09121401)	325236.77	3794664.52	0.02648	(13122407)
325274.27	3794664.52	0.02631	(12021824)	325049.27	3794687.72	0.02771	(13010624)
325086.77	3794687.72	0.02797	(13010624)	325124.27	3794687.72	0.02777	(11121006)
325161.77	3794687.72	0.02747	(11122506)	325199.27	3794687.72	0.02718	(09121401)
325236.77	3794687.72	0.02689	(13122407)	325274.27	3794687.72	0.02709	(12021824)
324871.62	3794298.63	0.02194	(13010624)	324910.53	3794298.63	0.02163	(10121121)
324949.44	3794298.63	0.02200	(11121006)	324988.35	3794298.63	0.02170	(11121006)
324871.62	3794320.43	0.02221	(13010624)	324910.53	3794320.43	0.02227	(13010624)
324949.44	3794320.43	0.02223	(11121006)	324988.35	3794320.43	0.02199	(11121006)
324871.62	3794342.23	0.02248	(13010624)	324910.53	3794342.23	0.02270	(13010624)
324949.44	3794342.23	0.02245	(11121006)	324988.35			

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 3794342.23         0.02227  (11121006)
       324871.62    3794364.03         0.02286  (10013003)                324910.53
 3794364.03         0.02302  (13010624)
       324949.44    3794364.03         0.02266  (11121006)                324988.35
 3794364.03         0.02263  (11121006)
       324871.62    3794385.83         0.02349  (10013003)                324910.53
 3794385.83         0.02333  (13010624)
       324949.44    3794385.83         0.02291  (12012923)                324988.35
 3794385.83         0.02317  (11121006)
       324871.62    3794407.63         0.02382  (10013003)                324910.53
 3794407.63         0.02364  (13010624)
       324949.44    3794407.63         0.02325  (13010624)                324988.35
 3794407.63         0.02345  (11121006)
       324871.62    3794429.43         0.02414  (12123121)                324910.53
 3794429.43         0.02394  (13010624)
       324949.44    3794429.43         0.02359  (13010624)                324988.35
 3794429.43         0.02371  (11121006)
       324871.62    3794451.23         0.02449  (12123121)                324910.53
 3794451.23         0.02426  (10013003)
       324949.44    3794451.23         0.02396  (13010624)                324988.35
 3794451.23         0.02398  (11121006)
       324871.62    3794473.03         0.02484  (12123121)                324910.53
 3794473.03         0.02461  (10013003)
       324949.44    3794473.03         0.02446  (13010624)                324988.35
 3794473.03         0.02440  (13010624)
       324871.62    3794494.83         0.02529  (12020205)                324910.53
 3794494.83         0.02495  (10013003)
       324949.44    3794494.83         0.02483  (13010624)                324988.35
 3794494.83         0.02482  (13010624)
       324871.62    3794516.63         0.02576  (12020205)                324910.53
 3794516.63         0.02532  (12123121)
       324949.44    3794516.63         0.02517  (10013003)                324988.35
 3794516.63         0.02520  (13010624)
       324871.62    3794538.43         0.02617  (12020205)                324910.53
 3794538.43         0.02570  (12123121)
       324949.44    3794538.43         0.02554  (10013003)                324988.35
 3794538.43         0.02559  (13010624)
       324871.62    3794560.23         0.02660  (10010204)                324910.53
 3794560.23         0.02609  (12123121)
       324949.44    3794560.23         0.02592  (10013003)                324988.35
 3794560.23         0.02597  (13010624)
       324871.62    3794582.03         0.02707  (10010204)                324910.53
 3794582.03         0.02653  (12020205)
       324949.44    3794582.03         0.02631  (12123121)                324988.35
 3794582.03         0.02634  (13010624)
       324871.62    3794603.83         0.02754  (10010204)                324910.53
 3794603.83         0.02699  (12020205)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324949.44	3794603.83	0.02684	(12123121)	324988.35	3794603.83	0.02674	(10013003)
324871.62	3794625.63	0.02807	(12122922)	324910.53	3794625.63	0.02749	(10010204)
324949.44	3794625.63	0.02763	(12123121)	324988.35	3794625.63	0.02717	(10013003)
324871.62	3794647.43	0.02861	(12122922)	324910.53	3794647.43	0.02802	(10010204)
324949.44	3794647.43	0.02813	(12020205)	324988.35	3794647.43	0.02760	(10013003)
324871.62	3794669.23	0.02919	(13021702)	324910.53	3794669.23	0.02855	(10010204)
324949.44	3794669.23	0.02865	(12020205)	324988.35	3794669.23	0.02806	(12123121)
324871.62	3794691.03	0.02980	(13021702)	324910.53	3794691.03	0.02912	(12122922)
324949.44	3794691.03	0.02920	(12020205)	324988.35	3794691.03	0.02855	(12123121)
324449.04	3794074.69	0.02052	(13120620)	324485.99	3794074.69	0.02034	(09021803)
324522.94	3794074.69	0.02015	(13021702)	324559.89	3794074.69	0.01988	(12122922)
324596.84	3794074.69	0.01957	(10010204)	324633.79	3794074.69	0.01917	(12020205)
324670.74	3794074.69	0.01894	(12123121)	324707.69	3794074.69	0.01881	(10013003)
324744.64	3794074.69	0.01891	(13010624)	324781.59	3794074.69	0.01928	(13010624)
324449.04	3794106.66	0.02080	(13120620)	324485.99	3794106.66	0.02068	(13120620)
324522.94	3794106.66	0.02048	(09021803)	324559.89			

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3794106.66         0.02028  (13021702)
       324596.84    3794106.66         0.02007  (12122922)                324633.79
3794106.66         0.01974  (10010204)
       324670.74    3794106.66         0.01951  (12020205)                324707.69
3794106.66         0.01943  (12123121)
       324744.64    3794106.66         0.01977  (10013003)                324781.59
3794106.66         0.01990  (13010624)
       324449.04    3794138.63         0.02114  (09020419)                324485.99
3794138.63         0.02106  (13120620)
       324522.94    3794138.63         0.02086  (09021803)                324559.89
3794138.63         0.02065  (13021702)
       324596.84    3794138.63         0.02043  (12122922)                324633.79
3794138.63         0.02048  (10010204)
       324670.74    3794138.63         0.02030  (12020205)                324707.69
3794138.63         0.02023  (12123121)
       324744.64    3794138.63         0.02040  (10013003)                324781.59
3794138.63         0.02025  (13010624)
       324449.04    3794170.60         0.02164  (12021724)                324485.99
3794170.60         0.02134  (13120620)
       324522.94    3794170.60         0.02129  (13120620)                324559.89
3794170.60         0.02138  (09021803)
       324596.84    3794170.60         0.02114  (13021702)                324633.79
3794170.60         0.02100  (12122922)
       324670.74    3794170.60         0.02080  (10010204)                324707.69
3794170.60         0.02095  (12020205)
       324744.64    3794170.60         0.02079  (12123121)                324781.59
3794170.60         0.02085  (10013003)
       324449.04    3794202.57         0.02203  (12021724)                324485.99
3794202.57         0.02178  (12021724)
       324522.94    3794202.57         0.02170  (13120620)                324559.89
3794202.57         0.02189  (09021803)
       324596.84    3794202.57         0.02165  (13021702)                324633.79
3794202.57         0.02141  (12122922)
       324670.74    3794202.57         0.02159  (10010204)                324707.69
3794202.57         0.02141  (12020205)
       324744.64    3794202.57         0.02116  (12123121)                324781.59
3794202.57         0.02131  (10013003)
       324449.04    3794234.54         0.02249  (10012707)                324485.99
3794234.54         0.02228  (12021724)
       324522.94    3794234.54         0.02202  (09020419)                324559.89
3794234.54         0.02232  (13120620)
       324596.84    3794234.54         0.02206  (09021803)                324633.79
3794234.54         0.02180  (13021702)
       324670.74    3794234.54         0.02204  (12122922)                324707.69
3794234.54         0.02177  (10010204)
       324744.64    3794234.54         0.02151  (12123121)                324781.59
3794234.54         0.02166  (10013003)
       324449.04    3794266.51         0.02290  (10010424)                324485.99
3794266.51         0.02269  (10012707)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
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 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                            *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                INCLUDING SOURCE(S):   PAREA1   ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
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3794362.42        0.02459  (10010424)
       324522.94   3794362.42        0.02445  (10010424)                324559.89
3794362.42        0.02422  (12021724)
       324596.84   3794362.42        0.02386  (12021724)                324633.79
3794362.42        0.02414  (13120620)
       324670.74   3794362.42        0.02390  (09021803)                324707.69
3794362.42        0.02356  (13021702)
       324744.64   3794362.42        0.02354  (10010204)                324781.59
3794362.42        0.02348  (12020205)
       324449.04   3794394.39        0.02484  (10011404)                324485.99
3794394.39        0.02514  (10011404)
       324522.94   3794394.39        0.02503  (10010424)                324559.89
3794394.39        0.02478  (10012707)
       324596.84   3794394.39        0.02449  (12021724)                324633.79
3794394.39        0.02462  (13120620)
       324670.74   3794394.39        0.02442  (09021803)                324707.69
3794394.39        0.02408  (13021702)
       324744.64   3794394.39        0.02407  (12122922)                324781.59
3794394.39        0.02398  (10010204)
       324449.04   3794426.36        0.02554  (09120921)                324485.99
3794426.36        0.02580  (10011404)
       324522.94   3794426.36        0.02548  (10011119)                324559.89
3794426.36        0.02534  (10010424)
       324596.84   3794426.36        0.02503  (10012707)                324633.79
3794426.36        0.02519  (12021724)
       324670.74   3794426.36        0.02500  (13120620)                324707.69
3794426.36        0.02469  (09021803)
       324744.64   3794426.36        0.02466  (13021702)                324781.59
3794426.36        0.02449  (10010204)
       324449.04   3794458.33        0.02640  (11121923)                324485.99
3794458.33        0.02642  (09120921)
       324522.94   3794458.33        0.02620  (10011404)                324559.89
3794458.33        0.02587  (10010424)
       324596.84   3794458.33        0.02577  (10012707)                324633.79
3794458.33        0.02590  (12021724)
       324670.74   3794458.33        0.02551  (13120620)                324707.69
3794458.33        0.02539  (09021803)
       324744.64   3794458.33        0.02547  (13021702)                324781.59
3794458.33        0.02506  (12122922)
       324449.04   3794490.30        0.02698  (09022006)                324485.99
3794490.30        0.02702  (11121923)
       324522.94   3794490.30        0.02679  (09120921)                324559.89
3794490.30        0.02651  (10011404)
       324596.84   3794490.30        0.02668  (10010424)                324633.79
3794490.30        0.02660  (10012707)
       324670.74   3794490.30        0.02620  (12021724)                324707.69
3794490.30        0.02604  (13120620)
       324744.64   3794490.30        0.02609  (09021803)                324781.59
3794490.30        0.02563  (13021702)
       324449.04   3794522.27        0.02765  (12010904)                324485.99
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794522.27	0.02741	(09120921)	324559.89	3794522.27	0.02721	(10011404)
324596.84	3794522.27	0.02721	(10011119)	324633.79	3794522.27	0.02726	(10010424)
324670.74	3794522.27	0.02689	(12021724)	324707.69	3794522.27	0.02658	(13120620)
324744.64	3794522.27	0.02673	(13120620)	324781.59	3794522.27	0.02629	(13021702)
324449.04	3794554.24	0.02831	(12021707)	324485.99	3794554.24	0.02822	(12010904)
324522.94	3794554.24	0.02809	(11121923)	324559.89	3794554.24	0.02806	(09120921)
324596.84	3794554.24	0.02822	(10011404)	324633.79	3794554.24	0.02795	(10010424)
324670.74	3794554.24	0.02761	(10012707)	324707.69	3794554.24	0.02740	(12021724)
324744.64	3794554.24	0.02746	(13120620)	324781.59	3794554.24	0.02697	(09021803)
324449.04	3794586.21	0.02887	(13012724)	324485.99	3794586.21	0.02886	(12010904)
324522.94	3794586.21	0.02879	(09022006)	324559.89	3794586.21	0.02890	(11121923)
324596.84	3794586.21	0.02908	(09120921)	324633.79	3794586.21	0.02870	(10011404)
324670.74	3794586.21	0.02837	(10010424)	324707.69	3794586.21	0.02814	(10012707)
324744.64	3794586.21	0.02811	(12021724)	324781.59			

3794586.21 0.02769 (13120620)
324449.04 3794618.18 0.02947 (13012724) 324485.99
3794618.18 0.02952 (12021707)
324522.94 3794618.18 0.02948 (12010904) 324559.89
3794618.18 0.02964 (09022006)
324596.84 3794618.18 0.02986 (11121923) 324633.79
3794618.18 0.02952 (10011404)
324670.74 3794618.18 0.02907 (10011119) 324707.69
3794618.18 0.02933 (10012707)
324744.64 3794618.18 0.02904 (12021724) 324781.59
3794618.18 0.02849 (13120620)
324449.04 3794650.15 0.03004 (12022904) 324485.99
3794650.15 0.03015 (13012724)
324522.94 3794650.15 0.03018 (12021707) 324559.89
3794650.15 0.03039 (12010904)
324596.84 3794650.15 0.03067 (09022006) 324633.79
3794650.15 0.03035 (09120921)
324670.74 3794650.15 0.03009 (10011404) 324707.69
3794650.15 0.03039 (10010424)
324744.64 3794650.15 0.02991 (10012707) 324781.59
3794650.15 0.02928 (12021724)
324449.04 3794682.12 0.03057 (12012404) 324485.99
3794682.12 0.03075 (12022904)
324522.94 3794682.12 0.03095 (13012724) 324559.89
3794682.12 0.03156 (12021707)
324596.84 3794682.12 0.03150 (12010904) 324633.79
3794682.12 0.03120 (11121923)
324670.74 3794682.12 0.03098 (09120921) 324707.69
3794682.12 0.03130 (10011404)
324744.64 3794682.12 0.03084 (10010424) 324781.59
3794682.12 0.03027 (12021724)
326547.36 3795022.06 0.01723 (10011406) 326594.67
3795022.06 0.01675 (11121105)
326641.98 3795022.06 0.01594 (12122705) 326547.36
3795042.46 0.01738 (10011406)
326594.67 3795042.46 0.01629 (11121105) 326641.98
3795042.46 0.01601 (12122705)
326547.36 3795062.86 0.01747 (10011406) 326594.67
3795062.86 0.01625 (12122705)
326641.98 3795062.86 0.01612 (10021501) 326547.36
3795083.26 0.01747 (11121105)
326594.67 3795083.26 0.01634 (12122705) 326641.98
3795083.26 0.01619 (10021501)
326547.36 3795103.66 0.01708 (12122705) 326594.67
3795103.66 0.01644 (10021501)
326641.98 3795103.66 0.01631 (13010623) 326547.36
3795124.06 0.01711 (12122705)
326594.67 3795124.06 0.01652 (10021501) 326641.98
3795124.06 0.01639 (13010101)
326547.36 3795144.46 0.01711 (10021501) 326594.67

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326594.67	3795164.86	0.01672	(13010101)	326641.98	3795164.86	0.01653	(13010101)
326547.36	3795185.26	0.01698	(13010623)	326594.67	3795185.26	0.01683	(13010101)
326641.98	3795185.26	0.01667	(13011507)	326547.36	3795205.66	0.01706	(13010101)
326594.67	3795205.66	0.01688	(13010101)	326641.98	3795205.66	0.01654	(13011507)
326547.36	3795226.06	0.01718	(13010101)	326594.67	3795226.06	0.01702	(13011507)
326641.98	3795226.06	0.01594	(13122107)	326547.36	3795246.46	0.01723	(13010101)
326594.67	3795246.46	0.01697	(13011507)	326641.98	3795246.46	0.01582	(13122107)
326690.43	3795243.37	0.01560	(09021506)	326688.67	3795223.05	0.01553	(09021506)
326686.02	3795005.77	0.01572	(10021501)	326686.02	3795033.66	0.01572	(10021501)
326686.02	3795061.55	0.01572	(13010623)	326686.02	3795089.44	0.01583	(13010101)
326686.02	3795117.33	0.01593	(13010101)	326686.02	3795145.22	0.01604	(13011507)
326686.02	3795173.11	0.01605	(13011507)	326686.02	3795201.00	0.01545	(13122107)
326832.80	3795263.26	0.01498	(13120806)	326849.67			

```
3795263.26        0.01441  (13121104)
       326866.54   3795263.26        0.01412  (13121104)                326883.41
3795263.26        0.01407  (13121104)
       326900.28   3795263.26        0.01402  (09013022)                326917.15
3795263.26        0.01400  (09013022)
       326934.02   3795263.26        0.01338  (09013022)                326950.89
3795263.26        0.01282  (12013005)
       326967.76   3795263.26        0.01281  (12013005)                326984.63
3795263.26        0.01254  (12013005)
       327001.50   3795263.26        0.01189  (12022206)                327036.85
3795141.35        0.01244  (13121104)
       327075.72   3795141.35        0.01142  (10020622)                327036.85
3795160.91        0.01250  (13121104)
       327075.72   3795160.91        0.01145  (09013022)                327036.85
3795180.47        0.01253  (09013022)
       327075.72   3795180.47        0.01147  (09013022)                327036.85
3795200.03        0.01247  (09013022)
       327075.72   3795200.03        0.01152  (12022206)                327036.85
3795219.59        0.01188  (12022206)
       327075.72   3795219.59        0.01151  (12022206)                327036.85
3795239.15        0.01162  (12022206)
       327075.72   3795239.15        0.01144  (09020223)                327036.85
3795258.71        0.01152  (11120708)
       327075.72   3795258.71        0.01146  (10120606)                327036.85
3795278.27        0.01153  (10120606)
       327075.72   3795278.27        0.01148  (10120606)                326840.04
3795223.24        0.01475  (12022205)
       326860.58   3795224.16        0.01400  (13120806)                326877.30
3795222.74        0.01398  (13120806)
       326929.68   3795223.69        0.01347  (13121104)                326932.86
3795200.00        0.01327  (13120806)
       326972.32   3795217.03        0.01268  (09013022)                326970.84
3795177.58        0.01261  (13120806)
       326968.20   3795152.46        0.01256  (13120806)                326998.43
3795149.77        0.01253  (13120806)
       326997.48   3795176.61        0.01259  (13121104)                326995.60
3795193.01        0.01261  (13121104)
       326996.92   3795215.78        0.01267  (09013022)                326916.97
3795152.19        0.01369  (12022205)
       326901.95   3795150.46        0.01372  (12011805)                326884.24
3795164.40        0.01379  (12011805)
       326867.32   3795151.32        0.01376  (12011805)                326873.22
3795163.36        0.01381  (12011805)
       326845.53   3795152.12        0.01430  (10122806)                326824.91
3795151.45        0.01495  (10122806)
       326826.60   3795170.60        0.01502  (10122806)                326840.50
3795180.17        0.01458  (12011805)
       326799.39   3795147.97        0.01500  (09021506)                326776.77
3795147.89        0.01502  (09021506)
       326738.03   3795152.73        0.01514  (13122107)                326781.33
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326794.01	3795031.22	0.01453	(13010101)	326977.50	3795110.69	0.01245	(12022205)
326994.05	3795107.87	0.01244	(12022205)	326984.52	3795093.80	0.01241	(12011805)
326972.85	3795082.37	0.01240	(12011805)	326995.41	3795072.53	0.01236	(12011805)
326993.23	3795060.01	0.01231	(12011805)	326984.60	3795040.80	0.01230	(10122806)
326981.66	3795027.22	0.01225	(09021506)	327041.48	3795102.15	0.01225	(13120806)
327065.19	3795095.75	0.01145	(10010821)	327040.88	3795076.27	0.01223	(12022205)
327061.24	3795058.32	0.01152	(12022205)	327037.82	3795061.09	0.01227	(12011805)
327035.65	3795040.58	0.01224	(12011805)	327058.94	3795038.41	0.01155	(12011805)
327051.53	3795017.85	0.01174	(12011805)	327033.29	3795021.71	0.01220	(10122806)
326826.26	3795110.80	0.01390	(09021506)	326843.29	3795110.80	0.01376	(09021506)
326860.32	3795110.80	0.01366	(09021506)	326877.35	3795110.80	0.01363	(10122806)
326894.38	3795110.80	0.01362	(10122806)	326911.41			

```
 3795110.80        0.01358  (10122806)
       326928.44   3795110.80        0.01320  (12011805)                326945.47
 3795110.80        0.01260  (12011805)
       326819.99   3795048.86        0.01383  (13011507)                326838.19
 3795048.86        0.01352  (13011507)
       326856.39   3795048.86        0.01347  (13011507)                326874.59
 3795048.86        0.01347  (13122107)
       326892.79   3795048.86        0.01343  (13122107)                326910.99
 3795048.86        0.01340  (09021506)
       326929.19   3795048.86        0.01303  (09021506)                326947.39
 3795048.86        0.01237  (09021506)
       325652.30   3795689.46        0.00922  (10021008)                325747.75
 3795796.21        0.00763  (12120308)
       326251.13   3796043.75        0.00623  (11012717)                326263.91
 3795852.39        0.00599  (12012517)
       326170.84   3795648.38        0.00593  (09051606)                326148.08
 3795505.91        0.00949  (12050806)
       325511.50   3795586.39        0.01001  (10021008)

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        11/04/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       11:59:17

                                  PAGE  38
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
               **


                       NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.00151 AT (  325652.30,  3795689.46,
172.37,   271.00,    0.00)  DC
          2ND HIGHEST VALUE IS       0.00149 AT (  325380.55,  3795776.17,
160.97,   295.00,    0.00)  DC
          3RD HIGHEST VALUE IS       0.00133 AT (  325747.75,  3795796.21,
179.05,   295.00,    0.00)  DC
          4TH HIGHEST VALUE IS       0.00120 AT (  325511.50,  3795586.39,
181.89,   181.89,    0.00)  DC
          5TH HIGHEST VALUE IS       0.00111 AT (  325129.24,  3795756.40,
```

158.41,   292.00,   0.00) DC
          6TH HIGHEST VALUE IS   0.00106 AT (325850.15, 3795332.59,
150.51,   185.00,   0.00) DC
          7TH HIGHEST VALUE IS   0.00104 AT (325796.15, 3795332.59,
151.11,   185.00,   0.00) DC
          8TH HIGHEST VALUE IS   0.00104 AT (325877.15, 3795332.59,
150.22,   185.00,   0.00) DC
          9TH HIGHEST VALUE IS   0.00102 AT (325904.15, 3795332.59,
149.61,   185.00,   0.00) DC
         10TH HIGHEST VALUE IS   0.00102 AT (325823.15, 3795332.59,
151.02,   185.00,   0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                *** THE SUMMARY OF HIGHEST 1-HR
RESULTS ***

                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
               **

                                                      DATE
                                        NETWORK
GROUP ID   AVERAGE CONC   (YYMMDDHH)   RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)   OF TYPE GRID-ID
- - - -

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   1 Warning Message(s)
A Total of   15612 Informational Message(s)

A Total of   43872 Hours Were Processed

A Total of   13724 Calm Hours Identified

A Total of   1888 Missing Hours Identified (4.30 Percent)

   ******** FATAL ERROR MESSAGES ********
              *** NONE ***

   ********   WARNING MESSAGES   ********
MX W481   43873   MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ****
   *** AERMOD Finishes Successfully ***
   ****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 5/28/2020
** File: C:\Lakes\AERMOD View\UPDATED_Hitch Ranch_Phase 2 and 3_Operation\PHASE 2
AND 3 OPERATION.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 2 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "PHASE 2 AND 3 OPERATION.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       7.2419E-10     3.000        16
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325439.580 3795654.860 326387.530 3796120.560
   AREAVERT PAREA1       326397.210 3795756.410 326288.670 3795758.120
   AREAVERT PAREA1       326277.560 3795694.020 326166.380 3795525.260
   AREAVERT PAREA1       326425.650 3795493.540 326479.010 3795469.120
   AREAVERT PAREA1       326469.840 3795364.180 325735.780 3795372.310
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
```

```
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "PHASE 2 AND 3 OPERATION.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "PHASE 2 AND 3 OPERATION.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "PHASE 2 AND 3 OPERATION.AD\AN00GALL.PLT" 32
   SUMMFILE "PHASE 2 AND 3 OPERATION.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 5/28/2020
** File: C:\Lakes\AERMOD View\UPDATED_Hitch Ranch_Phase 2 and 3_Operation\PHASE 2
AND 3 OPERATION.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 2 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "PHASE 2 AND 3 OPERATION.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       7.2419E-10     3.000        16
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325439.580 3795654.860 326387.530 3796120.560
   AREAVERT PAREA1       326397.210 3795756.410 326288.670 3795758.120
   AREAVERT PAREA1       326277.560 3795694.020 326166.380 3795525.260
   AREAVERT PAREA1       326425.650 3795493.540 326479.010 3795469.120
   AREAVERT PAREA1       326469.840 3795364.180 325735.780 3795372.310
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
```

```
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "PHASE 2 AND 3 OPERATION.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "PHASE 2 AND 3 OPERATION.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "PHASE 2 AND 3 OPERATION.AD\AN00GALL.PLT" 32
   SUMMFILE "PHASE 2 AND 3 OPERATION.sum"
OU FINISHED

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       15:56:09

                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          ***     MODEL SETUP OPTIONS SUMMARY
```

```
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     841
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
```

```
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing
Hours
                                                                 b for Both Calm
and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    24.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   PHASE 2 AND 3 OPERATION.err

 **File for Summary of Results:   PHASE 2 AND 3 OPERATION.sum

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:56:09

                                   PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL


                                                  *** AREAPOLY SOURCE DATA ***

              NUMBER EMISSION RATE   LOCATION OF AREA  BASE     RELEASE  NUMBER
  INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC       X        Y      ELEV.    HEIGHT  OF VERTS.
   SZ     SOURCE  SCALAR VARY
     ID         CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
(METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
```

```
 PAREA1           0   0.72419E-09  325117.2 3795248.3   146.0     3.00      16
   0.00     NO
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       15:56:09

                                   PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL


                                          *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                                 SOURCE IDs
 -----------                                                 ----------


  ALL        PAREA1      ,
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       15:56:09

                                   PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                            *** DISCRETE CARTESIAN RECEPTORS ***
                                          (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                       (METERS)

     ( 326346.0, 3795634.0,     172.5,     190.0,       0.0);         ( 326414.1,
3795779.7,     180.0,     277.0,       0.0);
     ( 326435.8, 3795773.5,     176.6,     277.0,       0.0);         ( 326458.3,
3795772.8,     174.6,     277.0,       0.0);
     ( 326424.2, 3795858.8,     178.9,     295.0,       0.0);         ( 326400.2,
3795799.8,     182.9,     277.0,       0.0);
     ( 326400.9, 3795767.9,     180.8,     277.0,       0.0);         ( 326424.2,
3795858.8,     178.9,     295.0,       0.0);
     ( 326611.8, 3795763.0,     168.9,     277.0,       0.0);         ( 326611.8,
3795763.0,     168.9,     277.0,       0.0);
     ( 326610.9, 3795777.7,     169.0,     277.0,       0.0);         ( 326605.9,
3795792.9,     169.0,     277.0,       0.0);
     ( 326623.9, 3795809.0,     169.6,     277.0,       0.0);         ( 326627.2,
3795836.6,     170.1,     295.0,       0.0);
     ( 326640.1, 3795836.6,     170.2,     277.0,       0.0);         ( 326654.5,
3795868.7,     171.6,     291.0,       0.0);
     ( 326665.5, 3795883.1,     172.0,     295.0,       0.0);         ( 326588.3,
3795867.6,     175.1,     277.0,       0.0);
     ( 326640.5, 3795951.9,     177.0,     295.0,       0.0);         ( 326658.5,
```

```
3795975.6,     175.5,     295.0,       0.0);
     ( 326759.5, 3796019.3,     178.2,     277.0,       0.0);         ( 326763.6,
3796031.8,     178.1,     291.0,       0.0);
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
     ( 326806.7, 3795493.9,     157.9,     217.0,       0.0);         ( 326824.1,
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3795494.4,   157.9,   217.0,   0.0);
     (326853.5, 3795481.7,   157.5,   217.0,   0.0);   (326898.8,
3795534.4,   158.0,   217.0,   0.0);
     (325796.1, 3795215.6,   149.4,   149.4,   0.0);   (325823.1,
3795215.6,   149.0,   149.0,   0.0);
     (326012.1, 3795215.6,   150.0,   150.0,   0.0);   (326120.1,
3795215.6,   151.0,   151.0,   0.0);
     (326147.1, 3795215.6,   151.0,   151.0,   0.0);   (325796.1,
3795254.6,   149.4,   185.0,   0.0);
     (325823.1, 3795254.6,   149.0,   185.0,   0.0);   (325850.1,
3795254.6,   149.0,   149.0,   0.0);
     (325877.1, 3795254.6,   149.0,   149.0,   0.0);   (325904.1,
3795254.6,   149.2,   149.2,   0.0);
     (325931.1, 3795254.6,   149.9,   149.9,   0.0);   (325958.1,
3795254.6,   150.0,   150.0,   0.0);
     (325985.1, 3795254.6,   150.0,   150.0,   0.0);   (326012.1,
3795254.6,   150.7,   150.7,   0.0);
     (326039.1, 3795254.6,   151.0,   151.0,   0.0);   (326066.1,
3795254.6,   151.0,   151.0,   0.0);
     (326093.1, 3795254.6,   151.0,   151.0,   0.0);   (326120.1,
3795254.6,   151.0,   151.0,   0.0);

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     (326147.1, 3795254.6,   151.0,   151.0,   0.0);   (325796.1,
3795293.6,   150.1,   185.0,   0.0);
     (325823.1, 3795293.6,   150.1,   185.0,   0.0);   (325850.1,
3795293.6,   149.7,   185.0,   0.0);
     (325877.1, 3795293.6,   149.2,   185.0,   0.0);   (325904.1,
3795293.6,   149.2,   149.2,   0.0);
     (325931.1, 3795293.6,   150.0,   150.0,   0.0);   (325958.1,
3795293.6,   150.0,   150.0,   0.0);
     (325985.1, 3795293.6,   150.9,   150.9,   0.0);   (326012.1,
3795293.6,   151.2,   151.2,   0.0);
     (326039.1, 3795293.6,   151.2,   151.2,   0.0);   (326066.1,
3795293.6,   151.7,   151.7,   0.0);
     (326093.1, 3795293.6,   152.0,   152.0,   0.0);   (326120.1,
3795293.6,   152.0,   152.0,   0.0);
     (326147.1, 3795293.6,   152.0,   152.0,   0.0);   (325796.1,
3795332.6,   151.1,   185.0,   0.0);
     (325823.1, 3795332.6,   151.0,   185.0,   0.0);   (325850.1,

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3795332.6,     150.5,     185.0,       0.0);
     ( 325877.1, 3795332.6,     150.2,     185.0,       0.0);         ( 325904.1,
3795332.6,     149.6,     185.0,       0.0);
     ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
3795332.6,     150.5,     166.0,       0.0);
     ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
     ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
     ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325972.4, 3795004.9,     149.3,     149.3,       0.0);         ( 325997.4,
3795004.9,     149.7,     149.7,       0.0);
     ( 326022.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326122.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326147.4,
3795004.9,     150.3,     150.3,       0.0);
     ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
     ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
     ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795088.9,     150.2,     150.2,       0.0);
     ( 326122.4, 3795088.9,     150.7,     150.7,       0.0);         ( 326147.4,
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3795088.9,   151.0,   151.0,   0.0);
     (325847.4, 3795130.9,   149.0,   149.0,   0.0);   (325872.4,
3795130.9,   149.0,   149.0,   0.0);
     (325897.4, 3795130.9,   149.0,   149.0,   0.0);   (325922.4,
3795130.9,   149.0,   149.0,   0.0);
     (325947.4, 3795130.9,   149.6,   149.6,   0.0);   (325972.4,
3795130.9,   150.0,   150.0,   0.0);
     (325997.4, 3795130.9,   150.0,   150.0,   0.0);   (326022.4,
3795130.9,   150.0,   150.0,   0.0);
     (326047.4, 3795130.9,   150.0,   150.0,   0.0);   (326072.4,
3795130.9,   150.0,   150.0,   0.0);
     (326097.4, 3795130.9,   150.6,   150.6,   0.0);   (326122.4,
3795130.9,   151.0,   151.0,   0.0);
     (326147.4, 3795130.9,   151.0,   151.0,   0.0);   (325847.4,
3795172.9,   149.0,   149.0,   0.0);
     (325872.4, 3795172.9,   149.0,   149.0,   0.0);   (325897.4,
3795172.9,   149.0,   149.0,   0.0);
     (325922.4, 3795172.9,   149.0,   149.0,   0.0);   (325947.4,
3795172.9,   149.6,   149.6,   0.0);
     (325972.4, 3795172.9,   150.0,   150.0,   0.0);   (325997.4,
3795172.9,   150.0,   150.0,   0.0);
     (326022.4, 3795172.9,   150.0,   150.0,   0.0);   (326047.4,
3795172.9,   150.2,   150.2,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (326072.4, 3795172.9,   150.8,   150.8,   0.0);   (325847.4,
3795214.9,   149.0,   149.0,   0.0);
     (325872.4, 3795214.9,   149.0,   149.0,   0.0);   (325897.4,
3795214.9,   149.0,   149.0,   0.0);
     (325922.4, 3795214.9,   149.0,   149.0,   0.0);   (325947.4,
3795214.9,   149.6,   149.6,   0.0);
     (325972.4, 3795214.9,   150.0,   150.0,   0.0);   (325997.4,
3795214.9,   150.0,   150.0,   0.0);
     (326047.4, 3795214.9,   151.0,   151.0,   0.0);   (326072.4,
3795214.9,   151.0,   151.0,   0.0);
     (326097.4, 3795214.9,   151.0,   151.0,   0.0);   (326147.4,
3795214.9,   151.0,   151.0,   0.0);
     (326096.6, 3795181.5,   151.0,   151.0,   0.0);   (326118.6,
3795182.6,   151.0,   151.0,   0.0);
     (326144.3, 3795184.1,   151.0,   151.0,   0.0);   (325849.7,

3794829.6,   148.0,   148.0,   0.0);
     (325892.6, 3794829.6,   148.0,   148.0,   0.0);   (325935.5,
3794829.6,   148.8,   148.8,   0.0);
     (325978.3, 3794829.6,   149.0,   149.0,   0.0);   (326021.2,
3794829.6,   149.0,   149.0,   0.0);
     (326064.1, 3794829.6,   149.5,   149.5,   0.0);   (325849.7,
3794867.5,   148.0,   148.0,   0.0);
     (325892.6, 3794867.5,   148.8,   148.8,   0.0);   (325935.5,
3794867.5,   149.0,   149.0,   0.0);
     (325978.3, 3794867.5,   149.0,   149.0,   0.0);   (326021.2,
3794867.5,   149.0,   149.0,   0.0);
     (326064.1, 3794867.5,   149.5,   149.5,   0.0);   (325849.7,
3794905.5,   148.1,   148.1,   0.0);
     (325892.6, 3794905.5,   148.9,   148.9,   0.0);   (325935.5,
3794905.5,   149.0,   149.0,   0.0);
     (325978.3, 3794905.5,   149.0,   149.0,   0.0);   (326021.2,
3794905.5,   149.1,   149.1,   0.0);
     (326064.1, 3794905.5,   150.0,   150.0,   0.0);   (325849.7,
3794943.4,   148.4,   148.4,   0.0);
     (325892.6, 3794943.4,   149.0,   149.0,   0.0);   (325935.5,
3794943.4,   149.0,   149.0,   0.0);
     (325978.3, 3794943.4,   149.0,   149.0,   0.0);   (326021.2,
3794943.4,   149.1,   149.1,   0.0);
     (326064.1, 3794943.4,   150.0,   150.0,   0.0);   (325849.7,
3794981.3,   148.9,   148.9,   0.0);
     (325892.6, 3794981.3,   149.0,   149.0,   0.0);   (325935.5,
3794981.3,   149.0,   149.0,   0.0);
     (325978.3, 3794981.3,   149.0,   149.0,   0.0);   (326021.2,
3794981.3,   149.8,   149.8,   0.0);
     (326064.1, 3794981.3,   150.0,   150.0,   0.0);   (325855.3,
3794726.6,   148.0,   148.0,   0.0);
     (325902.6, 3794726.6,   148.0,   148.0,   0.0);   (325855.3,
3794745.5,   148.0,   148.0,   0.0);
     (325902.6, 3794745.5,   148.0,   148.0,   0.0);   (325855.3,
3794764.4,   148.0,   148.0,   0.0);
     (325902.6, 3794764.4,   148.0,   148.0,   0.0);   (325855.3,
3794783.3,   148.0,   148.0,   0.0);
     (325902.6, 3794783.3,   148.0,   148.0,   0.0);   (325855.3,
3794802.2,   148.0,   148.0,   0.0);
     (325902.6, 3794802.2,   148.0,   148.0,   0.0);   (325855.3,
3794821.1,   148.0,   148.0,   0.0);
     (325902.6, 3794821.1,   148.1,   148.1,   0.0);   (326402.8,
3795249.3,   152.8,   152.8,   0.0);
     (325380.5, 3795776.2,   161.0,   295.0,   0.0);   (325415.9,
3795858.3,   176.6,   271.0,   0.0);
     (325409.9, 3795995.0,   190.3,   271.0,   0.0);   (325416.6,
3796058.1,   193.4,   282.0,   0.0);
     (325409.6, 3796164.9,   201.8,   291.0,   0.0);   (325322.7,
3796083.9,   190.0,   292.0,   0.0);
     (325297.9, 3796111.1,   184.9,   295.0,   0.0);   (325246.7,

3796076.1,   181.2,   295.0,   0.0);
     (325280.0, 3796260.7,   211.4,   292.0,   0.0);   (325237.0,
3796200.4,   205.0,   292.0,   0.0);
     (325163.0, 3796071.1,   180.4,   292.0,   0.0);   (325215.7,
3795991.4,   177.4,   292.0,   0.0);
     (325208.3, 3795926.9,   173.0,   292.0,   0.0);   (325249.5,
3795829.2,   171.2,   291.0,   0.0);
     (325171.5, 3795759.2,   160.9,   292.0,   0.0);   (325129.2,
3795756.4,   158.4,   292.0,   0.0);
     (325154.8, 3795886.2,   167.8,   292.0,   0.0);   (325068.5,
3795885.4,   171.6,   292.0,   0.0);
     (325047.9, 3795938.0,   175.5,   292.0,   0.0);   (325045.8,
3795982.7,   176.4,   292.0,   0.0);
     (325072.0, 3796106.7,   179.6,   292.0,   0.0);   (325060.6,
3796290.4,   197.1,   292.0,   0.0);
     (324903.7, 3796379.8,   214.8,   292.0,   0.0);   (324787.8,
3796510.4,   197.3,   292.0,   0.0);
     (324916.5, 3796618.3,   201.7,   292.0,   0.0);   (326493.0,
3796356.3,   198.5,   295.0,   0.0);
     (326552.7, 3796900.0,   235.2,   295.0,   0.0);   (326599.3,
3796893.6,   237.6,   293.0,   0.0);
     (326617.4, 3796889.5,   237.6,   293.0,   0.0);   (326639.4,
3796881.9,   233.8,   293.0,   0.0);
     (326663.7, 3796864.1,   225.7,   295.0,   0.0);   (326679.5,
3796885.2,   227.5,   293.0,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                       (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                   (METERS)

     (326697.8, 3796898.3,   229.7,   293.0,   0.0);   (326712.3,
3796916.6,   233.6,   293.0,   0.0);
     (326726.6, 3796931.1,   236.4,   290.0,   0.0);   (326742.2,
3796948.0,   240.5,   290.0,   0.0);
     (326756.6, 3796965.7,   242.1,   290.0,   0.0);   (326772.1,
3796973.3,   239.2,   290.0,   0.0);
     (326785.2, 3796890.5,   223.1,   293.0,   0.0);   (326800.1,
3797003.9,   233.0,   290.0,   0.0);
     (326818.0, 3797014.9,   229.2,   290.0,   0.0);   (326813.7,
3796843.9,   215.1,   293.0,   0.0);
     (326833.9, 3796853.6,   216.3,   293.0,   0.0);   (326848.6,
3796873.4,   217.5,   293.0,   0.0);
     (326864.2, 3796885.1,   217.7,   293.0,   0.0);   (326877.9,

3796901.2,   218.2,   292.0,   0.0);
     (326893.8, 3796917.1,   220.4,   292.0,   0.0);   (326904.5,
3796938.8,   223.9,   292.0,   0.0);
     (326907.6, 3796966.2,   224.5,   292.0,   0.0);   (326914.5,
3796991.7,   227.6,   292.0,   0.0);
     (326921.9, 3797038.4,   232.7,   292.0,   0.0);   (326596.6,
3797264.1,   273.2,   288.0,   0.0);
     (326830.0, 3795735.4,   183.6,   217.0,   0.0);   (326866.5,
3795706.9,   182.8,   217.0,   0.0);
     (326831.5, 3795646.6,   161.0,   217.0,   0.0);   (326872.9,
3795644.9,   160.9,   217.0,   0.0);
     (326898.9, 3795644.7,   160.9,   217.0,   0.0);   (326924.7,
3795650.1,   161.6,   217.0,   0.0);
     (326949.7, 3795646.4,   161.1,   217.0,   0.0);   (326975.6,
3795638.8,   162.5,   217.0,   0.0);
     (326917.9, 3795602.8,   159.0,   217.0,   0.0);   (326918.6,
3795584.1,   158.0,   217.0,   0.0);
     (326921.6, 3795563.5,   158.0,   217.0,   0.0);   (326917.2,
3795537.1,   158.0,   217.0,   0.0);
     (326935.0, 3795592.2,   158.8,   217.0,   0.0);   (326951.0,
3795599.5,   159.5,   217.0,   0.0);
     (326950.3, 3795555.9,   158.0,   217.0,   0.0);   (326951.6,
3795535.1,   158.0,   217.0,   0.0);
     (326961.8, 3795537.6,   158.0,   217.0,   0.0);   (326982.2,
3795538.3,   158.0,   217.0,   0.0);
     (326992.4, 3795539.1,   158.0,   217.0,   0.0);   (327009.0,
3795535.6,   158.0,   217.0,   0.0);
     (326987.7, 3795581.0,   159.0,   217.0,   0.0);   (327024.8,
3795588.4,   160.1,   217.0,   0.0);
     (326925.1, 3795485.9,   158.0,   217.0,   0.0);   (326937.8,
3795488.3,   158.0,   217.0,   0.0);
     (326956.5, 3795489.3,   158.0,   217.0,   0.0);   (326970.9,
3795491.0,   158.0,   217.0,   0.0);
     (326990.0, 3795487.7,   158.0,   217.0,   0.0);   (325049.3,
3794362.9,   143.0,   143.0,   0.0);
     (325086.8, 3794362.9,   143.0,   143.0,   0.0);   (325124.3,
3794362.9,   143.0,   143.0,   0.0);
     (325161.8, 3794362.9,   143.2,   143.2,   0.0);   (325199.3,
3794362.9,   143.2,   143.2,   0.0);
     (325236.8, 3794362.9,   143.0,   143.0,   0.0);   (325274.3,
3794362.9,   143.0,   143.0,   0.0);
     (325049.3, 3794386.1,   143.0,   143.0,   0.0);   (325086.8,
3794386.1,   143.0,   143.0,   0.0);
     (325124.3, 3794386.1,   143.2,   143.2,   0.0);   (325161.8,
3794386.1,   144.0,   144.0,   0.0);
     (325199.3, 3794386.1,   144.0,   144.0,   0.0);   (325236.8,
3794386.1,   143.1,   143.1,   0.0);
     (325274.3, 3794386.1,   143.0,   143.0,   0.0);   (325049.3,
3794409.3,   143.0,   143.0,   0.0);
     (325086.8, 3794409.3,   143.0,   143.0,   0.0);   (325124.3,

3794409.3,   143.2,   143.2,   0.0);
     (325161.8, 3794409.3,   144.0,   144.0,   0.0);   (325199.3,
3794409.3,   144.0,   144.0,   0.0);
     (325236.8, 3794409.3,   143.8,   143.8,   0.0);   (325274.3,
3794409.3,   143.7,   143.7,   0.0);
     (325049.3, 3794432.5,   143.0,   143.0,   0.0);   (325086.8,
3794432.5,   143.0,   143.0,   0.0);
     (325124.3, 3794432.5,   143.6,   143.6,   0.0);   (325161.8,
3794432.5,   144.0,   144.0,   0.0);
     (325199.3, 3794432.5,   144.0,   144.0,   0.0);   (325236.8,
3794432.5,   144.0,   144.0,   0.0);
     (325274.3, 3794432.5,   144.0,   144.0,   0.0);   (325049.3,
3794455.7,   143.0,   143.0,   0.0);
     (325086.8, 3794455.7,   143.3,   143.3,   0.0);   (325124.3,
3794455.7,   144.0,   144.0,   0.0);
     (325161.8, 3794455.7,   144.0,   144.0,   0.0);   (325199.3,
3794455.7,   144.0,   144.0,   0.0);
     (325236.8, 3794455.7,   144.0,   144.0,   0.0);   (325274.3,
3794455.7,   144.0,   144.0,   0.0);
     (325049.3, 3794478.9,   143.0,   143.0,   0.0);   (325086.8,
3794478.9,   144.0,   144.0,   0.0);
     (325124.3, 3794478.9,   144.0,   144.0,   0.0);   (325161.8,
3794478.9,   144.0,   144.0,   0.0);
     (325199.3, 3794478.9,   144.0,   144.0,   0.0);   (325236.8,
3794478.9,   144.0,   144.0,   0.0);
     (325274.3, 3794478.9,   144.0,   144.0,   0.0);   (325049.3,
3794502.1,   143.0,   143.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                       (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                 (METERS)

     (325086.8, 3794502.1,   144.0,   144.0,   0.0);   (325124.3,
3794502.1,   144.0,   144.0,   0.0);
     (325161.8, 3794502.1,   144.0,   144.0,   0.0);   (325199.3,
3794502.1,   144.0,   144.0,   0.0);
     (325236.8, 3794502.1,   144.0,   144.0,   0.0);   (325274.3,
3794502.1,   144.0,   144.0,   0.0);
     (325049.3, 3794525.3,   143.0,   143.0,   0.0);   (325086.8,
3794525.3,   144.0,   144.0,   0.0);
     (325124.3, 3794525.3,   144.0,   144.0,   0.0);   (325161.8,
3794525.3,   144.0,   144.0,   0.0);
     (325199.3, 3794525.3,   144.0,   144.0,   0.0);   (325236.8,

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3794525.3,     144.0,     144.0,       0.0);
     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
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3794687.7,   145.0,   145.0,   0.0);
     (324871.6, 3794298.6,   141.0,   141.0,   0.0);   (324910.5,
3794298.6,   141.1,   141.1,   0.0);
     (324949.4, 3794298.6,   142.0,   142.0,   0.0);   (324988.3,
3794298.6,   142.0,   142.0,   0.0);
     (324871.6, 3794320.4,   141.0,   141.0,   0.0);   (324910.5,
3794320.4,   141.8,   141.8,   0.0);
     (324949.4, 3794320.4,   142.0,   142.0,   0.0);   (324988.3,
3794320.4,   142.0,   142.0,   0.0);
     (324871.6, 3794342.2,   141.0,   141.0,   0.0);   (324910.5,
3794342.2,   142.0,   142.0,   0.0);
     (324949.4, 3794342.2,   142.0,   142.0,   0.0);   (324988.3,
3794342.2,   142.0,   142.0,   0.0);
     (324871.6, 3794364.0,   141.2,   141.2,   0.0);   (324910.5,
3794364.0,   142.0,   142.0,   0.0);
     (324949.4, 3794364.0,   142.0,   142.0,   0.0);   (324988.3,
3794364.0,   142.2,   142.2,   0.0);
     (324871.6, 3794385.8,   141.7,   141.7,   0.0);   (324910.5,
3794385.8,   142.0,   142.0,   0.0);
     (324949.4, 3794385.8,   142.0,   142.0,   0.0);   (324988.3,
3794385.8,   142.6,   142.6,   0.0);
     (324871.6, 3794407.6,   141.8,   141.8,   0.0);   (324910.5,
3794407.6,   142.0,   142.0,   0.0);
     (324949.4, 3794407.6,   142.0,   142.0,   0.0);   (324988.3,
3794407.6,   142.7,   142.7,   0.0);
     (324871.6, 3794429.4,   141.8,   141.8,   0.0);   (324910.5,
3794429.4,   142.0,   142.0,   0.0);
     (324949.4, 3794429.4,   142.0,   142.0,   0.0);   (324988.3,
3794429.4,   142.7,   142.7,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                       (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (324871.6, 3794451.2,   141.8,   141.8,   0.0);   (324910.5,
3794451.2,   142.0,   142.0,   0.0);
     (324949.4, 3794451.2,   142.1,   142.1,   0.0);   (324988.3,
3794451.2,   142.7,   142.7,   0.0);
     (324871.6, 3794473.0,   141.8,   141.8,   0.0);   (324910.5,
3794473.0,   142.0,   142.0,   0.0);
     (324949.4, 3794473.0,   142.3,   142.3,   0.0);   (324988.3,
3794473.0,   143.0,   143.0,   0.0);
     (324871.6, 3794494.8,   141.9,   141.9,   0.0);   (324910.5,

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3794494.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794494.8,     142.4,     142.4,       0.0);         ( 324988.3,
3794494.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794074.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794074.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794074.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794074.7,     137.8,     137.8,       0.0);
     ( 324596.8, 3794074.7,     137.6,     137.6,       0.0);         ( 324633.8,
3794074.7,     137.1,     137.1,       0.0);
     ( 324670.7, 3794074.7,     137.0,     137.0,       0.0);         ( 324707.7,
3794074.7,     137.2,     137.2,       0.0);
     ( 324744.6, 3794074.7,     137.9,     137.9,       0.0);         ( 324781.6,
3794074.7,     139.3,     139.3,       0.0);
     ( 324449.0, 3794106.7,     138.0,     138.0,       0.0);         ( 324486.0,
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3794106.7,   138.0,   138.0,   0.0);
     (324522.9, 3794106.7,   138.0,   138.0,   0.0);   (324559.9,
3794106.7,   138.0,   138.0,   0.0);
     (324596.8, 3794106.7,   138.0,   138.0,   0.0);   (324633.8,
3794106.7,   137.7,   137.7,   0.0);
     (324670.7, 3794106.7,   137.7,   137.7,   0.0);   (324707.7,
3794106.7,   138.0,   138.0,   0.0);
     (324744.6, 3794106.7,   139.2,   139.2,   0.0);   (324781.6,
3794106.7,   139.9,   139.9,   0.0);
     (324449.0, 3794138.6,   138.0,   138.0,   0.0);   (324486.0,
3794138.6,   138.0,   138.0,   0.0);
     (324522.9, 3794138.6,   138.0,   138.0,   0.0);   (324559.9,
3794138.6,   138.0,   138.0,   0.0);
     (324596.8, 3794138.6,   138.0,   138.0,   0.0);   (324633.8,
3794138.6,   138.6,   138.6,   0.0);
     (324670.7, 3794138.6,   138.7,   138.7,   0.0);   (324707.7,
3794138.6,   139.0,   139.0,   0.0);
     (324744.6, 3794138.6,   139.9,   139.9,   0.0);   (324781.6,
3794138.6,   140.0,   140.0,   0.0);
     (324449.0, 3794170.6,   138.0,   138.0,   0.0);   (324486.0,
3794170.6,   138.0,   138.0,   0.0);
     (324522.9, 3794170.6,   138.1,   138.1,   0.0);   (324559.9,
3794170.6,   138.8,   138.8,   0.0);
     (324596.8, 3794170.6,   138.8,   138.8,   0.0);   (324633.8,
3794170.6,   139.0,   139.0,   0.0);
     (324670.7, 3794170.6,   139.1,   139.1,   0.0);   (324707.7,
3794170.6,   139.9,   139.9,   0.0);
     (324744.6, 3794170.6,   140.0,   140.0,   0.0);   (324781.6,
3794170.6,   140.6,   140.6,   0.0);
     (324449.0, 3794202.6,   138.0,   138.0,   0.0);   (324486.0,
3794202.6,   138.0,   138.0,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (324522.9, 3794202.6,   138.2,   138.2,   0.0);   (324559.9,
3794202.6,   139.0,   139.0,   0.0);
     (324596.8, 3794202.6,   139.0,   139.0,   0.0);   (324633.8,
3794202.6,   139.0,   139.0,   0.0);
     (324670.7, 3794202.6,   139.9,   139.9,   0.0);   (324707.7,
3794202.6,   140.0,   140.0,   0.0);
     (324744.6, 3794202.6,   140.0,   140.0,   0.0);   (324781.6,

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3794202.6,     140.8,     140.8,       0.0);
     ( 324449.0, 3794234.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794234.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794234.5,     138.2,     138.2,       0.0);         ( 324559.9,
3794234.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794234.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794234.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794234.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794234.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794234.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794234.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794266.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794266.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794266.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794266.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794266.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794266.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794266.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794266.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794266.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794266.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794298.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794298.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794298.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794298.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794298.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794298.5,     139.9,     139.9,       0.0);
     ( 324670.7, 3794298.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794298.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794298.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794298.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794330.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794330.4,     138.1,     138.1,       0.0);
     ( 324522.9, 3794330.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794330.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794330.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794330.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794330.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794330.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794330.4,     140.1,     140.1,       0.0);         ( 324781.6,
3794330.4,     140.8,     140.8,       0.0);
     ( 324449.0, 3794362.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794362.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794362.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794362.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794362.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794362.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794362.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794362.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794362.4,     140.6,     140.6,       0.0);         ( 324781.6,
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3794362.4,   141.0,   141.0,   0.0);
     (324449.0, 3794394.4,   138.0,   138.0,   0.0);   (324486.0,
3794394.4,   138.9,   138.9,   0.0);
     (324522.9, 3794394.4,   139.0,   139.0,   0.0);   (324559.9,
3794394.4,   139.0,   139.0,   0.0);
     (324596.8, 3794394.4,   139.0,   139.0,   0.0);   (324633.8,
3794394.4,   139.9,   139.9,   0.0);
     (324670.7, 3794394.4,   140.0,   140.0,   0.0);   (324707.7,
3794394.4,   140.0,   140.0,   0.0);
     (324744.6, 3794394.4,   140.6,   140.6,   0.0);   (324781.6,
3794394.4,   141.0,   141.0,   0.0);
     (324449.0, 3794426.4,   138.2,   138.2,   0.0);   (324486.0,
3794426.4,   139.0,   139.0,   0.0);
     (324522.9, 3794426.4,   139.0,   139.0,   0.0);   (324559.9,
3794426.4,   139.0,   139.0,   0.0);
     (324596.8, 3794426.4,   139.0,   139.0,   0.0);   (324633.8,
3794426.4,   139.9,   139.9,   0.0);
     (324670.7, 3794426.4,   140.0,   140.0,   0.0);   (324707.7,
3794426.4,   140.1,   140.1,   0.0);
     (324744.6, 3794426.4,   140.7,   140.7,   0.0);   (324781.6,
3794426.4,   141.0,   141.0,   0.0);
     (324449.0, 3794458.3,   138.7,   138.7,   0.0);   (324486.0,
3794458.3,   139.0,   139.0,   0.0);
     (324522.9, 3794458.3,   139.0,   139.0,   0.0);   (324559.9,
3794458.3,   139.0,   139.0,   0.0);
     (324596.8, 3794458.3,   139.2,   139.2,   0.0);   (324633.8,
3794458.3,   139.9,   139.9,   0.0);
     (324670.7, 3794458.3,   140.0,   140.0,   0.0);   (324707.7,
3794458.3,   140.3,   140.3,   0.0);
     (324744.6, 3794458.3,   141.0,   141.0,   0.0);   (324781.6,
3794458.3,   141.0,   141.0,   0.0);
     (324449.0, 3794490.3,   138.7,   138.7,   0.0);   (324486.0,
3794490.3,   139.0,   139.0,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                       (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (324522.9, 3794490.3,   139.0,   139.0,   0.0);   (324559.9,
3794490.3,   139.0,   139.0,   0.0);
     (324596.8, 3794490.3,   139.6,   139.6,   0.0);   (324633.8,
3794490.3,   140.0,   140.0,   0.0);
     (324670.7, 3794490.3,   140.0,   140.0,   0.0);   (324707.7,

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3794490.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794490.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794490.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794522.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794522.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794522.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794522.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794554.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794554.2,     139.2,     139.2,       0.0);
     ( 324596.8, 3794554.2,     139.8,     139.8,       0.0);         ( 324633.8,
3794554.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794554.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794554.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794586.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794586.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794586.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794586.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794586.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794586.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794586.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794586.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794586.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794586.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794618.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794618.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794618.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794618.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794618.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794618.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794618.2,     140.1,     140.1,       0.0);         ( 324707.7,
3794618.2,     140.8,     140.8,       0.0);
     ( 324744.6, 3794618.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794618.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794650.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
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3794650.1,   141.0,   141.0,   0.0);
     (324744.6, 3794650.1,   141.0,   141.0,   0.0);   (324781.6,
3794650.1,   141.0,   141.0,   0.0);
     (324449.0, 3794682.1,   139.0,   139.0,   0.0);   (324486.0,
3794682.1,   139.0,   139.0,   0.0);
     (324522.9, 3794682.1,   139.1,   139.1,   0.0);   (324559.9,
3794682.1,   139.9,   139.9,   0.0);
     (324596.8, 3794682.1,   140.0,   140.0,   0.0);   (324633.8,
3794682.1,   140.0,   140.0,   0.0);
     (324670.7, 3794682.1,   140.1,   140.1,   0.0);   (324707.7,
3794682.1,   141.0,   141.0,   0.0);
     (324744.6, 3794682.1,   141.0,   141.0,   0.0);   (324781.6,
3794682.1,   141.0,   141.0,   0.0);
     (326547.4, 3795022.1,   153.0,   153.0,   0.0);   (326594.7,
3795022.1,   153.3,   153.3,   0.0);
     (326642.0, 3795022.1,   154.0,   154.0,   0.0);   (326547.4,
3795042.5,   153.0,   153.0,   0.0);
     (326594.7, 3795042.5,   153.9,   153.9,   0.0);   (326642.0,
3795042.5,   154.0,   154.0,   0.0);
     (326547.4, 3795062.9,   153.0,   153.0,   0.0);   (326594.7,
3795062.9,   154.0,   154.0,   0.0);
     (326642.0, 3795062.9,   154.0,   154.0,   0.0);   (326547.4,
3795083.3,   153.1,   153.1,   0.0);
     (326594.7, 3795083.3,   154.0,   154.0,   0.0);   (326642.0,
3795083.3,   154.0,   154.0,   0.0);
     (326547.4, 3795103.7,   153.6,   153.6,   0.0);   (326594.7,
3795103.7,   154.0,   154.0,   0.0);
     (326642.0, 3795103.7,   154.0,   154.0,   0.0);   (326547.4,
3795124.1,   153.6,   153.6,   0.0);
     (326594.7, 3795124.1,   154.0,   154.0,   0.0);   (326642.0,
3795124.1,   154.0,   154.0,   0.0);
     (326547.4, 3795144.5,   153.7,   153.7,   0.0);   (326594.7,
3795144.5,   154.0,   154.0,   0.0);
     (326642.0, 3795144.5,   154.0,   154.0,   0.0);   (326547.4,
3795164.9,   154.0,   154.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     (326594.7, 3795164.9,   154.0,   154.0,   0.0);   (326642.0,
3795164.9,   154.0,   154.0,   0.0);
     (326547.4, 3795185.3,   154.0,   154.0,   0.0);   (326594.7,

3795185.3,   154.0,   154.0,   0.0);
     (326642.0, 3795185.3,   154.0,   154.0,   0.0);   (326547.4,
3795205.7,   154.0,   154.0,   0.0);
     (326594.7, 3795205.7,   154.0,   154.0,   0.0);   (326642.0,
3795205.7,   154.2,   154.2,   0.0);
     (326547.4, 3795226.1,   154.0,   154.0,   0.0);   (326594.7,
3795226.1,   154.0,   154.0,   0.0);
     (326642.0, 3795226.1,   154.8,   154.8,   0.0);   (326547.4,
3795246.5,   154.0,   154.0,   0.0);
     (326594.7, 3795246.5,   154.1,   154.1,   0.0);   (326642.0,
3795246.5,   154.9,   154.9,   0.0);
     (326690.4, 3795243.4,   155.0,   155.0,   0.0);   (326688.7,
3795223.0,   155.0,   155.0,   0.0);
     (326686.0, 3795005.8,   154.0,   154.0,   0.0);   (326686.0,
3795033.7,   154.1,   154.1,   0.0);
     (326686.0, 3795061.5,   154.3,   154.3,   0.0);   (326686.0,
3795089.4,   154.3,   154.3,   0.0);
     (326686.0, 3795117.3,   154.3,   154.3,   0.0);   (326686.0,
3795145.2,   154.3,   154.3,   0.0);
     (326686.0, 3795173.1,   154.4,   154.4,   0.0);   (326686.0,
3795201.0,   155.0,   155.0,   0.0);
     (326832.8, 3795263.3,   155.3,   155.3,   0.0);   (326849.7,
3795263.3,   155.8,   155.8,   0.0);
     (326866.5, 3795263.3,   156.0,   156.0,   0.0);   (326883.4,
3795263.3,   156.0,   156.0,   0.0);
     (326900.3, 3795263.3,   156.0,   156.0,   0.0);   (326917.1,
3795263.3,   156.0,   156.0,   0.0);
     (326934.0, 3795263.3,   156.5,   156.5,   0.0);   (326950.9,
3795263.3,   157.0,   157.0,   0.0);
     (326967.8, 3795263.3,   157.0,   157.0,   0.0);   (326984.6,
3795263.3,   157.2,   157.2,   0.0);
     (327001.5, 3795263.3,   157.8,   157.8,   0.0);   (327036.8,
3795141.3,   157.0,   157.0,   0.0);
     (327075.7, 3795141.3,   158.0,   158.0,   0.0);   (327036.8,
3795160.9,   157.0,   157.0,   0.0);
     (327075.7, 3795160.9,   158.0,   158.0,   0.0);   (327036.8,
3795180.5,   157.0,   157.0,   0.0);
     (327075.7, 3795180.5,   158.0,   158.0,   0.0);   (327036.8,
3795200.0,   157.1,   157.1,   0.0);
     (327075.7, 3795200.0,   158.0,   158.0,   0.0);   (327036.8,
3795219.6,   157.7,   157.7,   0.0);
     (327075.7, 3795219.6,   158.0,   158.0,   0.0);   (327036.8,
3795239.1,   158.0,   158.0,   0.0);
     (327075.7, 3795239.1,   158.0,   158.0,   0.0);   (327036.8,
3795258.7,   158.0,   158.0,   0.0);
     (327075.7, 3795258.7,   158.0,   158.0,   0.0);   (327036.8,
3795278.3,   158.0,   158.0,   0.0);
     (327075.7, 3795278.3,   158.0,   158.0,   0.0);   (326840.0,
3795223.2,   155.4,   155.4,   0.0);
     (326860.6, 3795224.2,   156.0,   156.0,   0.0);   (326877.3,

3795222.7,   156.0,   156.0,   0.0);
     (326929.7, 3795223.7,   156.4,   156.4,   0.0);   (326932.9,
3795200.0,   156.5,   156.5,   0.0);
     (326972.3, 3795217.0,   157.0,   157.0,   0.0);   (326970.8,
3795177.6,   157.0,   157.0,   0.0);
     (326968.2, 3795152.5,   157.0,   157.0,   0.0);   (326998.4,
3795149.8,   157.0,   157.0,   0.0);
     (326997.5, 3795176.6,   157.0,   157.0,   0.0);   (326995.6,
3795193.0,   157.0,   157.0,   0.0);
     (326996.9, 3795215.8,   157.0,   157.0,   0.0);   (326917.0,
3795152.2,   156.0,   156.0,   0.0);
     (326902.0, 3795150.5,   156.0,   156.0,   0.0);   (326884.2,
3795164.4,   156.0,   156.0,   0.0);
     (326867.3, 3795151.3,   156.0,   156.0,   0.0);   (326873.2,
3795163.4,   156.0,   156.0,   0.0);
     (326845.5, 3795152.1,   155.6,   155.6,   0.0);   (326824.9,
3795151.4,   155.0,   155.0,   0.0);
     (326826.6, 3795170.6,   155.0,   155.0,   0.0);   (326840.5,
3795180.2,   155.4,   155.4,   0.0);
     (326799.4, 3795148.0,   155.0,   155.0,   0.0);   (326776.8,
3795147.9,   155.0,   155.0,   0.0);
     (326738.0, 3795152.7,   155.0,   155.0,   0.0);   (326781.3,
3795110.8,   155.0,   155.0,   0.0);
     (326806.1, 3795109.0,   155.2,   155.2,   0.0);   (326804.5,
3795090.7,   155.2,   155.2,   0.0);
     (326781.8, 3795086.7,   155.0,   155.0,   0.0);   (326787.4,
3795061.8,   155.0,   155.0,   0.0);
     (326794.0, 3795031.2,   155.0,   155.0,   0.0);   (326977.5,
3795110.7,   157.0,   157.0,   0.0);
     (326994.0, 3795107.9,   157.0,   157.0,   0.0);   (326984.5,
3795093.8,   157.0,   157.0,   0.0);
     (326972.8, 3795082.4,   157.0,   157.0,   0.0);   (326995.4,
3795072.5,   157.0,   157.0,   0.0);
     (326993.2, 3795060.0,   157.0,   157.0,   0.0);   (326984.6,
3795040.8,   157.0,   157.0,   0.0);
     (326981.7, 3795027.2,   157.0,   157.0,   0.0);   (327041.5,
3795102.1,   157.1,   157.1,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (327065.2, 3795095.8,   157.9,   157.9,   0.0);   (327040.9,

```
3795076.3,     157.1,     157.1,       0.0);
     ( 327061.2, 3795058.3,     157.8,     157.8,       0.0);         ( 327037.8,
3795061.1,     157.0,     157.0,       0.0);
     ( 327035.6, 3795040.6,     157.0,     157.0,       0.0);         ( 327058.9,
3795038.4,     157.7,     157.7,       0.0);
     ( 327051.5, 3795017.8,     157.4,     157.4,       0.0);         ( 327033.3,
3795021.7,     157.0,     157.0,       0.0);
     ( 326826.3, 3795110.8,     155.8,     155.8,       0.0);         ( 326843.3,
3795110.8,     155.9,     155.9,       0.0);
     ( 326860.3, 3795110.8,     156.0,     156.0,       0.0);         ( 326877.3,
3795110.8,     156.0,     156.0,       0.0);
     ( 326894.4, 3795110.8,     156.0,     156.0,       0.0);         ( 326911.4,
3795110.8,     156.0,     156.0,       0.0);
     ( 326928.4, 3795110.8,     156.3,     156.3,       0.0);         ( 326945.5,
3795110.8,     156.9,     156.9,       0.0);
     ( 326820.0, 3795048.9,     155.7,     155.7,       0.0);         ( 326838.2,
3795048.9,     156.0,     156.0,       0.0);
     ( 326856.4, 3795048.9,     156.0,     156.0,       0.0);         ( 326874.6,
3795048.9,     156.0,     156.0,       0.0);
     ( 326892.8, 3795048.9,     156.0,     156.0,       0.0);         ( 326911.0,
3795048.9,     156.0,     156.0,       0.0);
     ( 326929.2, 3795048.9,     156.4,     156.4,       0.0);         ( 326947.4,
3795048.9,     157.0,     157.0,       0.0);
     ( 325652.3, 3795689.5,     172.4,     271.0,       0.0);         ( 325747.8,
3795796.2,     179.1,     295.0,       0.0);
     ( 325511.5, 3795586.4,     181.9,     181.9,       0.0);         ( 326251.1,
3796043.8,     195.4,     295.0,       0.0);
     ( 326263.9, 3795852.4,     183.1,     295.0,       0.0);         ( 326170.8,
3795648.4,     173.3,     173.3,       0.0);
     ( 326148.1, 3795505.9,     161.2,     182.0,       0.0);

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       15:56:09

                                    PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                              (1=YES; 0=NO)

            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
```

```
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926. Met Version: 14134
Profile file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926.
Surface format: FREE

Profile format: FREE

Surface station no.: 23136 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81						

```
1.00    0.00    0.   10.0  281.4    2.0
 09 01 01   1 02 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.9    2.0
 09 01 01   1 03   -3.3  0.067 -9.000 -9.000 -999.   42.      8.3  0.05   0.81
1.00    1.76  214.   10.0  280.9    2.0
 09 01 01   1 04 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 05   -6.6  0.115 -9.000 -9.000 -999.   94.     21.1  0.03   0.81
1.00    2.36   93.   10.0  280.4    2.0
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
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 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                             ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         326801.34    3796078.38        0.00041                    326809.46
3796094.93        0.00039
         326736.80    3796108.96        0.00042                    326835.84
3796126.62        0.00035
         326836.27    3796140.13        0.00034                    326800.95
3796123.31        0.00039
         326762.39    3796138.51        0.00036                    326766.63
3796155.18        0.00032
         326774.14    3796169.68        0.00030                    326798.07
3796201.57        0.00026
         326808.84    3796229.51        0.00023                    326880.95
3796184.59        0.00028
         326915.56    3796260.01        0.00024                    326941.07
3796261.11        0.00022
         326958.24    3796277.25        0.00021                    326964.89
3796291.08        0.00020
         326984.47    3796322.92        0.00019                    326993.31
3796349.42        0.00019
         326993.49    3796365.88        0.00018                    327007.03
3796382.47        0.00018
         326972.07    3796390.18        0.00017                    326996.78
3796414.54        0.00017
         326693.51    3795789.66        0.00055                    326695.37
3795771.29        0.00056
         326727.00    3795761.34        0.00054                    326758.55
3795787.48        0.00043
         326761.76    3795813.54        0.00039                    326742.22
3795837.06        0.00039
         326838.64    3795823.91        0.00031                    326811.45
3795889.81        0.00029
         326823.87    3795855.97        0.00029                    326876.62
3795837.29        0.00027
         326889.30    3795888.54        0.00025                    326687.45
3795683.69        0.00099
         326829.20    3795731.31        0.00043                    326859.14
3795703.62        0.00041
         326881.10    3795705.58        0.00042                    326787.44
3795607.00        0.00106
         326780.76    3795563.55        0.00117                    326800.04
3795542.65        0.00118
         326808.89    3795540.15        0.00118                    326825.79
3795543.65        0.00117
         326856.70    3795545.31        0.00112                    326792.33
3795494.19        0.00124
         326806.68    3795493.93        0.00122                    326824.07
3795494.42        0.00119
         326853.52    3795481.71        0.00117                    326898.80
3795534.37        0.00106
         325796.15    3795215.59        0.00348                    325823.15
3795215.59        0.00343
```

*** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
INCLUDING SOURCE(S):   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
326012.15	3795215.59	0.00282	326120.15	3795215.59	0.00249
326147.15	3795215.59	0.00243	325796.15	3795254.59	0.00417
325823.15	3795254.59	0.00413	325850.15	3795254.59	0.00405
325877.15	3795254.59	0.00397	325904.15	3795254.59	0.00388
325931.15	3795254.59	0.00373	325958.15	3795254.59	0.00364
325985.15	3795254.59	0.00357	326012.15	3795254.59	0.00341
326039.15	3795254.59	0.00332	326066.15	3795254.59	0.00325
326093.15	3795254.59	0.00318	326120.15	3795254.59	0.00311
326147.15	3795254.59	0.00304	325796.15	3795293.59	0.00495
325823.15	3795293.59	0.00488	325850.15	3795293.59	0.00488
325877.15	3795293.59	0.00489	325904.15	3795293.59	0.00483
325931.15	3795293.59	0.00465	325958.15	3795293.59	0.00459
325985.15	3795293.59	0.00436	326012.15	3795293.59	0.00385
326039.15	3795293.59	0.00378	326066.15	3795293.59	0.00356

```
         326093.15    3795293.59        0.00339                    326120.15
3795293.59        0.00334
         326147.15    3795293.59        0.00327                    325796.15
3795332.59        0.00528
         325823.15    3795332.59        0.00529                    325850.15
3795332.59        0.00599
         325877.15    3795332.59        0.00605                    325904.15
3795332.59        0.00618
         325931.15    3795332.59        0.00602                    325958.15
3795332.59        0.00583
         325985.15    3795332.59        0.00482                    326012.15
3795332.59        0.00448
         326039.15    3795332.59        0.00437                    326066.15
3795332.59        0.00430
         326093.15    3795332.59        0.00424                    326120.15
3795332.59        0.00422
         326147.15    3795332.59        0.00416                    325847.44
3795004.89        0.00140
         325872.44    3795004.89        0.00136                    325897.44
3795004.89        0.00132
         325922.44    3795004.89        0.00129                    325947.44
3795004.89        0.00125
         325972.44    3795004.89        0.00121                    325997.44
3795004.89        0.00118
         326022.44    3795004.89        0.00114                    326047.44
3795004.89        0.00112
         326072.44    3795004.89        0.00109                    326097.44
3795004.89        0.00107
         326122.44    3795004.89        0.00105                    326147.44
3795004.89        0.00103
         325847.44    3795046.89        0.00164                    325872.44
3795046.89        0.00160
         325897.44    3795046.89        0.00155                    325922.44
3795046.89        0.00151
         325947.44    3795046.89        0.00146                    325972.44
3795046.89        0.00141
         325997.44    3795046.89        0.00136                    326022.44
3795046.89        0.00133
         326047.44    3795046.89        0.00130                    326072.44
3795046.89        0.00127
         326097.44    3795046.89        0.00124                    326122.44
3795046.89        0.00120
         326147.44    3795046.89        0.00116                    325847.44
3795088.89        0.00194
         325872.44    3795088.89        0.00188                    325897.44
3795088.89        0.00183
         325922.44    3795088.89        0.00178                    325947.44
3795088.89        0.00171
         325972.44    3795088.89        0.00165                    325997.44
3795088.89        0.00160
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325897.44	3795130.89	0.00218	325922.44	3795130.89	0.00212
325947.44	3795130.89	0.00204	325972.44	3795130.89	0.00196
325997.44	3795130.89	0.00191	326022.44	3795130.89	0.00186
326047.44	3795130.89	0.00181	326072.44	3795130.89	0.00177
326097.44	3795130.89	0.00170	326122.44	3795130.89	0.00164
326147.44	3795130.89	0.00161	325847.44	3795172.89	0.00277
325872.44	3795172.89	0.00270	325897.44	3795172.89	0.00263
325922.44	3795172.89	0.00256	325947.44	3795172.89	0.00246
325972.44	3795172.89	0.00237	325997.44	3795172.89	0.00231
326022.44	3795172.89	0.00225	326047.44	3795172.89	0.00219

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         326072.44    3795172.89        0.00210                    325847.44
3795214.89        0.00335
         325872.44    3795214.89        0.00327                    325897.44
3795214.89        0.00320
         325922.44    3795214.89        0.00313                    325947.44
3795214.89        0.00301
         325972.44    3795214.89        0.00291                    325997.44
3795214.89        0.00285
         326047.44    3795214.89        0.00264                    326072.44
3795214.89        0.00258
         326097.44    3795214.89        0.00253                    326147.44
3795214.89        0.00242
         326096.58    3795181.52        0.00213                    326118.63
3795182.57        0.00210
         326144.35    3795184.14        0.00206                    325849.74
3794829.62        0.00079
         325892.61    3794829.62        0.00076                    325935.48
3794829.62        0.00073
         325978.35    3794829.62        0.00070                    326021.22
3794829.62        0.00068
         326064.09    3794829.62        0.00066                    325849.74
3794867.55        0.00089
         325892.61    3794867.55        0.00084                    325935.48
3794867.55        0.00081
         325978.35    3794867.55        0.00078                    326021.22
3794867.55        0.00076
         326064.09    3794867.55        0.00073                    325849.74
3794905.48        0.00100
         325892.61    3794905.48        0.00095                    325935.48
3794905.48        0.00091
         325978.35    3794905.48        0.00088                    326021.22
3794905.48        0.00085
         326064.09    3794905.48        0.00081                    325849.74
3794943.41        0.00113
         325892.61    3794943.41        0.00107                    325935.48
3794943.41        0.00103
         325978.35    3794943.41        0.00099                    326021.22
3794943.41        0.00095
         326064.09    3794943.41        0.00091                    325849.74
3794981.34        0.00129
         325892.61    3794981.34        0.00122                    325935.48
3794981.34        0.00117
         325978.35    3794981.34        0.00112                    326021.22
3794981.34        0.00106
         326064.09    3794981.34        0.00102                    325855.31
3794726.62        0.00060
         325902.64    3794726.62        0.00057                    325855.31
3794745.52        0.00062
         325902.64    3794745.52        0.00060                    325855.31
3794764.42        0.00066
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         325902.64    3794764.42        0.00063                       325855.31
3794783.32        0.00069
         325902.64    3794783.32        0.00066                       325855.31
3794802.22        0.00073
         325902.64    3794802.22        0.00070                       325855.31
3794821.12        0.00077
         325902.64    3794821.12        0.00074                       326402.77
3795249.33        0.00184
         325380.55    3795776.17        0.00086                       325415.88
3795858.35        0.00029
🌲 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       15:56:09

                                 PAGE  19
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -
         325409.93    3795994.97        0.00010                       325416.60
3796058.09        0.00007
         325409.65    3796164.95        0.00004                       325322.71
3796083.91        0.00006
         325297.93    3796111.07        0.00007                       325246.73
3796076.15        0.00009
         325280.01    3796260.66        0.00002                       325237.05
3796200.45        0.00003
         325163.03    3796071.11        0.00008                       325215.74
3795991.41        0.00012
         325208.29    3795926.88        0.00018                       325249.48
3795829.20        0.00028
         325171.49    3795759.19        0.00057                       325129.24
3795756.40        0.00065
         325154.75    3795886.20        0.00024                       325068.55
3795885.45        0.00018
         325047.86    3795938.00        0.00012                       325045.84
3795982.69        0.00011
```

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         325071.95    3796106.74        0.00008                    325060.64
3796290.38        0.00003
         324903.71    3796379.80        0.00001                    324787.84
3796510.42        0.00002
         324916.48    3796618.27        0.00002                    326492.96
3796356.32        0.00022
         326552.73    3796900.01        0.00005                    326599.30
3796893.60        0.00005
         326617.42    3796889.51        0.00005                    326639.41
3796881.91        0.00006
         326663.73    3796864.08        0.00006                    326679.47
3796885.20        0.00006
         326697.81    3796898.31        0.00006                    326712.34
3796916.60        0.00006
         326726.62    3796931.14        0.00005                    326742.23
3796948.02        0.00005
         326756.58    3796965.73        0.00005                    326772.07
3796973.30        0.00005
         326785.22    3796890.50        0.00006                    326800.10
3797003.95        0.00005
         326817.96    3797014.86        0.00005                    326813.74
3796843.93        0.00007
         326833.92    3796853.59        0.00007                    326848.61
3796873.43        0.00007
         326864.19    3796885.12        0.00007                    326877.92
3796901.20        0.00007
         326893.85    3796917.11        0.00006                    326904.49
3796938.77        0.00006
         326907.64    3796966.22        0.00006                    326914.45
3796991.73        0.00005
         326921.92    3797038.42        0.00005                    326596.56
3797264.10        0.00003
         326829.98    3795735.43        0.00042                    326866.53
3795706.88        0.00040
         326831.50    3795646.57        0.00097                    326872.90
3795644.95        0.00092
         326898.91    3795644.66        0.00089                    326924.66
3795650.14        0.00082
         326949.68    3795646.43        0.00082                    326975.59
3795638.84        0.00073
         326917.88    3795602.78        0.00097                    326918.63
3795584.13        0.00103
         326921.61    3795563.48        0.00103                    326917.18
3795537.15        0.00104
         326934.99    3795592.17        0.00096                    326951.04
3795599.47        0.00090
         326950.26    3795555.95        0.00099                    326951.59
3795535.07        0.00099
         326961.83    3795537.57        0.00098                    326982.25
3795538.33        0.00096
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                   INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                            ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         325236.77    3794409.32        0.00054                    325274.27
3794409.32        0.00053
         325049.27    3794432.52        0.00064                    325086.77
3794432.52        0.00063
         325124.27    3794432.52        0.00062                    325161.77
3794432.52        0.00060
         325199.27    3794432.52        0.00059                    325236.77
3794432.52        0.00057
         325274.27    3794432.52        0.00055                    325049.27
3794455.72        0.00067
         325086.77    3794455.72        0.00065                    325124.27
3794455.72        0.00064
         325161.77    3794455.72        0.00063                    325199.27
3794455.72        0.00061
         325236.77    3794455.72        0.00060                    325274.27
3794455.72        0.00058
         325049.27    3794478.92        0.00069                    325086.77
3794478.92        0.00069
         325124.27    3794478.92        0.00067                    325161.77
3794478.92        0.00066
         325199.27    3794478.92        0.00064                    325236.77
3794478.92        0.00062
         325274.27    3794478.92        0.00061                    325049.27
3794502.12        0.00072
         325086.77    3794502.12        0.00072                    325124.27
3794502.12        0.00070
         325161.77    3794502.12        0.00068                    325199.27
3794502.12        0.00067
         325236.77    3794502.12        0.00065                    325274.27
3794502.12        0.00063
         325049.27    3794525.32        0.00075                    325086.77
3794525.32        0.00075
         325124.27    3794525.32        0.00073                    325161.77
3794525.32        0.00072
         325199.27    3794525.32        0.00070                    325236.77
3794525.32        0.00068
         325274.27    3794525.32        0.00066                    325049.27
3794548.52        0.00079
         325086.77    3794548.52        0.00078                    325124.27
3794548.52        0.00076
         325161.77    3794548.52        0.00075                    325199.27
3794548.52        0.00073
         325236.77    3794548.52        0.00071                    325274.27
3794548.52        0.00069
         325049.27    3794571.72        0.00082                    325086.77
3794571.72        0.00082
         325124.27    3794571.72        0.00080                    325161.77
3794571.72        0.00078
         325199.27    3794571.72        0.00076                    325236.77
3794571.72        0.00075
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         325274.27    3794571.72        0.00073                       325049.27
3794594.92        0.00086
         325086.77    3794594.92        0.00085                       325124.27
3794594.92        0.00084
         325161.77    3794594.92        0.00082                       325199.27
3794594.92        0.00080
         325236.77    3794594.92        0.00078                       325274.27
3794594.92        0.00076
         325049.27    3794618.12        0.00090                       325086.77
3794618.12        0.00089
         325124.27    3794618.12        0.00087                       325161.77
3794618.12        0.00086
         325199.27    3794618.12        0.00084                       325236.77
3794618.12        0.00082
```

```
                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         325274.27    3794618.12        0.00080                       325049.27
3794641.32        0.00094
         325086.77    3794641.32        0.00094                       325124.27
3794641.32        0.00092
         325161.77    3794641.32        0.00090                       325199.27
3794641.32        0.00088
         325236.77    3794641.32        0.00086                       325274.27
3794641.32        0.00084
         325049.27    3794664.52        0.00098                       325086.77
3794664.52        0.00098
         325124.27    3794664.52        0.00096                       325161.77
3794664.52        0.00094
         325199.27    3794664.52        0.00092                       325236.77
3794664.52        0.00090
```

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         325274.27    3794664.52        0.00089                    325049.27
3794687.72        0.00103
         325086.77    3794687.72        0.00103                    325124.27
3794687.72        0.00101
         325161.77    3794687.72        0.00099                    325199.27
3794687.72        0.00097
         325236.77    3794687.72        0.00095                    325274.27
3794687.72        0.00094
         324871.62    3794298.63        0.00055                    324910.53
3794298.63        0.00054
         324949.44    3794298.63        0.00054                    324988.35
3794298.63        0.00053
         324871.62    3794320.43        0.00057                    324910.53
3794320.43        0.00056
         324949.44    3794320.43        0.00055                    324988.35
3794320.43        0.00054
         324871.62    3794342.23        0.00059                    324910.53
3794342.23        0.00058
         324949.44    3794342.23        0.00057                    324988.35
3794342.23        0.00056
         324871.62    3794364.03        0.00061                    324910.53
3794364.03        0.00061
         324949.44    3794364.03        0.00059                    324988.35
3794364.03        0.00058
         324871.62    3794385.83        0.00064                    324910.53
3794385.83        0.00063
         324949.44    3794385.83        0.00062                    324988.35
3794385.83        0.00061
         324871.62    3794407.63        0.00066                    324910.53
3794407.63        0.00065
         324949.44    3794407.63        0.00064                    324988.35
3794407.63        0.00063
         324871.62    3794429.43        0.00069                    324910.53
3794429.43        0.00067
         324949.44    3794429.43        0.00066                    324988.35
3794429.43        0.00065
         324871.62    3794451.23        0.00071                    324910.53
3794451.23        0.00070
         324949.44    3794451.23        0.00069                    324988.35
3794451.23        0.00068
         324871.62    3794473.03        0.00074                    324910.53
3794473.03        0.00073
         324949.44    3794473.03        0.00072                    324988.35
3794473.03        0.00071
         324871.62    3794494.83        0.00077                    324910.53
3794494.83        0.00075
         324949.44    3794494.83        0.00074                    324988.35
3794494.83        0.00074
         324871.62    3794516.63        0.00080                    324910.53
3794516.63        0.00079
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         324949.44    3794516.63        0.00077                        324988.35
3794516.63        0.00077
         324871.62    3794538.43        0.00083                        324910.53
3794538.43        0.00082
         324949.44    3794538.43        0.00081                        324988.35
3794538.43        0.00080
         324871.62    3794560.23        0.00087                        324910.53
3794560.23        0.00085
         324949.44    3794560.23        0.00084                        324988.35
3794560.23        0.00083
         324871.62    3794582.03        0.00090                        324910.53
3794582.03        0.00089
         324949.44    3794582.03        0.00087                        324988.35
3794582.03        0.00086
         324871.62    3794603.83        0.00094                        324910.53
3794603.83        0.00092
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:56:09

                                  PAGE  22
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         324949.44    3794603.83        0.00091                        324988.35
3794603.83        0.00090
         324871.62    3794625.63        0.00098                        324910.53
3794625.63        0.00096
         324949.44    3794625.63        0.00096                        324988.35
3794625.63        0.00094
         324871.62    3794647.43        0.00102                        324910.53
3794647.43        0.00100
         324949.44    3794647.43        0.00100                        324988.35
3794647.43        0.00098
         324871.62    3794669.23        0.00106                        324910.53
3794669.23        0.00105
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         324949.44    3794669.23        0.00104                    324988.35
3794669.23        0.00102
         324871.62    3794691.03        0.00111                    324910.53
3794691.03        0.00109
         324949.44    3794691.03        0.00109                    324988.35
3794691.03        0.00107
         324449.04    3794074.69        0.00046                    324485.99
3794074.69        0.00045
         324522.94    3794074.69        0.00045                    324559.89
3794074.69        0.00044
         324596.84    3794074.69        0.00043                    324633.79
3794074.69        0.00042
         324670.74    3794074.69        0.00041                    324707.69
3794074.69        0.00041
         324744.64    3794074.69        0.00041                    324781.59
3794074.69        0.00041
         324449.04    3794106.66        0.00048                    324485.99
3794106.66        0.00047
         324522.94    3794106.66        0.00047                    324559.89
3794106.66        0.00046
         324596.84    3794106.66        0.00045                    324633.79
3794106.66        0.00044
         324670.74    3794106.66        0.00044                    324707.69
3794106.66        0.00043
         324744.64    3794106.66        0.00043                    324781.59
3794106.66        0.00043
         324449.04    3794138.63        0.00050                    324485.99
3794138.63        0.00050
         324522.94    3794138.63        0.00049                    324559.89
3794138.63        0.00048
         324596.84    3794138.63        0.00047                    324633.79
3794138.63        0.00047
         324670.74    3794138.63        0.00046                    324707.69
3794138.63        0.00046
         324744.64    3794138.63        0.00046                    324781.59
3794138.63        0.00045
         324449.04    3794170.60        0.00052                    324485.99
3794170.60        0.00052
         324522.94    3794170.60        0.00051                    324559.89
3794170.60        0.00051
         324596.84    3794170.60        0.00050                    324633.79
3794170.60        0.00049
         324670.74    3794170.60        0.00049                    324707.69
3794170.60        0.00048
         324744.64    3794170.60        0.00048                    324781.59
3794170.60        0.00047
         324449.04    3794202.57        0.00055                    324485.99
3794202.57        0.00054
         324522.94    3794202.57        0.00054                    324559.89
3794202.57        0.00053
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         324596.84    3794202.57        0.00053                        324633.79
3794202.57        0.00052
         324670.74    3794202.57        0.00052                        324707.69
3794202.57        0.00051
         324744.64    3794202.57        0.00050                        324781.59
3794202.57        0.00050
         324449.04    3794234.54        0.00057                        324485.99
3794234.54        0.00056
         324522.94    3794234.54        0.00056                        324559.89
3794234.54        0.00056
         324596.84    3794234.54        0.00055                        324633.79
3794234.54        0.00054
         324670.74    3794234.54        0.00054                        324707.69
3794234.54        0.00053
         324744.64    3794234.54        0.00052                        324781.59
3794234.54        0.00052
         324449.04    3794266.51        0.00060                        324485.99
3794266.51        0.00059
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:56:09

                                  PAGE  23
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         324522.94    3794266.51        0.00059                        324559.89
3794266.51        0.00059
         324596.84    3794266.51        0.00058                        324633.79
3794266.51        0.00057
         324670.74    3794266.51        0.00057                        324707.69
3794266.51        0.00056
         324744.64    3794266.51        0.00055                        324781.59
3794266.51        0.00054
         324449.04    3794298.48        0.00062                        324485.99
3794298.48        0.00062
```

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         324522.94    3794298.48        0.00062                    324559.89
3794298.48        0.00061
         324596.84    3794298.48        0.00061                    324633.79
3794298.48        0.00061
         324670.74    3794298.48        0.00060                    324707.69
3794298.48        0.00059
         324744.64    3794298.48        0.00058                    324781.59
3794298.48        0.00057
         324449.04    3794330.45        0.00065                    324485.99
3794330.45        0.00064
         324522.94    3794330.45        0.00065                    324559.89
3794330.45        0.00064
         324596.84    3794330.45        0.00064                    324633.79
3794330.45        0.00064
         324670.74    3794330.45        0.00063                    324707.69
3794330.45        0.00062
         324744.64    3794330.45        0.00061                    324781.59
3794330.45        0.00060
         324449.04    3794362.42        0.00068                    324485.99
3794362.42        0.00068
         324522.94    3794362.42        0.00068                    324559.89
3794362.42        0.00067
         324596.84    3794362.42        0.00067                    324633.79
3794362.42        0.00067
         324670.74    3794362.42        0.00066                    324707.69
3794362.42        0.00065
         324744.64    3794362.42        0.00064                    324781.59
3794362.42        0.00063
         324449.04    3794394.39        0.00070                    324485.99
3794394.39        0.00071
         324522.94    3794394.39        0.00071                    324559.89
3794394.39        0.00070
         324596.84    3794394.39        0.00070                    324633.79
3794394.39        0.00070
         324670.74    3794394.39        0.00069                    324707.69
3794394.39        0.00068
         324744.64    3794394.39        0.00068                    324781.59
3794394.39        0.00067
         324449.04    3794426.36        0.00074                    324485.99
3794426.36        0.00074
         324522.94    3794426.36        0.00074                    324559.89
3794426.36        0.00074
         324596.84    3794426.36        0.00073                    324633.79
3794426.36        0.00073
         324670.74    3794426.36        0.00073                    324707.69
3794426.36        0.00072
         324744.64    3794426.36        0.00072                    324781.59
3794426.36        0.00071
         324449.04    3794458.33        0.00077                    324485.99
3794458.33        0.00078
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```
         324522.94    3794458.33        0.00077                        324559.89
3794458.33        0.00077
         324596.84    3794458.33        0.00077                        324633.79
3794458.33        0.00077
         324670.74    3794458.33        0.00077                        324707.69
3794458.33        0.00076
         324744.64    3794458.33        0.00076                        324781.59
3794458.33        0.00075
         324449.04    3794490.30        0.00080                        324485.99
3794490.30        0.00081
         324522.94    3794490.30        0.00081                        324559.89
3794490.30        0.00081
         324596.84    3794490.30        0.00081                        324633.79
3794490.30        0.00081
         324670.74    3794490.30        0.00080                        324707.69
3794490.30        0.00080
         324744.64    3794490.30        0.00080                        324781.59
3794490.30        0.00079
         324449.04    3794522.27        0.00084                        324485.99
3794522.27        0.00084
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:56:09

                                  PAGE  24
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
         324522.94    3794522.27        0.00085                        324559.89
3794522.27        0.00084
         324596.84    3794522.27        0.00085                        324633.79
3794522.27        0.00085
         324670.74    3794522.27        0.00085                        324707.69
3794522.27        0.00084
         324744.64    3794522.27        0.00084                        324781.59
3794522.27        0.00083
```

```
         324449.04    3794554.24        0.00088                    324485.99
3794554.24        0.00088
         324522.94    3794554.24        0.00088                    324559.89
3794554.24        0.00089
         324596.84    3794554.24        0.00090                    324633.79
3794554.24        0.00089
         324670.74    3794554.24        0.00089                    324707.69
3794554.24        0.00089
         324744.64    3794554.24        0.00089                    324781.59
3794554.24        0.00088
         324449.04    3794586.21        0.00092                    324485.99
3794586.21        0.00092
         324522.94    3794586.21        0.00092                    324559.89
3794586.21        0.00093
         324596.84    3794586.21        0.00094                    324633.79
3794586.21        0.00094
         324670.74    3794586.21        0.00094                    324707.69
3794586.21        0.00093
         324744.64    3794586.21        0.00094                    324781.59
3794586.21        0.00093
         324449.04    3794618.18        0.00096                    324485.99
3794618.18        0.00096
         324522.94    3794618.18        0.00096                    324559.89
3794618.18        0.00097
         324596.84    3794618.18        0.00099                    324633.79
3794618.18        0.00099
         324670.74    3794618.18        0.00098                    324707.69
3794618.18        0.00099
         324744.64    3794618.18        0.00099                    324781.59
3794618.18        0.00098
         324449.04    3794650.15        0.00100                    324485.99
3794650.15        0.00100
         324522.94    3794650.15        0.00101                    324559.89
3794650.15        0.00102
         324596.84    3794650.15        0.00103                    324633.79
3794650.15        0.00103
         324670.74    3794650.15        0.00104                    324707.69
3794650.15        0.00105
         324744.64    3794650.15        0.00104                    324781.59
3794650.15        0.00104
         324449.04    3794682.12        0.00104                    324485.99
3794682.12        0.00105
         324522.94    3794682.12        0.00106                    324559.89
3794682.12        0.00108
         324596.84    3794682.12        0.00108                    324633.79
3794682.12        0.00109
         324670.74    3794682.12        0.00109                    324707.69
3794682.12        0.00111
         324744.64    3794682.12        0.00110                    324781.59
3794682.12        0.00110
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         326547.36    3795022.06        0.00088                        326594.67
3795022.06        0.00087
         326641.98    3795022.06        0.00085                        326547.36
3795042.46        0.00093
         326594.67    3795042.46        0.00090                        326641.98
3795042.46        0.00089
         326547.36    3795062.86        0.00098                        326594.67
3795062.86        0.00094
         326641.98    3795062.86        0.00094                        326547.36
3795083.26        0.00104
         326594.67    3795083.26        0.00099                        326641.98
3795083.26        0.00099
         326547.36    3795103.66        0.00107                        326594.67
3795103.66        0.00105
         326641.98    3795103.66        0.00105                        326547.36
3795124.06        0.00113
         326594.67    3795124.06        0.00111                        326641.98
3795124.06        0.00110
         326547.36    3795144.46        0.00120                        326594.67
3795144.46        0.00117
         326641.98    3795144.46        0.00117                        326547.36
3795164.86        0.00125
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:56:09

                                  PAGE  25
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         326594.67    3795164.86        0.00124                        326641.98
3795164.86        0.00123
         326547.36    3795185.26        0.00133                        326594.67
3795185.26        0.00132
         326641.98    3795185.26        0.00130                        326547.36
3795205.66        0.00142
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         326594.67    3795205.66        0.00140                    326641.98
3795205.66        0.00136
         326547.36    3795226.06        0.00151                    326594.67
3795226.06        0.00149
         326641.98    3795226.06        0.00140                    326547.36
3795246.46        0.00162
         326594.67    3795246.46        0.00157                    326641.98
3795246.46        0.00146
         326690.43    3795243.37        0.00140                    326688.67
3795223.05        0.00133
         326686.02    3795005.77        0.00082                    326686.02
3795033.66        0.00087
         326686.02    3795061.55        0.00093                    326686.02
3795089.44        0.00099
         326686.02    3795117.33        0.00106                    326686.02
3795145.22        0.00114
         326686.02    3795173.11        0.00122                    326686.02
3795201.00        0.00126
         326832.80    3795263.26        0.00123                    326849.67
3795263.26        0.00118
         326866.54    3795263.26        0.00115                    326883.41
3795263.26        0.00113
         326900.28    3795263.26        0.00111                    326917.15
3795263.26        0.00109
         326934.02    3795263.26        0.00104                    326950.89
3795263.26        0.00100
         326967.76    3795263.26        0.00098                    326984.63
3795263.26        0.00096
         327001.50    3795263.26        0.00092                    327036.85
3795141.35        0.00082
         327075.72    3795141.35        0.00076                    327036.85
3795160.91        0.00084
         327075.72    3795160.91        0.00077                    327036.85
3795180.47        0.00085
         327075.72    3795180.47        0.00079                    327036.85
3795200.03        0.00087
         327075.72    3795200.03        0.00080                    327036.85
3795219.59        0.00086
         327075.72    3795219.59        0.00082                    327036.85
3795239.15        0.00086
         327075.72    3795239.15        0.00083                    327036.85
3795258.71        0.00087
         327075.72    3795258.71        0.00084                    327036.85
3795278.27        0.00089
         327075.72    3795278.27        0.00085                    326840.04
3795223.24        0.00116
         326860.58    3795224.16        0.00110                    326877.30
3795222.74        0.00108
         326929.68    3795223.69        0.00101                    326932.86
3795200.00        0.00097
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         326972.32    3795217.03        0.00094                        326970.84
3795177.58        0.00090
         326968.20    3795152.46        0.00087                        326998.43
3795149.77        0.00085
         326997.48    3795176.61        0.00088                        326995.60
3795193.01        0.00089
         326996.92    3795215.78        0.00091                        326916.97
3795152.19        0.00095
         326901.95    3795150.46        0.00096                        326884.24
3795164.40        0.00099
         326867.32    3795151.32        0.00098                        326873.22
3795163.36        0.00100
         326845.53    3795152.12        0.00102                        326824.91
3795151.45        0.00106
         326826.60    3795170.60        0.00109                        326840.50
3795180.17        0.00108
         326799.39    3795147.97        0.00106                        326776.77
3795147.89        0.00107
         326738.03    3795152.73        0.00110                        326781.33
3795110.75        0.00099
         326806.10    3795109.04        0.00096                        326804.45
3795090.73        0.00093
         326781.78    3795086.72        0.00094                        326787.40
3795061.79        0.00088
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:56:09

                                  PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -
         326794.01    3795031.22        0.00083                        326977.50
3795110.69        0.00082
         326994.05    3795107.87        0.00081                        326984.52
3795093.80        0.00080
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         326972.85    3795082.37        0.00079                       326995.41
3795072.53        0.00077
         326993.23    3795060.01        0.00075                       326984.60
3795040.80        0.00073
         326981.66    3795027.22        0.00072                       327041.48
3795102.15        0.00078
         327065.19    3795095.75        0.00073                       327040.88
3795076.27        0.00075
         327061.24    3795058.32        0.00070                       327037.82
3795061.09        0.00074
         327035.65    3795040.58        0.00072                       327058.94
3795038.41        0.00069
         327051.53    3795017.85        0.00068                       327033.29
3795021.71        0.00070
         326826.26    3795110.80        0.00093                       326843.29
3795110.80        0.00092
         326860.32    3795110.80        0.00091                       326877.35
3795110.80        0.00091
         326894.38    3795110.80        0.00090                       326911.41
3795110.80        0.00089
         326928.44    3795110.80        0.00087                       326945.47
3795110.80        0.00084
         326819.99    3795048.86        0.00083                       326838.19
3795048.86        0.00081
         326856.39    3795048.86        0.00081                       326874.59
3795048.86        0.00081
         326892.79    3795048.86        0.00080                       326910.99
3795048.86        0.00080
         326929.19    3795048.86        0.00078                       326947.39
3795048.86        0.00075
         325652.30    3795689.46        0.00230                       325747.75
3795796.21        0.00145
         325511.50    3795586.39        0.00199                       326251.13
3796043.75        0.00106
         326263.91    3795852.39        0.00188                       326170.84
3795648.38        0.00246
         326148.08    3795505.91        0.00305

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        15:56:09

                                   PAGE  27
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                    INCLUDING SOURCE(S):     PAREA1      ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326345.95	3795634.03	0.01509	(09053006)	326414.12	3795779.67	0.01502	(09052906)
326435.80	3795773.48	0.01494	(09052906)	326458.31	3795772.83	0.01466	(09052906)
326424.24	3795858.77	0.01876	(11012717)	326400.20	3795799.84	0.01543	(11012717)
326400.93	3795767.87	0.01413	(09052906)	326424.24	3795858.77	0.01876	(11012717)
326611.84	3795762.99	0.01509	(13052906)	326611.84	3795762.99	0.01509	(13052906)
326610.94	3795777.66	0.01486	(13052906)	326605.86	3795792.89	0.01492	(13052906)
326623.93	3795809.00	0.01463	(09020903)	326627.22	3795836.58	0.01479	(09051104)
326640.09	3795836.58	0.01454	(09020903)	326654.45	3795868.68	0.01393	(10060101)
326665.45	3795883.13	0.01379	(12070402)	326588.30	3795867.62	0.01309	(11012717)
326640.52	3795951.95	0.01505	(11012717)	326658.45	3795975.58	0.01553	(11012717)
326759.52	3796019.28	0.01386	(11012717)	326763.60	3796031.85	0.01400	(11012717)
326775.94	3796048.05	0.01399	(11012717)	326774.23	3796062.19	0.01409	(11012717)
326801.34	3796078.38	0.01378	(11012717)	326809.46	3796094.93	0.01357	(11012717)
326736.80	3796108.96	0.01322	(11012717)	326835.84	3796126.62	0.01283	(11012717)
326836.27	3796140.13	0.01258	(11012717)	326800.95	3796123.31	0.01327	(11012717)
326762.39	3796138.51	0.01208	(11012717)	326766.63	3796155.18	0.01112	(11012717)
326774.14	3796169.68	0.01045	(11012717)	326798.07	3796201.57	0.00894	(11012717)
326808.84	3796229.51	0.00812	(09020821)	326880.95	3796184.59	0.01111	(11012717)
326915.56	3796260.01	0.00889	(09020821)	326941.07	3796261.11	0.00856	(09020821)
326958.24	3796277.25	0.00845	(09020821)	326964.89	3796291.08	0.00831	(09020821)

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       326984.47   3796322.92        0.00816  (09020821)               326993.31
 3796349.42        0.00792  (09020821)
       326993.49   3796365.88        0.00785  (11010917)               327007.03
 3796382.47        0.00781  (11010917)
       326972.07   3796390.18        0.00757  (12120308)               326996.78
 3796414.54        0.00794  (12120308)
       326693.51   3795789.66        0.01027  (09052906)               326695.37
 3795771.29        0.01042  (09052906)
       326727.00   3795761.34        0.01032  (09052906)               326758.55
 3795787.48        0.00926  (09052906)
       326761.76   3795813.54        0.00865  (09052906)               326742.22
 3795837.06        0.00871  (09052906)
       326838.64   3795823.91        0.00786  (09052906)               326811.45
 3795889.81        0.00699  (09052906)
       326823.87   3795855.97        0.00725  (09052906)               326876.62
 3795837.29        0.00724  (09052906)
       326889.30   3795888.54        0.00671  (09052906)               326687.45
 3795683.69        0.01645  (09053101)
       326829.20   3795731.31        0.00903  (09053006)               326859.14
 3795703.62        0.00884  (09053006)
       326881.10   3795705.58        0.00910  (09053006)               326787.44
 3795607.00        0.02173  (13030503)
       326780.76   3795563.55        0.02484  (12012024)               326800.04
 3795542.65        0.02714  (12012024)
       326808.89   3795540.15        0.02776  (12012024)               326825.79
 3795543.65        0.02814  (12012024)
       326856.70   3795545.31        0.02815  (12012024)               326792.33
 3795494.19        0.03221  (09012107)
       326806.68   3795493.93        0.03217  (09012107)               326824.07
 3795494.42        0.03199  (09012107)
       326853.52   3795481.71        0.03353  (09012107)               326898.80
 3795534.37        0.02861  (12012024)
       325796.15   3795215.59        0.06770  (09021803)               325823.15
 3795215.59        0.06811  (12122922)
       326012.15   3795215.59        0.06226  (09121401)               326120.15
 3795215.59        0.05460  (10021506)
       326147.15   3795215.59        0.05321  (11121023)               325796.15
 3795254.59        0.07115  (13120620)
       325823.15   3795254.59        0.07161  (09021803)               325850.15
 3795254.59        0.07119  (12122922)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:56:09

                                  PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
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INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325877.15	3795254.59	0.07068	(10010204)	325904.15	3795254.59	0.06977	(12123121)
325931.15	3795254.59	0.06727	(10013003)	325958.15	3795254.59	0.06630	(13010624)
325985.15	3795254.59	0.06600	(11121006)	326012.15	3795254.59	0.06294	(11122506)
326039.15	3795254.59	0.06120	(13122103)	326066.15	3795254.59	0.05973	(13122407)
326093.15	3795254.59	0.05849	(13013002)	326120.15	3795254.59	0.05672	(11012303)
326147.15	3795254.59	0.05520	(11121023)	325796.15	3795293.59	0.07268	(11122007)
325823.15	3795293.59	0.07209	(11021704)	325850.15	3795293.59	0.07301	(09021803)
325877.15	3795293.59	0.07400	(12122922)	325904.15	3795293.59	0.07337	(10010204)
325931.15	3795293.59	0.07034	(12123121)	325958.15	3795293.59	0.06975	(13010624)
325985.15	3795293.59	0.06523	(12012923)	326012.15	3795293.59	0.05589	(11121006)
326039.15	3795293.59	0.05487	(09021204)	326066.15	3795293.59	0.05037	(12122923)
326093.15	3795293.59	0.04654	(12021824)	326120.15	3795293.59	0.04465	(11020405)
326147.15	3795293.59	0.04263	(13122104)	325796.15	3795332.59	0.06152	(10010424)
325823.15	3795332.59	0.06154	(11122007)	325850.15	3795332.59	0.07260	(11021704)
325877.15	3795332.59	0.07357	(13010705)	325904.15	3795332.59	0.07591	(12122922)
325931.15	3795332.59	0.07301	(10010204)	325958.15	3795332.59	0.06962	(12122924)
325985.15	3795332.59	0.05331	(12021701)	326012.15	3795332.59	0.04826	(10121121)
326039.15	3795332.59	0.04676	(10120622)	326066.15	3795332.59	0.04597	(11022303)
326093.15	3795332.59	0.04478	(10012308)	326120.15	3795332.59	0.04371	(09122106)

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       326147.15   3795332.59        0.04342  (11011004)                325847.44
 3795004.89        0.05346  (11121006)
       325872.44   3795004.89        0.05300  (11122506)                325897.44
 3795004.89        0.05283  (11122506)
       325922.44   3795004.89        0.05248  (09121401)                325947.44
 3795004.89        0.05200  (13122103)
       325972.44   3795004.89        0.05098  (13122407)                325997.44
 3795004.89        0.04985  (09122106)
       326022.44   3795004.89        0.04912  (13013002)                326047.44
 3795004.89        0.04849  (11012303)
       326072.44   3795004.89        0.04776  (10021506)                326097.44
 3795004.89        0.04719  (09020403)
       326122.44   3795004.89        0.04652  (11121023)                326147.44
 3795004.89        0.04529  (09021807)
       325847.44   3795046.89        0.05549  (10121121)                325872.44
 3795046.89        0.05552  (11121006)
       325897.44   3795046.89        0.05509  (11122506)                325922.44
 3795046.89        0.05480  (10123020)
       325947.44   3795046.89        0.05435  (09121401)                325972.44
 3795046.89        0.05324  (13122407)
       325997.44   3795046.89        0.05158  (12021824)                326022.44
 3795046.89        0.05104  (13013002)
       326047.44   3795046.89        0.05045  (11122402)                326072.44
 3795046.89        0.04962  (11012303)
       326097.44   3795046.89        0.04904  (09020403)                326122.44
 3795046.89        0.04755  (11121023)
       326147.44   3795046.89        0.04573  (09021807)                325847.44
 3795088.89        0.05837  (13010624)
       325872.44   3795088.89        0.05773  (12012923)                325897.44
 3795088.89        0.05773  (11121006)
       325922.44   3795088.89        0.05732  (11122506)                325947.44
 3795088.89        0.05592  (10123020)
       325972.44   3795088.89        0.05478  (13122103)                325997.44
 3795088.89        0.05410  (13122407)
       326022.44   3795088.89        0.05323  (09122106)                326047.44
 3795088.89        0.05274  (13013002)
       326072.44   3795088.89        0.05191  (11012303)                326097.44
 3795088.89        0.05062  (10021506)
       326122.44   3795088.89        0.04897  (11121023)                326147.44
 3795088.89        0.04731  (09021807)
       325847.44   3795130.89        0.06117  (10013003)                325872.44
 3795130.89        0.06084  (13010624)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       15:56:09

                                  PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325897.44	3795130.89	0.06023	(11121006)	325922.44	3795130.89	0.06012	(11121006)
325947.44	3795130.89	0.05857	(11122506)	325972.44	3795130.89	0.05732	(09121401)
325997.44	3795130.89	0.05672	(13122103)	326022.44	3795130.89	0.05573	(12021824)
326047.44	3795130.89	0.05502	(13013002)	326072.44	3795130.89	0.05422	(11012303)
326097.44	3795130.89	0.05187	(10021506)	326122.44	3795130.89	0.05013	(11121023)
326147.44	3795130.89	0.04902	(09021807)	325847.44	3795172.89	0.06421	(12123121)
325872.44	3795172.89	0.06389	(10013003)	325897.44	3795172.89	0.06352	(13010624)
325922.44	3795172.89	0.06294	(11121006)	325947.44	3795172.89	0.06142	(11121006)
325972.44	3795172.89	0.06015	(11122506)	325997.44	3795172.89	0.05956	(09121401)
326022.44	3795172.89	0.05876	(13122407)	326047.44	3795172.89	0.05724	(12021824)
326072.44	3795172.89	0.05485	(13013002)	325847.44	3795214.89	0.06767	(10010204)
325872.44	3795214.89	0.06723	(12020205)	325897.44	3795214.89	0.06686	(10013003)
325922.44	3795214.89	0.06642	(13010624)	325947.44	3795214.89	0.06442	(11121006)
325972.44	3795214.89	0.06310	(11121006)	325997.44	3795214.89	0.06258	(10123020)
326047.44	3795214.89	0.05808	(13122407)	326072.44	3795214.89	0.05679	(13013002)
326097.44	3795214.89	0.05575	(11012303)	326147.44	3795214.89	0.05316	(11121023)
326096.58	3795181.52	0.05383	(11012303)	326118.63	3795182.57	0.05289	(10021506)
326144.35	3795184.14	0.05178	(11121023)	325849.74	3794829.62	0.04613	(09121401)

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       325892.61   3794829.62        0.04562  (13122407)                325935.48
 3794829.62        0.04427  (09122106)
       325978.35   3794829.62        0.04378  (13013002)                326021.22
 3794829.62        0.04298  (11012303)
       326064.09   3794829.62        0.04193  (09020403)                325849.74
 3794867.55        0.04769  (10123020)
       325892.61   3794867.55        0.04662  (13122103)                325935.48
 3794867.55        0.04563  (12021824)
       325978.35   3794867.55        0.04516  (13013002)                326021.22
 3794867.55        0.04444  (11012303)
       326064.09   3794867.55        0.04319  (10021506)                325849.74
 3794905.48        0.04930  (11122506)
       325892.61   3794905.48        0.04819  (13122103)                325935.48
 3794905.48        0.04726  (13122407)
       325978.35   3794905.48        0.04654  (13013002)                326021.22
 3794905.48        0.04583  (11012303)
       326064.09   3794905.48        0.04407  (10021506)                325849.74
 3794943.41        0.05082  (11122506)
       325892.61   3794943.41        0.04982  (09121401)                325935.48
 3794943.41        0.04918  (13122407)
       325978.35   3794943.41        0.04815  (09122106)                326021.22
 3794943.41        0.04738  (11122402)
       326064.09   3794943.41        0.04545  (10021506)                325849.74
 3794981.34        0.05233  (11121006)
       325892.61   3794981.34        0.05168  (10123020)                325935.48
 3794981.34        0.05102  (13122103)
       325978.35   3794981.34        0.04996  (12021824)                326021.22
 3794981.34        0.04831  (13013002)
       326064.09   3794981.34        0.04688  (10021506)                325855.31
 3794726.62        0.04232  (13122407)
       325902.64   3794726.62        0.04153  (09122106)                325855.31
 3794745.52        0.04296  (13122407)
       325902.64   3794745.52        0.04218  (12021824)                325855.31
 3794764.42        0.04358  (13122407)
       325902.64   3794764.42        0.04283  (12021824)                325855.31
 3794783.32        0.04430  (13122103)
       325902.64   3794783.32        0.04347  (12021824)                325855.31
 3794802.22        0.04500  (13122103)
       325902.64   3794802.22        0.04412  (13122407)                325855.31
 3794821.12        0.04570  (09121401)
       325902.64   3794821.12        0.04497  (13122407)                326402.77
 3795249.33        0.04113  (12013005)
       325380.55   3795776.17        0.02147  (12012307)                325415.88
 3795858.35        0.00937  (12021301)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                      ***       15:56:09

                                PAGE  30
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325409.93	3795994.97	0.00594	(13012417)	325416.60	3796058.09	0.00576	(13012417)
325409.65	3796164.95	0.00526	(13012417)	325322.71	3796083.91	0.00526	(13012417)
325297.93	3796111.07	0.00547	(09021319)	325246.73	3796076.15	0.00597	(09021718)
325280.01	3796260.66	0.00424	(13012417)	325237.05	3796200.45	0.00426	(13012417)
325163.03	3796071.11	0.00657	(09021718)	325215.74	3795991.41	0.00751	(09021718)
325208.29	3795926.88	0.00878	(12021301)	325249.48	3795829.20	0.01028	(13080704)
325171.49	3795759.19	0.02266	(12121219)	325129.24	3795756.40	0.02794	(12041020)
325154.75	3795886.20	0.01267	(09120619)	325068.55	3795885.45	0.00969	(12012307)
325047.86	3795938.00	0.00787	(13081002)	325045.84	3795982.69	0.00759	(12021301)
325071.95	3796106.74	0.00653	(09021718)	325060.64	3796290.38	0.00368	(13012417)
324903.71	3796379.80	0.00282	(09062406)	324787.84	3796510.42	0.00323	(09062406)
324916.48	3796618.27	0.00349	(13012417)	326492.96	3796356.32	0.00626	(13040207)
326552.73	3796900.01	0.00264	(13040207)	326599.30	3796893.60	0.00283	(13040207)
326617.42	3796889.51	0.00291	(13040207)	326639.41	3796881.91	0.00310	(13040207)
326663.73	3796864.08	0.00341	(13040207)	326679.47	3796885.20	0.00336	(13040207)
326697.81	3796898.31	0.00335	(13040207)	326712.34	3796916.60	0.00325	(13040207)
326726.62	3796931.14	0.00319	(13040207)	326742.23	3796948.02	0.00309	(13040207)

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       326756.58   3796965.73        0.00304  (13040207)               326772.07
 3796973.30        0.00311  (13040207)
       326785.22   3796890.50        0.00342  (13040207)               326800.10
 3797003.95        0.00320  (13040207)
       326817.96   3797014.86        0.00324  (13040207)               326813.74
 3796843.93        0.00335  (13060819)
       326833.92   3796853.59        0.00331  (13060819)               326848.61
 3796873.43        0.00324  (13060819)
       326864.19   3796885.12        0.00322  (13060819)               326877.92
 3796901.20        0.00318  (13060819)
       326893.85   3796917.11        0.00308  (13060819)               326904.49
 3796938.77        0.00295  (13060819)
       326907.64   3796966.22        0.00290  (13060819)               326914.45
 3796991.73        0.00278  (13060819)
       326921.92   3797038.42        0.00256  (12061106)               326596.56
 3797264.10        0.00195  (13040507)
       326829.98   3795735.43        0.00887  (09053006)               326866.53
 3795706.88        0.00878  (09053006)
       326831.50   3795646.57        0.02132  (13030503)               326872.90
 3795644.95        0.02138  (13030503)
       326898.91   3795644.66        0.02136  (13030503)               326924.66
 3795650.14        0.02010  (13030503)
       326949.68   3795646.43        0.02087  (13030503)               326975.59
 3795638.84        0.01847  (13030503)
       326917.88   3795602.78        0.02451  (12012024)               326918.63
 3795584.13        0.02692  (12012024)
       326921.61   3795563.48        0.02733  (12012024)               326917.18
 3795537.15        0.02843  (12012024)
       326934.99   3795592.17        0.02506  (12012024)               326951.04
 3795599.47        0.02356  (12012024)
       326950.26   3795555.95        0.02757  (12012024)               326951.59
 3795535.07        0.02844  (12012024)
       326961.83   3795537.57        0.02830  (12012024)               326982.25
 3795538.33        0.02821  (12012024)
       326992.41   3795539.09        0.02815  (12012024)               327008.98
 3795535.58        0.02825  (12012024)
       326987.68   3795580.97        0.02462  (12012024)               327024.81
 3795588.42        0.02237  (12012024)
       326925.07   3795485.95        0.03145  (09012107)               326937.83
 3795488.27        0.03131  (09012107)
       326956.45   3795489.28        0.03116  (09012107)               326970.89
 3795491.03        0.03101  (09012107)
       326989.96   3795487.68        0.03097  (09012107)               325049.27
 3794362.92        0.03405  (10012707)
       325086.77   3794362.92        0.03415  (12021724)               325124.27
 3794362.92        0.03405  (09020419)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:56:09
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325161.77	3794362.92	0.03438	(13120620)	325199.27	3794362.92	0.03438	(09021803)
325236.77	3794362.92	0.03422	(13021702)	325274.27	3794362.92	0.03415	(12122922)
325049.27	3794386.12	0.03438	(10012707)	325086.77	3794386.12	0.03449	(12021724)
325124.27	3794386.12	0.03463	(12021724)	325161.77	3794386.12	0.03528	(13120620)
325199.27	3794386.12	0.03530	(09021803)	325236.77	3794386.12	0.03464	(13021702)
325274.27	3794386.12	0.03456	(12122922)	325049.27	3794409.32	0.03482	(10010424)
325086.77	3794409.32	0.03495	(10012707)	325124.27	3794409.32	0.03519	(12021724)
325161.77	3794409.32	0.03559	(09020419)	325199.27	3794409.32	0.03582	(13120620)
325236.77	3794409.32	0.03563	(09021803)	325274.27	3794409.32	0.03558	(13021702)
325049.27	3794432.52	0.03518	(10010424)	325086.77	3794432.52	0.03532	(10012707)
325124.27	3794432.52	0.03588	(12021724)	325161.77	3794432.52	0.03607	(12021724)
325199.27	3794432.52	0.03628	(13120620)	325236.77	3794432.52	0.03629	(09021803)
325274.27	3794432.52	0.03626	(13021702)	325049.27	3794455.72	0.03539	(10011119)
325086.77	3794455.72	0.03597	(10010424)	325124.27	3794455.72	0.03662	(10012707)
325161.77	3794455.72	0.03671	(12021724)	325199.27	3794455.72	0.03660	(13120620)
325236.77	3794455.72	0.03675	(13120620)	325274.27	3794455.72	0.03671	(09021803)

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       325049.27   3794478.92        0.03579  (10011404)               325086.77
 3794478.92        0.03686  (10010424)
       325124.27   3794478.92        0.03706  (10012707)               325161.77
 3794478.92        0.03719  (12021724)
       325199.27   3794478.92        0.03704  (09020419)               325236.77
 3794478.92        0.03729  (13120620)
       325274.27   3794478.92        0.03727  (09021803)               325049.27
 3794502.12        0.03639  (10011404)
       325086.77   3794502.12        0.03711  (10011119)               325124.27
 3794502.12        0.03754  (10010424)
       325161.77   3794502.12        0.03766  (10012707)               325199.27
 3794502.12        0.03773  (12021724)
       325236.77   3794502.12        0.03769  (13120620)               325274.27
 3794502.12        0.03772  (09021803)
       325049.27   3794525.32        0.03675  (10011404)               325086.77
 3794525.32        0.03758  (10011404)
       325124.27   3794525.32        0.03799  (10010424)               325161.77
 3794525.32        0.03816  (10012707)
       325199.27   3794525.32        0.03827  (12021724)               325236.77
 3794525.32        0.03811  (09020419)
       325274.27   3794525.32        0.03833  (13120620)               325049.27
 3794548.52        0.03718  (09120921)
       325086.77   3794548.52        0.03821  (10011404)               325124.27
 3794548.52        0.03825  (10011119)
       325161.77   3794548.52        0.03865  (10010424)               325199.27
 3794548.52        0.03876  (10012707)
       325236.77   3794548.52        0.03880  (12021724)               325274.27
 3794548.52        0.03882  (13120620)
       325049.27   3794571.72        0.03750  (09120921)               325086.77
 3794571.72        0.03859  (10011404)
       325124.27   3794571.72        0.03879  (10011404)               325161.77
 3794571.72        0.03915  (10010424)
       325199.27   3794571.72        0.03931  (10012707)               325236.77
 3794571.72        0.03942  (12021724)
       325274.27   3794571.72        0.03922  (09020419)               325049.27
 3794594.92        0.03796  (11121923)
       325086.77   3794594.92        0.03909  (09120921)               325124.27
 3794594.92        0.03943  (10011404)
       325161.77   3794594.92        0.03944  (10011119)               325199.27
 3794594.92        0.03983  (10010424)
       325236.77   3794594.92        0.03991  (10012707)               325274.27
 3794594.92        0.03992  (12021724)
       325049.27   3794618.12        0.03825  (09022006)               325086.77
 3794618.12        0.03943  (11121923)
       325124.27   3794618.12        0.03981  (10011404)               325161.77
 3794618.12        0.04003  (10011404)
       325199.27   3794618.12        0.04037  (10010424)               325236.77
 3794618.12        0.04054  (10012707)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

                            *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

```
       324871.62   3794342.23        0.03155  (09120921)               324910.53
3794342.23        0.03247  (10011404)
       324949.44   3794342.23        0.03248  (10011119)               324988.35
3794342.23        0.03282  (10010424)
       324871.62   3794364.03        0.03194  (09120921)               324910.53
3794364.03        0.03272  (10011404)
       324949.44   3794364.03        0.03281  (10011404)               324988.35
3794364.03        0.03315  (10010424)
       324871.62   3794385.83        0.03258  (11121923)               324910.53
3794385.83        0.03303  (09120921)
       324949.44   3794385.83        0.03326  (10011404)               324988.35
3794385.83        0.03373  (10011119)
       324871.62   3794407.63        0.03292  (11121923)               324910.53
3794407.63        0.03332  (09120921)
       324949.44   3794407.63        0.03354  (10011404)               324988.35
3794407.63        0.03409  (10011404)
       324871.62   3794429.43        0.03311  (09022006)               324910.53
3794429.43        0.03358  (11121923)
       324949.44   3794429.43        0.03385  (09120921)               324988.35
3794429.43        0.03460  (10011404)
       324871.62   3794451.23        0.03346  (09022006)               324910.53
3794451.23        0.03390  (11121923)
       324949.44   3794451.23        0.03420  (09120921)               324988.35
3794451.23        0.03495  (10011404)
       324871.62   3794473.03        0.03362  (09022006)               324910.53
3794473.03        0.03413  (09022006)
       324949.44   3794473.03        0.03469  (11121923)               324988.35
3794473.03        0.03546  (09120921)
       324871.62   3794494.83        0.03408  (12010904)               324910.53
3794494.83        0.03447  (09022006)
       324949.44   3794494.83        0.03506  (11121923)               324988.35
3794494.83        0.03584  (09120921)
       324871.62   3794516.63        0.03433  (12010904)               324910.53
3794516.63        0.03467  (12010904)
       324949.44   3794516.63        0.03533  (09022006)               324988.35
3794516.63        0.03616  (11121923)
       324871.62   3794538.43        0.03467  (12021707)               324910.53
3794538.43        0.03502  (12010904)
       324949.44   3794538.43        0.03566  (09022006)               324988.35
3794538.43        0.03651  (11121923)
       324871.62   3794560.23        0.03485  (12021707)               324910.53
3794560.23        0.03521  (12021707)
       324949.44   3794560.23        0.03592  (12010904)               324988.35
3794560.23        0.03682  (09022006)
       324871.62   3794582.03        0.03517  (13012724)               324910.53
3794582.03        0.03555  (12021707)
       324949.44   3794582.03        0.03624  (12010904)               324988.35
3794582.03        0.03715  (09022006)
       324871.62   3794603.83        0.03535  (13012724)               324910.53
3794603.83        0.03576  (13012724)
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                               *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

```
       324449.04   3794106.66        0.02559  (12010904)               324485.99
3794106.66        0.02580  (12010904)
       324522.94   3794106.66        0.02589  (09022006)               324559.89
3794106.66        0.02600  (09022006)
       324596.84   3794106.66        0.02618  (11121923)               324633.79
3794106.66        0.02610  (09120921)
       324670.74   3794106.66        0.02618  (09120921)               324707.69
3794106.66        0.02653  (10011404)
       324744.64   3794106.66        0.02719  (10011119)               324781.59
3794106.66        0.02780  (10010424)
       324449.04   3794138.63        0.02594  (12021707)               324485.99
3794138.63        0.02598  (12010904)
       324522.94   3794138.63        0.02617  (12010904)               324559.89
3794138.63        0.02629  (09022006)
       324596.84   3794138.63        0.02635  (09022006)               324633.79
3794138.63        0.02691  (11121923)
       324670.74   3794138.63        0.02710  (09120921)               324707.69
3794138.63        0.02733  (10011404)
       324744.64   3794138.63        0.02803  (10011404)               324781.59
3794138.63        0.02811  (10011119)
       324449.04   3794170.60        0.02612  (13012724)               324485.99
3794170.60        0.02631  (12021707)
       324522.94   3794170.60        0.02644  (12010904)               324559.89
3794170.60        0.02697  (12010904)
       324596.84   3794170.60        0.02714  (09022006)               324633.79
3794170.60        0.02732  (11121923)
       324670.74   3794170.60        0.02757  (11121923)               324707.69
3794170.60        0.02822  (09120921)
       324744.64   3794170.60        0.02842  (10011404)               324781.59
3794170.60        0.02886  (10011404)
       324449.04   3794202.57        0.02646  (13012724)               324485.99
3794202.57        0.02647  (13012724)
       324522.94   3794202.57        0.02678  (12021707)               324559.89
3794202.57        0.02736  (12010904)
       324596.84   3794202.57        0.02749  (12010904)               324633.79
3794202.57        0.02770  (09022006)
       324670.74   3794202.57        0.02833  (11121923)               324707.69
3794202.57        0.02854  (11121923)
       324744.64   3794202.57        0.02877  (09120921)               324781.59
3794202.57        0.02941  (10011404)
       324449.04   3794234.54        0.02667  (12022904)               324485.99
3794234.54        0.02684  (13012724)
       324522.94   3794234.54        0.02696  (12021707)               324559.89
3794234.54        0.02766  (12021707)
       324596.84   3794234.54        0.02780  (12010904)               324633.79
3794234.54        0.02790  (12010904)
       324670.74   3794234.54        0.02875  (09022006)               324707.69
3794234.54        0.02891  (11121923)
       324744.64   3794234.54        0.02901  (09120921)               324781.59
3794234.54        0.02971  (09120921)
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                 *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                  ** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

```
       324744.64   3794330.45        0.03007  (09022006)               324781.59
3794330.45        0.03069  (11121923)
       324449.04   3794362.42        0.02796  (11010801)               324485.99
3794362.42        0.02858  (12012404)
       324522.94   3794362.42        0.02866  (12012404)               324559.89
3794362.42        0.02881  (12022904)
       324596.84   3794362.42        0.02887  (12022904)               324633.79
3794362.42        0.02966  (13012724)
       324670.74   3794362.42        0.02993  (12021707)               324707.69
3794362.42        0.03009  (12021707)
       324744.64   3794362.42        0.03074  (12010904)               324781.59
3794362.42        0.03128  (09022006)
       324449.04   3794394.39        0.02841  (11010801)               324485.99
3794394.39        0.02892  (11010801)
       324522.94   3794394.39        0.02904  (12012404)               324559.89
3794394.39        0.02909  (12012404)
       324596.84   3794394.39        0.02925  (12022904)               324633.79
3794394.39        0.02988  (12022904)
       324670.74   3794394.39        0.03025  (13012724)               324707.69
3794394.39        0.03045  (12021707)
       324744.64   3794394.39        0.03097  (12010904)               324781.59
3794394.39        0.03160  (12010904)
       324449.04   3794426.36        0.02895  (11010801)               324485.99
3794426.36        0.02939  (11010801)
       324522.94   3794426.36        0.02939  (11010801)               324559.89
3794426.36        0.02946  (12012404)
       324596.84   3794426.36        0.02953  (12012404)               324633.79
3794426.36        0.03028  (12022904)
       324670.74   3794426.36        0.03048  (13012724)               324707.69
3794426.36        0.03083  (13012724)
       324744.64   3794426.36        0.03147  (12021707)               324781.59
3794426.36        0.03189  (12010904)
       324449.04   3794458.33        0.02985  (09020801)               324485.99
3794458.33        0.02984  (11010801)
       324522.94   3794458.33        0.02983  (11010801)               324559.89
3794458.33        0.02982  (11010801)
       324596.84   3794458.33        0.03005  (12012404)               324633.79
3794458.33        0.03062  (12012404)
       324670.74   3794458.33        0.03088  (12022904)               324707.69
3794458.33        0.03123  (13012724)
       324744.64   3794458.33        0.03202  (13012724)               324781.59
3794458.33        0.03229  (12021707)
       324449.04   3794490.30        0.03053  (09020801)               324485.99
3794490.30        0.03048  (09020801)
       324522.94   3794490.30        0.03028  (09020801)               324559.89
3794490.30        0.03026  (11010801)
       324596.84   3794490.30        0.03069  (11010801)               324633.79
3794490.30        0.03105  (12012404)
       324670.74   3794490.30        0.03118  (12012404)               324707.69
3794490.30        0.03162  (12022904)
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                 *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                  ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

```
       324670.74   3794586.21        0.03237  (11010801)                324707.69
3794586.21        0.03270  (11010801)
       324744.64   3794586.21        0.03338  (12012404)                324781.59
3794586.21        0.03362  (12012404)
       324449.04   3794618.18        0.03506  (13021402)                324485.99
3794618.18        0.03432  (12021007)
       324522.94   3794618.18        0.03361  (12021007)                324559.89
3794618.18        0.03328  (12021007)
       324596.84   3794618.18        0.03333  (09020801)                324633.79
3794618.18        0.03306  (09020801)
       324670.74   3794618.18        0.03296  (09020801)                324707.69
3794618.18        0.03350  (11010801)
       324744.64   3794618.18        0.03381  (11010801)                324781.59
3794618.18        0.03396  (12012404)
       324449.04   3794650.15        0.03659  (13021402)                324485.99
3794650.15        0.03576  (13021402)
       324522.94   3794650.15        0.03494  (12021007)                324559.89
3794650.15        0.03449  (12021007)
       324596.84   3794650.15        0.03432  (12021007)                324633.79
3794650.15        0.03385  (09020801)
       324670.74   3794650.15        0.03364  (09020801)                324707.69
3794650.15        0.03426  (09020801)
       324744.64   3794650.15        0.03423  (11010801)                324781.59
3794650.15        0.03440  (11010801)
       324449.04   3794682.12        0.03829  (09120303)                324485.99
3794682.12        0.03739  (13021402)
       324522.94   3794682.12        0.03660  (13021402)                324559.89
3794682.12        0.03638  (12021007)
       324596.84   3794682.12        0.03562  (12021007)                324633.79
3794682.12        0.03489  (12021007)
       324670.74   3794682.12        0.03445  (09020801)                324707.69
3794682.12        0.03496  (09020801)
       324744.64   3794682.12        0.03483  (09020801)                324781.59
3794682.12        0.03480  (09020801)
       326547.36   3795022.06        0.03373  (13122403)                326594.67
3795022.06        0.03306  (12022103)
       326641.98   3795022.06        0.03148  (12122705)                326547.36
3795042.46        0.03427  (12121322)
       326594.67   3795042.46        0.03184  (10011406)                326641.98
3795042.46        0.03200  (10021501)
       326547.36   3795062.86        0.03483  (12022103)                326594.67
3795062.86        0.03197  (12122705)
       326641.98   3795062.86        0.03259  (13010101)                326547.36
3795083.26        0.03500  (10011406)
       326594.67   3795083.26        0.03253  (13010623)                326641.98
3795083.26        0.03322  (13011507)
       326547.36   3795103.66        0.03406  (12122705)                326594.67
3795103.66        0.03317  (13010101)
       326641.98   3795103.66        0.03393  (13122107)                326547.36
3795124.06        0.03442  (13010623)
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                 *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

```
       326686.02   3795173.11        0.03627  (12013005)               326686.02
3795201.00        0.03512  (13020722)
       326832.80   3795263.26        0.04026  (10021404)               326849.67
3795263.26        0.03847  (12010208)
       326866.54   3795263.26        0.03757  (13122805)               326883.41
3795263.26        0.03771  (13122805)
       326900.28   3795263.26        0.03780  (13122805)               326917.15
3795263.26        0.03784  (13122805)
       326934.02   3795263.26        0.03590  (13122805)               326950.89
3795263.26        0.03441  (11010918)
       326967.76   3795263.26        0.03429  (11010918)               326984.63
3795263.26        0.03357  (12011002)
       327001.50   3795263.26        0.03186  (12120505)               327036.85
3795141.35        0.03016  (10012524)
       327075.72   3795141.35        0.02764  (13012604)               327036.85
3795160.91        0.03080  (13020901)
       327075.72   3795160.91        0.02855  (13012604)               327036.85
3795180.47        0.03147  (11012803)
       327075.72   3795180.47        0.02917  (09121202)               327036.85
3795200.03        0.03200  (12010208)
       327075.72   3795200.03        0.02945  (12010208)               327036.85
3795219.59        0.03078  (12120505)
       327075.72   3795219.59        0.03032  (12120505)               327036.85
3795239.15        0.03103  (12120505)
       327075.72   3795239.15        0.03072  (12120505)               327036.85
3795258.71        0.03097  (09120419)
       327075.72   3795258.71        0.03101  (09120419)               327036.85
3795278.27        0.03145  (13121308)
       327075.72   3795278.27        0.03160  (13121308)               326840.04
3795223.24        0.03765  (13020901)
       326860.58   3795224.16        0.03560  (11020605)               326877.30
3795222.74        0.03568  (11020605)
       326929.68   3795223.69        0.03471  (11012803)               326932.86
3795200.00        0.03330  (11020605)
       326972.32   3795217.03        0.03268  (12010208)               326970.84
3795177.58        0.03098  (13020901)
       326968.20   3795152.46        0.03006  (10022004)               326998.43
3795149.77        0.03017  (10012524)
       326997.48   3795176.61        0.03112  (11020605)               326995.60
3795193.01        0.03173  (11012803)
       326996.92   3795215.78        0.03274  (12010208)               326916.97
3795152.19        0.03266  (12020201)
       326901.95   3795150.46        0.03243  (11013105)               326884.24
3795164.40        0.03284  (12020201)
       326867.32   3795151.32        0.03206  (13020420)               326873.22
3795163.36        0.03266  (11013105)
       326845.53   3795152.12        0.03324  (13020722)               326824.91
3795151.45        0.03490  (13011601)
       326826.60   3795170.60        0.03593  (09021124)               326840.50
3795180.17        0.03513  (11013105)
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326794.01	3795031.22	0.03031	(10122806)	326977.50	3795110.69	0.02875	(09120204)
326994.05	3795107.87	0.02878	(12011705)	326984.52	3795093.80	0.02820	(09120204)
326972.85	3795082.37	0.02768	(13020722)	326995.41	3795072.53	0.02760	(13020722)
326993.23	3795060.01	0.02718	(13011601)	326984.60	3795040.80	0.02663	(11120708)
326981.66	3795027.22	0.02655	(11120708)	327041.48	3795102.15	0.02862	(12011705)
327065.19	3795095.75	0.02670	(12011705)	327040.88	3795076.27	0.02787	(09120204)
327061.24	3795058.32	0.02596	(09120204)	327037.82	3795061.09	0.02765	(13020722)
327035.65	3795040.58	0.02703	(13011601)	327058.94	3795038.41	0.02555	(13012606)
327051.53	3795017.85	0.02549	(12010321)	327033.29	3795021.71	0.02652	(12010321)
326826.26	3795110.80	0.03065	(11120708)	326843.29	3795110.80	0.03039	(11120708)

```
       326860.32   3795110.80        0.03030  (12010321)               326877.35
 3795110.80        0.03052  (12010321)
       326894.38   3795110.80        0.03072  (13011601)               326911.41
 3795110.80        0.03091  (13011601)
       326928.44   3795110.80        0.03009  (13020722)               326945.47
 3795110.80        0.02867  (09120204)
       326819.99   3795048.86        0.02891  (10010821)               326838.19
 3795048.86        0.02828  (10020622)
       326856.39   3795048.86        0.02853  (11121808)               326874.59
 3795048.86        0.02878  (11121808)
       326892.79   3795048.86        0.02898  (11121808)               326910.99
 3795048.86        0.02916  (12022206)
       326929.19   3795048.86        0.02831  (11120708)               326947.39
 3795048.86        0.02687  (11120708)
       325652.30   3795689.46        0.01509  (09120508)               325747.75
 3795796.21        0.01230  (12120308)
       325511.50   3795586.39        0.01597  (09012317)               326251.13
 3796043.75        0.01207  (12120308)
       326263.91   3795852.39        0.01766  (11012717)               326170.84
 3795648.38        0.01648  (09052906)
       326148.08   3795505.91        0.01969  (09012107)

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       15:56:09

                                   PAGE  38
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                   *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                    ** CONC OF PM_2.5   IN MICROGRAMS/M**3
              **


                         NETWORK
GROUP ID                       AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.00618 AT (  325904.15,  3795332.59,
149.61,   185.00,    0.00)  DC
          2ND HIGHEST VALUE IS       0.00605 AT (  325877.15,  3795332.59,
150.22,   185.00,    0.00)  DC
          3RD HIGHEST VALUE IS       0.00602 AT (  325931.15,  3795332.59,
150.05,   165.00,    0.00)  DC
```

```
          4TH HIGHEST VALUE IS       0.00599 AT (  325850.15,  3795332.59,
150.51,   185.00,    0.00)  DC
          5TH HIGHEST VALUE IS       0.00583 AT (  325958.15,  3795332.59,
150.51,   166.00,    0.00)  DC
          6TH HIGHEST VALUE IS       0.00529 AT (  325823.15,  3795332.59,
151.02,   185.00,    0.00)  DC
          7TH HIGHEST VALUE IS       0.00528 AT (  325796.15,  3795332.59,
151.11,   185.00,    0.00)  DC
          8TH HIGHEST VALUE IS       0.00495 AT (  325796.15,  3795293.59,
150.13,   185.00,    0.00)  DC
          9TH HIGHEST VALUE IS       0.00489 AT (  325877.15,  3795293.59,
149.15,   185.00,    0.00)  DC
         10TH HIGHEST VALUE IS       0.00488 AT (  325850.15,  3795293.59,
149.69,   185.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 2
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        15:56:09

                                  PAGE  39
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
              **

                                                      DATE
                                        NETWORK
GROUP ID                           AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       0.07591  ON 12122922: AT (  325904.15,
3795332.59,   149.61,   185.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   15612 Informational Message(s)

 A Total of   43872 Hours Were Processed

 A Total of   13724 Calm Hours Identified

 A Total of   1888 Missing Hours Identified (4.30 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 MX W481   43873   MAIN: Data Remaining After End of Year. Number of Hours=
        48

    ****
    *** AERMOD Finishes Successfully ***
    ****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 5/28/2020
** File: C:\Lakes\AERMOD View\UPDATED_Hitch Ranch_Phase 4_Operation\Hitch
Ranch_Phase 4_Operation.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 3 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "Hitch Ranch_Phase 4_Operation.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       8.235E-10     3.000        17
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326288.670 3795758.120 326277.560 3795694.020
   AREAVERT PAREA1       326166.380 3795525.260 326425.650 3795493.540
   AREAVERT PAREA1       326479.010 3795469.120 326469.840 3795364.180
   AREAVERT PAREA1       325735.780 3795372.310 325709.200 3795538.990
   AREAVERT PAREA1       325466.690 3795412.580 325320.790 3795389.270
   AREAVERT PAREA1       325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
```

```
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Hitch Ranch_Phase 4_Operation.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "HITCH RANCH_PHASE 4_OPERATION.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "HITCH RANCH_PHASE 4_OPERATION.AD\AN00GALL.PLT" 32
   SUMMFILE "Hitch Ranch_Phase 4_Operation.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 5/28/2020
** File: C:\Lakes\AERMOD View\UPDATED_Hitch Ranch_Phase 4_Operation\Hitch
Ranch_Phase 4_Operation.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 3 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "Hitch Ranch_Phase 4_Operation.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       8.235E-10     3.000        17
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326288.670 3795758.120 326277.560 3795694.020
   AREAVERT PAREA1       326166.380 3795525.260 326425.650 3795493.540
   AREAVERT PAREA1       326479.010 3795469.120 326469.840 3795364.180
   AREAVERT PAREA1       325735.780 3795372.310 325709.200 3795538.990
   AREAVERT PAREA1       325466.690 3795412.580 325320.790 3795389.270
   AREAVERT PAREA1       325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
```

```
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Hitch Ranch_Phase 4_Operation.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "HITCH RANCH_PHASE 4_OPERATION.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "HITCH RANCH_PHASE 4_OPERATION.AD\AN00GALL.PLT" 32
   SUMMFILE "Hitch Ranch_Phase 4_Operation.sum"
OU FINISHED

 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       16:23:00

                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
```

```
                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - -
```

Model Outputs Tables of ANNUAL Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 24.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ;
Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.6 MB of RAM.

**Input Runstream File: aermod.inp

**Output Print File: aermod.out

**Detailed Error/Message File: Hitch Ranch_Phase 4_Operation.err

**File for Summary of Results: Hitch Ranch_Phase 4_Operation.sum

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER OF VERTS.	EMISSION RATE (GRAMS/SEC/METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	URBAN SOURCE	INIT. SZ SCALAR VARY BY

*** SOURCE IDs DEFINING SOURCE GROUPS
***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326346.0, 3795634.0, 172.5, 190.0, 0.0); (326414.1, 3795779.7, 180.0, 277.0, 0.0);
(326435.8, 3795773.5, 176.6, 277.0, 0.0); (326458.3, 3795772.8, 174.6, 277.0, 0.0);
(326424.2, 3795858.8, 178.9, 295.0, 0.0); (326400.2, 3795799.8, 182.9, 277.0, 0.0);
(326400.9, 3795767.9, 180.8, 277.0, 0.0); (326424.2, 3795858.8, 178.9, 295.0, 0.0);
(326611.8, 3795763.0, 168.9, 277.0, 0.0); (326611.8, 3795763.0, 168.9, 277.0, 0.0);
(326610.9, 3795777.7, 169.0, 277.0, 0.0); (326605.9, 3795792.9, 169.0, 277.0, 0.0);
(326623.9, 3795809.0, 169.6, 277.0, 0.0); (326627.2, 3795836.6, 170.1, 295.0, 0.0);
(326640.1, 3795836.6, 170.2, 277.0, 0.0); (326654.5, 3795868.7, 171.6, 291.0, 0.0);
(326665.5, 3795883.1, 172.0, 295.0, 0.0); (326588.3, 3795867.6, 175.1, 277.0, 0.0);

```
     ( 326640.5, 3795951.9,     177.0,     295.0,       0.0);         ( 326658.5,
3795975.6,     175.5,     295.0,       0.0);
     ( 326759.5, 3796019.3,     178.2,     277.0,       0.0);         ( 326763.6,
3796031.8,     178.1,     291.0,       0.0);
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
```

```
     ( 326806.7, 3795493.9,     157.9,     217.0,       0.0);         ( 326824.1,
3795494.4,     157.9,     217.0,       0.0);
     ( 326853.5, 3795481.7,     157.5,     217.0,       0.0);         ( 326898.8,
3795534.4,     158.0,     217.0,       0.0);
     ( 325796.1, 3795215.6,     149.4,     149.4,       0.0);         ( 325823.1,
3795215.6,     149.0,     149.0,       0.0);
     ( 326012.1, 3795215.6,     150.0,     150.0,       0.0);         ( 326120.1,
3795215.6,     151.0,     151.0,       0.0);
     ( 326147.1, 3795215.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795254.6,     149.4,     185.0,       0.0);
     ( 325823.1, 3795254.6,     149.0,     185.0,       0.0);         ( 325850.1,
3795254.6,     149.0,     149.0,       0.0);
     ( 325877.1, 3795254.6,     149.0,     149.0,       0.0);         ( 325904.1,
3795254.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795254.6,     149.9,     149.9,       0.0);         ( 325958.1,
3795254.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795254.6,     150.0,     150.0,       0.0);         ( 326012.1,
3795254.6,     150.7,     150.7,       0.0);
     ( 326039.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326066.1,
3795254.6,     151.0,     151.0,       0.0);
     ( 326093.1, 3795254.6,     151.0,     151.0,       0.0);         ( 326120.1,
3795254.6,     151.0,     151.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                          ***        16:23:00

                                    PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 326147.1, 3795254.6,     151.0,     151.0,       0.0);         ( 325796.1,
3795293.6,     150.1,     185.0,       0.0);
     ( 325823.1, 3795293.6,     150.1,     185.0,       0.0);         ( 325850.1,
3795293.6,     149.7,     185.0,       0.0);
     ( 325877.1, 3795293.6,     149.2,     185.0,       0.0);         ( 325904.1,
3795293.6,     149.2,     149.2,       0.0);
     ( 325931.1, 3795293.6,     150.0,     150.0,       0.0);         ( 325958.1,
3795293.6,     150.0,     150.0,       0.0);
     ( 325985.1, 3795293.6,     150.9,     150.9,       0.0);         ( 326012.1,
3795293.6,     151.2,     151.2,       0.0);
     ( 326039.1, 3795293.6,     151.2,     151.2,       0.0);         ( 326066.1,
3795293.6,     151.7,     151.7,       0.0);
     ( 326093.1, 3795293.6,     152.0,     152.0,       0.0);         ( 326120.1,
3795293.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795293.6,     152.0,     152.0,       0.0);         ( 325796.1,
3795332.6,     151.1,     185.0,       0.0);
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     ( 325823.1, 3795332.6,     151.0,     185.0,       0.0);         ( 325850.1,
3795332.6,     150.5,     185.0,       0.0);
     ( 325877.1, 3795332.6,     150.2,     185.0,       0.0);         ( 325904.1,
3795332.6,     149.6,     185.0,       0.0);
     ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
3795332.6,     150.5,     166.0,       0.0);
     ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
     ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
     ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325972.4, 3795004.9,     149.3,     149.3,       0.0);         ( 325997.4,
3795004.9,     149.7,     149.7,       0.0);
     ( 326022.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326122.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326147.4,
3795004.9,     150.3,     150.3,       0.0);
     ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
     ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
     ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795088.9,     150.2,     150.2,       0.0);
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     ( 326122.4, 3795088.9,     150.7,     150.7,       0.0);         ( 326147.4,
3795088.9,     151.0,     151.0,       0.0);
     ( 325847.4, 3795130.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795130.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795130.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795130.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795130.9,     149.6,     149.6,       0.0);         ( 325972.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 325997.4, 3795130.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795130.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795130.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795130.9,     150.6,     150.6,       0.0);         ( 326122.4,
3795130.9,     151.0,     151.0,       0.0);
     ( 326147.4, 3795130.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795172.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795172.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795172.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795172.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795172.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795172.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795172.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795172.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795172.9,     150.2,     150.2,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                          ***        16:23:00

                                    PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                 (METERS)

     ( 326072.4, 3795172.9,     150.8,     150.8,       0.0);         ( 325847.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795214.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795214.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795214.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795214.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795214.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326072.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326097.4, 3795214.9,     151.0,     151.0,       0.0);         ( 326147.4,
3795214.9,     151.0,     151.0,       0.0);
     ( 326096.6, 3795181.5,     151.0,     151.0,       0.0);         ( 326118.6,
3795182.6,     151.0,     151.0,       0.0);
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    ( 326144.3, 3795184.1,     151.0,     151.0,       0.0);         ( 325849.7,
3794829.6,     148.0,     148.0,       0.0);
    ( 325892.6, 3794829.6,     148.0,     148.0,       0.0);         ( 325935.5,
3794829.6,     148.8,     148.8,       0.0);
    ( 325978.3, 3794829.6,     149.0,     149.0,       0.0);         ( 326021.2,
3794829.6,     149.0,     149.0,       0.0);
    ( 326064.1, 3794829.6,     149.5,     149.5,       0.0);         ( 325849.7,
3794867.5,     148.0,     148.0,       0.0);
    ( 325892.6, 3794867.5,     148.8,     148.8,       0.0);         ( 325935.5,
3794867.5,     149.0,     149.0,       0.0);
    ( 325978.3, 3794867.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794867.5,     149.0,     149.0,       0.0);
    ( 326064.1, 3794867.5,     149.5,     149.5,       0.0);         ( 325849.7,
3794905.5,     148.1,     148.1,       0.0);
    ( 325892.6, 3794905.5,     148.9,     148.9,       0.0);         ( 325935.5,
3794905.5,     149.0,     149.0,       0.0);
    ( 325978.3, 3794905.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794905.5,     149.1,     149.1,       0.0);
    ( 326064.1, 3794905.5,     150.0,     150.0,       0.0);         ( 325849.7,
3794943.4,     148.4,     148.4,       0.0);
    ( 325892.6, 3794943.4,     149.0,     149.0,       0.0);         ( 325935.5,
3794943.4,     149.0,     149.0,       0.0);
    ( 325978.3, 3794943.4,     149.0,     149.0,       0.0);         ( 326021.2,
3794943.4,     149.1,     149.1,       0.0);
    ( 326064.1, 3794943.4,     150.0,     150.0,       0.0);         ( 325849.7,
3794981.3,     148.9,     148.9,       0.0);
    ( 325892.6, 3794981.3,     149.0,     149.0,       0.0);         ( 325935.5,
3794981.3,     149.0,     149.0,       0.0);
    ( 325978.3, 3794981.3,     149.0,     149.0,       0.0);         ( 326021.2,
3794981.3,     149.8,     149.8,       0.0);
    ( 326064.1, 3794981.3,     150.0,     150.0,       0.0);         ( 325855.3,
3794726.6,     148.0,     148.0,       0.0);
    ( 325902.6, 3794726.6,     148.0,     148.0,       0.0);         ( 325855.3,
3794745.5,     148.0,     148.0,       0.0);
    ( 325902.6, 3794745.5,     148.0,     148.0,       0.0);         ( 325855.3,
3794764.4,     148.0,     148.0,       0.0);
    ( 325902.6, 3794764.4,     148.0,     148.0,       0.0);         ( 325855.3,
3794783.3,     148.0,     148.0,       0.0);
    ( 325902.6, 3794783.3,     148.0,     148.0,       0.0);         ( 325855.3,
3794802.2,     148.0,     148.0,       0.0);
    ( 325902.6, 3794802.2,     148.0,     148.0,       0.0);         ( 325855.3,
3794821.1,     148.0,     148.0,       0.0);
    ( 325902.6, 3794821.1,     148.1,     148.1,       0.0);         ( 326402.8,
3795249.3,     152.8,     152.8,       0.0);
    ( 325380.5, 3795776.2,     161.0,     295.0,       0.0);         ( 325415.9,
3795858.3,     176.6,     271.0,       0.0);
    ( 325409.9, 3795995.0,     190.3,     271.0,       0.0);         ( 325416.6,
3796058.1,     193.4,     282.0,       0.0);
    ( 325409.6, 3796164.9,     201.8,     291.0,       0.0);         ( 325322.7,
3796083.9,     190.0,     292.0,       0.0);
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     ( 325297.9, 3796111.1,     184.9,     295.0,       0.0);         ( 325246.7,
3796076.1,     181.2,     295.0,       0.0);
     ( 325280.0, 3796260.7,     211.4,     292.0,       0.0);         ( 325237.0,
3796200.4,     205.0,     292.0,       0.0);
     ( 325163.0, 3796071.1,     180.4,     292.0,       0.0);         ( 325215.7,
3795991.4,     177.4,     292.0,       0.0);
     ( 325208.3, 3795926.9,     173.0,     292.0,       0.0);         ( 325249.5,
3795829.2,     171.2,     291.0,       0.0);
     ( 325171.5, 3795759.2,     160.9,     292.0,       0.0);         ( 325129.2,
3795756.4,     158.4,     292.0,       0.0);
     ( 325154.8, 3795886.2,     167.8,     292.0,       0.0);         ( 325068.5,
3795885.4,     171.6,     292.0,       0.0);
     ( 325047.9, 3795938.0,     175.5,     292.0,       0.0);         ( 325045.8,
3795982.7,     176.4,     292.0,       0.0);
     ( 325072.0, 3796106.7,     179.6,     292.0,       0.0);         ( 325060.6,
3796290.4,     197.1,     292.0,       0.0);
     ( 324903.7, 3796379.8,     214.8,     292.0,       0.0);         ( 324787.8,
3796510.4,     197.3,     292.0,       0.0);
     ( 324916.5, 3796618.3,     201.7,     292.0,       0.0);         ( 326493.0,
3796356.3,     198.5,     295.0,       0.0);
     ( 326552.7, 3796900.0,     235.2,     295.0,       0.0);         ( 326599.3,
3796893.6,     237.6,     293.0,       0.0);
     ( 326617.4, 3796889.5,     237.6,     293.0,       0.0);         ( 326639.4,
3796881.9,     233.8,     293.0,       0.0);
     ( 326663.7, 3796864.1,     225.7,     295.0,       0.0);         ( 326679.5,
3796885.2,     227.5,     293.0,       0.0);
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:23:00

                                  PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                     (METERS)

     ( 326697.8, 3796898.3,     229.7,     293.0,       0.0);         ( 326712.3,
3796916.6,     233.6,     293.0,       0.0);
     ( 326726.6, 3796931.1,     236.4,     290.0,       0.0);         ( 326742.2,
3796948.0,     240.5,     290.0,       0.0);
     ( 326756.6, 3796965.7,     242.1,     290.0,       0.0);         ( 326772.1,
3796973.3,     239.2,     290.0,       0.0);
     ( 326785.2, 3796890.5,     223.1,     293.0,       0.0);         ( 326800.1,
3797003.9,     233.0,     290.0,       0.0);
     ( 326818.0, 3797014.9,     229.2,     290.0,       0.0);         ( 326813.7,
3796843.9,     215.1,     293.0,       0.0);
     ( 326833.9, 3796853.6,     216.3,     293.0,       0.0);         ( 326848.6,
3796873.4,     217.5,     293.0,       0.0);
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     ( 326864.2, 3796885.1,     217.7,     293.0,       0.0);         ( 326877.9,
3796901.2,     218.2,     292.0,       0.0);
     ( 326893.8, 3796917.1,     220.4,     292.0,       0.0);         ( 326904.5,
3796938.8,     223.9,     292.0,       0.0);
     ( 326907.6, 3796966.2,     224.5,     292.0,       0.0);         ( 326914.5,
3796991.7,     227.6,     292.0,       0.0);
     ( 326921.9, 3797038.4,     232.7,     292.0,       0.0);         ( 326596.6,
3797264.1,     273.2,     288.0,       0.0);
     ( 326830.0, 3795735.4,     183.6,     217.0,       0.0);         ( 326866.5,
3795706.9,     182.8,     217.0,       0.0);
     ( 326831.5, 3795646.6,     161.0,     217.0,       0.0);         ( 326872.9,
3795644.9,     160.9,     217.0,       0.0);
     ( 326898.9, 3795644.7,     160.9,     217.0,       0.0);         ( 326924.7,
3795650.1,     161.6,     217.0,       0.0);
     ( 326949.7, 3795646.4,     161.1,     217.0,       0.0);         ( 326975.6,
3795638.8,     162.5,     217.0,       0.0);
     ( 326917.9, 3795602.8,     159.0,     217.0,       0.0);         ( 326918.6,
3795584.1,     158.0,     217.0,       0.0);
     ( 326921.6, 3795563.5,     158.0,     217.0,       0.0);         ( 326917.2,
3795537.1,     158.0,     217.0,       0.0);
     ( 326935.0, 3795592.2,     158.8,     217.0,       0.0);         ( 326951.0,
3795599.5,     159.5,     217.0,       0.0);
     ( 326950.3, 3795555.9,     158.0,     217.0,       0.0);         ( 326951.6,
3795535.1,     158.0,     217.0,       0.0);
     ( 326961.8, 3795537.6,     158.0,     217.0,       0.0);         ( 326982.2,
3795538.3,     158.0,     217.0,       0.0);
     ( 326992.4, 3795539.1,     158.0,     217.0,       0.0);         ( 327009.0,
3795535.6,     158.0,     217.0,       0.0);
     ( 326987.7, 3795581.0,     159.0,     217.0,       0.0);         ( 327024.8,
3795588.4,     160.1,     217.0,       0.0);
     ( 326925.1, 3795485.9,     158.0,     217.0,       0.0);         ( 326937.8,
3795488.3,     158.0,     217.0,       0.0);
     ( 326956.5, 3795489.3,     158.0,     217.0,       0.0);         ( 326970.9,
3795491.0,     158.0,     217.0,       0.0);
     ( 326990.0, 3795487.7,     158.0,     217.0,       0.0);         ( 325049.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325124.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325161.8, 3794362.9,     143.2,     143.2,       0.0);         ( 325199.3,
3794362.9,     143.2,     143.2,       0.0);
     ( 325236.8, 3794362.9,     143.0,     143.0,       0.0);         ( 325274.3,
3794362.9,     143.0,     143.0,       0.0);
     ( 325049.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794386.1,     143.0,     143.0,       0.0);
     ( 325124.3, 3794386.1,     143.2,     143.2,       0.0);         ( 325161.8,
3794386.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794386.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794386.1,     143.1,     143.1,       0.0);
     ( 325274.3, 3794386.1,     143.0,     143.0,       0.0);         ( 325049.3,
3794409.3,     143.0,     143.0,       0.0);
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     ( 325086.8, 3794409.3,     143.0,     143.0,       0.0);         ( 325124.3,
3794409.3,     143.2,     143.2,       0.0);
     ( 325161.8, 3794409.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794409.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794409.3,     143.8,     143.8,       0.0);         ( 325274.3,
3794409.3,     143.7,     143.7,       0.0);
     ( 325049.3, 3794432.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794432.5,     143.0,     143.0,       0.0);
     ( 325124.3, 3794432.5,     143.6,     143.6,       0.0);         ( 325161.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325049.3,
3794455.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794455.7,     143.3,     143.3,       0.0);         ( 325124.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325049.3, 3794478.9,     143.0,     143.0,       0.0);         ( 325086.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325124.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325161.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325199.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325236.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325274.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325049.3,
3794502.1,     143.0,     143.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       16:23:00

                                  PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                   (METERS)

     ( 325086.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325124.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325161.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325199.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325236.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325274.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325049.3, 3794525.3,     143.0,     143.0,       0.0);         ( 325086.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325124.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325161.8,
3794525.3,     144.0,     144.0,       0.0);
```

```
     ( 325199.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325236.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
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     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794687.7,     145.0,     145.0,       0.0);
     ( 324871.6, 3794298.6,     141.0,     141.0,       0.0);         ( 324910.5,
3794298.6,     141.1,     141.1,       0.0);
     ( 324949.4, 3794298.6,     142.0,     142.0,       0.0);         ( 324988.3,
3794298.6,     142.0,     142.0,       0.0);
     ( 324871.6, 3794320.4,     141.0,     141.0,       0.0);         ( 324910.5,
3794320.4,     141.8,     141.8,       0.0);
     ( 324949.4, 3794320.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794320.4,     142.0,     142.0,       0.0);
     ( 324871.6, 3794342.2,     141.0,     141.0,       0.0);         ( 324910.5,
3794342.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794342.2,     142.0,     142.0,       0.0);         ( 324988.3,
3794342.2,     142.0,     142.0,       0.0);
     ( 324871.6, 3794364.0,     141.2,     141.2,       0.0);         ( 324910.5,
3794364.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794364.0,     142.0,     142.0,       0.0);         ( 324988.3,
3794364.0,     142.2,     142.2,       0.0);
     ( 324871.6, 3794385.8,     141.7,     141.7,       0.0);         ( 324910.5,
3794385.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794385.8,     142.0,     142.0,       0.0);         ( 324988.3,
3794385.8,     142.6,     142.6,       0.0);
     ( 324871.6, 3794407.6,     141.8,     141.8,       0.0);         ( 324910.5,
3794407.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794407.6,     142.0,     142.0,       0.0);         ( 324988.3,
3794407.6,     142.7,     142.7,       0.0);
     ( 324871.6, 3794429.4,     141.8,     141.8,       0.0);         ( 324910.5,
3794429.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794429.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794429.4,     142.7,     142.7,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                          ***        16:23:00

                                    PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                              *** DISCRETE CARTESIAN RECEPTORS ***
                                            (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                        (METERS)

     ( 324871.6, 3794451.2,     141.8,     141.8,       0.0);         ( 324910.5,
3794451.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794451.2,     142.1,     142.1,       0.0);         ( 324988.3,
3794451.2,     142.7,     142.7,       0.0);
     ( 324871.6, 3794473.0,     141.8,     141.8,       0.0);         ( 324910.5,
3794473.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794473.0,     142.3,     142.3,       0.0);         ( 324988.3,
3794473.0,     143.0,     143.0,       0.0);
```

```
     ( 324871.6, 3794494.8,     141.9,     141.9,       0.0);         ( 324910.5,
3794494.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794494.8,     142.4,     142.4,       0.0);         ( 324988.3,
3794494.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794074.7,     138.0,     138.0,       0.0);         ( 324486.0,
3794074.7,     138.0,     138.0,       0.0);
     ( 324522.9, 3794074.7,     138.0,     138.0,       0.0);         ( 324559.9,
3794074.7,     137.8,     137.8,       0.0);
     ( 324596.8, 3794074.7,     137.6,     137.6,       0.0);         ( 324633.8,
3794074.7,     137.1,     137.1,       0.0);
     ( 324670.7, 3794074.7,     137.0,     137.0,       0.0);         ( 324707.7,
3794074.7,     137.2,     137.2,       0.0);
     ( 324744.6, 3794074.7,     137.9,     137.9,       0.0);         ( 324781.6,
3794074.7,     139.3,     139.3,       0.0);
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(324449.0, 3794106.7, 138.0, 138.0, 0.0); (324486.0, 3794106.7, 138.0, 138.0, 0.0);
(324522.9, 3794106.7, 138.0, 138.0, 0.0); (324559.9, 3794106.7, 138.0, 138.0, 0.0);
(324596.8, 3794106.7, 138.0, 138.0, 0.0); (324633.8, 3794106.7, 137.7, 137.7, 0.0);
(324670.7, 3794106.7, 137.7, 137.7, 0.0); (324707.7, 3794106.7, 138.0, 138.0, 0.0);
(324744.6, 3794106.7, 139.2, 139.2, 0.0); (324781.6, 3794106.7, 139.9, 139.9, 0.0);
(324449.0, 3794138.6, 138.0, 138.0, 0.0); (324486.0, 3794138.6, 138.0, 138.0, 0.0);
(324522.9, 3794138.6, 138.0, 138.0, 0.0); (324559.9, 3794138.6, 138.0, 138.0, 0.0);
(324596.8, 3794138.6, 138.0, 138.0, 0.0); (324633.8, 3794138.6, 138.6, 138.6, 0.0);
(324670.7, 3794138.6, 138.7, 138.7, 0.0); (324707.7, 3794138.6, 139.0, 139.0, 0.0);
(324744.6, 3794138.6, 139.9, 139.9, 0.0); (324781.6, 3794138.6, 140.0, 140.0, 0.0);
(324449.0, 3794170.6, 138.0, 138.0, 0.0); (324486.0, 3794170.6, 138.0, 138.0, 0.0);
(324522.9, 3794170.6, 138.1, 138.1, 0.0); (324559.9, 3794170.6, 138.8, 138.8, 0.0);
(324596.8, 3794170.6, 138.8, 138.8, 0.0); (324633.8, 3794170.6, 139.0, 139.0, 0.0);
(324670.7, 3794170.6, 139.1, 139.1, 0.0); (324707.7, 3794170.6, 139.9, 139.9, 0.0);
(324744.6, 3794170.6, 140.0, 140.0, 0.0); (324781.6, 3794170.6, 140.6, 140.6, 0.0);
(324449.0, 3794202.6, 138.0, 138.0, 0.0); (324486.0, 3794202.6, 138.0, 138.0, 0.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(324522.9, 3794202.6, 138.2, 138.2, 0.0); (324559.9, 3794202.6, 139.0, 139.0, 0.0);
(324596.8, 3794202.6, 139.0, 139.0, 0.0); (324633.8, 3794202.6, 139.0, 139.0, 0.0);
(324670.7, 3794202.6, 139.9, 139.9, 0.0); (324707.7, 3794202.6, 140.0, 140.0, 0.0);

```
     ( 324744.6, 3794202.6,     140.0,     140.0,       0.0);         ( 324781.6,
3794202.6,     140.8,     140.8,       0.0);
     ( 324449.0, 3794234.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794234.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794234.5,     138.2,     138.2,       0.0);         ( 324559.9,
3794234.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794234.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794234.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794234.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794234.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794234.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794234.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794266.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794266.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794266.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794266.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794266.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794266.5,     139.0,     139.0,       0.0);
     ( 324670.7, 3794266.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794266.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794266.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794266.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794298.5,     138.0,     138.0,       0.0);         ( 324486.0,
3794298.5,     138.0,     138.0,       0.0);
     ( 324522.9, 3794298.5,     139.0,     139.0,       0.0);         ( 324559.9,
3794298.5,     139.0,     139.0,       0.0);
     ( 324596.8, 3794298.5,     139.0,     139.0,       0.0);         ( 324633.8,
3794298.5,     139.9,     139.9,       0.0);
     ( 324670.7, 3794298.5,     140.0,     140.0,       0.0);         ( 324707.7,
3794298.5,     140.0,     140.0,       0.0);
     ( 324744.6, 3794298.5,     140.0,     140.0,       0.0);         ( 324781.6,
3794298.5,     140.8,     140.8,       0.0);
     ( 324449.0, 3794330.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794330.4,     138.1,     138.1,       0.0);
     ( 324522.9, 3794330.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794330.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794330.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794330.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794330.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794330.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794330.4,     140.1,     140.1,       0.0);         ( 324781.6,
3794330.4,     140.8,     140.8,       0.0);
     ( 324449.0, 3794362.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794362.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794362.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794362.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794362.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794362.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794362.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794362.4,     140.0,     140.0,       0.0);
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     ( 324744.6, 3794362.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794362.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794394.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794394.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794394.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794394.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794394.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794394.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794394.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794394.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794394.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794394.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794426.4,     138.2,     138.2,       0.0);         ( 324486.0,
3794426.4,     139.0,     139.0,       0.0);
     ( 324522.9, 3794426.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794426.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794426.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794426.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794426.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794426.4,     140.1,     140.1,       0.0);
     ( 324744.6, 3794426.4,     140.7,     140.7,       0.0);         ( 324781.6,
3794426.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794458.3,     138.7,     138.7,       0.0);         ( 324486.0,
3794458.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794458.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794458.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794458.3,     139.2,     139.2,       0.0);         ( 324633.8,
3794458.3,     139.9,     139.9,       0.0);
     ( 324670.7, 3794458.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794458.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794458.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794458.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794490.3,     138.7,     138.7,       0.0);         ( 324486.0,
3794490.3,     139.0,     139.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       16:23:00

                                    PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 324522.9, 3794490.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794490.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794490.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794490.3,     140.0,     140.0,       0.0);
```

```
     ( 324670.7, 3794490.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794490.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794490.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794490.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794522.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794522.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794522.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794522.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794554.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794554.2,     139.2,     139.2,       0.0);
     ( 324596.8, 3794554.2,     139.8,     139.8,       0.0);         ( 324633.8,
3794554.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794554.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794554.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794586.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794586.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794586.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794586.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794586.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794586.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794586.2,     140.0,     140.0,       0.0);         ( 324707.7,
3794586.2,     140.3,     140.3,       0.0);
     ( 324744.6, 3794586.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794586.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794618.2,     139.0,     139.0,       0.0);         ( 324486.0,
3794618.2,     139.0,     139.0,       0.0);
     ( 324522.9, 3794618.2,     139.0,     139.0,       0.0);         ( 324559.9,
3794618.2,     139.4,     139.4,       0.0);
     ( 324596.8, 3794618.2,     140.0,     140.0,       0.0);         ( 324633.8,
3794618.2,     140.0,     140.0,       0.0);
     ( 324670.7, 3794618.2,     140.1,     140.1,       0.0);         ( 324707.7,
3794618.2,     140.8,     140.8,       0.0);
     ( 324744.6, 3794618.2,     141.0,     141.0,       0.0);         ( 324781.6,
3794618.2,     141.0,     141.0,       0.0);
     ( 324449.0, 3794650.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
```

```
     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794650.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794650.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794650.1,     141.0,     141.0,       0.0);
     ( 324449.0, 3794682.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794682.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794682.1,     139.1,     139.1,       0.0);         ( 324559.9,
3794682.1,     139.9,     139.9,       0.0);
     ( 324596.8, 3794682.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794682.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794682.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794682.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794682.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794682.1,     141.0,     141.0,       0.0);
     ( 326547.4, 3795022.1,     153.0,     153.0,       0.0);         ( 326594.7,
3795022.1,     153.3,     153.3,       0.0);
     ( 326642.0, 3795022.1,     154.0,     154.0,       0.0);         ( 326547.4,
3795042.5,     153.0,     153.0,       0.0);
     ( 326594.7, 3795042.5,     153.9,     153.9,       0.0);         ( 326642.0,
3795042.5,     154.0,     154.0,       0.0);
     ( 326547.4, 3795062.9,     153.0,     153.0,       0.0);         ( 326594.7,
3795062.9,     154.0,     154.0,       0.0);
     ( 326642.0, 3795062.9,     154.0,     154.0,       0.0);         ( 326547.4,
3795083.3,     153.1,     153.1,       0.0);
     ( 326594.7, 3795083.3,     154.0,     154.0,       0.0);         ( 326642.0,
3795083.3,     154.0,     154.0,       0.0);
     ( 326547.4, 3795103.7,     153.6,     153.6,       0.0);         ( 326594.7,
3795103.7,     154.0,     154.0,       0.0);
     ( 326642.0, 3795103.7,     154.0,     154.0,       0.0);         ( 326547.4,
3795124.1,     153.6,     153.6,       0.0);
     ( 326594.7, 3795124.1,     154.0,     154.0,       0.0);         ( 326642.0,
3795124.1,     154.0,     154.0,       0.0);
     ( 326547.4, 3795144.5,     153.7,     153.7,       0.0);         ( 326594.7,
3795144.5,     154.0,     154.0,       0.0);
     ( 326642.0, 3795144.5,     154.0,     154.0,       0.0);         ( 326547.4,
3795164.9,     154.0,     154.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       16:23:00

                                    PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     ( 326594.7, 3795164.9,     154.0,     154.0,       0.0);         ( 326642.0,
3795164.9,     154.0,     154.0,       0.0);
```

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     ( 326547.4, 3795185.3,     154.0,     154.0,       0.0);         ( 326594.7,
3795185.3,     154.0,     154.0,       0.0);
     ( 326642.0, 3795185.3,     154.0,     154.0,       0.0);         ( 326547.4,
3795205.7,     154.0,     154.0,       0.0);
     ( 326594.7, 3795205.7,     154.0,     154.0,       0.0);         ( 326642.0,
3795205.7,     154.2,     154.2,       0.0);
     ( 326547.4, 3795226.1,     154.0,     154.0,       0.0);         ( 326594.7,
3795226.1,     154.0,     154.0,       0.0);
     ( 326642.0, 3795226.1,     154.8,     154.8,       0.0);         ( 326547.4,
3795246.5,     154.0,     154.0,       0.0);
     ( 326594.7, 3795246.5,     154.1,     154.1,       0.0);         ( 326642.0,
3795246.5,     154.9,     154.9,       0.0);
     ( 326690.4, 3795243.4,     155.0,     155.0,       0.0);         ( 326688.7,
3795223.0,     155.0,     155.0,       0.0);
     ( 326686.0, 3795005.8,     154.0,     154.0,       0.0);         ( 326686.0,
3795033.7,     154.1,     154.1,       0.0);
     ( 326686.0, 3795061.5,     154.3,     154.3,       0.0);         ( 326686.0,
3795089.4,     154.3,     154.3,       0.0);
     ( 326686.0, 3795117.3,     154.3,     154.3,       0.0);         ( 326686.0,
3795145.2,     154.3,     154.3,       0.0);
     ( 326686.0, 3795173.1,     154.4,     154.4,       0.0);         ( 326686.0,
3795201.0,     155.0,     155.0,       0.0);
     ( 326832.8, 3795263.3,     155.3,     155.3,       0.0);         ( 326849.7,
3795263.3,     155.8,     155.8,       0.0);
     ( 326866.5, 3795263.3,     156.0,     156.0,       0.0);         ( 326883.4,
3795263.3,     156.0,     156.0,       0.0);
     ( 326900.3, 3795263.3,     156.0,     156.0,       0.0);         ( 326917.1,
3795263.3,     156.0,     156.0,       0.0);
     ( 326934.0, 3795263.3,     156.5,     156.5,       0.0);         ( 326950.9,
3795263.3,     157.0,     157.0,       0.0);
     ( 326967.8, 3795263.3,     157.0,     157.0,       0.0);         ( 326984.6,
3795263.3,     157.2,     157.2,       0.0);
     ( 327001.5, 3795263.3,     157.8,     157.8,       0.0);         ( 327036.8,
3795141.3,     157.0,     157.0,       0.0);
     ( 327075.7, 3795141.3,     158.0,     158.0,       0.0);         ( 327036.8,
3795160.9,     157.0,     157.0,       0.0);
     ( 327075.7, 3795160.9,     158.0,     158.0,       0.0);         ( 327036.8,
3795180.5,     157.0,     157.0,       0.0);
     ( 327075.7, 3795180.5,     158.0,     158.0,       0.0);         ( 327036.8,
3795200.0,     157.1,     157.1,       0.0);
     ( 327075.7, 3795200.0,     158.0,     158.0,       0.0);         ( 327036.8,
3795219.6,     157.7,     157.7,       0.0);
     ( 327075.7, 3795219.6,     158.0,     158.0,       0.0);         ( 327036.8,
3795239.1,     158.0,     158.0,       0.0);
     ( 327075.7, 3795239.1,     158.0,     158.0,       0.0);         ( 327036.8,
3795258.7,     158.0,     158.0,       0.0);
     ( 327075.7, 3795258.7,     158.0,     158.0,       0.0);         ( 327036.8,
3795278.3,     158.0,     158.0,       0.0);
     ( 327075.7, 3795278.3,     158.0,     158.0,       0.0);         ( 326840.0,
3795223.2,     155.4,     155.4,       0.0);
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     ( 326860.6, 3795224.2,     156.0,     156.0,       0.0);         ( 326877.3,
3795222.7,     156.0,     156.0,       0.0);
     ( 326929.7, 3795223.7,     156.4,     156.4,       0.0);         ( 326932.9,
3795200.0,     156.5,     156.5,       0.0);
     ( 326972.3, 3795217.0,     157.0,     157.0,       0.0);         ( 326970.8,
3795177.6,     157.0,     157.0,       0.0);
     ( 326968.2, 3795152.5,     157.0,     157.0,       0.0);         ( 326998.4,
3795149.8,     157.0,     157.0,       0.0);
     ( 326997.5, 3795176.6,     157.0,     157.0,       0.0);         ( 326995.6,
3795193.0,     157.0,     157.0,       0.0);
     ( 326996.9, 3795215.8,     157.0,     157.0,       0.0);         ( 326917.0,
3795152.2,     156.0,     156.0,       0.0);
     ( 326902.0, 3795150.5,     156.0,     156.0,       0.0);         ( 326884.2,
3795164.4,     156.0,     156.0,       0.0);
     ( 326867.3, 3795151.3,     156.0,     156.0,       0.0);         ( 326873.2,
3795163.4,     156.0,     156.0,       0.0);
     ( 326845.5, 3795152.1,     155.6,     155.6,       0.0);         ( 326824.9,
3795151.4,     155.0,     155.0,       0.0);
     ( 326826.6, 3795170.6,     155.0,     155.0,       0.0);         ( 326840.5,
3795180.2,     155.4,     155.4,       0.0);
     ( 326799.4, 3795148.0,     155.0,     155.0,       0.0);         ( 326776.8,
3795147.9,     155.0,     155.0,       0.0);
     ( 326738.0, 3795152.7,     155.0,     155.0,       0.0);         ( 326781.3,
3795110.8,     155.0,     155.0,       0.0);
     ( 326806.1, 3795109.0,     155.2,     155.2,       0.0);         ( 326804.5,
3795090.7,     155.2,     155.2,       0.0);
     ( 326781.8, 3795086.7,     155.0,     155.0,       0.0);         ( 326787.4,
3795061.8,     155.0,     155.0,       0.0);
     ( 326794.0, 3795031.2,     155.0,     155.0,       0.0);         ( 326977.5,
3795110.7,     157.0,     157.0,       0.0);
     ( 326994.0, 3795107.9,     157.0,     157.0,       0.0);         ( 326984.5,
3795093.8,     157.0,     157.0,       0.0);
     ( 326972.8, 3795082.4,     157.0,     157.0,       0.0);         ( 326995.4,
3795072.5,     157.0,     157.0,       0.0);
     ( 326993.2, 3795060.0,     157.0,     157.0,       0.0);         ( 326984.6,
3795040.8,     157.0,     157.0,       0.0);
     ( 326981.7, 3795027.2,     157.0,     157.0,       0.0);         ( 327041.5,
3795102.1,     157.1,     157.1,       0.0);
```


*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
     ( 327065.2, 3795095.8,     157.9,     157.9,       0.0);         ( 327040.9,
3795076.3,     157.1,     157.1,       0.0);
     ( 327061.2, 3795058.3,     157.8,     157.8,       0.0);         ( 327037.8,
3795061.1,     157.0,     157.0,       0.0);
     ( 327035.6, 3795040.6,     157.0,     157.0,       0.0);         ( 327058.9,
3795038.4,     157.7,     157.7,       0.0);
     ( 327051.5, 3795017.8,     157.4,     157.4,       0.0);         ( 327033.3,
3795021.7,     157.0,     157.0,       0.0);
     ( 326826.3, 3795110.8,     155.8,     155.8,       0.0);         ( 326843.3,
3795110.8,     155.9,     155.9,       0.0);
     ( 326860.3, 3795110.8,     156.0,     156.0,       0.0);         ( 326877.3,
3795110.8,     156.0,     156.0,       0.0);
     ( 326894.4, 3795110.8,     156.0,     156.0,       0.0);         ( 326911.4,
3795110.8,     156.0,     156.0,       0.0);
     ( 326928.4, 3795110.8,     156.3,     156.3,       0.0);         ( 326945.5,
3795110.8,     156.9,     156.9,       0.0);
     ( 326820.0, 3795048.9,     155.7,     155.7,       0.0);         ( 326838.2,
3795048.9,     156.0,     156.0,       0.0);
     ( 326856.4, 3795048.9,     156.0,     156.0,       0.0);         ( 326874.6,
3795048.9,     156.0,     156.0,       0.0);
     ( 326892.8, 3795048.9,     156.0,     156.0,       0.0);         ( 326911.0,
3795048.9,     156.0,     156.0,       0.0);
     ( 326929.2, 3795048.9,     156.4,     156.4,       0.0);         ( 326947.4,
3795048.9,     157.0,     157.0,       0.0);
     ( 325652.3, 3795689.5,     172.4,     271.0,       0.0);         ( 325747.8,
3795796.2,     179.1,     295.0,       0.0);
     ( 326251.1, 3796043.8,     195.4,     295.0,       0.0);         ( 326263.9,
3795852.4,     183.1,     295.0,       0.0);
     ( 326170.8, 3795648.4,     173.3,     173.3,       0.0);         ( 326148.1,
3795505.9,     161.2,     182.0,       0.0);
     ( 325511.5, 3795586.4,     181.9,     181.9,       0.0);

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       16:23:00

                                    PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                              *** METEOROLOGICAL DAYS SELECTED FOR
PROCESSING ***
                                                                  (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
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            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1
1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926. Met Version: 14134
Profile file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926.
Surface format: FREE

Profile format: FREE

Surface station no.: 23136 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN

Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT

```
 09 01 01   1 01 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  281.4    2.0
 09 01 01   1 02 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.9    2.0
 09 01 01   1 03   -3.3  0.067 -9.000 -9.000 -999.   42.      8.3  0.05   0.81
1.00    1.76  214.   10.0  280.9    2.0
 09 01 01   1 04 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 05   -6.6  0.115 -9.000 -9.000 -999.   94.     21.1  0.03   0.81
1.00    2.36   93.   10.0  280.4    2.0
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3796062.19 0.00082
326801.34 3796078.38 0.00077 326809.46
3796094.93 0.00074
326736.80 3796108.96 0.00078 326835.84
3796126.62 0.00066
326836.27 3796140.13 0.00064 326800.95
3796123.31 0.00073
326762.39 3796138.51 0.00068 326766.63
3796155.18 0.00061
326774.14 3796169.68 0.00057 326798.07
3796201.57 0.00050
326808.84 3796229.51 0.00044 326880.95
3796184.59 0.00053
326915.56 3796260.01 0.00044 326941.07
3796261.11 0.00042
326958.24 3796277.25 0.00040 326964.89
3796291.08 0.00038
326984.47 3796322.92 0.00036 326993.31
3796349.42 0.00034
326993.49 3796365.88 0.00034 327007.03
3796382.47 0.00033
326972.07 3796390.18 0.00031 326996.78
3796414.54 0.00031
326693.51 3795789.66 0.00086 326695.37
3795771.29 0.00087
326727.00 3795761.34 0.00084 326758.55
3795787.48 0.00067
326761.76 3795813.54 0.00060 326742.22
3795837.06 0.00060
326838.64 3795823.91 0.00049 326811.45
3795889.81 0.00047
326823.87 3795855.97 0.00046 326876.62
3795837.29 0.00043
326889.30 3795888.54 0.00040 326687.45
3795683.69 0.00157
326829.20 3795731.31 0.00068 326859.14
3795703.62 0.00065
326881.10 3795705.58 0.00067 326787.44
3795607.00 0.00172
326780.76 3795563.55 0.00185 326800.04
3795542.65 0.00188
326808.89 3795540.15 0.00188 326825.79
3795543.65 0.00187
326856.70 3795545.31 0.00181 326792.33
3795494.19 0.00193
326806.68 3795493.93 0.00190 326824.07
3795494.42 0.00186
326853.52 3795481.71 0.00184 326898.80
3795534.37 0.00173
325796.15 3795215.59 0.00439 325823.15

```
3795215.59        0.00433
         326012.15    3795215.59        0.00361                       326120.15
3795215.59        0.00323
         326147.15    3795215.59        0.00316                       325796.15
3795254.59        0.00521
         325823.15    3795254.59        0.00516                       325850.15
3795254.59        0.00507
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:23:00

                                  PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         325877.15    3795254.59        0.00497                       325904.15
3795254.59        0.00486
         325931.15    3795254.59        0.00468                       325958.15
3795254.59        0.00459
         325985.15    3795254.59        0.00450                       326012.15
3795254.59        0.00432
         326039.15    3795254.59        0.00421                       326066.15
3795254.59        0.00413
         326093.15    3795254.59        0.00405                       326120.15
3795254.59        0.00398
         326147.15    3795254.59        0.00390                       325796.15
3795293.59        0.00615
         325823.15    3795293.59        0.00606                       325850.15
3795293.59        0.00606
         325877.15    3795293.59        0.00607                       325904.15
3795293.59        0.00599
         325931.15    3795293.59        0.00578                       325958.15
3795293.59        0.00571
         325985.15    3795293.59        0.00544                       326012.15
3795293.59        0.00484
         326039.15    3795293.59        0.00475                       326066.15
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3795293.59 0.00450
326093.15 3795293.59 0.00431 326120.15
3795293.59 0.00424
326147.15 3795293.59 0.00417 325796.15
3795332.59 0.00655
325823.15 3795332.59 0.00656 325850.15
3795332.59 0.00738
325877.15 3795332.59 0.00744 325904.15
3795332.59 0.00760
325931.15 3795332.59 0.00740 325958.15
3795332.59 0.00717
325985.15 3795332.59 0.00598 326012.15
3795332.59 0.00559
326039.15 3795332.59 0.00546 326066.15
3795332.59 0.00539
326093.15 3795332.59 0.00532 326120.15
3795332.59 0.00530
326147.15 3795332.59 0.00524 325847.44
3795004.89 0.00186
325872.44 3795004.89 0.00181 325897.44
3795004.89 0.00177
325922.44 3795004.89 0.00172 325947.44
3795004.89 0.00168
325972.44 3795004.89 0.00164 325997.44
3795004.89 0.00159
326022.44 3795004.89 0.00156 326047.44
3795004.89 0.00153
326072.44 3795004.89 0.00150 326097.44
3795004.89 0.00148
326122.44 3795004.89 0.00145 326147.44
3795004.89 0.00143
325847.44 3795046.89 0.00215 325872.44
3795046.89 0.00210
325897.44 3795046.89 0.00205 325922.44
3795046.89 0.00199
325947.44 3795046.89 0.00194 325972.44
3795046.89 0.00188
325997.44 3795046.89 0.00183 326022.44
3795046.89 0.00179
326047.44 3795046.89 0.00175 326072.44
3795046.89 0.00172
326097.44 3795046.89 0.00169 326122.44
3795046.89 0.00164
326147.44 3795046.89 0.00160 325847.44
3795088.89 0.00252
325872.44 3795088.89 0.00245 325897.44
3795088.89 0.00239
325922.44 3795088.89 0.00233 325947.44
3795088.89 0.00224
325972.44 3795088.89 0.00217 325997.44

3795088.89 0.00212
  326022.44 3795088.89 0.00208 326047.44
3795088.89 0.00203
  326072.44 3795088.89 0.00199 326097.44
3795088.89 0.00194
  326122.44 3795088.89 0.00189 326147.44
3795088.89 0.00184
  325847.44 3795130.89 0.00297 325872.44
3795130.89 0.00289

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325897.44	3795130.89	0.00282	325922.44	3795130.89	0.00275
325947.44	3795130.89	0.00265	325972.44	3795130.89	0.00256
325997.44	3795130.89	0.00250	326022.44	3795130.89	0.00244
326047.44	3795130.89	0.00239	326072.44	3795130.89	0.00234
326097.44	3795130.89	0.00226	326122.44	3795130.89	0.00220
326147.44	3795130.89	0.00215	325847.44	3795172.89	0.00352
325872.44	3795172.89	0.00344	325897.44	3795172.89	0.00336
325922.44	3795172.89	0.00328	325947.44	3795172.89	0.00316
325972.44	3795172.89	0.00306	325997.44	3795172.89	0.00299
326022.44	3795172.89	0.00292	326047.44		

3795172.89 0.00285
326072.44 3795172.89 0.00274 325847.44
3795214.89 0.00423
325872.44 3795214.89 0.00414 325897.44
3795214.89 0.00405
325922.44 3795214.89 0.00396 325947.44
3795214.89 0.00383
325972.44 3795214.89 0.00371 325997.44
3795214.89 0.00364
326047.44 3795214.89 0.00340 326072.44
3795214.89 0.00333
326097.44 3795214.89 0.00327 326147.44
3795214.89 0.00315
326096.58 3795181.52 0.00279 326118.63
3795182.57 0.00275
326144.35 3795184.14 0.00272 325849.74
3794829.62 0.00110
325892.61 3794829.62 0.00106 325935.48
3794829.62 0.00102
325978.35 3794829.62 0.00100 326021.22
3794829.62 0.00097
326064.09 3794829.62 0.00094 325849.74
3794867.55 0.00122
325892.61 3794867.55 0.00117 325935.48
3794867.55 0.00113
325978.35 3794867.55 0.00110 326021.22
3794867.55 0.00107
326064.09 3794867.55 0.00104 325849.74
3794905.48 0.00136
325892.61 3794905.48 0.00130 325935.48
3794905.48 0.00125
325978.35 3794905.48 0.00121 326021.22
3794905.48 0.00118
326064.09 3794905.48 0.00114 325849.74
3794943.41 0.00153
325892.61 3794943.41 0.00146 325935.48
3794943.41 0.00140
325978.35 3794943.41 0.00135 326021.22
3794943.41 0.00131
326064.09 3794943.41 0.00126 325849.74
3794981.34 0.00172
325892.61 3794981.34 0.00164 325935.48
3794981.34 0.00158
325978.35 3794981.34 0.00152 326021.22
3794981.34 0.00145
326064.09 3794981.34 0.00141 325855.31
3794726.62 0.00085
325902.64 3794726.62 0.00082 325855.31
3794745.52 0.00089
325902.64 3794745.52 0.00086 325855.31

3794764.42   0.00093
         325902.64   3794764.42   0.00090   325855.31
3794783.32   0.00097
         325902.64   3794783.32   0.00094   325855.31
3794802.22   0.00102
         325902.64   3794802.22   0.00098   325855.31
3794821.12   0.00107
         325902.64   3794821.12   0.00103   326402.77
3795249.33   0.00251
         325380.55   3795776.17   0.00317   325415.88
3795858.35   0.00138

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                                ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         325409.93   3795994.97   0.00073   325416.60
3796058.09   0.00061
         325409.65   3796164.95   0.00025   325322.71
3796083.91   0.00035
         325297.93   3796111.07   0.00030   325246.73
3796076.15   0.00036
         325280.01   3796260.66   0.00006   325237.05
3796200.45   0.00008
         325163.03   3796071.11   0.00030   325215.74
3795991.41   0.00055
         325208.29   3795926.88   0.00082   325249.48
3795829.20   0.00122
         325171.49   3795759.19   0.00214   325129.24
3795756.40   0.00241
         325154.75   3795886.20   0.00106   325068.55
3795885.45   0.00073
         325047.86   3795938.00   0.00049   325045.84

3795982.69 0.00040
325071.95 3796106.74 0.00022 325060.64
3796290.38 0.00006
324903.71 3796379.80 0.00003 324787.84
3796510.42 0.00004
324916.48 3796618.27 0.00003 326492.96
3796356.32 0.00056
326552.73 3796900.01 0.00013 326599.30
3796893.60 0.00013
326617.42 3796889.51 0.00013 326639.41
3796881.91 0.00013
326663.73 3796864.08 0.00015 326679.47
3796885.20 0.00014
326697.81 3796898.31 0.00013 326712.34
3796916.60 0.00013
326726.62 3796931.14 0.00012 326742.23
3796948.02 0.00012
326756.58 3796965.73 0.00011 326772.07
3796973.30 0.00011
326785.22 3796890.50 0.00014 326800.10
3797003.95 0.00011
326817.96 3797014.86 0.00011 326813.74
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326833.92 3796853.59 0.00016 326848.61
3796873.43 0.00015
326864.19 3796885.12 0.00015 326877.92
3796901.20 0.00014
326893.85 3796917.11 0.00014 326904.49
3796938.77 0.00013
326907.64 3796966.22 0.00012 326914.45
3796991.73 0.00012
326921.92 3797038.42 0.00011 326596.56
3797264.10 0.00006
326829.98 3795735.43 0.00066 326866.53
3795706.88 0.00064
326831.50 3795646.57 0.00162 326872.90
3795644.95 0.00155
326898.91 3795644.66 0.00150 326924.66
3795650.14 0.00140
326949.68 3795646.43 0.00140 326975.59
3795638.84 0.00125
326917.88 3795602.78 0.00162 326918.63
3795584.13 0.00171
326921.61 3795563.48 0.00169 326917.18
3795537.15 0.00169
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326961.83 3795537.57 0.00161 326982.25

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         326992.41    3795539.09        0.00156                        327008.98
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         326987.68    3795580.97        0.00149                        327024.81
3795588.42        0.00136
         326925.07    3795485.95        0.00166                        326937.83
3795488.27        0.00164
         326956.45    3795489.28        0.00161                        326970.89
3795491.03        0.00159
         326989.96    3795487.68        0.00155                        325049.27
3794362.92        0.00082
         325086.77    3794362.92        0.00080                        325124.27
3794362.92        0.00078
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:23:00

                                  PAGE  20
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         325161.77    3794362.92        0.00076                        325199.27
3794362.92        0.00073
         325236.77    3794362.92        0.00071                        325274.27
3794362.92        0.00068
         325049.27    3794386.12        0.00086                        325086.77
3794386.12        0.00083
         325124.27    3794386.12        0.00081                        325161.77
3794386.12        0.00080
         325199.27    3794386.12        0.00077                        325236.77
3794386.12        0.00074
         325274.27    3794386.12        0.00071                        325049.27
3794409.32        0.00089
         325086.77    3794409.32        0.00087                        325124.27
3794409.32        0.00084
         325161.77    3794409.32        0.00083                        325199.27
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3794409.32 0.00080
325236.77 3794409.32 0.00078 325274.27
3794409.32 0.00075
325049.27 3794432.52 0.00093 325086.77
3794432.52 0.00090
325124.27 3794432.52 0.00088 325161.77
3794432.52 0.00086
325199.27 3794432.52 0.00084 325236.77
3794432.52 0.00081
325274.27 3794432.52 0.00079 325049.27
3794455.72 0.00096
325086.77 3794455.72 0.00094 325124.27
3794455.72 0.00092
325161.77 3794455.72 0.00090 325199.27
3794455.72 0.00087
325236.77 3794455.72 0.00085 325274.27
3794455.72 0.00082
325049.27 3794478.92 0.00100 325086.77
3794478.92 0.00099
325124.27 3794478.92 0.00096 325161.77
3794478.92 0.00094
325199.27 3794478.92 0.00091 325236.77
3794478.92 0.00089
325274.27 3794478.92 0.00086 325049.27
3794502.12 0.00104
325086.77 3794502.12 0.00103 325124.27
3794502.12 0.00100
325161.77 3794502.12 0.00098 325199.27
3794502.12 0.00095
325236.77 3794502.12 0.00092 325274.27
3794502.12 0.00090
325049.27 3794525.32 0.00109 325086.77
3794525.32 0.00107
325124.27 3794525.32 0.00105 325161.77
3794525.32 0.00102
325199.27 3794525.32 0.00099 325236.77
3794525.32 0.00096
325274.27 3794525.32 0.00094 325049.27
3794548.52 0.00113
325086.77 3794548.52 0.00112 325124.27
3794548.52 0.00109
325161.77 3794548.52 0.00106 325199.27
3794548.52 0.00103
325236.77 3794548.52 0.00101 325274.27
3794548.52 0.00098
325049.27 3794571.72 0.00118 325086.77
3794571.72 0.00117
325124.27 3794571.72 0.00114 325161.77
3794571.72 0.00111
325199.27 3794571.72 0.00108 325236.77

3794571.72   0.00105
         325274.27   3794571.72   0.00102   325049.27
3794594.92   0.00124
         325086.77   3794594.92   0.00122   325124.27
3794594.92   0.00119
         325161.77   3794594.92   0.00116   325199.27
3794594.92   0.00113
         325236.77   3794594.92   0.00110   325274.27
3794594.92   0.00107
         325049.27   3794618.12   0.00129   325086.77
3794618.12   0.00128
         325124.27   3794618.12   0.00125   325161.77
3794618.12   0.00121
         325199.27   3794618.12   0.00118   325236.77
3794618.12   0.00115

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 - - -

3794664.52 0.00127
325274.27 3794664.52 0.00124 325049.27
3794687.72 0.00148
325086.77 3794687.72 0.00147 325124.27
3794687.72 0.00143
325161.77 3794687.72 0.00140 325199.27
3794687.72 0.00136
325236.77 3794687.72 0.00133 325274.27
3794687.72 0.00131
324871.62 3794298.63 0.00082 324910.53
3794298.63 0.00080
324949.44 3794298.63 0.00079 324988.35
3794298.63 0.00077
324871.62 3794320.43 0.00084 324910.53
3794320.43 0.00083
324949.44 3794320.43 0.00081 324988.35
3794320.43 0.00079
324871.62 3794342.23 0.00087 324910.53
3794342.23 0.00086
324949.44 3794342.23 0.00084 324988.35
3794342.23 0.00082
324871.62 3794364.03 0.00091 324910.53
3794364.03 0.00089
324949.44 3794364.03 0.00087 324988.35
3794364.03 0.00085
324871.62 3794385.83 0.00095 324910.53
3794385.83 0.00093
324949.44 3794385.83 0.00090 324988.35
3794385.83 0.00089
324871.62 3794407.63 0.00098 324910.53
3794407.63 0.00096
324949.44 3794407.63 0.00094 324988.35
3794407.63 0.00092
324871.62 3794429.43 0.00102 324910.53
3794429.43 0.00099
324949.44 3794429.43 0.00097 324988.35
3794429.43 0.00096
324871.62 3794451.23 0.00105 324910.53
3794451.23 0.00103
324949.44 3794451.23 0.00101 324988.35
3794451.23 0.00099
324871.62 3794473.03 0.00109 324910.53
3794473.03 0.00107
324949.44 3794473.03 0.00105 324988.35
3794473.03 0.00103
324871.62 3794494.83 0.00114 324910.53
3794494.83 0.00111
324949.44 3794494.83 0.00109 324988.35
3794494.83 0.00107
324871.62 3794516.63 0.00119 324910.53

3794516.63   0.00116
         324949.44   3794516.63   0.00113   324988.35
3794516.63   0.00112
         324871.62   3794538.43   0.00123   324910.53
3794538.43   0.00120
         324949.44   3794538.43   0.00118   324988.35
3794538.43   0.00116
         324871.62   3794560.23   0.00128   324910.53
3794560.23   0.00125
         324949.44   3794560.23   0.00123   324988.35
3794560.23   0.00121
         324871.62   3794582.03   0.00133   324910.53
3794582.03   0.00130
         324949.44   3794582.03   0.00128   324988.35
3794582.03   0.00126
         324871.62   3794603.83   0.00139   324910.53
3794603.83   0.00135

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                               ** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3794669.23 0.00153
324949.44 3794669.23 0.00152 324988.35
3794669.23 0.00148
324871.62 3794691.03 0.00162 324910.53
3794691.03 0.00159
324949.44 3794691.03 0.00159 324988.35
3794691.03 0.00155
324449.04 3794074.69 0.00072 324485.99
3794074.69 0.00070
324522.94 3794074.69 0.00069 324559.89
3794074.69 0.00068
324596.84 3794074.69 0.00066 324633.79
3794074.69 0.00065
324670.74 3794074.69 0.00063 324707.69
3794074.69 0.00062
324744.64 3794074.69 0.00061 324781.59
3794074.69 0.00061
324449.04 3794106.66 0.00074 324485.99
3794106.66 0.00073
324522.94 3794106.66 0.00072 324559.89
3794106.66 0.00071
324596.84 3794106.66 0.00070 324633.79
3794106.66 0.00068
324670.74 3794106.66 0.00067 324707.69
3794106.66 0.00066
324744.64 3794106.66 0.00065 324781.59
3794106.66 0.00065
324449.04 3794138.63 0.00078 324485.99
3794138.63 0.00077
324522.94 3794138.63 0.00075 324559.89
3794138.63 0.00074
324596.84 3794138.63 0.00073 324633.79
3794138.63 0.00072
324670.74 3794138.63 0.00071 324707.69
3794138.63 0.00070
324744.64 3794138.63 0.00069 324781.59
3794138.63 0.00068
324449.04 3794170.60 0.00081 324485.99
3794170.60 0.00080
324522.94 3794170.60 0.00079 324559.89
3794170.60 0.00078
324596.84 3794170.60 0.00077 324633.79
3794170.60 0.00076
324670.74 3794170.60 0.00074 324707.69
3794170.60 0.00074
324744.64 3794170.60 0.00072 324781.59
3794170.60 0.00071
324449.04 3794202.57 0.00084 324485.99
3794202.57 0.00083
324522.94 3794202.57 0.00082 324559.89

3794202.57   0.00082
         324596.84   3794202.57   0.00081   324633.79
3794202.57   0.00079
         324670.74   3794202.57   0.00079   324707.69
3794202.57   0.00077
         324744.64   3794202.57   0.00075   324781.59
3794202.57   0.00075
         324449.04   3794234.54   0.00088   324485.99
3794234.54   0.00087
         324522.94   3794234.54   0.00086   324559.89
3794234.54   0.00086
         324596.84   3794234.54   0.00084   324633.79
3794234.54   0.00083
         324670.74   3794234.54   0.00082   324707.69
3794234.54   0.00081
         324744.64   3794234.54   0.00079   324781.59
3794234.54   0.00078
         324449.04   3794266.51   0.00092   324485.99
3794266.51   0.00091

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                               ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 - - -

3794298.48 0.00095
324522.94 3794298.48 0.00095 324559.89
3794298.48 0.00094
324596.84 3794298.48 0.00092 324633.79
3794298.48 0.00092
324670.74 3794298.48 0.00091 324707.69
3794298.48 0.00089
324744.64 3794298.48 0.00087 324781.59
3794298.48 0.00086
324449.04 3794330.45 0.00100 324485.99
3794330.45 0.00099
324522.94 3794330.45 0.00099 324559.89
3794330.45 0.00098
324596.84 3794330.45 0.00097 324633.79
3794330.45 0.00097
324670.74 3794330.45 0.00095 324707.69
3794330.45 0.00093
324744.64 3794330.45 0.00091 324781.59
3794330.45 0.00090
324449.04 3794362.42 0.00104 324485.99
3794362.42 0.00104
324522.94 3794362.42 0.00104 324559.89
3794362.42 0.00103
324596.84 3794362.42 0.00101 324633.79
3794362.42 0.00101
324670.74 3794362.42 0.00100 324707.69
3794362.42 0.00098
324744.64 3794362.42 0.00097 324781.59
3794362.42 0.00095
324449.04 3794394.39 0.00108 324485.99
3794394.39 0.00109
324522.94 3794394.39 0.00108 324559.89
3794394.39 0.00107
324596.84 3794394.39 0.00106 324633.79
3794394.39 0.00106
324670.74 3794394.39 0.00105 324707.69
3794394.39 0.00103
324744.64 3794394.39 0.00102 324781.59
3794394.39 0.00100
324449.04 3794426.36 0.00113 324485.99
3794426.36 0.00114
324522.94 3794426.36 0.00113 324559.89
3794426.36 0.00112
324596.84 3794426.36 0.00111 324633.79
3794426.36 0.00111
324670.74 3794426.36 0.00110 324707.69
3794426.36 0.00108
324744.64 3794426.36 0.00107 324781.59
3794426.36 0.00106
324449.04 3794458.33 0.00119 324485.99

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3794458.33        0.00119
         324522.94    3794458.33        0.00118                        324559.89
3794458.33        0.00117
         324596.84    3794458.33        0.00117                        324633.79
3794458.33        0.00117
         324670.74    3794458.33        0.00115                        324707.69
3794458.33        0.00114
         324744.64    3794458.33        0.00114                        324781.59
3794458.33        0.00111
         324449.04    3794490.30        0.00124                        324485.99
3794490.30        0.00124
         324522.94    3794490.30        0.00123                        324559.89
3794490.30        0.00123
         324596.84    3794490.30        0.00123                        324633.79
3794490.30        0.00123
         324670.74    3794490.30        0.00121                        324707.69
3794490.30        0.00120
         324744.64    3794490.30        0.00120                        324781.59
3794490.30        0.00118
         324449.04    3794522.27        0.00129                        324485.99
3794522.27        0.00129
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:23:00

                                   PAGE  24
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         324522.94    3794522.27        0.00129                        324559.89
3794522.27        0.00128
         324596.84    3794522.27        0.00129                        324633.79
3794522.27        0.00129
         324670.74    3794522.27        0.00127                        324707.69
3794522.27        0.00126
         324744.64    3794522.27        0.00126                        324781.59
```

3794522.27 0.00124
324449.04 3794554.24 0.00135 324485.99 3794554.24 0.00135
324522.94 3794554.24 0.00135 324559.89 3794554.24 0.00135
324596.84 3794554.24 0.00136 324633.79 3794554.24 0.00135
324670.74 3794554.24 0.00134 324707.69 3794554.24 0.00133
324744.64 3794554.24 0.00133 324781.59 3794554.24 0.00131
324449.04 3794586.21 0.00141 324485.99 3794586.21 0.00141
324522.94 3794586.21 0.00141 324559.89 3794586.21 0.00142
324596.84 3794586.21 0.00142 324633.79 3794586.21 0.00142
324670.74 3794586.21 0.00141 324707.69 3794586.21 0.00140
324744.64 3794586.21 0.00140 324781.59 3794586.21 0.00138
324449.04 3794618.18 0.00147 324485.99 3794618.18 0.00147
324522.94 3794618.18 0.00147 324559.89 3794618.18 0.00148
324596.84 3794618.18 0.00149 324633.79 3794618.18 0.00149
324670.74 3794618.18 0.00148 324707.69 3794618.18 0.00149
324744.64 3794618.18 0.00148 324781.59 3794618.18 0.00146
324449.04 3794650.15 0.00154 324485.99 3794650.15 0.00154
324522.94 3794650.15 0.00154 324559.89 3794650.15 0.00155
324596.84 3794650.15 0.00156 324633.79 3794650.15 0.00156
324670.74 3794650.15 0.00156 324707.69 3794650.15 0.00157
324744.64 3794650.15 0.00156 324781.59 3794650.15 0.00154
324449.04 3794682.12 0.00160 324485.99 3794682.12 0.00161
324522.94 3794682.12 0.00161 324559.89 3794682.12 0.00164
324596.84 3794682.12 0.00164 324633.79 3794682.12 0.00164
324670.74 3794682.12 0.00164 324707.69 3794682.12 0.00165
324744.64 3794682.12 0.00164 324781.59

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3794682.12        0.00163
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3795022.06        0.00125
         326641.98    3795022.06        0.00122                        326547.36
3795042.46        0.00133
         326594.67    3795042.46        0.00129                        326641.98
3795042.46        0.00128
         326547.36    3795062.86        0.00140                        326594.67
3795062.86        0.00134
         326641.98    3795062.86        0.00135                        326547.36
3795083.26        0.00147
         326594.67    3795083.26        0.00141                        326641.98
3795083.26        0.00142
         326547.36    3795103.66        0.00152                        326594.67
3795103.66        0.00149
         326641.98    3795103.66        0.00149                        326547.36
3795124.06        0.00160
         326594.67    3795124.06        0.00157                        326641.98
3795124.06        0.00157
         326547.36    3795144.46        0.00169                        326594.67
3795144.46        0.00166
         326641.98    3795144.46        0.00166                        326547.36
3795164.86        0.00176
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:23:00

                                  PAGE  25
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         326594.67    3795164.86        0.00176                        326641.98
3795164.86        0.00175
         326547.36    3795185.26        0.00186                        326594.67
3795185.26        0.00186
         326641.98    3795185.26        0.00184                        326547.36
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3795205.66 0.00198
326594.67 3795205.66 0.00197 326641.98
3795205.66 0.00192
326547.36 3795226.06 0.00211 326594.67
3795226.06 0.00208
326641.98 3795226.06 0.00197 326547.36
3795246.46 0.00224
326594.67 3795246.46 0.00219 326641.98
3795246.46 0.00205
326690.43 3795243.37 0.00198 326688.67
3795223.05 0.00189
326686.02 3795005.77 0.00118 326686.02
3795033.66 0.00125
326686.02 3795061.55 0.00133 326686.02
3795089.44 0.00142
326686.02 3795117.33 0.00152 326686.02
3795145.22 0.00163
326686.02 3795173.11 0.00173 326686.02
3795201.00 0.00179
326832.80 3795263.26 0.00180 326849.67
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3795263.26 0.00167
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3795263.26 0.00162
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3795263.26 0.00151
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327075.72 3795180.47 0.00120 327036.85
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327075.72 3795200.03 0.00123 327036.85
3795219.59 0.00131
327075.72 3795219.59 0.00125 327036.85
3795239.15 0.00132
327075.72 3795239.15 0.00128 327036.85
3795258.71 0.00134
327075.72 3795258.71 0.00130 327036.85
3795278.27 0.00136
327075.72 3795278.27 0.00132 326840.04
3795223.24 0.00169
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3795222.74 0.00159
326929.68 3795223.69 0.00151 326932.86

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3795177.58   0.00134
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3795149.77   0.00127
         326997.48   3795176.61   0.00132   326995.60
3795193.01   0.00135
         326996.92   3795215.78   0.00138   326916.97
3795152.19   0.00140
         326901.95   3795150.46   0.00141   326884.24
3795164.40   0.00145
         326867.32   3795151.32   0.00143   326873.22
3795163.36   0.00146
         326845.53   3795152.12   0.00148   326824.91
3795151.45   0.00153
         326826.60   3795170.60   0.00159   326840.50
3795180.17   0.00157
         326799.39   3795147.97   0.00154   326776.77
3795147.89   0.00155
         326738.03   3795152.73   0.00158   326781.33
3795110.75   0.00143
         326806.10   3795109.04   0.00140   326804.45
3795090.73   0.00135
         326781.78   3795086.72   0.00136   326787.40
3795061.79   0.00128

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

3795093.80   0.00119
         326972.85   3795082.37   0.00117   326995.41
3795072.53   0.00115
         326993.23   3795060.01   0.00112   326984.60
3795040.80   0.00109
         326981.66   3795027.22   0.00107   327041.48
3795102.15   0.00117
         327065.19   3795095.75   0.00110   327040.88
3795076.27   0.00113
         327061.24   3795058.32   0.00106   327037.82
3795061.09   0.00111
         327035.65   3795040.58   0.00108   327058.94
3795038.41   0.00103
         327051.53   3795017.85   0.00102   327033.29
3795021.71   0.00105
         326826.26   3795110.80   0.00136   326843.29
3795110.80   0.00135
         326860.32   3795110.80   0.00134   326877.35
3795110.80   0.00133
         326894.38   3795110.80   0.00132   326911.41
3795110.80   0.00131
         326928.44   3795110.80   0.00129   326945.47
3795110.80   0.00124
         326819.99   3795048.86   0.00120   326838.19
3795048.86   0.00119
         326856.39   3795048.86   0.00119   326874.59
3795048.86   0.00118
         326892.79   3795048.86   0.00118   326910.99
3795048.86   0.00118
         326929.19   3795048.86   0.00115   326947.39
3795048.86   0.00112
         325652.30   3795689.46   0.00329   325747.75
3795796.21   0.00278
         326251.13   3796043.75   0.00215   326263.91
3795852.39   0.00252
         326170.84   3795648.38   0.00314   326148.08
3795505.91   0.00389
         325511.50   3795586.39   0.00257

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                               *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                   INCLUDING SOURCE(S):   PAREA1   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326345.95	3795634.03	0.01735	(12012517)	326414.12	3795779.67	0.01839	(12012517)
326435.80	3795773.48	0.01922	(12012517)	326458.31	3795772.83	0.01937	(12012517)
326424.24	3795858.77	0.02135	(11012717)	326400.20	3795799.84	0.01755	(11012717)
326400.93	3795767.87	0.01793	(12012517)	326424.24	3795858.77	0.02135	(11012717)
326611.84	3795762.99	0.01831	(12012517)	326611.84	3795762.99	0.01831	(12012517)
326610.94	3795777.66	0.01820	(12012517)	326605.86	3795792.89	0.01820	(12012517)
326623.93	3795809.00	0.01747	(10021408)	326627.22	3795836.58	0.01715	(09052906)
326640.09	3795836.58	0.01695	(09052906)	326654.45	3795868.68	0.01590	(10060101)
326665.45	3795883.13	0.01575	(10060101)	326588.30	3795867.62	0.01546	(12012517)
326640.52	3795951.95	0.01714	(11012717)	326658.45	3795975.58	0.01770	(11012717)
326759.52	3796019.28	0.01581	(11012717)	326763.60	3796031.85	0.01597	(11012717)
326775.94	3796048.05	0.01597	(11012717)	326774.23	3796062.19	0.01613	(11012717)
326801.34	3796078.38	0.01579	(11012717)	326809.46	3796094.93	0.01560	(11012717)
326736.80	3796108.96	0.01551	(11012717)	326835.84	3796126.62	0.01488	(11012717)
326836.27	3796140.13	0.01472	(11012717)	326800.95	3796123.31	0.01550	(11012717)
326762.39	3796138.51	0.01448	(11012717)	326766.63	3796155.18	0.01364	(11012717)
326774.14	3796169.68	0.01315	(11012717)	326798.07	3796201.57	0.01220	(11012717)
326808.84	3796229.51	0.01112	(11012717)	326880.95	3796184.59	0.01338	(11012717)
326915.56	3796260.01	0.01183	(11012717)	326941.07	3796261.11	0.01167	(11012717)
326958.24	3796277.25	0.01136	(11012717)	326964.89			

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 3796291.08         0.01103  (11012717)
       326984.47   3796322.92         0.01057  (11012717)                326993.31
 3796349.42         0.01025  (11012717)
       326993.49   3796365.88         0.01009  (11012717)                327007.03
 3796382.47         0.00993  (11012717)
       326972.07   3796390.18         0.00958  (11012717)                326996.78
 3796414.54         0.00945  (11012717)
       326693.51   3795789.66         0.01334  (12012517)                326695.37
 3795771.29         0.01361  (12012517)
       326727.00   3795761.34         0.01338  (12012517)                326758.55
 3795787.48         0.01166  (12012517)
       326761.76   3795813.54         0.01027  (12012517)                326742.22
 3795837.06         0.01022  (09052906)
       326838.64   3795823.91         0.00912  (09052906)                326811.45
 3795889.81         0.00848  (09052906)
       326823.87   3795855.97         0.00854  (09052906)                326876.62
 3795837.29         0.00842  (09052906)
       326889.30   3795888.54         0.00803  (09052906)                326687.45
 3795683.69         0.02057  (10021408)
       326829.20   3795731.31         0.01219  (12012517)                326859.14
 3795703.62         0.01204  (12012517)
       326881.10   3795705.58         0.01219  (12012517)                326787.44
 3795607.00         0.02653  (13010108)
       326780.76   3795563.55         0.02912  (13010108)                326800.04
 3795542.65         0.03110  (12012024)
       326808.89   3795540.15         0.03180  (12012024)                326825.79
 3795543.65         0.03226  (12012024)
       326856.70   3795545.31         0.03263  (13010108)                326792.33
 3795494.19         0.03676  (09012107)
       326806.68   3795493.93         0.03672  (09012107)                326824.07
 3795494.42         0.03651  (09012107)
       326853.52   3795481.71         0.03823  (09012107)                326898.80
 3795534.37         0.03277  (09012107)
       325796.15   3795215.59         0.08405  (12123121)                325823.15
 3795215.59         0.08459  (10013003)
       326012.15   3795215.59         0.08175  (11011303)                326120.15
 3795215.59         0.08041  (11012807)
       326147.15   3795215.59         0.08129  (11012807)                325796.15
 3795254.59         0.08774  (12020205)
       325823.15   3795254.59         0.08839  (12123121)                325850.15
 3795254.59         0.08796  (10013003)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:23:00

                                   PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
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VALUES FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

```
 3795332.59         0.06977  (13122406)
       326147.15   3795332.59        0.07071  (10020123)               325847.44
 3795004.89         0.06863  (09121401)
       325872.44   3795004.89        0.06845  (13122103)               325897.44
 3795004.89         0.06826  (13122407)
       325922.44   3795004.89        0.06789  (13122407)               325947.44
 3795004.89         0.06777  (13013002)
       325972.44   3795004.89        0.06746  (09022002)               325997.44
 3795004.89         0.06713  (10122722)
       326022.44   3795004.89        0.06695  (09120405)               326047.44
 3795004.89         0.06721  (12122704)
       326072.44   3795004.89        0.06750  (11120907)               326097.44
 3795004.89         0.06778  (13122706)
       326122.44   3795004.89        0.06803  (13122706)               326147.44
 3795004.89         0.06781  (11011303)
       325847.44   3795046.89        0.07117  (10123020)               325872.44
 3795046.89         0.07096  (09121401)
       325897.44   3795046.89        0.07075  (13122103)               325922.44
 3795046.89         0.07053  (13122407)
       325947.44   3795046.89        0.07013  (09022002)               325972.44
 3795046.89         0.06974  (10122722)
       325997.44   3795046.89        0.06909  (09120405)               326022.44
 3795046.89         0.06939  (12122704)
       326047.44   3795046.89        0.06970  (11120907)               326072.44
 3795046.89         0.07001  (13122706)
       326097.44   3795046.89        0.07027  (13122706)               326122.44
 3795046.89         0.06971  (11011303)
       326147.44   3795046.89        0.06884  (11011303)               325847.44
 3795088.89         0.07394  (11122506)
       325872.44   3795088.89        0.07370  (10123020)               325897.44
 3795088.89         0.07347  (09121401)
       325922.44   3795088.89        0.07323  (13122103)               325947.44
 3795088.89         0.07177  (10122722)
       325972.44   3795088.89        0.07140  (09120405)               325997.44
 3795088.89         0.07173  (12122704)
       326022.44   3795088.89        0.07207  (11120907)               326047.44
 3795088.89         0.07241  (13122706)
       326072.44   3795088.89        0.07270  (13122706)               326097.44
 3795088.89         0.07257  (11011303)
       326122.44   3795088.89        0.07184  (11011303)               326147.44
 3795088.89         0.07149  (11121424)
       325847.44   3795130.89        0.07701  (11121006)               325872.44
 3795130.89         0.07671  (11122506)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:23:00

                                  PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325897.44	3795130.89	0.07645	(10123020)	325922.44	3795130.89	0.07618	(09121401)
325947.44	3795130.89	0.07474	(09120405)	325972.44	3795130.89	0.07427	(12122704)
325997.44	3795130.89	0.07464	(11120907)	326022.44	3795130.89	0.07502	(13122706)
326047.44	3795130.89	0.07534	(11011303)	326072.44	3795130.89	0.07579	(11011303)
326097.44	3795130.89	0.07444	(11011303)	326122.44	3795130.89	0.07400	(11121424)
326147.44	3795130.89	0.07441	(11121424)	325847.44	3795172.89	0.08033	(11121006)
325872.44	3795172.89	0.08005	(11121006)	325897.44	3795172.89	0.07972	(11122506)
325922.44	3795172.89	0.07942	(10123020)	325947.44	3795172.89	0.07796	(12122704)
325972.44	3795172.89	0.07742	(11120907)	325997.44	3795172.89	0.07785	(13122706)
326022.44	3795172.89	0.07815	(11011303)	326047.44	3795172.89	0.07820	(11011303)
326072.44	3795172.89	0.07656	(11121424)	325847.44	3795214.89	0.08410	(13010624)
325872.44	3795214.89	0.08366	(11121006)	325897.44	3795214.89	0.08334	(11121006)
325922.44	3795214.89	0.08297	(11122506)	325947.44	3795214.89	0.08151	(11120907)
325972.44	3795214.89	0.08091	(13122706)	325997.44	3795214.89	0.08137	(11011303)
326047.44	3795214.89	0.07905	(11121424)	326072.44	3795214.89	0.07957	(11121424)
326097.44	3795214.89	0.07998	(11121424)	326147.44	3795214.89	0.08124	(11012807)
326096.58	3795181.52	0.07735	(11121424)	326118.63	3795182.57	0.07777	(11121424)
326144.35	3795184.14	0.07822	(11012807)	325849.74			

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 3794829.62         0.06068  (13122407)
       325892.61   3794829.62        0.06061  (13013002)               325935.48
 3794829.62         0.05981  (11012303)
       325978.35   3794829.62        0.05945  (10021506)               326021.22
 3794829.62         0.05965  (10120705)
       326064.09   3794829.62        0.05940  (09022002)               325849.74
 3794867.55         0.06251  (13122407)
       325892.61   3794867.55        0.06154  (13013002)               325935.48
 3794867.55         0.06119  (13013002)
       325978.35   3794867.55        0.06098  (10021506)               326021.22
 3794867.55         0.06131  (09022002)
       326064.09   3794867.55        0.06113  (10122722)               325849.74
 3794905.48         0.06428  (13122407)
       325892.61   3794905.48        0.06313  (13013002)               325935.48
 3794905.48         0.06290  (13013002)
       325978.35   3794905.48        0.06265  (10120705)               326021.22
 3794905.48         0.06294  (09022002)
       326064.09   3794905.48        0.06228  (09120405)               325849.74
 3794943.41         0.06597  (13122103)
       325892.61   3794943.41        0.06489  (13122407)               325935.48
 3794943.41         0.06469  (13013002)
       325978.35   3794943.41        0.06456  (09022002)               326021.22
 3794943.41         0.06489  (10122722)
       326064.09   3794943.41        0.06412  (12122704)               325849.74
 3794981.34         0.06745  (09121401)
       325892.61   3794981.34        0.06698  (13122407)               325935.48
 3794981.34         0.06656  (13013002)
       325978.35   3794981.34        0.06660  (09022002)               326021.22
 3794981.34         0.06593  (10122722)
       326064.09   3794981.34        0.06608  (12122704)               325855.31
 3794726.62         0.05675  (13013002)
       325902.64   3794726.62        0.05660  (11012303)               325855.31
 3794745.52         0.05742  (13013002)
       325902.64   3794745.52        0.05727  (11012303)               325855.31
 3794764.42         0.05811  (13013002)
       325902.64   3794764.42        0.05796  (13013002)               325855.31
 3794783.32         0.05881  (13013002)
       325902.64   3794783.32        0.05870  (13013002)               325855.31
 3794802.22         0.05953  (13013002)
       325902.64   3794802.22        0.05946  (13013002)               325855.31
 3794821.12         0.06027  (13013002)
       325902.64   3794821.12        0.06019  (13013002)               326402.77
 3795249.33         0.07038  (12122705)
       325380.55   3795776.17        0.02960  (09120508)               325415.88
 3795858.35         0.01898  (09120508)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       16:23:00
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325409.93	3795994.97	0.01500	(09012317)	325416.60	3796058.09	0.01472	(13012417)
325409.65	3796164.95	0.01442	(13012417)	325322.71	3796083.91	0.01461	(09012317)
325297.93	3796111.07	0.01592	(09012317)	325246.73	3796076.15	0.01604	(09012317)
325280.01	3796260.66	0.00998	(13012417)	325237.05	3796200.45	0.00923	(09012317)
325163.03	3796071.11	0.01495	(09012317)	325215.74	3795991.41	0.01570	(09012317)
325208.29	3795926.88	0.01596	(09012317)	325249.48	3795829.20	0.01957	(09120508)
325171.49	3795759.19	0.02718	(12121219)	325129.24	3795756.40	0.03327	(12041020)
325154.75	3795886.20	0.01857	(12032407)	325068.55	3795885.45	0.01534	(12032407)
325047.86	3795938.00	0.01326	(09012317)	325045.84	3795982.69	0.01343	(09012317)
325071.95	3796106.74	0.01413	(09012317)	325060.64	3796290.38	0.00889	(09012317)
324903.71	3796379.80	0.00555	(11032418)	324787.84	3796510.42	0.00630	(12021301)
324916.48	3796618.27	0.00728	(13012417)	326492.96	3796356.32	0.01063	(13031518)
326552.73	3796900.01	0.00442	(13040207)	326599.30	3796893.60	0.00442	(13040207)
326617.42	3796889.51	0.00444	(13040207)	326639.41	3796881.91	0.00459	(13040207)
326663.73	3796864.08	0.00485	(13040207)	326679.47	3796885.20	0.00475	(13040207)
326697.81	3796898.31	0.00466	(13040207)	326712.34	3796916.60	0.00448	(13040207)
326726.62	3796931.14	0.00434	(13040207)	326742.23			

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 3796948.02         0.00416  (13040207)
       326756.58   3796965.73         0.00406  (13040207)                326772.07
 3796973.30         0.00408  (13040207)
       326785.22   3796890.50         0.00465  (09062906)                326800.10
 3797003.95         0.00413  (13040207)
       326817.96   3797014.86         0.00411  (13040207)                326813.74
 3796843.93         0.00536  (10121904)
       326833.92   3796853.59         0.00525  (10121904)                326848.61
 3796873.43         0.00511  (10121904)
       326864.19   3796885.12         0.00507  (10121904)                326877.92
 3796901.20         0.00500  (10121904)
       326893.85   3796917.11         0.00481  (10121904)                326904.49
 3796938.77         0.00459  (09062906)
       326907.64   3796966.22         0.00450  (09062906)                326914.45
 3796991.73         0.00433  (09062906)
       326921.92   3797038.42         0.00398  (09062906)                326596.56
 3797264.10         0.00280  (12012617)
       326829.98   3795735.43         0.01201  (12012517)                326866.53
 3795706.88         0.01192  (12012517)
       326831.50   3795646.57         0.02595  (13012604)                326872.90
 3795644.95         0.02604  (13012604)
       326898.91   3795644.66         0.02609  (10021408)                326924.66
 3795650.14         0.02492  (10021408)
       326949.68   3795646.43         0.02579  (10021408)                326975.59
 3795638.84         0.02311  (10021408)
       326917.88   3795602.78         0.03019  (13012604)                326918.63
 3795584.13         0.03271  (10022004)
       326921.61   3795563.48         0.03256  (10022004)                326917.18
 3795537.15         0.03263  (13010108)
       326934.99   3795592.17         0.03061  (13012604)                326951.04
 3795599.47         0.02903  (13012604)
       326950.26   3795555.95         0.03253  (10022004)                326951.59
 3795535.07         0.03260  (09012107)
       326961.83   3795537.57         0.03242  (09012107)                326982.25
 3795538.33         0.03232  (09012107)
       326992.41   3795539.09         0.03230  (10022004)                327008.98
 3795535.58         0.03242  (09012107)
       326987.68   3795580.97         0.02990  (13012604)                327024.81
 3795588.42         0.02736  (13012604)
       326925.07   3795485.95         0.03587  (09012107)                326937.83
 3795488.27         0.03572  (09012107)
       326956.45   3795489.28         0.03555  (09012107)                326970.89
 3795491.03         0.03538  (09012107)
       326989.96   3795487.68         0.03533  (09012107)                325049.27
 3794362.92         0.04414  (13120620)
       325086.77   3794362.92         0.04465  (13120620)                325124.27
 3794362.92         0.04495  (09021803)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325161.77	3794362.92	0.04532	(13021702)	325199.27	3794362.92	0.04550	(12122922)
325236.77	3794362.92	0.04545	(12020205)	325274.27	3794362.92	0.04558	(12123121)
325049.27	3794386.12	0.04455	(12021724)	325086.77	3794386.12	0.04500	(13120620)
325124.27	3794386.12	0.04548	(09021803)	325161.77	3794386.12	0.04643	(13021702)
325199.27	3794386.12	0.04666	(12122922)	325236.77	3794386.12	0.04600	(10010204)
325274.27	3794386.12	0.04605	(12020205)	325049.27	3794409.32	0.04504	(12021724)
325086.77	3794409.32	0.04525	(13120620)	325124.27	3794409.32	0.04589	(13120620)
325161.77	3794409.32	0.04687	(09021803)	325199.27	3794409.32	0.04710	(12122922)
325236.77	3794409.32	0.04711	(10010204)	325274.27	3794409.32	0.04726	(12020205)
325049.27	3794432.52	0.04539	(12021724)	325086.77	3794432.52	0.04560	(12021724)
325124.27	3794432.52	0.04670	(13120620)	325161.77	3794432.52	0.04736	(09021803)
325199.27	3794432.52	0.04764	(13021702)	325236.77	3794432.52	0.04784	(12122922)
325274.27	3794432.52	0.04798	(10010204)	325049.27	3794455.72	0.04574	(10012707)
325086.77	3794455.72	0.04640	(12021724)	325124.27	3794455.72	0.04735	(13120620)
325161.77	3794455.72	0.04776	(13120620)	325199.27	3794455.72	0.04807	(13021702)
325236.77	3794455.72	0.04835	(12122922)	325274.27			

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3794455.72         0.04854  (10010204)
       325049.27   3794478.92         0.04610  (10012707)                325086.77
3794478.92         0.04741  (12021724)
       325124.27   3794478.92         0.04766  (12021724)                325161.77
3794478.92         0.04827  (13120620)
       325199.27   3794478.92         0.04860  (09021803)                325236.77
3794478.92         0.04885  (13021702)
       325274.27   3794478.92         0.04902  (10010204)                325049.27
3794502.12         0.04642  (10010424)
       325086.77   3794502.12         0.04779  (10012707)                325124.27
3794502.12         0.04828  (12021724)
       325161.77   3794502.12         0.04865  (13120620)                325199.27
3794502.12         0.04905  (09021803)
       325236.77   3794502.12         0.04938  (13021702)                325274.27
3794502.12         0.04961  (12122922)
       325049.27   3794525.32         0.04678  (10010424)                325086.77
3794525.32         0.04819  (10012707)
       325124.27   3794525.32         0.04873  (12021724)                325161.77
3794525.32         0.04890  (12021724)
       325199.27   3794525.32         0.04957  (13120620)                325236.77
3794525.32         0.04988  (09021803)
       325274.27   3794525.32         0.05012  (12122922)                325049.27
3794548.52         0.04699  (10010424)
       325086.77   3794548.52         0.04856  (10010424)                325124.27
3794548.52         0.04912  (10012707)
       325161.77   3794548.52         0.04958  (12021724)                325199.27
3794548.52         0.05003  (13120620)
       325236.77   3794548.52         0.05042  (09021803)                325274.27
3794548.52         0.05072  (13021702)
       325049.27   3794571.72         0.04727  (10011404)                325086.77
3794571.72         0.04894  (10010424)
       325124.27   3794571.72         0.04955  (10012707)                325161.77
3794571.72         0.05009  (12021724)
       325199.27   3794571.72         0.05033  (13120620)                325236.77
3794571.72         0.05093  (13120620)
       325274.27   3794571.72         0.05124  (13021702)                325049.27
3794594.92         0.04779  (11121006)
       325086.77   3794594.92         0.04917  (10010424)                325124.27
3794594.92         0.04995  (10010424)
       325161.77   3794594.92         0.05049  (10012707)                325199.27
3794594.92         0.05096  (12021724)
       325236.77   3794594.92         0.05148  (13120620)                325274.27
3794594.92         0.05185  (09021803)
       325049.27   3794618.12         0.04859  (13010624)                325086.77
3794618.12         0.04955  (10011404)
       325124.27   3794618.12         0.05034  (10010424)                325161.77
3794618.12         0.05096  (10012707)
       325199.27   3794618.12         0.05153  (12021724)                325236.77
3794618.12         0.05186  (13120620)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
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 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                            *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                INCLUDING SOURCE(S):   PAREA1   ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
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3794320.43        0.04228  (12021724)
       324871.62   3794342.23        0.04146  (13010624)                324910.53
3794342.23        0.04193  (10010424)
       324949.44   3794342.23        0.04228  (10012707)                324988.35
3794342.23        0.04262  (12021724)
       324871.62   3794364.03        0.04217  (10013003)                324910.53
3794364.03        0.04248  (13010624)
       324949.44   3794364.03        0.04253  (10012707)                324988.35
3794364.03        0.04300  (12021724)
       324871.62   3794385.83        0.04333  (10013003)                324910.53
3794385.83        0.04304  (13010624)
       324949.44   3794385.83        0.04281  (10010424)                324988.35
3794385.83        0.04378  (10012707)
       324871.62   3794407.63        0.04394  (10013003)                324910.53
3794407.63        0.04360  (13010624)
       324949.44   3794407.63        0.04309  (10010424)                324988.35
3794407.63        0.04409  (10012707)
       324871.62   3794429.43        0.04453  (12123121)                324910.53
3794429.43        0.04415  (13010624)
       324949.44   3794429.43        0.04354  (13010624)                324988.35
3794429.43        0.04438  (10010424)
       324871.62   3794451.23        0.04517  (12123121)                324910.53
3794451.23        0.04476  (10013003)
       324949.44   3794451.23        0.04421  (13010624)                324988.35
3794451.23        0.04473  (10010424)
       324871.62   3794473.03        0.04582  (12123121)                324910.53
3794473.03        0.04539  (10013003)
       324949.44   3794473.03        0.04513  (13010624)                324988.35
3794473.03        0.04516  (10010424)
       324871.62   3794494.83        0.04665  (12020205)                324910.53
3794494.83        0.04601  (10013003)
       324949.44   3794494.83        0.04580  (13010624)                324988.35
3794494.83        0.04580  (13010624)
       324871.62   3794516.63        0.04751  (12020205)                324910.53
3794516.63        0.04670  (12123121)
       324949.44   3794516.63        0.04642  (10013003)                324988.35
3794516.63        0.04650  (13010624)
       324871.62   3794538.43        0.04826  (12020205)                324910.53
3794538.43        0.04741  (12123121)
       324949.44   3794538.43        0.04711  (10013003)                324988.35
3794538.43        0.04720  (13010624)
       324871.62   3794560.23        0.04906  (10010204)                324910.53
3794560.23        0.04813  (12123121)
       324949.44   3794560.23        0.04781  (10013003)                324988.35
3794560.23        0.04789  (13010624)
       324871.62   3794582.03        0.04992  (10010204)                324910.53
3794582.03        0.04892  (12020205)
       324949.44   3794582.03        0.04852  (12123121)                324988.35
3794582.03        0.04859  (13010624)
       324871.62   3794603.83        0.05079  (10010204)                324910.53
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324949.44	3794603.83	0.04950	(12123121)	324988.35	3794603.83	0.04932	(10013003)
324871.62	3794625.63	0.05177	(12122922)	324910.53	3794625.63	0.05070	(10010204)
324949.44	3794625.63	0.05097	(12123121)	324988.35	3794625.63	0.05010	(10013003)
324871.62	3794647.43	0.05276	(12122922)	324910.53	3794647.43	0.05167	(10010204)
324949.44	3794647.43	0.05188	(12020205)	324988.35	3794647.43	0.05090	(10013003)
324871.62	3794669.23	0.05384	(13021702)	324910.53	3794669.23	0.05265	(10010204)
324949.44	3794669.23	0.05285	(12020205)	324988.35	3794669.23	0.05175	(12123121)
324871.62	3794691.03	0.05496	(13021702)	324910.53	3794691.03	0.05371	(12122922)
324949.44	3794691.03	0.05385	(12020205)	324988.35	3794691.03	0.05266	(12123121)
324449.04	3794074.69	0.03796	(13120620)	324485.99	3794074.69	0.03760	(09021803)
324522.94	3794074.69	0.03722	(13021702)	324559.89	3794074.69	0.03672	(12122922)
324596.84	3794074.69	0.03614	(10010204)	324633.79	3794074.69	0.03540	(12020205)
324670.74	3794074.69	0.03496	(12123121)	324707.69	3794074.69	0.03473	(10013003)
324744.64	3794074.69	0.03492	(10013003)	324781.59			

3794074.69 0.03601 (12021724)
324449.04 3794106.66 0.03844 (09020419) 324485.99
3794106.66 0.03827 (13120620)
324522.94 3794106.66 0.03789 (09021803) 324559.89
3794106.66 0.03749 (13021702)
324596.84 3794106.66 0.03710 (12122922) 324633.79
3794106.66 0.03647 (10010204)
324670.74 3794106.66 0.03604 (12020205) 324707.69
3794106.66 0.03590 (12123121)
324744.64 3794106.66 0.03651 (10013003) 324781.59
3794106.66 0.03678 (12021724)
324449.04 3794138.63 0.03926 (12021724) 324485.99
3794138.63 0.03892 (13120620)
324522.94 3794138.63 0.03853 (09021803) 324559.89
3794138.63 0.03813 (13021702)
324596.84 3794138.63 0.03772 (12122922) 324633.79
3794138.63 0.03781 (10010204)
324670.74 3794138.63 0.03748 (12020205) 324707.69
3794138.63 0.03734 (12123121)
324744.64 3794138.63 0.03766 (10013003) 324781.59
3794138.63 0.03739 (13010624)
324449.04 3794170.60 0.04007 (12021724) 324485.99
3794170.60 0.03946 (09020419)
324522.94 3794170.60 0.03936 (13120620) 324559.89
3794170.60 0.03951 (09021803)
324596.84 3794170.60 0.03907 (13021702) 324633.79
3794170.60 0.03879 (12122922)
324670.74 3794170.60 0.03842 (10010204) 324707.69
3794170.60 0.03868 (12020205)
324744.64 3794170.60 0.03839 (12123121) 324781.59
3794170.60 0.03851 (10013003)
324449.04 3794202.57 0.04079 (10012707) 324485.99
3794202.57 0.04037 (12021724)
324522.94 3794202.57 0.04008 (13120620) 324559.89
3794202.57 0.04041 (09021803)
324596.84 3794202.57 0.03997 (13021702) 324633.79
3794202.57 0.03952 (12122922)
324670.74 3794202.57 0.03984 (10010204) 324707.69
3794202.57 0.03951 (12020205)
324744.64 3794202.57 0.03905 (12123121) 324781.59
3794202.57 0.03933 (10013003)
324449.04 3794234.54 0.04162 (10012707) 324485.99
3794234.54 0.04121 (12021724)
324522.94 3794234.54 0.04071 (12021724) 324559.89
3794234.54 0.04123 (13120620)
324596.84 3794234.54 0.04075 (09021803) 324633.79
3794234.54 0.04026 (13021702)
324670.74 3794234.54 0.04070 (12122922) 324707.69
3794234.54 0.04020 (10010204)
324744.64 3794234.54 0.03971 (12020205) 324781.59

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794266.51	0.04248	(12021724)	324559.89	3794266.51	0.04197	(13120620)
324596.84	3794266.51	0.04151	(09021803)	324633.79	3794266.51	0.04103	(13021702)
324670.74	3794266.51	0.04149	(12122922)	324707.69	3794266.51	0.04097	(10010204)
324744.64	3794266.51	0.04046	(12020205)	324781.59	3794266.51	0.04072	(12123121)
324449.04	3794298.48	0.04323	(10010424)	324485.99	3794298.48	0.04284	(10012707)
324522.94	3794298.48	0.04338	(12021724)	324559.89	3794298.48	0.04275	(12021724)
324596.84	3794298.48	0.04240	(13120620)	324633.79	3794298.48	0.04271	(09021803)
324670.74	3794298.48	0.04230	(13021702)	324707.69	3794298.48	0.04174	(12122922)
324744.64	3794298.48	0.04118	(10010204)	324781.59	3794298.48	0.04145	(12123121)
324449.04	3794330.45	0.04411	(10011404)	324485.99	3794330.45	0.04390	(10010424)
324522.94	3794330.45	0.04433	(10012707)	324559.89	3794330.45	0.04381	(12021724)
324596.84	3794330.45	0.04318	(13120620)	324633.79	3794330.45	0.04357	(09021803)
324670.74	3794330.45	0.04318	(13021702)	324707.69			

3794330.45 0.04261 (12122922)
324744.64 3794330.45 0.04209 (10010204) 324781.59
3794330.45 0.04228 (12020205)
324449.04 3794362.42 0.04522 (10011404) 324485.99
3794362.42 0.04546 (10011119)
324522.94 3794362.42 0.04527 (10010424) 324559.89
3794362.42 0.04471 (10012707)
324596.84 3794362.42 0.04411 (12021724) 324633.79
3794362.42 0.04456 (13120620)
324670.74 3794362.42 0.04411 (09021803) 324707.69
3794362.42 0.04348 (13021702)
324744.64 3794362.42 0.04343 (10010204) 324781.59
3794362.42 0.04332 (12020205)
324449.04 3794394.39 0.04622 (09120921) 324485.99
3794394.39 0.04670 (10011404)
324522.94 3794394.39 0.04626 (10010424) 324559.89
3794394.39 0.04577 (10012707)
324596.84 3794394.39 0.04522 (12021724) 324633.79
3794394.39 0.04542 (13120620)
324670.74 3794394.39 0.04504 (09021803) 324707.69
3794394.39 0.04443 (13021702)
324744.64 3794394.39 0.04440 (12122922) 324781.59
3794394.39 0.04424 (10010204)
324449.04 3794426.36 0.04746 (11121923) 324485.99
3794426.36 0.04778 (10011404)
324522.94 3794426.36 0.04723 (10011404) 324559.89
3794426.36 0.04685 (10010424)
324596.84 3794426.36 0.04625 (10012707) 324633.79
3794426.36 0.04653 (12021724)
324670.74 3794426.36 0.04613 (13120620) 324707.69
3794426.36 0.04556 (09021803)
324744.64 3794426.36 0.04550 (13021702) 324781.59
3794426.36 0.04517 (10010204)
324449.04 3794458.33 0.04906 (09022006) 324485.99
3794458.33 0.04901 (09120921)
324522.94 3794458.33 0.04853 (10011404) 324559.89
3794458.33 0.04777 (10010424)
324596.84 3794458.33 0.04757 (10012707) 324633.79
3794458.33 0.04780 (12021724)
324670.74 3794458.33 0.04705 (13120620) 324707.69
3794458.33 0.04684 (13120620)
324744.64 3794458.33 0.04698 (13021702) 324781.59
3794458.33 0.04622 (12122922)
324449.04 3794490.30 0.05027 (09022006) 324485.99
3794490.30 0.05022 (11121923)
324522.94 3794490.30 0.04972 (09120921) 324559.89
3794490.30 0.04912 (10011404)
324596.84 3794490.30 0.04927 (10010424) 324633.79
3794490.30 0.04911 (10012707)
324670.74 3794490.30 0.04836 (12021724) 324707.69

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
324522.94	3794522.27	0.05096	(11121923)	324559.89	3794522.27	0.05034	(09120921)
324596.84	3794522.27	0.05037	(10011404)	324633.79	3794522.27	0.05036	(10010424)
324670.74	3794522.27	0.04961	(12021724)	324707.69	3794522.27	0.04904	(12021724)
324744.64	3794522.27	0.04931	(13120620)	324781.59	3794522.27	0.04849	(13021702)
324449.04	3794554.24	0.05318	(12021707)	324485.99	3794554.24	0.05278	(12010904)
324522.94	3794554.24	0.05227	(09022006)	324559.89	3794554.24	0.05192	(09120921)
324596.84	3794554.24	0.05219	(10011404)	324633.79	3794554.24	0.05158	(10010424)
324670.74	3794554.24	0.05096	(10012707)	324707.69	3794554.24	0.05057	(12021724)
324744.64	3794554.24	0.05065	(13120620)	324781.59	3794554.24	0.04975	(09021803)
324449.04	3794586.21	0.05452	(13012724)	324485.99	3794586.21	0.05414	(12021707)
324522.94	3794586.21	0.05365	(12010904)	324559.89	3794586.21	0.05355	(11121923)
324596.84	3794586.21	0.05383	(09120921)	324633.79			

```
3794586.21        0.05309  (10011404)
       324670.74   3794586.21        0.05237  (10010424)                324707.69
3794586.21        0.05194  (10012707)
       324744.64   3794586.21        0.05188  (12021724)                324781.59
3794586.21        0.05108  (13120620)
       324449.04   3794618.18        0.05587  (12022904)                324485.99
3794618.18        0.05555  (13012724)
       324522.94   3794618.18        0.05510  (12021707)                324559.89
3794618.18        0.05502  (12010904)
       324596.84   3794618.18        0.05534  (11121923)                324633.79
3794618.18        0.05460  (09120921)
       324670.74   3794618.18        0.05375  (10011404)                324707.69
3794618.18        0.05412  (10010424)
       324744.64   3794618.18        0.05357  (12021724)                324781.59
3794618.18        0.05254  (13120620)
       324449.04   3794650.15        0.05725  (12012404)                324485.99
3794650.15        0.05700  (12022904)
       324522.94   3794650.15        0.05661  (13012724)                324559.89
3794650.15        0.05660  (12021707)
       324596.84   3794650.15        0.05692  (09022006)                324633.79
3794650.15        0.05621  (11121923)
       324670.74   3794650.15        0.05558  (10011404)                324707.69
3794650.15        0.05606  (10010424)
       324744.64   3794650.15        0.05518  (10012707)                324781.59
3794650.15        0.05402  (12021724)
       324449.04   3794682.12        0.05861  (11010801)                324485.99
3794682.12        0.05846  (12012404)
       324522.94   3794682.12        0.05835  (12022904)                324559.89
3794682.12        0.05901  (13012724)
       324596.84   3794682.12        0.05857  (12010904)                324633.79
3794682.12        0.05792  (09022006)
       324670.74   3794682.12        0.05726  (09120921)                324707.69
3794682.12        0.05782  (10011404)
       324744.64   3794682.12        0.05690  (10010424)                324781.59
3794682.12        0.05583  (12021724)
       326547.36   3795022.06        0.06065  (12022103)                326594.67
3795022.06        0.05963  (10011406)
       326641.98   3795022.06        0.05689  (11121105)                326547.36
3795042.46        0.06146  (12022103)
       326594.67   3795042.46        0.05773  (10011406)                326641.98
3795042.46        0.05760  (12122705)
       326547.36   3795062.86        0.06246  (10011406)                326594.67
3795062.86        0.05788  (11121105)
       326641.98   3795062.86        0.05826  (10021501)                326547.36
3795083.26        0.06277  (10011406)
       326594.67   3795083.26        0.05861  (12122705)                326641.98
3795083.26        0.05888  (13010623)
       326547.36   3795103.66        0.06132  (11121105)                326594.67
3795103.66        0.05930  (10021501)
       326641.98   3795103.66        0.05951  (13010623)                326547.36
```

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326594.67	3795164.86	0.06118	(13010101)	326641.98	3795164.86	0.06112	(13011507)
326547.36	3795185.26	0.06155	(13010623)	326594.67	3795185.26	0.06157	(13011507)
326641.98	3795185.26	0.06150	(13122107)	326547.36	3795205.66	0.06208	(13010101)
326594.67	3795205.66	0.06207	(13011507)	326641.98	3795205.66	0.06034	(09021506)
326547.36	3795226.06	0.06243	(13011507)	326594.67	3795226.06	0.06234	(13122107)
326641.98	3795226.06	0.05686	(12010407)	326547.36	3795246.46	0.06267	(13011507)
326594.67	3795246.46	0.06144	(09021506)	326641.98	3795246.46	0.05546	(10121023)
326690.43	3795243.37	0.05381	(12022206)	326688.67	3795223.05	0.05437	(10010821)
326686.02	3795005.77	0.05667	(12122705)	326686.02	3795033.66	0.05685	(10021501)
326686.02	3795061.55	0.05705	(13010623)	326686.02	3795089.44	0.05777	(13010101)
326686.02	3795117.33	0.05837	(13011507)	326686.02

```
3795145.22        0.05896  (13122107)
       326686.02   3795173.11        0.05851  (09021506)                326686.02
3795201.00        0.05482  (12011805)
       326832.80   3795263.26        0.04869  (13020901)                326849.67
3795263.26        0.04632  (11020605)
       326866.54   3795263.26        0.04513  (12010208)                326883.41
3795263.26        0.04510  (12010208)
       326900.28   3795263.26        0.04501  (12010208)                326917.15
3795263.26        0.04486  (12010208)
       326934.02   3795263.26        0.04250  (13122805)                326950.89
3795263.26        0.04077  (11010918)
       326967.76   3795263.26        0.04071  (11010918)                326984.63
3795263.26        0.03990  (11010918)
       327001.50   3795263.26        0.03797  (12120505)                327036.85
3795141.35        0.03946  (11013105)
       327075.72   3795141.35        0.03573  (12011705)                327036.85
3795160.91        0.03935  (12020201)
       327075.72   3795160.91        0.03566  (10022004)                327036.85
3795180.47        0.03931  (10012524)
       327075.72   3795180.47        0.03576  (13012604)                327036.85
3795200.03        0.03899  (11020605)
       327075.72   3795200.03        0.03599  (09121202)                327036.85
3795219.59        0.03721  (09121202)
       327075.72   3795219.59        0.03586  (12010208)                327036.85
3795239.15        0.03675  (12120505)
       327075.72   3795239.15        0.03655  (12120505)                327036.85
3795258.71        0.03694  (12120505)
       327075.72   3795258.71        0.03641  (09120419)                327036.85
3795278.27        0.03685  (09120419)
       327075.72   3795278.27        0.03673  (13121308)                326840.04
3795223.24        0.04844  (11013105)
       326860.58   3795224.16        0.04520  (12020201)                326877.30
3795222.74        0.04499  (12020201)
       326929.68   3795223.69        0.04269  (10012524)                326932.86
3795200.00        0.04230  (12020201)
       326972.32   3795217.03        0.03979  (13012604)                326970.84
3795177.58        0.04009  (12011705)
       326968.20   3795152.46        0.04025  (09120204)                326998.43
3795149.77        0.03987  (09120204)
       326997.48   3795176.61        0.03966  (12020201)                326995.60
3795193.01        0.03963  (10012524)
       326996.92   3795215.78        0.03965  (11020605)                326916.97
3795152.19        0.04501  (10013106)
       326901.95   3795150.46        0.04527  (12010321)                326884.24
3795164.40        0.04545  (12010321)
       326867.32   3795151.32        0.04634  (12022206)                326873.22
3795163.36        0.04563  (10120606)
       326845.53   3795152.12        0.04891  (12022206)                326824.91
3795151.45        0.05223  (09013022)
       326826.60   3795170.60        0.05191  (12013005)                326840.50
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326794.01	3795031.22	0.05257	(13011507)	326977.50	3795110.69	0.04042	(10120606)
326994.05	3795107.87	0.04026	(12010321)	326984.52	3795093.80	0.04082	(11120708)
326972.85	3795082.37	0.04144	(11120708)	326995.41	3795072.53	0.04115	(11120708)
326993.23	3795060.01	0.04131	(11121808)	326984.60	3795040.80	0.04164	(13020308)
326981.66	3795027.22	0.04175	(10010821)	327041.48	3795102.15	0.03928	(13011601)
327065.19	3795095.75	0.03649	(10121407)	327040.88	3795076.27	0.03958	(10120606)
327061.24	3795058.32	0.03728	(11120708)	327037.82	3795061.09	0.04037	(11120708)
327035.65	3795040.58	0.04082	(11120708)	327058.94	3795038.41	0.03820	(11120708)
327051.53	3795017.85	0.03932	(11121808)	327033.29	3795021.71	0.04105	(11121808)
326826.26	3795110.80	0.04865	(12011805)	326843.29			

```
 3795110.80        0.04777  (10121023)
       326860.32   3795110.80        0.04716  (10010821)               326877.35
 3795110.80        0.04682  (10020622)
       326894.38   3795110.80        0.04648  (09013022)               326911.41
 3795110.80        0.04615  (12022206)
       326928.44   3795110.80        0.04434  (12022206)               326945.47
 3795110.80        0.04174  (11120708)
       326819.99   3795048.86        0.04928  (13122107)               326838.19
 3795048.86        0.04778  (09021506)
       326856.39   3795048.86        0.04764  (09021506)               326874.59
 3795048.86        0.04743  (10122806)
       326892.79   3795048.86        0.04713  (12011805)               326910.99
 3795048.86        0.04688  (12011805)
       326929.19   3795048.86        0.04502  (10121023)               326947.39
 3795048.86        0.04214  (10010821)
       325652.30   3795689.46        0.01882  (13020608)               325747.75
 3795796.21        0.01466  (13020608)
       326251.13   3796043.75        0.01538  (10013117)               326263.91
 3795852.39        0.02010  (11012717)
       326170.84   3795648.38        0.01879  (09052906)               326148.08
 3795505.91        0.02517  (12050806)
       325511.50   3795586.39        0.01915  (13020608)

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       16:23:00

                                  PAGE  38
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
              **


                       NETWORK
GROUP ID                     AVERAGE CONC               RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.00760 AT (  325904.15,  3795332.59,
149.61,   185.00,    0.00)  DC
          2ND HIGHEST VALUE IS       0.00744 AT (  325877.15,  3795332.59,
150.22,   185.00,    0.00)  DC
          3RD HIGHEST VALUE IS       0.00740 AT (  325931.15,  3795332.59,
```

150.05,   165.00,   0.00) DC
          4TH HIGHEST VALUE IS   0.00738 AT (325850.15, 3795332.59,
150.51,   185.00,   0.00) DC
          5TH HIGHEST VALUE IS   0.00717 AT (325958.15, 3795332.59,
150.51,   166.00,   0.00) DC
          6TH HIGHEST VALUE IS   0.00656 AT (325823.15, 3795332.59,
151.02,   185.00,   0.00) DC
          7TH HIGHEST VALUE IS   0.00655 AT (325796.15, 3795332.59,
151.11,   185.00,   0.00) DC
          8TH HIGHEST VALUE IS   0.00615 AT (325796.15, 3795293.59,
150.13,   185.00,   0.00) DC
          9TH HIGHEST VALUE IS   0.00607 AT (325877.15, 3795293.59,
149.15,   185.00,   0.00) DC
         10TH HIGHEST VALUE IS   0.00606 AT (325823.15, 3795293.59,
150.11,   185.00,   0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                                *** THE SUMMARY OF HIGHEST 1-HR
RESULTS ***

                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
             **

                                                      DATE
                                        NETWORK
GROUP ID   AVERAGE CONC   (YYMMDDHH)   RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)   OF TYPE GRID-ID
- -
- -

ALL   HIGH   1ST HIGH VALUE IS   0.09298 ON 10013003: AT (325904.15,
3795332.59,   149.61,   185.00,   0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   15612 Informational Message(s)

 A Total of   43872 Hours Were Processed

 A Total of   13724 Calm Hours Identified

 A Total of   1888 Missing Hours Identified (4.30 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 MX W481   43873   MAIN: Data Remaining After End of Year. Number of Hours=
        48

    ****
    *** AERMOD Finishes Successfully ***
    ****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 5/28/2020
** File: C:\Lakes\AERMOD View\UPDATED_Hitch Ranch_Phase 5_Operation\Hitch
Ranch_Phase 5_Operation.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 3 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "Hitch Ranch_Phase 5_Operation.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       1.9416E-09     3.000        12
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326372.560 3796177.700
   AREAVERT PAREA1       326098.780 3795976.790 326037.300 3795811.770
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
```

```
**
**
RE STARTING
   INCLUDED "Hitch Ranch_Phase 5_Operation.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "HITCH RANCH_PHASE 5_OPERATION.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "HITCH RANCH_PHASE 5_OPERATION.AD\AN00GALL.PLT" 32
   SUMMFILE "Hitch Ranch_Phase 5_Operation.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 5/28/2020
** File: C:\Lakes\AERMOD View\UPDATED_Hitch Ranch_Phase 5_Operation\Hitch
Ranch_Phase 5_Operation.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 3 Operation\Hitch Ranch_Phase
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "Hitch Ranch_Phase 5_Operation.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325117.250  3795248.320      146.000
** Source Parameters **
   SRCPARAM PAREA1       1.9416E-09     3.000        12
   AREAVERT PAREA1       325117.250 3795248.320 325133.010 3795491.600
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326372.560 3796177.700
   AREAVERT PAREA1       326098.780 3795976.790 326037.300 3795811.770
   AREAVERT PAREA1       325709.200 3795538.990 325466.690 3795412.580
   AREAVERT PAREA1       325320.790 3795389.270 325245.390 3795297.230
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
```

```
**
**
RE STARTING
   INCLUDED "Hitch Ranch_Phase 5_Operation.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "HITCH RANCH_PHASE 5_OPERATION.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "HITCH RANCH_PHASE 5_OPERATION.AD\AN00GALL.PLT" 32
   SUMMFILE "Hitch Ranch_Phase 5_Operation.sum"
OU FINISHED

 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       16:57:03

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

```
- - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates ANNUAL Averages

 **This Run Includes:      1 Source(s);       1 Source Group(s); and     711
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      1 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
```

Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 24.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ;
Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.6 MB of RAM.

**Input Runstream File: aermod.inp

**Output Print File: aermod.out

**Detailed Error/Message File: Hitch Ranch_Phase 5_Operation.err

**File for Summary of Results: Hitch Ranch_Phase 5_Operation.sum

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ	URBAN SOURCE SCALAR VARY BY
PAREA1	0	0.19416E-08	325117.2	3795248.3	146.0	3.00	12	0.00	NO

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
     ( 326346.0, 3795634.0,     172.5,     190.0,       0.0);         ( 326414.1,
3795779.7,     180.0,     277.0,       0.0);
     ( 326435.8, 3795773.5,     176.6,     277.0,       0.0);         ( 326458.3,
3795772.8,     174.6,     277.0,       0.0);
     ( 326424.2, 3795858.8,     178.9,     295.0,       0.0);         ( 326400.2,
3795799.8,     182.9,     277.0,       0.0);
     ( 326400.9, 3795767.9,     180.8,     277.0,       0.0);         ( 326424.2,
3795858.8,     178.9,     295.0,       0.0);
     ( 326611.8, 3795763.0,     168.9,     277.0,       0.0);         ( 326611.8,
3795763.0,     168.9,     277.0,       0.0);
     ( 326610.9, 3795777.7,     169.0,     277.0,       0.0);         ( 326605.9,
3795792.9,     169.0,     277.0,       0.0);
     ( 326623.9, 3795809.0,     169.6,     277.0,       0.0);         ( 326627.2,
3795836.6,     170.1,     295.0,       0.0);
     ( 326640.1, 3795836.6,     170.2,     277.0,       0.0);         ( 326654.5,
3795868.7,     171.6,     291.0,       0.0);
     ( 326665.5, 3795883.1,     172.0,     295.0,       0.0);         ( 326588.3,
3795867.6,     175.1,     277.0,       0.0);
     ( 326640.5, 3795951.9,     177.0,     295.0,       0.0);         ( 326658.5,
3795975.6,     175.5,     295.0,       0.0);
     ( 326759.5, 3796019.3,     178.2,     277.0,       0.0);         ( 326763.6,
```

```
3796031.8,     178.1,     291.0,       0.0);
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
     ( 326806.7, 3795493.9,     157.9,     217.0,       0.0);         ( 326824.1,
3795494.4,     157.9,     217.0,       0.0);
     ( 326853.5, 3795481.7,     157.5,     217.0,       0.0);         ( 326898.8,
```

3795534.4,   158.0,   217.0,   0.0);
     (325796.1, 3795215.6,   149.4,   149.4,   0.0);   (325823.1,
3795215.6,   149.0,   149.0,   0.0);
     (326012.1, 3795215.6,   150.0,   150.0,   0.0);   (326120.1,
3795215.6,   151.0,   151.0,   0.0);
     (326147.1, 3795215.6,   151.0,   151.0,   0.0);   (325796.1,
3795254.6,   149.4,   185.0,   0.0);
     (325823.1, 3795254.6,   149.0,   185.0,   0.0);   (325850.1,
3795254.6,   149.0,   149.0,   0.0);
     (325877.1, 3795254.6,   149.0,   149.0,   0.0);   (325904.1,
3795254.6,   149.2,   149.2,   0.0);
     (325931.1, 3795254.6,   149.9,   149.9,   0.0);   (325958.1,
3795254.6,   150.0,   150.0,   0.0);
     (325985.1, 3795254.6,   150.0,   150.0,   0.0);   (326012.1,
3795254.6,   150.7,   150.7,   0.0);
     (326039.1, 3795254.6,   151.0,   151.0,   0.0);   (326066.1,
3795254.6,   151.0,   151.0,   0.0);
     (326093.1, 3795254.6,   151.0,   151.0,   0.0);   (326120.1,
3795254.6,   151.0,   151.0,   0.0);

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     (326147.1, 3795254.6,   151.0,   151.0,   0.0);   (325796.1,
3795293.6,   150.1,   185.0,   0.0);
     (325823.1, 3795293.6,   150.1,   185.0,   0.0);   (325850.1,
3795293.6,   149.7,   185.0,   0.0);
     (325877.1, 3795293.6,   149.2,   185.0,   0.0);   (325904.1,
3795293.6,   149.2,   149.2,   0.0);
     (325931.1, 3795293.6,   150.0,   150.0,   0.0);   (325958.1,
3795293.6,   150.0,   150.0,   0.0);
     (325985.1, 3795293.6,   150.9,   150.9,   0.0);   (326012.1,
3795293.6,   151.2,   151.2,   0.0);
     (326039.1, 3795293.6,   151.2,   151.2,   0.0);   (326066.1,
3795293.6,   151.7,   151.7,   0.0);
     (326093.1, 3795293.6,   152.0,   152.0,   0.0);   (326120.1,
3795293.6,   152.0,   152.0,   0.0);
     (326147.1, 3795293.6,   152.0,   152.0,   0.0);   (325796.1,
3795332.6,   151.1,   185.0,   0.0);
     (325823.1, 3795332.6,   151.0,   185.0,   0.0);   (325850.1,
3795332.6,   150.5,   185.0,   0.0);
     (325877.1, 3795332.6,   150.2,   185.0,   0.0);   (325904.1,

```
3795332.6,     149.6,     185.0,       0.0);
     ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
3795332.6,     150.5,     166.0,       0.0);
     ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
     ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
     ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325972.4, 3795004.9,     149.3,     149.3,       0.0);         ( 325997.4,
3795004.9,     149.7,     149.7,       0.0);
     ( 326022.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326122.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326147.4,
3795004.9,     150.3,     150.3,       0.0);
     ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
     ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
     ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795088.9,     150.2,     150.2,       0.0);
     ( 326122.4, 3795088.9,     150.7,     150.7,       0.0);         ( 326147.4,
3795088.9,     151.0,     151.0,       0.0);
     ( 325847.4, 3795130.9,     149.0,     149.0,       0.0);         ( 325872.4,
```

3795130.9,   149.0,   149.0,   0.0);
     (325897.4, 3795130.9,   149.0,   149.0,   0.0);   (325922.4,
3795130.9,   149.0,   149.0,   0.0);
     (325947.4, 3795130.9,   149.6,   149.6,   0.0);   (325972.4,
3795130.9,   150.0,   150.0,   0.0);
     (325997.4, 3795130.9,   150.0,   150.0,   0.0);   (326022.4,
3795130.9,   150.0,   150.0,   0.0);
     (326047.4, 3795130.9,   150.0,   150.0,   0.0);   (326072.4,
3795130.9,   150.0,   150.0,   0.0);
     (326097.4, 3795130.9,   150.6,   150.6,   0.0);   (326122.4,
3795130.9,   151.0,   151.0,   0.0);
     (326147.4, 3795130.9,   151.0,   151.0,   0.0);   (325847.4,
3795172.9,   149.0,   149.0,   0.0);
     (325872.4, 3795172.9,   149.0,   149.0,   0.0);   (325897.4,
3795172.9,   149.0,   149.0,   0.0);
     (325922.4, 3795172.9,   149.0,   149.0,   0.0);   (325947.4,
3795172.9,   149.6,   149.6,   0.0);
     (325972.4, 3795172.9,   150.0,   150.0,   0.0);   (325997.4,
3795172.9,   150.0,   150.0,   0.0);
     (326022.4, 3795172.9,   150.0,   150.0,   0.0);   (326047.4,
3795172.9,   150.2,   150.2,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (326072.4, 3795172.9,   150.8,   150.8,   0.0);   (325847.4,
3795214.9,   149.0,   149.0,   0.0);
     (325872.4, 3795214.9,   149.0,   149.0,   0.0);   (325897.4,
3795214.9,   149.0,   149.0,   0.0);
     (325922.4, 3795214.9,   149.0,   149.0,   0.0);   (325947.4,
3795214.9,   149.6,   149.6,   0.0);
     (325972.4, 3795214.9,   150.0,   150.0,   0.0);   (325997.4,
3795214.9,   150.0,   150.0,   0.0);
     (326047.4, 3795214.9,   151.0,   151.0,   0.0);   (326072.4,
3795214.9,   151.0,   151.0,   0.0);
     (326097.4, 3795214.9,   151.0,   151.0,   0.0);   (326147.4,
3795214.9,   151.0,   151.0,   0.0);
     (326096.6, 3795181.5,   151.0,   151.0,   0.0);   (326118.6,
3795182.6,   151.0,   151.0,   0.0);
     (326144.3, 3795184.1,   151.0,   151.0,   0.0);   (325849.7,
3794829.6,   148.0,   148.0,   0.0);
     (325892.6, 3794829.6,   148.0,   148.0,   0.0);   (325935.5,

3794829.6,   148.8,   148.8,   0.0);
     (325978.3, 3794829.6,   149.0,   149.0,   0.0);   (326021.2,
3794829.6,   149.0,   149.0,   0.0);
     (326064.1, 3794829.6,   149.5,   149.5,   0.0);   (325849.7,
3794867.5,   148.0,   148.0,   0.0);
     (325892.6, 3794867.5,   148.8,   148.8,   0.0);   (325935.5,
3794867.5,   149.0,   149.0,   0.0);
     (325978.3, 3794867.5,   149.0,   149.0,   0.0);   (326021.2,
3794867.5,   149.0,   149.0,   0.0);
     (326064.1, 3794867.5,   149.5,   149.5,   0.0);   (325849.7,
3794905.5,   148.1,   148.1,   0.0);
     (325892.6, 3794905.5,   148.9,   148.9,   0.0);   (325935.5,
3794905.5,   149.0,   149.0,   0.0);
     (325978.3, 3794905.5,   149.0,   149.0,   0.0);   (326021.2,
3794905.5,   149.1,   149.1,   0.0);
     (326064.1, 3794905.5,   150.0,   150.0,   0.0);   (325849.7,
3794943.4,   148.4,   148.4,   0.0);
     (325892.6, 3794943.4,   149.0,   149.0,   0.0);   (325935.5,
3794943.4,   149.0,   149.0,   0.0);
     (325978.3, 3794943.4,   149.0,   149.0,   0.0);   (326021.2,
3794943.4,   149.1,   149.1,   0.0);
     (326064.1, 3794943.4,   150.0,   150.0,   0.0);   (325849.7,
3794981.3,   148.9,   148.9,   0.0);
     (325892.6, 3794981.3,   149.0,   149.0,   0.0);   (325935.5,
3794981.3,   149.0,   149.0,   0.0);
     (325978.3, 3794981.3,   149.0,   149.0,   0.0);   (326021.2,
3794981.3,   149.8,   149.8,   0.0);
     (326064.1, 3794981.3,   150.0,   150.0,   0.0);   (325855.3,
3794726.6,   148.0,   148.0,   0.0);
     (325902.6, 3794726.6,   148.0,   148.0,   0.0);   (325855.3,
3794745.5,   148.0,   148.0,   0.0);
     (325902.6, 3794745.5,   148.0,   148.0,   0.0);   (325855.3,
3794764.4,   148.0,   148.0,   0.0);
     (325902.6, 3794764.4,   148.0,   148.0,   0.0);   (325855.3,
3794783.3,   148.0,   148.0,   0.0);
     (325902.6, 3794783.3,   148.0,   148.0,   0.0);   (325855.3,
3794802.2,   148.0,   148.0,   0.0);
     (325902.6, 3794802.2,   148.0,   148.0,   0.0);   (325855.3,
3794821.1,   148.0,   148.0,   0.0);
     (325902.6, 3794821.1,   148.1,   148.1,   0.0);   (326402.8,
3795249.3,   152.8,   152.8,   0.0);
     (325380.5, 3795776.2,   161.0,   295.0,   0.0);   (325415.9,
3795858.3,   176.6,   271.0,   0.0);
     (325409.9, 3795995.0,   190.3,   271.0,   0.0);   (325416.6,
3796058.1,   193.4,   282.0,   0.0);
     (325409.6, 3796164.9,   201.8,   291.0,   0.0);   (325322.7,
3796083.9,   190.0,   292.0,   0.0);
     (325297.9, 3796111.1,   184.9,   295.0,   0.0);   (325246.7,
3796076.1,   181.2,   295.0,   0.0);
     (325280.0, 3796260.7,   211.4,   292.0,   0.0);   (325237.0,

3796200.4,   205.0,   292.0,   0.0);
     (325163.0, 3796071.1,   180.4,   292.0,   0.0);   (325215.7,
3795991.4,   177.4,   292.0,   0.0);
     (325208.3, 3795926.9,   173.0,   292.0,   0.0);   (325249.5,
3795829.2,   171.2,   291.0,   0.0);
     (325171.5, 3795759.2,   160.9,   292.0,   0.0);   (325129.2,
3795756.4,   158.4,   292.0,   0.0);
     (325154.8, 3795886.2,   167.8,   292.0,   0.0);   (325068.5,
3795885.4,   171.6,   292.0,   0.0);
     (325047.9, 3795938.0,   175.5,   292.0,   0.0);   (325045.8,
3795982.7,   176.4,   292.0,   0.0);
     (325072.0, 3796106.7,   179.6,   292.0,   0.0);   (325060.6,
3796290.4,   197.1,   292.0,   0.0);
     (324903.7, 3796379.8,   214.8,   292.0,   0.0);   (324787.8,
3796510.4,   197.3,   292.0,   0.0);
     (324916.5, 3796618.3,   201.7,   292.0,   0.0);   (326493.0,
3796356.3,   198.5,   295.0,   0.0);
     (326552.7, 3796900.0,   235.2,   295.0,   0.0);   (326599.3,
3796893.6,   237.6,   293.0,   0.0);
     (326617.4, 3796889.5,   237.6,   293.0,   0.0);   (326639.4,
3796881.9,   233.8,   293.0,   0.0);
     (326663.7, 3796864.1,   225.7,   295.0,   0.0);   (326679.5,
3796885.2,   227.5,   293.0,   0.0);

                                                *** DISCRETE CARTESIAN RECEPTORS ***
                                               (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                          (METERS)

     (326697.8, 3796898.3,   229.7,   293.0,   0.0);   (326712.3,
3796916.6,   233.6,   293.0,   0.0);
     (326726.6, 3796931.1,   236.4,   290.0,   0.0);   (326742.2,
3796948.0,   240.5,   290.0,   0.0);
     (326756.6, 3796965.7,   242.1,   290.0,   0.0);   (326772.1,
3796973.3,   239.2,   290.0,   0.0);
     (326785.2, 3796890.5,   223.1,   293.0,   0.0);   (326800.1,
3797003.9,   233.0,   290.0,   0.0);
     (326818.0, 3797014.9,   229.2,   290.0,   0.0);   (326813.7,
3796843.9,   215.1,   293.0,   0.0);
     (326833.9, 3796853.6,   216.3,   293.0,   0.0);   (326848.6,
3796873.4,   217.5,   293.0,   0.0);
     (326864.2, 3796885.1,   217.7,   293.0,   0.0);   (326877.9,
3796901.2,   218.2,   292.0,   0.0);
     (326893.8, 3796917.1,   220.4,   292.0,   0.0);   (326904.5,

3796938.8,   223.9,   292.0,   0.0);
     (326907.6, 3796966.2,   224.5,   292.0,   0.0);   (326914.5,
3796991.7,   227.6,   292.0,   0.0);
     (326921.9, 3797038.4,   232.7,   292.0,   0.0);   (326596.6,
3797264.1,   273.2,   288.0,   0.0);
     (326830.0, 3795735.4,   183.6,   217.0,   0.0);   (326866.5,
3795706.9,   182.8,   217.0,   0.0);
     (326831.5, 3795646.6,   161.0,   217.0,   0.0);   (326872.9,
3795644.9,   160.9,   217.0,   0.0);
     (326898.9, 3795644.7,   160.9,   217.0,   0.0);   (326924.7,
3795650.1,   161.6,   217.0,   0.0);
     (326949.7, 3795646.4,   161.1,   217.0,   0.0);   (326975.6,
3795638.8,   162.5,   217.0,   0.0);
     (326917.9, 3795602.8,   159.0,   217.0,   0.0);   (326918.6,
3795584.1,   158.0,   217.0,   0.0);
     (326921.6, 3795563.5,   158.0,   217.0,   0.0);   (326917.2,
3795537.1,   158.0,   217.0,   0.0);
     (326935.0, 3795592.2,   158.8,   217.0,   0.0);   (326951.0,
3795599.5,   159.5,   217.0,   0.0);
     (326950.3, 3795555.9,   158.0,   217.0,   0.0);   (326951.6,
3795535.1,   158.0,   217.0,   0.0);
     (326961.8, 3795537.6,   158.0,   217.0,   0.0);   (326982.2,
3795538.3,   158.0,   217.0,   0.0);
     (326992.4, 3795539.1,   158.0,   217.0,   0.0);   (327009.0,
3795535.6,   158.0,   217.0,   0.0);
     (326987.7, 3795581.0,   159.0,   217.0,   0.0);   (327024.8,
3795588.4,   160.1,   217.0,   0.0);
     (326925.1, 3795485.9,   158.0,   217.0,   0.0);   (326937.8,
3795488.3,   158.0,   217.0,   0.0);
     (326956.5, 3795489.3,   158.0,   217.0,   0.0);   (326970.9,
3795491.0,   158.0,   217.0,   0.0);
     (326990.0, 3795487.7,   158.0,   217.0,   0.0);   (325049.3,
3794409.3,   143.0,   143.0,   0.0);
     (325086.8, 3794409.3,   143.0,   143.0,   0.0);   (325124.3,
3794409.3,   143.2,   143.2,   0.0);
     (325161.8, 3794409.3,   144.0,   144.0,   0.0);   (325199.3,
3794409.3,   144.0,   144.0,   0.0);
     (325236.8, 3794409.3,   143.8,   143.8,   0.0);   (325274.3,
3794409.3,   143.7,   143.7,   0.0);
     (325049.3, 3794432.5,   143.0,   143.0,   0.0);   (325086.8,
3794432.5,   143.0,   143.0,   0.0);
     (325124.3, 3794432.5,   143.6,   143.6,   0.0);   (325161.8,
3794432.5,   144.0,   144.0,   0.0);
     (325199.3, 3794432.5,   144.0,   144.0,   0.0);   (325236.8,
3794432.5,   144.0,   144.0,   0.0);
     (325274.3, 3794432.5,   144.0,   144.0,   0.0);   (325049.3,
3794455.7,   143.0,   143.0,   0.0);
     (325086.8, 3794455.7,   143.3,   143.3,   0.0);   (325124.3,
3794455.7,   144.0,   144.0,   0.0);
     (325161.8, 3794455.7,   144.0,   144.0,   0.0);   (325199.3,

3794455.7,   144.0,   144.0,   0.0);
     (325236.8, 3794455.7,   144.0,   144.0,   0.0);   (325274.3,
3794455.7,   144.0,   144.0,   0.0);
     (325049.3, 3794478.9,   143.0,   143.0,   0.0);   (325086.8,
3794478.9,   144.0,   144.0,   0.0);
     (325124.3, 3794478.9,   144.0,   144.0,   0.0);   (325161.8,
3794478.9,   144.0,   144.0,   0.0);
     (325199.3, 3794478.9,   144.0,   144.0,   0.0);   (325236.8,
3794478.9,   144.0,   144.0,   0.0);
     (325274.3, 3794478.9,   144.0,   144.0,   0.0);   (325049.3,
3794502.1,   143.0,   143.0,   0.0);
     (325086.8, 3794502.1,   144.0,   144.0,   0.0);   (325124.3,
3794502.1,   144.0,   144.0,   0.0);
     (325161.8, 3794502.1,   144.0,   144.0,   0.0);   (325199.3,
3794502.1,   144.0,   144.0,   0.0);
     (325236.8, 3794502.1,   144.0,   144.0,   0.0);   (325274.3,
3794502.1,   144.0,   144.0,   0.0);
     (325049.3, 3794525.3,   143.0,   143.0,   0.0);   (325086.8,
3794525.3,   144.0,   144.0,   0.0);
     (325124.3, 3794525.3,   144.0,   144.0,   0.0);   (325161.8,
3794525.3,   144.0,   144.0,   0.0);
     (325199.3, 3794525.3,   144.0,   144.0,   0.0);   (325236.8,
3794525.3,   144.0,   144.0,   0.0);
     (325274.3, 3794525.3,   144.0,   144.0,   0.0);   (325049.3,
3794548.5,   143.0,   143.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)

     (325086.8, 3794548.5,   144.0,   144.0,   0.0);   (325124.3,
3794548.5,   144.0,   144.0,   0.0);
     (325161.8, 3794548.5,   144.0,   144.0,   0.0);   (325199.3,
3794548.5,   144.0,   144.0,   0.0);
     (325236.8, 3794548.5,   144.0,   144.0,   0.0);   (325274.3,
3794548.5,   144.0,   144.0,   0.0);
     (325049.3, 3794571.7,   143.0,   143.0,   0.0);   (325086.8,
3794571.7,   144.0,   144.0,   0.0);
     (325124.3, 3794571.7,   144.0,   144.0,   0.0);   (325161.8,
3794571.7,   144.0,   144.0,   0.0);
     (325199.3, 3794571.7,   144.0,   144.0,   0.0);   (325236.8,
3794571.7,   144.0,   144.0,   0.0);
     (325274.3, 3794571.7,   144.0,   144.0,   0.0);   (325049.3,

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3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794687.7,     145.0,     145.0,       0.0);
     ( 324871.6, 3794385.8,     141.7,     141.7,       0.0);         ( 324910.5,
3794385.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794385.8,     142.0,     142.0,       0.0);         ( 324988.3,
3794385.8,     142.6,     142.6,       0.0);
     ( 324871.6, 3794407.6,     141.8,     141.8,       0.0);         ( 324910.5,
3794407.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794407.6,     142.0,     142.0,       0.0);         ( 324988.3,
3794407.6,     142.7,     142.7,       0.0);
     ( 324871.6, 3794429.4,     141.8,     141.8,       0.0);         ( 324910.5,
3794429.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794429.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794429.4,     142.7,     142.7,       0.0);
     ( 324871.6, 3794451.2,     141.8,     141.8,       0.0);         ( 324910.5,
3794451.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794451.2,     142.1,     142.1,       0.0);         ( 324988.3,
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3794451.2,   142.7,   142.7,   0.0);
     (324871.6, 3794473.0,   141.8,   141.8,   0.0);   (324910.5,
3794473.0,   142.0,   142.0,   0.0);
     (324949.4, 3794473.0,   142.3,   142.3,   0.0);   (324988.3,
3794473.0,   143.0,   143.0,   0.0);
     (324871.6, 3794494.8,   141.9,   141.9,   0.0);   (324910.5,
3794494.8,   142.0,   142.0,   0.0);
     (324949.4, 3794494.8,   142.4,   142.4,   0.0);   (324988.3,
3794494.8,   143.0,   143.0,   0.0);
     (324871.6, 3794516.6,   142.0,   142.0,   0.0);   (324910.5,
3794516.6,   142.0,   142.0,   0.0);
     (324949.4, 3794516.6,   142.4,   142.4,   0.0);   (324988.3,
3794516.6,   143.0,   143.0,   0.0);
     (324871.6, 3794538.4,   142.0,   142.0,   0.0);   (324910.5,
3794538.4,   142.0,   142.0,   0.0);
     (324949.4, 3794538.4,   142.4,   142.4,   0.0);   (324988.3,
3794538.4,   143.0,   143.0,   0.0);
     (324871.6, 3794560.2,   142.0,   142.0,   0.0);   (324910.5,
3794560.2,   142.0,   142.0,   0.0);
     (324949.4, 3794560.2,   142.4,   142.4,   0.0);   (324988.3,
3794560.2,   143.0,   143.0,   0.0);
     (324871.6, 3794582.0,   142.0,   142.0,   0.0);   (324910.5,
3794582.0,   142.0,   142.0,   0.0);
     (324949.4, 3794582.0,   142.4,   142.4,   0.0);   (324988.3,
3794582.0,   143.0,   143.0,   0.0);
     (324871.6, 3794603.8,   142.0,   142.0,   0.0);   (324910.5,
3794603.8,   142.0,   142.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     (324949.4, 3794603.8,   142.5,   142.5,   0.0);   (324988.3,
3794603.8,   143.0,   143.0,   0.0);
     (324871.6, 3794625.6,   142.0,   142.0,   0.0);   (324910.5,
3794625.6,   142.1,   142.1,   0.0);
     (324949.4, 3794625.6,   143.0,   143.0,   0.0);   (324988.3,
3794625.6,   143.0,   143.0,   0.0);
     (324871.6, 3794647.4,   142.0,   142.0,   0.0);   (324910.5,
3794647.4,   142.1,   142.1,   0.0);
     (324949.4, 3794647.4,   143.0,   143.0,   0.0);   (324988.3,
3794647.4,   143.0,   143.0,   0.0);
     (324871.6, 3794669.2,   142.0,   142.0,   0.0);   (324910.5,

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3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324449.0, 3794394.4,     138.0,     138.0,       0.0);         ( 324486.0,
3794394.4,     138.9,     138.9,       0.0);
     ( 324522.9, 3794394.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794394.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794394.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794394.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794394.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794394.4,     140.0,     140.0,       0.0);
     ( 324744.6, 3794394.4,     140.6,     140.6,       0.0);         ( 324781.6,
3794394.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794426.4,     138.2,     138.2,       0.0);         ( 324486.0,
3794426.4,     139.0,     139.0,       0.0);
     ( 324522.9, 3794426.4,     139.0,     139.0,       0.0);         ( 324559.9,
3794426.4,     139.0,     139.0,       0.0);
     ( 324596.8, 3794426.4,     139.0,     139.0,       0.0);         ( 324633.8,
3794426.4,     139.9,     139.9,       0.0);
     ( 324670.7, 3794426.4,     140.0,     140.0,       0.0);         ( 324707.7,
3794426.4,     140.1,     140.1,       0.0);
     ( 324744.6, 3794426.4,     140.7,     140.7,       0.0);         ( 324781.6,
3794426.4,     141.0,     141.0,       0.0);
     ( 324449.0, 3794458.3,     138.7,     138.7,       0.0);         ( 324486.0,
3794458.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794458.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794458.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794458.3,     139.2,     139.2,       0.0);         ( 324633.8,
3794458.3,     139.9,     139.9,       0.0);
     ( 324670.7, 3794458.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794458.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794458.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794458.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794490.3,     138.7,     138.7,       0.0);         ( 324486.0,
3794490.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794490.3,     139.0,     139.0,       0.0);         ( 324559.9,
3794490.3,     139.0,     139.0,       0.0);
     ( 324596.8, 3794490.3,     139.6,     139.6,       0.0);         ( 324633.8,
3794490.3,     140.0,     140.0,       0.0);
     ( 324670.7, 3794490.3,     140.0,     140.0,       0.0);         ( 324707.7,
3794490.3,     140.3,     140.3,       0.0);
     ( 324744.6, 3794490.3,     141.0,     141.0,       0.0);         ( 324781.6,
3794490.3,     141.0,     141.0,       0.0);
     ( 324449.0, 3794522.3,     138.9,     138.9,       0.0);         ( 324486.0,
3794522.3,     139.0,     139.0,       0.0);
     ( 324522.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324559.9,
```

3794522.3,   139.0,   139.0,   0.0);
     (324596.8, 3794522.3,   139.6,   139.6,   0.0);   (324633.8,
3794522.3,   140.0,   140.0,   0.0);
     (324670.7, 3794522.3,   140.0,   140.0,   0.0);   (324707.7,
3794522.3,   140.3,   140.3,   0.0);
     (324744.6, 3794522.3,   141.0,   141.0,   0.0);   (324781.6,
3794522.3,   141.0,   141.0,   0.0);
     (324449.0, 3794554.2,   139.0,   139.0,   0.0);   (324486.0,
3794554.2,   139.0,   139.0,   0.0);
     (324522.9, 3794554.2,   139.0,   139.0,   0.0);   (324559.9,
3794554.2,   139.2,   139.2,   0.0);
     (324596.8, 3794554.2,   139.8,   139.8,   0.0);   (324633.8,
3794554.2,   140.0,   140.0,   0.0);
     (324670.7, 3794554.2,   140.0,   140.0,   0.0);   (324707.7,
3794554.2,   140.3,   140.3,   0.0);
     (324744.6, 3794554.2,   141.0,   141.0,   0.0);   (324781.6,
3794554.2,   141.0,   141.0,   0.0);
     (324449.0, 3794586.2,   139.0,   139.0,   0.0);   (324486.0,
3794586.2,   139.0,   139.0,   0.0);
     (324522.9, 3794586.2,   139.0,   139.0,   0.0);   (324559.9,
3794586.2,   139.4,   139.4,   0.0);
     (324596.8, 3794586.2,   140.0,   140.0,   0.0);   (324633.8,
3794586.2,   140.0,   140.0,   0.0);
     (324670.7, 3794586.2,   140.0,   140.0,   0.0);   (324707.7,
3794586.2,   140.3,   140.3,   0.0);
     (324744.6, 3794586.2,   141.0,   141.0,   0.0);   (324781.6,
3794586.2,   141.0,   141.0,   0.0);
     (324449.0, 3794618.2,   139.0,   139.0,   0.0);   (324486.0,
3794618.2,   139.0,   139.0,   0.0);

                                                *** DISCRETE CARTESIAN RECEPTORS ***
                                              (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                           (METERS)

     (324522.9, 3794618.2,   139.0,   139.0,   0.0);   (324559.9,
3794618.2,   139.4,   139.4,   0.0);
     (324596.8, 3794618.2,   140.0,   140.0,   0.0);   (324633.8,
3794618.2,   140.0,   140.0,   0.0);
     (324670.7, 3794618.2,   140.1,   140.1,   0.0);   (324707.7,
3794618.2,   140.8,   140.8,   0.0);
     (324744.6, 3794618.2,   141.0,   141.0,   0.0);   (324781.6,
3794618.2,   141.0,   141.0,   0.0);
     (324449.0, 3794650.1,   139.0,   139.0,   0.0);   (324486.0,

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3794650.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794650.1,     139.0,     139.0,       0.0);         ( 324559.9,
3794650.1,     139.4,     139.4,       0.0);
     ( 324596.8, 3794650.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794650.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794650.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794650.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794650.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794650.1,     141.0,     141.0,       0.0);
     ( 324449.0, 3794682.1,     139.0,     139.0,       0.0);         ( 324486.0,
3794682.1,     139.0,     139.0,       0.0);
     ( 324522.9, 3794682.1,     139.1,     139.1,       0.0);         ( 324559.9,
3794682.1,     139.9,     139.9,       0.0);
     ( 324596.8, 3794682.1,     140.0,     140.0,       0.0);         ( 324633.8,
3794682.1,     140.0,     140.0,       0.0);
     ( 324670.7, 3794682.1,     140.1,     140.1,       0.0);         ( 324707.7,
3794682.1,     141.0,     141.0,       0.0);
     ( 324744.6, 3794682.1,     141.0,     141.0,       0.0);         ( 324781.6,
3794682.1,     141.0,     141.0,       0.0);
     ( 326547.4, 3795022.1,     153.0,     153.0,       0.0);         ( 326594.7,
3795022.1,     153.3,     153.3,       0.0);
     ( 326642.0, 3795022.1,     154.0,     154.0,       0.0);         ( 326547.4,
3795042.5,     153.0,     153.0,       0.0);
     ( 326594.7, 3795042.5,     153.9,     153.9,       0.0);         ( 326642.0,
3795042.5,     154.0,     154.0,       0.0);
     ( 326547.4, 3795062.9,     153.0,     153.0,       0.0);         ( 326594.7,
3795062.9,     154.0,     154.0,       0.0);
     ( 326642.0, 3795062.9,     154.0,     154.0,       0.0);         ( 326547.4,
3795083.3,     153.1,     153.1,       0.0);
     ( 326594.7, 3795083.3,     154.0,     154.0,       0.0);         ( 326642.0,
3795083.3,     154.0,     154.0,       0.0);
     ( 326547.4, 3795103.7,     153.6,     153.6,       0.0);         ( 326594.7,
3795103.7,     154.0,     154.0,       0.0);
     ( 326642.0, 3795103.7,     154.0,     154.0,       0.0);         ( 326547.4,
3795124.1,     153.6,     153.6,       0.0);
     ( 326594.7, 3795124.1,     154.0,     154.0,       0.0);         ( 326642.0,
3795124.1,     154.0,     154.0,       0.0);
     ( 326547.4, 3795144.5,     153.7,     153.7,       0.0);         ( 326594.7,
3795144.5,     154.0,     154.0,       0.0);
     ( 326642.0, 3795144.5,     154.0,     154.0,       0.0);         ( 326547.4,
3795164.9,     154.0,     154.0,       0.0);
     ( 326594.7, 3795164.9,     154.0,     154.0,       0.0);         ( 326642.0,
3795164.9,     154.0,     154.0,       0.0);
     ( 326547.4, 3795185.3,     154.0,     154.0,       0.0);         ( 326594.7,
3795185.3,     154.0,     154.0,       0.0);
     ( 326642.0, 3795185.3,     154.0,     154.0,       0.0);         ( 326547.4,
3795205.7,     154.0,     154.0,       0.0);
     ( 326594.7, 3795205.7,     154.0,     154.0,       0.0);         ( 326642.0,
3795205.7,     154.2,     154.2,       0.0);
     ( 326547.4, 3795226.1,     154.0,     154.0,       0.0);         ( 326594.7,
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3795226.1,   154.0,   154.0,   0.0);
     (326642.0, 3795226.1,   154.8,   154.8,   0.0);   (326547.4,
3795246.5,   154.0,   154.0,   0.0);
     (326594.7, 3795246.5,   154.1,   154.1,   0.0);   (326642.0,
3795246.5,   154.9,   154.9,   0.0);
     (326690.4, 3795243.4,   155.0,   155.0,   0.0);   (326688.7,
3795223.0,   155.0,   155.0,   0.0);
     (326686.0, 3795005.8,   154.0,   154.0,   0.0);   (326686.0,
3795033.7,   154.1,   154.1,   0.0);
     (326686.0, 3795061.5,   154.3,   154.3,   0.0);   (326686.0,
3795089.4,   154.3,   154.3,   0.0);
     (326686.0, 3795117.3,   154.3,   154.3,   0.0);   (326686.0,
3795145.2,   154.3,   154.3,   0.0);
     (326686.0, 3795173.1,   154.4,   154.4,   0.0);   (326686.0,
3795201.0,   155.0,   155.0,   0.0);
     (326832.8, 3795263.3,   155.3,   155.3,   0.0);   (326849.7,
3795263.3,   155.8,   155.8,   0.0);
     (326866.5, 3795263.3,   156.0,   156.0,   0.0);   (326883.4,
3795263.3,   156.0,   156.0,   0.0);
     (326900.3, 3795263.3,   156.0,   156.0,   0.0);   (326917.1,
3795263.3,   156.0,   156.0,   0.0);
     (326934.0, 3795263.3,   156.5,   156.5,   0.0);   (326950.9,
3795263.3,   157.0,   157.0,   0.0);
     (326967.8, 3795263.3,   157.0,   157.0,   0.0);   (326984.6,
3795263.3,   157.2,   157.2,   0.0);
     (327001.5, 3795263.3,   157.8,   157.8,   0.0);   (327036.8,
3795141.3,   157.0,   157.0,   0.0);
     (327075.7, 3795141.3,   158.0,   158.0,   0.0);   (327036.8,
3795160.9,   157.0,   157.0,   0.0);
     (327075.7, 3795160.9,   158.0,   158.0,   0.0);   (327036.8,
3795180.5,   157.0,   157.0,   0.0);

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     (327075.7, 3795180.5,   158.0,   158.0,   0.0);   (327036.8,
3795200.0,   157.1,   157.1,   0.0);
     (327075.7, 3795200.0,   158.0,   158.0,   0.0);   (327036.8,
3795219.6,   157.7,   157.7,   0.0);
     (327075.7, 3795219.6,   158.0,   158.0,   0.0);   (327036.8,
3795239.1,   158.0,   158.0,   0.0);
     (327075.7, 3795239.1,   158.0,   158.0,   0.0);   (327036.8,

3795258.7,   158.0,   158.0,   0.0);
     (327075.7, 3795258.7,   158.0,   158.0,   0.0);   (327036.8,
3795278.3,   158.0,   158.0,   0.0);
     (327075.7, 3795278.3,   158.0,   158.0,   0.0);   (326840.0,
3795223.2,   155.4,   155.4,   0.0);
     (326860.6, 3795224.2,   156.0,   156.0,   0.0);   (326877.3,
3795222.7,   156.0,   156.0,   0.0);
     (326929.7, 3795223.7,   156.4,   156.4,   0.0);   (326932.9,
3795200.0,   156.5,   156.5,   0.0);
     (326972.3, 3795217.0,   157.0,   157.0,   0.0);   (326970.8,
3795177.6,   157.0,   157.0,   0.0);
     (326968.2, 3795152.5,   157.0,   157.0,   0.0);   (326998.4,
3795149.8,   157.0,   157.0,   0.0);
     (326997.5, 3795176.6,   157.0,   157.0,   0.0);   (326995.6,
3795193.0,   157.0,   157.0,   0.0);
     (326996.9, 3795215.8,   157.0,   157.0,   0.0);   (326917.0,
3795152.2,   156.0,   156.0,   0.0);
     (326902.0, 3795150.5,   156.0,   156.0,   0.0);   (326884.2,
3795164.4,   156.0,   156.0,   0.0);
     (326867.3, 3795151.3,   156.0,   156.0,   0.0);   (326873.2,
3795163.4,   156.0,   156.0,   0.0);
     (326845.5, 3795152.1,   155.6,   155.6,   0.0);   (326824.9,
3795151.4,   155.0,   155.0,   0.0);
     (326826.6, 3795170.6,   155.0,   155.0,   0.0);   (326840.5,
3795180.2,   155.4,   155.4,   0.0);
     (326799.4, 3795148.0,   155.0,   155.0,   0.0);   (326776.8,
3795147.9,   155.0,   155.0,   0.0);
     (326738.0, 3795152.7,   155.0,   155.0,   0.0);   (326781.3,
3795110.8,   155.0,   155.0,   0.0);
     (326806.1, 3795109.0,   155.2,   155.2,   0.0);   (326804.5,
3795090.7,   155.2,   155.2,   0.0);
     (326781.8, 3795086.7,   155.0,   155.0,   0.0);   (326787.4,
3795061.8,   155.0,   155.0,   0.0);
     (326794.0, 3795031.2,   155.0,   155.0,   0.0);   (326977.5,
3795110.7,   157.0,   157.0,   0.0);
     (326994.0, 3795107.9,   157.0,   157.0,   0.0);   (326984.5,
3795093.8,   157.0,   157.0,   0.0);
     (326972.8, 3795082.4,   157.0,   157.0,   0.0);   (326995.4,
3795072.5,   157.0,   157.0,   0.0);
     (326993.2, 3795060.0,   157.0,   157.0,   0.0);   (326984.6,
3795040.8,   157.0,   157.0,   0.0);
     (326981.7, 3795027.2,   157.0,   157.0,   0.0);   (327041.5,
3795102.1,   157.1,   157.1,   0.0);
     (327065.2, 3795095.8,   157.9,   157.9,   0.0);   (327040.9,
3795076.3,   157.1,   157.1,   0.0);
     (327061.2, 3795058.3,   157.8,   157.8,   0.0);   (327037.8,
3795061.1,   157.0,   157.0,   0.0);
     (327035.6, 3795040.6,   157.0,   157.0,   0.0);   (327058.9,
3795038.4,   157.7,   157.7,   0.0);
     (327051.5, 3795017.8,   157.4,   157.4,   0.0);   (327033.3,

```
1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

                NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON
WHAT IS INCLUDED IN THE DATA FILE.



                                   *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED
CATEGORIES ***
                                                                (METERS/SEC)

                                                     1.54,   3.09,   5.14,   8.23,
10.80,
♠ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:57:03

                                    PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                     *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL
DATA ***

   Surface file:   M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.   Met Version:  14134
   Profile file:   M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.
   Surface format: FREE

   Profile format: FREE

   Surface station no.:    23136                  Upper air station no.:    93214
                  Name: UNKNOWN                                     Name: UNKNOWN

                  Year:   2009                                      Year:   2009

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN
ALBEDO  REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
 09 01 01   1 01 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  281.4    2.0
 09 01 01   1 02 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.9    2.0
 09 01 01   1 03   -3.3  0.067 -9.000 -9.000 -999.   42.      8.3  0.05   0.81
1.00    1.76  214.   10.0  280.9    2.0
 09 01 01   1 04 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
```

```
1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 05   -6.6  0.115 -9.000 -9.000 -999.   94.     21.1  0.03   0.81
1.00    2.36   93.   10.0  280.4    2.0
 09 01 01   1 06   -6.7  0.116 -9.000 -9.000 -999.   95.     21.1  0.03   0.81
1.00    2.36   52.   10.0  278.1    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  276.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
0.57    0.00    0.   10.0  277.5    2.0
 09 01 01   1 09   16.9  0.181  0.282  0.018   48.  185.    -31.8  0.03   0.81
0.33    2.36  107.   10.0  279.2    2.0
 09 01 01   1 10   61.0  0.211  0.601  0.015  129.  233.    -14.0  0.04   0.81
0.24    2.36  161.   10.0  281.4    2.0
 09 01 01   1 11   97.2  0.183  0.800  0.017  191.  188.     -5.7  0.05   0.81
0.21    1.76  214.   10.0  282.5    2.0
 09 01 01   1 12  108.8  0.264  0.957  0.013  292.  326.    -15.4  0.05   0.81
0.20    2.86  206.   10.0  285.4    2.0
 09 01 01   1 13  108.9  0.229  1.066  0.011  403.  263.     -9.9  0.05   0.81
0.20    2.36  223.   10.0  285.9    2.0
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00   281.5   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                              ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         326762.39    3796138.51        0.00081                    326766.63
3796155.18        0.00073
         326774.14    3796169.68        0.00069                    326798.07
3796201.57        0.00061
         326808.84    3796229.51        0.00055                    326880.95
3796184.59        0.00065
         326915.56    3796260.01        0.00056                    326941.07
3796261.11        0.00052
         326958.24    3796277.25        0.00050                    326964.89
3796291.08        0.00048
         326984.47    3796322.92        0.00045                    326993.31
3796349.42        0.00044
         326993.49    3796365.88        0.00043                    327007.03
3796382.47        0.00042
         326972.07    3796390.18        0.00041                    326996.78
3796414.54        0.00040
         326693.51    3795789.66        0.00087                    326695.37
3795771.29        0.00088
         326727.00    3795761.34        0.00087                    326758.55
3795787.48        0.00069
         326761.76    3795813.54        0.00060                    326742.22
3795837.06        0.00060
         326838.64    3795823.91        0.00051                    326811.45
3795889.81        0.00048
         326823.87    3795855.97        0.00047                    326876.62
3795837.29        0.00045
         326889.30    3795888.54        0.00043                    326687.45
3795683.69        0.00166
         326829.20    3795731.31        0.00073                    326859.14
3795703.62        0.00070
         326881.10    3795705.58        0.00075                    326787.44
3795607.00        0.00191
         326780.76    3795563.55        0.00205                    326800.04
3795542.65        0.00207
         326808.89    3795540.15        0.00208                    326825.79
3795543.65        0.00208
         326856.70    3795545.31        0.00204                    326792.33
3795494.19        0.00208
         326806.68    3795493.93        0.00206                    326824.07
3795494.42        0.00204
         326853.52    3795481.71        0.00202                    326898.80
3795534.37        0.00196
         325796.15    3795215.59        0.00339                    325823.15
3795215.59        0.00335
         326012.15    3795215.59        0.00296                    326120.15
3795215.59        0.00278
         326147.15    3795215.59        0.00274                    325796.15
3795254.59        0.00386
         325823.15    3795254.59        0.00379                    325850.15
3795254.59        0.00371
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         325877.15    3795332.59        0.00452                    325904.15
3795332.59        0.00445
         325931.15    3795332.59        0.00431                    325958.15
3795332.59        0.00417
         325985.15    3795332.59        0.00377                    326012.15
3795332.59        0.00362
         326039.15    3795332.59        0.00354                    326066.15
3795332.59        0.00348
         326093.15    3795332.59        0.00342                    326120.15
3795332.59        0.00337
         326147.15    3795332.59        0.00332                    325847.44
3795004.89        0.00179
         325872.44    3795004.89        0.00179                    325897.44
3795004.89        0.00178
         325922.44    3795004.89        0.00178                    325947.44
3795004.89        0.00177
         325972.44    3795004.89        0.00176                    325997.44
3795004.89        0.00175
         326022.44    3795004.89        0.00174                    326047.44
3795004.89        0.00174
         326072.44    3795004.89        0.00174                    326097.44
3795004.89        0.00173
         326122.44    3795004.89        0.00173                    326147.44
3795004.89        0.00172
         325847.44    3795046.89        0.00201                    325872.44
3795046.89        0.00200
         325897.44    3795046.89        0.00199                    325922.44
3795046.89        0.00198
         325947.44    3795046.89        0.00197                    325972.44
3795046.89        0.00196
         325997.44    3795046.89        0.00194                    326022.44
3795046.89        0.00193
         326047.44    3795046.89        0.00192                    326072.44
3795046.89        0.00192
         326097.44    3795046.89        0.00191                    326122.44
3795046.89        0.00189
         326147.44    3795046.89        0.00187                    325847.44
3795088.89        0.00226
         325872.44    3795088.89        0.00224                    325897.44
3795088.89        0.00223
         325922.44    3795088.89        0.00222                    325947.44
3795088.89        0.00219
         325972.44    3795088.89        0.00216                    325997.44
3795088.89        0.00215
         326022.44    3795088.89        0.00214                    326047.44
3795088.89        0.00213
         326072.44    3795088.89        0.00212                    326097.44
3795088.89        0.00210
         326122.44    3795088.89        0.00208                    326147.44
3795088.89        0.00206
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325897.44	3795130.89	0.00251	325922.44	3795130.89	0.00248
325947.44	3795130.89	0.00244	325972.44	3795130.89	0.00241
325997.44	3795130.89	0.00240	326022.44	3795130.89	0.00238
326047.44	3795130.89	0.00236	326072.44	3795130.89	0.00234
326097.44	3795130.89	0.00231	326122.44	3795130.89	0.00228
326147.44	3795130.89	0.00226	325847.44	3795172.89	0.00289
325872.44	3795172.89	0.00286	325897.44	3795172.89	0.00282
325922.44	3795172.89	0.00279	325947.44	3795172.89	0.00274
325972.44	3795172.89	0.00270	325997.44	3795172.89	0.00267
326022.44	3795172.89	0.00264	326047.44	3795172.89	0.00261
326072.44	3795172.89	0.00256	325847.44	3795214.89	0.00329
325872.44	3795214.89	0.00324	325897.44	3795214.89	0.00319
325922.44	3795214.89	0.00314	325947.44	3795214.89	0.00307

```
         325972.44    3795214.89        0.00302                    325997.44
3795214.89        0.00298
         326047.44    3795214.89        0.00287                    326072.44
3795214.89        0.00283
         326097.44    3795214.89        0.00280                    326147.44
3795214.89        0.00274
         326096.58    3795181.52        0.00259                    326118.63
3795182.57        0.00257
         326144.35    3795184.14        0.00256                    325849.74
3794829.62        0.00118
         325892.61    3794829.62        0.00118                    325935.48
3794829.62        0.00117
         325978.35    3794829.62        0.00118                    326021.22
3794829.62        0.00118
         326064.09    3794829.62        0.00118                    325849.74
3794867.55        0.00128
         325892.61    3794867.55        0.00128                    325935.48
3794867.55        0.00128
         325978.35    3794867.55        0.00128                    326021.22
3794867.55        0.00128
         326064.09    3794867.55        0.00128                    325849.74
3794905.48        0.00140
         325892.61    3794905.48        0.00139                    325935.48
3794905.48        0.00139
         325978.35    3794905.48        0.00139                    326021.22
3794905.48        0.00139
         326064.09    3794905.48        0.00138                    325849.74
3794943.41        0.00154
         325892.61    3794943.41        0.00153                    325935.48
3794943.41        0.00152
         325978.35    3794943.41        0.00152                    326021.22
3794943.41        0.00152
         326064.09    3794943.41        0.00151                    325849.74
3794981.34        0.00169
         325892.61    3794981.34        0.00168                    325935.48
3794981.34        0.00167
         325978.35    3794981.34        0.00167                    326021.22
3794981.34        0.00165
         326064.09    3794981.34        0.00165                    325855.31
3794726.62        0.00095
         325902.64    3794726.62        0.00095                    325855.31
3794745.52        0.00099
         325902.64    3794745.52        0.00099                    325855.31
3794764.42        0.00103
         325902.64    3794764.42        0.00103                    325855.31
3794783.32        0.00107
         325902.64    3794783.32        0.00107                    325855.31
3794802.22        0.00111
         325902.64    3794802.22        0.00111                    325855.31
3794821.12        0.00116
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         325902.64    3794821.12        0.00116                      326402.77
3795249.33        0.00239
         325380.55    3795776.17        0.00650                      325415.88
3795858.35        0.00293
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       16:57:03

                                 PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -
         325409.93    3795994.97        0.00161                      325416.60
3796058.09        0.00135
         325409.65    3796164.95        0.00055                      325322.71
3796083.91        0.00073
         325297.93    3796111.07        0.00062                      325246.73
3796076.15        0.00072
         325280.01    3796260.66        0.00012                      325237.05
3796200.45        0.00016
         325163.03    3796071.11        0.00058                      325215.74
3795991.41        0.00114
         325208.29    3795926.88        0.00170                      325249.48
3795829.20        0.00252
         325171.49    3795759.19        0.00429                      325129.24
3795756.40        0.00482
         325154.75    3795886.20        0.00217                      325068.55
3795885.45        0.00147
         325047.86    3795938.00        0.00098                      325045.84
3795982.69        0.00079
         325071.95    3796106.74        0.00042                      325060.64
3796290.38        0.00011
         324903.71    3796379.80        0.00005                      324787.84
3796510.42        0.00006
         324916.48    3796618.27        0.00005                      326492.96
3796356.32        0.00085
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```
         326552.73    3796900.01        0.00021                    326599.30
3796893.60        0.00021
         326617.42    3796889.51        0.00021                    326639.41
3796881.91        0.00022
         326663.73    3796864.08        0.00024                    326679.47
3796885.20        0.00022
         326697.81    3796898.31        0.00022                    326712.34
3796916.60        0.00021
         326726.62    3796931.14        0.00020                    326742.23
3796948.02        0.00019
         326756.58    3796965.73        0.00018                    326772.07
3796973.30        0.00018
         326785.22    3796890.50        0.00022                    326800.10
3797003.95        0.00018
         326817.96    3797014.86        0.00018                    326813.74
3796843.93        0.00025
         326833.92    3796853.59        0.00024                    326848.61
3796873.43        0.00023
         326864.19    3796885.12        0.00022                    326877.92
3796901.20        0.00022
         326893.85    3796917.11        0.00021                    326904.49
3796938.77        0.00020
         326907.64    3796966.22        0.00019                    326914.45
3796991.73        0.00018
         326921.92    3797038.42        0.00016                    326596.56
3797264.10        0.00011
         326829.98    3795735.43        0.00071                    326866.53
3795706.88        0.00069
         326831.50    3795646.57        0.00184                    326872.90
3795644.95        0.00179
         326898.91    3795644.66        0.00175                    326924.66
3795650.14        0.00165
         326949.68    3795646.43        0.00166                    326975.59
3795638.84        0.00149
         326917.88    3795602.78        0.00188                    326918.63
3795584.13        0.00197
         326921.61    3795563.48        0.00195                    326917.18
3795537.15        0.00193
         326934.99    3795592.17        0.00187                    326951.04
3795599.47        0.00178
         326950.26    3795555.95        0.00190                    326951.59
3795535.07        0.00188
         326961.83    3795537.57        0.00187                    326982.25
3795538.33        0.00184
         326992.41    3795539.09        0.00182                    327008.98
3795535.58        0.00179
         326987.68    3795580.97        0.00176                    327024.81
3795588.42        0.00162
         326925.07    3795485.95        0.00187                    326937.83
3795488.27        0.00186
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         326956.45    3795489.28        0.00183                        326970.89
3795491.03        0.00181
         326989.96    3795487.68        0.00178                        325049.27
3794409.32        0.00090
         325086.77    3794409.32        0.00086                        325124.27
3794409.32        0.00082
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:57:03

                                   PAGE  18
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
         325161.77    3794409.32        0.00080                        325199.27
3794409.32        0.00077
         325236.77    3794409.32        0.00074                        325274.27
3794409.32        0.00072
         325049.27    3794432.52        0.00094                        325086.77
3794432.52        0.00090
         325124.27    3794432.52        0.00086                        325161.77
3794432.52        0.00083
         325199.27    3794432.52        0.00080                        325236.77
3794432.52        0.00077
         325274.27    3794432.52        0.00075                        325049.27
3794455.72        0.00098
         325086.77    3794455.72        0.00094                        325124.27
3794455.72        0.00090
         325161.77    3794455.72        0.00087                        325199.27
3794455.72        0.00083
         325236.77    3794455.72        0.00080                        325274.27
3794455.72        0.00077
         325049.27    3794478.92        0.00103                        325086.77
3794478.92        0.00099
         325124.27    3794478.92        0.00094                        325161.77
3794478.92        0.00090
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         325199.27    3794478.92        0.00087                    325236.77
3794478.92        0.00083
         325274.27    3794478.92        0.00080                    325049.27
3794502.12        0.00108
         325086.77    3794502.12        0.00104                    325124.27
3794502.12        0.00098
         325161.77    3794502.12        0.00094                    325199.27
3794502.12        0.00090
         325236.77    3794502.12        0.00087                    325274.27
3794502.12        0.00084
         325049.27    3794525.32        0.00113                    325086.77
3794525.32        0.00108
         325124.27    3794525.32        0.00103                    325161.77
3794525.32        0.00098
         325199.27    3794525.32        0.00094                    325236.77
3794525.32        0.00090
         325274.27    3794525.32        0.00087                    325049.27
3794548.52        0.00118
         325086.77    3794548.52        0.00114                    325124.27
3794548.52        0.00108
         325161.77    3794548.52        0.00103                    325199.27
3794548.52        0.00098
         325236.77    3794548.52        0.00094                    325274.27
3794548.52        0.00091
         325049.27    3794571.72        0.00124                    325086.77
3794571.72        0.00119
         325124.27    3794571.72        0.00113                    325161.77
3794571.72        0.00107
         325199.27    3794571.72        0.00103                    325236.77
3794571.72        0.00098
         325274.27    3794571.72        0.00095                    325049.27
3794594.92        0.00130
         325086.77    3794594.92        0.00125                    325124.27
3794594.92        0.00119
         325161.77    3794594.92        0.00113                    325199.27
3794594.92        0.00107
         325236.77    3794594.92        0.00103                    325274.27
3794594.92        0.00099
         325049.27    3794618.12        0.00137                    325086.77
3794618.12        0.00132
         325124.27    3794618.12        0.00125                    325161.77
3794618.12        0.00118
         325199.27    3794618.12        0.00113                    325236.77
3794618.12        0.00108
         325274.27    3794618.12        0.00103                    325049.27
3794641.32        0.00144
         325086.77    3794641.32        0.00139                    325124.27
3794641.32        0.00131
         325161.77    3794641.32        0.00124                    325199.27
3794641.32        0.00118
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                                ** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
         324871.62    3794451.23        0.00121                    324910.53
3794451.23        0.00116
         324949.44    3794451.23        0.00110                    324988.35
3794451.23        0.00106
         324871.62    3794473.03        0.00126                    324910.53
3794473.03        0.00121
         324949.44    3794473.03        0.00115                    324988.35
3794473.03        0.00111
         324871.62    3794494.83        0.00132                    324910.53
3794494.83        0.00126
         324949.44    3794494.83        0.00120                    324988.35
3794494.83        0.00116
         324871.62    3794516.63        0.00138                    324910.53
3794516.63        0.00131
         324949.44    3794516.63        0.00126                    324988.35
3794516.63        0.00121
         324871.62    3794538.43        0.00143                    324910.53
3794538.43        0.00137
         324949.44    3794538.43        0.00131                    324988.35
3794538.43        0.00126
         324871.62    3794560.23        0.00150                    324910.53
3794560.23        0.00143
         324949.44    3794560.23        0.00137                    324988.35
3794560.23        0.00132
         324871.62    3794582.03        0.00156                    324910.53
3794582.03        0.00149
         324949.44    3794582.03        0.00144                    324988.35
3794582.03        0.00138
         324871.62    3794603.83        0.00163                    324910.53
3794603.83        0.00156
         324949.44    3794603.83        0.00150                    324988.35
3794603.83        0.00145
         324871.62    3794625.63        0.00170                    324910.53
3794625.63        0.00163
         324949.44    3794625.63        0.00159                    324988.35
3794625.63        0.00151
         324871.62    3794647.43        0.00178                    324910.53
3794647.43        0.00171
         324949.44    3794647.43        0.00166                    324988.35
3794647.43        0.00158
         324871.62    3794669.23        0.00186                    324910.53
3794669.23        0.00179
         324949.44    3794669.23        0.00174                    324988.35
3794669.23        0.00166
         324871.62    3794691.03        0.00195                    324910.53
3794691.03        0.00188
         324949.44    3794691.03        0.00183                    324988.35
3794691.03        0.00174
         324449.04    3794394.39        0.00140                    324485.99
3794394.39        0.00140
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         324522.94    3794394.39        0.00138                       324559.89
3794394.39        0.00135
         324596.84    3794394.39        0.00133                       324633.79
3794394.39        0.00132
         324670.74    3794394.39        0.00129                       324707.69
3794394.39        0.00126
         324744.64    3794394.39        0.00123                       324781.59
3794394.39        0.00119
         324449.04    3794426.36        0.00148                       324485.99
3794426.36        0.00147
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       16:57:03

                                 PAGE  20
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         324522.94    3794426.36        0.00145                       324559.89
3794426.36        0.00142
         324596.84    3794426.36        0.00139                       324633.79
3794426.36        0.00138
         324670.74    3794426.36        0.00136                       324707.69
3794426.36        0.00133
         324744.64    3794426.36        0.00130                       324781.59
3794426.36        0.00126
         324449.04    3794458.33        0.00157                       324485.99
3794458.33        0.00155
         324522.94    3794458.33        0.00153                       324559.89
3794458.33        0.00150
         324596.84    3794458.33        0.00147                       324633.79
3794458.33        0.00146
         324670.74    3794458.33        0.00143                       324707.69
3794458.33        0.00140
         324744.64    3794458.33        0.00138                       324781.59
3794458.33        0.00134
```

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         324449.04    3794490.30        0.00165                    324485.99
3794490.30        0.00163
         324522.94    3794490.30        0.00161                    324559.89
3794490.30        0.00158
         324596.84    3794490.30        0.00157                    324633.79
3794490.30        0.00154
         324670.74    3794490.30        0.00151                    324707.69
3794490.30        0.00148
         324744.64    3794490.30        0.00146                    324781.59
3794490.30        0.00141
         324449.04    3794522.27        0.00174                    324485.99
3794522.27        0.00172
         324522.94    3794522.27        0.00170                    324559.89
3794522.27        0.00167
         324596.84    3794522.27        0.00166                    324633.79
3794522.27        0.00163
         324670.74    3794522.27        0.00159                    324707.69
3794522.27        0.00156
         324744.64    3794522.27        0.00154                    324781.59
3794522.27        0.00150
         324449.04    3794554.24        0.00183                    324485.99
3794554.24        0.00181
         324522.94    3794554.24        0.00179                    324559.89
3794554.24        0.00177
         324596.84    3794554.24        0.00176                    324633.79
3794554.24        0.00173
         324670.74    3794554.24        0.00169                    324707.69
3794554.24        0.00166
         324744.64    3794554.24        0.00163                    324781.59
3794554.24        0.00159
         324449.04    3794586.21        0.00193                    324485.99
3794586.21        0.00191
         324522.94    3794586.21        0.00189                    324559.89
3794586.21        0.00188
         324596.84    3794586.21        0.00187                    324633.79
3794586.21        0.00184
         324670.74    3794586.21        0.00179                    324707.69
3794586.21        0.00176
         324744.64    3794586.21        0.00173                    324781.59
3794586.21        0.00168
         324449.04    3794618.18        0.00204                    324485.99
3794618.18        0.00202
         324522.94    3794618.18        0.00200                    324559.89
3794618.18        0.00199
         324596.84    3794618.18        0.00198                    324633.79
3794618.18        0.00195
         324670.74    3794618.18        0.00191                    324707.69
3794618.18        0.00189
         324744.64    3794618.18        0.00185                    324781.59
3794618.18        0.00179
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         324449.04    3794650.15        0.00216                       324485.99
3794650.15        0.00214
         324522.94    3794650.15        0.00212                       324559.89
3794650.15        0.00211
         324596.84    3794650.15        0.00210                       324633.79
3794650.15        0.00207
         324670.74    3794650.15        0.00204                       324707.69
3794650.15        0.00202
         324744.64    3794650.15        0.00197                       324781.59
3794650.15        0.00191
         324449.04    3794682.12        0.00228                       324485.99
3794682.12        0.00226
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       16:57:03

                                    PAGE  21
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                    INCLUDING SOURCE(S):     PAREA1      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         324522.94    3794682.12        0.00225                       324559.89
3794682.12        0.00225
         324596.84    3794682.12        0.00223                       324633.79
3794682.12        0.00220
         324670.74    3794682.12        0.00217                       324707.69
3794682.12        0.00216
         324744.64    3794682.12        0.00211                       324781.59
3794682.12        0.00205
         326547.36    3795022.06        0.00153                       326594.67
3795022.06        0.00150
         326641.98    3795022.06        0.00146                       326547.36
3795042.46        0.00159
         326594.67    3795042.46        0.00153                       326641.98
3795042.46        0.00151
         326547.36    3795062.86        0.00164                       326594.67
3795062.86        0.00157
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         326641.98    3795062.86        0.00156                    326547.36
3795083.26        0.00169
         326594.67    3795083.26        0.00163                    326641.98
3795083.26        0.00161
         326547.36    3795103.66        0.00173                    326594.67
3795103.66        0.00168
         326641.98    3795103.66        0.00166                    326547.36
3795124.06        0.00178
         326594.67    3795124.06        0.00174                    326641.98
3795124.06        0.00172
         326547.36    3795144.46        0.00184                    326594.67
3795144.46        0.00180
         326641.98    3795144.46        0.00177                    326547.36
3795164.86        0.00188
         326594.67    3795164.86        0.00185                    326641.98
3795164.86        0.00183
         326547.36    3795185.26        0.00195                    326594.67
3795185.26        0.00192
         326641.98    3795185.26        0.00189                    326547.36
3795205.66        0.00201
         326594.67    3795205.66        0.00198                    326641.98
3795205.66        0.00193
         326547.36    3795226.06        0.00208                    326594.67
3795226.06        0.00204
         326641.98    3795226.06        0.00195                    326547.36
3795246.46        0.00215
         326594.67    3795246.46        0.00210                    326641.98
3795246.46        0.00199
         326690.43    3795243.37        0.00194                    326688.67
3795223.05        0.00189
         326686.02    3795005.77        0.00141                    326686.02
3795033.66        0.00147
         326686.02    3795061.55        0.00153                    326686.02
3795089.44        0.00159
         326686.02    3795117.33        0.00166                    326686.02
3795145.22        0.00173
         326686.02    3795173.11        0.00180                    326686.02
3795201.00        0.00183
         326832.80    3795263.26        0.00185                    326849.67
3795263.26        0.00180
         326866.54    3795263.26        0.00177                    326883.41
3795263.26        0.00176
         326900.28    3795263.26        0.00175                    326917.15
3795263.26        0.00173
         326934.02    3795263.26        0.00168                    326950.89
3795263.26        0.00164
         326967.76    3795263.26        0.00162                    326984.63
3795263.26        0.00160
         327001.50    3795263.26        0.00155                    327036.85
3795141.35        0.00139
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         327075.72    3795141.35        0.00132                        327036.85
3795160.91        0.00142
         327075.72    3795160.91        0.00135                        327036.85
3795180.47        0.00145
         327075.72    3795180.47        0.00137                        327036.85
3795200.03        0.00147
         327075.72    3795200.03        0.00140                        327036.85
3795219.59        0.00147
         327075.72    3795219.59        0.00142                        327036.85
3795239.15        0.00148
         327075.72    3795239.15        0.00145                        327036.85
3795258.71        0.00150
         327075.72    3795258.71        0.00147                        327036.85
3795278.27        0.00153
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:57:03

                                   PAGE  22
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
         327075.72    3795278.27        0.00150                        326840.04
3795223.24        0.00175
         326860.58    3795224.16        0.00170                        326877.30
3795222.74        0.00169
         326929.68    3795223.69        0.00163                        326932.86
3795200.00        0.00157
         326972.32    3795217.03        0.00155                        326970.84
3795177.58        0.00148
         326968.20    3795152.46        0.00144                        326998.43
3795149.77        0.00142
         326997.48    3795176.61        0.00147                        326995.60
3795193.01        0.00149
         326996.92    3795215.78        0.00153                        326916.97
3795152.19        0.00153
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         326901.95    3795150.46        0.00153                    326884.24
3795164.40        0.00157
         326867.32    3795151.32        0.00155                    326873.22
3795163.36        0.00157
         326845.53    3795152.12        0.00159                    326824.91
3795151.45        0.00163
         326826.60    3795170.60        0.00167                    326840.50
3795180.17        0.00166
         326799.39    3795147.97        0.00164                    326776.77
3795147.89        0.00165
         326738.03    3795152.73        0.00168                    326781.33
3795110.75        0.00156
         326806.10    3795109.04        0.00154                    326804.45
3795090.73        0.00150
         326781.78    3795086.72        0.00151                    326787.40
3795061.79        0.00146
         326794.01    3795031.22        0.00139                    326977.50
3795110.69        0.00137
         326994.05    3795107.87        0.00136                    326984.52
3795093.80        0.00134
         326972.85    3795082.37        0.00133                    326995.41
3795072.53        0.00130
         326993.23    3795060.01        0.00128                    326984.60
3795040.80        0.00126
         326981.66    3795027.22        0.00124                    327041.48
3795102.15        0.00133
         327065.19    3795095.75        0.00127                    327040.88
3795076.27        0.00129
         327061.24    3795058.32        0.00122                    327037.82
3795061.09        0.00127
         327035.65    3795040.58        0.00124                    327058.94
3795038.41        0.00120
         327051.53    3795017.85        0.00118                    327033.29
3795021.71        0.00121
         326826.26    3795110.80        0.00150                    326843.29
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         326860.32    3795110.80        0.00147                    326877.35
3795110.80        0.00147
         326894.38    3795110.80        0.00146                    326911.41
3795110.80        0.00145
         326928.44    3795110.80        0.00143                    326945.47
3795110.80        0.00139
         326819.99    3795048.86        0.00138                    326838.19
3795048.86        0.00136
         326856.39    3795048.86        0.00136                    326874.59
3795048.86        0.00135
         326892.79    3795048.86        0.00135                    326910.99
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         326929.19    3795048.86        0.00132                    326947.39
3795048.86        0.00128
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3795852.39        0.00171
         326170.84    3795648.38        0.00194                       326148.08
3795505.91        0.00249
         325511.50    3795586.39        0.00523

🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***       16:57:03

                                  PAGE  23
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        326345.95   3795634.03        0.02457  (09051606)                326414.12
 3795779.67        0.02273  (12012517)
        326435.80   3795773.48        0.02335  (12012517)                326458.31
 3795772.83        0.02378  (12012517)
        326424.24   3795858.77        0.02393  (12012517)                326400.20
 3795799.84        0.02251  (12012517)
        326400.93   3795767.87        0.02252  (12012517)                326424.24
 3795858.77        0.02393  (12012517)
        326611.84   3795762.99        0.02643  (10021408)                326611.84
 3795762.99        0.02643  (10021408)
        326610.94   3795777.66        0.02649  (10021408)                326605.86
 3795792.89        0.02674  (10021408)
        326623.93   3795809.00        0.02614  (10021408)                326627.22
 3795836.58        0.02596  (10021408)
        326640.09   3795836.58        0.02573  (10021408)                326654.45
 3795868.68        0.02427  (10021408)
        326665.45   3795883.13        0.02355  (10021408)                326588.30
 3795867.62        0.02210  (12012517)
        326640.52   3795951.95        0.01860  (09040107)                326658.45
 3795975.58        0.01932  (12021505)
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       326759.52   3796019.28        0.01803  (11032918)              326763.60
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       326775.94   3796048.05        0.01927  (11012717)              326774.23
3796062.19        0.02051  (11012717)
       326801.34   3796078.38        0.02050  (11012717)              326809.46
3796094.93        0.02103  (11012717)
       326736.80   3796108.96        0.02227  (11012717)              326835.84
3796126.62        0.02102  (11012717)
       326836.27   3796140.13        0.02127  (11012717)              326800.95
3796123.31        0.02232  (11012717)
       326762.39   3796138.51        0.02132  (11032918)              326766.63
3796155.18        0.02093  (11032918)
       326774.14   3796169.68        0.02048  (11032918)              326798.07
3796201.57        0.01974  (09053006)
       326808.84   3796229.51        0.01843  (09052906)              326880.95
3796184.59        0.01990  (11012717)
       326915.56   3796260.01        0.02002  (09052906)              326941.07
3796261.11        0.01940  (09052906)
       326958.24   3796277.25        0.01898  (09052906)              326964.89
3796291.08        0.01809  (09052906)
       326984.47   3796322.92        0.01697  (11012717)              326993.31
3796349.42        0.01733  (11012717)
       326993.49   3796365.88        0.01793  (11012717)              327007.03
3796382.47        0.01834  (11012717)
       326972.07   3796390.18        0.01907  (11012717)              326996.78
3796414.54        0.01973  (11012717)
       326693.51   3795789.66        0.01889  (12012517)              326695.37
3795771.29        0.01907  (12012517)
       326727.00   3795761.34        0.01891  (12012517)              326758.55
3795787.48        0.01698  (12012517)
       326761.76   3795813.54        0.01538  (12012517)              326742.22
3795837.06        0.01469  (12012517)
       326838.64   3795823.91        0.01322  (12012517)              326811.45
3795889.81        0.01095  (09040107)
       326823.87   3795855.97        0.01129  (09040107)              326876.62
3795837.29        0.01156  (09040107)
       326889.30   3795888.54        0.01036  (10040207)              326687.45
3795683.69        0.03023  (10021408)
       326829.20   3795731.31        0.01755  (12012517)              326859.14
3795703.62        0.01723  (12012517)
       326881.10   3795705.58        0.01763  (12012517)              326787.44
3795607.00        0.04045  (13010108)
       326780.76   3795563.55        0.04698  (13010108)              326800.04
3795542.65        0.04982  (13010108)
       326808.89   3795540.15        0.05065  (13010108)              326825.79
3795543.65        0.05150  (13010108)
       326856.70   3795545.31        0.05126  (13010108)              326792.33
3795494.19        0.05223  (10121407)
       326806.68   3795493.93        0.05217  (10121407)              326824.07
3795494.42        0.05191  (10121407)
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325877.15	3795254.59	0.13432	(12122704)	325904.15	3795254.59	0.13150	(11120907)
325931.15	3795254.59	0.12651	(13122706)	325958.15	3795254.59	0.12435	(11011303)
325985.15	3795254.59	0.12198	(11121424)	326012.15	3795254.59	0.11796	(11121424)
326039.15	3795254.59	0.11486	(11121424)	326066.15	3795254.59	0.11324	(11012807)
326093.15	3795254.59	0.11225	(11012807)	326120.15	3795254.59	0.11082	(11120707)
326147.15	3795254.59	0.10896	(11120707)	325796.15	3795293.59	0.14021	(10122722)
325823.15	3795293.59	0.13822	(09120405)	325850.15	3795293.59	0.13775	(12122704)
325877.15	3795293.59	0.13745	(11120907)	325904.15	3795293.59	0.13483	(13122706)
325931.15	3795293.59	0.12949	(11011303)	325958.15	3795293.59	0.12678	(11011303)

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       325985.15   3795293.59        0.12164  (11121424)               326012.15
3795293.59        0.10970  (11011602)
       326039.15   3795293.59        0.10814  (11012807)               326066.15
3795293.59        0.10377  (11012807)
       326093.15   3795293.59        0.10015  (13011505)               326120.15
3795293.59        0.09879  (09010718)
       326147.15   3795293.59        0.09830  (13122406)               325796.15
3795332.59        0.12538  (10122722)
       325823.15   3795332.59        0.12442  (12122704)               325850.15
3795332.59        0.13678  (11120907)
       325877.15   3795332.59        0.13600  (13122706)               325904.15
3795332.59        0.13650  (11011303)
       325931.15   3795332.59        0.13174  (11011303)               325958.15
3795332.59        0.12766  (11121424)
       325985.15   3795332.59        0.10996  (11011602)               326012.15
3795332.59        0.10391  (11012807)
       326039.15   3795332.59        0.10233  (11012807)               326066.15
3795332.59        0.10129  (13011505)
       326093.15   3795332.59        0.09999  (09010718)               326120.15
3795332.59        0.10076  (13122406)
       326147.15   3795332.59        0.09984  (10020123)               325847.44
3795004.89        0.11623  (10120705)
       325872.44   3795004.89        0.11486  (09022002)               325897.44
3795004.89        0.11278  (11020622)
       325922.44   3795004.89        0.11215  (10122722)               325947.44
3795004.89        0.11080  (09120405)
       325972.44   3795004.89        0.10893  (12122704)               325997.44
3795004.89        0.10659  (11120907)
       326022.44   3795004.89        0.10487  (11120907)               326047.44
3795004.89        0.10363  (13122706)
       326072.44   3795004.89        0.10244  (11011303)               326097.44
3795004.89        0.10125  (11011303)
       326122.44   3795004.89        0.09957  (12010820)               326147.44
3795004.89        0.09852  (11121424)
       325847.44   3795046.89        0.11931  (09022002)               325872.44
3795046.89        0.11755  (09022002)
       325897.44   3795046.89        0.11625  (10122722)               325922.44
3795046.89        0.11487  (09120405)
       325947.44   3795046.89        0.11345  (12122704)               325972.44
3795046.89        0.11072  (11120907)
       325997.44   3795046.89        0.10850  (11120907)               326022.44
3795046.89        0.10715  (13122706)
       326047.44   3795046.89        0.10577  (11011303)               326072.44
3795046.89        0.10456  (11011303)
       326097.44   3795046.89        0.10277  (12010820)               326122.44
3795046.89        0.10121  (11121424)
       326147.44   3795046.89        0.09891  (11121424)               325847.44
3795088.89        0.12256  (09022002)
       325872.44   3795088.89        0.12055  (10122722)               325897.44
3795088.89        0.11942  (10122722)
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325897.44	3795130.89	0.12258	(09120405)	325922.44	3795130.89	0.12078	(12122704)
325947.44	3795130.89	0.11751	(11120907)	325972.44	3795130.89	0.11496	(13122706)
325997.44	3795130.89	0.11317	(11011303)	326022.44	3795130.89	0.11194	(11011303)
326047.44	3795130.89	0.10995	(11011303)	326072.44	3795130.89	0.10911	(11121424)
326097.44	3795130.89	0.10614	(11121424)	326122.44	3795130.89	0.10338	(11011602)
326147.44	3795130.89	0.10236	(11012807)	325847.44	3795172.89	0.12952	(10122722)
325872.44	3795172.89	0.12776	(09120405)	325897.44	3795172.89	0.12588	(12122704)
325922.44	3795172.89	0.12386	(11120907)	325947.44	3795172.89	0.12041	(13122706)

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       325972.44   3795172.89        0.11743  (13122706)               325997.44
3795172.89        0.11606  (11011303)
       326022.44   3795172.89        0.11392  (11011303)               326047.44
3795172.89        0.11247  (11121424)
       326072.44   3795172.89        0.10910  (11121424)               325847.44
3795214.89        0.13354  (10122722)
       325872.44   3795214.89        0.13138  (12122704)               325897.44
3795214.89        0.12904  (11120907)
       325922.44   3795214.89        0.12723  (11120907)               325947.44
3795214.89        0.12331  (13122706)
       325972.44   3795214.89        0.12052  (11011303)               325997.44
3795214.89        0.11839  (11011303)
       326047.44   3795214.89        0.11242  (11121424)               326072.44
3795214.89        0.11030  (11011602)
       326097.44   3795214.89        0.10939  (11012807)               326147.44
3795214.89        0.10725  (11120707)
       326096.58   3795181.52        0.10713  (11011602)               326118.63
3795182.57        0.10655  (11012807)
       326144.35   3795184.14        0.10576  (11012807)               325849.74
3794829.62        0.10589  (10120701)
       325892.61   3794829.62        0.10412  (10120705)               325935.48
3794829.62        0.10149  (09022002)
       325978.35   3794829.62        0.09936  (10122722)               326021.22
3794829.62        0.09786  (09120405)
       326064.09   3794829.62        0.09525  (12122704)               325849.74
3794867.55        0.10829  (10120701)
       325892.61   3794867.55        0.10547  (10120705)               325935.48
3794867.55        0.10298  (09022002)
       325978.35   3794867.55        0.10152  (10122722)               326021.22
3794867.55        0.09965  (12122704)
       326064.09   3794867.55        0.09705  (11120907)               325849.74
3794905.48        0.11048  (10120701)
       325892.61   3794905.48        0.10761  (09022002)               325935.48
3794905.48        0.10473  (11020622)
       325978.35   3794905.48        0.10344  (09120405)               326021.22
3794905.48        0.10138  (12122704)
       326064.09   3794905.48        0.09815  (11120907)               325849.74
3794943.41        0.11254  (10120705)
       325892.61   3794943.41        0.10976  (09022002)               325935.48
3794943.41        0.10749  (10122722)
       325978.35   3794943.41        0.10557  (09120405)               326021.22
3794943.41        0.10308  (11120907)
       326064.09   3794943.41        0.09992  (13122706)               325849.74
3794981.34        0.11463  (10120705)
       325892.61   3794981.34        0.11196  (09022002)               325935.48
3794981.34        0.10998  (10122722)
       325978.35   3794981.34        0.10775  (12122704)               326021.22
3794981.34        0.10412  (11120907)
       326064.09   3794981.34        0.10158  (13122706)               325855.31
3794726.62        0.09989  (10010503)
```

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                               *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                   INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
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       325154.75   3795886.20        0.04144  (09120508)               325068.55
3795885.45        0.03358  (09120508)
       325047.86   3795938.00        0.02805  (12032407)               325045.84
3795982.69        0.02306  (13020708)
       325071.95   3796106.74        0.02418  (09012317)               325060.64
3796290.38        0.01680  (09012317)
       324903.71   3796379.80        0.00970  (11032418)               324787.84
3796510.42        0.01030  (12021301)
       324916.48   3796618.27        0.01147  (13012417)               326492.96
3796356.32        0.02480  (13031518)
       326552.73   3796900.01        0.00897  (13061506)               326599.30
3796893.60        0.00947  (13061506)
       326617.42   3796889.51        0.00960  (13061506)               326639.41
3796881.91        0.00983  (13061506)
       326663.73   3796864.08        0.01049  (12102117)               326679.47
3796885.20        0.01023  (12102117)
       326697.81   3796898.31        0.00996  (12102117)               326712.34
3796916.60        0.00959  (13061506)
       326726.62   3796931.14        0.00942  (13061506)               326742.23
3796948.02        0.00921  (13061506)
       326756.58   3796965.73        0.00907  (13061506)               326772.07
3796973.30        0.00910  (13061506)
       326785.22   3796890.50        0.01095  (09062906)               326800.10
3797003.95        0.00924  (12102117)
       326817.96   3797014.86        0.00946  (12102117)               326813.74
3796843.93        0.01264  (10121904)
       326833.92   3796853.59        0.01237  (10121904)               326848.61
3796873.43        0.01206  (10121904)
       326864.19   3796885.12        0.01196  (10121904)               326877.92
3796901.20        0.01179  (10121904)
       326893.85   3796917.11        0.01135  (10121904)               326904.49
3796938.77        0.01081  (09062906)
       326907.64   3796966.22        0.01061  (09062906)               326914.45
3796991.73        0.01019  (09062906)
       326921.92   3797038.42        0.00939  (09062906)               326596.56
3797264.10        0.00646  (10102017)
       326829.98   3795735.43        0.01732  (12012517)               326866.53
3795706.88        0.01713  (12012517)
       326831.50   3795646.57        0.03992  (13012604)               326872.90
3795644.95        0.04021  (13012604)
       326898.91   3795644.66        0.04027  (13012604)               326924.66
3795650.14        0.03776  (13012604)
       326949.68   3795646.43        0.03933  (13012604)               326975.59
3795638.84        0.03491  (10021408)
       326917.88   3795602.78        0.04663  (13012604)               326918.63
3795584.13        0.05036  (13012604)
       326921.61   3795563.48        0.05052  (10022004)               326917.18
3795537.15        0.05061  (10022004)
       326934.99   3795592.17        0.04735  (13012604)               326951.04
3795599.47        0.04483  (13012604)
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        326950.26   3795555.95        0.05033  (10022004)                326951.59
 3795535.07        0.05041  (10022004)
        326961.83   3795537.57        0.05033  (10022004)                326982.25
 3795538.33        0.05011  (10022004)
        326992.41   3795539.09        0.04997  (10022004)                327008.98
 3795535.58        0.04979  (10022004)
        326987.68   3795580.97        0.04621  (13012604)                327024.81
 3795588.42        0.04233  (13012604)
        326925.07   3795485.95        0.05066  (13010108)                326937.83
 3795488.27        0.05058  (13010108)
        326956.45   3795489.28        0.05040  (12011705)                326970.89
 3795491.03        0.05020  (12011705)
        326989.96   3795487.68        0.04997  (12011705)                325049.27
 3794409.32        0.10129  (11122506)
        325086.77   3794409.32        0.10040  (10123020)                325124.27
 3794409.32        0.09992  (13122103)
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:57:03

                                  PAGE  27
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                             *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
        325161.77   3794409.32        0.10084  (13122407)                325199.27
 3794409.32        0.09934  (12021824)
        325236.77   3794409.32        0.09802  (09122106)                325274.27
 3794409.32        0.09768  (13013002)
        325049.27   3794432.52        0.10250  (11122506)                325086.77
 3794432.52        0.10168  (10123020)
        325124.27   3794432.52        0.10216  (09121401)                325161.77
 3794432.52        0.10214  (13122407)
        325199.27   3794432.52        0.10057  (13122407)                325236.77
 3794432.52        0.09978  (09122106)
        325274.27   3794432.52        0.09938  (13013002)                325049.27
 3794455.72        0.10368  (11121006)
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       325086.77   3794455.72        0.10359  (11122506)              325124.27
3794455.72        0.10441  (09121401)
       325161.77   3794455.72        0.10342  (13122407)              325199.27
3794455.72        0.10210  (13122407)
       325236.77   3794455.72        0.10104  (09122106)              325274.27
3794455.72        0.10055  (13013002)
       325049.27   3794478.92        0.10527  (11121006)              325086.77
3794478.92        0.10667  (11122506)
       325124.27   3794478.92        0.10579  (09121401)              325161.77
3794478.92        0.10483  (13122103)
       325199.27   3794478.92        0.10364  (13122407)              325236.77
3794478.92        0.10229  (09122106)
       325274.27   3794478.92        0.10171  (13013002)              325049.27
3794502.12        0.10682  (11121006)
       325086.77   3794502.12        0.10815  (11122506)              325124.27
3794502.12        0.10721  (10123020)
       325161.77   3794502.12        0.10628  (13122103)              325199.27
3794502.12        0.10517  (13122407)
       325236.77   3794502.12        0.10371  (12021824)              325274.27
3794502.12        0.10288  (13013002)
       325049.27   3794525.32        0.10834  (11121006)              325086.77
3794525.32        0.10960  (11122506)
       325124.27   3794525.32        0.10876  (10123020)              325161.77
3794525.32        0.10772  (13122103)
       325199.27   3794525.32        0.10670  (13122407)              325236.77
3794525.32        0.10514  (12021824)
       325274.27   3794525.32        0.10404  (13013002)              325049.27
3794548.52        0.10982  (11121006)
       325086.77   3794548.52        0.11101  (11122506)              325124.27
3794548.52        0.11028  (10123020)
       325161.77   3794548.52        0.10921  (09121401)              325199.27
3794548.52        0.10823  (13122407)
       325236.77   3794548.52        0.10657  (12021824)              325274.27
3794548.52        0.10544  (09122106)
       325049.27   3794571.72        0.11127  (11121006)              325086.77
3794571.72        0.11277  (11121006)
       325124.27   3794571.72        0.11187  (11122506)              325161.77
3794571.72        0.11082  (09121401)
       325199.27   3794571.72        0.10974  (13122407)              325236.77
3794571.72        0.10799  (12021824)
       325274.27   3794571.72        0.10697  (09122106)              325049.27
3794594.92        0.11268  (11121006)
       325086.77   3794594.92        0.11458  (11121006)              325124.27
3794594.92        0.11355  (11122506)
       325161.77   3794594.92        0.11240  (09121401)              325199.27
3794594.92        0.11126  (13122103)
       325236.77   3794594.92        0.10975  (13122407)              325274.27
3794594.92        0.10850  (09122106)
       325049.27   3794618.12        0.11453  (13010624)              325086.77
3794618.12        0.11636  (11121006)
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       324949.44   3794385.83        0.09963  (12012923)               324988.35
3794385.83        0.10074  (11121006)
       324871.62   3794407.63        0.10358  (10013003)               324910.53
3794407.63        0.10278  (13010624)
       324949.44   3794407.63        0.10111  (13010624)               324988.35
3794407.63        0.10197  (11121006)
       324871.62   3794429.43        0.10496  (12123121)               324910.53
3794429.43        0.10408  (13010624)
       324949.44   3794429.43        0.10260  (13010624)               324988.35
3794429.43        0.10310  (11121006)
       324871.62   3794451.23        0.10650  (12123121)               324910.53
3794451.23        0.10551  (10013003)
       324949.44   3794451.23        0.10419  (13010624)               324988.35
3794451.23        0.10430  (11121006)
       324871.62   3794473.03        0.10802  (12123121)               324910.53
3794473.03        0.10700  (10013003)
       324949.44   3794473.03        0.10638  (13010624)               324988.35
3794473.03        0.10610  (13010624)
       324871.62   3794494.83        0.10998  (12020205)               324910.53
3794494.83        0.10847  (10013003)
       324949.44   3794494.83        0.10798  (13010624)               324988.35
3794494.83        0.10792  (13010624)
       324871.62   3794516.63        0.11201  (12020205)               324910.53
3794516.63        0.11008  (12123121)
       324949.44   3794516.63        0.10943  (10013003)               324988.35
3794516.63        0.10960  (13010624)
       324871.62   3794538.43        0.11378  (12020205)               324910.53
3794538.43        0.11177  (12123121)
       324949.44   3794538.43        0.11107  (10013003)               324988.35
3794538.43        0.11126  (13010624)
       324871.62   3794560.23        0.11566  (10010204)               324910.53
3794560.23        0.11347  (12123121)
       324949.44   3794560.23        0.11271  (10013003)               324988.35
3794560.23        0.11291  (13010624)
       324871.62   3794582.03        0.11770  (10010204)               324910.53
3794582.03        0.11535  (12020205)
       324949.44   3794582.03        0.11439  (12123121)               324988.35
3794582.03        0.11456  (13010624)
       324871.62   3794603.83        0.11974  (10010204)               324910.53
3794603.83        0.11737  (12020205)
       324949.44   3794603.83        0.11671  (12123121)               324988.35
3794603.83        0.11628  (10013003)
       324871.62   3794625.63        0.12205  (12122922)               324910.53
3794625.63        0.11953  (10010204)
       324949.44   3794625.63        0.12017  (12123121)               324988.35
3794625.63        0.11813  (10013003)
       324871.62   3794647.43        0.12439  (12122922)               324910.53
3794647.43        0.12183  (10010204)
       324949.44   3794647.43        0.12231  (12020205)               324988.35
3794647.43        0.12000  (10013003)
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       324871.62   3794669.23        0.12693  (13021702)               324910.53
 3794669.23        0.12414  (10010204)
       324949.44   3794669.23        0.12460  (12020205)               324988.35
 3794669.23        0.12202  (12123121)
       324871.62   3794691.03        0.12957  (13021702)               324910.53
 3794691.03        0.12663  (12122922)
       324949.44   3794691.03        0.12697  (12020205)               324988.35
 3794691.03        0.12417  (12123121)
       324449.04   3794394.39        0.10801  (10011404)               324485.99
 3794394.39        0.10931  (10011404)
       324522.94   3794394.39        0.10885  (10010424)               324559.89
 3794394.39        0.10775  (10012707)
       324596.84   3794394.39        0.10648  (12021724)               324633.79
 3794394.39        0.10705  (13120620)
       324670.74   3794394.39        0.10617  (09021803)               324707.69
 3794394.39        0.10473  (13021702)
       324744.64   3794394.39        0.10465  (12122922)               324781.59
 3794394.39        0.10427  (10010204)
       324449.04   3794426.36        0.11105  (09120921)               324485.99
 3794426.36        0.11220  (10011404)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        16:57:03

                                  PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
       324522.94   3794426.36        0.11080  (10011119)               324559.89
 3794426.36        0.11021  (10010424)
       324596.84   3794426.36        0.10884  (10012707)               324633.79
 3794426.36        0.10954  (12021724)
       324670.74   3794426.36        0.10872  (13120620)               324707.69
 3794426.36        0.10737  (09021803)
       324744.64   3794426.36        0.10725  (13021702)               324781.59
 3794426.36        0.10650  (10010204)
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       324449.04   3794458.33        0.11480  (11121923)              324485.99
3794458.33        0.11490  (09120921)
       324522.94   3794458.33        0.11393  (10011404)              324559.89
3794458.33        0.11251  (10010424)
       324596.84   3794458.33        0.11207  (10012707)              324633.79
3794458.33        0.11262  (12021724)
       324670.74   3794458.33        0.11092  (13120620)              324707.69
3794458.33        0.11040  (09021803)
       324744.64   3794458.33        0.11074  (13021702)              324781.59
3794458.33        0.10897  (12122922)
       324449.04   3794490.30        0.11730  (09022006)              324485.99
3794490.30        0.11748  (11121923)
       324522.94   3794490.30        0.11651  (09120921)              324559.89
3794490.30        0.11526  (10011404)
       324596.84   3794490.30        0.11602  (10010424)              324633.79
3794490.30        0.11566  (10012707)
       324670.74   3794490.30        0.11392  (12021724)              324707.69
3794490.30        0.11323  (13120620)
       324744.64   3794490.30        0.11344  (09021803)              324781.59
3794490.30        0.11145  (13021702)
       324449.04   3794522.27        0.12022  (12010904)              324485.99
3794522.27        0.12008  (09022006)
       324522.94   3794522.27        0.11919  (09120921)              324559.89
3794522.27        0.11834  (10011404)
       324596.84   3794522.27        0.11834  (10011119)              324633.79
3794522.27        0.11856  (10010424)
       324670.74   3794522.27        0.11693  (12021724)              324707.69
3794522.27        0.11560  (13120620)
       324744.64   3794522.27        0.11622  (13120620)              324781.59
3794522.27        0.11432  (13021702)
       324449.04   3794554.24        0.12312  (12021707)              324485.99
3794554.24        0.12270  (12010904)
       324522.94   3794554.24        0.12217  (11121923)              324559.89
3794554.24        0.12201  (09120921)
       324596.84   3794554.24        0.12272  (10011404)              324633.79
3794554.24        0.12154  (10010424)
       324670.74   3794554.24        0.12008  (10012707)              324707.69
3794554.24        0.11916  (12021724)
       324744.64   3794554.24        0.11941  (13120620)              324781.59
3794554.24        0.11729  (09021803)
       324449.04   3794586.21        0.12554  (13012724)              324485.99
3794586.21        0.12552  (12010904)
       324522.94   3794586.21        0.12518  (09022006)              324559.89
3794586.21        0.12567  (11121923)
       324596.84   3794586.21        0.12646  (09120921)              324633.79
3794586.21        0.12482  (10011404)
       324670.74   3794586.21        0.12338  (10010424)              324707.69
3794586.21        0.12238  (10012707)
       324744.64   3794586.21        0.12225  (12021724)              324781.59
3794586.21        0.12040  (13120620)
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        324449.04   3794618.18        0.12816  (13012724)                324485.99
 3794618.18        0.12836  (12021707)
        324522.94   3794618.18        0.12821  (12010904)                324559.89
 3794618.18        0.12888  (09022006)
        324596.84   3794618.18        0.12984  (11121923)                324633.79
 3794618.18        0.12838  (10011404)
        324670.74   3794618.18        0.12641  (10011119)                324707.69
 3794618.18        0.12755  (10012707)
        324744.64   3794618.18        0.12628  (12021724)                324781.59
 3794618.18        0.12388  (13120620)
        324449.04   3794650.15        0.13064  (12022904)                324485.99
 3794650.15        0.13111  (13012724)
        324522.94   3794650.15        0.13122  (12021707)                324559.89
 3794650.15        0.13215  (12010904)
        324596.84   3794650.15        0.13335  (09022006)                324633.79
 3794650.15        0.13198  (09120921)
        324670.74   3794650.15        0.13084  (10011404)                324707.69
 3794650.15        0.13213  (10010424)
        324744.64   3794650.15        0.13005  (10012707)                324781.59
 3794650.15        0.12732  (12021724)
        324449.04   3794682.12        0.13292  (12012404)                324485.99
 3794682.12        0.13372  (12022904)
↑ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:57:03

                                   PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                      ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
        324522.94   3794682.12        0.13458  (13012724)                324559.89
 3794682.12        0.13722  (12021707)
        324596.84   3794682.12        0.13697  (12010904)                324633.79
 3794682.12        0.13569  (11121923)
        324670.74   3794682.12        0.13473  (09120921)                324707.69
 3794682.12        0.13611  (10011404)
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       324744.64   3794682.12        0.13409  (10010424)              324781.59
3794682.12        0.13161  (12021724)
       326547.36   3795022.06        0.07492  (10011406)              326594.67
3795022.06        0.07282  (11121105)
       326641.98   3795022.06        0.06930  (12122705)              326547.36
3795042.46        0.07557  (10011406)
       326594.67   3795042.46        0.07086  (11121105)              326641.98
3795042.46        0.06964  (12122705)
       326547.36   3795062.86        0.07598  (10011406)              326594.67
3795062.86        0.07065  (12122705)
       326641.98   3795062.86        0.07009  (10021501)              326547.36
3795083.26        0.07595  (11121105)
       326594.67   3795083.26        0.07106  (12122705)              326641.98
3795083.26        0.07039  (10021501)
       326547.36   3795103.66        0.07427  (12122705)              326594.67
3795103.66        0.07149  (10021501)
       326641.98   3795103.66        0.07090  (13010623)              326547.36
3795124.06        0.07439  (12122705)
       326594.67   3795124.06        0.07185  (10021501)              326641.98
3795124.06        0.07126  (13010101)
       326547.36   3795144.46        0.07441  (10021501)              326594.67
3795144.46        0.07234  (13010623)
       326641.98   3795144.46        0.07173  (13010101)              326547.36
3795164.86        0.07350  (10021501)
       326594.67   3795164.86        0.07271  (13010101)              326641.98
3795164.86        0.07190  (13010101)
       326547.36   3795185.26        0.07382  (13010623)              326594.67
3795185.26        0.07320  (13010101)
       326641.98   3795185.26        0.07249  (13011507)              326547.36
3795205.66        0.07421  (13010101)
       326594.67   3795205.66        0.07338  (13010101)              326641.98
3795205.66        0.07192  (13011507)
       326547.36   3795226.06        0.07472  (13010101)              326594.67
3795226.06        0.07403  (13011507)
       326641.98   3795226.06        0.06933  (13122107)              326547.36
3795246.46        0.07490  (13010101)
       326594.67   3795246.46        0.07381  (13011507)              326641.98
3795246.46        0.06880  (13122107)
       326690.43   3795243.37        0.06783  (09021506)              326688.67
3795223.05        0.06752  (09021506)
       326686.02   3795005.77        0.06835  (10021501)              326686.02
3795033.66        0.06834  (10021501)
       326686.02   3795061.55        0.06834  (13010623)              326686.02
3795089.44        0.06883  (13010101)
       326686.02   3795117.33        0.06928  (13010101)              326686.02
3795145.22        0.06975  (13011507)
       326686.02   3795173.11        0.06980  (13011507)              326686.02
3795201.00        0.06717  (13122107)
       326832.80   3795263.26        0.06515  (13120806)              326849.67
3795263.26        0.06265  (13121104)
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        326866.54   3795263.26        0.06139  (13121104)                326883.41
 3795263.26        0.06120  (13121104)
        326900.28   3795263.26        0.06098  (09013022)                326917.15
 3795263.26        0.06089  (09013022)
        326934.02   3795263.26        0.05816  (09013022)                326950.89
 3795263.26        0.05573  (12013005)
        326967.76   3795263.26        0.05568  (12013005)                326984.63
 3795263.26        0.05454  (12013005)
        327001.50   3795263.26        0.05170  (12022206)                327036.85
 3795141.35        0.05411  (13121104)
        327075.72   3795141.35        0.04965  (10020622)                327036.85
 3795160.91        0.05437  (13121104)
        327075.72   3795160.91        0.04981  (09013022)                327036.85
 3795180.47        0.05447  (09013022)
        327075.72   3795180.47        0.04987  (09013022)                327036.85
 3795200.03        0.05424  (09013022)
        327075.72   3795200.03        0.05008  (12022206)                327036.85
 3795219.59        0.05166  (12022206)
        327075.72   3795219.59        0.05006  (12022206)                327036.85
 3795239.15        0.05053  (12022206)
        327075.72   3795239.15        0.04973  (09020223)                327036.85
 3795258.71        0.05009  (11120708)
        327075.72   3795258.71        0.04981  (10120606)                327036.85
 3795278.27        0.05012  (10120606)
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:57:03

                                   PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                        ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
        327075.72   3795278.27        0.04992  (10120606)                326840.04
 3795223.24        0.06415  (12022205)
        326860.58   3795224.16        0.06087  (13120806)                326877.30
 3795222.74        0.06080  (13120806)
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       326929.68   3795223.69        0.05856  (13121104)              326932.86
3795200.00        0.05769  (13120806)
       326972.32   3795217.03        0.05516  (09013022)              326970.84
3795177.58        0.05482  (13120806)
       326968.20   3795152.46        0.05460  (13120806)              326998.43
3795149.77        0.05448  (13120806)
       326997.48   3795176.61        0.05474  (13121104)              326995.60
3795193.01        0.05485  (13121104)
       326996.92   3795215.78        0.05507  (09013022)              326916.97
3795152.19        0.05953  (12022205)
       326901.95   3795150.46        0.05966  (12011805)              326884.24
3795164.40        0.05995  (12011805)
       326867.32   3795151.32        0.05985  (12011805)              326873.22
3795163.36        0.06006  (12011805)
       326845.53   3795152.12        0.06216  (10122806)              326824.91
3795151.45        0.06500  (10122806)
       326826.60   3795170.60        0.06532  (10122806)              326840.50
3795180.17        0.06340  (12011805)
       326799.39   3795147.97        0.06524  (09021506)              326776.77
3795147.89        0.06533  (09021506)
       326738.03   3795152.73        0.06585  (13122107)              326781.33
3795110.75        0.06468  (13122107)
       326806.10   3795109.04        0.06340  (13122107)              326804.45
3795090.73        0.06315  (13122107)
       326781.78   3795086.72        0.06437  (13011507)              326787.40
3795061.79        0.06372  (13011507)
       326794.01   3795031.22        0.06317  (13010101)              326977.50
3795110.69        0.05414  (12022205)
       326994.05   3795107.87        0.05410  (12022205)              326984.52
3795093.80        0.05397  (12011805)
       326972.85   3795082.37        0.05393  (12011805)              326995.41
3795072.53        0.05375  (12011805)
       326993.23   3795060.01        0.05354  (12011805)              326984.60
3795040.80        0.05349  (10122806)
       326981.66   3795027.22        0.05326  (09021506)              327041.48
3795102.15        0.05325  (13120806)
       327065.19   3795095.75        0.04980  (10010821)              327040.88
3795076.27        0.05318  (12022205)
       327061.24   3795058.32        0.05009  (12022205)              327037.82
3795061.09        0.05335  (12011805)
       327035.65   3795040.58        0.05324  (12011805)              327058.94
3795038.41        0.05024  (12011805)
       327051.53   3795017.85        0.05104  (12011805)              327033.29
3795021.71        0.05303  (10122806)
       326826.26   3795110.80        0.06042  (09021506)              326843.29
3795110.80        0.05984  (09021506)
       326860.32   3795110.80        0.05942  (09021506)              326877.35
3795110.80        0.05927  (10122806)
       326894.38   3795110.80        0.05923  (10122806)              326911.41
3795110.80        0.05906  (10122806)
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       326928.44   3795110.80        0.05740  (12011805)                326945.47
 3795110.80        0.05477  (12011805)
       326819.99   3795048.86        0.06015  (13011507)                326838.19
 3795048.86        0.05878  (13011507)
       326856.39   3795048.86        0.05855  (13011507)                326874.59
 3795048.86        0.05855  (13122107)
       326892.79   3795048.86        0.05841  (13122107)                326910.99
 3795048.86        0.05826  (09021506)
       326929.19   3795048.86        0.05664  (09021506)                326947.39
 3795048.86        0.05380  (09021506)
       325652.30   3795689.46        0.04011  (10021008)                325747.75
 3795796.21        0.03317  (12120308)
       326251.13   3796043.75        0.02707  (11012717)                326263.91
 3795852.39        0.02605  (12012517)
       326170.84   3795648.38        0.02577  (09051606)                326148.08
 3795505.91        0.04128  (12050806)
       325511.50   3795586.39        0.04352  (10021008)

♠ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***       16:57:03

                                  PAGE  32
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
               **


                        NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.00658 AT (  325652.30,  3795689.46,
172.37,   271.00,    0.00)  DC
          2ND HIGHEST VALUE IS       0.00650 AT (  325380.55,  3795776.17,
160.97,   295.00,    0.00)  DC
          3RD HIGHEST VALUE IS       0.00580 AT (  325747.75,  3795796.21,
179.05,   295.00,    0.00)  DC
          4TH HIGHEST VALUE IS       0.00523 AT (  325511.50,  3795586.39,
181.89,   181.89,    0.00)  DC
          5TH HIGHEST VALUE IS       0.00482 AT (  325129.24,  3795756.40,
158.41,   292.00,    0.00)  DC
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          6TH HIGHEST VALUE IS       0.00462 AT (  325850.15,  3795332.59,
150.51,   185.00,    0.00)  DC
          7TH HIGHEST VALUE IS       0.00454 AT (  325796.15,  3795332.59,
151.11,   185.00,    0.00)  DC
          8TH HIGHEST VALUE IS       0.00452 AT (  325877.15,  3795332.59,
150.22,   185.00,    0.00)  DC
          9TH HIGHEST VALUE IS       0.00445 AT (  325904.15,  3795332.59,
149.61,   185.00,    0.00)  DC
         10TH HIGHEST VALUE IS       0.00443 AT (  325823.15,  3795332.59,
151.02,   185.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:57:03

                                   PAGE  33
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                **

                                                        DATE
                                            NETWORK
GROUP ID                          AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       0.14021  ON 10122722: AT (  325796.15,
3795293.59,   150.13,   185.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
🡅 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 3
Operation\Hitch Ranch_Phase ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        16:57:03
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   1 Warning Message(s)
A Total of   15612 Informational Message(s)

A Total of   43872 Hours Were Processed

A Total of   13724 Calm Hours Identified

A Total of   1888 Missing Hours Identified (4.30 Percent)

   ******** FATAL ERROR MESSAGES ********
              *** NONE ***

   ********   WARNING MESSAGES   ********
MX W481   43873   MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ****
   *** AERMOD Finishes Successfully ***
   ****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 5/28/2020
** File: C:\Lakes\AERMOD View\UPDATED_Hitch Ranch_Phase 6_Operational\Hitch
Ranch_Phase 6_Operational.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 5 Operational\Hitch Ranch_Pha
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "Hitch Ranch_Phase 6_Operational.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325048.840  3795233.290      145.140
** Source Parameters **
   SRCPARAM PAREA1       1.0989E-09     3.000        17
   AREAVERT PAREA1       325048.840 3795233.290 325002.320 3795338.940
   AREAVERT PAREA1       324649.150 3795252.700 324649.150 3795514.450
   AREAVERT PAREA1       325044.060 3795513.690 325044.060 3795684.570
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326288.670 3795758.120 326277.560 3795694.020
   AREAVERT PAREA1       326166.380 3795525.260 326425.650 3795493.540
   AREAVERT PAREA1       326479.010 3795469.120 326469.840 3795364.180
   AREAVERT PAREA1       325735.780 3795372.310
   SRCGROUP ALL
SO FINISHED
**
```

```
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Hitch Ranch_Phase 6_Operational.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "HITCH RANCH_PHASE 6_OPERATIONAL.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "HITCH RANCH_PHASE 6_OPERATIONAL.AD\AN00GALL.PLT" 32
   SUMMFILE "Hitch Ranch_Phase 6_Operational.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.7.0
** Lakes Environmental Software Inc.
** Date: 5/28/2020
** File: C:\Lakes\AERMOD View\UPDATED_Hitch Ranch_Phase 6_Operational\Hitch
Ranch_Phase 6_Operational.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Hitch Ranch_Phase 5 Operational\Hitch Ranch_Pha
   MODELOPT DFAULT CONC
   AVERTIME 1 ANNUAL
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL "Hitch Ranch_Phase 6_Operational.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   325048.840  3795233.290      145.140
** Source Parameters **
   SRCPARAM PAREA1       1.0989E-09     3.000        17
   AREAVERT PAREA1       325048.840 3795233.290 325002.320 3795338.940
   AREAVERT PAREA1       324649.150 3795252.700 324649.150 3795514.450
   AREAVERT PAREA1       325044.060 3795513.690 325044.060 3795684.570
   AREAVERT PAREA1       325432.540 3795684.570 325432.540 3796190.480
   AREAVERT PAREA1       326389.700 3796190.480 326397.210 3795756.410
   AREAVERT PAREA1       326288.670 3795758.120 326277.560 3795694.020
   AREAVERT PAREA1       326166.380 3795525.260 326425.650 3795493.540
   AREAVERT PAREA1       326479.010 3795469.120 326469.840 3795364.180
   AREAVERT PAREA1       325735.780 3795372.310
   SRCGROUP ALL
SO FINISHED
**
```

```
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Hitch Ranch_Phase 6_Operational.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.SFC"
   PROFFILE "M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo
Airport\723926\723926.PFL"
   SURFDATA 23136 2009
   UAIRDATA 93214 2009
   PROFBASE 24.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "HITCH RANCH_PHASE 6_OPERATIONAL.AD\01H1GALL.PLT" 31
   PLOTFILE ANNUAL ALL "HITCH RANCH_PHASE 6_OPERATIONAL.AD\AN00GALL.PLT" 32
   SUMMFILE "Hitch Ranch_Phase 6_Operational.sum"
OU FINISHED

 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 5
Operational\Hitch Ranch_Pha ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                          ***       17:17:34

                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
```

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                                        ***     MODEL SETUP OPTIONS SUMMARY
  ***
 - - -
```

Model Outputs Tables of ANNUAL Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 24.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ;
Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.6 MB of RAM.

**Input Runstream File: aermod.inp

**Output Print File: aermod.out

**Detailed Error/Message File: Hitch Ranch_Phase 6_Operational.err

**File for Summary of Results: Hitch Ranch_Phase 6_Operational.sum

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER OF SOURCE VERTS.	EMISSION RATE PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2) SCALAR VARY BY	LOCATION OF AREA X (METERS)	LOCATION OF AREA Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	URBAN SOURCE	INIT. SZ

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326346.0, 3795634.0, 172.5, 190.0, 0.0); (326414.1, 3795779.7, 180.0, 277.0, 0.0);
(326435.8, 3795773.5, 176.6, 277.0, 0.0); (326458.3, 3795772.8, 174.6, 277.0, 0.0);
(326424.2, 3795858.8, 178.9, 295.0, 0.0); (326400.2, 3795799.8, 182.9, 277.0, 0.0);
(326400.9, 3795767.9, 180.8, 277.0, 0.0); (326424.2, 3795858.8, 178.9, 295.0, 0.0);
(326611.8, 3795763.0, 168.9, 277.0, 0.0); (326611.8, 3795763.0, 168.9, 277.0, 0.0);
(326610.9, 3795777.7, 169.0, 277.0, 0.0); (326605.9, 3795792.9, 169.0, 277.0, 0.0);
(326623.9, 3795809.0, 169.6, 277.0, 0.0); (326627.2, 3795836.6, 170.1, 295.0, 0.0);
(326640.1, 3795836.6, 170.2, 277.0, 0.0); (326654.5, 3795868.7, 171.6, 291.0, 0.0);
(326665.5, 3795883.1, 172.0, 295.0, 0.0); (326588.3, 3795867.6, 175.1, 277.0, 0.0);

```
     ( 326640.5, 3795951.9,     177.0,     295.0,       0.0);         ( 326658.5,
3795975.6,     175.5,     295.0,       0.0);
     ( 326759.5, 3796019.3,     178.2,     277.0,       0.0);         ( 326763.6,
3796031.8,     178.1,     291.0,       0.0);
     ( 326775.9, 3796048.0,     178.2,     295.0,       0.0);         ( 326774.2,
3796062.2,     178.0,     295.0,       0.0);
     ( 326801.3, 3796078.4,     178.4,     295.0,       0.0);         ( 326809.5,
3796094.9,     179.0,     295.0,       0.0);
     ( 326736.8, 3796109.0,     181.3,     295.0,       0.0);         ( 326835.8,
3796126.6,     180.7,     278.0,       0.0);
     ( 326836.3, 3796140.1,     181.0,     278.0,       0.0);         ( 326801.0,
3796123.3,     179.1,     295.0,       0.0);
     ( 326762.4, 3796138.5,     184.2,     295.0,       0.0);         ( 326766.6,
3796155.2,     188.4,     277.0,       0.0);
     ( 326774.1, 3796169.7,     190.6,     277.0,       0.0);         ( 326798.1,
3796201.6,     194.4,     277.0,       0.0);
     ( 326808.8, 3796229.5,     199.7,     277.0,       0.0);         ( 326881.0,
3796184.6,     184.7,     278.0,       0.0);
     ( 326915.6, 3796260.0,     187.9,     278.0,       0.0);         ( 326941.1,
3796261.1,     189.0,     278.0,       0.0);
     ( 326958.2, 3796277.2,     189.7,     278.0,       0.0);         ( 326964.9,
3796291.1,     191.1,     278.0,       0.0);
     ( 326984.5, 3796322.9,     191.7,     278.0,       0.0);         ( 326993.3,
3796349.4,     192.2,     278.0,       0.0);
     ( 326993.5, 3796365.9,     192.5,     278.0,       0.0);         ( 327007.0,
3796382.5,     192.6,     278.0,       0.0);
     ( 326972.1, 3796390.2,     196.6,     278.0,       0.0);         ( 326996.8,
3796414.5,     195.0,     278.0,       0.0);
     ( 326693.5, 3795789.7,     182.5,     216.0,       0.0);         ( 326695.4,
3795771.3,     181.5,     216.0,       0.0);
     ( 326727.0, 3795761.3,     180.8,     216.0,       0.0);         ( 326758.5,
3795787.5,     187.7,     216.0,       0.0);
     ( 326761.8, 3795813.5,     193.7,     215.0,       0.0);         ( 326742.2,
3795837.1,     196.4,     214.0,       0.0);
     ( 326838.6, 3795823.9,     198.4,     216.0,       0.0);         ( 326811.5,
3795889.8,     209.9,     209.9,       0.0);
     ( 326823.9, 3795856.0,     206.8,     210.0,       0.0);         ( 326876.6,
3795837.3,     204.5,     215.0,       0.0);
     ( 326889.3, 3795888.5,     211.2,     211.2,       0.0);         ( 326687.5,
3795683.7,     165.2,     277.0,       0.0);
     ( 326829.2, 3795731.3,     182.5,     217.0,       0.0);         ( 326859.1,
3795703.6,     182.5,     217.0,       0.0);
     ( 326881.1, 3795705.6,     180.3,     217.0,       0.0);         ( 326787.4,
3795607.0,     160.7,     217.0,       0.0);
     ( 326780.8, 3795563.5,     159.2,     217.0,       0.0);         ( 326800.0,
3795542.6,     158.5,     217.0,       0.0);
     ( 326808.9, 3795540.1,     158.3,     217.0,       0.0);         ( 326825.8,
3795543.6,     158.1,     217.0,       0.0);
     ( 326856.7, 3795545.3,     158.0,     217.0,       0.0);         ( 326792.3,
3795494.2,     157.9,     217.0,       0.0);
```

(326806.7, 3795493.9, 157.9, 217.0, 0.0); (326824.1, 3795494.4, 157.9, 217.0, 0.0);
(326853.5, 3795481.7, 157.5, 217.0, 0.0); (326898.8, 3795534.4, 158.0, 217.0, 0.0);
(325796.1, 3795215.6, 149.4, 149.4, 0.0); (325823.1, 3795215.6, 149.0, 149.0, 0.0);
(326012.1, 3795215.6, 150.0, 150.0, 0.0); (326120.1, 3795215.6, 151.0, 151.0, 0.0);
(326147.1, 3795215.6, 151.0, 151.0, 0.0); (325796.1, 3795254.6, 149.4, 185.0, 0.0);
(325823.1, 3795254.6, 149.0, 185.0, 0.0); (325850.1, 3795254.6, 149.0, 149.0, 0.0);
(325877.1, 3795254.6, 149.0, 149.0, 0.0); (325904.1, 3795254.6, 149.2, 149.2, 0.0);
(325931.1, 3795254.6, 149.9, 149.9, 0.0); (325958.1, 3795254.6, 150.0, 150.0, 0.0);
(325985.1, 3795254.6, 150.0, 150.0, 0.0); (326012.1, 3795254.6, 150.7, 150.7, 0.0);
(326039.1, 3795254.6, 151.0, 151.0, 0.0); (326066.1, 3795254.6, 151.0, 151.0, 0.0);
(326093.1, 3795254.6, 151.0, 151.0, 0.0); (326120.1, 3795254.6, 151.0, 151.0, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326147.1, 3795254.6, 151.0, 151.0, 0.0); (325796.1, 3795293.6, 150.1, 185.0, 0.0);
(325823.1, 3795293.6, 150.1, 185.0, 0.0); (325850.1, 3795293.6, 149.7, 185.0, 0.0);
(325877.1, 3795293.6, 149.2, 185.0, 0.0); (325904.1, 3795293.6, 149.2, 149.2, 0.0);
(325931.1, 3795293.6, 150.0, 150.0, 0.0); (325958.1, 3795293.6, 150.0, 150.0, 0.0);
(325985.1, 3795293.6, 150.9, 150.9, 0.0); (326012.1, 3795293.6, 151.2, 151.2, 0.0);
(326039.1, 3795293.6, 151.2, 151.2, 0.0); (326066.1, 3795293.6, 151.7, 151.7, 0.0);
(326093.1, 3795293.6, 152.0, 152.0, 0.0); (326120.1, 3795293.6, 152.0, 152.0, 0.0);
(326147.1, 3795293.6, 152.0, 152.0, 0.0); (325796.1, 3795332.6, 151.1, 185.0, 0.0);

```
     ( 325823.1, 3795332.6,     151.0,     185.0,       0.0);         ( 325850.1,
3795332.6,     150.5,     185.0,       0.0);
     ( 325877.1, 3795332.6,     150.2,     185.0,       0.0);         ( 325904.1,
3795332.6,     149.6,     185.0,       0.0);
     ( 325931.1, 3795332.6,     150.1,     165.0,       0.0);         ( 325958.1,
3795332.6,     150.5,     166.0,       0.0);
     ( 325985.1, 3795332.6,     151.4,     166.0,       0.0);         ( 326012.1,
3795332.6,     151.9,     166.0,       0.0);
     ( 326039.1, 3795332.6,     152.0,     166.0,       0.0);         ( 326066.1,
3795332.6,     152.0,     165.0,       0.0);
     ( 326093.1, 3795332.6,     152.0,     165.0,       0.0);         ( 326120.1,
3795332.6,     152.0,     152.0,       0.0);
     ( 326147.1, 3795332.6,     152.0,     152.0,       0.0);         ( 325847.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795004.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795004.9,     149.0,     149.0,       0.0);
     ( 325972.4, 3795004.9,     149.3,     149.3,       0.0);         ( 325997.4,
3795004.9,     149.7,     149.7,       0.0);
     ( 326022.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795004.9,     150.0,     150.0,       0.0);
     ( 326122.4, 3795004.9,     150.0,     150.0,       0.0);         ( 326147.4,
3795004.9,     150.3,     150.3,       0.0);
     ( 325847.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325872.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325897.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325922.4,
3795046.9,     149.0,     149.0,       0.0);
     ( 325947.4, 3795046.9,     149.0,     149.0,       0.0);         ( 325972.4,
3795046.9,     149.5,     149.5,       0.0);
     ( 325997.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326022.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326047.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326072.4,
3795046.9,     150.0,     150.0,       0.0);
     ( 326097.4, 3795046.9,     150.0,     150.0,       0.0);         ( 326122.4,
3795046.9,     150.5,     150.5,       0.0);
     ( 326147.4, 3795046.9,     151.0,     151.0,       0.0);         ( 325847.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325872.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325897.4,
3795088.9,     149.0,     149.0,       0.0);
     ( 325922.4, 3795088.9,     149.0,     149.0,       0.0);         ( 325947.4,
3795088.9,     149.6,     149.6,       0.0);
     ( 325972.4, 3795088.9,     150.0,     150.0,       0.0);         ( 325997.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326022.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326047.4,
3795088.9,     150.0,     150.0,       0.0);
     ( 326072.4, 3795088.9,     150.0,     150.0,       0.0);         ( 326097.4,
3795088.9,     150.2,     150.2,       0.0);
```

```
    ( 326144.3, 3795184.1,     151.0,     151.0,       0.0);         ( 325849.7,
3794829.6,     148.0,     148.0,       0.0);
    ( 325892.6, 3794829.6,     148.0,     148.0,       0.0);         ( 325935.5,
3794829.6,     148.8,     148.8,       0.0);
    ( 325978.3, 3794829.6,     149.0,     149.0,       0.0);         ( 326021.2,
3794829.6,     149.0,     149.0,       0.0);
    ( 326064.1, 3794829.6,     149.5,     149.5,       0.0);         ( 325849.7,
3794867.5,     148.0,     148.0,       0.0);
    ( 325892.6, 3794867.5,     148.8,     148.8,       0.0);         ( 325935.5,
3794867.5,     149.0,     149.0,       0.0);
    ( 325978.3, 3794867.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794867.5,     149.0,     149.0,       0.0);
    ( 326064.1, 3794867.5,     149.5,     149.5,       0.0);         ( 325849.7,
3794905.5,     148.1,     148.1,       0.0);
    ( 325892.6, 3794905.5,     148.9,     148.9,       0.0);         ( 325935.5,
3794905.5,     149.0,     149.0,       0.0);
    ( 325978.3, 3794905.5,     149.0,     149.0,       0.0);         ( 326021.2,
3794905.5,     149.1,     149.1,       0.0);
    ( 326064.1, 3794905.5,     150.0,     150.0,       0.0);         ( 325849.7,
3794943.4,     148.4,     148.4,       0.0);
    ( 325892.6, 3794943.4,     149.0,     149.0,       0.0);         ( 325935.5,
3794943.4,     149.0,     149.0,       0.0);
    ( 325978.3, 3794943.4,     149.0,     149.0,       0.0);         ( 326021.2,
3794943.4,     149.1,     149.1,       0.0);
    ( 326064.1, 3794943.4,     150.0,     150.0,       0.0);         ( 325849.7,
3794981.3,     148.9,     148.9,       0.0);
    ( 325892.6, 3794981.3,     149.0,     149.0,       0.0);         ( 325935.5,
3794981.3,     149.0,     149.0,       0.0);
    ( 325978.3, 3794981.3,     149.0,     149.0,       0.0);         ( 326021.2,
3794981.3,     149.8,     149.8,       0.0);
    ( 326064.1, 3794981.3,     150.0,     150.0,       0.0);         ( 325855.3,
3794726.6,     148.0,     148.0,       0.0);
    ( 325902.6, 3794726.6,     148.0,     148.0,       0.0);         ( 325855.3,
3794745.5,     148.0,     148.0,       0.0);
    ( 325902.6, 3794745.5,     148.0,     148.0,       0.0);         ( 325855.3,
3794764.4,     148.0,     148.0,       0.0);
    ( 325902.6, 3794764.4,     148.0,     148.0,       0.0);         ( 325855.3,
3794783.3,     148.0,     148.0,       0.0);
    ( 325902.6, 3794783.3,     148.0,     148.0,       0.0);         ( 325855.3,
3794802.2,     148.0,     148.0,       0.0);
    ( 325902.6, 3794802.2,     148.0,     148.0,       0.0);         ( 325855.3,
3794821.1,     148.0,     148.0,       0.0);
    ( 325902.6, 3794821.1,     148.1,     148.1,       0.0);         ( 326402.8,
3795249.3,     152.8,     152.8,       0.0);
    ( 325380.5, 3795776.2,     161.0,     295.0,       0.0);         ( 325415.9,
3795858.3,     176.6,     271.0,       0.0);
    ( 325409.9, 3795995.0,     190.3,     271.0,       0.0);         ( 325416.6,
3796058.1,     193.4,     282.0,       0.0);
    ( 325409.6, 3796164.9,     201.8,     291.0,       0.0);         ( 325322.7,
3796083.9,     190.0,     292.0,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326697.8, 3796898.3, 229.7, 293.0, 0.0); (326712.3, 3796916.6, 233.6, 293.0, 0.0);
(326726.6, 3796931.1, 236.4, 290.0, 0.0); (326742.2, 3796948.0, 240.5, 290.0, 0.0);
(326756.6, 3796965.7, 242.1, 290.0, 0.0); (326772.1, 3796973.3, 239.2, 290.0, 0.0);
(326785.2, 3796890.5, 223.1, 293.0, 0.0); (326800.1, 3797003.9, 233.0, 290.0, 0.0);
(326818.0, 3797014.9, 229.2, 290.0, 0.0); (326813.7, 3796843.9, 215.1, 293.0, 0.0);
(326833.9, 3796853.6, 216.3, 293.0, 0.0); (326848.6, 3796873.4, 217.5, 293.0, 0.0);

```
     ( 326864.2, 3796885.1,     217.7,     293.0,       0.0);         ( 326877.9,
3796901.2,     218.2,     292.0,       0.0);
     ( 326893.8, 3796917.1,     220.4,     292.0,       0.0);         ( 326904.5,
3796938.8,     223.9,     292.0,       0.0);
     ( 326907.6, 3796966.2,     224.5,     292.0,       0.0);         ( 326914.5,
3796991.7,     227.6,     292.0,       0.0);
     ( 326921.9, 3797038.4,     232.7,     292.0,       0.0);         ( 326596.6,
3797264.1,     273.2,     288.0,       0.0);
     ( 326830.0, 3795735.4,     183.6,     217.0,       0.0);         ( 326866.5,
3795706.9,     182.8,     217.0,       0.0);
     ( 326831.5, 3795646.6,     161.0,     217.0,       0.0);         ( 326872.9,
3795644.9,     160.9,     217.0,       0.0);
     ( 326898.9, 3795644.7,     160.9,     217.0,       0.0);         ( 326924.7,
3795650.1,     161.6,     217.0,       0.0);
     ( 326949.7, 3795646.4,     161.1,     217.0,       0.0);         ( 326975.6,
3795638.8,     162.5,     217.0,       0.0);
     ( 326917.9, 3795602.8,     159.0,     217.0,       0.0);         ( 326918.6,
3795584.1,     158.0,     217.0,       0.0);
     ( 326921.6, 3795563.5,     158.0,     217.0,       0.0);         ( 326917.2,
3795537.1,     158.0,     217.0,       0.0);
     ( 326935.0, 3795592.2,     158.8,     217.0,       0.0);         ( 326951.0,
3795599.5,     159.5,     217.0,       0.0);
     ( 326950.3, 3795555.9,     158.0,     217.0,       0.0);         ( 326951.6,
3795535.1,     158.0,     217.0,       0.0);
     ( 326961.8, 3795537.6,     158.0,     217.0,       0.0);         ( 326982.2,
3795538.3,     158.0,     217.0,       0.0);
     ( 326992.4, 3795539.1,     158.0,     217.0,       0.0);         ( 327009.0,
3795535.6,     158.0,     217.0,       0.0);
     ( 326987.7, 3795581.0,     159.0,     217.0,       0.0);         ( 327024.8,
3795588.4,     160.1,     217.0,       0.0);
     ( 326925.1, 3795485.9,     158.0,     217.0,       0.0);         ( 326937.8,
3795488.3,     158.0,     217.0,       0.0);
     ( 326956.5, 3795489.3,     158.0,     217.0,       0.0);         ( 326970.9,
3795491.0,     158.0,     217.0,       0.0);
     ( 326990.0, 3795487.7,     158.0,     217.0,       0.0);         ( 325049.3,
3794409.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794409.3,     143.0,     143.0,       0.0);         ( 325124.3,
3794409.3,     143.2,     143.2,       0.0);
     ( 325161.8, 3794409.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794409.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794409.3,     143.8,     143.8,       0.0);         ( 325274.3,
3794409.3,     143.7,     143.7,       0.0);
     ( 325049.3, 3794432.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794432.5,     143.0,     143.0,       0.0);
     ( 325124.3, 3794432.5,     143.6,     143.6,       0.0);         ( 325161.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794432.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794432.5,     144.0,     144.0,       0.0);         ( 325049.3,
3794455.7,     143.0,     143.0,       0.0);
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     ( 325086.8, 3794455.7,     143.3,     143.3,       0.0);         ( 325124.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794455.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794455.7,     144.0,     144.0,       0.0);
     ( 325049.3, 3794478.9,     143.0,     143.0,       0.0);         ( 325086.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325124.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325161.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325199.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325236.8,
3794478.9,     144.0,     144.0,       0.0);
     ( 325274.3, 3794478.9,     144.0,     144.0,       0.0);         ( 325049.3,
3794502.1,     143.0,     143.0,       0.0);
     ( 325086.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325124.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325161.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325199.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325236.8, 3794502.1,     144.0,     144.0,       0.0);         ( 325274.3,
3794502.1,     144.0,     144.0,       0.0);
     ( 325049.3, 3794525.3,     143.0,     143.0,       0.0);         ( 325086.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325124.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325161.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325199.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325236.8,
3794525.3,     144.0,     144.0,       0.0);
     ( 325274.3, 3794525.3,     144.0,     144.0,       0.0);         ( 325049.3,
3794548.5,     143.0,     143.0,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 5
Operational\Hitch Ranch_Pha ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       17:17:34

                                   PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                                 *** DISCRETE CARTESIAN RECEPTORS ***
                                                (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                          (METERS)

     ( 325086.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325124.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325161.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325199.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325236.8, 3794548.5,     144.0,     144.0,       0.0);         ( 325274.3,
3794548.5,     144.0,     144.0,       0.0);
     ( 325049.3, 3794571.7,     143.0,     143.0,       0.0);         ( 325086.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325124.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325161.8,
3794571.7,     144.0,     144.0,       0.0);
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     ( 325199.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325236.8,
3794571.7,     144.0,     144.0,       0.0);
     ( 325274.3, 3794571.7,     144.0,     144.0,       0.0);         ( 325049.3,
3794594.9,     143.0,     143.0,       0.0);
     ( 325086.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325124.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325161.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325199.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325236.8, 3794594.9,     144.0,     144.0,       0.0);         ( 325274.3,
3794594.9,     144.0,     144.0,       0.0);
     ( 325049.3, 3794618.1,     143.0,     143.0,       0.0);         ( 325086.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325124.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325161.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325199.3, 3794618.1,     144.0,     144.0,       0.0);         ( 325236.8,
3794618.1,     144.0,     144.0,       0.0);
     ( 325274.3, 3794618.1,     144.1,     144.1,       0.0);         ( 325049.3,
3794641.3,     143.0,     143.0,       0.0);
     ( 325086.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325124.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325161.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325199.3,
3794641.3,     144.0,     144.0,       0.0);
     ( 325236.8, 3794641.3,     144.0,     144.0,       0.0);         ( 325274.3,
3794641.3,     144.2,     144.2,       0.0);
     ( 325049.3, 3794664.5,     143.0,     143.0,       0.0);         ( 325086.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325124.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325161.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325199.3, 3794664.5,     144.0,     144.0,       0.0);         ( 325236.8,
3794664.5,     144.0,     144.0,       0.0);
     ( 325274.3, 3794664.5,     144.4,     144.4,       0.0);         ( 325049.3,
3794687.7,     143.0,     143.0,       0.0);
     ( 325086.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325124.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325161.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325199.3,
3794687.7,     144.0,     144.0,       0.0);
     ( 325236.8, 3794687.7,     144.0,     144.0,       0.0);         ( 325274.3,
3794687.7,     145.0,     145.0,       0.0);
     ( 324871.6, 3794429.4,     141.8,     141.8,       0.0);         ( 324910.5,
3794429.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794429.4,     142.0,     142.0,       0.0);         ( 324988.3,
3794429.4,     142.7,     142.7,       0.0);
     ( 324871.6, 3794451.2,     141.8,     141.8,       0.0);         ( 324910.5,
3794451.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794451.2,     142.1,     142.1,       0.0);         ( 324988.3,
3794451.2,     142.7,     142.7,       0.0);
     ( 324871.6, 3794473.0,     141.8,     141.8,       0.0);         ( 324910.5,
3794473.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794473.0,     142.3,     142.3,       0.0);         ( 324988.3,
3794473.0,     143.0,     143.0,       0.0);
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     ( 324871.6, 3794494.8,     141.9,     141.9,       0.0);         ( 324910.5,
3794494.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794494.8,     142.4,     142.4,       0.0);         ( 324988.3,
3794494.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794516.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794516.6,     142.0,     142.0,       0.0);
     ( 324949.4, 3794516.6,     142.4,     142.4,       0.0);         ( 324988.3,
3794516.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794538.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794538.4,     142.0,     142.0,       0.0);
     ( 324949.4, 3794538.4,     142.4,     142.4,       0.0);         ( 324988.3,
3794538.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794560.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794560.2,     142.0,     142.0,       0.0);
     ( 324949.4, 3794560.2,     142.4,     142.4,       0.0);         ( 324988.3,
3794560.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794582.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794582.0,     142.0,     142.0,       0.0);
     ( 324949.4, 3794582.0,     142.4,     142.4,       0.0);         ( 324988.3,
3794582.0,     143.0,     143.0,       0.0);
     ( 324871.6, 3794603.8,     142.0,     142.0,       0.0);         ( 324910.5,
3794603.8,     142.0,     142.0,       0.0);
     ( 324949.4, 3794603.8,     142.5,     142.5,       0.0);         ( 324988.3,
3794603.8,     143.0,     143.0,       0.0);
     ( 324871.6, 3794625.6,     142.0,     142.0,       0.0);         ( 324910.5,
3794625.6,     142.1,     142.1,       0.0);
     ( 324949.4, 3794625.6,     143.0,     143.0,       0.0);         ( 324988.3,
3794625.6,     143.0,     143.0,       0.0);
     ( 324871.6, 3794647.4,     142.0,     142.0,       0.0);         ( 324910.5,
3794647.4,     142.1,     142.1,       0.0);
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 5
Operational\Hitch Ranch_Pha ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                         ***       17:17:34

                                   PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

     ( 324949.4, 3794647.4,     143.0,     143.0,       0.0);         ( 324988.3,
3794647.4,     143.0,     143.0,       0.0);
     ( 324871.6, 3794669.2,     142.0,     142.0,       0.0);         ( 324910.5,
3794669.2,     142.1,     142.1,       0.0);
     ( 324949.4, 3794669.2,     143.0,     143.0,       0.0);         ( 324988.3,
3794669.2,     143.0,     143.0,       0.0);
     ( 324871.6, 3794691.0,     142.0,     142.0,       0.0);         ( 324910.5,
3794691.0,     142.1,     142.1,       0.0);
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     ( 324949.4, 3794691.0,     143.0,     143.0,       0.0);         ( 324988.3,
3794691.0,     143.0,     143.0,       0.0);
     ( 324559.9, 3794426.4,     139.0,     139.0,       0.0);         ( 324596.8,
3794426.4,     139.0,     139.0,       0.0);
     ( 324633.8, 3794426.4,     139.9,     139.9,       0.0);         ( 324670.7,
3794426.4,     140.0,     140.0,       0.0);
     ( 324707.7, 3794426.4,     140.1,     140.1,       0.0);         ( 324744.6,
3794426.4,     140.7,     140.7,       0.0);
     ( 324781.6, 3794426.4,     141.0,     141.0,       0.0);         ( 324449.0,
3794458.3,     138.7,     138.7,       0.0);
     ( 324486.0, 3794458.3,     139.0,     139.0,       0.0);         ( 324522.9,
3794458.3,     139.0,     139.0,       0.0);
     ( 324559.9, 3794458.3,     139.0,     139.0,       0.0);         ( 324596.8,
3794458.3,     139.2,     139.2,       0.0);
     ( 324633.8, 3794458.3,     139.9,     139.9,       0.0);         ( 324670.7,
3794458.3,     140.0,     140.0,       0.0);
     ( 324707.7, 3794458.3,     140.3,     140.3,       0.0);         ( 324744.6,
3794458.3,     141.0,     141.0,       0.0);
     ( 324781.6, 3794458.3,     141.0,     141.0,       0.0);         ( 324449.0,
3794490.3,     138.7,     138.7,       0.0);
     ( 324486.0, 3794490.3,     139.0,     139.0,       0.0);         ( 324522.9,
3794490.3,     139.0,     139.0,       0.0);
     ( 324559.9, 3794490.3,     139.0,     139.0,       0.0);         ( 324596.8,
3794490.3,     139.6,     139.6,       0.0);
     ( 324633.8, 3794490.3,     140.0,     140.0,       0.0);         ( 324670.7,
3794490.3,     140.0,     140.0,       0.0);
     ( 324707.7, 3794490.3,     140.3,     140.3,       0.0);         ( 324744.6,
3794490.3,     141.0,     141.0,       0.0);
     ( 324781.6, 3794490.3,     141.0,     141.0,       0.0);         ( 324449.0,
3794522.3,     138.9,     138.9,       0.0);
     ( 324486.0, 3794522.3,     139.0,     139.0,       0.0);         ( 324522.9,
3794522.3,     139.0,     139.0,       0.0);
     ( 324559.9, 3794522.3,     139.0,     139.0,       0.0);         ( 324596.8,
3794522.3,     139.6,     139.6,       0.0);
     ( 324633.8, 3794522.3,     140.0,     140.0,       0.0);         ( 324670.7,
3794522.3,     140.0,     140.0,       0.0);
     ( 324707.7, 3794522.3,     140.3,     140.3,       0.0);         ( 324744.6,
3794522.3,     141.0,     141.0,       0.0);
     ( 324781.6, 3794522.3,     141.0,     141.0,       0.0);         ( 324449.0,
3794554.2,     139.0,     139.0,       0.0);
     ( 324486.0, 3794554.2,     139.0,     139.0,       0.0);         ( 324522.9,
3794554.2,     139.0,     139.0,       0.0);
     ( 324559.9, 3794554.2,     139.2,     139.2,       0.0);         ( 324596.8,
3794554.2,     139.8,     139.8,       0.0);
     ( 324633.8, 3794554.2,     140.0,     140.0,       0.0);         ( 324670.7,
3794554.2,     140.0,     140.0,       0.0);
     ( 324707.7, 3794554.2,     140.3,     140.3,       0.0);         ( 324744.6,
3794554.2,     141.0,     141.0,       0.0);
     ( 324781.6, 3794554.2,     141.0,     141.0,       0.0);         ( 324449.0,
3794586.2,     139.0,     139.0,       0.0);
```

(324486.0, 3794586.2, 139.0, 139.0, 0.0); (324522.9, 3794586.2, 139.0, 139.0, 0.0);
(324559.9, 3794586.2, 139.4, 139.4, 0.0); (324596.8, 3794586.2, 140.0, 140.0, 0.0);
(324633.8, 3794586.2, 140.0, 140.0, 0.0); (324670.7, 3794586.2, 140.0, 140.0, 0.0);
(324707.7, 3794586.2, 140.3, 140.3, 0.0); (324744.6, 3794586.2, 141.0, 141.0, 0.0);
(324781.6, 3794586.2, 141.0, 141.0, 0.0); (324449.0, 3794618.2, 139.0, 139.0, 0.0);
(324486.0, 3794618.2, 139.0, 139.0, 0.0); (324522.9, 3794618.2, 139.0, 139.0, 0.0);
(324559.9, 3794618.2, 139.4, 139.4, 0.0); (324596.8, 3794618.2, 140.0, 140.0, 0.0);
(324633.8, 3794618.2, 140.0, 140.0, 0.0); (324670.7, 3794618.2, 140.1, 140.1, 0.0);
(324707.7, 3794618.2, 140.8, 140.8, 0.0); (324744.6, 3794618.2, 141.0, 141.0, 0.0);
(324781.6, 3794618.2, 141.0, 141.0, 0.0); (324449.0, 3794650.1, 139.0, 139.0, 0.0);
(324486.0, 3794650.1, 139.0, 139.0, 0.0); (324522.9, 3794650.1, 139.0, 139.0, 0.0);
(324559.9, 3794650.1, 139.4, 139.4, 0.0); (324596.8, 3794650.1, 140.0, 140.0, 0.0);
(324633.8, 3794650.1, 140.0, 140.0, 0.0); (324670.7, 3794650.1, 140.1, 140.1, 0.0);
(324707.7, 3794650.1, 141.0, 141.0, 0.0); (324744.6, 3794650.1, 141.0, 141.0, 0.0);
(324781.6, 3794650.1, 141.0, 141.0, 0.0); (324449.0, 3794682.1, 139.0, 139.0, 0.0);
(324486.0, 3794682.1, 139.0, 139.0, 0.0); (324522.9, 3794682.1, 139.1, 139.1, 0.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(324559.9, 3794682.1, 139.9, 139.9, 0.0); (324596.8, 3794682.1, 140.0, 140.0, 0.0);
(324633.8, 3794682.1, 140.0, 140.0, 0.0); (324670.7, 3794682.1, 140.1, 140.1, 0.0);
(324707.7, 3794682.1, 141.0, 141.0, 0.0); (324744.6, 3794682.1, 141.0, 141.0, 0.0);

```
     ( 324781.6, 3794682.1,     141.0,     141.0,       0.0);         ( 326547.4,
3795022.1,     153.0,     153.0,       0.0);
     ( 326594.7, 3795022.1,     153.3,     153.3,       0.0);         ( 326642.0,
3795022.1,     154.0,     154.0,       0.0);
     ( 326547.4, 3795042.5,     153.0,     153.0,       0.0);         ( 326594.7,
3795042.5,     153.9,     153.9,       0.0);
     ( 326642.0, 3795042.5,     154.0,     154.0,       0.0);         ( 326547.4,
3795062.9,     153.0,     153.0,       0.0);
     ( 326594.7, 3795062.9,     154.0,     154.0,       0.0);         ( 326642.0,
3795062.9,     154.0,     154.0,       0.0);
     ( 326547.4, 3795083.3,     153.1,     153.1,       0.0);         ( 326594.7,
3795083.3,     154.0,     154.0,       0.0);
     ( 326642.0, 3795083.3,     154.0,     154.0,       0.0);         ( 326547.4,
3795103.7,     153.6,     153.6,       0.0);
     ( 326594.7, 3795103.7,     154.0,     154.0,       0.0);         ( 326642.0,
3795103.7,     154.0,     154.0,       0.0);
     ( 326547.4, 3795124.1,     153.6,     153.6,       0.0);         ( 326594.7,
3795124.1,     154.0,     154.0,       0.0);
     ( 326642.0, 3795124.1,     154.0,     154.0,       0.0);         ( 326547.4,
3795144.5,     153.7,     153.7,       0.0);
     ( 326594.7, 3795144.5,     154.0,     154.0,       0.0);         ( 326642.0,
3795144.5,     154.0,     154.0,       0.0);
     ( 326547.4, 3795164.9,     154.0,     154.0,       0.0);         ( 326594.7,
3795164.9,     154.0,     154.0,       0.0);
     ( 326642.0, 3795164.9,     154.0,     154.0,       0.0);         ( 326547.4,
3795185.3,     154.0,     154.0,       0.0);
     ( 326594.7, 3795185.3,     154.0,     154.0,       0.0);         ( 326642.0,
3795185.3,     154.0,     154.0,       0.0);
     ( 326547.4, 3795205.7,     154.0,     154.0,       0.0);         ( 326594.7,
3795205.7,     154.0,     154.0,       0.0);
     ( 326642.0, 3795205.7,     154.2,     154.2,       0.0);         ( 326547.4,
3795226.1,     154.0,     154.0,       0.0);
     ( 326594.7, 3795226.1,     154.0,     154.0,       0.0);         ( 326642.0,
3795226.1,     154.8,     154.8,       0.0);
     ( 326547.4, 3795246.5,     154.0,     154.0,       0.0);         ( 326594.7,
3795246.5,     154.1,     154.1,       0.0);
     ( 326642.0, 3795246.5,     154.9,     154.9,       0.0);         ( 326690.4,
3795243.4,     155.0,     155.0,       0.0);
     ( 326688.7, 3795223.0,     155.0,     155.0,       0.0);         ( 326686.0,
3795005.8,     154.0,     154.0,       0.0);
     ( 326686.0, 3795033.7,     154.1,     154.1,       0.0);         ( 326686.0,
3795061.5,     154.3,     154.3,       0.0);
     ( 326686.0, 3795089.4,     154.3,     154.3,       0.0);         ( 326686.0,
3795117.3,     154.3,     154.3,       0.0);
     ( 326686.0, 3795145.2,     154.3,     154.3,       0.0);         ( 326686.0,
3795173.1,     154.4,     154.4,       0.0);
     ( 326686.0, 3795201.0,     155.0,     155.0,       0.0);         ( 326832.8,
3795263.3,     155.3,     155.3,       0.0);
     ( 326849.7, 3795263.3,     155.8,     155.8,       0.0);         ( 326866.5,
3795263.3,     156.0,     156.0,       0.0);
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(326883.4, 3795263.3, 156.0, 156.0, 0.0); (326900.3, 3795263.3, 156.0, 156.0, 0.0);
(326917.1, 3795263.3, 156.0, 156.0, 0.0); (326934.0, 3795263.3, 156.5, 156.5, 0.0);
(326950.9, 3795263.3, 157.0, 157.0, 0.0); (326967.8, 3795263.3, 157.0, 157.0, 0.0);
(326984.6, 3795263.3, 157.2, 157.2, 0.0); (327001.5, 3795263.3, 157.8, 157.8, 0.0);
(327036.8, 3795141.3, 157.0, 157.0, 0.0); (327075.7, 3795141.3, 158.0, 158.0, 0.0);
(327036.8, 3795160.9, 157.0, 157.0, 0.0); (327075.7, 3795160.9, 158.0, 158.0, 0.0);
(327036.8, 3795180.5, 157.0, 157.0, 0.0); (327075.7, 3795180.5, 158.0, 158.0, 0.0);
(327036.8, 3795200.0, 157.1, 157.1, 0.0); (327075.7, 3795200.0, 158.0, 158.0, 0.0);
(327036.8, 3795219.6, 157.7, 157.7, 0.0); (327075.7, 3795219.6, 158.0, 158.0, 0.0);
(327036.8, 3795239.1, 158.0, 158.0, 0.0); (327075.7, 3795239.1, 158.0, 158.0, 0.0);
(327036.8, 3795258.7, 158.0, 158.0, 0.0); (327075.7, 3795258.7, 158.0, 158.0, 0.0);
(327036.8, 3795278.3, 158.0, 158.0, 0.0); (327075.7, 3795278.3, 158.0, 158.0, 0.0);
(326840.0, 3795223.2, 155.4, 155.4, 0.0); (326860.6, 3795224.2, 156.0, 156.0, 0.0);
(326877.3, 3795222.7, 156.0, 156.0, 0.0); (326929.7, 3795223.7, 156.4, 156.4, 0.0);
(326932.9, 3795200.0, 156.5, 156.5, 0.0); (326972.3, 3795217.0, 157.0, 157.0, 0.0);
(326970.8, 3795177.6, 157.0, 157.0, 0.0); (326968.2, 3795152.5, 157.0, 157.0, 0.0);
(326998.4, 3795149.8, 157.0, 157.0, 0.0); (326997.5, 3795176.6, 157.0, 157.0, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(326995.6, 3795193.0, 157.0, 157.0, 0.0); (326996.9, 3795215.8, 157.0, 157.0, 0.0);
(326917.0, 3795152.2, 156.0, 156.0, 0.0); (326902.0, 3795150.5, 156.0, 156.0, 0.0);

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     ( 326884.2, 3795164.4,     156.0,     156.0,       0.0);         ( 326867.3,
3795151.3,     156.0,     156.0,       0.0);
     ( 326873.2, 3795163.4,     156.0,     156.0,       0.0);         ( 326845.5,
3795152.1,     155.6,     155.6,       0.0);
     ( 326824.9, 3795151.4,     155.0,     155.0,       0.0);         ( 326826.6,
3795170.6,     155.0,     155.0,       0.0);
     ( 326840.5, 3795180.2,     155.4,     155.4,       0.0);         ( 326799.4,
3795148.0,     155.0,     155.0,       0.0);
     ( 326776.8, 3795147.9,     155.0,     155.0,       0.0);         ( 326738.0,
3795152.7,     155.0,     155.0,       0.0);
     ( 326781.3, 3795110.8,     155.0,     155.0,       0.0);         ( 326806.1,
3795109.0,     155.2,     155.2,       0.0);
     ( 326804.5, 3795090.7,     155.2,     155.2,       0.0);         ( 326781.8,
3795086.7,     155.0,     155.0,       0.0);
     ( 326787.4, 3795061.8,     155.0,     155.0,       0.0);         ( 326794.0,
3795031.2,     155.0,     155.0,       0.0);
     ( 326977.5, 3795110.7,     157.0,     157.0,       0.0);         ( 326994.0,
3795107.9,     157.0,     157.0,       0.0);
     ( 326984.5, 3795093.8,     157.0,     157.0,       0.0);         ( 326972.8,
3795082.4,     157.0,     157.0,       0.0);
     ( 326995.4, 3795072.5,     157.0,     157.0,       0.0);         ( 326993.2,
3795060.0,     157.0,     157.0,       0.0);
     ( 326984.6, 3795040.8,     157.0,     157.0,       0.0);         ( 326981.7,
3795027.2,     157.0,     157.0,       0.0);
     ( 327041.5, 3795102.1,     157.1,     157.1,       0.0);         ( 327065.2,
3795095.8,     157.9,     157.9,       0.0);
     ( 327040.9, 3795076.3,     157.1,     157.1,       0.0);         ( 327061.2,
3795058.3,     157.8,     157.8,       0.0);
     ( 327037.8, 3795061.1,     157.0,     157.0,       0.0);         ( 327035.6,
3795040.6,     157.0,     157.0,       0.0);
     ( 327058.9, 3795038.4,     157.7,     157.7,       0.0);         ( 327051.5,
3795017.8,     157.4,     157.4,       0.0);
     ( 327033.3, 3795021.7,     157.0,     157.0,       0.0);         ( 326826.3,
3795110.8,     155.8,     155.8,       0.0);
     ( 326843.3, 3795110.8,     155.9,     155.9,       0.0);         ( 326860.3,
3795110.8,     156.0,     156.0,       0.0);
     ( 326877.3, 3795110.8,     156.0,     156.0,       0.0);         ( 326894.4,
3795110.8,     156.0,     156.0,       0.0);
     ( 326911.4, 3795110.8,     156.0,     156.0,       0.0);         ( 326928.4,
3795110.8,     156.3,     156.3,       0.0);
     ( 326945.5, 3795110.8,     156.9,     156.9,       0.0);         ( 326820.0,
3795048.9,     155.7,     155.7,       0.0);
     ( 326838.2, 3795048.9,     156.0,     156.0,       0.0);         ( 326856.4,
3795048.9,     156.0,     156.0,       0.0);
     ( 326874.6, 3795048.9,     156.0,     156.0,       0.0);         ( 326892.8,
3795048.9,     156.0,     156.0,       0.0);
     ( 326911.0, 3795048.9,     156.0,     156.0,       0.0);         ( 326929.2,
3795048.9,     156.4,     156.4,       0.0);
     ( 326947.4, 3795048.9,     157.0,     157.0,       0.0);         ( 325652.3,
3795689.5,     172.4,     271.0,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

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          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926. Met Version: 14134
Profile file: M:\9. Air Quality\Projects\1318 Hitch Ranch\HRA\Camarillo Airport\723926\723926.
Surface format: FREE

Profile format: FREE

Surface station no.: 23136 Name: UNKNOWN
Upper air station no.: 93214 Name: UNKNOWN

Year: 2009
Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	281.4	2.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.9	2.0
09	01	01	1	03	-3.3	0.067	-9.000	-9.000	-999.	42.	8.3	0.05	0.81	1.00	1.76	214.	10.0	280.9	2.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	280.4	2.0
09	01	01	1	05	-6.6	0.115	-9.000	-9.000	-999.	94.	21.1	0.03	0.81	1.00	2.36	93.	10.0	280.4	2.0
09	01	01	1	06	-6.7	0.116	-9.000	-9.000	-999.	95.	21.1	0.03	0.81	1.00	2.36	52.	10.0	278.1	2.0
09	01	01	1	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	1.00	0.00	0.	10.0	276.4	2.0
09	01	01	1	08	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.04	0.81	0.57	0.00	0.	10.0	277.5	2.0
09	01	01	1	09	16.9	0.181	0.282	0.018	48.	185.	-31.8	0.03	0.81	0.33	2.36	107.	10.0	279.2	2.0
09	01	01	1	10	61.0	0.211	0.601	0.015	129.	233.	-14.0	0.04	0.81	0.24	2.36	161.	10.0	281.4	2.0
09	01	01	1	11	97.2	0.183	0.800	0.017	191.	188.	-5.7	0.05	0.81	0.21	1.76	214.	10.0	282.5	2.0
09	01	01	1	12	108.8	0.264	0.957	0.013	292.	326.	-15.4	0.05	0.81	0.20	2.86	206.	10.0	285.4	2.0
09	01	01	1	13	108.9	0.229	1.066	0.011	403.	263.	-9.9	0.05	0.81	0.20	2.36	223.	10.0	285.9	2.0

```
 09 01 01   1 14   93.2  0.261  1.073  0.010  479.  320.    -17.3  0.05   0.81
0.21    2.86  239.   10.0  287.0    2.0
 09 01 01   1 15   62.1  0.207  0.944  0.009  490.  226.    -12.8  0.04   0.81
0.24    2.36  272.   10.0  287.0    2.0
 09 01 01   1 16   18.0  0.190  0.626  0.009  491.  198.    -34.3  0.04   0.81
0.33    2.36  274.   10.0  285.9    2.0
 09 01 01   1 17  -12.1  0.125 -9.000 -9.000 -999.  107.     14.5  0.03   0.81
0.58    2.86  301.   10.0  283.1    2.0
 09 01 01   1 18   -7.2  0.107 -9.000 -9.000 -999.   84.     15.4  0.04   0.81
1.00    2.36  287.   10.0  281.4    2.0
 09 01 01   1 19   -7.1  0.124 -9.000 -9.000 -999.  105.     24.5  0.04   0.81
1.00    2.36  294.   10.0  280.4    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22   -4.4  0.065 -9.000 -9.000 -999.   40.      5.7  0.04   0.81
1.00    1.76  162.   10.0  279.1    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  278.1    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.04   0.81
1.00    0.00    0.   10.0  279.1    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 09 01 01 01   10.0 1 -999.  -99.00   281.5   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 5
Operational\Hitch Ranch_Pha ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:17:34

                                   PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                         X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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- - - -

3795787.48   0.00097
         326761.76   3795813.54   0.00086   326742.22
3795837.06   0.00086
         326838.64   3795823.91   0.00071   326811.45
3795889.81   0.00067
         326823.87   3795855.97   0.00066   326876.62
3795837.29   0.00062
         326889.30   3795888.54   0.00059   326687.45
3795683.69   0.00219
         326829.20   3795731.31   0.00098   326859.14
3795703.62   0.00094
         326881.10   3795705.58   0.00097   326787.44
3795607.00   0.00239
         326780.76   3795563.55   0.00258   326800.04
3795542.65   0.00262
         326808.89   3795540.15   0.00262   326825.79
3795543.65   0.00261
         326856.70   3795545.31   0.00253   326792.33
3795494.19   0.00271
         326806.68   3795493.93   0.00267   326824.07
3795494.42   0.00261
         326853.52   3795481.71   0.00259   326898.80
3795534.37   0.00242
         325796.15   3795215.59   0.00752   325823.15
3795215.59   0.00741
         326012.15   3795215.59   0.00601   326120.15
3795215.59   0.00484
         326147.15   3795215.59   0.00471   325796.15
3795254.59   0.00885
         325823.15   3795254.59   0.00873   325850.15
3795254.59   0.00853

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)

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Y-COORD (M)        CONC
 - - -
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3795004.89   0.00284
         326072.44   3795004.89   0.00279   326097.44
3795004.89   0.00275
         326122.44   3795004.89   0.00270   326147.44
3795004.89   0.00254
         325847.44   3795046.89   0.00388   325872.44
3795046.89   0.00379
         325897.44   3795046.89   0.00371   325922.44
3795046.89   0.00362
         325947.44   3795046.89   0.00354   325972.44
3795046.89   0.00344
         325997.44   3795046.89   0.00334   326022.44
3795046.89   0.00327
         326047.44   3795046.89   0.00320   326072.44
3795046.89   0.00314
         326097.44   3795046.89   0.00309   326122.44
3795046.89   0.00286
         326147.44   3795046.89   0.00275   325847.44
3795088.89   0.00448
         325872.44   3795088.89   0.00437   325897.44
3795088.89   0.00427
         325922.44   3795088.89   0.00417   325947.44
3795088.89   0.00402
         325972.44   3795088.89   0.00390   325997.44
3795088.89   0.00381
         326022.44   3795088.89   0.00373   326047.44
3795088.89   0.00365
         326072.44   3795088.89   0.00357   326097.44
3795088.89   0.00331
         326122.44   3795088.89   0.00319   326147.44
3795088.89   0.00309
         325847.44   3795130.89   0.00521   325872.44
3795130.89   0.00508

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                  INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325897.44	3795130.89	0.00496	325922.44	3795130.89	0.00484
325947.44	3795130.89	0.00466	325972.44	3795130.89	0.00451
325997.44	3795130.89	0.00440	326022.44	3795130.89	0.00430
326047.44	3795130.89	0.00420	326072.44	3795130.89	0.00410
326097.44	3795130.89	0.00372	326122.44	3795130.89	0.00357
326147.44	3795130.89	0.00350	325847.44	3795172.89	0.00611
325872.44	3795172.89	0.00596	325897.44	3795172.89	0.00582
325922.44	3795172.89	0.00567	325947.44	3795172.89	0.00545
325972.44	3795172.89	0.00527	325997.44	3795172.89	0.00514
326022.44	3795172.89	0.00501	326047.44	3795172.89	0.00460
326072.44	3795172.89	0.00434	325847.44	3795214.89	0.00722
325872.44	3795214.89	0.00705	325897.44	3795214.89	0.00689
325922.44	3795214.89	0.00672	325947.44	3795214.89	0.00645
325972.44	3795214.89	0.00623	325997.44	3795214.89	0.00608
326047.44	3795214.89	0.00517	326072.44	3795214.89	0.00504
326097.44	3795214.89	0.00493	326147.44	3795214.89	0.00470
326096.58	3795181.52	0.00434	326118.63	3795182.57	0.00427
326144.35	3795184.14	0.00420	325849.74	3794829.62	0.00207
325892.61	3794829.62	0.00201	325935.48	3794829.62	0.00195
325978.35	3794829.62	0.00191	326021.22	3794829.62	0.00187
326064.09	3794829.62	0.00183	325849.74	3794867.55	0.00229
325892.61	3794867.55	0.00220	325935.48	3794867.55	0.00214
325978.35	3794867.55	0.00209	326021.22		

```
3794867.55        0.00205
         326064.09    3794867.55        0.00199                        325849.74
3794905.48        0.00254
         325892.61    3794905.48        0.00244                        325935.48
3794905.48        0.00236
         325978.35    3794905.48        0.00230                        326021.22
3794905.48        0.00225
         326064.09    3794905.48        0.00217                        325849.74
3794943.41        0.00282
         325892.61    3794943.41        0.00271                        325935.48
3794943.41        0.00262
         325978.35    3794943.41        0.00255                        326021.22
3794943.41        0.00248
         326064.09    3794943.41        0.00239                        325849.74
3794981.34        0.00315
         325892.61    3794981.34        0.00303                        325935.48
3794981.34        0.00293
         325978.35    3794981.34        0.00283                        326021.22
3794981.34        0.00271
         326064.09    3794981.34        0.00263                        325855.31
3794726.62        0.00160
         325902.64    3794726.62        0.00157                        325855.31
3794745.52        0.00167
         325902.64    3794745.52        0.00164                        325855.31
3794764.42        0.00175
         325902.64    3794764.42        0.00171                        325855.31
3794783.32        0.00183
         325902.64    3794783.32        0.00179                        325855.31
3794802.22        0.00192
         325902.64    3794802.22        0.00187                        325855.31
3794821.12        0.00201
         325902.64    3794821.12        0.00196                        326402.77
3795249.33        0.00379
         325380.55    3795776.17        0.00511                        325415.88
3795858.35        0.00222
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 5
Operational\Hitch Ranch_Pha ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:17:34

                                  PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     PAREA1      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***
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** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325409.93	3795994.97	0.00115	325416.60	3796058.09	0.00095
325409.65	3796164.95	0.00043	325322.71	3796083.91	0.00058
325297.93	3796111.07	0.00053	325246.73	3796076.15	0.00061
325280.01	3796260.66	0.00014	325237.05	3796200.45	0.00017
325163.03	3796071.11	0.00052	325215.74	3795991.41	0.00092
325208.29	3795926.88	0.00135	325249.48	3795829.20	0.00209
325171.49	3795759.19	0.00373	325129.24	3795756.40	0.00408
325154.75	3795886.20	0.00174	325068.55	3795885.45	0.00120
325047.86	3795938.00	0.00081	325045.84	3795982.69	0.00067
325071.95	3796106.74	0.00039	325060.64	3796290.38	0.00012
324903.71	3796379.80	0.00005	324787.84	3796510.42	0.00006
324916.48	3796618.27	0.00006	326492.96	3796356.32	0.00080
326552.73	3796900.01	0.00019	326599.30	3796893.60	0.00020
326617.42	3796889.51	0.00020	326639.41	3796881.91	0.00020
326663.73	3796864.08	0.00022	326679.47	3796885.20	0.00021
326697.81	3796898.31	0.00021	326712.34	3796916.60	0.00020
326726.62	3796931.14	0.00019	326742.23	3796948.02	0.00018
326756.58	3796965.73	0.00017	326772.07	3796973.30	0.00018
326785.22	3796890.50	0.00022	326800.10	3797003.95	0.00017
326817.96	3797014.86	0.00018	326813.74	3796843.93	0.00025
326833.92	3796853.59	0.00024	326848.61	3796873.43	0.00023
326864.19	3796885.12	0.00022	326877.92		

3796901.20   0.00022
         326893.85   3796917.11   0.00021   326904.49
3796938.77   0.00020
         326907.64   3796966.22   0.00019   326914.45
3796991.73   0.00018
         326921.92   3797038.42   0.00016   326596.56
3797264.10   0.00010
         326829.98   3795735.43   0.00095   326866.53
3795706.88   0.00092
         326831.50   3795646.57   0.00225   326872.90
3795644.95   0.00215
         326898.91   3795644.66   0.00209   326924.66
3795650.14   0.00196
         326949.68   3795646.43   0.00195   326975.59
3795638.84   0.00176
         326917.88   3795602.78   0.00226   326918.63
3795584.13   0.00238
         326921.61   3795563.48   0.00237   326917.18
3795537.15   0.00238
         326934.99   3795592.17   0.00224   326951.04
3795599.47   0.00212
         326950.26   3795555.95   0.00230   326951.59
3795535.07   0.00229
         326961.83   3795537.57   0.00227   326982.25
3795538.33   0.00223
         326992.41   3795539.09   0.00220   327008.98
3795535.58   0.00217
         326987.68   3795580.97   0.00209   327024.81
3795588.42   0.00191
         326925.07   3795485.95   0.00235   326937.83
3795488.27   0.00232
         326956.45   3795489.28   0.00228   326970.89
3795491.03   0.00225
         326989.96   3795487.68   0.00221   325049.27
3794409.32   0.00146
         325086.77   3794409.32   0.00142   325124.27
3794409.32   0.00139

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL   ***
                                   INCLUDING SOURCE(S):   PAREA1   ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS

***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325161.77	3794409.32	0.00136	325199.27	3794409.32	0.00132
325236.77	3794409.32	0.00128	325274.27	3794409.32	0.00124
325049.27	3794432.52	0.00152	325086.77	3794432.52	0.00148
325124.27	3794432.52	0.00145	325161.77	3794432.52	0.00142
325199.27	3794432.52	0.00138	325236.77	3794432.52	0.00134
325274.27	3794432.52	0.00130	325049.27	3794455.72	0.00159
325086.77	3794455.72	0.00155	325124.27	3794455.72	0.00152
325161.77	3794455.72	0.00148	325199.27	3794455.72	0.00144
325236.77	3794455.72	0.00140	325274.27	3794455.72	0.00136
325049.27	3794478.92	0.00165	325086.77	3794478.92	0.00163
325124.27	3794478.92	0.00159	325161.77	3794478.92	0.00154
325199.27	3794478.92	0.00150	325236.77	3794478.92	0.00146
325274.27	3794478.92	0.00142	325049.27	3794502.12	0.00173
325086.77	3794502.12	0.00170	325124.27	3794502.12	0.00166
325161.77	3794502.12	0.00161	325199.27	3794502.12	0.00157
325236.77	3794502.12	0.00153	325274.27	3794502.12	0.00148
325049.27	3794525.32	0.00180	325086.77	3794525.32	0.00178
325124.27	3794525.32	0.00173	325161.77	3794525.32	0.00168
325199.27	3794525.32	0.00164	325236.77	3794525.32	0.00160
325274.27	3794525.32	0.00155	325049.27	3794548.52	0.00189
325086.77	3794548.52	0.00186	325124.27		

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3794548.52        0.00181
         325161.77    3794548.52        0.00176                       325199.27
3794548.52        0.00172
         325236.77    3794548.52        0.00167                       325274.27
3794548.52        0.00162
         325049.27    3794571.72        0.00197                       325086.77
3794571.72        0.00194
         325124.27    3794571.72        0.00189                       325161.77
3794571.72        0.00184
         325199.27    3794571.72        0.00180                       325236.77
3794571.72        0.00175
         325274.27    3794571.72        0.00170                       325049.27
3794594.92        0.00207
         325086.77    3794594.92        0.00204                       325124.27
3794594.92        0.00198
         325161.77    3794594.92        0.00193                       325199.27
3794594.92        0.00188
         325236.77    3794594.92        0.00183                       325274.27
3794594.92        0.00178
         325049.27    3794618.12        0.00216                       325086.77
3794618.12        0.00214
         325124.27    3794618.12        0.00208                       325161.77
3794618.12        0.00203
         325199.27    3794618.12        0.00197                       325236.77
3794618.12        0.00192
         325274.27    3794618.12        0.00187                       325049.27
3794641.32        0.00227
         325086.77    3794641.32        0.00224                       325124.27
3794641.32        0.00218
         325161.77    3794641.32        0.00213                       325199.27
3794641.32        0.00207
         325236.77    3794641.32        0.00202                       325274.27
3794641.32        0.00197
         325049.27    3794664.52        0.00238                       325086.77
3794664.52        0.00235
         325124.27    3794664.52        0.00230                       325161.77
3794664.52        0.00224
         325199.27    3794664.52        0.00218                       325236.77
3794664.52        0.00212
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 5
Operational\Hitch Ranch_Pha ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:17:34

                                  PAGE  19
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     PAREA1      ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
325274.27	3794664.52	0.00208	325049.27	3794687.72	0.00250
325086.77	3794687.72	0.00248	325124.27	3794687.72	0.00241
325161.77	3794687.72	0.00235	325199.27	3794687.72	0.00229
325236.77	3794687.72	0.00223	325274.27	3794687.72	0.00220
324871.62	3794429.43	0.00169	324910.53	3794429.43	0.00165
324949.44	3794429.43	0.00161	324988.35	3794429.43	0.00158
324871.62	3794451.23	0.00176	324910.53	3794451.23	0.00172
324949.44	3794451.23	0.00167	324988.35	3794451.23	0.00164
324871.62	3794473.03	0.00183	324910.53	3794473.03	0.00179
324949.44	3794473.03	0.00175	324988.35	3794473.03	0.00171
324871.62	3794494.83	0.00190	324910.53	3794494.83	0.00186
324949.44	3794494.83	0.00182	324988.35	3794494.83	0.00178
324871.62	3794516.63	0.00198	324910.53	3794516.63	0.00193
324949.44	3794516.63	0.00189	324988.35	3794516.63	0.00186
324871.62	3794538.43	0.00206	324910.53	3794538.43	0.00201
324949.44	3794538.43	0.00197	324988.35	3794538.43	0.00193
324871.62	3794560.23	0.00215	324910.53	3794560.23	0.00210
324949.44	3794560.23	0.00205	324988.35	3794560.23	0.00202
324871.62	3794582.03	0.00224	324910.53	3794582.03	0.00219
324949.44	3794582.03	0.00214	324988.35		

3794582.03   0.00211
         324871.62   3794603.83   0.00234   324910.53
3794603.83   0.00228
         324949.44   3794603.83   0.00224   324988.35
3794603.83   0.00220
         324871.62   3794625.63   0.00244   324910.53
3794625.63   0.00238
         324949.44   3794625.63   0.00236   324988.35
3794625.63   0.00230
         324871.62   3794647.43   0.00254   324910.53
3794647.43   0.00249
         324949.44   3794647.43   0.00246   324988.35
3794647.43   0.00240
         324871.62   3794669.23   0.00265   324910.53
3794669.23   0.00260
         324949.44   3794669.23   0.00258   324988.35
3794669.23   0.00251
         324871.62   3794691.03   0.00277   324910.53
3794691.03   0.00272
         324949.44   3794691.03   0.00270   324988.35
3794691.03   0.00263
         324559.89   3794426.36   0.00192   324596.84
3794426.36   0.00188
         324633.79   3794426.36   0.00188   324670.74
3794426.36   0.00184
         324707.69   3794426.36   0.00181   324744.64
3794426.36   0.00179
         324781.59   3794426.36   0.00176   324449.04
3794458.33   0.00208
         324485.99   3794458.33   0.00207   324522.94
3794458.33   0.00204
         324559.89   3794458.33   0.00202   324596.84
3794458.33   0.00199
         324633.79   3794458.33   0.00198   324670.74
3794458.33   0.00195
         324707.69   3794458.33   0.00192   324744.64
3794458.33   0.00190
         324781.59   3794458.33   0.00186   324449.04
3794490.30   0.00219
         324485.99   3794490.30   0.00218   324522.94
3794490.30   0.00215

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5

YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
324559.89	3794490.30	0.00212	324596.84	3794490.30	0.00211
324633.79	3794490.30	0.00209	324670.74	3794490.30	0.00205
324707.69	3794490.30	0.00203	324744.64	3794490.30	0.00201
324781.59	3794490.30	0.00197	324449.04	3794522.27	0.00230
324485.99	3794522.27	0.00229	324522.94	3794522.27	0.00226
324559.89	3794522.27	0.00223	324596.84	3794522.27	0.00223
324633.79	3794522.27	0.00220	324670.74	3794522.27	0.00217
324707.69	3794522.27	0.00214	324744.64	3794522.27	0.00212
324781.59	3794522.27	0.00208	324449.04	3794554.24	0.00242
324485.99	3794554.24	0.00240	324522.94	3794554.24	0.00238
324559.89	3794554.24	0.00236	324596.84	3794554.24	0.00236
324633.79	3794554.24	0.00233	324670.74	3794554.24	0.00229
324707.69	3794554.24	0.00226	324744.64	3794554.24	0.00225
324781.59	3794554.24	0.00220	324449.04	3794586.21	0.00255
324485.99	3794586.21	0.00253	324522.94	3794586.21	0.00251
324559.89	3794586.21	0.00250	324596.84	3794586.21	0.00249
324633.79	3794586.21	0.00246	324670.74	3794586.21	0.00242
324707.69	3794586.21	0.00240	324744.64	3794586.21	0.00238
324781.59	3794586.21	0.00234	324449.04		

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3794618.18        0.00268
         324485.99    3794618.18        0.00266                        324522.94
3794618.18        0.00264
         324559.89    3794618.18        0.00264                        324596.84
3794618.18        0.00263
         324633.79    3794618.18        0.00260                        324670.74
3794618.18        0.00257
         324707.69    3794618.18        0.00256                        324744.64
3794618.18        0.00253
         324781.59    3794618.18        0.00248                        324449.04
3794650.15        0.00282
         324485.99    3794650.15        0.00281                        324522.94
3794650.15        0.00279
         324559.89    3794650.15        0.00278                        324596.84
3794650.15        0.00278
         324633.79    3794650.15        0.00275                        324670.74
3794650.15        0.00272
         324707.69    3794650.15        0.00273                        324744.64
3794650.15        0.00268
         324781.59    3794650.15        0.00264                        324449.04
3794682.12        0.00297
         324485.99    3794682.12        0.00296                        324522.94
3794682.12        0.00295
         324559.89    3794682.12        0.00296                        324596.84
3794682.12        0.00294
         324633.79    3794682.12        0.00291                        324670.74
3794682.12        0.00288
         324707.69    3794682.12        0.00289                        324744.64
3794682.12        0.00285
         324781.59    3794682.12        0.00280                        326547.36
3795022.06        0.00212
         326594.67    3795022.06        0.00208                        326641.98
3795022.06        0.00201
         326547.36    3795042.46        0.00221                        326594.67
3795042.46        0.00211
         326641.98    3795042.46        0.00209                        326547.36
3795062.86        0.00231
         326594.67    3795062.86        0.00219                        326641.98
3795062.86        0.00217
         326547.36    3795083.26        0.00239                        326594.67
3795083.26        0.00228
         326641.98    3795083.26        0.00226                        326547.36
3795103.66        0.00245
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 5
Operational\Hitch Ranch_Pha ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:17:34

                                  PAGE  21
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL
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*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
326594.67	3795103.66	0.00238	326641.98	3795103.66	0.00236
326547.36	3795124.06	0.00255	326594.67	3795124.06	0.00248
326641.98	3795124.06	0.00246	326547.36	3795144.46	0.00266
326594.67	3795144.46	0.00260	326641.98	3795144.46	0.00257
326547.36	3795164.86	0.00275	326594.67	3795164.86	0.00271
326641.98	3795164.86	0.00268	326547.36	3795185.26	0.00287
326594.67	3795185.26	0.00284	326641.98	3795185.26	0.00280
326547.36	3795205.66	0.00301	326594.67	3795205.66	0.00297
326641.98	3795205.66	0.00289	326547.36	3795226.06	0.00317
326594.67	3795226.06	0.00312	326641.98	3795226.06	0.00293
326547.36	3795246.46	0.00333	326594.67	3795246.46	0.00325
326641.98	3795246.46	0.00303	326690.43	3795243.37	0.00292
326688.67	3795223.05	0.00281	326686.02	3795005.77	0.00194
326686.02	3795033.66	0.00203	326686.02	3795061.55	0.00213
326686.02	3795089.44	0.00225	326686.02	3795117.33	0.00238
326686.02	3795145.22	0.00251	326686.02	3795173.11	0.00264
326686.02	3795201.00	0.00270	326832.80	3795263.26	0.00265
326849.67	3795263.26	0.00255	326866.54		

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3795263.26        0.00249
         326883.41    3795263.26        0.00245                      326900.28
3795263.26        0.00242
         326917.15    3795263.26        0.00239                      326934.02
3795263.26        0.00230
         326950.89    3795263.26        0.00221                      326967.76
3795263.26        0.00219
         326984.63    3795263.26        0.00214                      327001.50
3795263.26        0.00205
         327036.85    3795141.35        0.00187                      327075.72
3795141.35        0.00174
         327036.85    3795160.91        0.00190                      327075.72
3795160.91        0.00177
         327036.85    3795180.47        0.00194                      327075.72
3795180.47        0.00180
         327036.85    3795200.03        0.00196                      327075.72
3795200.03        0.00183
         327036.85    3795219.59        0.00194                      327075.72
3795219.59        0.00186
         327036.85    3795239.15        0.00194                      327075.72
3795239.15        0.00189
         327036.85    3795258.71        0.00197                      327075.72
3795258.71        0.00192
         327036.85    3795278.27        0.00200                      327075.72
3795278.27        0.00194
         326840.04    3795223.24        0.00250                      326860.58
3795224.16        0.00239
         326877.30    3795222.74        0.00236                      326929.68
3795223.69        0.00223
         326932.86    3795200.00        0.00216                      326972.32
3795217.03        0.00209
         326970.84    3795177.58        0.00201                      326968.20
3795152.46        0.00196
         326998.43    3795149.77        0.00192                      326997.48
3795176.61        0.00198
         326995.60    3795193.01        0.00201                      326996.92
3795215.78        0.00205
         326916.97    3795152.19        0.00212                      326901.95
3795150.46        0.00213
         326884.24    3795164.40        0.00219                      326867.32
3795151.32        0.00217
         326873.22    3795163.36        0.00220                      326845.53
3795152.12        0.00225
         326824.91    3795151.45        0.00233                      326826.60
3795170.60        0.00239
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 5
Operational\Hitch Ranch_Pha ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                       ***        17:17:34
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***

INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
326840.50	3795180.17	0.00236	326799.39	3795147.97	0.00234
326776.77	3795147.89	0.00236	326738.03	3795152.73	0.00242
326781.33	3795110.75	0.00221	326806.10	3795109.04	0.00216
326804.45	3795090.73	0.00210	326781.78	3795086.72	0.00212
326787.40	3795061.79	0.00202	326794.01	3795031.22	0.00191
326977.50	3795110.69	0.00186	326994.05	3795107.87	0.00184
326984.52	3795093.80	0.00182	326972.85	3795082.37	0.00180
326995.41	3795072.53	0.00176	326993.23	3795060.01	0.00174
326984.60	3795040.80	0.00170	326981.66	3795027.22	0.00167
327041.48	3795102.15	0.00178	327065.19	3795095.75	0.00168
327040.88	3795076.27	0.00173	327061.24	3795058.32	0.00163
327037.82	3795061.09	0.00171	327035.65	3795040.58	0.00167
327058.94	3795038.41	0.00160	327051.53	3795017.85	0.00158
327033.29	3795021.71	0.00163	326826.26	3795110.80	0.00210
326843.29	3795110.80	0.00207	326860.32	3795110.80	0.00205
326877.35	3795110.80	0.00204	326894.38	3795110.80	0.00203
326911.41	3795110.80	0.00201	326928.44		

3795110.80   0.00197
         326945.47   3795110.80   0.00190   326819.99
3795048.86   0.00190
         326838.19   3795048.86   0.00187   326856.39
3795048.86   0.00186
         326874.59   3795048.86   0.00185   326892.79
3795048.86   0.00185
         326910.99   3795048.86   0.00184   326929.19
3795048.86   0.00180
         326947.39   3795048.86   0.00174   325652.30
3795689.46   0.00481
         325747.75   3795796.21   0.00396   325511.50
3795586.39   0.00399
         326251.13   3796043.75   0.00295   326263.91
3795852.39   0.00347
         326170.84   3795648.38   0.00436   326148.08
3795505.91   0.00549

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                              ** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
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3795792.89        0.03050  (13052906)
       326623.93   3795809.00        0.02964  (13052906)                326627.22
3795836.58        0.02918  (09042304)
       326640.09   3795836.58        0.02877  (09042304)                326654.45
3795868.68        0.02729  (11061701)
       326665.45   3795883.13        0.02684  (13070102)                326588.30
3795867.62        0.02495  (11012717)
       326640.52   3795951.95        0.02619  (11012717)                326658.45
3795975.58        0.02697  (11012717)
       326759.52   3796019.28        0.02428  (11012717)                326763.60
3796031.85        0.02456  (11012717)
       326775.94   3796048.05        0.02467  (11012717)                326774.23
3796062.19        0.02512  (11012717)
       326801.34   3796078.38        0.02473  (11012717)                326809.46
3796094.93        0.02473  (11012717)
       326736.80   3796108.96        0.02555  (11012717)                326835.84
3796126.62        0.02409  (11012717)
       326836.27   3796140.13        0.02419  (11012717)                326800.95
3796123.31        0.02540  (11012717)
       326762.39   3796138.51        0.02437  (11012717)                326766.63
3796155.18        0.02325  (11012717)
       326774.14   3796169.68        0.02267  (11012717)                326798.07
3796201.57        0.02140  (11012717)
       326808.84   3796229.51        0.01980  (11012717)                326880.95
3796184.59        0.02268  (11012717)
       326915.56   3796260.01        0.02117  (11012717)                326941.07
3796261.11        0.02078  (11012717)
       326958.24   3796277.25        0.02035  (11012717)                326964.89
3796291.08        0.01980  (11012717)
       326984.47   3796322.92        0.01897  (11012717)                326993.31
3796349.42        0.01814  (11012717)
       326993.49   3796365.88        0.01756  (11012717)                327007.03
3796382.47        0.01704  (11012717)
       326972.07   3796390.18        0.01580  (11012717)                326996.78
3796414.54        0.01525  (11012717)
       326693.51   3795789.66        0.02081  (09052906)                326695.37
3795771.29        0.02116  (09052906)
       326727.00   3795761.34        0.02110  (09052906)                326758.55
3795787.48        0.01870  (09052906)
       326761.76   3795813.54        0.01735  (09052906)                326742.22
3795837.06        0.01733  (09052906)
       326838.64   3795823.91        0.01586  (09052906)                326811.45
3795889.81        0.01413  (09052906)
       326823.87   3795855.97        0.01455  (09052906)                326876.62
3795837.29        0.01460  (09052906)
       326889.30   3795888.54        0.01359  (09052906)                326687.45
3795683.69        0.03561  (13052906)
       326829.20   3795731.31        0.01905  (09052906)                326859.14
3795703.62        0.01848  (09053006)
       326881.10   3795705.58        0.01911  (09053006)                326787.44
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 3795607.00   0.04659 (09053101)
        326780.76   3795563.55   0.05371 (13030503)   326800.04
 3795542.65   0.05920 (13030503)
        326808.89   3795540.15   0.06041 (13030503)   326825.79
 3795543.65   0.06094 (13030503)
        326856.70   3795545.31   0.06091 (12050224)   326792.33
 3795494.19   0.06774 (12012024)
        326806.68   3795493.93   0.06765 (12012024)   326824.07
 3795494.42   0.06729 (12012024)
        326853.52   3795481.71   0.07108 (09012107)   326898.80
 3795534.37   0.06185 (12050224)
        325796.15   3795215.59   0.10869 (12123121)   325823.15
 3795215.59   0.10974 (10013003)
        326012.15   3795215.59   0.10524 (11011303)   326120.15
 3795215.59   0.09113 (11012807)
        326147.15   3795215.59   0.09209 (11012807)   325796.15
 3795254.59   0.11292 (09122324)
        325823.15   3795254.59   0.11426 (12123121)   325850.15
 3795254.59   0.11390 (10013003)

 *** MODELOPTs: RegDFAULT CONC ELEV RURAL

                                *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   PAREA1   ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)
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3795254.59        0.09372  (13011505)
       326147.15   3795254.59        0.09463  (13011505)                325796.15
3795293.59        0.11295  (12122922)
       325823.15   3795293.59        0.11217  (09021407)                325850.15
3795293.59        0.11434  (12122924)
       325877.15   3795293.59        0.11702  (10013003)                325904.15
3795293.59        0.11625  (13010624)
       325931.15   3795293.59        0.11119  (13122706)                325958.15
3795293.59        0.11216  (11011303)
       325985.15   3795293.59        0.09130  (11121424)                326012.15
3795293.59        0.08899  (11011602)
       326039.15   3795293.59        0.08927  (11011602)                326066.15
3795293.59        0.08514  (11012807)
       326093.15   3795293.59        0.08253  (13011505)                326120.15
3795293.59        0.08354  (09010718)
       326147.15   3795293.59        0.08466  (13122406)                325796.15
3795332.59        0.08770  (13010705)
       325823.15   3795332.59        0.08786  (11121104)                325850.15
3795332.59        0.09413  (09021407)
       325877.15   3795332.59        0.09735  (09122324)                325904.15
3795332.59        0.11672  (09122305)
       325931.15   3795332.59        0.11262  (11020101)                325958.15
3795332.59        0.09334  (11121424)
       325985.15   3795332.59        0.08197  (11011602)                326012.15
3795332.59        0.07822  (11123007)
       326039.15   3795332.59        0.07768  (11123007)                326066.15
3795332.59        0.07816  (13120705)
       326093.15   3795332.59        0.07928  (13120705)                326120.15
3795332.59        0.08249  (13122406)
       326147.15   3795332.59        0.08369  (10020123)                325847.44
3795004.89        0.08978  (09121401)
       325872.44   3795004.89        0.08953  (13122103)                325897.44
3795004.89        0.08927  (13122407)
       325922.44   3795004.89        0.08879  (13122407)                325947.44
3795004.89        0.08872  (09022002)
       325972.44   3795004.89        0.08839  (10122722)                325997.44
3795004.89        0.08764  (10122722)
       326022.44   3795004.89        0.08724  (12122704)                326047.44
3795004.89        0.08756  (12122704)
       326072.44   3795004.89        0.08796  (11120907)                326097.44
3795004.89        0.08833  (13122706)
       326122.44   3795004.89        0.08864  (13122706)                326147.44
3795004.89        0.08243  (11011303)
       325847.44   3795046.89        0.09297  (11122506)                325872.44
3795046.89        0.09268  (09121401)
       325897.44   3795046.89        0.09239  (13122103)                325922.44
3795046.89        0.09209  (13122407)
       325947.44   3795046.89        0.09185  (10122722)                325972.44
3795046.89        0.09103  (10122722)
       325997.44   3795046.89        0.08985  (09120405)                326022.44
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325897.44	3795130.89	0.09950	(10123020)	325922.44	3795130.89	0.09914	(09121401)
325947.44	3795130.89	0.09699	(09120405)	325972.44	3795130.89	0.09612	(12122704)
325997.44	3795130.89	0.09663	(11120907)	326022.44	3795130.89	0.09713	(13122706)
326047.44	3795130.89	0.09757	(11011303)	326072.44			

3795130.89 0.09817 (11011303)
326097.44 3795130.89 0.08753 (11121424) 326122.44
3795130.89 0.08563 (11121424)
326147.44 3795130.89 0.08599 (11121424) 325847.44
3795172.89 0.10438 (11121006)
325872.44 3795172.89 0.10401 (11121006) 325897.44
3795172.89 0.10356 (11122506)
325922.44 3795172.89 0.10315 (10123020) 325947.44
3795172.89 0.10087 (12122704)
325972.44 3795172.89 0.09995 (11120907) 325997.44
3795172.89 0.10051 (13122706)
326022.44 3795172.89 0.10091 (11011303) 326047.44
3795172.89 0.09259 (11011303)
326072.44 3795172.89 0.08832 (11121424) 325847.44
3795214.89 0.10908 (13010624)
325872.44 3795214.89 0.10847 (11121006) 325897.44
3795214.89 0.10805 (11121006)
325922.44 3795214.89 0.10755 (11122506) 325947.44
3795214.89 0.10517 (11120907)
325972.44 3795214.89 0.10412 (13122706) 325997.44
3795214.89 0.10475 (11011303)
326047.44 3795214.89 0.08927 (11121424) 326072.44
3795214.89 0.08962 (11121424)
326097.44 3795214.89 0.09007 (11011602) 326147.44
3795214.89 0.09205 (11012807)
326096.58 3795181.52 0.08817 (11121424) 326118.63
3795182.57 0.08857 (11011602)
326144.35 3795184.14 0.08967 (11012807) 325849.74
3794829.62 0.08010 (13122407)
325892.61 3794829.62 0.07999 (13013002) 325935.48
3794829.62 0.07863 (11012303)
325978.35 3794829.62 0.07836 (10120705) 326021.22
3794829.62 0.07866 (09022002)
326064.09 3794829.62 0.07819 (10122722) 325849.74
3794867.55 0.08246 (13122407)
325892.61 3794867.55 0.08085 (13013002) 325935.48
3794867.55 0.08032 (13013002)
325978.35 3794867.55 0.08040 (09022002) 326021.22
3794867.55 0.08068 (09022002)
326064.09 3794867.55 0.08025 (10122722) 325849.74
3794905.48 0.08469 (13122407)
325892.61 3794905.48 0.08284 (13013002) 325935.48
3794905.48 0.08249 (13013002)
325978.35 3794905.48 0.08259 (09022002) 326021.22
3794905.48 0.08279 (10122722)
326064.09 3794905.48 0.08149 (09120405) 325849.74
3794943.41 0.08673 (13122103)
325892.61 3794943.41 0.08503 (13122407) 325935.48
3794943.41 0.08473 (13013002)
325978.35 3794943.41 0.08488 (09022002) 326021.22

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325409.93	3795994.97	0.01958	(09012317)	325416.60	3796058.09	0.01949	(13012417)
325409.65	3796164.95	0.01901	(13012417)	325322.71	3796083.91	0.01914	(09012317)
325297.93	3796111.07	0.02087	(09012317)	325246.73			

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3796076.15        0.02117  (09012317)
       325280.01   3796260.66        0.01320  (13012417)                325237.05
3796200.45        0.01197  (09012317)
       325163.03   3796071.11        0.01973  (09012317)                325215.74
3795991.41        0.02069  (09012317)
       325208.29   3795926.88        0.02097  (09012317)                325249.48
3795829.20        0.02563  (09120508)
       325171.49   3795759.19        0.03462  (12121219)                325129.24
3795756.40        0.04273  (12041020)
       325154.75   3795886.20        0.02402  (12032407)                325068.55
3795885.45        0.01987  (12032407)
       325047.86   3795938.00        0.01745  (09012317)                325045.84
3795982.69        0.01768  (09012317)
       325071.95   3796106.74        0.01864  (09012317)                325060.64
3796290.38        0.01168  (09012317)
       324903.71   3796379.80        0.00739  (11032418)                324787.84
3796510.42        0.00825  (12021301)
       324916.48   3796618.27        0.00965  (13012417)                326492.96
3796356.32        0.01710  (12120308)
       326552.73   3796900.01        0.00599  (13040207)                326599.30
3796893.60        0.00590  (13040207)
       326617.42   3796889.51        0.00593  (13061506)                326639.41
3796881.91        0.00609  (13040207)
       326663.73   3796864.08        0.00646  (09062906)                326679.47
3796885.20        0.00632  (13040207)
       326697.81   3796898.31        0.00619  (13040207)                326712.34
3796916.60        0.00594  (13040207)
       326726.62   3796931.14        0.00584  (13061506)                326742.23
3796948.02        0.00571  (13061506)
       326756.58   3796965.73        0.00562  (13061506)                326772.07
3796973.30        0.00566  (13061506)
       326785.22   3796890.50        0.00679  (09062906)                326800.10
3797003.95        0.00573  (12102117)
       326817.96   3797014.86        0.00589  (12102117)                326813.74
3796843.93        0.00812  (13031518)
       326833.92   3796853.59        0.00803  (13031518)                326848.61
3796873.43        0.00780  (13031518)
       326864.19   3796885.12        0.00775  (13031518)                326877.92
3796901.20        0.00761  (13031518)
       326893.85   3796917.11        0.00736  (13031518)                326904.49
3796938.77        0.00692  (13031518)
       326907.64   3796966.22        0.00658  (13031518)                326914.45
3796991.73        0.00630  (09062906)
       326921.92   3797038.42        0.00590  (09062906)                326596.56
3797264.10        0.00405  (10102017)
       326829.98   3795735.43        0.01877  (09052906)                326866.53
3795706.88        0.01831  (09053006)
       326831.50   3795646.57        0.04566  (09053101)                326872.90
3795644.95        0.04571  (09053101)
       326898.91   3795644.66        0.04566  (09053101)                326924.66
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325161.77	3794409.32	0.06901	(13122103)	325199.27	3794409.32	0.06854	(13122407)
325236.77	3794409.32	0.06761	(13122407)	325274.27			

3794409.32 0.06697 (13013002)
325049.27 3794432.52 0.07011 (11121006) 325086.77
3794432.52 0.06953 (11122506)
325124.27 3794432.52 0.06991 (10123020) 325161.77
3794432.52 0.06989 (09121401)
325199.27 3794432.52 0.06941 (13122407) 325236.77
3794432.52 0.06880 (13122407)
325274.27 3794432.52 0.06807 (09122106) 325049.27
3794455.72 0.07103 (11121006)
325086.77 3794455.72 0.07083 (11121006) 325124.27
3794455.72 0.07134 (10123020)
325161.77 3794455.72 0.07082 (09121401) 325199.27
3794455.72 0.07031 (13122407)
325236.77 3794455.72 0.06971 (13122407) 325274.27
3794455.72 0.06897 (13122407)
325049.27 3794478.92 0.07196 (11121006) 325086.77
3794478.92 0.07279 (11121006)
325124.27 3794478.92 0.07231 (11122506) 325161.77
3794478.92 0.07176 (09121401)
325199.27 3794478.92 0.07122 (13122103) 325236.77
3794478.92 0.07065 (13122407)
325274.27 3794478.92 0.06990 (13122407) 325049.27
3794502.12 0.07291 (13010624)
325086.77 3794502.12 0.07384 (11121006) 325124.27
3794502.12 0.07332 (11122506)
325161.77 3794502.12 0.07273 (09121401) 325199.27
3794502.12 0.07219 (13122103)
325236.77 3794502.12 0.07161 (13122407) 325274.27
3794502.12 0.07087 (13122407)
325049.27 3794525.32 0.07400 (13010624) 325086.77
3794525.32 0.07492 (11121006)
325124.27 3794525.32 0.07435 (11122506) 325161.77
3794525.32 0.07375 (10123020)
325199.27 3794525.32 0.07318 (13122103) 325236.77
3794525.32 0.07260 (13122407)
325274.27 3794525.32 0.07186 (13122407) 325049.27
3794548.52 0.07511 (13010624)
325086.77 3794548.52 0.07601 (11121006) 325124.27
3794548.52 0.07540 (11122506)
325161.77 3794548.52 0.07481 (10123020) 325199.27
3794548.52 0.07419 (13122103)
325236.77 3794548.52 0.07362 (13122407) 325274.27
3794548.52 0.07288 (13122407)
325049.27 3794571.72 0.07626 (13010624) 325086.77
3794571.72 0.07713 (11121006)
325124.27 3794571.72 0.07652 (11121006) 325161.77
3794571.72 0.07589 (10123020)
325199.27 3794571.72 0.07526 (09121401) 325236.77
3794571.72 0.07466 (13122407)
325274.27 3794571.72 0.07393 (13122407) 325049.27

3794594.92 0.07742 (13010624)
325086.77 3794594.92 0.07827 (13010624) 325124.27
3794594.92 0.07771 (11121006)
325161.77 3794594.92 0.07702 (11122506) 325199.27
3794594.92 0.07636 (09121401)
325236.77 3794594.92 0.07572 (13122407) 325274.27
3794594.92 0.07501 (13122407)
325049.27 3794618.12 0.07865 (10013003) 325086.77
3794618.12 0.07957 (13010624)
325124.27 3794618.12 0.07893 (11121006) 325161.77
3794618.12 0.07820 (11122506)
325199.27 3794618.12 0.07750 (09121401) 325236.77
3794618.12 0.07683 (13122103)
325274.27 3794618.12 0.07636 (13122407) 325049.27
3794641.32 0.07992 (12123121)
325086.77 3794641.32 0.08090 (13010624) 325124.27
3794641.32 0.08018 (11121006)
325161.77 3794641.32 0.07940 (11122506) 325199.27
3794641.32 0.07869 (10123020)
325236.77 3794641.32 0.07799 (13122103) 325274.27
3794641.32 0.07762 (13122407)
325049.27 3794664.52 0.08125 (12123121) 325086.77
3794664.52 0.08227 (13010624)
325124.27 3794664.52 0.08146 (11121006) 325161.77
3794664.52 0.08067 (11121006)
325199.27 3794664.52 0.07992 (10123020) 325236.77
3794664.52 0.07919 (13122103)

*** MODELOPTs: RegDFAULT CONC ELEV RURAL

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
325274.27	3794664.52	0.07915	(13122407)	325049.27			

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3794687.72        0.08265  (12020205)
       325086.77   3794687.72        0.08369  (10013003)                325124.27
3794687.72        0.08285  (13010624)
       325161.77   3794687.72        0.08202  (11121006)                325199.27
3794687.72        0.08120  (11122506)
       325236.77   3794687.72        0.08043  (09121401)                325274.27
3794687.72        0.08131  (13122407)
       324871.62   3794429.43        0.07088  (10010204)                324910.53
3794429.43        0.07058  (12020205)
       324949.44   3794429.43        0.06994  (10013003)                324988.35
3794429.43        0.07040  (13010624)
       324871.62   3794451.23        0.07180  (12122922)                324910.53
3794451.23        0.07150  (12020205)
       324949.44   3794451.23        0.07090  (12123121)                324988.35
3794451.23        0.07137  (13010624)
       324871.62   3794473.03        0.07278  (12122922)                324910.53
3794473.03        0.07244  (10010204)
       324949.44   3794473.03        0.07231  (12123121)                324988.35
3794473.03        0.07269  (13010624)
       324871.62   3794494.83        0.07402  (13021702)                324910.53
3794494.83        0.07344  (10010204)
       324949.44   3794494.83        0.07337  (12123121)                324988.35
3794494.83        0.07375  (10013003)
       324871.62   3794516.63        0.07525  (13021702)                324910.53
3794516.63        0.07445  (12122922)
       324949.44   3794516.63        0.07438  (12020205)                324988.35
3794516.63        0.07477  (10013003)
       324871.62   3794538.43        0.07635  (09021803)                324910.53
3794538.43        0.07552  (12122922)
       324949.44   3794538.43        0.07542  (12020205)                324988.35
3794538.43        0.07581  (12123121)
       324871.62   3794560.23        0.07749  (09021803)                324910.53
3794560.23        0.07663  (13021702)
       324949.44   3794560.23        0.07652  (10010204)                324988.35
3794560.23        0.07690  (12123121)
       324871.62   3794582.03        0.07870  (13120620)                324910.53
3794582.03        0.07778  (09021803)
       324949.44   3794582.03        0.07765  (12122922)                324988.35
3794582.03        0.07804  (12020205)
       324871.62   3794603.83        0.07993  (13120620)                324910.53
3794603.83        0.07903  (09021803)
       324949.44   3794603.83        0.07913  (12122922)                324988.35
3794603.83        0.07922  (12020205)
       324871.62   3794625.63        0.08126  (12021724)                324910.53
3794625.63        0.08041  (13120620)
       324949.44   3794625.63        0.08133  (13021702)                324988.35
3794625.63        0.08045  (10010204)
       324871.62   3794647.43        0.08264  (10012707)                324910.53
3794647.43        0.08176  (12021724)
       324949.44   3794647.43        0.08273  (09021803)                324988.35
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 3794647.43         0.08174  (12122922)
       324871.62   3794669.23        0.08410  (10010424)               324910.53
 3794669.23         0.08317  (12021724)
       324949.44   3794669.23        0.08413  (13120620)               324988.35
 3794669.23         0.08309  (13021702)
       324871.62   3794691.03        0.08562  (10010424)               324910.53
 3794691.03         0.08465  (10010424)
       324949.44   3794691.03        0.08561  (13120620)               324988.35
 3794691.03         0.08451  (09021803)
       324559.89   3794426.36        0.07174  (10011404)               324596.84
 3794426.36         0.07098  (10011404)
       324633.79   3794426.36        0.07179  (10010424)               324670.74
 3794426.36         0.07133  (10012707)
       324707.69   3794426.36        0.07079  (12021724)               324744.64
 3794426.36         0.07110  (13120620)
       324781.59   3794426.36        0.07099  (09021803)               324449.04
 3794458.33         0.07495  (12010904)
       324485.99   3794458.33        0.07480  (09022006)               324522.94
 3794458.33         0.07406  (11121923)
       324559.89   3794458.33        0.07330  (09120921)               324596.84
 3794458.33         0.07295  (10011404)
       324633.79   3794458.33        0.07336  (10010424)               324670.74
 3794458.33         0.07282  (10010424)
       324707.69   3794458.33        0.07263  (10012707)               324744.64
 3794458.33         0.07314  (12021724)
       324781.59   3794458.33        0.07242  (13120620)               324449.04
 3794490.30         0.07663  (12021707)
       324485.99   3794490.30        0.07648  (12010904)               324522.94
 3794490.30         0.07572  (09022006)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 5
Operational\Hitch Ranch_Pha ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:17:34

                                   PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
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 3794650.15        0.08568  (12022904)
       324559.89   3794650.15        0.08566  (13012724)                324596.84
 3794650.15        0.08608  (12021707)
       324633.79   3794650.15        0.08505  (12010904)                324670.74
 3794650.15        0.08417  (09022006)
       324707.69   3794650.15        0.08523  (11121923)                324744.64
 3794650.15        0.08415  (09120921)
       324781.59   3794650.15        0.08308  (10011404)                324449.04
 3794682.12        0.08926  (09020801)
       324485.99   3794682.12        0.08871  (11010801)                324522.94
 3794682.12        0.08829  (12012404)
       324559.89   3794682.12        0.08924  (12022904)                324596.84
 3794682.12        0.08850  (13012724)
       324633.79   3794682.12        0.08744  (12021707)                324670.74
 3794682.12        0.08652  (12010904)
       324707.69   3794682.12        0.08760  (09022006)                324744.64
 3794682.12        0.08646  (11121923)
       324781.59   3794682.12        0.08532  (09120921)                326547.36
 3795022.06        0.07533  (12022103)
       326594.67   3795022.06        0.07395  (10011406)                326641.98
 3795022.06        0.07021  (11121105)
       326547.36   3795042.46        0.07619  (12022103)                326594.67
 3795042.46        0.07111  (11121105)
       326641.98   3795042.46        0.07101  (12122705)                326547.36
 3795062.86        0.07738  (10011406)
       326594.67   3795062.86        0.07112  (11121105)                326641.98
 3795062.86        0.07173  (10021501)
       326547.36   3795083.26        0.07751  (10011406)                326594.67
 3795083.26        0.07193  (12122705)
       326641.98   3795083.26        0.07239  (13010623)                326547.36
 3795103.66        0.07530  (11121105)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 5
Operational\Hitch Ranch_Pha ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                         ***        17:17:34

                                   PAGE  30
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                                *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                    INCLUDING SOURCE(S):     PAREA1      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                           ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
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Y-COORD (M)        CONC     (YYMMDDHH)
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 3795160.91        0.04637  (12120505)
       327036.85   3795180.47        0.05165  (13122805)               327075.72
 3795180.47        0.04862  (12120505)
       327036.85   3795200.03        0.05345  (11010918)               327075.72
 3795200.03        0.05025  (12120505)
       327036.85   3795219.59        0.05233  (12120505)               327075.72
 3795219.59        0.05096  (09120419)
       327036.85   3795239.15        0.05239  (09120419)               327075.72
 3795239.15        0.05243  (09120419)
       327036.85   3795258.71        0.05389  (13121308)               327075.72
 3795258.71        0.05432  (13121308)
       327036.85   3795278.27        0.05572  (13121308)               327075.72
 3795278.27        0.05565  (11011817)
       326840.04   3795223.24        0.06083  (13122805)               326860.58
 3795224.16        0.05819  (13122805)
       326877.30   3795222.74        0.05842  (13122805)               326929.68
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 3795217.03        0.05472  (12120505)
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       326824.91   3795151.45        0.06403  (11121808)               326826.60
 3795170.60        0.06344  (12022206)
 *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\Hitch Ranch_Phase 5
Operational\Hitch Ranch_Pha ***        05/28/20
 *** AERMET - VERSION  14134 ***   ***
                        ***        17:17:34

                                   PAGE  31
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                   INCLUDING SOURCE(S):     PAREA1      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                    **
```

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
326840.50	3795180.17	0.05990	(11120708)	326799.39	3795147.97	0.06473	(10010821)
326776.77	3795147.89	0.06532	(10121023)	326738.03	3795152.73	0.06616	(12010407)
326781.33	3795110.75	0.06555	(12010407)	326806.10	3795109.04	0.06359	(12010407)
326804.45	3795090.73	0.06386	(09021506)	326781.78	3795086.72	0.06551	(13022723)
326787.40	3795061.79	0.06519	(10122507)	326794.01	3795031.22	0.06467	(13011507)
326977.50	3795110.69	0.04996	(12121805)	326994.05	3795107.87	0.04976	(13012606)
326984.52	3795093.80	0.05064	(12121805)	326972.85	3795082.37	0.05141	(12121805)
326995.41	3795072.53	0.05106	(12121805)	326993.23	3795060.01	0.05122	(12121805)
326984.60	3795040.80	0.05167	(13020308)	326981.66	3795027.22	0.05161	(13020308)
327041.48	3795102.15	0.04878	(13012606)	327065.19	3795095.75	0.04560	(10121407)
327040.88	3795076.27	0.04877	(11120708)	327061.24	3795058.32	0.04648	(12121805)
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327058.94	3795038.41	0.04763	(12121805)	327051.53	3795017.85	0.04873	(12121805)
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326843.29	3795110.80	0.05841	(10121023)	326860.32	3795110.80	0.05806	(13020308)
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326874.59	3795048.86	0.05819	(12010407)	326892.79	3795048.86	0.05786	(12010407)
326910.99	3795048.86	0.05753	(12011805)	326929.19	3795048.86	0.05524	(10121023)
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325747.75	3795796.21	0.02592	(11012717)	325511.50			

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER   5 YEARS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3 **

GROUP ID		NETWORK AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	0.01175	AT (325904.15, 3795332.59, 149.61, 185.00, 0.00)	DC	
	2ND HIGHEST VALUE IS	0.01127	AT (325931.15, 3795332.59, 150.05, 165.00, 0.00)	DC	
	3RD HIGHEST VALUE IS	0.01063	AT (325877.15, 3795332.59, 150.22, 185.00, 0.00)	DC	
	4TH HIGHEST VALUE IS	0.01057	AT (325850.15, 3795332.59, 150.51, 185.00, 0.00)	DC	
	5TH HIGHEST VALUE IS	0.01045	AT (325796.15, 3795332.59, 151.11, 185.00, 0.00)	DC	
	6TH HIGHEST VALUE IS	0.01030	AT (325823.15, 3795332.59, 151.02, 185.00, 0.00)	DC	
	7TH HIGHEST VALUE IS	0.01029	AT (325796.15, 3795293.59, 150.13, 185.00, 0.00)	DC	
	8TH HIGHEST VALUE IS	0.01006	AT (325823.15, 3795293.59, 150.11, 185.00, 0.00)	DC	
	9TH HIGHEST VALUE IS	0.00998	AT (325850.15, 3795293.59, 149.69, 185.00, 0.00)	DC	
	10TH HIGHEST VALUE IS	0.00992	AT (325877.15, 3795293.59, 149.15, 185.00, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE	CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
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*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

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A Total of   1 Warning Message(s)
A Total of   15612 Informational Message(s)

A Total of   43872 Hours Were Processed

```
A Total of        13724 Calm Hours Identified

A Total of         1888 Missing Hours Identified (  4.30 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
MX W481   43873         MAIN: Data Remaining After End of Year. Number of Hours=
       48

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
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Construction

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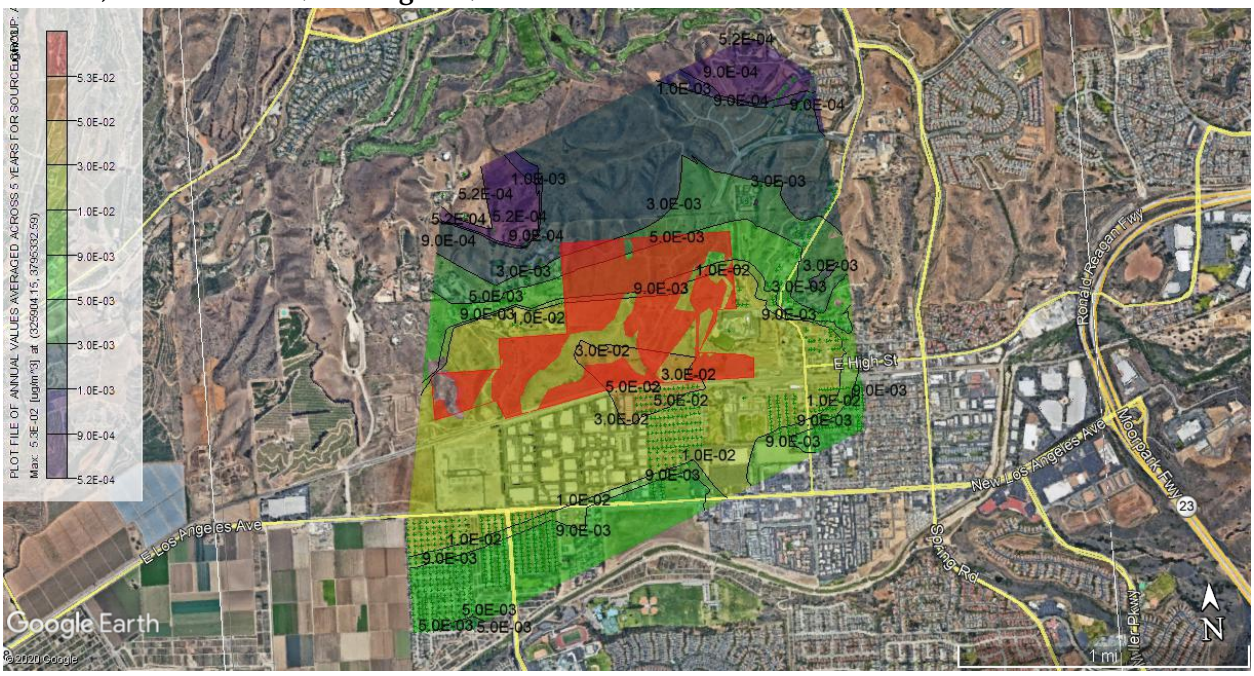

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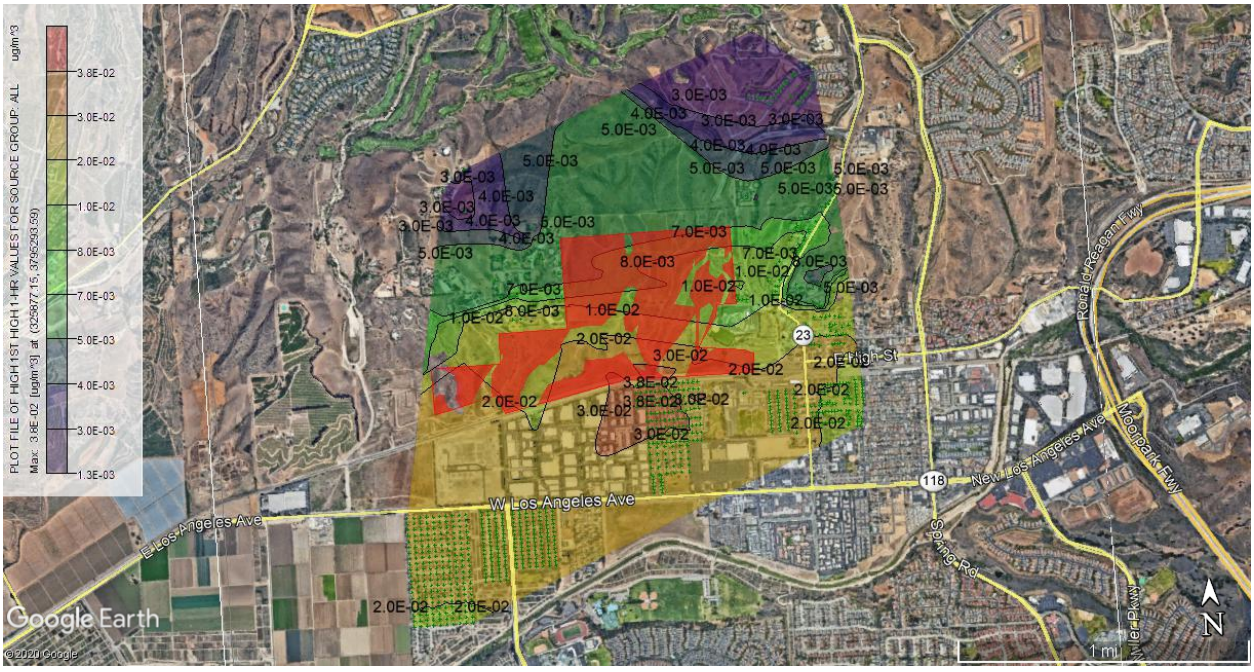

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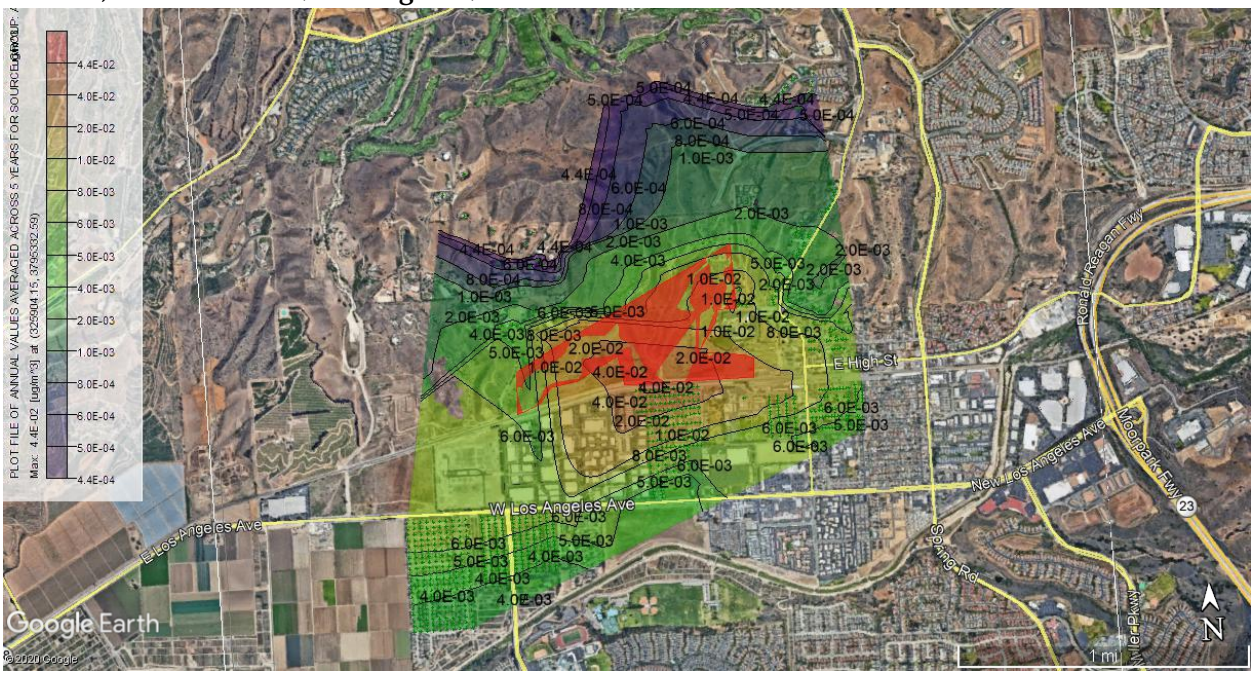

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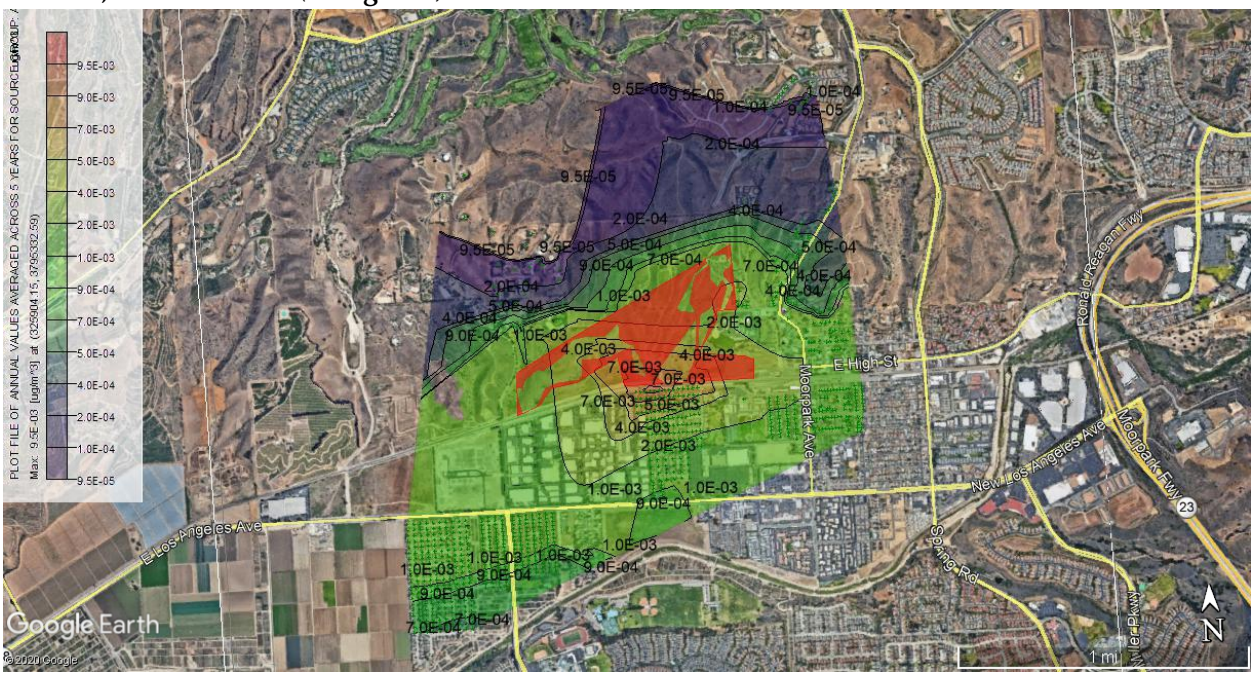

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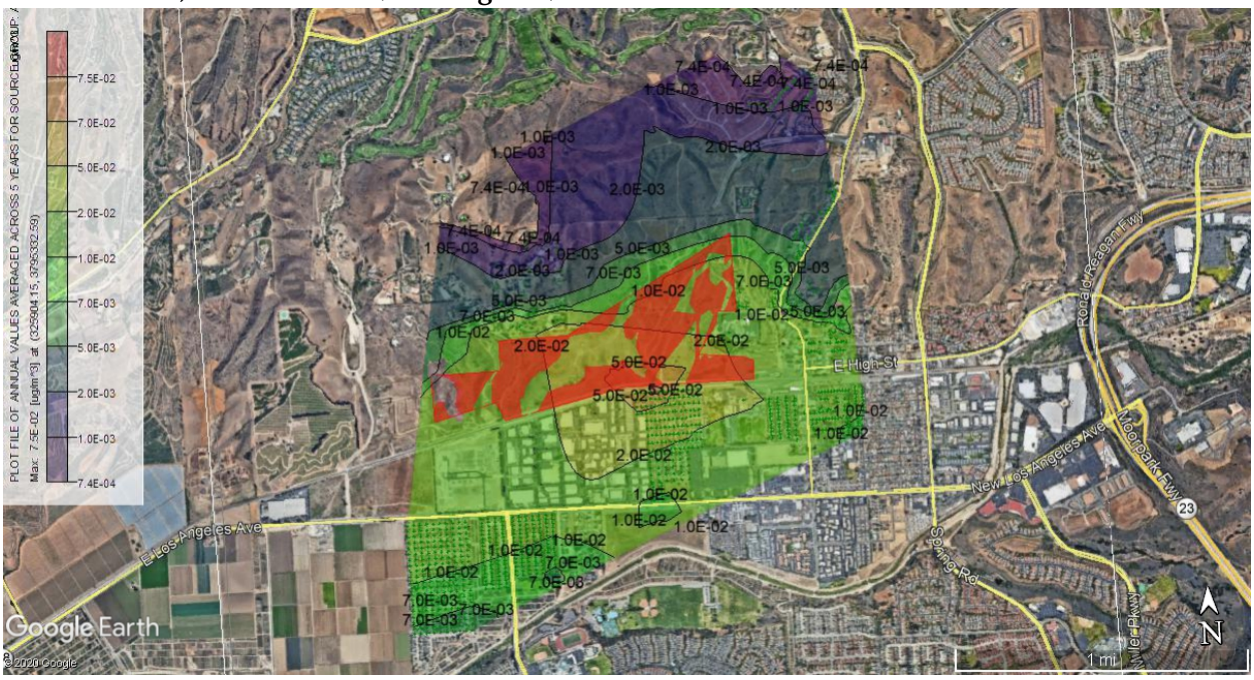

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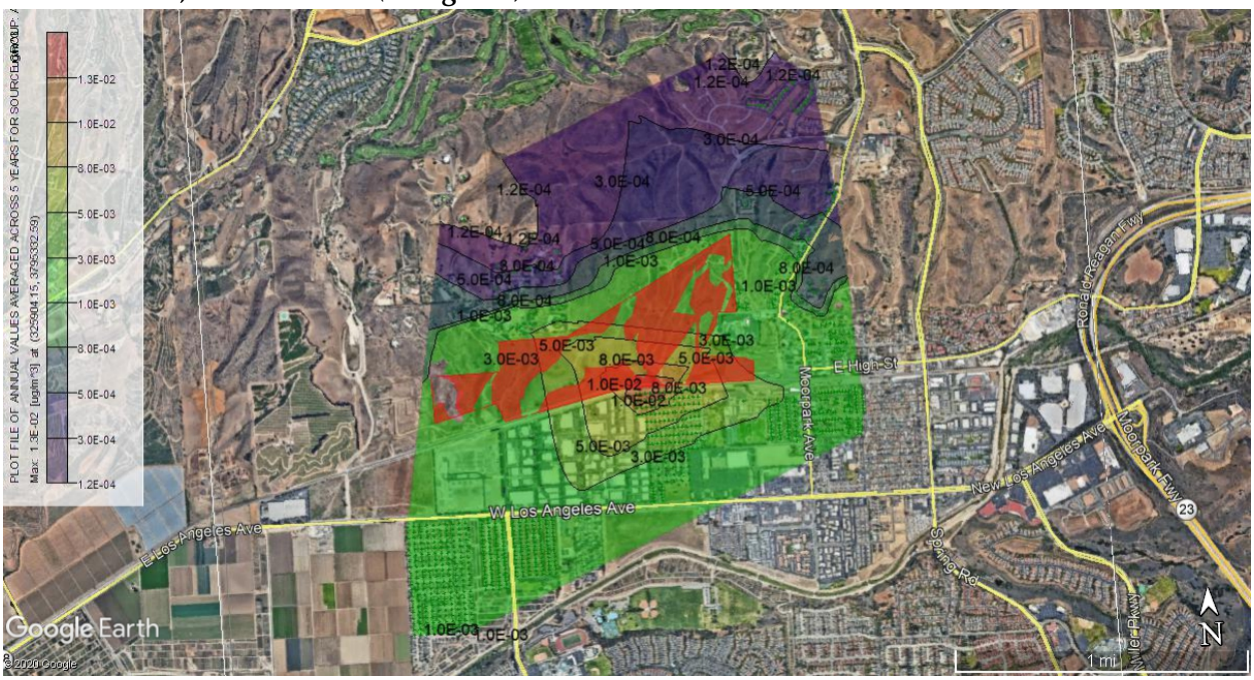

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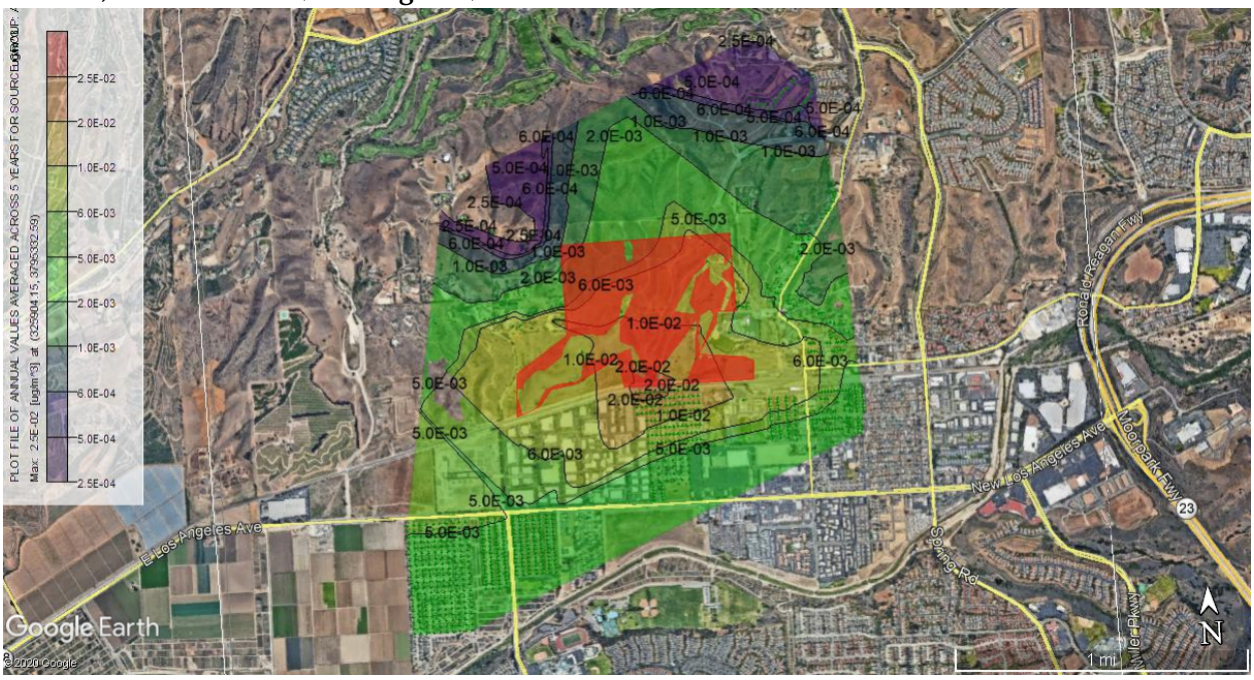

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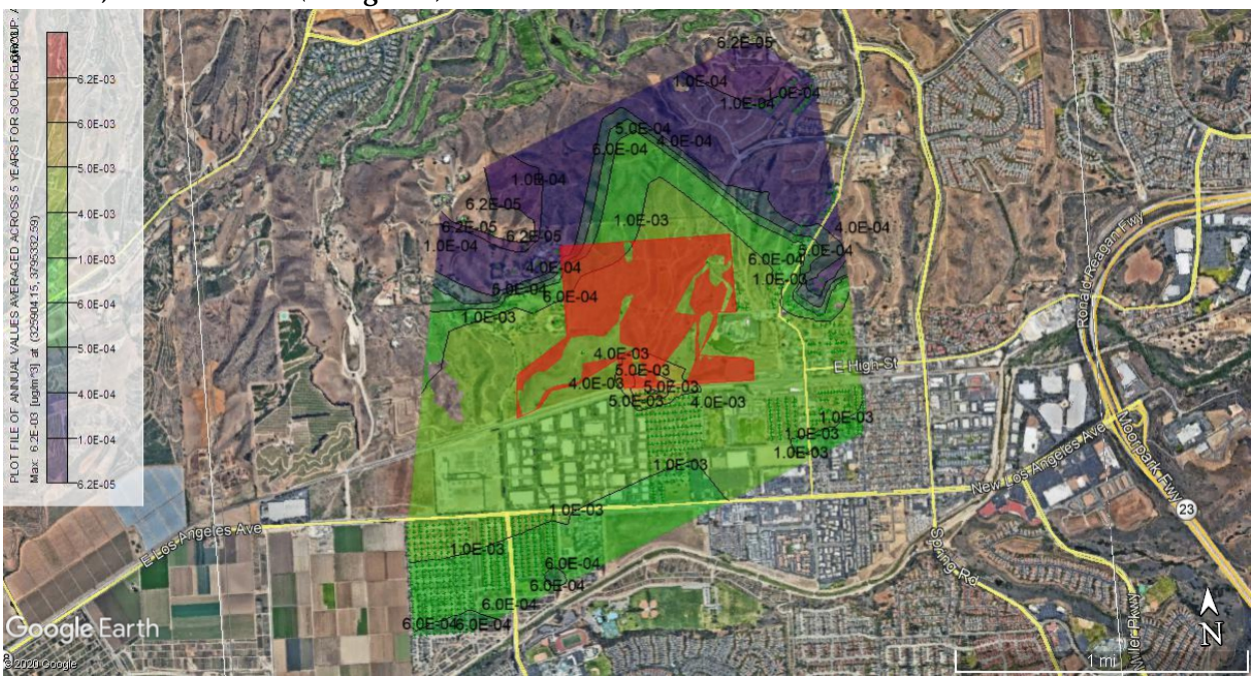

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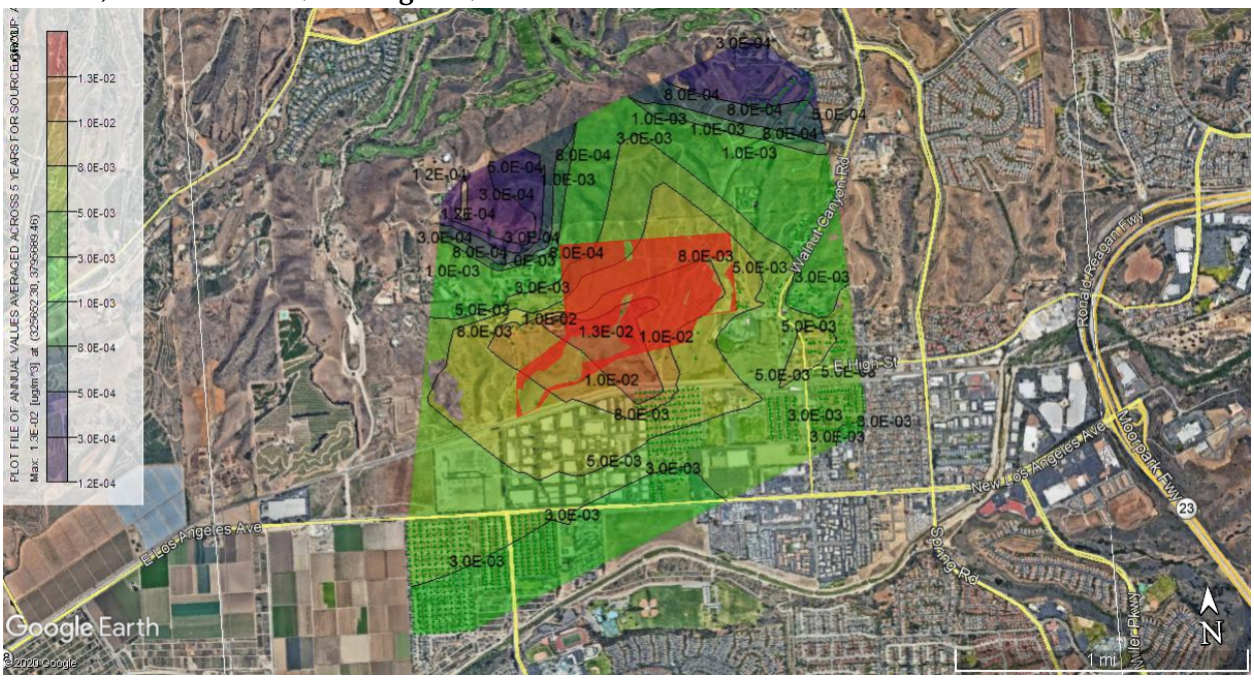

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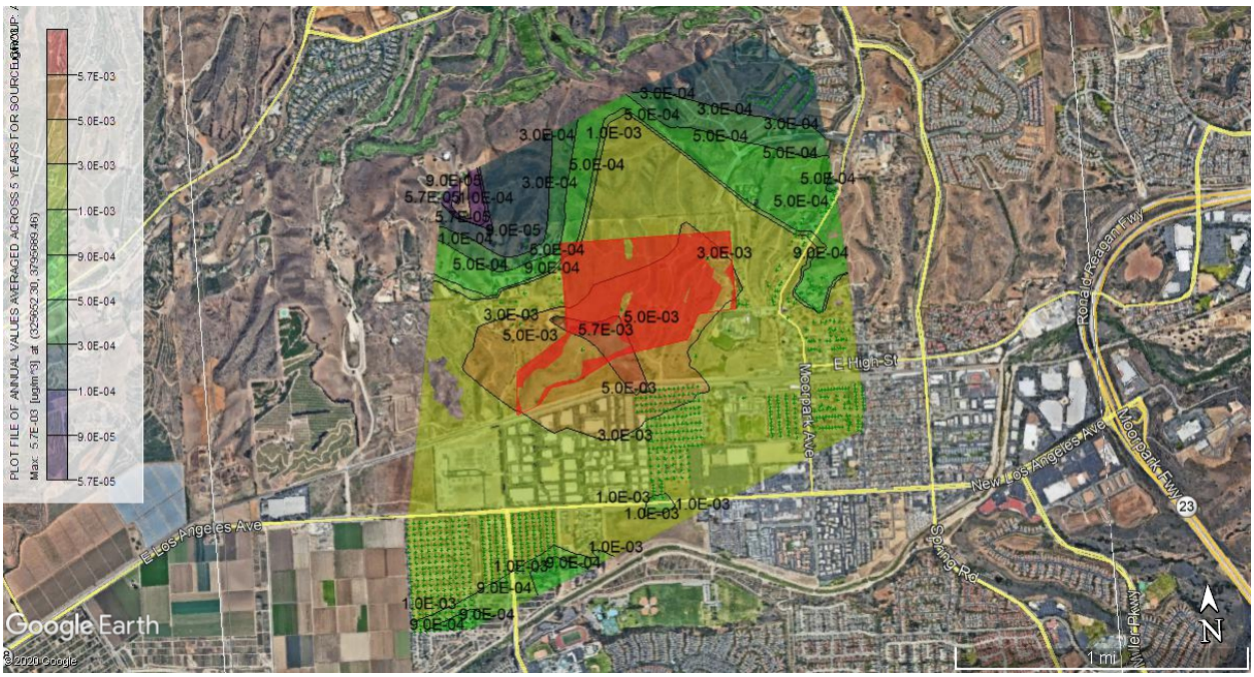

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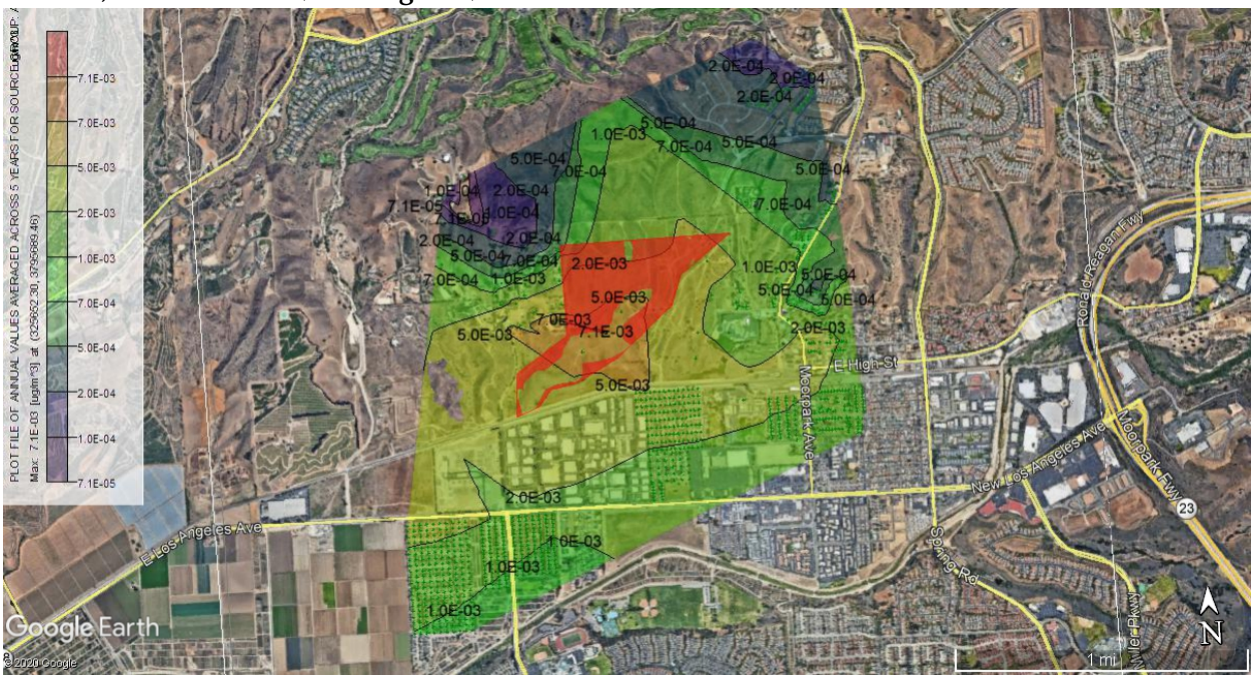

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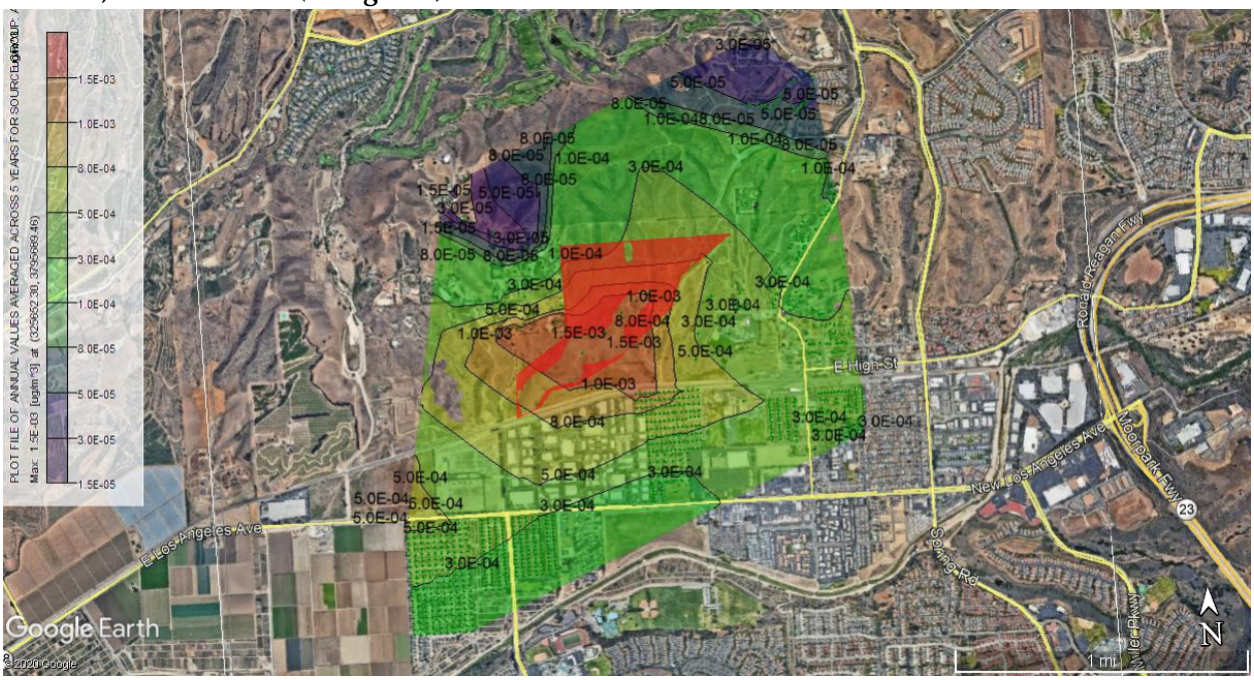

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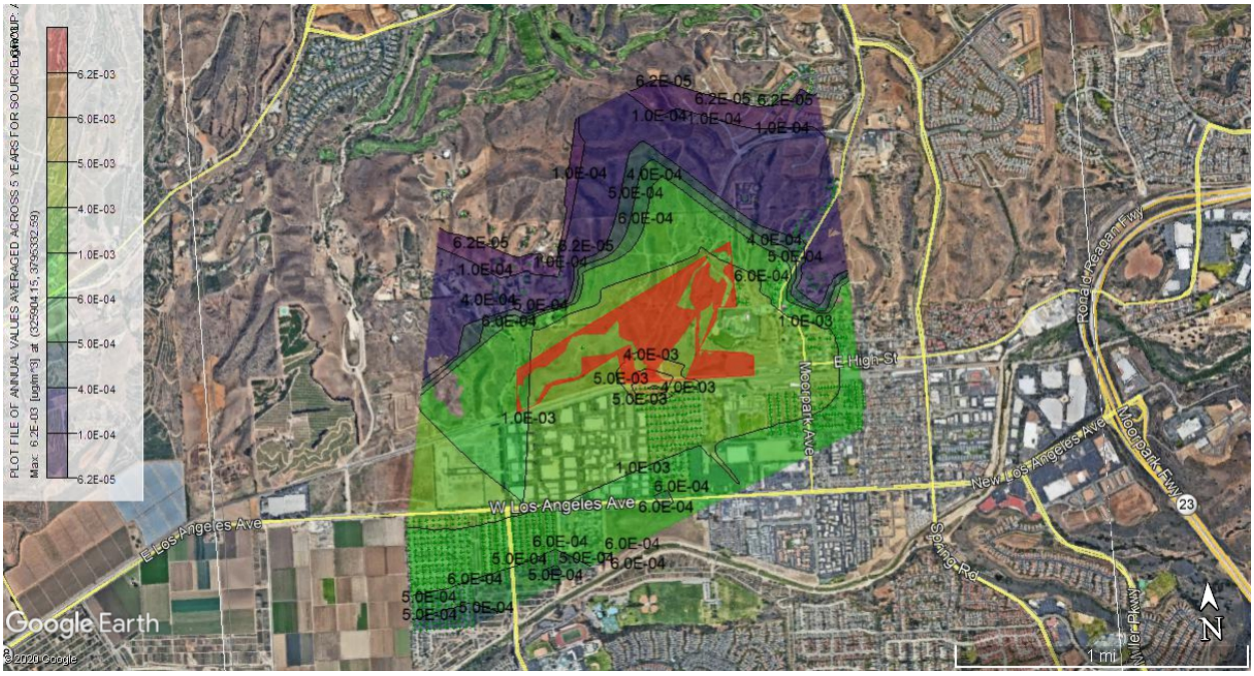
Phase 2 and 3, Operation



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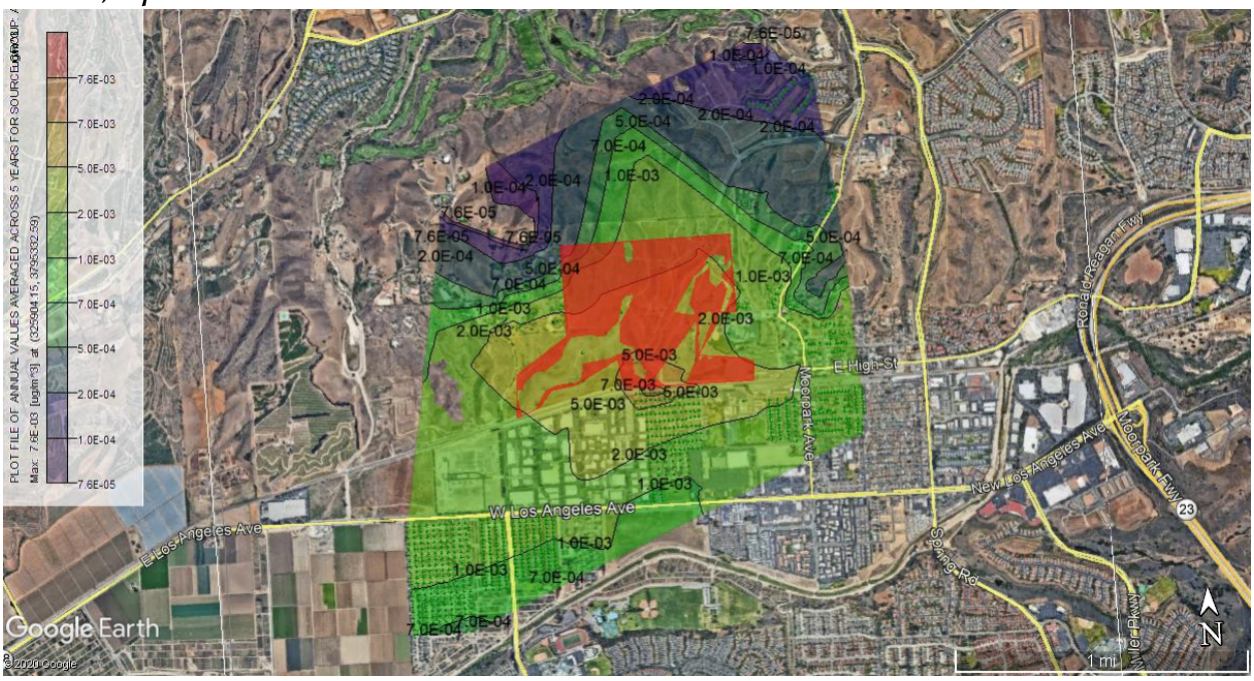

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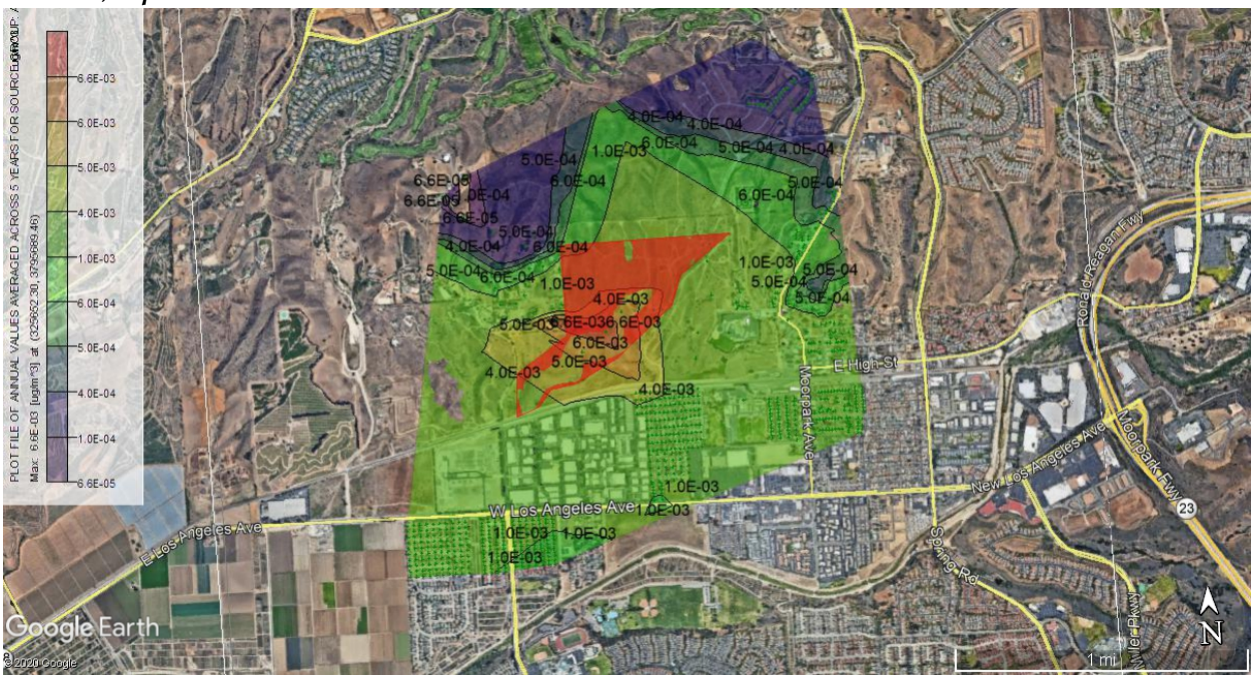

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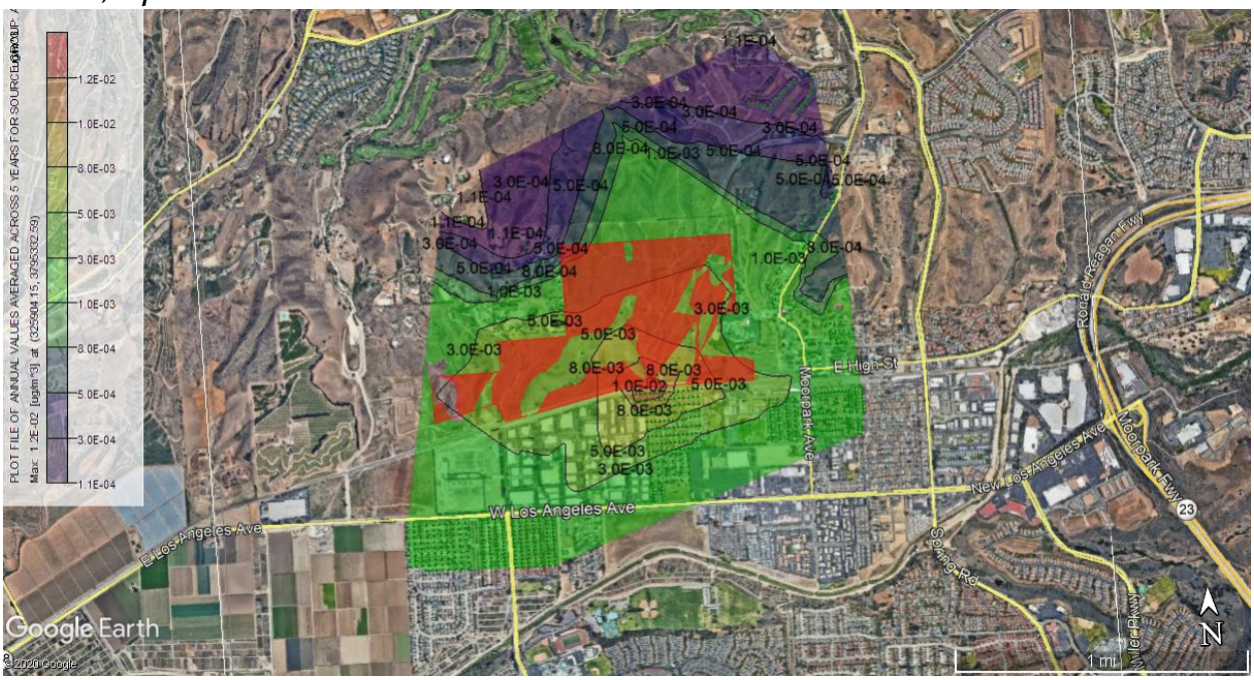

APPENDIX 3.3

Biological Resources

A

2019 Biological Assessment Update

Hitch Ranch Project
City of Moorpark, Ventura County, California
2019 Biological Survey Update

Prepared for:

Impact Sciences, Inc.
234 E. Colorado Boulevard, Suite 205
Pasadena, California 91101

Prepared by:

Debra Barringer
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Ventura, CA 93001

April 2019

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SUMMARY

This report updates the biological elements and potential effects documented to date for the Hitch Ranch Specific Plan site, as presented in the November 2008 Draft EIR (DEIR). Biological issues reassessed include the potential for special-status plant and animal species to be present, presence of active bird nests, and observations of the general vegetation communities and wildlife species that inhabit the proposed project area.

This report concurs with the findings presented in the DEIR for the following factors: special-status plant species; protected trees; special-status animals including western spadefoot, coastal whiptail, coast horned lizard, southern California rufous-crowned sparrow, Bell's sage sparrow, white-tailed kite, horned lark, loggerhead shrike, San Diego black-tailed jackrabbit; and U.S. Army Corps of Engineers (USACE) and California Department of Fish and Wildlife (CDFW) jurisdictional resources.

In addition, this report agrees with the potential for significant impacts resulting from project implementation that was predicted by previous biological survey reports including adverse effects to special-status animals including coast patch-nosed snake, grasshopper sparrow, burrowing owl, Costa's hummingbird, Allen's hummingbird, San Diego desert woodrat, and American badger. Implementation of the DEIR-proposed mitigation measures would reduce potential impacts to coast patch-nosed snake, grasshopper sparrow, Costa's hummingbird, and Allen's hummingbird to a level of less than significant. However, potential impacts to burrowing owl, San Diego desert woodrat, and American badger would remain significant. Additional mitigation measures proposed in the 2009 Updated Report of Potential for Special-status Species on the Hitch Ranch Project Site by Impact Sciences would further reduce impacts to these three species to a less than significant level and are also recommended by this report.

BACKGROUND

The DEIR for the 277-acre proposed project was prepared in draft form by Impact Sciences in November 2008 and has since been revised through corrections, additions, and responses to public comments.

Impact Sciences initially conducted a general biological survey on the site on September 12, 1993. The plant communities on the site were mapped, characterized, and analyzed for their potential to support special-status species.

Mike Starr of Nature Buffs conducted a survey in 1995 of all trees on the site that had trunks of at least 4 inches in diameter at 4.5 feet above grade (also referred to as diameter at breast height or DBH). The trees meeting this criterion were tagged and mapped in the field. Subsequent field surveys to update the 1995 tree survey were conducted in 2001 by Impact Sciences and in 2011 by Rincon Consultants, Inc. and a

new tree map of the site was created. In addition, Rincon included tree canopy heights and widths and health assessments. This survey was referenced for the 2018 and 2019 biological survey updates. Only one native California black walnut tree was identified and mapped during the 2011 tree survey.

Since a wildfire occurred on the project site in 2003, Impact Sciences characterized and mapped the plant communities again on September 28, 2006, to update and evaluate the habitat conditions on the project site and to assist in determining the potential of each habitat to support special-status species. Shortly after the plant communities were characterized in 2006, another fire burned the entire property, and an additional site visit was made in January 2007 to assess the effects of the fire on trees and plant communities on site.

Focused plant surveys were conducted on April 21, 22, and 29, and May 15 1998, and again in May and June of 2000 to update the information obtained during the initial 1993 surveys. Following the 2003 fire, additional focused plant surveys were conducted by Impact Sciences in the spring of 2006. Special attention was afforded to those portions of the site potentially supporting sensitive flora or fauna. Three additional focused plant surveys were conducted in spring 2016 and a report submitted. In the July 2016 Focused Special Status Plant Survey Report, several native southern California black walnut (*Juglans californica* [var. *californica*]) trees were found in the western area of the property, east of and within about 300 feet of Gabbert Road. These trees were not individually mapped and it was concluded that they "do not form a woodland, since they are scattered over a large area". California walnut woodlands (*Juglans californica* woodland alliance) have a rarity ranking of G3 S3.2, indicating this species is "vulnerable" throughout its range and "threatened" within California. However, it was recommended that a tree survey be conducted to establish precise locations of these trees such that appropriate protection zones may be defined because native walnut trees should be avoided.

Protocol surveys for coastal California gnatcatcher (*Polioptila californica californica*), a federally listed threatened bird species, were performed in 1998, 2000, 2003, 2005, 2009, and 2011 and reports submitted. All surveys were conducted in accordance with U.S. Fish and Wildlife Service (USFWS) survey protocols, which require that six surveys be conducted at least one week apart from March 15 through June 30, or a minimum of nine surveys at least two weeks apart be conducted July 1 through March 14. Even though one potential migrant bird was observed, no California gnatcatchers were suspected of using the site for important life history periods (e.g., nesting).

General wildlife surveys were conducted concurrent with the vegetation mapping, tree surveys, and focused plant and animal surveys. All common animals and sign of presence (scat, tracks, burrows, and trails) observed were noted during all visits to the site, including in 2018.

METHODOLOGY

Barringer Biological Services' principal biologist Debra Barringer conducted a field visit on April 12, 2019, at the Hitch Ranch project site (site). Because of the long history of previous studies and documentation that has been completed for the subject site, the goal of the April 2019 field visit was to confirm whether conditions had remained the same on the site or had changed since the preparation of the 2008 DEIR, and to further update the conclusions regarding the potential of special-status and protected species to utilize the site. Focus was also given to finding and mapping the southern California black walnut trees identified in the July 2016 Focused Special Status Plant Survey Report and to observing active bird nesting sites.

The April 2019 site visit was conducted under clear skies with temperatures ranging from 54 to 80 degrees Fahrenheit. The site was traversed by foot focusing on the areas not as thoroughly covered during the 2018 survey, which focused on health assessments for the previously mapped trees. Data including all wildlife observed and heard were recorded, photos taken, breeding activity at nests observed, and GPS points taken for newly identified special status trees.

Because of the extensive survey history that has included at least 10 focused plant surveys and 6 protocol surveys for coastal California gnatcatcher, the purpose of the 2019 survey was to identify if the potential for on-site habitats to support special-status plant or animal species had changed. Focused surveys for particular plant and animal species were not conducted other than to document the southern California black walnut trees. The determination of potential for special-status species to be present on the project site is based on the proximity of the site to recorded occurrences from the CNDDB and CNPS databases, on-site vegetation and habitat characteristics, topography, elevation, soils, surrounding land uses, and known habitat requirements and geographic ranges of special-status plant and animal species known to occur in the region.

EXISTING CONDITIONS

Region and Local

Regionally, the project site is located in southeastern Ventura County between the Simi Hills and Little Simi Valley. Locally, the project site is located in the open space north of Poindexter Avenue and west of Moorpark Road (State Route 23) and Walnut Canyon Elementary School. Specifically, the site is approximately 285.1 acres, is located approximately 1,600 feet west of State Route 23, and extends approximately 1,400 feet west of Gabbert Road.

The project site is situated within the Transverse Ranges at the southern limit of the Simi Hills, between the Oak Ridge Mountains to the north and the Las Posas Hills to the south. Various densities of development surround the site, with the railroad and Poindexter Avenue adjacent to the south boundary, light industrial and residential uses south of Poindexter Avenue, rural residential and Walnut Canyon School to the east, and rural residential uses and a Southern California Edison transmission corridor to the west (see Figure 1 for an October 2016 aerial photo). A large paved parkway has been constructed north of the site, which ends at the Hitch Ranch boundary.

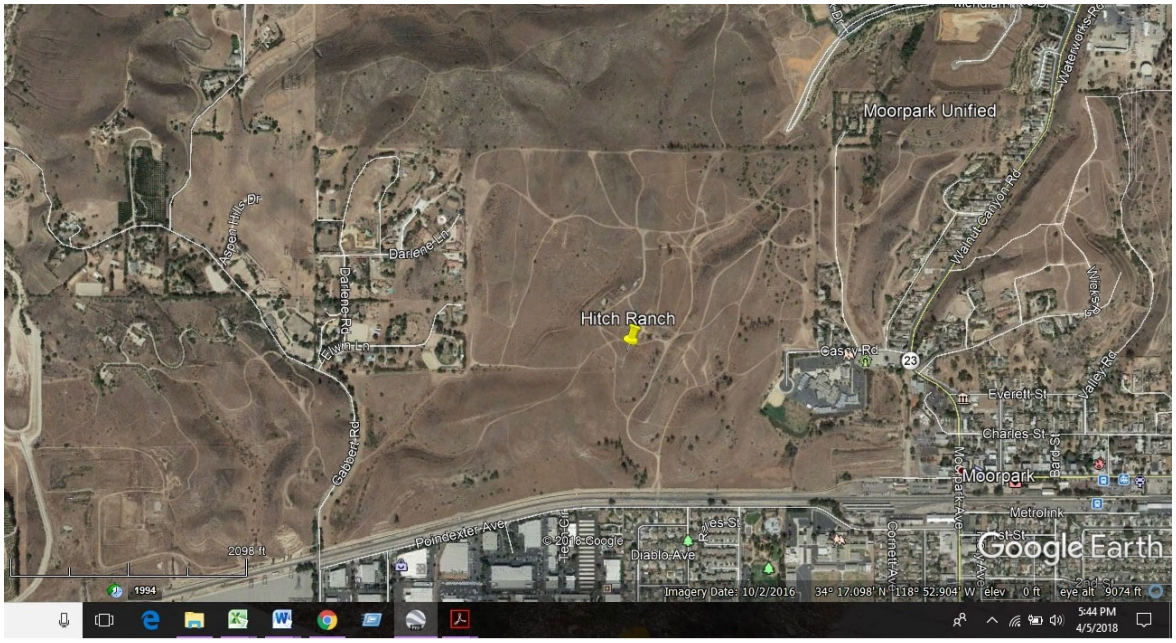

Figure 1. Aerial view from October 2016 of the Hitch Ranch project site showing surrounding development

The site is characterized by gently rolling hills and a series of north-south trending ridges and canyons. The topography ranges from moderately hilly to relatively flat; elevation at the site ranges from approximately 475 to 720 feet above mean sea level. The site has been previously disturbed by agricultural operations including orchards and grazing, and two fires. Numerous dirt roads, concrete foundations of old farm buildings, and culverts in old agricultural ditches are still present. The vegetation is primarily annual grassland, with scattered California sagebrush-deerweed, coyote brush scrub, mulefat scrub, and non- native woodland communities. In 2003 and 2006, fires entirely burned these plant communities. Since the 2006 fire, these communities have recovered to their pre-fire condition but nonnative grasses and forbs dominate much of the site. Several ephemeral drainages convey storm water down the steep slopes of the site, but no defined beds and banks or well-developed riparian plant communities are present.

Vegetation

Vegetation at the project site was assessed and described in Section 3.3, Biology, of the November 2008 DEIR for the project and has been updated regularly since. The Biology section included a vegetation map (Figure 3.3-2 in the DEIR), which continues to depict current general habitat conditions. According to the Biology section and Figure 3.3-2, the project site supports the following habitat types:

- annual [non-native] grassland – 129 acres
- annual grassland/coyotebush scrub – 3.9 acres
- ornamental [non-native] woodland – 27.4 acres
- California sagebrush-deerweed scrub – 30. 6 acres
- coyotebush scrub – 58.3 acres
- mulefat scrub – 0.9 acres
- barren [non-vegetated] areas – 36.3 acres

During the 2019 biological survey, cattle were grazing in the area mapped as coyote brush scrub, which was at the time dominated by grasses and forbs.

USACE Jurisdictional Resources

Several drainages traverse the site in a north-south direction. The largest is a sandy wash in the western portion of the site, west of Gabbert Road. A defined stream channel (i.e., bed and bank) was not observed at this location; however mulefat and elderberry, both of which are classified as hydrophytic (wetland) indicator plants, grow within this sandy wash.

An erosional feature was noted during the 2018 survey in the northeast portion of the site that likely drains from land disturbance north of the project boundary. As in 2018, recent heavy runoff in 2019 seems to have eroded the drainage even further (see Figure 2). In addition, evidence of runoff in the drainage that parallels Gabbert Road was also observed in 2019 (Figure 3).



Figure 2. Erosional feature in northwest project site



Figure 3. Evidence of recent flow along east side of Gabbert Road in project site

General Wildlife

Wildlife species observed during the 2019 site survey are presented in Table A1 of Appendix 1. These species overlap with those seen during other surveys in the past and represent typical species known to utilize the site during at least a portion of their life histories.

RESULTS AND RECOMMENDATIONS

Sensitive Plant Community – California Sagebrush-Deerweed Scrub

California sagebrush-deerweed scrub is a sub-type of coastal sage scrub, and as such is protected locally under the Ventura County General Plan. The DEIR indicates that approximately 30.6 acres of this vegetation type were present in the western portion of the project site. This assessment remained accurate as of the June 2009 survey and these California sagebrush-deerweed scrub patches have further matured by spring 2019.

Special-Status and Protected Species and Resources

The DEIR disclosed the presence of one special-status plant species and seven special-status animal species observed on the project site. An additional 22 special-status plants and 36 special-status animal species were evaluated in the DEIR for their potential to utilize the site based on site habitat characteristics and species ranges, habitat requirements and known records in the project region.

Additional species were considered in more detail in the 2009 Hitch Ranch Special-Status Species Update report due to new information in the CNPS and CNDDB database, as well as considerations for species not reported in those databases but with potential to be present on the project site due to habitat and range attributes. In that report, a thorough analysis of the potential for these special-status species to utilize the site was conducted. In the event that these species are present prior to project implementation, additional recommendations for minimizing impacts were included. The 2019 project site survey and analysis found no evidence that these assessments have changed to a significant degree and, therefore, conclusions and recommendations presented in the 2009 report are fully supported.

Special-Status Plant Species

Southern California black walnut (*Juglans californica* var. *californica*) -- CNPS List 4.2 (*limited distribution*) – During the April 2019 survey, eight additional California black walnut trees to the one that was listed in the Rincon 2011 tree survey report were identified and recorded along with data on stem diameters and heights. Global positioning systems (GPS) points were taken at each tree clump that were all observed in the western portion of the project site east of Gabbert Road. Locations were added to the Rincon tree survey map (Figure 4) as green dots. The white numbers do not coincide with the new tree locations. New numbers were assigned and the tree data recorded are listed in Table A2 Results of the 2019 Supplemental Protected Tree Survey and Health Assessment Update in Appendix 2. These native California trees provide many values to local wildlife and every effort should be made to protect them during project implementation.

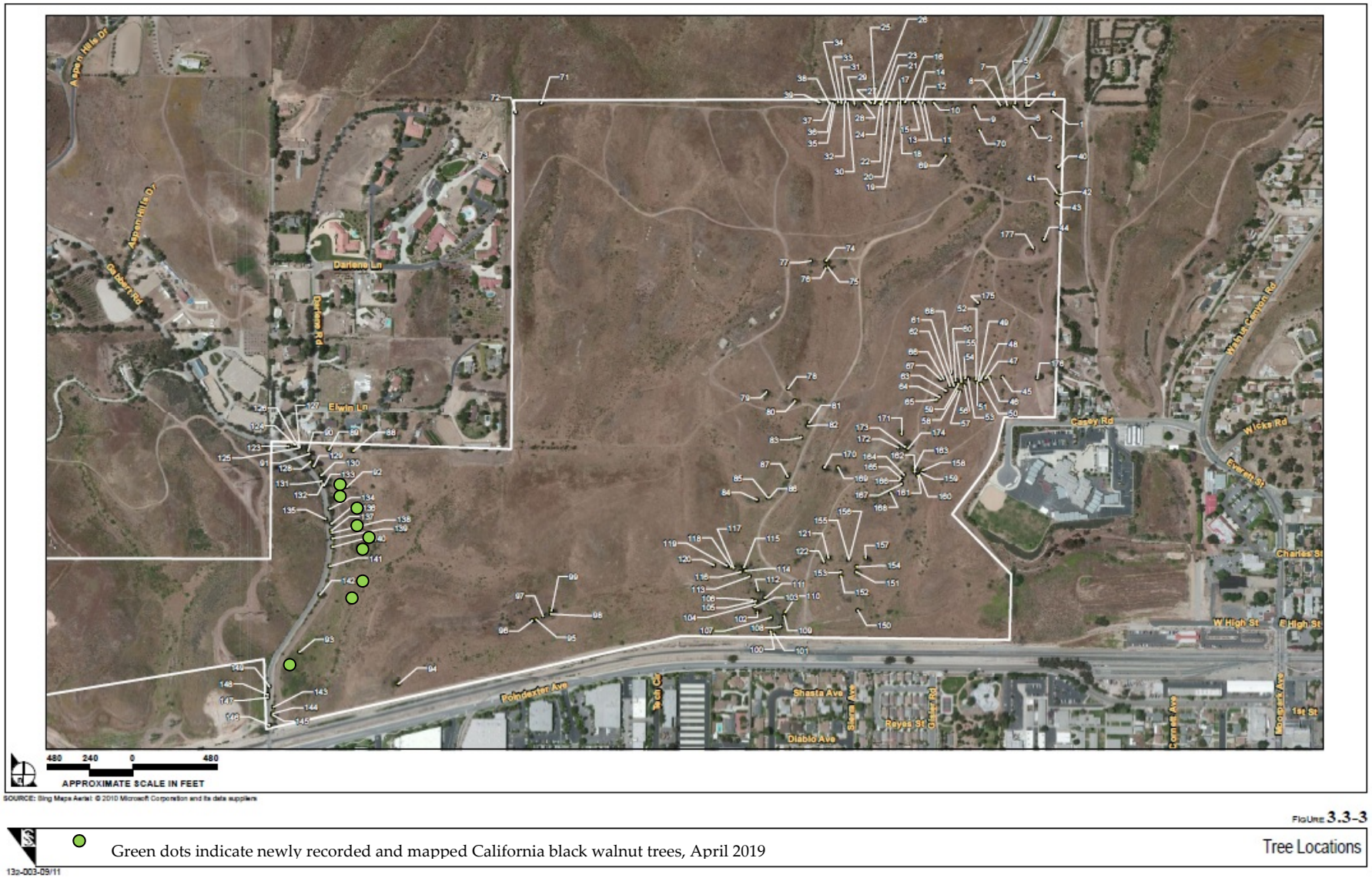

Figure 4. Amended Rincon 2011 Tree Survey Map of the Hitch Ranch Project Site

Locally Protected Trees

Mature non-native trees, which are of local special interest, are present on the site. The City of Moorpark tree ordinance (under Chapter 12.12 Historic Trees, Native Oak Trees and Mature Trees 14.09.010—14.09.140, [12.12] No. 101) provides for the protection of all species of mature trees with a cross-sectional area of all major stems of 72 or more square inches (equivalent to 9.6 inches diameter at breast height [DBH]), as measured at 4.5 feet above the root crown. As previously stated, the original tree survey was conducted on the site in 1995 (Nature Buffs). A total of 528 trees were observed during the survey that qualified as mature trees, including gum, pepper, olive (*Olea europaea*), ash (*Fraxinus* sp.), tamarisk (*Tamarix* sp.), African sumac (*Rhus lancea*), and walnut. Most of these trees were affected by the 2003 and 2006 fires. Those on the interior of the site were completely burned, but many of the trees that line the edge of the site were only partially burned and many have since recovered.

The 2018 biological survey reassessed the presence and health of remaining mature trees using the numbering system and mapping from a thorough tree survey conducted in 2011 by Rincon (Figure 4). These update data were presented in Table A2 of Appendix 2 of the Hitch Ranch Project City of Moorpark, Ventura County, California 2018 Biological Survey Update. Those survey results indicated that 143 mature trees remained alive and therefore still qualify under the Moorpark ordinance for consideration for preservation. The biological survey update in 2019 confirmed that conditions remain the same and the mapped trees have continued to recover due to above-average precipitation during winter 2018-2019. In addition, eight more native California black walnut trees were observed and recorded that all qualify as mature trees for a total of 151 trees that require protection and/or mitigation.

Special-Status Wildlife

The DEIR concluded that 16 special-status species either utilize or could potentially utilize the project site, and 12 of these species had the potential for significant impacts to some portion of their life history upon project implementation. The DEIR proposed mitigation measures for the latter species. The 2009 Hitch Ranch Special-Status Species Update report made additional conclusions and mitigation suggestions for seven other species that would reduce potential impacts to less than significant. This report concurs with these findings. Table 1 summarizes these conclusions and recommendations.

A Cooper's hawk was observed on the site in both 2018 and 2019 during the breeding season in the same general area, indicating very likely a nesting pair on or near the ranch. Cooper's hawks are state special status species. Additionally, active nests of all native bird species are protected under federal and state laws. In addition, during the 2019 survey an active red-tailed hawk nest was observed on the northern project site border that contained three nestlings. If ground disturbance including vegetation removal, is

commenced during breeding season, buffers of usually 500 feet for raptors need to be established around active nests until the young have fledged and are no longer using the nest

Table 1. Impact Conclusions for Sensitive Wildlife Species Analyzed in Past Studies and the DEIR

DEIR Analyzed Species that Utilize or Could Potentially Utilize the Project Site	Potential Significant Impacts	DEIR Proposed Mitigation Measures
Western spadefoot	Yes	Yes
Coastal whiptail	Yes	Yes
Coast horned lizard	Yes	Yes
California horned lizard	Yes	Yes
White-tailed kite	Yes	Yes
Cooper's hawk	Yes	Yes
California rufous-crowned sparrow	Yes	Yes
Loggerhead shrike	Yes	Yes
Yellow-breasted chat	No, no nesting habitat on site	NA
Sharp-shinned hawk	No, no nesting habitat on site	NA
Ferruginous hawk	No, no nesting habitat on site	NA
Northern harrier	Yes	Yes
Prairie falcon	No, no nesting habitat on site	NA
Bell's sage sparrow	Yes	Yes
California horned lark	Yes	Yes
San Diego black-tailed jackrabbit	Yes	Yes
Additional Species That Were Not Evaluated or not Anticipated to be Affected in the DEIR That May Utilize the Project Site	**Potential Impacts**	**Mitigation Measures Proposed in the 2009 Special-status Species Update to Address Potential Impacts**
Coast patch-nosed snake	Yes	Covered by DEIR mitigation measures
Grasshopper sparrow	Yes	Covered by DEIR mitigation measures
Burrowing owl	Yes, however mitigatable to *less than significant*	Preconstruction nesting or winter surveys and protection of occupied burrows until nestlings have fledged or wintering birds have been safely excluded from the burrows.
Costa's hummingbird	Yes	Covered by DEIR mitigation measures
Allen's hummingbird	Yes	Covered by DEIR mitigation measures
San Diego desert woodrat	Yes, however mitigatable to *less than significant*	Preconstruction focused surveys for woodrats and nests; either protection of nests or relocation of woodrats and nesting material.
American badger	Yes, however mitigatable to *less than significant*	Preconstruction focused surveys for denning sites and delay of nearby construction activities until young are weaned and leave the den.

USACE Jurisdictional Resources

Several drainages occur throughout the site, the largest of which occurs along a sandy wash in the western portion of the site, west of Gabbert Road. A defined stream channel was not identified at this location, but plant wetland-indicators grow within this sandy wash. This or other drainages, including the erosional feature in the northeastern portion of the site, may qualify as USACE jurisdictional resources. Therefore, a formal wetland delineation should be conducted pursuant to USACE survey protocols and a subsequent agency jurisdictional determination made, and if applicable, impacts quantified. If part of the proposed project actions, the discharge of fill into USACE-jurisdictional waters would likely require a permit pursuant to Section 404 of the Clean Water Act. Any modification to a streambed, if present, including removal of riparian vegetation, may require a streambed alteration agreement from CDFW pursuant to Section 1602 of the *California Fish and Game Code*. The Regional Water Quality Control Board also certifies USACE Section 404 permits and regulates discharge of fill into "waters of the United States" to ensure that Section 401 Clean Water Act or waste discharge under the Porter-Cologne Act criteria are met.

Appendix 1.

Table A1. Bird Species Observed During the April 12, 2019 Hitch Ranch Biological Survey

Notes	Scientific Names	Common Name
	Odontophoridae	Quails
	Callipepla californica	California quail
	Accipitridae, Falconidae	Hawks, Kites, Eagles, and Allies
B: pr, nest with 3 nestlings	*Buteo jamaicensis*	Red-tailed hawk
SSS (nesting), likely breeding	*Accipiter cooperii*	Cooper's hawk
	Falcon sparverius	American kestrel
	Columbidae	Pigeons and Doves
Pr	*Zenaida macroura*	Mourning dove
	Trochilidae	Hummingbirds
	Calypte anna	Anna's hummingbird
	Tyrannidae	Tyrant Flycatchers
	Sayornis nigricans	Black phoebe
	Sayornis saya	Say's phoebe
Pr	*Tyrannus vociferans*	Cassin's kingbird
	Myiarchus cinerascens	Ash-throated flycatcher
	Corvidae	Crows and Jays
	Corvus corax	Common raven
	Hirundinidae	Swallows
	Stelgidopteryx serripennis	Northern rough-winged swallow
	Aegithalidae	Long-tailed Tits and Bushtits
	Psaltriparus minimus	Bushtit
	Troglodytidae	Wrens
	Thryomanes bewickii	Bewick’s wren
	Turdidae	Thrushes
	Sialia mexicana	Western bluebird
	Mimidae	Mockingbirds and Thrashers
	Mimus polyglottos	Northern mockingbird
	Toxostoma redivivum	California thrasher
	Emberizidae	Emberizine Sparrow & Their Allies
	Melozone crissalis	California towhee
	Melospiza melodia	Song sparrow
	Zonotrichia leucophrys	White-crowned sparrow
	Passerculus sandwichensis	Savannah sparrow
	Icteridae	Blackbirds
	Icterus bullockii	Bullock's oriole
	Fringillidae	Fringilline and Cardueline Finches & Allies
	Haemorhous mexicanus	House finch
	Spinus psaltria	Lesser goldfinch
SSS (nesting)	*Carduelis lawrencei*	Lawrence’s goldfinch
NOTES: SSS = special-status species, B = showed evidence of breeding (nest, fledgling, etc.); Pr = a pair was noted		
Nomenclature follows "Official California Checklist by the California Bird Records Committee updated 26 January 2015 to follow the 7th edition of the A.O.U Check-List of North American Birds and Supplements."		

Appendix 2.

Table A2. Results of the 2019 Supplemental Protected Tree Survey and Health Assessment Update

Tree ID #	Scientific Name	Common Name	Alive (A) or Dead (D)	Health Assessment Code (A=best, D=worst)	Number of Stems (no. over 4" DBH)	Height (esti-mated, in ft)	GPS Latitude N Longitude W
92	*Juglans californica*	Southern California black walnut	A	A	5	17	(see Rincon 2011 report)
New trees identified in the 2019 biological survey							
178	*Juglans californica*	Southern California black walnut	A	A	7	15	34.28722011 8.899810
179	*Juglans californica*	Southern California black walnut	A	A	7 (2)	20	34.28701011 8.899440
180	*Juglans californica*	Southern California black walnut	A	A	7	12	34.286530 118.899350
181	*Juglans californica*	Southern California black walnut	A	A	10 (5)	25	34.286860 118.899320
182	*Juglans californica*	Southern California black walnut	A	A	5 (5)	25	34.286150 118.899470
183	*Juglans californica*	Southern California black walnut*	A	A	8 (4)	25	34.285620 118.899470
184	*Juglans californica*	Southern California black walnut	A	A	3 (2)	17	34.285640 118.899420
185	*Juglans californica*	Southern California black walnut	A	A	8 (8)	30	34.284420 118.900660

* Note: These are additional trees identified and measured to those recorded by Rincon Consultants, Inc. during their 2011 tree survey. Tree #183 had a large stem that was saw-cut.

B

2018 Biological Assessment Update

Hitch Ranch Project
City of Moorpark, Ventura County, California
2018 Biological Survey Update

Prepared for:

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234 E. Colorado Boulevard, Suite 205
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Prepared by:

Debra Barringer
Barringer Biological Services
Ventura, CA 93001

May 2018

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SUMMARY

This report updates the biological elements and potential effects documented to date for the Hitch Ranch Specific Plan site, as presented in the November 2008 Draft EIR (DEIR). Biological issues reassessed include the potential for special-status species to be present, presence of City of Moorpark-designated trees to be preserved, and observations of the general vegetation communities and wildlife species that inhabit the proposed project area.

This report concurs with the findings presented in the DEIR for the following factors: special-status plant species; protected trees; special-status animals including western spadefoot, coastal whiptail, coast horned lizard, southern California rufous-crowned sparrow, Bell's sage sparrow, white-tailed kite, horned lark, loggerhead shrike, San Diego black-tailed jackrabbit; and U.S. Army Corps of Engineers (USACE) and California Department of Fish and Wildlife (CDFW) jurisdictional resources.

In addition, this report agrees with the potential for significant impacts resulting from project implementation that was predicted by previous biological survey reports including adverse effects to special-status animals including coast patch-nosed snake, grasshopper sparrow, burrowing owl, Costa's hummingbird, Allen's hummingbird, San Diego desert woodrat, and American badger. Implementation of the DEIR-proposed mitigation measures would reduce potential impacts to coast patch-nosed snake, grasshopper sparrow, Costa's hummingbird, and Allen's hummingbird to a level of less than significant. However, potential impacts to burrowing owl, San Diego desert woodrat, and American badger would remain significant. Additional mitigation measures proposed in the 2009 Updated Report of Potential for Special-status Species on the Hitch Ranch Project Site by Impact Sciences would further reduce impacts to these three species to a less than significant level and are also recommended by this report.

BACKGROUND

The DEIR for the proposed project was prepared in draft form by Impact Sciences in November 2008 and has since been revised through corrections, additions, and responses to public comments.

Impact Sciences initially conducted a general biological survey on the site on September 12, 1993. The plant communities on the site were mapped, characterized, and analyzed for their potential to support special-status species.

Mike Starr of Nature Buffs conducted a survey in 1995 of all trees on the site that had trunks of at least 4 inches in diameter at 4.5 feet above grade (also referred to as diameter at breast height or dbh and comparable to a cross sectional area of 72 in^2). The trees meeting this criterion were tagged and mapped in the field. Subsequent field surveys to update the 1995 tree survey were conducted in 2001 by Impact

Sciences and in 2011 by Rincon Consultants, Inc. and a new tree map of the site was created. In addition, Rincon included tree canopy heights and widths and health assessments. This survey was referenced for the current 2018 biological survey and update.

Since a wildfire occurred on the project site in 2003, Impact Sciences characterized and mapped the plant communities again on September 28, 2006, to update and evaluate the habitat conditions on the project site and to assist in determining the potential of each habitat to support special-status species. Shortly after the plant communities were characterized in 2006, another fire burned the entire property, and an additional site visit was made in January 2007 to assess the effects of the fire on trees and plant communities on site.

Focused plant surveys were conducted on April 21, 22, and 29, and May 15 1998, and again in May and June of 2000 to update the information obtained during the initial 1993 surveys. Following the 2003 fire, additional focused plant surveys were conducted by Impact Sciences in the spring of 2006. Special attention was afforded to those portions of the site potentially supporting sensitive flora or fauna. Three additional focused plant surveys were conducted in spring 2016 and a report submitted.

Protocol surveys for coastal California gnatcatcher (*Polioptila californica californica*), a federally listed threatened bird species, were performed in 1998, 2000, 2003, 2005, 2009, and 2011 and reports submitted. All surveys were conducted in accordance with U.S. Fish and Wildlife Service (USFWS) survey protocols, which require that six surveys be conducted at least one week apart from March 15 through June 30, or a minimum of nine surveys at least two weeks apart be conducted July 1 through March 14. Even though one potential migrant bird was observed, no California gnatcatchers were suspected of using the site for important life history periods (e.g., nesting).

General wildlife surveys were conducted concurrent with the vegetation mapping, tree surveys, and focused plant and animal surveys. All common animals and sign of presence (scat, tracks, burrows, and trails) observed were noted during all visits to the site, including in 2018.

METHODOLOGY

Barringer Biological Services' principal biologist Debra Barringer conducted a field visit on April 3, 2018, at the Hitch Ranch project site (site). Because of the long history of previous studies and documentation that has been completed for the subject site, the goal of the April 2018 field visit was to confirm whether conditions had remained the same on the site or had changed since the preparation of the 2008 DEIR, and to further update the conclusions regarding the potential of special-status and protected species to utilize the site.

Prior to the April 2018 site visit, the previous survey reports, the CDFW California Natural Diversity Database (CNDDB), and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants were reviewed to identify special-status plant or animal species known to occur in the area. The CNDDB lists historical and recently recorded occurrences of special-status plant and animal species, and the CNPS database lists historical and recent occurrences of special-status plant species. The database searches included the Moorpark U.S. Geological Survey (USGS) 7.5-minute quadrangle, in which the project site is located, as well as the seven surrounding quadrangles: Thousand Oaks, Newbury Park, Santa Paula, Santa Paula Peak, Camarillo, Simi, Piru, and Fillmore.

The April 2018 site visit was conducted under hazy skies through the morning with temperatures of approximately 59 to 66 degrees Fahrenheit. The site was traversed by foot focusing on the areas with protected trees to update their status. The 2011 Rincon tree map was used to the extent possible to locate and identify protected trees on site – no number tags were found on trees. Data including tree presence, and whether the tree remained alive and/or was burned was collected, and general health of the tree using the grades A through D developed by Rincon was re-assessed.

Because of the extensive survey history that has included at least 10 focused plant surveys and 6 protocol surveys for coastal California gnatcatcher, the purpose of the 2018 survey was to identify if the potential for on-site habitats to support special-status plant or animal species had changed; therefore, focused or detailed surveys for particular plant and animal species were not conducted. The determination of potential for special-status species to be present on the project site is based on the proximity of the site to recorded occurrences from the CNDDB and CNPS databases, on-site vegetation and habitat characteristics, topography, elevation, soils, surrounding land uses, and known habitat requirements and geographic ranges of special-status plant and animal species known to occur in the region.

EXISTING CONDITIONS

Region and Local

Regionally, the project site is located in southeastern Ventura County between the Simi Hills and Little Simi Valley. Locally, the project site is located in the open space north of Poindexter Avenue and west of Moorpark Road (State Route 23) and Walnut Canyon Elementary School. Specifically, the site is approximately 285.1 acres, is located approximately 1,600 feet west of State Route 23, and extends approximately 1,400 feet west of Gabbert Road.

The project site is situated within the Transverse Ranges at the southern limit of the Simi Hills, between the Oak Ridge Mountains to the north and the Las Posas Hills to the south. Various densities of development surround the site, with the railroad and Poindexter Avenue adjacent to the south boundary,

light industrial and residential uses south of Poindexter Avenue, rural residential and Walnut Canyon School to the east, and rural residential uses and a Southern California Edison transmission corridor to the west (see Figure 1 for an October 2016 aerial photo). A large paved parkway has been constructed north of the site, which ends at the Hitch Ranch boundary.

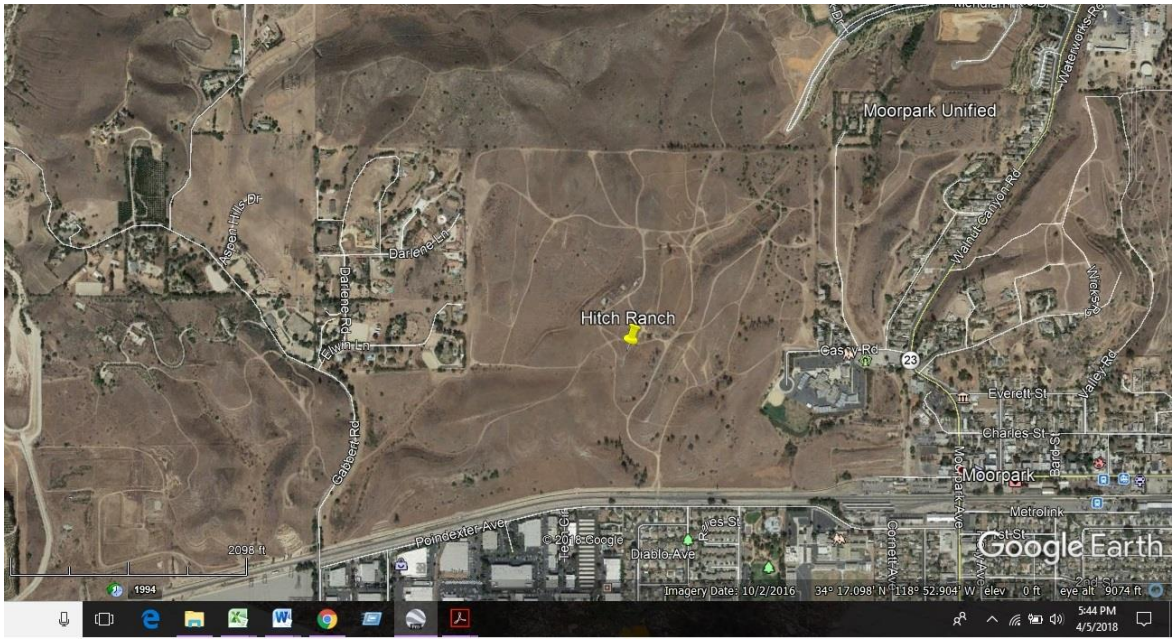

Figure 1. Recent aerial view (10/2/2016) of the Hitch Ranch project site showing surrounding development

The site is characterized by gently rolling hills and a series of north-south trending ridges and canyons. The topography ranges from moderately hilly to relatively flat; elevation at the site ranges from approximately 475 to 720 feet above mean sea level. The site has been previously disturbed by agricultural operations including orchards and grazing, and two fires. Numerous dirt roads, concrete foundations of old farm buildings, and culverts in old agricultural ditches are still present. The vegetation is primarily annual grassland (including that mixed with coyote brush scrub), with scattered California sagebrush-deerweed, coyote brush scrub, mulefat scrub, and non- native woodland communities. In 2003 and 2006, fires entirely burned these plant communities. Since the 2006 fire, these communities have recovered to their pre-fire condition. Several ephemeral drainages convey storm water down the steep slopes of the site, but no defined beds and banks or well-developed riparian plant communities are present.

Vegetation

Vegetation at the project site was assessed and described in Section 3.3, Biology, of the November 2008 DEIR for the project. The Biology section included a vegetation map (Figure 3.3-1 in the DEIR), which continues to depict current general habitat conditions. According to the Biology section and Figure 3.3-1, the project site supports the following habitat types:

- annual [non-native] grassland – 129 acres
- annual grassland/coyotebush scrub – 3.9 acres
- ornamental [non-native] woodland – 27.4 acres
- California sagebrush-deerweed scrub – 30. 6 acres
- coyotebush scrub – 58.3 acres
- mulefat scrub – 0.9 acres
- barren [non-vegetated] areas – 36.3 acres

USACE Jurisdictional Resources

Several drainages traverse the site in a north-south direction. The largest is a sandy wash in the western portion of the site, west of Gabbert Road. A defined stream channel (i.e., bed and bank) was not observed at this location; however mulefat and elderberry, both of which are classified as hydrophytic (wetland) indicator plants, grow within this sandy wash.

An erosional feature was noted during the 2018 survey in the northeast portion of the site that likely drains from land disturbance north of the project boundary. Recent heavy runoff caused soil to wash out and further expose a buried pipe (see Figure 2).



Figure 2. Erosional feature in northwest project site.

General Wildlife

Wildlife species observed on site during the 2018 site survey are presented in Table A1 of Appendix 1. These species overlap with those seen during other surveys in the past and represent typical species known to utilize the site during at least a portion of their life histories.

RESULTS AND RECOMMENDATIONS

Sensitive Plant Community – California Sagebrush-Deerweed Scrub

California sagebrush-deerweed scrub is a sub-type of coastal sage scrub, and as such is protected locally under the Ventura County General Plan. The DEIR indicates that approximately 30.6 acres of this vegetation type were present in the western portion of the project site. This assessment remained accurate as of the June 2009 survey and these California sagebrush-deerweed scrub patches have further matured by spring 2018.

Special-status and Protected Species and Resources

The DEIR disclosed the presence of one special-status plant and seven special-status animal species observed on the project site. An additional 22 special-status plants and 36 special-status animal species were evaluated in the DEIR for their potential to utilize the site based on site habitat characteristics and species ranges, habitat requirements and known records in the project region.

Additional species were considered in more detail in the 2009 Hitch Ranch Special-status Species Update report due to new information in the CNPS and CNDDB database, as well as considerations for species not reported in those databases but with potential to be present on the project site due to habitat and range attributes. In that report, a thorough analysis of the potential for these special-status species to utilize the site was conducted. In the event that these species are present prior to project implementation, additional recommendations for minimizing impacts were included. The 2018 project site survey and analysis found no evidence that these assessments have changed to a significant degree and, therefore, conclusions and recommendations presented in the 2009 report are fully supported.

Special-Status Plant Species

Southern California black walnut (*Juglans californica* var. *californica*) -- CNPS List 4.2 (*limited distribution*) -- One California black walnut tree clump with a combined dbh greater than 8 inches was observed within the coyote brush scrub plant community in the western portion of the project site near Gabbert Road during the April 2018 tree survey. Since some basal growth was observed on the burned walnut trees following the 2006 fire in 2009, this is likely the result of post-fire regrowth. The tree clump was just beginning to leaf out for the season and appeared to be in good health. It likely coincides with the tree numbered 92 on the Rincon tree survey map (Figure 3). Every effort should be made to protect this native California tree during project implementation.

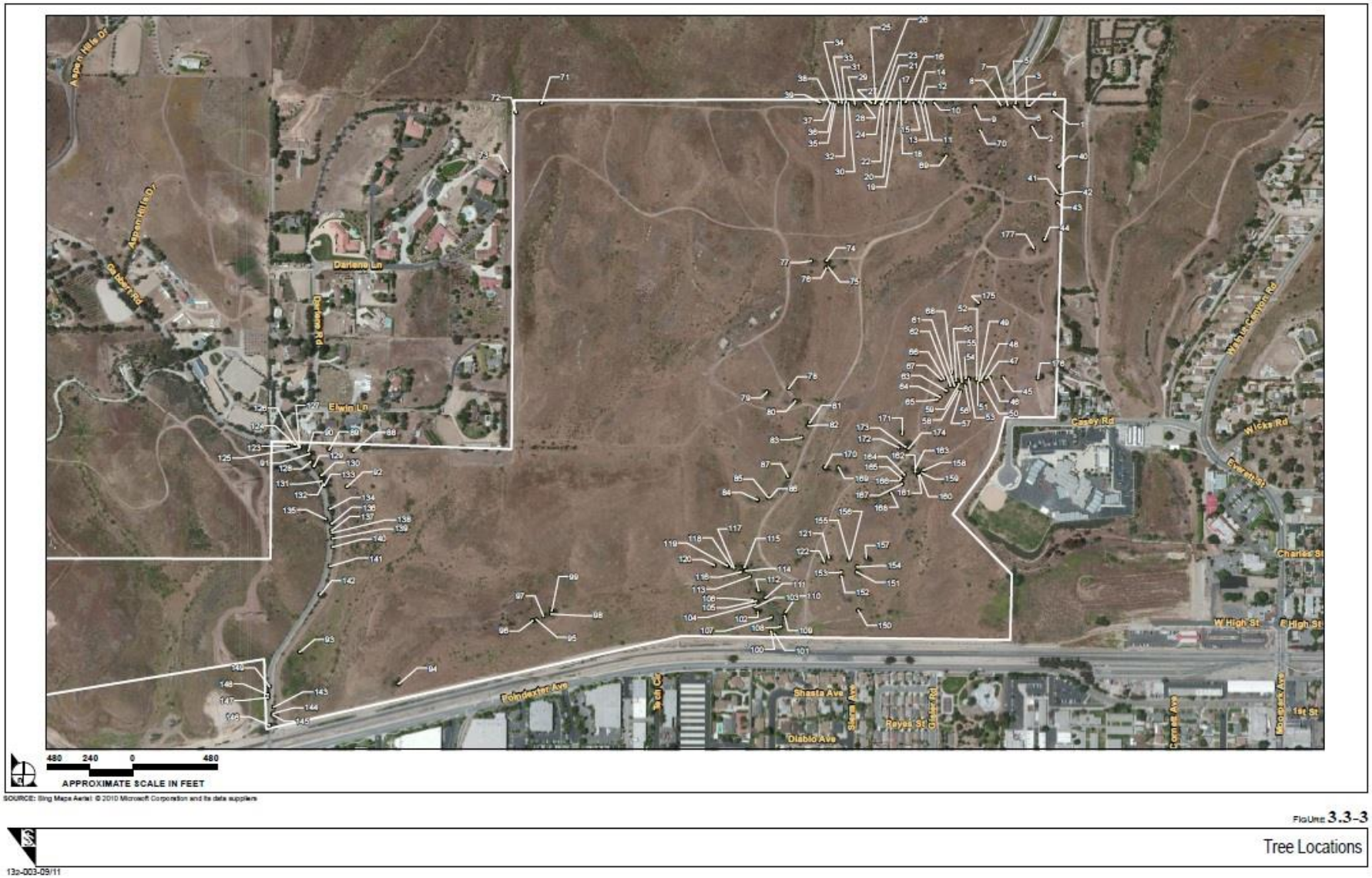

Figure 3. Rincon 2011 Tree Survey Map of the Hitch Ranch Project Site

Locally Protected Trees

Mature non-native trees, which are of local special interest, are present on the site. The City of Moorpark tree ordinance (under Chapter 12.12 Historic Trees, Native Oak Trees And Mature Trees 14.09.010—14.09.140, [12.12] No. 101) provides for the protection of all species of mature trees with a cross-sectional area of all major stems of 72 or more square inches, as measured at 4.5 feet above the root crown. As previously stated, the original tree survey was conducted on the site in 1995 (Nature Buffs). A total of 528 trees were observed during the survey that qualified as mature trees, including gum, pepper, olive (*Olea europaea*), ash (*Fraxinus* sp.), tamarisk (*Tamarix* sp.), African sumac (*Rhus lancea*), and walnut. Most of these trees were affected by the 2003 and 2006 fires. Those on the interior of the site were completely burned, but many of the trees that line the edge of the site were only partially burned and many have since recovered.

The 2018 survey reassessed the presence and health of remaining mature trees using the numbering system and mapping of a thorough tree survey conducted in 2011 by Rincon (Figure 3). These data are presented in Table A2 of Appendix 2. Survey results indicate that 143 mature trees remain alive and therefore still qualify under the Moorpark ordinance for consideration for preservation.

Special-Status Wildlife

The DEIR concluded that 16 special-status species either utilize or could potentially utilize the project site, and 12 of these species had the potential for significant impacts to some portion of their life history upon project implementation. The DEIR proposed mitigation measures for the latter species. The 2009 Hitch Ranch Special-status Species Update report made additional conclusions and mitigation suggestions for seven other species that would reduce potential impacts to less than significant. This report concurs with these findings. Table 1 summarizes these conclusions and recommendations.

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California horned lizard	Yes	Yes
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Loggerhead shrike	Yes	Yes
Yellow-breasted chat	No, no nesting habitat on site	NA
Sharp-shinned hawk	No, no nesting habitat on site	NA
Ferruginous hawk	No, no nesting habitat on site	NA
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Prairie falcon	No, no nesting habitat on site	NA
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Grasshopper sparrow	Yes	Covered by DEIR mitigation measures
Burrowing owl	Yes, however mitigatable to *less than significant*	Preconstruction nesting or winter surveys and protection of occupied burrows until nestlings have fledged or wintering birds have been safely excluded from the burrows.
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Several drainages occur throughout the site, the largest of which occurs along a sandy wash in the western portion of the site, west of Gabbert Road. A defined stream channel is not present at this location, but plant wetland-indicators grow within this sandy wash. Other drainages, including the erosional feature in the northeastern portion of the site, may qualify as USACE jurisdictional resources. Therefore, a formal wetland delineation should be conducted pursuant to USACE survey protocols and a subsequent agency jurisdictional determination made, and if applicable, impacts quantified. If part of the proposed project, the discharge of fill into USACE-jurisdictional areas would likely require a permit pursuant to Section 404 of the Clean Water Act. Any modification to a streambed if present including removal of riparian vegetation, may require a streambed alteration agreement from CDFG pursuant to Section 1602 of the *California Fish and Game Code*. The Regional Water Quality Control Board also certifies USACE Section 404 permits and regulates discharge of fill into "waters of the United States" to ensure that Section 401 Clean Water Act or waste discharge under the Porter-Cologne Act criteria are met.

Appendix 1.

Table A1. Bird Species Observed During the April 3, 2018 Hitch Ranch Biological Survey

Notes	Scientific Names	Common Name
	Odontophoridae	Quails
	Callipepla californica	California quail
	Accipitridae	Hawks, Kites, Eagles, and Allies
pr, B	*Buteo jamaicensis*	Red-tailed hawk
SSS (if nesting)	***Accipiter cooperii***	**Cooper's hawk**
	Columbidae	Pigeons and Doves
I	*Streptopelia decaocto*	Eurasian collared-dove
	Zenaida macroura	Mourning dove
	Cuculidae	Cuckoo and Roadrunners
	Geococcyx californianus	Greater roadrunner
	Trochilidae	Hummingbirds
	Calypte anna	Anna's hummingbird
	Tyrannidae	Tyrant Flycatchers
	Sayornis nigricans	Black phoebe
	Sayornis saya	Say's phoebe
	Tyrannus vociferans	Cassin's kingbird
	Corvidae	Crows and Jays
	Corvus corax	Common raven
	Hirundinidae	Swallows
	Tachycineta bicolor	Tree swallow
	Aegithalidae	Long-tailed Tits and Bushtits
	Psaltriparus minimus	Bushtit
	Turdidae	Thrushes
	Sialia mexicana	Western bluebird
	Mimidae	Mockingbirds and Thrashers
	Mimus polyglottos	Northern mockingbird
	Parulidae	Wood-Warblers
	Dedroica coronata	Yellow-rumped warbler
	Emberizidae	Emberizine Sparrow & Their Allies
	Pipilo maculatus	Spotted towhee
	Melozone crissalis	California towhee
	Melospiza melodia	Song sparrow
	Zonotrichia leucophrys	White-crowned sparrow
	Chondestes grammacus	Lark sparrow
	Icteridae	Blackbirds
	Icterus bullockii	Bullock's oriole
	Fringillidae	Fringilline and Cardueline Finches & Allies
	Haemorhous mexicanus	House finch
	Spinus psaltria	Lesser goldfinch
NOTES: SSS = special-status species, B = showed evidence of breeding (nest, fledgling, etc.); pr = a pair was noted, I = introduced/non-native species, f = flyover, o = offshore		
Nomenclature follows "Official California Checklist by the California Bird Records Committee updated 26 January 2015 to follow the 7th edition of the A.O.U Check-List of North American Birds and Supplements."		

Appendix 2.

Table A2. Results of the 2018 Protected Tree Survey and Health Assessment Update

Tree ID #	Scientific Name	Common Name	Alive (A) or Dead (D)	Health Assessment Code (A=best, D=worst)
1	*Eucalyptus sp.*	Eucalyptus	A	A
2	*Schinus molle*	Pepper	A	A
3	*Schinus molle*	Pepper	A	A
4	*Schinus molle*	Pepper	A	A
5	*Eucalyptus sp.*	Eucalyptus	A	A
6	*Schinus molle*	Pepper	A	C
7	*Eucalyptus sp.*	Eucalyptus	A	A
8	*Schinus molle*	Pepper	A	A
9	*Schinus molle*	Pepper	A	x
10	*Eucalyptus sp.*	Eucalyptus	D	x
11	*Eucalyptus sp.*	Eucalyptus	D	x
12	*Eucalyptus sp.*	Eucalyptus	D	x
13	*Eucalyptus sp.*	Eucalyptus	D	x
14	*Eucalyptus sp.*	Eucalyptus	D	x
15	*Eucalyptus sp.*	Eucalyptus	D	x
16	*Eucalyptus sp.*	Eucalyptus	D	x
17	*Eucalyptus sp.*	Eucalyptus	D	x
18	*Eucalyptus sp.*	Eucalyptus	A	B
19	*Eucalyptus sp.*	Eucalyptus	A	D
20	*Eucalyptus sp.*	Eucalyptus	A	D
21	*Eucalyptus sp.*	Eucalyptus	A	C
22	*Eucalyptus sp.*	Eucalyptus	A	B
23	*Eucalyptus sp.*	Eucalyptus	A	B
24	*Eucalyptus sp.*	Eucalyptus	A	C
25	*Eucalyptus sp.*	Eucalyptus	A	C
26	*Eucalyptus sp.*	Eucalyptus	A	A
27	*Eucalyptus sp.*	Eucalyptus	A	A
28	*Eucalyptus sp.*	Eucalyptus	A	A
29	*Eucalyptus sp.*	Eucalyptus	A	B
30	*Eucalyptus sp.*	Eucalyptus	A	B
31	*Eucalyptus sp.*	Eucalyptus	A	C
32	*Eucalyptus sp.*	Eucalyptus	A	B
33	*Eucalyptus sp.*	Eucalyptus	A	C
34	*Eucalyptus sp.*	Eucalyptus	A	C
35	*Eucalyptus sp.*	Eucalyptus	A	C

Tree ID #	*Scientific Name*	Common Name	Alive (A) or Dead (D)	Health Assessment Code
36	*Eucalyptus sp.*	Eucalyptus	A	C
37	*Eucalyptus sp.*	Eucalyptus	A	C
38	*Eucalyptus sp.*	Eucalyptus	A	D
39	*Eucalyptus sp.*	Eucalyptus	A	B
40	*Eucalyptus sp.*	Eucalyptus	D	x
41	*Eucalyptus sp.*	Eucalyptus	A	A
42	*Eucalyptus sp.*	Eucalyptus	A	A
43	*Eucalyptus sp.*	Eucalyptus	D	x
44	*Eucalyptus sp.*	Eucalyptus	D	x
45	*Eucalyptus sp.*	Eucalyptus	A	A
46	*Eucalyptus sp.*	Eucalyptus	A	A
47	*Eucalyptus sp.*	Eucalyptus	A	A
48	*Eucalyptus sp.*	Eucalyptus	A	B
49	*Eucalyptus sp.*	Eucalyptus	D	x
50	*Eucalyptus sp.*	Eucalyptus	D	x
51	*Eucalyptus sp.*	Eucalyptus	A	B
52	*Eucalyptus sp.*	Eucalyptus	D	x
53	*Eucalyptus sp.*	Eucalyptus	D	x
54	*Eucalyptus sp.*	Eucalyptus	A	A
55	*Eucalyptus sp.*	Eucalyptus	D	x
56	*Eucalyptus sp.*	Eucalyptus	D	x
57	*Eucalyptus sp.*	Eucalyptus	A	B
58	*Eucalyptus sp.*	Eucalyptus	A	A
59	*Eucalyptus sp.*	Eucalyptus	A	C
60	*Eucalyptus sp.*	Eucalyptus	D	x
61	*Eucalyptus sp.*	Eucalyptus	D	x
62	*Eucalyptus sp.*	Eucalyptus	A	C
63	*Eucalyptus sp.*	Eucalyptus	A	A
64	*Eucalyptus sp.*	Eucalyptus	A	A
65	*Eucalyptus sp.*	Eucalyptus	A	A
66	*Eucalyptus sp.*	Eucalyptus	not found	x
67	*Eucalyptus sp.*	Eucalyptus	not found	x
68	*Eucalyptus sp.*	Eucalyptus	not found	x
69	*Schinus molle*	Pepper	not found	x
70	*Schinus molle*	Pepper	A	A
71	*Eucalyptus sp.*	Eucalyptus	not found	x
72	*Eucalyptus sp.*	Eucalyptus	not found	x
73	other		not found	x
74	*Eucalyptus sp.*	Eucalyptus	A	B

Tree ID #	Scientific Name	Common Name	Alive (A) or Dead (D)	Health Assessment Code
75	*Eucalyptus sp.*	Eucalyptus	A	A
76	*Eucalyptus sp.*	Eucalyptus	A	A
77	*Eucalyptus sp.*	Eucalyptus	A	C
78	*Washingtonia sp.*	Palm	A	B
79	*Eucalyptus sp.*	Eucalyptus	A	B
80	*Eucalyptus sp.*	Eucalyptus	A	B
81	*Eucalyptus sp.*	Eucalyptus	A	B
82	*Eucalyptus sp.*	Eucalyptus	A	B
83	*Eucalyptus sp.*	Eucalyptus	A	A
84	*Eucalyptus sp.*	Eucalyptus	D	x
85	*Eucalyptus sp.*	Eucalyptus	A	A
86	*Eucalyptus sp.*	Eucalyptus	A	B
87	*Eucalyptus sp.*	Eucalyptus	A	A
88	*Fraxinis sp.*	Ash	A	A
89	*Juglans nigra*	Eastern black walnut	not found	x
90	*Schinus molle*	Pepper	A	A
91	*Eucalyptus sp.*	Eucalyptus	A	A
92	*Juglans californica*	Southern California black walnut	A	B - just leafing out
93	*Schinus molle*	Pepper	A	A
94	*Eucalyptus sp.*	Eucalyptus	A	A
95	*Eucalyptus sp.*	Eucalyptus	D	x
96	*Eucalyptus sp.*	Eucalyptus	D	x
97	*Schinus molle*	Pepper	D	x
98	*Eucalyptus sp.*	Eucalyptus	D	x
99	*Eucalyptus sp.*	Eucalyptus	D	x
100	*Eucalyptus sp.*	Eucalyptus	A	A
101	*Eucalyptus sp.*	Eucalyptus	A	B
102	*Eucalyptus sp.*	Eucalyptus	D	x
103	*Eucalyptus sp.*	Eucalyptus	A	B
104	*Eucalyptus sp.*	Eucalyptus	A	B
105	*Eucalyptus sp.*	Eucalyptus	A	B
106	*Eucalyptus sp.*	Eucalyptus	A	B
107	*Schinus molle*	Pepper	A	A
108	*Eucalyptus sp.*	Eucalyptus	A	A

Tree ID #	Scientific Name	Common Name	Alive (A) or Dead (D)	Health Assessment Code
109	*Schinus molle*	Pepper	A	A
110	*Eucalyptus sp.*	Eucalyptus	A	A
111	*Eucalyptus sp.*	Eucalyptus	A	A
112	*Eucalyptus sp.*	Eucalyptus	A	A
113	*Eucalyptus sp.*	Eucalyptus	A	A
114	*Eucalyptus sp.*	Eucalyptus	A	A
115	*Eucalyptus sp.*	Eucalyptus	A	B
116	*Eucalyptus sp.*	Eucalyptus	A	A
117	*Eucalyptus sp.*	Eucalyptus	A	A
118	*Eucalyptus sp.*	Eucalyptus	A	A
119	*Eucalyptus sp.*	Eucalyptus	A	B
120	*Eucalyptus sp.*	Eucalyptus	A	A
121	*Eucalyptus sp.*	Eucalyptus	A	B
122	*Eucalyptus sp.*	Eucalyptus	A	A
123	*Eucalyptus sp.*	Eucalyptus	A	A
124	*Eucalyptus sp.*	Eucalyptus	A	B
125	*Eucalyptus sp.*	Eucalyptus	A	B
126	*Eucalyptus sp.*	Eucalyptus	A	B
127	*Eucalyptus sp.*	Eucalyptus	A	B
128	*Eucalyptus sp.*	Eucalyptus	A	B
129	*Eucalyptus sp.*	Eucalyptus	A	B
130	*Eucalyptus sp.*	Eucalyptus	A	B
131	*Eucalyptus sp.*	Eucalyptus	A	A
132	*Eucalyptus sp.*	Eucalyptus	A	B
133	*Eucalyptus sp.*	Eucalyptus	A	B
134	*Schinus molle*	Pepper	A	B
135	*Schinus molle*	Pepper	A	A
136	*Schinus molle*	Pepper	A	A
137	*Schinus molle*	Pepper	A	A
138	*Schinus molle*	Pepper	A	A
139	*Schinus molle*	Pepper	A	A
140	*Schinus molle*	Pepper	A	A
141	*Schinus molle*	Pepper	A	A
142	*Schinus molle*	Pepper	A	A
143	*Schinus molle*	Pepper	A	A
144	*Schinus molle*	Pepper	A	A
145	*Schinus molle*	Pepper	A	A
146	*Schinus molle*	Pepper	A	A

Tree ID #	Scientific Name	Common Name	Alive (A) or Dead (D)	Health Assessment Code
147	*Schinus molle*	Pepper	A	A
148	*Schinus molle*	Pepper	A	A
149	*Schinus molle*	Pepper	A	A
150	*Washingtonia sp.*	Palm	A	A
151	*Pinus sp.*	Pine	A	A
152	*Washingtonia sp.*	Palm	A	B
153	*Washingtonia sp.*	Palm	A	B
154	*Washingtonia sp.*	Palm	A	A
155	*Eucalyptus sp.*	Eucalyptus	A	B
156	*Eucalyptus sp.*	Eucalyptus	D	A
157	*Eucalyptus sp.*	Eucalyptus	A	B
158	*Eucalyptus sp.*	Eucalyptus	A	B
159	*Eucalyptus sp.*	Eucalyptus	A	B
160	*Eucalyptus sp.*	Eucalyptus	D	x
161	*Eucalyptus sp.*	Eucalyptus	A	A
162	*Eucalyptus sp.*	Eucalyptus	A	A
163	*Eucalyptus sp.*	Eucalyptus	D	x
164	*Eucalyptus sp.*	Eucalyptus	A	A
165	*Eucalyptus sp.*	Eucalyptus	A	A
166	*Eucalyptus sp.*	Eucalyptus	A	A
167	*Eucalyptus sp.*	Eucalyptus	D	x
168	*Eucalyptus sp.*	Eucalyptus	A	A
169	*Eucalyptus sp.*	Eucalyptus	D	x
170	*Eucalyptus sp.*	Eucalyptus	D	x
171	*Rhus lancea*	African sumac	A	B
172	*Eucalyptus sp.*	Eucalyptus	D	x
173	*Eucalyptus sp.*	Eucalyptus	D	x
174	*Schinus molle*	Pepper	A	A
175	*Schinus molle*	Pepper	A	A
176	*Eucalyptus sp.*	Eucalyptus	A	B
177	*Rhus lancea*	African sumac	A	A

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad is (Camarillo (3411921) or Fillmore (3411848) or Moorpark (3411838) or Newbury Park (3411828) or Piru (3411847) or Santa Paula (3411931) or Santa Paula Peak (3411941) or Simi (3411837) or Thousand Oaks (3411827))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Abrams' oxytheca	PDPGN0J041	None	None	G4?T2	S2	1B.2
Acanthoscyphus parishii var. abramsii						
Agoura Hills dudleya	PDCRA040A7	Threatened	None	G5T1	S2	1B.2
Dudleya cymosa ssp. agourensis						
American badger	AMAJF04010	None	None	G5	S3	SSC
Taxidea taxus						
arroyo chub	AFCJB13120	None	None	G2	S2	SSC
Gila orcuttii						
bank swallow	ABPAU08010	None	Threatened	G5	S2	
Riparia riparia						
Blochman's dudleya	PDCRA04051	None	None	G3T2	S2	1B.1
Dudleya blochmaniae ssp. blochmaniae						
Braunton's milk-vetch	PDFAB0F1G0	Endangered	None	G2	S2	1B.1
Astragalus brauntonii						
burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Athene cunicularia						
California condor	ABNKA03010	Endangered	Endangered	G1	S1	FP
Gymnogyps californianus						
California horned lark	ABPAT02011	None	None	G5T3Q	S3	WL
Eremophila alpestris actia						
California Orcutt grass	PMPOA4G010	Endangered	Endangered	G1	S1	1B.1
Orcuttia californica						
California Walnut Woodland	CTT71210CA	None	None	G2	S2.1	
California Walnut Woodland						
chaparral nolina	PMAGA080E0	None	None	G3	S3	1B.2
Nolina cismontana						
chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
Senecio aphanactis						
coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Phrynosoma blainvillii						
coast patch-nosed snake	ARADB30033	None	None	G5T4	S2S3	SSC
Salvadora hexalepis virgultea						
coastal California gnatcatcher	ABPBJ08081	Threatened	None	G3T2	S2	SSC
Polioptila californica californica						
coastal whiptail	ARACJ02143	None	None	G5T3T4	S2S3	
Aspidoscelis tigris stejnegeri						
conejo buckwheat	PDPGN081G0	None	Rare	G1	S1	1B.2
Eriogonum crocatum						

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Conejo dudleya *Dudleya parva*	PDCRA04016	Threatened	None	G1	S1	1B.2
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	None	G3G4	S1S2	
dune larkspur *Delphinium parryi ssp. blochmaniae*	PDRAN0B1B1	None	None	G4T2	S2	1B.2
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	None	G3	S3	SSC
Gerry's curly-leaved monardella *Monardella sinuata ssp. gerryi*	PDLAM18163	None	None	G3T1	S1	1B.1
golden eagle *Aquila chrysaetos*	ABNKC22010	None	None	G5	S3	FP
Greata's aster *Symphyotrichum greatae*	PDASTE80U0	None	None	G3	S3	1B.3
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G5	S4	
late-flowered mariposa-lily *Calochortus fimbriatus*	PMLIL0D1J2	None	None	G3	S3	1B.2
least Bell's vireo *Vireo bellii pusillus*	ABPBW01114	Endangered	Endangered	G5T2	S2	
Lyon's pentachaeta *Pentachaeta lyonii*	PDAST6X060	Endangered	Endangered	G1	S1	1B.1
marcescent dudleya *Dudleya cymosa ssp. marcescens*	PDCRA040A3	Threatened	Rare	G5T2	S2	1B.2
mesa horkelia *Horkelia cuneata var. puberula*	PDROS0W045	None	None	G4T1	S1	1B.1
Ojai fritillary *Fritillaria ojaiensis*	PMLIL0V0N0	None	None	G2?	S2?	1B.2
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G5	S3	SSC
Plummer's mariposa-lily *Calochortus plummerae*	PMLIL0D150	None	None	G4	S4	4.2
Riverside fairy shrimp *Streptocephalus woottoni*	ICBRA07010	Endangered	None	G1G2	S1S2	
Ross' pitcher sage *Lepechinia rossii*	PDLAM0V060	None	None	G1	S1	1B.2
round-leaved filaree *California macrophylla*	PDGER01070	None	None	G3?	S3?	1B.2
San Diego desert woodrat *Neotoma lepida intermedia*	AMAFF08041	None	None	G5T3T4	S3S4	SSC
Santa Ana sucker *Catostomus santaanae*	AFCJC02190	Threatened	None	G1	S1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Santa Monica grasshopper *Trimerotropis occidentiloides*	IIORT36300	None	None	G1G2	S1S2	
Santa Susana tarplant *Deinandra minthornii*	PDAST4R0J0	None	Rare	G2	S2	1B.2
silvery legless lizard *Anniella pulchra pulchra*	ARACC01012	None	None	G3G4T3T4Q	S3	SSC
south coast garter snake *Thamnophis sirtalis ssp.*	ARADB3613F	None	None	G5T1T2	S1S2	SSC
southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	ABPBX91091	None	None	G5T3	S2S3	WL
Southern Coast Live Oak Riparian Forest *Southern Coast Live Oak Riparian Forest*	CTT61310CA	None	None	G4	S4	
Southern Cottonwood Willow Riparian Forest *Southern Cottonwood Willow Riparian Forest*	CTT61330CA	None	None	G3	S3.2	
Southern Mixed Riparian Forest *Southern Mixed Riparian Forest*	CTT61340CA	None	None	G2	S2.1	
Southern Riparian Forest *Southern Riparian Forest*	CTT61300CA	None	None	G4	S4	
Southern Riparian Scrub *Southern Riparian Scrub*	CTT63300CA	None	None	G3	S3.2	
Southern Sycamore Alder Riparian Woodland *Southern Sycamore Alder Riparian Woodland*	CTT62400CA	None	None	G4	S4	
southern tarplant *Centromadia parryi ssp. australis*	PDAST4R0P4	None	None	G3T2	S2	1B.1
Southern Willow Scrub *Southern Willow Scrub*	CTT63320CA	None	None	G3	S2.1	
southwestern willow flycatcher *Empidonax traillii extimus*	ABPAE33043	Endangered	Endangered	G5T2	S1	
steelhead - southern California DPS *Oncorhynchus mykiss irideus*	AFCHA0209J	Endangered	None	G5T1Q	S1	
two-striped garter snake *Thamnophis hammondii*	ARADB36160	None	None	G4	S3S4	SSC
umbrella larkspur *Delphinium umbraculorum*	PDRAN0B1W0	None	None	G3	S3	1B.3
unarmored threespine stickleback *Gasterosteus aculeatus williamsoni*	AFCPA03011	Endangered	Endangered	G5T1	S1	FP
Valley Needlegrass Grassland *Valley Needlegrass Grassland*	CTT42110CA	None	None	G3	S3.1	
Valley Oak Woodland *Valley Oak Woodland*	CTT71130CA	None	None	G3	S2.1	
Verity's dudleya *Dudleya verityi*	PDCRA040U0	Threatened	None	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Walnut Forest *Walnut Forest*	CTT81600CA	None	None	G1	S1.1	
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G5T4	S3S4	SSC
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western small-footed myotis *Myotis ciliolabrum*	AMACC01140	None	None	G5	S3	
western spadefoot *Spea hammondii*	AAABF02020	None	None	G3	S3	SSC
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
white-tailed kite *Elanus leucurus*	ABNKC06010	None	None	G5	S3S4	FP
white-veined monardella *Monardella hypoleuca ssp. hypoleuca*	PDLAM180A3	None	None	G4T2T3	S2S3	1B.3
woven-spored lichen *Texosporium sancti-jacobi*	NLTEST7980	None	None	G3	S1	3

Record Count: 70

Multiple Occurrences per Page

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad is (Camarillo (3411921) or Fillmore (3411848) or Moorpark (3411838) or Newbury Park (3411828) or Piru (3411847) or Santa Paula (3411931) or Santa Paula Peak (3411941) or Simi (3411837) or Thousand Oaks (3411827))

Spea hammondii **Element Code:** AAABF02020

western spadefoot

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened			
Habitat:	**General:**	OCCURS PRIMARILY IN GRASSLAND HABITATS, BUT CAN BE FOUND IN VALLEY-FOOTHILL HARDWOOD WOODLANDS.			
	Micro:	VERNAL POOLS ARE ESSENTIAL FOR BREEDING AND EGG-LAYING.			

Occurrence No.	290	**Map Index:**	55430	**EO Index:**	55430	**Element Last Seen:**	2004-04-29
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-04-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2004-05-11

Quad Summary: Moorpark (3411838)

County Summary: Ventura

Lat/Long:	34.33618 / -118.87951	**Accuracy:**	80 meters
UTM:	Zone-11 N3801032 E327106	**Elevation (ft):**	1500
PLSS:	T03N, R19W, Sec. 16 (S)	**Acres:**	0.0

Location: ALONG ROSELAND AVENUE, WEST OF HAPPY CAMP CANYON REGIONAL PARK, NORTH OF MOORPARK.

Detailed Location:

Ecological: HABITAT CONSISTS OF A MAN-MADE BASIN WHICH CREATED A POND WITH A HEAVY SILT/CLAY STRUCTURE. DRYING SEDIMENT CREATES LARGE CRACKS WHERE JUVENILE TOADS CAN BE FOUND.

General: 100'S OF TADPOLES OBSERVED ON 29 APR 2004.

Owner/Manager: PVT

Occurrence No.	332	**Map Index:**	63622	**EO Index:**	63717	**Element Last Seen:**	2000-03-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-03-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-01-09

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.30408 / -118.77622	**Accuracy:**	specific area
UTM:	Zone-11 N3797301 E336546	**Elevation (ft):**	1055
PLSS:	T03N, R18W, Sec. 33 (S)	**Acres:**	3.1

Location: ABOUT 2.25 MILES NE OF THE INTERSECTION OF BREA CANYON ROAD AND HIGHWAY 118, SIMI VALLEY.

Detailed Location:

Ecological: HABITAT CONSISTS OF A CATTLE POND WITHIN A GRAZED AREA DOMINATED BY ANNUAL GRASSLAND TUCKED AGAINST BASE OF FOOTHILLS DOMINATED BY COASTAL SAGE SCRUB.

General: 100'S OF TADPOLES OBSERVED DURING MAR 2000.

Owner/Manager: PVT-UNOCAL

Occurrence No.	334	**Map Index:** 63638	**EO Index:**	63733	**Element Last Seen:**	2003-04-22
Occ. Rank:	Excellent		**Presence:**	Presumed Extant	**Site Last Seen:**	2003-04-22
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2006-01-10

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.30090 / -118.82267	**Accuracy:**	specific area
UTM:	Zone-11 N3797024 E332265	**Elevation (ft):**	935
PLSS:	T03N, R19W, Sec. 36 (S)	**Acres:**	2.3

Location: ABOUT 1.1 MILES NW OF THE INTERSECTION OF ALAMOS CANYON ROAD AND HIGHWAY 118, SIMI VALLEY.

Detailed Location: SITE IS LOCATED ON OPEN SPACE; MOORPARK COLLEGE IS LOCATED IMMEDIATELY TO THE SW.

Ecological: HABITAT CONSISTS OF A VERNAL POOL SURROUNDED BY OPEN, NATIVE AND ANNUAL GRASSLAND ON A GENTLY SLOPING, BROAD RIDGE.

General: 100'S OF POST-METAMORPHIC JUVENILES OBSERVED ON 22 APR 2003.

Owner/Manager: PVT-UNOCAL

Rana boylii

Element Code: AAABH01050

foothill yellow-legged frog

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive			
Habitat:	**General:**	PARTLY-SHADED, SHALLOW STREAMS & RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.			
	Micro:	NEED AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEED AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.			

Occurrence No.	812	**Map Index:** 78717	**EO Index:**	79662	**Element Last Seen:**	1940-05-23
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	1940-05-23
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2010-04-27

Quad Summary: Piru (3411847), Cobblestone Mtn. (3411857)

County Summary: Ventura

Lat/Long:	34.49162 / -118.83146	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3818190 E331838	**Elevation (ft):**	2130
PLSS:	T05N, R19W, Sec. 25 (S)	**Acres:**	113.0

Location: 1.2 AIR MI STRETCH OF CREEK IN HOPPER CYN FROM 2.1 MI ENE TO 2.5 MI NE OF HOPPER MOUNTAIN, ABOUT 4 MI W OF LAKE PIRU.

Detailed Location: LOCATION STATED AS "HOPPER CR., 2 MI NE HOPPER MT.".

Ecological:

General: 11 ADULT/JUVENILES (MVZ #33664-33673; 54519) COLLECTED ON 23 MAY 1940.

Owner/Manager: USFS-LOS PADRES NF

Occurrence No.	813	**Map Index:**	78733	**EO Index:**	79673	**Element Last Seen:**	1962-06-13
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1962-06-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-04-30

Quad Summary:	Santa Paula Peak (3411941)
County Summary:	Ventura

Lat/Long:	34.44921 / -119.05656	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3813884 E311071	**Elevation (ft):**	1620
PLSS:	T04N, R21W, Sec. 11 (S)	**Acres:**	621.0

Location:	SANTA PAULA CANYON, ABOUT 1 MILE WEST AND 1 MILE NORTH OF JUNCTION WITH EAST FORK, ABOUT 10 MILES DIRECTLY EAST OF OJAI.
Detailed Location:	LOCATIONS STATED AS "SANTA PAULA CANYON, NEAR E FORK" AND "SANTA PAULA CANYON".
Ecological:	
General:	MVZ #42611 COLLECTED ON 25 MAR 1946 BY CARL KOFORD. ASUHERPS #4431-4434 COLLECTED ON 13 JUN 1962 BY A. E. DAMMANN.
Owner/Manager:	USFS-LOS PADRES NF, UNKNOWN

Occurrence No.	817	**Map Index:**	78757	**EO Index:**	79699	**Element Last Seen:**	1921-05-15
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1921-05-15
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-04-29

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.44375 / -118.92146	**Accuracy:**	4/5 mile
UTM:	Zone-11 N3813035 E323473	**Elevation (ft):**	650
PLSS:	T04N, R20W, Sec. 12 (S)	**Acres:**	0.0

Location:	3 MILES NORTH ALONG GOODENOUGH ROAD FROM UNION HIGH SCHOOL, 3 MILES NORTH OF NORTH FILLMORE.
Detailed Location:	LOCATIONS STATED AS "3 MI N OF FILLMORE". LOCATION MAPPED IN AREA OF UNNAMED CREEK (SOUTH OF OAT MOUNTAIN) AND GOODENOUGH ROAD.
Ecological:	
General:	2 JUVENILES AND 1 ADULT (CAS #50470-50472) COLLECTED ON 15 MAY 1921. SPECIMENS COLLECTED BY G. D. HANNA.
Owner/Manager:	UNKNOWN

Gymnogyps californianus

Element Code: ABNKA03010

California condor

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G1
	State:	Endangered		**State:**	S1
	Other:	CDF_S-Sensitive, CDFW_FP-Fully Protected, IUCN_CR-Critically Endangered, NABCI_RWL-Red Watch List			
Habitat:	**General:**	REQUIRE VAST EXPANSES OF OPEN SAVANNAH, GRASSLANDS, AND FOOTHILL CHAPARRAL IN MOUNTAIN RANGES OF MODERATE ALTITUDE.			
	Micro:	DEEP CANYONS CONTAINING CLEFTS IN THE ROCKY WALLS PROVIDE NESTING SITES. FORAGES UP TO 100 MILES FROM ROOST/NEST.			

Occurrence No.	1	**Map Index:** 00018	**EO Index:** 14756	**Element Last Seen:**	1976-12-21
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1976-12-21
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	1989-08-10

Quad Summary: Piru (3411847), Fillmore (3411848), Cobblestone Mtn. (3411857), Devils Heart Peak (3411858), Black Mtn. (3411867), Alamo Mountain (3411868), Santa Paula Peak (3411941), Topatopa Mountains (3411951), Lion Canyon (3411952), Wheeler Springs (3411953), Lockwood Valley (3411961), San Guillermo (3411962), Reyes Peak (3411963)

County Summary: Los Angeles, Ventura

Lat/Long:	34.55437 / -119.03678	**Accuracy:**	specific area
UTM:	Zone-11 N3825510 E313124	**Elevation (ft):**	2900
PLSS:	T05N, R21W, Sec. 01 (S)	**Acres:**	181581.4

Location: SESPE-PIRU CONDOR AREA.

Detailed Location:

Ecological:

General: YEAR-LONG USE; NESTING AND ROOSTING.

Owner/Manager: USFS-LOS PADRES NF, PVT

Elanus leucurus

Element Code: ABNKC06010

white-tailed kite

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S3S4
	Other:	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern			
Habitat:	**General:**	ROLLING FOOTHILLS AND VALLEY MARGINS WITH SCATTERED OAKS & RIVER BOTTOMLANDS OR MARSHES NEXT TO DECIDUOUS WOODLAND.			
	Micro:	OPEN GRASSLANDS, MEADOWS, OR MARSHES FOR FORAGING CLOSE TO ISOLATED, DENSE-TOPPED TREES FOR NESTING AND PERCHING.			

Occurrence No.	60	**Map Index:**	47309	**EO Index:**	47309	**Element Last Seen:**	2001-XX-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2001-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2002-02-28

Quad Summary:	Santa Paula (3411931)
County Summary:	Ventura

Lat/Long:	34.35878 / -119.00824	**Accuracy:**	80 meters
UTM:	Zone-11 N3803765 E315312	**Elevation (ft):**	300
PLSS:	T03N, R20W, Sec. 07 (S)	**Acres:**	0.0

Location:	ALONG THE SOUTH SIDE OF THE SANTA CLARA RIVER, 0.7 MILE NW OF THE MOUTH OF LOFTUS CANYON, EAST OF SANTA PAULA.
Detailed Location:	THERE MAY POSSIBLY BE TWO BREEDING PAIRS IN THE VICINITY, BUT A SECOND NEST WAS NOT FOUND.
Ecological:	SITE IS SURROUNDED BY CITRUS GROVES.
General:	2 ADULTS OBSERVED NESTING DURING 2001. PROPERTY IS IN THE PROCESS OF BEING TURNED OVER TO THE FRIENDS OF THE SANTA CLARA RIVER, VIA THE COASTAL CONSERVANCY.
Owner/Manager:	PVT-VALLEY VIEW RANCH

Occurrence No.	157	**Map Index:**	78447	**EO Index:**	79370	**Element Last Seen:**	2009-08-11
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-08-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-03-29

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.16500 / -119.04723	**Accuracy:**	80 meters
UTM:	Zone-11 N3782345 E311294	**Elevation (ft):**	42
PLSS:	T01N, R21W, Sec. 14 (S)	**Acres:**	0.0

Location:	"LONG GRADE CYN CRK," 88 YARDS W OF VENTURA ST AT SANTA BARBARA AVE, & 0.5 MI ENE OF ROUND MTN, CSU CHANNEL ISLANDS.
Detailed Location:	NEST IN ORNAMENTAL TREE ADJACENT TO CREEK. MAPPED TO PROVIDED COORDINATES.
Ecological:	GENERAL HABITAT CONSISTED OF WILLOW/MULE FAT SCRUB WITH INTERMIXED ORNAMENTAL TREES AND RUDERAL PLANT SPECIES. DOMINATED BY SALIX LASIOLEPIS AND BACCHARIS SALICIFOLIA. SURROUNDED BY CAMPUS TO SOUTH AND FALLOW AGRICULTURAL FIELD TO NORTH.
General:	OBSERVED ADULT AGGRESSION/TERRITORIALITY WITH OTHER RAPTORS, CALLING, HUNTING, & PERCHING THROUGHOUT LBVI SURVEYS FROM 22 MAY - 11 AUG 2009. FIVE JUVENILES OBSERVED ON 27 JUL 2009 (1-2 MAY HAVE BEEN FROM A DIFFERENT NEST).
Owner/Manager:	CSU-CHANNEL ISLANDS

Occurrence No.	160	**Map Index:**	84782	**EO Index:**	85815	**Element Last Seen:**	2009-06-12
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-06-12
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-01-18

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.39109 / -118.90237	**Accuracy:**	2/5 mile
UTM:	Zone-11 N3807161 E325117	**Elevation (ft):**	440
PLSS:	T04N, R19W, Sec. 32 (S)	**Acres:**	0.0

Location: NEAR THE CONFLUENCE OF POLE CREEK INTO THE SANTA CLARA RIVER, ABOUT 1 MILE ESE OF A ST AT W VENTURA ST, FILLMORE.

Detailed Location: NATURE PARK AT HERITAGE VALLEY PARKS HOUSING DEVELOPMENT. MAPPED TO GENERAL AREA OF PROPOSED LOCATION FOR NATURE PARK.

Ecological: GENERAL AREA DESCRIBED AS ABANDONED AGRICULTURE, BARE GROUND, FLOODPLAIN SCRUB, AND RIPARIAN SCRUB.

General: INDIVIDUAL BIRDS WERE OBSERVED ON 2, 4, & 24 DEC 2008. 2 ADULTS AND 3 JUVENILES WERE OBSERVED ON 12 JUN 2009 IN NATURE PARK; EXACT NEST LOCATION UNKNOWN, BUT AREA APPEARS TO BE APPROPRIATE FOR FORAGING AND NESTING KITES.

Owner/Manager: PVT, UNKNOWN

Occurrence No.	161	**Map Index:**	89896	**EO Index:**	90915	**Element Last Seen:**	2011-04-01
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-04-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-08-06

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.29057 / -118.84193	**Accuracy:**	80 meters
UTM:	Zone-11 N3795910 E330471	**Elevation (ft):**	600
PLSS:	T02N, R19W, Sec. 02 (S)	**Acres:**	0.0

Location: ALONG ARROYO SIMI JUST SOUTH OF COLLINS DR AT HWY 118, ABOUT 2 MILES ENE OF THE CITY OF MOORPARK.

Detailed Location: MAPPED TO PROVIDED COORDINATES.

Ecological:

General: A PAIR OF WHITE-TAILED KITES WERE OBSERVED NESTING NEAR ARROYO SIMI IN SUMMER 2011; LAST DATE OBSERVED AND NEST FATE UNKNOWN. IT APPEARS THAT THIS OBSERVATION WAS REPORTED TO J. HUMBLE (CDFW) BY C. HUNTLEY (ASPEN BIOLOGY).

Owner/Manager: UNKNOWN

Aquila chrysaetos

Element Code: ABNKC22010

golden eagle

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S3
	Other:	BLM_S-Sensitive, CDF_S-Sensitive, CDFW_FP-Fully Protected, CDFW_WL-Watch List, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern			
Habitat:	**General:**	ROLLING FOOTHILLS, MOUNTAIN AREAS, SAGE-JUNIPER FLATS, & DESERT.			
	Micro:	CLIFF-WALLED CANYONS PROVIDE NESTING HABITAT IN MOST PARTS OF RANGE; ALSO, LARGE TREES IN OPEN AREAS.			

Occurrence No.	75	**Map Index:**	47921	**EO Index:**	47921	**Element Last Seen:**	1989-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1989-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2002-05-16

Quad Summary: Calabasas (3411826), Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.18440 / -118.74492	**Accuracy:**	1 mile
UTM:	Zone-11 N3783978 E339200	**Elevation (ft):**	1600
PLSS:	T01N, R18W, Sec. 11 (S)	**Acres:**	0.0

Location: PALO COMADO CANYON, SANTA MONICA MOUNTAINS.

Detailed Location: SITE DESCRIBED AS PALO COMADO CANYON WITH NO FURTHER INFORMATION GIVEN. SITE NAME: CHEESEBORO.

Ecological:

General: 1981-1984: ADULTS PRESENT BUT NESTS UNDETECTED. 1985: NEST FAILED. 1986: 1 YOUNG IN NEST. 1987: ADULTS PRESENT BUT NEST UNDETECTED. 1988: NEST OCCUPIED BUT STATUS UNKNOWN. 1989: NEST FAILED.

Owner/Manager: NPS-SANTA MONICA MOUNTAINS NRA

Occurrence No.	76	**Map Index:**	47922	**EO Index:**	47922	**Element Last Seen:**	1989-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1989-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2002-05-16

Quad Summary: Point Dume (3411817), Thousand Oaks (3411827)

County Summary: Los Angeles

Lat/Long:	34.11755 / -118.81256	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3776673 E332834	**Elevation (ft):**	1300
PLSS:	T01S, R18W, Sec. 06 (S)	**Acres:**	1216.3

Location: LOBO CANYON, SANTA MONICA MOUNTAINS.

Detailed Location: SITE DESCRIBED AS LOBO CANYON WITH NO FURTHER INFORMATION GIVEN. SITE NAME: LOBO CANYON.

Ecological:

General: 1980 & 1981: 1 YOUNG IN NEST. 1982: 2 YOUNG IN NEST. 1983-86: 1 YOUNG IN NEST. 1987: NEST FAILED. 1988: 1 YOUNG IN NEST. 1989: NEST FAILED.

Owner/Manager: NPS-SANTA MONICA MOUNTAINS NRA

Occurrence No.	77	**Map Index:**	47923	**EO Index:**	47923	**Element Last Seen:**	1989-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1989-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2002-05-16

Quad Summary: Triunfo Pass (3411818), Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.11894 / -118.94531	**Accuracy:**	1 mile
UTM:	Zone-11 N3777052 E320592	**Elevation (ft):**	2700
PLSS:	T01N, R20W, Sec. 35 (S)	**Acres:**	0.0

Location: BONEY MOUNTAIN, SANTA MONICA MOUNTAINS.

Detailed Location: SITE DESCRIBED AS BONEY MOUNTAIN WITH NO FURTHER INFORMATION GIVEN. SITE NAME: BONEY MOUNTAIN.

Ecological:

General: 1981: 1 YOUNG IN NEST. 1982: 2 YOUNG IN NEST. 1983-87: NESTS FAILED. 1988: 1 YOUNG IN NEST. 1989: NEST FAILED.

Owner/Manager: NPS-SANTA MONICA MOUNTAINS NRA

Coccyzus americanus occidentalis

Element Code: ABNRB02022

western yellow-billed cuckoo

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G5T2T3
	State:	Endangered		**State:**	S1
	Other:	BLM_S-Sensitive, NABCI_RWL-Red Watch List, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern			
Habitat:	**General:**	RIPARIAN FOREST NESTER, ALONG THE BROAD, LOWER FLOOD-BOTTOMS OF LARGER RIVER SYSTEMS.			
	Micro:	NESTS IN RIPARIAN JUNGLES OF WILLOW, OFTEN MIXED WITH COTTONWOODS, W/ LOWER STORY OF BLACKBERRY, NETTLES, OR WILD GRAPE.			

Occurrence No.	70	**Map Index:**	84210	**EO Index:**	5480	**Element Last Seen:**	1904-06-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1977-07-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2011-11-08

Quad Summary: Santa Paula (3411931)

County Summary: Ventura

Lat/Long:	34.34514 / -119.06198	**Accuracy:**	1 mile
UTM:	Zone-11 N3802351 E310338	**Elevation (ft):**	250
PLSS:	T03N, R21W, Sec. 15 (S)	**Acres:**	0.0

Location: SANTA CLARA RIVER AT SANTA PAULA.

Detailed Location:

Ecological: HABITAT WAS SOUTHERN RIPARIAN SCRUB. SOME HABITAT STILL SUITABLE ACCORDING TO GAINES, 1977. LITTLE DIFFERENCE BETWEEN 1994 & 2010 AIR PHOTOS; SOME POTENTIAL HABITAT MAY REMAIN IN THE RIVER BOTTOM, BUT UPLANDS EITHER AG OR DEVELOPED.

General: NEST WITH 2 EGGS FOUND BY H.C. BURT NEAR SANTA PAULA DURING JUN 1904 (WIL12). SITE SURVEYED 22 JUL 1977 BY GAINES BUT NO BIRDS WERE DETECTED.

Owner/Manager: TNC, CITY OF SANTA PAULA

Occurrence No.	170	**Map Index:**	52109	**EO Index:**	52109	**Element Last Seen:**	1924-07-16
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1924-07-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-05-28

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.40223 / -118.94075	**Accuracy:**	3/5 mile
UTM:	Zone-11 N3808463 E321612	**Elevation (ft):**	400
PLSS:	T04N, R20W, Sec. 26 (S)	**Acres:**	0.0

Location: ALONG SESPE CREEK, WEST OF FILLMORE.

Detailed Location: LOCATION GIVEN AS "2 MILES WEST OF FILLMORE." THIS WOULD PUT THE LOCATION IN THE VICINITY OF SESPE CREEK.

Ecological: ORIGINAL COLLECTION CARD READS, "NEST OF DRY WILLOW TWIGS AND WILLOW LEAVES PLACED 18 FEET FROM THE GROUND ON THE LIMB OF A SMALL WILLOW TREE IN THICK WILLOW SWAMP."

General: 1 EGG COLLECTED 16 JUL 1924 BY L. PEYTON.

Owner/Manager: UNKNOWN

Athene cunicularia

Element Code: ABNSB10010

burrowing owl

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G4
	State:	None		**State:**	S3
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern			
Habitat:	**General:**				

OPEN, DRY ANNUAL OR PERENNIAL GRASSLANDS, DESERTS & SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.

Micro: SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Occurrence No.	85	**Map Index:** 17045	**EO Index:**	9848	**Element Last Seen:** 1990-03-27
Occ. Rank:	Fair		**Presence:**	Presumed Extant	**Site Last Seen:** 1990-03-27
Occ. Type:	Natural/Native occurrence		**Trend:**	Stable	**Record Last Updated:** 1992-01-28

Quad Summary: Santa Susana (3411836), Simi (3411837)

County Summary: Ventura

Lat/Long:	34.31262 / -118.73681	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3798185 E340190	**Elevation (ft):**	1300
PLSS:	T03N, R18W, Sec. 26 (S)	**Acres:**	512.6

Location: UPPER DRY CANYON, APPROX 2 MI N OF SIMI VALLEY, S OF BIG MOUNTAIN.

Detailed Location:

Ecological: ANNUAL GRASSLAND WITH SPARSE COASTAL SAGE SCRUB; DIVERSE TOPOGRAPHY. ABUNDANT GROUND SQUIRREL BURROWS AVAILABLE.

General: OBSERVED IN LOW SLOPES AT THE BASE OF BIG MOUNTAIN. AREA IS VERY SCENIC; USED AS A MOVIE SET AND AS A BACKDROP.

Owner/Manager: PVT-MARUFUJI AMERICA

Occurrence No.	796	**Map Index:** 64646	**EO Index:**	64725	**Element Last Seen:** 2006-03-05
Occ. Rank:	Good		**Presence:**	Presumed Extant	**Site Last Seen:** 2006-03-05
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 2006-05-09

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.36153 / -118.79832	**Accuracy:**	80 meters
UTM:	Zone-11 N3803708 E334625	**Elevation (ft):**	2410
PLSS:	T03N, R18W, Sec. 07 (S)	**Acres:**	0.0

Location: OAK RIDGE, ABOUT 6 MILES NORTH OF SIMI VALLEY.

Detailed Location:

Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB, DOMINATED BY ARTEMISIA CALIFORNICA, SALVIA LEUCOPHYLLA, SALVIA MELLIFERA, ERIOGONUM FASCICULATUM, YUCCA WHIPPLEI, AND ADENOSTOMA FASCICULATUM.

General: 1 ADULT OBSERVED USING A ROAD CULVERT AS A BURROW SITE ON 5 MAR 2006.

Owner/Manager: PVT

Occurrence No.	1060	**Map Index:**	71354	**EO Index:**	72258	**Element Last Seen:**	2008-03-12
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-03-12
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-05-21

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.38526 / -118.81833	**Accuracy:**	80 meters
UTM:	Zone-11 N3806373 E332832	**Elevation (ft):**	600
PLSS:	T04N, R19W, Sec. 36 (S)	**Acres:**	0.0

Location:	SOUTH SIDE OF SANTA CLARA RIVER, ABOUT 1 MI S OF BUCKHORN.
Detailed Location:	
Ecological:	HABITAT IS ALLUVIAL SAGE SCRUB, LOCATED ON THE NORTH SIDE OF A TERRACE. ABOUT 200 METERS FROM THE SANTA CLARA RIVER. OPEN SPACE SURROUNDS THE BURROW AND EXTENDS TO THE RIVER.
General:	1 OWL OBSERVED PERCHED NEAR THE OPENING OF A LARGE BURROW, THEN FLEW OFF. THE BURROW WAS LARGE ENOUGH TO BE USED BY A BADGER. NO SIGNS OF SCAT WERE VISIBLE AT THE OPENING. AGRICULTURE AND NURSERY ACTIVITIES ADJACENT TO THE BURROW.
Owner/Manager:	UNKNOWN

Occurrence No.	1197	**Map Index:**	71898	**EO Index:**	72767	**Element Last Seen:**	2007-03-05
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-03-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-08-11

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.39723 / -118.79478	**Accuracy:**	80 meters
UTM:	Zone-11 N3807662 E335021	**Elevation (ft):**	640
PLSS:	T04N, R18W, Sec. 29 (S)	**Acres:**	0.0

Location:	BANK OF THE SANTA CLARA RIVER, 0.30 MI SE OF THE JUNCTION OF HOWE RD & TORREY RD, PIRU.
Detailed Location:	
Ecological:	HABITAT IS MOSTLY UNVEGETATED SANDY WASH AREA WITH SPARSE MULEFAT AND SOME INVASIVES. WATER PRESENT ONLY DURING AND AFTER RAIN EVENTS. SURROUNDING AREA IS AN OLD DUMP SITE GRADED INTO A PAD AREA FOR DEBRIS DISPOSAL BY THE COUNTY.
General:	1 OWL WAS SEEN UTILIZING THE SANTA CLARA RIVERBED AND THE DEGRADED RIPRAP AREA AT THE EXISTING LEVEE. AGRICULTURE, DEBRIS DISPOSAL AND NURSERY ACTIVITIES ADJACENT TO THE SITE.
Owner/Manager:	VEN COUNTY

Occurrence No.	1273	**Map Index:**	79016	**EO Index:**	79974	**Element Last Seen:**	2009-03-15
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-03-15
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-06-07

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.21210 / -119.09701	**Accuracy:**	80 meters
UTM:	Zone-11 N3787662 E306811	**Elevation (ft):**	60
PLSS:	T02N, R21W, Sec. 33 (S)	**Acres:**	0.0

Location:	SOUTH OF RUNWAY & NORTH OF SERVICE ROAD, 0.5 MI N OF PLEASEANT VALLEY RD AT WOOD RD, CAMARILLO AIRPORT.
Detailed Location:	MAPPED TO COORDINATES.
Ecological:	FOUND SOUTH OF THE AIRPORT TARMAC. NUMEROUS SQUIRREL BURROWS IN THE AREA. RUDERAL WEED SPECIES THAT ARE MAINTAINED (MOWED) TO A HEIGHT OF 6 INCHES. SURROUNDING LAND COMPRISED OF AGRICULTURE, INDUSTRIAL, AND AN AIRPORT.
General:	1 OBSERVED AT A BURROW BY AIRPORT MAINTENANCE STAFF WHILE MOWING ON 15 MAR 2009. OWL WAS OBSERVED GOING INTO BURROW WHILE MOWER PASSED OVER, AND THEN RE-SURFACED ONCE MOWER PAST.
Owner/Manager:	VEN COUNTY-CAMARILLO AIRPORT

Occurrence No.	1274	**Map Index:**	79018	**EO Index:**	79976	**Element Last Seen:**	2009-01-14
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-01-14
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-06-17

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.21578 / -119.10137	**Accuracy:**	80 meters
UTM:	Zone-11 N3788079 E306418	**Elevation (ft):**	60
PLSS:	T02N, R21W, Sec. 32 (S)	**Acres:**	0.0

Location:	ALONG FENCE LINE 0.8 MI NNW OF PLEASANT VALLEY RD AT WOOD RD, JUST N OF RUNWAY, CAMARILLO AIRPORT.
Detailed Location:	MAPPED TO COORDINATES.
Ecological:	COOPERS HAWK OBSERVED IN VICINITY IN NOV AND DEC 2008. SURROUNDING LAND COMPRISED OF AGRICULTURE, INDUSTRIAL, AND AN AIRPORT.
General:	1 INDIVIDUAL, PROBABLY OVER-WINTERING, OBSERVED ON 14 JAN 2009. PROBABLY THE SAME INDIVIDUAL WAS OBSERVED LATER NEAR THE WEST END OF THE RUNWAY (OCCURRENCE #1275).
Owner/Manager:	VEN COUNTY-CAMARILLO AIRPORT

Occurrence No.	1275	**Map Index:**	79022	**EO Index:**	79980	**Element Last Seen:**	2009-02-24
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-02-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-06-07

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.21408 / -119.10768	**Accuracy:**	specific area
UTM:	Zone-11 N3787902 E305833	**Elevation (ft):**	60
PLSS:	T02N, R21W, Sec. 32 (S)	**Acres:**	7.0

Location:	1 MILE NW OF PLEASANT VALLEY RD AT WOOD RD, W END OF RUNWAY, CAMARILLO AIRPORT.
Detailed Location:	CENTER OF SECTION 32. MAPPED TO COORDINATES.
Ecological:	HORNED LARKS ALSO OBSERVED FORAGING IN VICINITY. NUMEROUS GROUND SQUIRREL BURROWS IN AREA. SURROUNDING LAND COMPRISED OF AGRICULTURE, INDUSTRIAL, AND AN AIRPORT.
General:	1 INDIVIDUAL OBSERVED AT BURROW ON 13 FEB AND ANOTHER (PROBABLY THE SAME INDIVIDUAL), OBSERVED ON 24 FEB, 2009.
Owner/Manager:	VEN COUNTY-CAMARILLO AIRPORT

Occurrence No.	1276	**Map Index:**	79066	**EO Index:**	80024	**Element Last Seen:**	2010-02-XX
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-02-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-06-14

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.39337 / -118.90145	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3807412 E325207	**Elevation (ft):**	440
PLSS:	T04N, R19W, Sec. 32 (S)	**Acres:**	95.0

Location:	VICINITY OF KELLOGG STREET AND POLE CREEK BETWEEN W VENTURA STREET (HWY 126) SOUTH TO SANTA CLARA RIVER, FILLMORE.
Detailed Location:	FOUR CORNERS OF T04N R19W SECTIONS 29, 30, 31, & 32. MAPPED TO GENERAL MAP.
Ecological:	"OPEN ABANDONED AGRICULTURAL FIELDS W/ WEEDS, BARE GROUND, FLOODPLAIN SCRUB, RIPARIAN SCRUB." ARUNDO DONAX OCCUPIES PART OF THE SITE - REMOVAL PROGRAM IN PROGRESS. EARTHEN POLE CREEK LEVEE IS 8 -10-FT HIGH W/ GROUND SQUIRREL BURROWS."
General:	1 OBSERVED DURING WINTER 2006-07, W SIDE POLE CRK. 3 OBSERVED DURING WINTER 2007-08 AND 2-3 OBSERVED DURING WINTER 2008-09, E SIDE POLE CRK. 3 OBSERVED DURING WINTER 2009-10 AT THE NORTHERN AND SOUTHERN ENDS OF OCCURRENCE ALONG POLE CRK.
Owner/Manager:	PVT

Occurrence No.	1277	**Map Index:**	79069	**EO Index:**	80029	**Element Last Seen:**	2007-XX-XX
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-06-14

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.39370 / -118.91041	**Accuracy:**	1/10 mile
UTM:	Zone-11 N3807465 E324383	**Elevation (ft):**	430
PLSS:	T04N, R19W, Sec. 30 (S)	**Acres:**	0.0

Location:	ABOUT 260 METERS SE OF RIVER ST AT CENTRAL AVE, BETWEEN W VENTURA STREET (HWY 126) & SANTA CLARA RIVER, FILLMORE.
Detailed Location:	MAPPED TO GENERAL MAP.
Ecological:	"HABITAT IS FLOODPLAIN SCRUB WITH PATCHES OF RIPARIAN SCRUB. STANDS OF ARUNDO DONAX OCCUPY PORTIONS OF THE SITE - REMOVAL PROGRAM IN PROGRESS."
General:	1 OBSERVED DURING WINTER 2006-07.
Owner/Manager:	PVT

Occurrence No.	1614	**Map Index:**	81069	**EO Index:**	82050	**Element Last Seen:**	2010-04-08
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-04-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-12-30

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.12750 / -119.10306	**Accuracy:**	80 meters
UTM:	Zone-11 N3778290 E306060	**Elevation (ft):**	12
PLSS:	T01N, R21W, Sec. 32 (S)	**Acres:**	0.0

Location:	WEST NORTHWEST OF THE INTERSECTION OF N 3RD ST AND F AVE, POINT MUGU NAVAL AIR STATION.
Detailed Location:	MAPPED TO PROVIDED COORDINATES.
Ecological:	ON ABANDONED GOLF COURSE ADJACENT TO AIRSTRIP. HABITAT CONSISTED OF A "MIXTURE OF ANNUAL WEEDS, SOME COASTAL SCRUB, AND ORNAMENTAL TREES FROM GOLF COURSE."
General:	ONE DETECTED ON 8 APR 2010. UNCLEAR IF OVERWINTERING, MIGRATING, OR POTENTIALLY NESTING, OR IF THERE WERE ASSOCIATED BURROWS AT SITE. MORE INFORMATION NEEDED.
Owner/Manager:	DOD-POINT MUGU NAS

Occurrence No.	1881	**Map Index:**	88265	**EO Index:**	89282	**Element Last Seen:**	2000-12-21
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-12-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-02-21

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.39108 / -118.92213	**Accuracy:**	1/10 mile
UTM:	Zone-11 N3807195 E323300	**Elevation (ft):**	415
PLSS:	T04N, R20W, Sec. 36 (S)	**Acres:**	0.0

Location:	EAST OF SEWAGE DISPOSAL SITE (TOPO) & ABOUT 0.3 MI S OF W VENTURA ST AT B ST, N SIDE OF SANTA CLARA RIVER, FILLMORE.
Detailed Location:	OWL OBSERVED ALONG EARTHEN BERM. MAPPED TO PROVIDED MAP.
Ecological:	EARTHEN BERM AND BOULDER GROYNE ON NORTH BANK OF SANTA CLARA RIVER.
General:	OWL WAS OBSERVED OVER-WINTERING ON 2 CONSECUTIVE DAYS AROUND 12 DEC 2000.
Owner/Manager:	PVT

Empidonax traillii extimus

Element Code: ABPAE33043

southwestern willow flycatcher

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G5T2
	State:	Endangered		**State:**	S1
	Other:	NABCI_RWL-Red Watch List			
Habitat:	**General:**	RIPARIAN WOODLANDS IN SOUTHERN CALIFORNIA.			
	Micro:				

Occurrence No.	56	**Map Index:**	75753	**EO Index:**	76768	**Element Last Seen:**	2008-06-28
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-06-28
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-07-03

Quad Summary:	Santa Paula (3411931)
County Summary:	Ventura

Lat/Long:	34.32809 / -119.08110	**Accuracy:**	80 meters
UTM:	Zone-11 N3800496 E308541	**Elevation (ft):**	215
PLSS:	T03N, R21W, Sec. 21 (S)	**Acres:**	0.0

Location:	SANTA CLARA RIVER, SOUTH OF SHELL RD, SANTA PAULA.
Detailed Location:	0.80 MI EAST OF THE INTERSECTION OF CLOW RD & TODD LN.
Ecological:	WILLOW RIPARIAN.
General:	2 ADULTS & 2 JUVENILES OBSERVED ON 28 JUN 2008.
Owner/Manager:	PVT

Occurrence No.	57	**Map Index:**	75755	**EO Index:**	76769	**Element Last Seen:**	2009-05-16
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-05-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-07-06

Quad Summary:	Moorpark (3411838)
County Summary:	Ventura

Lat/Long:	34.36224 / -118.99802	**Accuracy:**	80 meters
UTM:	Zone-11 N3804130 E316259	**Elevation (ft):**	305
PLSS:	T03N, R20W, Sec. 08 (S)	**Acres:**	0.0

Location:	SANTA CLARA RIVER, SOUTH OF THE END OF GLANVILLE RD, ABOUT 3.0 MI EAST OF SANTA PAULA.
Detailed Location:	
Ecological:	RIPARIAN WOODLAND. NATURE PRESERVE BORDERED BY SANTA CLARA RIVER AND AGRICULTURAL LAND.
General:	1 MALE OBSERVED AND HEARD SINGING IN WILLOW FOREST ON 16 MAY 2009.
Owner/Manager:	FRIENDS OF THE SANTA CLARA RIV

Occurrence No.	58	**Map Index:**	75756	**EO Index:**	76770	**Element Last Seen:**	2007-07-07
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-07-07
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-07-27

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.38888 / -118.89543	**Accuracy:**	specific area
UTM:	Zone-11 N3806904 E325751	**Elevation (ft):**	450
PLSS:	T04N, R19W, Sec. 32 (S)	**Acres:**	16.0

Location:	SANTA CLARA RIVER, 0.78 MI SE OF THE INTERSECTION OF KELLOGG ST & E. TELEGRAPH RD, FILLMORE.
Detailed Location:	
Ecological:	DENSE WILLOW RIPARIAN SCRUB HABITAT ALONG THE SANTA CLARA RIVER FLOODPLAIN AREA. OPEN RIVER WASH AND AGRICULTURE (WATERCRESS FARMS) PRACTICES NEARBY.
General:	2 ADULTS OBSERVED ON 19 MAY, 1 JUN & 7 JUL 2007.
Owner/Manager:	PVT-GRIFFIN INDUSTRIES

Eremophila alpestris actia

Element Code: ABPAT02011

California horned lark

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T3Q
	State:	None		**State:**	S3
	Other:	CDFW_WL-Watch List, IUCN_LC-Least Concern			
Habitat:	**General:**	COASTAL REGIONS, CHIEFLY FROM SONOMA CO. TO SAN DIEGO CO. ALSO MAIN PART OF SAN JOAQUIN VALLEY & EAST TO FOOTHILLS.			
	Micro:	SHORT-GRASS PRAIRIE, "BALD" HILLS, MOUNTAIN MEADOWS, OPEN COASTAL PLAINS, FALLOW GRAIN FIELDS, ALKALI FLATS.			

Occurrence No.	52	**Map Index:** 55843	**EO Index:**	55859	**Element Last Seen:** 2002-05-16
Occ. Rank:	Poor		**Presence:**	Presumed Extant	**Site Last Seen:** 2002-05-16
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 2004-06-17

Quad Summary: Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.20899 / -119.11359	**Accuracy:**	3/5 mile
UTM:	Zone-11 N3787349 E305277	**Elevation (ft):**	55
PLSS:	T02N, R21W, Sec. 32 (S)	**Acres:**	0.0

Location: SW OF CCAMARILLO AIRPORT AND NORTH OF HWY 34, 3.5 MILES EAST OF OXNARD.

Detailed Location:

Ecological: HABITAT CONSISTS OF AN AGRICULTURAL FIELD. SURROUNDING LAND IS AGRICULTURE.

General: 1 PRESUMED JUVENILE OBSERVED ON FENCEPOST OF AGRICULTURAL FIELD ON 16 MAY 2002.

Owner/Manager: UNKNOWN

Riparia riparia

Element Code: ABPAU08010

bank swallow

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	Threatened		**State:**	S2
	Other:	BLM_S-Sensitive, IUCN_LC-Least Concern			
Habitat:	**General:**	COLONIAL NESTER; NESTS PRIMARILY IN RIPARIAN AND OTHER LOWLAND HABITATS WEST OF THE DESERT.			
	Micro:	REQUIRES VERTICAL BANKS/CLIFFS WITH FINE-TEXTURED/SANDY SOILS NEAR STREAMS, RIVERS, LAKES, OCEAN TO DIG NESTING HOLE.			

Occurrence No.	106	**Map Index:**	84210	**EO Index:**	85229	**Element Last Seen:**	1904-05-05
Occ. Rank:	None			**Presence:**	Extirpated	**Site Last Seen:**	1904-05-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2011-11-08

Quad Summary:	Santa Paula (3411931)
County Summary:	Ventura

Lat/Long:	34.34514 / -119.06198	**Accuracy:**	1 mile
UTM:	Zone-11 N3802351 E310338	**Elevation (ft):**	250
PLSS:	T03N, R21W, Sec. 15 (S)	**Acres:**	0.0

Location:	ALONG SANTA CLARA RIVER, SANTA PAULA.
Detailed Location:	LOCATION STATED AS "SANTA PAULA." EXACT LOCATION UNKNOWN. MAPPED TO THE AREA OF THE SANTA CLARA RIVER NEAR SANTA PAULA.
Ecological:	NEST MADE OF GRASS AND FEATHERS LOCATED ABOUT 18 INCHES IN THE BACK OF BURROW IN RIVER BANK.
General:	FIVE EGGS COLLECTED ON 5 MAY 1904 BY H.F.P. FOR H.C. BURNS. CONSIDERED EXTIRPATED AS A BREEDER IN SOUTHERN CALIFORNIA (SCH92R0001).
Owner/Manager:	TNC, CITY OF SANTA PAULA

Occurrence No.	111	**Map Index:**	00257	**EO Index:**	25179	**Element Last Seen:**	1964-06-02
Occ. Rank:	None			**Presence:**	Extirpated	**Site Last Seen:**	1964-06-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2011-12-27

Quad Summary:	Point Dume (3411817), Thousand Oaks (3411827), Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.13879 / -118.87033	**Accuracy:**	1 mile
UTM:	Zone-11 N3779124 E327549	**Elevation (ft):**	1000
PLSS:	T01N, R19W, Sec. 28 (S)	**Acres:**	0.0

Location:	LAKE SHERWOOD, APPROXIMATELY 3 MI SOUTHWEST OF THOUSAND OAKS.
Detailed Location:	POTRERO LAKE (LAKE SHERWOOD) WAS CREATED AFTER COMPLETION OF ALTURAS DAM (SHERWOOD DAM) IN 1904. AFTER 1921 WHEN THE MOVIE ROBIN HOOD WAS FILMED NEARBY, THE LAKE AND DAM TOOK ON THE NAME SHERWOOD AFTER THE STORY'S SHERWOOD FOREST.
Ecological:	
General:	WFVZ EGG SET OF 4 EGGS COLLECTED DIRT BANK ON 2 JUN 64 (PRESUMABLY 1964, NOT 1864 SINCE SHERWOOD DAM WAS BUILT IN 1904 AND TOOK ON THE SHERWOOD NAME AFTER 1921). CONSIDERED EXTIRPATED AS A BREEDER IN SOUTHERN CALIFORNIA (SCH92).
Owner/Manager:	UNKNOWN

Occurrence No.	112	**Map Index:**	84175	**EO Index:**	85196	**Element Last Seen:**	1926-05-13
Occ. Rank:	None			**Presence:**	Extirpated	**Site Last Seen:**	1926-05-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-07-12

Quad Summary: Moorpark (3411838), Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.38728 / -118.94483	**Accuracy:**	1 mile
UTM:	Zone-11 N3806812 E321205	**Elevation (ft):**	380
PLSS:	T04N, R20W, Sec. 35 (S)	**Acres:**	0.0

Location: SANTA CLARA RIVER NEAR SESPE.

Detailed Location: WFVZ COLLECTIONS: "EAST OF SANTA PAULA" AND "SESPE; HOLES IN THE BANK OF THE SANTA CLARA RIVER NEAR STATION." FMNH COLLECTIONS: "SESPE." EXACT LOCATION UNKNOWN. MAPPED TO THE SANTA CLARA RIVER NEAR SESPE VILLAGE AND SW OF FILLMORE.

Ecological: REPORTED TO BE "A LARGE COLONY NESTING" DURING 1926. ONE NEST DESCRIBED AS "MADE OF BARLEY STRAW AND WEEDS LINED WITH FEATHERS." SOME NESTS ABOUT 20 FEET ABOVE RIVER.

General: EGGS COLLECTED 5 MAY 1904. H.C. BURT COLL 2 EGG SETS (5 EGGS EACH) 8 MAY 1910. S. PEYTON COLL 1 EGG SET (5 EGGS) 20 MAY 1910. E.T. BADGER COLL 2 EGG SETS (4 EGGS EACH) 13 MAY 1926. CONSIDERED EXTIRPATED AS A BREEDER IN S CALIFORNIA (SCH92).

Owner/Manager: UNKNOWN

Occurrence No.	116	**Map Index:**	84328	**EO Index:**	85359	**Element Last Seen:**	1897-05-15
Occ. Rank:	None			**Presence:**	Extirpated	**Site Last Seen:**	1897-05-15
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-08-14

Quad Summary: Santa Susana (3411836), Simi (3411837)

County Summary: Ventura

Lat/Long:	34.26620 / -118.74488	**Accuracy:**	1 mile
UTM:	Zone-11 N3793050 E339358	**Elevation (ft):**	870
PLSS:	T02N, R18W, Sec. 11 (S)	**Acres:**	0.0

Location: SIMI.

Detailed Location: LOCATION STATED AS "SIMI CAL." EXACT LOCATION UNKNOWN. MAPPED TO ARROYO SIMI WITHIN THE CITY OF SIMI VALLEY.

Ecological: FRESH EGGS COLLECTED FROM NEST IN HOLE ABOUT 2.5 FEET DEEP IN CREEK BANK ABOUT 4 FEET HIGH FROM BOTTOM AND ABOUT 8 FEET HIGH FROM TOP OF BANK; NEST MADE OF A FEW STICKS AND WEEDS.

General: SIX EGGS COLLECTED BY APPLETON ON "15 MAY 97" (PRESUMABLY 1897). CONSIDERED EXTIRPATED AS A BREEDER IN SOUTHERN CALIFORNIA (SCH92).

Owner/Manager: UNKNOWN

Polioptila californica californica

Element Code: ABPBJ08081

coastal California gnatcatcher

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G3T2
	State:	None		**State:**	S2
	Other:	CDFW_SSC-Species of Special Concern, NABCI_YWL-Yellow Watch List			
Habitat:	**General:**	OBLIGATE, PERMANENT RESIDENT OF COASTAL SAGE SCRUB BELOW 2500 FT IN SOUTHERN CALIFORNIA.			
	Micro:	LOW, COASTAL SAGE SCRUB IN ARID WASHES, ON MESAS & SLOPES. NOT ALL AREAS CLASSIFIED AS COASTAL SAGE SCRUB ARE OCCUPIED.			

Occurrence No.	97	**Map Index:**	15782	**EO Index:**	25060	**Element Last Seen:**	1924-95-21
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1924-95-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1989-08-10

Quad Summary:	Santa Paula (3411931)
County Summary:	Ventura

Lat/Long:	34.35111 / -119.10400	**Accuracy:**	1 mile
UTM:	Zone-11 N3803092 E306487	**Elevation (ft):**	360
PLSS:	T03N, R21W (S)	**Acres:**	0.0

Location:	2.5 MI W OF SANTA PAULA.
Detailed Location:	
Ecological:	
General:	EGG SET FROM NEST IN A BUSH IN A PASTURE NEAR THE RIVER.
Owner/Manager:	UNKNOWN

Occurrence No.	482	**Map Index:**	33296	**EO Index:**	2092	**Element Last Seen:**	1995-07-27
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1995-07-27
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1995-09-28

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.29056 / -118.87402	**Accuracy:**	specific area
UTM:	Zone-11 N3795963 E327518	**Elevation (ft):**	650
PLSS:	T02N, R19W, Sec. 04 (S)	**Acres:**	4.0

Location:	0.5 MILE NORTH OF MOORPARK AND LITTLE SIMI VALLEY.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF VENTURAN COASTAL SAGE SCRUB & SOUTHERN CACTUS SCRUB, DOMINATED BY CALIFORNIA SAGEBRUSH, WITH COYOTE BUSH, PURPLE SAGE, & COASTAL PRICKLY PEAR PRESENT. SURROUNDING AREA IS DEVELOPED TO THE SOUTH & EAST.
General:	ONE JUVENILE/FEMALE OBSERVED ON 14, 18, 20, AND 27 JUNE AND 27 JULY 1995.
Owner/Manager:	PVT

Occurrence No.	859	**Map Index:**	70834	**EO Index:**	71754	**Element Last Seen:**	2008-02-18
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-02-18
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-02-21

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.23319 / -118.87930	**Accuracy:**	1/10 mile
UTM:	Zone-11 N3789609 E326914	**Elevation (ft):**	940
PLSS:	T02N, R19W, Sec. 28 (S)	**Acres:**	0.0

Location:	MONTCLEF RIDGE BETWEEN SANTA ROSA RD (CAMARILLO RD) AND WEST OLSON RD. NORTH OF THOUSAND OAKS.
Detailed Location:	
Ecological:	COASTAL SAGE SCRUB. TWO CACTUS WRENS AND TWO RUFOUS-CROWNED SPARROWS ALSO OBSERVED.
General:	TWO ADULTS OBSERVED ON 18 FEB 2008.
Owner/Manager:	PVT-CAL LUTHERAN UNIVERSITY

Occurrence No.	865	**Map Index:**	71244	**EO Index:**	72148	**Element Last Seen:**	2012-10-19
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2012-10-19
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-04-11

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.26918 / -118.85844	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3793566 E328908	**Elevation (ft):**	600
PLSS:	T02N, R19W, Sec. 10 (S)	**Acres:**	374.0

Location:	LITTLE SIMI VALLEY, NORTHWEST OF STATE HWY 23 AND TIERRA REJADA RD, MOORPARK.
Detailed Location:	MAPPED TO 1997/1998 SURVEY AREA AND DETECTIONS. 2008 RECORD FROM 0.44 MI NW OF HWY 23 & TIERRA REJADA RD IN REMNANT COASTAL SAGE SCRUB/CACTUS SCRUB AT END OF SHAWNEE ST. SITE KNOWN AS THE CARLSBERG RANCH PROJECT.
Ecological:	1997-98 WAS DOMINATED BY COASTAL PRICKLY PEAR, CA SAGEBRUSH, COYOTE BRUSH, PURPLE SAGE, CA ENCELIA, & BLACK SAGE. 2008 WAS HIGHLY FRAGMENTED REMNANT COASTAL SAGE/CACTUS SCRUB MANAGED BY THE MOUNTAINS RECREATION AND CONSERVATION AUTHORITY.
General:	1 DETECTED ON 22 OCT, 20 NOV, 3 DEC, & 17 DEC 1997, & 13 JAN 1998 BY GLENN LUKOS ASSOCIATES; PRESUMED TO BE SAME INDIVIDUAL. 2 ADULTS & 3 JUVENILES OBSERVED 25 JUN 2008. UNKNOWN NUMBER, LIKELY ONLY 1, OBSERVED BETWEEN 1 MAY-19 OCT 2012.
Owner/Manager:	MTNS REC & CONS AUTHORITY, PVT

Occurrence No.	918	**Map Index:**	76278	**EO Index:**	77255	**Element Last Seen:**	2009-08-16
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-08-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-08-18

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.15986 / -119.04042	**Accuracy:**	80 meters
UTM:	Zone-11 N3781762 E311909	**Elevation (ft):**	63
PLSS:	T01N, R21W, Sec. 24 (S)	**Acres:**	0.0

Location:	ON THE CAMPUS OF CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS. WESTERN EDGE OF THE SANTA MONICA MOUNTAINS.
Detailed Location:	OPEN SPACE ADJACENT TO THE COLLEGE CAMPUS AND PARKING LOT. THIS LOCATION IS AT THE WESTERN LIMIT OF THE SPECIES RANGE.
Ecological:	HABITAT IS CACTUS SCRUB WITH BUCKWHEAT.
General:	2 ADULTS OBSERVED ON 16 AUG 2009. TWO CACTUS WRENS ALSO OBSERVED.
Owner/Manager:	CSU-CHANNEL ISLANDS

Occurrence No.	924	**Map Index:**	88743	**EO Index:**	89756	**Element Last Seen:**	2012-09-19
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2012-09-19
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-04-12

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.26932 / -118.81807	**Accuracy:**	specific area
UTM:	Zone-11 N3793514 E332625	**Elevation (ft):**	908
PLSS:	T02N, R19W, Sec. 12 (S)	**Acres:**	42.0

Location:	ABOUT 1.7 MILES NW OF SINALOA LAKE, BETWEEN MADERA RD, TIERRA REJADA RD AND HWY 23/118, JUST W OF SIMI VALLEY.
Detailed Location:	MAPPED TO PROVIDED MAPS AND COORDINATES. PAIR W/ 4 JUVENILES ATTEMPTED TO RE-NEST; NEST WAS INACTIVE AS OF 28 MAY 2010. 2010 OBS CONSITED OF 2 INDEPENDENT NEST SITES AND 1 LONE MALE, DETECTIONS WERE MADE DURING FOCUSED PROTOCOL SURVEYS.
Ecological:	COASTAL SAGE SCRUB WITH PRICKLY PEAR CACTUS DOMINATED BY PURPLE SAGE, CALIFORNIA SAGEGRASS, CALIFORNIA BUCKWHEAT, DEERWEED, AND NATIVE AND NON-NATIVE GRASSES. CACTUS WRENS, GRASSHOPPER SPARROW, & COOPE'RS HAWK ALSO OBSERVED AT THIS SITE.
General:	PAIR & 4 JUVS OBS 20 APR, DISPERSAL ASSUMED 14 MAY 2010. 2ND NEST DETECTED 28 APR, ABANDONED & RE-NESTED 6 MAY, INCUBATION OBS 14 MAY, PRESUMED NESTLINGS 28 MAY, 2 FLEDGLINGS CONFIRMED 8 JUN 2010. 1 M OBS 28 APR 2010. 1 OBS ON 19 SEP 2012.
Owner/Manager:	UNKNOWN

Occurrence No.	925	**Map Index:**	88748	**EO Index:**	89762	**Element Last Seen:**	2011-04-11
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-04-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-04-11

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.26417 / -118.82111	**Accuracy:**	80 meters
UTM:	Zone-11 N3792948 E332336	**Elevation (ft):**	945
PLSS:	T02N, R19W, Sec. 13 (S)	**Acres:**	0.0

Location:	ABOUT 1.7 MILES WNW OF SINALOA LAKE, BETWEEN MADERA RD, TIERRA REJADA RD AND HWY 23/118, JUST W OF SIMI VALLEY.
Detailed Location:	MAPPED TO PROVIDED NEST SITE COORDINATES. SURVEY AREA LOCATED JUST N OF RONALD REAGAN PRESIDENTIAL LIBRARY AND MUSEUM.
Ecological:	HABITAT CONSISTED OF EAST AND WEST SIDE GENTLE SLOPES ALONG AN S-SHAPED DRAINAGE, VEGETATED WITH CHAMISE, COASTAL SAGE SCRUB MIXED SAGE SCRUB AND GRASSLAND. SOUTHERN CALIFORNIA RUFOUS-CROWNED SPARROW NESTS OBSERVED IN THE AREA.
General:	ADULT OBSERVED NEST BUILDING ON 11 APR 2011; NEST WAS OBSERVED 45CM OFF GROUND IN WHITE SAGE.
Owner/Manager:	PVT

Occurrence No.	926	**Map Index:** 88749	**EO Index:**	89763	**Element Last Seen:**	2011-04-11
Occ. Rank:	Good		**Presence:**	Presumed Extant	**Site Last Seen:**	2011-04-11
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2013-04-11

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.26361 / -118.81500	**Accuracy:**	80 meters
UTM:	Zone-11 N3792876 E332897	**Elevation (ft):**	1025
PLSS:	T02N, R18W, Sec. 18 (S)	**Acres:**	0.0

Location: ABOUT 1.3 MILES NW OF SINALOA LAKE, BETWEEN MADERA RD, TIERRA REJADA RD AND HWY 23/118, JUST W OF SIMI VALLEY.

Detailed Location: MAPPED TO PROVIDED NEST SITE COORDINATES. SURVEY AREA LOCATED JUST N OF RONALD REAGAN PRESIDENTIAL LIBRARY AND MUSEUM.

Ecological: HABITAT CONSISTED OF EAST AND WEST SIDE GENTLE SLOPES ALONG AN S-SHAPED DRAINAGE, VEGETATED WITH CHAMISE, COASTAL SAGE SCRUB MIXED SAGE SCRUB AND GRASSLAND. SOUTHERN CALIFORNIA RUFOUS-CROWNED SPARROW NESTS OBSERVED IN THE AREA.

General: NEST OBSERVED IN COASTAL SAGE SCRUB HABITAT ON 11 APR 2011; 1 ADULT OBSERVED SCOLDING SCRUB JAY.

Owner/Manager: PVT

Vireo bellii pusillus

Element Code: ABPBW01114

least Bell's vireo

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G5T2
	State:	Endangered		**State:**	S2
	Other:	IUCN_NT-Near Threatened, NABCI_YWL-Yellow Watch List			
Habitat:	**General:**	SUMMER RESIDENT OF SOUTHERN CALIFORNIA IN LOW RIPARIAN IN VICINITY OF WATER OR IN DRY RIVER BOTTOMS; BELOW 2000 FT.			
	Micro:	NESTS PLACED ALONG MARGINS OF BUSHES OR ON TWIGS PROJECTING INTO PATHWAYS, USUALLY WILLOW, BACCHARIS, MESQUITE.			

Occurrence No.	109	**Map Index:** 21213	**EO Index:**	19701	**Element Last Seen:**	2013-07-04
Occ. Rank:	Excellent		**Presence:**	Presumed Extant	**Site Last Seen:**	2013-07-04
Occ. Type:	Natural/Native occurrence		**Trend:**	Increasing	**Record Last Updated:**	2014-03-28

Quad Summary: Santa Paula (3411931), Saticoy (3411932)

County Summary: Ventura

Lat/Long:	34.29972 / -119.11034	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3797405 E305784	**Elevation (ft):**	150
PLSS:	T03N, R21W, Sec. 32 (S)	**Acres:**	508.0

Location: SANTA CLARA RIVER, ABOUT 2.5 MILES ENE OF HWY 126 AND WELLS RD INTERSECTION, JUST NE OF SATICOY.

Detailed Location: MAPPED TO PROVIDED MAPS & COORDINATES. 4 PAIRS & 1 TERRITORIAL MALE DETECTED AT AN UNKNOWN DATE IN THE 1990'S, LIKELY AFTER 1986. 1981 DETECTION LOCATION WAS STATED AS "SATICOY." SURVEY AREA WAS "UP/DOWNSTREAM OF US FREEMAN DIVERSION DAM."

Ecological: LARGE, DENSE WILLOW AND MULEFAT SCRUB PATCH BETWEEN URBAN DRAIN OUTLETS. NESTS CONSTRUCTED PREDOMINANTLY IN ARROYO WILLOW, MULEFAT, BLACKBERRY, SANDBAR WILLOW, AND ARUNDO SPP. SURROUNDING LAND USE INCLUDED AGRICULTURE.

General: 1 TERRITORIAL MALE IN 1981. 6 PAIRS & 2 TERRITORIAL MALES IN 1991. 1 ADULT HEARD SINGING IN 2009. 22 PAIRS, 7 SINGLE MALES, 4 ADULTS OF UNKNOWN STATUS, & 51 YOUNG IN 2012. 28 PAIRS, 1 TRANSIENT, 5 SINGLE MALES, & 48 YOUNG IN 2013.

Owner/Manager: TNC, UNKNOWN

Occurrence No.	123	**Map Index:**	15934	**EO Index:**	14263	**Element Last Seen:**	2015-05-28
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2015-05-28
Occ. Type:	Natural/Native occurrence			**Trend:**	Increasing	**Record Last Updated:**	2016-02-09

Quad Summary: Moorpark (3411838), Santa Paula (3411931)

County Summary: Ventura

Lat/Long:	34.36261 / -119.00893	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3804191 E315257	**Elevation (ft):**	300
PLSS:	T03N, R20W, Sec. 07 (S)	**Acres:**	517.0

Location: SANTA CLARA RIVER FROM ABOUT 0.5 MI SE-3.2 MI NE OF HWY 126 AT S HALLOCK DR & 2.8-4.4 MI NW OF BAYMUIR RANCH (SITE).

Detailed Location: SPECIMEN LOCALITY "3 MILES E OF SANTA PAULA." MAPPED TO PROVIDED MAPS, 2011 SURVEY SITE & 2015 DETECTION LOCATIONS. 2015 SURVEY SITES INCLUDED HEDRICK RANCH NATURE AREA & TNC PROPERTIES TAYLOR RANCH & PETO-MCCONICA.

Ecological: WILLOW-MULEFAT RIPARIAN WOODLAND W/SOME COTTONWOOD, ON PRESERVES BORDERED BY RIVER & AG LAND. 5 PAIRS & 1 TERRITORIAL MALE DETECTED ON UNK DATE IN 1900S (LIKELY LATE 1990S). 2011: POINT COUNT SURVEY, BIRDS MAY HAVE BEEN DOUBLE-COUNTED.

General: EGGS COLLECTED 1925. 1 PAIR & 1 TERRITORIAL MALE(TM) OBSERVED '90. 3 PAIRS & 3 TM OBS '91. 0 OBS '92. 1 TM HEARD & OBS 16 MAY 2009. 4 TERRITORIES DETECTED, '10. UP TO 24 ADULTS DET, '11. OVER 21 TERRITORIES, 65 ADULTS, 24 FLEDGLINGS, '15.

Owner/Manager: FRIENDS OF THE SANTA CLARA RIV

Occurrence No.	130	**Map Index:**	00303	**EO Index:**	24960	**Element Last Seen:**	1985-07-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1985-07-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Increasing	**Record Last Updated:**	1996-01-02

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.29083 / -118.85121	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3795954 E329618	**Elevation (ft):**	
PLSS:	T02N, R19W, Sec. 03 (S)	**Acres:**	0.0

Location: ARROYO SIMI, BTWN COLLEGE VIEW AVE AND MOORPARK RD.

Detailed Location:

Ecological: HABITAT IS DENSE RIPARIAN DOMINATED BY WILLOWS.

General: FIRST OBSERVED IN 1983; 2 VIREOS OBSERVED AND UP TO 4 MORE INDIVIDUALS HEARD RESPONDING TO TAPED CALLS IN 1985. PVT OWNER IS SOUTHERN PACIFIC TRANSPORTATION COMPANY.

Owner/Manager: CALTRANS, VEN COUNTY, PVT

Occurrence No.	174	**Map Index:**	21214	**EO Index:**	19703	**Element Last Seen:**	2013-07-03
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2013-07-03
Occ. Type:	Natural/Native occurrence			**Trend:**	Increasing	**Record Last Updated:**	2014-05-01

Quad Summary: Piru (3411847), Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.39049 / -118.90836	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3807105 E324565	**Elevation (ft):**	470
PLSS:	T04N, R19W, Sec. 31 (S)	**Acres:**	759.0

Location: SANTA CLARA RIVER, ABOUT 1.1 MILES WEST AND 2.7 MILES EAST OF HWY 23 BRIDGE, JUST SOUTH OF FILLMORE.

Detailed Location: STUDY AREA WAS PART OF THE PROPOSED HERITAGE VALLEY PARK (HVP) RESIDENTIAL PROJECT WHICH INCLUDED DEVELOPMENT OF HOMES, PARKS, FLOOD CONTROL FACILITIES, AND NATURAL HABITAT ENHANCEMENT. 1998 COLLECTION "NEAR FISH HATCHERY" (WFVZ #177788).

Ecological: HIGH QUALITY WILLOW DOMINATED RIPARIAN HABITAT WITH COTTONWOOD & MULEFAT (300 AC). SOME DEVELOPING HABITAT WITHIN PREVIOUSLY SCOURED FLOODPLAIN (200 AC). DOMINANT EXOTIC SPECIES WAS ARUNDO SP. AGRICULTURAL LAND ADJACENT TO RIPARIAN HABITAT.

General: 1990: 1 PAIR (PR) & 1 TERRITORIAL MALE. '91: 3 PR. '92: 0. '98: NEST COLLECTED. 2004: 7 TERRITORIES. '05: 39 VIREOS. '06: 26 PR. '07: 39 PR. '08: 40 PR. '09: 45 PR. '10: 120 PR. '11: 97 PR. '12: 93 PR/89 FLEDGLINGS (F). '13: 91 PR/104 F.

Owner/Manager: TNC, CITY OF FILLMORE, PVT

Occurrence No.	309	**Map Index:**	75700	**EO Index:**	76723	**Element Last Seen:**	2004-08-06
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-08-06
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-07-01

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.38727 / -118.94343	**Accuracy:**	specific area
UTM:	Zone-11 N3806809 E321333	**Elevation (ft):**	380
PLSS:	T04N, R20W, Sec. 35 (S)	**Acres:**	10.0

Location: WASH AT THE CONFLUENCE OF SESPE CREEK & SANTA CLARA RIVER, ABOUT 0.76 AIR MI EAST OF SESPE VILLAGE.

Detailed Location:

Ecological: DOMINANT PLANTS INCLUDE VARIOUS WILLOW SPECIES, COTTONWOOD (BLACK & FREEMONT), AND MULEFLAT. THE DOMINANT EXOTIC PLANT IS ARUNDO. CANOPY HEIGHT IS 5 M. SURFACE WATER OR SATURATED SOIL PRESENT AT THIS SITE.

General: 1 TERRITORY DETECTED AT THIS LOCATRION. UNKNOWN NUMBER OF BIRDS, 14 ADULTS AND 9 JUVENILES OBSERVED BETWEEN THIS OCCURRENCE AND OCCURRENCE 310, ~0.3 MI TO THE EAST.

Owner/Manager: CITY OF FILLMORE

Occurrence No.	311	**Map Index:**	75705	**EO Index:**	76738	**Element Last Seen:**	2010-05-24
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-05-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-03-20

Quad Summary: Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.19274 / -119.00337	**Accuracy:**	specific area
UTM:	Zone-11 N3785341 E315397	**Elevation (ft):**	100
PLSS:	T01N, R20W, Sec. 05 (S)	**Acres:**	13.0

Location: CONEJO CREEK, 0.5 MI ENE OF THE INTERSECTION OF HOWARD RD & PANCHO RD, CAMARILLO.

Detailed Location: MAPPED TO PROVIDED COORDINATES AND LOCATION DESCRIPTION OF "CONEJO CREEK, SOUTH OF HOWARD ST. BRIDGE." IDENTICAL COORDINATES PROVIDED FOR BOTH DETECTION DATES IN 2009. BIRDS DETECTED JUST ABOVE AND BELOW HOWARD RD BRIDGE.

Ecological: WILLOW/MULEFLAT RIPARIAN SCRUB WITH GIANT REED (ARUNDO). SITE IS ADJACENT TO WASTE WATER TREATMENT FACILITY WITH PERENNIAL EFFLUENT OUTFLOW AND AGRICULTURAL FIELDS. YELLOW WARBLER AND YELLOW-BRESTED CHAT ALSO USE THIS AREA.

General: 1 ADULT OBSERVED SINGING IN WILLOW/MULEFLAT RIPARIAN SCRUB ON 5 & 18 JUN 2009. ADULT WAS ALSO OBSERVED FEEDING A JUVENILE ON 18 JUN 2009. AT LEAST 1 BREEDING ADULT OBSERVED ON 13 & 24 MAY 2010.

Owner/Manager: CITY OF CAMARILLO

Occurrence No.	312	**Map Index:**	75708	**EO Index:**	76741	**Element Last Seen:**	2010-05-23
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-05-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-03-27

Quad Summary: Santa Paula (3411931)

County Summary: Ventura

Lat/Long:	34.32731 / -119.08009	**Accuracy:**	specific area
UTM:	Zone-11 N3800408 E308631	**Elevation (ft):**	215
PLSS:	T03N, R21W, Sec. 21 (S)	**Acres:**	117.0

Location: SANTA CLARA RIVER, ABOUT 0.75 MILES SOUTH OF SHELL RD/PECK RD AND HWY 126 INTERSECTION, SW OF SANTA PAULA.

Detailed Location: MAPPED TO PROVIDED MAPS AND COORDINATES. 9 LBVI CAPTURED IN 2008, RELEASED. 12 NESTLINGS WERE BANDED IN 2009. SURROUNDING LAND USE INCLUDES OPEN SPACE & AGRICULTRURE. WATER PLANT EXPECTED TO REDUCE FLOWS DUE TO HIGH WATER DEMAND FROM RIVER.

Ecological: WILLOW RIPARIAN DOMINATED BY VARIOUS WILLOW SPECIES (BLACK & YELLOW), COTTONWOOD (FREMONT & BLACK), AND MULEFLAT. THE DOMINANT EXOTIC PLANT WAS ARUNDO SPP. CANOPY HEIGHT WAS 12 M. SURFACE WATER OR SATURATED SOIL PRESENT AT THIS SITE.

General: 27 ADULTS & 22 JUVENILES OBSERVED APR-AUG 2004, INCLUDING 2 FWS BANDED MALES. 11 ADULTS & 22 JUVENILES OBS APR-AUG 2008. 9 PAIRS, 2 TERRITORIAL MALES & 21 FLEDGLINGS OBS APR-JUL 2009. 24 ADULTS (7 PAIRS) & 18 JUVENILES OBS ON 23 MAY 2010.

Owner/Manager: PVT

Occurrence No.	316	**Map Index:**	75716	**EO Index:**	76750	**Element Last Seen:**	2008-04-23
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-04-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-05-19

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.23155 / -118.93099	**Accuracy:**	specific area
UTM:	Zone-11 N3789516 E322149	**Elevation (ft):**	230
PLSS:	T02N, R20W, Sec. 25 (S)	**Acres:**	15.0

Location: ALONG ARROYO SANTA ROSA, WEST AND EAST OF THE HILL CANYON ROAD BRIDGE, SANTA ROSA VALLEY.

Detailed Location: 2006: ABOUT 50-100 FT WEST OF HILL CANYON ROAD BRIDGE. 2 APR 2008: ABOUT 230 METERS EAST OF HILL CANYON ROAD BRIDGE. 23 APR 2008: ABOUT 180 METERS WEST OF HILL CANYON ROAD BRIDGE.

Ecological: A NATURAL CHANNEL WITH MULEFAT, ARROYO WILLOW, & RED WILLOW, MIXED WITH CALIF SAGEBRUSH & NON-NATIVES (TREE TOBACCO, CASTOR BEAN, MUSTARD). SURROUNDING AREA: AGRICULTURE, FALLOW FIELDS. DISTURBED BY RUBBLE ALONG BANKS, BRIDGE CONSTRUCTION.

General: 1 PAIR OBS ROOSTING/FORAGING 13 JUN 2006. SUBSEQUENT SURVEYS BY REPORTER WERE NEGATIVE. 1 PAIR OBS 2 APR 2008. 1 PAIR BUILDING NEST ON 29 APR 2008 - NEST PRODUCED 2 YOUNG BUT FAILED. RENESTED (1 YOUNG) 1500 FEET UPSTREAM FROM 29 APR NEST.

Owner/Manager: VEN COUNTY

Occurrence No.	320	**Map Index:**	78879	**EO Index:**	79839	**Element Last Seen:**	2009-08-11
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-08-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-03-20

Quad Summary: Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.16486 / -119.04803	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3782331 E311220	**Elevation (ft):**	40
PLSS:	T01N, R21W, Sec. 14 (S)	**Acres:**	5.0

Location: ALONG CREEK DRAINING FROM LONG GRADE CANYON, ABOUT 0.5 MILES NORTHEAST OF ROUND MOUNTAIN, 3.7 MILES SOUTH OF CAMARILLO.

Detailed Location: LOCATED ABOUT 0.5 MILE E OF CALLEGUAS CREEK. MAPPED TO PROVIDED 2009 SURVEY AREA MAP. FEATURE IS REPRESENTATIVE OF VIREO TERRITORIES INCLUDING 8 VOCALIZATION POINTS. AERIAL IMAGERY SHOWS "RIAPRIAN HABITAT...HAS DEVELOPED IN LAST 5-10 YRS."

Ecological: MIXED WILLOW AND MULEFAT SCRUB INTERMIXED WITH ORNAMENTAL TREES AND SCATTERED FRESHWATER MARSH SPECIES; MAN-MADE POOL LOCATED DOWNSTREAM. IMMEDIATE/SURROUNDING LAND USE: AG, SCHOOL FACILITIES, WATER TREATMENT PLANT, ADJACENT TO OPEN SPACE.

General: 1 PAIR AND 1 UNPAIRED TERRITORIAL MALE OBSERVED BETWEEN 22 MAY-11 AUG 2009; NO EVIDENCE OF SUCCESSFUL BREEDING, UNPAIRED MALE OBSERVED SINGING, CALLING, AND FORAGING. CALIFORNIA GNATCATCHER OBSERVED ON 6 JUL 2009, LIKELY DISPERSING.

Owner/Manager: CSU-CHANNEL ISLANDS

Occurrence No.	540	**Map Index:**	91908	**EO Index:**	92984	**Element Last Seen:**	2007-08-02
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-08-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-03-20

Quad Summary:	Moorpark (3411838)
County Summary:	Ventura

Lat/Long:	34.26817 / -118.93423	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3793583 E321927	**Elevation (ft):**	370
PLSS:	T02N, R20W, Sec. 12 (S)	**Acres:**	52.0

Location:	ARROYO LAS POSAS (CREEK), VICINITY OF HISTORICAL TERNEZ, 0.6 MILES SW OF LOS ANGELES AVE & HITCH BLVD INTERSECTION.
Detailed Location:	PROVIDED COORDINATES WERE FOR CENTER OF MOORPARK WASTEWATER TREATMENT PLANT. MAPPED TO PROVIDED LOCATION DESCRIPTION OF "MOORPARK, ARROYO LAS POSAS, MOORPARK WASTEWATER TREATMENT PLANT."
Ecological:	CREEK IS ON SOUTH SIDE OF TREATMENT PLANT. AGRICULTURAL LAND IN THE SURROUNDING AREA (BASED ON 2003-2012 AERIAL PHOTOS).
General:	1 EGG/NEST COLLECTION MADE ON 2 AUG 2007 BY J.M. GREAVES (WFVZ #177742).
Owner/Manager:	UNKNOWN, PVT

Occurrence No.	541	**Map Index:**	91909	**EO Index:**	92985	**Element Last Seen:**	2009-06-22
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-06-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-04-22

Quad Summary:	Moorpark (3411838)
County Summary:	Ventura

Lat/Long:	34.25906 / -118.98851	**Accuracy:**	specific area
UTM:	Zone-11 N3792670 E316910	**Elevation (ft):**	275
PLSS:	T02N, R20W, Sec. 16 (S)	**Acres:**	8.0

Location:	NEAR CONFLUENCE OF COYOTE CANYON CREEK & ARROYO LAS POSAS, ABOUT 0.5 MILES SE OF LOS ANGELES AVE AT SOMIS RD.
Detailed Location:	MAPPED TO PROVIDED COORDINATES. DETECTION LOCATION WAS JUST EAST OF SOMIS ON NORTHERN SIDE OF SOUTHERN PACIFIC RAILROAD TRACKS.
Ecological:	RIPARIAN CORRIDOR PRIMARILY COMPOSED OF DENSE WILLOWS WITH AN OVERSTORY OF EUCALYPTUS TREES.
General:	TERRITORIAL AND MATING CALLS HEARD FROM 2 MALES ON 22 JUN 2009; CALLS WERE HEARD FOR OVER 2 HOURS.
Owner/Manager:	UNKNOWN

Occurrence No.	544	**Map Index:**	91930	**EO Index:**	93003	**Element Last Seen:**	1940-05-21
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1940-05-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-04-18

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.26950 / -118.78130	**Accuracy:**	1 mile
UTM:	Zone-11 N3793474 E336011	**Elevation (ft):**	800
PLSS:	T02N, R18W, Sec. 08 (S)	**Acres:**	0.0

Location: CITY OF SIMI VALLEY, NE OF THOUSAND OAKS.

Detailed Location: MAPPED GENERALLY PROVIDED LOCATION OF "SIMI VALLEY." USED 1951 HISTORIC USGS TOPO FOR SIMI QUAD AND MAPPED TO HISTORIC CITY OF SIMI/SIMI VALLEY. WFVZ #115566, 112360, 62506, 115568, 115571, 115569, 115572, 115567, 115570, 115331.

Ecological: AREAS HAS BEEN HEAVILY DEVELOPED (AERIAL PHOTOS 1994-2013). SOME POTENTIALLY SUITABLE HABITAT REMAINS IN THE VICINITY.

General: EGG SETS COLLECTED ON 14 JUN 1889, 15 MAY 1892, 13 MAY 1906 (4 EGGS), 17 MAY 1913, 24 MAY 1913, 6 JUN 1915 (2 SETS), 21 MAY 1916 (2 SETS), AND 21 MAY 1940. ALL COLLECTIONS MADE BY J.S. APPLETON; UNKNOWN NUMBER OF EGGS COLLECTED.

Owner/Manager: UNKNOWN

Occurrence No.	545	**Map Index:**	91931	**EO Index:**	93004	**Element Last Seen:**	2008-06-05
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-06-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-03-25

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.28222 / -118.81206	**Accuracy:**	80 meters
UTM:	Zone-11 N3794935 E333204	**Elevation (ft):**	660
PLSS:	T02N, R18W, Sec. 06 (S)	**Acres:**	0.0

Location: ALONG ARROYO SIMI, 1.1 MILES WEST OF HWY 128 AT MADERA RD, NW EDGE OF CITY OF SIMI VALLEY.

Detailed Location: MAPPED TO PROVIDED 2008 COORDINATES. COULD NOT LOCATE 1913 LOCATION DESCRIPTION OF "SIMI VALLEY, SIMI CREEK (GARDNER'S PLACE)," MAPPED TO 2008 DETECTION ALONG ARROYO SIMI.

Ecological: RIPARIAN HABITAT DOMINATED BY YOUNG ARROYO AND RED WILLOWS, WITH SOME COTTONWOOD AND ARUNDO INTERMIXED WIHT NATIVE PLANTS. HABITAT FOUND WITHIN THE CALLEGUAS CREEK WATERSHED. STREAM NEXT TO WATER QUALITY TREATMENT PLANT.

General: 1 EGG SET COLLECTED ON 24 MAY 1913 BY J.S. APPLETON (WFVZ #115312). 1 INDIVIDUAL BIRD HEARD SINGING FOR "SEVERAL MINUTES IN LATE MORNING" ON 5 JUN 2008; BIRD CONSIDERED BREEDING BY REPORTER.

Owner/Manager: RANCHO SIMI RPD

Occurrence No.	548	**Map Index:**	66641	**EO Index:**	93013	**Element Last Seen:**	1925-04-24
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1925-04-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-03-27

Quad Summary:	Santa Paula (3411931)
County Summary:	Ventura

Lat/Long:	34.35483 / -119.06208	**Accuracy:**	1 mile
UTM:	Zone-11 N3803426 E310351	**Elevation (ft):**	235
PLSS:	T03N, R21W, Sec. 10 (S)	**Acres:**	0.0

Location:	VICINITY OF SANTA PAULA, NEAR HWY 126 AND HWY 150 INTERSECTION, NE OF VENTURA.
Detailed Location:	EXACT LOCATION UNKNOWN; MAPPED GENERALLY TO SANTA PAULA INCLUDING A PORTION OF THE SANTA CLARA RIVER. LOCATION DESCRIPTIONS WERE "NEAR SANTA PAULA" AND "SANTA PAULA."
Ecological:	BOTH 1910 NESTS CONSTRUCTED IN WILLOWS.
General:	4 EGGS COLLECTED ON 28 APR 1910 BY H. BURT (MVZ #3032). 4 EGGS COLLECTED ON 5 JUN 1910 BY H. BURT (WFVZ #14350). UNKNOWN NUMBER OF EGGS COLLECTED ON 8 JUN 1919 AND 24 APR 1925 BY M. BADGER (WFVZ #131999 & 115310).
Owner/Manager:	TNC-SANTA PAULA, UNK, PVT

Occurrence No.	549	**Map Index:**	91940	**EO Index:**	93015	**Element Last Seen:**	2011-07-14
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2011-07-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-03-27

Quad Summary:	Santa Paula (3411931)
County Summary:	Ventura

Lat/Long:	34.33752 / -119.07261	**Accuracy:**	specific area
UTM:	Zone-11 N3801526 E309343	**Elevation (ft):**	220
PLSS:	T03N, R21W, Sec. 15 (S)	**Acres:**	9.0

Location:	SANTA CLARA RIVER, ABOUT 0.3 MILES SSE OF HWY 126 AND STECKEL DR INTERSECTION, SW OF SANTA PAULA.
Detailed Location:	MAPPED TO PROVIDED COORDINATES. EXACT LOCATION OF 14 JUL 2011 DETECTION NOT KNOW BUT STATED AS "IN SIMILAR LOCATION." JUVENILES DESCRIBED AS BEING "FULLY FEATHERED AND HAD NEARLY FULLY GROWN TAILS."
Ecological:	RIPARIAN HABITAT COMPRISED OF AN OLDER WILLOW AND COTTONWOOD OVERSTORY WITH A YOUNG WILLOW MIXED WITH MULEFAT, POISON OAK, AND NON-NATIVE SPECIES UNDERSTORY.
General:	2 ADULT MALES, 1 SINGING WITH 2 "OLD" JUVENILES, OBSERVED/HEARD ON 8 JUL 2011; MALE OBSERVED FEEDING YOUNG, FAMILY GROUP ASSUMED TO BE DISPERSING FROM BREEDING TERRITORY. 1-2 MALES OBS IN SAME GENERAL AREA ON 14 JUL. 0 DETECTED ON 21 JUL.
Owner/Manager:	UNKNOWN

Occurrence No.	550	**Map Index:**	91965	**EO Index:**	93040	**Element Last Seen:**	1936-05-29
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1936-05-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-03-28

Quad Summary:	Piru (3411847), Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.42230 / -118.89040	**Accuracy:**	1 mile
UTM:	Zone-11 N3810601 E326282	**Elevation (ft):**	780
PLSS:	T04N, R19W, Sec. 20 (S)	**Acres:**	0.0

Location:	POLE CREEK, JUST NE OF FILLMORE.
Detailed Location:	MAPPED GENERALLY TO PROVIDED LOCATION DESCRIPTION OF "POLE CREEK," EXACT LOCATION UNKNOWN.
Ecological:	
General:	1 EGG COLLECTED ON 29 MAY 1936 BY H. DAVIS (WFVZ #162662), LIFE STAGE REPORTED AS "FRESH."
Owner/Manager:	UNKNOWN

Occurrence No.	551	**Map Index:**	91966	**EO Index:**	93041	**Element Last Seen:**	1925-06-09
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1925-06-09
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-04-01

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.40310 / -118.95010	**Accuracy:**	4/5 mile
UTM:	Zone-11 N3808576 E320754	**Elevation (ft):**	425
PLSS:	T04N, R20W, Sec. 26 (S)	**Acres:**	0.0

Location:	SESPE CREEK, ABOUT 1.7 MILES NNE OF CONFLUENCE WITH SANTA CLARA RIVER, FILLMORE.
Detailed Location:	LOCATION REPORTED AS "SESPE," EXACT LOCATION UNKNOWN. MAPPED GENERALLY TO PORTION OF SESPE CREEK, IN THE VICINITY OF GNIS POINT FOR "SESPE."
Ecological:	SOME NESTS REPORTED AS BEING CONSTRUCTED WITHIN WILLOWS AND BLACKBERRY THICKETS.
General:	3 EGGS COLLECTED ON 24 MAY 2010. 3 EGGS COLL ON 28 MAY 1912. 4 EGGS COLL ON 28 APR 1917. UNK NUMBER OF EGGS COLL ON 30 APR 1917. 3 EGGS COLL ON 17 MAY 1924. 1 NEST COLL ON 5 MAY 1925. 4 EGGS COLL ON 17 MAY 1925. 1 NEST COLL ON 9 JUN 1925.
Owner/Manager:	UNKNOWN

Aimophila ruficeps canescens

Element Code: ABPBX91091

southern California rufous-crowned sparrow

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T3
	State:	None		**State:**	S2S3
	Other:	CDFW_WL-Watch List			
Habitat:	**General:**	RESIDENT IN SOUTHERN CALIFORNIA COASTAL SAGE SCRUB AND SPARSE MIXED CHAPARRAL.			
	Micro:	FREQUENTS RELATIVELY STEEP, OFTEN ROCKY HILLSIDES WITH GRASS & FORB PATCHES.			

Occurrence No.	30	**Map Index:** 40125	**EO Index:** 35127	**Element Last Seen:**	1995-11-02
Occ. Rank:	Fair		**Presence:** Presumed Extant	**Site Last Seen:**	1995-11-02
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	1998-11-09

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.22173 / -118.82023	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3788239 E332333	**Elevation (ft):**	1400
PLSS:	T02N, R19W, Sec. 25 (S)	**Acres:**	0.0

Location: WOOD RANCH, ABOUT 1 MILE SOUTH OF WOOD RANCH RESERVOIR.

Detailed Location:

Ecological: HABITAT CONSISTS OF DENSE COASTAL SAGE SCRUB ON A 20% SLOPE. DOMINANT PLANTS INCLUDE CALIFORNIA SAGEBRUSH, ERIOGONUM SP, AND SALVIA SP, ON A ROCKY SUBSTRATE.

General: 1 ADULT AND AT LEAST 3 OTHERS OF UNKNOWN AGE OBSERVED ON 2 NOVEMBER 1995.

Owner/Manager: PVT

Oncorhynchus mykiss irideus

Element Code: AFCHA0209J

steelhead - southern California DPS

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G5T1Q
	State:	None		**State:**	S1
	Other:	AFS_EN-Endangered			
Habitat:	**General:**	FED LISTING REFERS TO POPS FROM SANTA MARIA RIVER SOUTH TO SOUTHERN EXTENT OF RANGE (SAN MATEO CREEK IN SAN DIEGO CO.)			
	Micro:	SOUTHERN STEELHEAD LIKELY HAVE GREATER PHYSIOLOGICAL TOLERANCES TO WARMER WATER & MORE VARIABLE CONDITIONS.			

Occurrence No.	1	**Map Index:**	34071	**EO Index:**	29766	**Element Last Seen:**	2010-01-08
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-01-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-05-09

Quad Summary: Santa Paula (3411931), Santa Paula Peak (3411941)

County Summary: Ventura

Lat/Long:	34.37701 / -119.06005	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3805882 E310588	**Elevation (ft):**	480
PLSS:	T03N, R21W, Sec. 02 (S)	**Acres:**	260.5

Location: SANTA PAULA CREEK, FROM CONFLUENCE WITH SANTA CLARA RIVER TO ABOUT 4 MILES UPSTREAM, SANTA PAULA.

Detailed Location: FWS ELECTROFISHED 1/3 MI BELOW DIVERSION DAM (~4 MI UPSTREAM FROM ITS CONFLUENCE W/ THE SANTA CLARA RIVER) IN MAR 1987; FISH WERE FOUND PRIMARILY IN THE POOL BELOW THE DAM. 2010 CAPTURED WITH SEINE/DIP NET ~1.7 MI UPSTREM OF CONFLUENCE.

Ecological: PRIOR TO 1948 SANTA PAULA CREEK WAS A PRINCIPAL STEELHEAD SPAWNING TRIBUTARY IN THE SANTA CLARA RIVER SYSTEM. 1986-88 CONSIDERED DROUGHT YEARS. SPARSE TO DENSE RIPARIAN VEGETATION WITH SALIX SP. AND CATTAILS WITH PATCHES OF MULEFAT SCRUB.

General: SMALL NUMBERS CAUGHT ANNUALLY PRIOR TO1973. 2 CAUGHT BY ANGLER ON 20-21 MAR 1987. 2 ADULTS & 1 JUVENILE CAPTURED ON 24 MAR 1987. 1+ OBS ON 16 MAR 1988, NONE CAPTURED. 2 JUVENILES CAPTURED ON 6 JAN 2010. 1 JUVENILE CAPTURED ON 8 JAN 2010.

Owner/Manager: PVT, UNKNOWN

Occurrence No.	2	**Map Index:**	34072	**EO Index:**	29767	**Element Last Seen:**	1983-05-25
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1983-05-25
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1999-09-28

Quad Summary: Fillmore (3411848), Devils Heart Peak (3411858), Topatopa Mountains (3411951), Lion Canyon (3411952), Wheeler Springs (3411953)

County Summary: Ventura

Lat/Long:	34.56971 / -119.03497	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3827208 E313324	**Elevation (ft):**	2470
PLSS:	T06N, R20W, Sec. 31 (S)	**Acres:**	2929.7

Location: SESPE CREEK, TRIBUTARY TO THE SANTA CLARA RIVER, NEAR FILMORE, LOS PADRES NATIONAL FOREST.

Detailed Location: SESPE CREEK FROM POTRERE JOHN CREEK CONFLUENCE BY HIGHWAY 33 (SESPE GORGE AREA) TO THE CONFLUENCE WITH SANTA CLARA RIVER NEAR FILMORE.

Ecological: 1957 REPORT INDICATED THAT STEELHEAD WERE REPORTED FROM THE SESPE GORGE AREA TO THE MOUTH. 1983 STEELHEAD STUDY FOUND STEELHEAD ONLY IN THE LOWER 6 MILES OF THE CREEK; THOUGH, AS STATED, THE SAMPLING METHODS WEREN'T VERY EFFECTIVE.

General:

Owner/Manager: USFS-LOS PADRES NF, PVT

Occurrence No.	14	**Map Index:**	89181	**EO Index:**	90183	**Element Last Seen:**	2013-04-26
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2013-04-26
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-05-08

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.20836 / -118.99529	**Accuracy:**	80 meters
UTM:	Zone-11 N3787058 E316176	**Elevation (ft):**	112
PLSS:	T02N, R20W, Sec. 32 (S)	**Acres:**	0.0

Location: CONEJO CREEK, JUST DOWNSTREAM (WEST) OF HIGHWAY 101, 2.8 MILES ESE OF CAMARILLO POST OFFICE, PLEASANT VALLEY.

Detailed Location: MAPPED TO PROVIDED COORDINATES. LOCATION WAS ABOUT 20 METERS BELOW WATER DIVERSION AND 100 METERS DOWNSTREAM OF HIGHWAY 101.

Ecological: HIGLY DISTURBED RIPARIAN CORRIDOR. AERIAL PHOTOS (2013) SHOW ADJACENT AGRICULTURAL LANDS. NO PREVIOUS RECORDS COULD BE FOUND FOR STEELHEAD IN CONEJO CREEK BY CDFW FISHERIES BRANCH BIOLOGIST.

General: ONE 23-INCH FEMALE WITH EGGS FOUND DEAD ON 26 APR 2013; APPEARED TO BE RECENTLY DECEASED AND WAS IN GOOD PHYSICAL CONDITION WITH NO OBVIOUS SIGNS OF TRAUMA OR DISEASE.

Owner/Manager: UNKNOWN

Occurrence No.	15	**Map Index:**	89182	**EO Index:**	90184	**Element Last Seen:**	2008-05-07
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-05-07
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-05-08

Quad Summary: Santa Paula (3411931)

County Summary: Ventura

Lat/Long:	34.29860 / -119.10940	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3797279 E305869	**Elevation (ft):**	166
PLSS:	T03N, R21W, Sec. 32 (S)	**Acres:**	0.0

Location: SANTA CLARA RIVER, ABOUT 1.1 MILES S OF HIGHWAY 126 AND TODD RD UNDERPASS, 2.5 MILES ENE OF SATICOY.

Detailed Location: MAPPED TO AREA OF NATURAL WATER FLOW AS WELL AS DIVERSION CHANNEL. PROVIDED COORDINATES ARE FOR STRUCTURE NEAR CHANNEL. UNCLEAR AS TO EXACT LOCATION OF CAPTURES. OBSERVER STATES THAT "SMOLTS ARE TRAPPED AND TRANSPORTED DOWNSTREAM."

Ecological:

General: ABOUT 95 SMOLTS CAPTURED AND RELEASED BETWEEN 27 MAR - 7 MAY 2008.

Owner/Manager: UNKNOWN

Gila orcuttii

Element Code: AFCJB13120

arroyo chub

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2
	State:	None		**State:**	S2
	Other:	AFS_VU-Vulnerable, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive			
Habitat:	**General:**	NATIVE TO STREAMS FROM MALIBU CR TO SAN LUIS REY RIVER BASIN. INTRODUCED INTO STREAMS IN SANTA CLARA, VENTURA, SANTA YNEZ, MOHAVE & SAN DIEGO RIVER BASINS.			
	Micro:	SLOW WATER STREAM SECTIONS WITH MUD OR SAND BOTTOMS. FEEDS HEAVILY ON AQUATIC VEGETATION & ASSOCIATED INVERTEBRATES.			

Occurrence No.	32	**Map Index:**	15800	**EO Index:**	42843	**Element Last Seen:**	2000-02-28
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-02-28
Occ. Type:	Transplant Outside of Native Hab./Range			**Trend:**	Unknown	**Record Last Updated:**	2010-09-21

Quad Summary:	Santa Paula Peak (3411941)
County Summary:	Ventura

Lat/Long:	34.41198 / -119.08199	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3809802 E308650	**Elevation (ft):**	780
PLSS:	T04N, R21W, Sec. 21 (S)	**Acres:**	138.4

Location:	SANTA PAULA CREEK, APPROX. 5 MILES UPSTREAM FROM CONFLUENCE OF SANTA PAULA CREEK AND SANTA CLARA RIVER, ALONG OJAI ROAD.
Detailed Location:	OIL SPILL AREA IS STICKLE PARK TO THE FISH LADDER, JUST UPSRTEAM OF MUD CREEK CANYON.
Ecological:	
General:	13 ARROYO CHUB, 2 SUCKERS AND UNKNOWN NUMBER OF STEELHEAD OR RAINBOW TROUT COLLECTED DURING OIL SPILL.
Owner/Manager:	UNKNOWN

Occurrence No.	34	**Map Index:**	45411	**EO Index:**	45411	**Element Last Seen:**	2003-02-18
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-02-18
Occ. Type:	Transplant Outside of Native Hab./Range			**Trend:**	Unknown	**Record Last Updated:**	2010-09-21

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.38987 / -118.91866	**Accuracy:**	specific area
UTM:	Zone-11 N3807053 E323617	**Elevation (ft):**	420
PLSS:	T04N, R19W, Sec. 31 (S)	**Acres:**	16.3

Location:	SANTA CLARA RIVER, JUST WEST OF CHAMBERSBURG ROAD, SOUTH OF FILLMORE.
Detailed Location:	2003 RECORD GIVES LOCATION ONLY AS "SANTA CLARA RIVER AT FILLMORE"
Ecological:	HABITAT CONSISTS OF A SHALLOW, NARROW, MEANDERING CHANNEL, VEGETATED BY WILLOWS, SMARTWEED, WATERCRESS, AND CATTAILS, AS WELL AS PATCHES OF EXOTIC ARUNDO DONAX.
General:	4 COLLECTED 18 FEB 2003, DEPOSITED IN LACM (#56080.001). 37 ADULTS AND 9 JUVENILES OBSERVED ON 28 SEP 2000.
Owner/Manager:	PVT

Occurrence No.	35	**Map Index:**	47965	**EO Index:**	47965	**Element Last Seen:**	2000-05-05
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-05-05
Occ. Type:	Transplant Outside of Native Hab./Range			**Trend:**	Unknown	**Record Last Updated:**	2010-09-21

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.18699 / -119.01467	**Accuracy:**	specific area
UTM:	Zone-11 N3784723 E314343	**Elevation (ft):**	100
PLSS:	T01N, R20W, Sec. 07 (S)	**Acres:**	47.3

Location:	0.5 MI UPSTREAM FROM CALLEGUAS CREEK AT SPLIT WITH CONEJO CREEK, 2.3 MI SE OF CAMARILLO.
Detailed Location:	UCLA 2000 STUDY SITE 172. THIS IS 1 OF THE 16 SITES SAMPLED THROUGHOUT THE CALLEGUAS CREEK WATERSHED. A TOTAL OF 1091 INDIVIDUALS CAUGHT/TRAPPED WITHIN THIS WATERSHED. MAPPED TO PROVIDED MAP.
Ecological:	ARROYO CHUBS WERE FOUND TO BE COMMON IN CALLEGUAS WATERSHED, ESPECIALLY IN VICINITY OF WATERCRESS OR OTHER SURFACE VEGETATION.
General:	UNKNOWN NUMBER CAUGHT BY TRAP OR ELECTROFISHING ON 5 MAY 2000; NUMBERS CAUGHT NOT GIVEN BY SITE, BUT RANGED FROM 1-292 FISH PER 150-300 M REACH.
Owner/Manager:	UNKNOWN

Occurrence No.	36	**Map Index:**	47976	**EO Index:**	47976	**Element Last Seen:**	2000-04-20
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-04-20
Occ. Type:	Transplant Outside of Native Hab./Range			**Trend:**	Unknown	**Record Last Updated:**	2011-07-29

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.29175 / -118.84497	**Accuracy:**	specific area
UTM:	Zone-11 N3796046 E330194	**Elevation (ft):**	580
PLSS:	T02N, R19W, Sec. 02 (S)	**Acres:**	164.1

Location:	ARROYO SIMI, S OF LOS ANGELES AVE, FROM VIRGINIA COLONY TO 2.5 MI UPSTREAM, ABOUT 4 MI WNW OF SIMI.
Detailed Location:	UCLA 2000 STUDY SITES 134 AND 146. THESE ARE 2 OF THE 16 SITES SAMPLED THROUGHOUT THE CALLEGUAS CREEK WATERSHED. A TOTAL OF 1091 INDIVIDUALS CAUGHT/TRAPPED WITHIN THIS WATERSHED. MAPPED TO PROVIDED MAP.
Ecological:	ARROYO CHUBS WERE FOUND TO BE COMMON IN CALLEGUAS WATERSHED, ESPECIALLY IN VICINITY OF WATERCRESS OR OTHER SURFACE VEGETATION.
General:	UNKNOWN NUMBER CAUGHT BY TRAP OR ELECTROFISHING ON 19-20 APR 2000; NUMBERS CAUGHT NOT GIVEN BY SITE, BUT RANGED FROM 1-292 FISH PER 150-300 M REACH.
Owner/Manager:	UNKNOWN

Occurrence No.	37	**Map Index:** 47975	**EO Index:**	47975	**Element Last Seen:**	2000-06-14
Occ. Rank:	Good		**Presence:**	Presumed Extant	**Site Last Seen:**	2000-06-14
Occ. Type:	Transplant Outside of Native Hab./Range		**Trend:**	Unknown	**Record Last Updated:**	2011-07-29

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.20923 / -118.92727	**Accuracy:**	specific area
UTM:	Zone-11 N3787034 E322446	**Elevation (ft):**	300
PLSS:	T02N, R20W, Sec. 36 (S)	**Acres:**	416.6

Location:	CONEJO CREEK (ARROYO CONEJO) FROM W END OF SANTA ROSA VALLEY UPSTREAM TO 0.3 MI N OF VENTURA BLVD.
Detailed Location:	UCLA 2000 STUDY SITES 17, 28, 117, 129, 149 & 162. THESE ARE 6 OF THE 16 SITES SAMPLED THROUGHOUT THE CALLEGUAS CREEK WATERSHED. A TOTAL OF 1091 INDIVIDUALS CAUGHT/TRAPPED WITHIN THIS WATERSHED. MAPPED TO PROVIDED MAP.
Ecological:	ARROYO CHUBS WERE FOUND TO BE COMMON IN CALLEGUAS WATERSHED, ESPECIALLY IN VICINITY OF WATERCRESS OR OTHER SURFACE VEGETATION.
General:	UNKNOWN NUMBER CAUGHT BY TRAP OR ELECTROFISHING ON 25 APR, 6 & 12 MAY, 12 &14 JUN 2000; NUMBERS CAUGHT NOT GIVEN BY SITE, BUT RANGED FROM 1-292 FISH PER 150-300 M REACH.
Owner/Manager:	UNKNOWN

Occurrence No.	38	**Map Index:** 47968	**EO Index:**	47968	**Element Last Seen:**	2000-05-18
Occ. Rank:	Good		**Presence:**	Presumed Extant	**Site Last Seen:**	2000-05-18
Occ. Type:	Transplant Outside of Native Hab./Range		**Trend:**	Unknown	**Record Last Updated:**	2011-07-29

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.14633 / -119.07187	**Accuracy:**	specific area
UTM:	Zone-11 N3780320 E308980	**Elevation (ft):**	15
PLSS:	T01N, R21W, Sec. 27 (S)	**Acres:**	100.5

Location:	CALLEGUAS CREEK, 0.6 TO 2 MI S OF HUENEME RD, 5 MI SSW OF CAMARILLO.
Detailed Location:	UCLA 2000 STUDY SITES 103, 137 AND 192. THESE ARE 3 OF THE 16 SITES SAMPLED THROUGHOUT THE CALLEGUAS CREEK WATERSHED. A TOTAL OF 1091 INDIVIDUALS CAUGHT/TRAPPED WITHIN THIS WATERSHED. MAPPED TO PROVIDED MAP.
Ecological:	ARROYO CHUBS WERE FOUND TO BE COMMON IN CALLEGUAS WATERSHED, ESPECIALLY IN VICINITY OF WATERCRESS OR OTHER SURFACE VEGETATION.
General:	UNKNOWN NUMBER CAUGHT BY TRAP OR ELECTROFISHING ON 26 APR, 1 & 18 MAY 2000; NUMBERS CAUGHT NOT GIVEN BY SITE, BUT RANGED FROM 1-292 FISH PER 150-300 M REACH.
Owner/Manager:	UNKNOWN

Occurrence No.	39	**Map Index:**	47974	**EO Index:**	47974	**Element Last Seen:**	2000-06-06
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-06-06
Occ. Type:	Transplant Outside of Native Hab./Range			**Trend:**	Unknown	**Record Last Updated:**	2011-07-29

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.14510 / -119.08663	**Accuracy:**	specific area
UTM:	Zone-11 N3780211 E307616	**Elevation (ft):**	15
PLSS:	T01N, R21W, Sec. 28 (S)	**Acres:**	73.3

Location:	REVOLON SLOUGH, 0.1 MILE UPSTREAM TO 0.9 MILE DOWNSTREAM FROM HUENEME ROAD, 5.5 MILES SSW OF CAMARILLO.
Detailed Location:	UCLA 2000 STUDY SITES 160, 187, 292, 312 THESE ARE 4 OF THE 16 SITES SAMPLED THROUGHOUT THE CALLEGUAS CREEK WATERSHED. A TOTAL OF 1091 INDIVIDUALS CAUGHT/TRAPPED WITHIN THIS WATERSHED. MAPPED TO PROVIDED MAP.
Ecological:	ARROYO CHUBS WERE FOUND TO BE COMMON IN CALLEGUAS WATERSHED, ESPECIALLY IN VICINITY OF WATERCRESS OR OTHER SURFACE VEGETATION.
General:	UNKNOWN NUMBER CAUGHT BY TRAP OR ELECTROFISHING ON 9 & 19 MAY, 6 JUN 2000; NUMBERS CAUGHT NOT GIVEN BY SITE, BUT RANGED FROM 1-292 FISH PER 150-300 M REACH.
Owner/Manager:	UNKNOWN

Occurrence No.	49	**Map Index:**	54690	**EO Index:**	54690	**Element Last Seen:**	2000-06-28
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-06-28
Occ. Type:	Transplant Outside of Native Hab./Range			**Trend:**	Unknown	**Record Last Updated:**	2011-07-29

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.47272 / -118.94187	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3816283 E321659	**Elevation (ft):**	2000
PLSS:	T05N, R20W, Sec. 35 (S)	**Acres:**	162.0

Location:	ALONG SESPE CREEK, FROM PINE CANYON TO 1.5 MI N, ABOUT 0.5 MI S OF TAR CREEK, SESPE CONDOR SANCTUARY.
Detailed Location:	UCLA 2000 STUDY SITE R2000-3. MAPPED TO PROVIDED MAP.
Ecological:	
General:	UNKNOWN NUMBER CAUGHT BY TRAP OR ELECTROFISHING ON 28 JUN 2000.
Owner/Manager:	USFS-LOS PADRES NF

Catostomus santaanae **Element Code:** AFCJC02190

Santa Ana sucker

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G1
	State:	None		**State:**	S1
	Other:	AFS_TH-Threatened, IUCN_VU-Vulnerable			
Habitat:	**General:**	ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.			
	Micro:	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.			

Occurrence No.	9	**Map Index:** 00497	**EO Index:** 13484	**Element Last Seen:**	2007-10-09
Occ. Rank:	Good		**Presence:** Presumed Extant	**Site Last Seen:**	2007-10-09
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2010-05-03

Quad Summary: Moorpark (3411838), Newhall (3411845), Val Verde (3411846), Piru (3411847), Fillmore (3411848), Santa Paula (3411931)

County Summary: Los Angeles, Ventura

Lat/Long:	34.39926 / -118.78686	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3807874 E335753	**Elevation (ft):**	650
PLSS:	T04N, R18W, Sec. 29 (S)	**Acres:**	3770.0

Location: SANTA CLARA RVR FROM SANTA PAULA TO VALENCIA, 9 MI OF SESPEE CRK, PIRU CRK S OF LAKE & CASTAIC CRK FROM 126 TO COMMERCE.

Detailed Location: FAW: "SESPE CRK AT RR CROSSING." WEL STATIONS WITH OBS: #4-5, 7-12, 28-29 & 31. LACM: "SANTA CLARA RIVER @ FILLMORE" & "SANTA CLARA RIVER BETWEEN HWY23 & SESPE CRK." COU05F0005: "CASTAIC CRK U/S OF HWY 126 & D/S OF COMMERCE CENTER BRIDGE."

Ecological: HYBRIDIZES W/OWENS SUCKER IN LOWER PARTS OF DRAINAGE (S OF FILMORE).

General: 18 OBS AT STATION #8 & 14 AT #4 IN JUL '75 (WEL/CSU).4 OBS IN '92. 2 OBS IN '96, 22 IN '97, 455 IN '98, 1 IN '99. 51 IN 2000. 60 PIT IN DEC '00. 80 COLL IN '03; DEP @ LACM. 1 OBS IN '04 & 111 IN '05. COMMON OBS IN '07. 39 DEAD OBS OCT '07.

Owner/Manager: PVT

Occurrence No.	28	**Map Index:** 15800	**EO Index:** 42842	**Element Last Seen:**	2000-02-28
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	2000-02-28
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2000-05-01

Quad Summary: Santa Paula Peak (3411941)

County Summary: Ventura

Lat/Long:	34.41198 / -119.08199	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3809802 E308650	**Elevation (ft):**	780
PLSS:	T04N, R21W, Sec. 21 (S)	**Acres:**	138.4

Location: SANTA PAULA CREEK, APPROX. 5 MILES UPSTREAM FROM CONFLUENCE OF SANTA PAULA CREEK AND SANTA CLARA RIVER, ALONG OJAI ROAD.

Detailed Location: OIL SPILL AREA IS STICKLE PARK TO THE FISH LADDER, JUST UPSRTEAM OF MUD CREEK CANYON.

Ecological:

General: 2 SUCKERS COLLECTED, ALSO FOUND ARROYO CHUB, AND STEELHEAD OR RAINBOW TROUT.

Owner/Manager: UNKNOWN

Gasterosteus aculeatus williamsoni **Element Code:** AFCPA03011

unarmored threespine stickleback

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G5T1
	State:	Endangered		**State:**	S1
	Other:	AFS_EN-Endangered, CDFW_FP-Fully Protected			
Habitat:	**General:**	WEEDY POOLS, BACKWATERS, AND AMONG EMERGENT VEGETATION AT THE STREAM EDGE IN SMALL SOUTHERN CALIFORNIA STREAMS.			
	Micro:	COOL (<24 C), CLEAR WATER WITH ABUNDANT VEGETATION.			

Occurrence No.	3 **Map Index:** 78887	**EO Index:**	1204	**Element Last Seen:**	2007-10-17
Occ. Rank:	Unknown	**Presence:**	Presumed Extant	**Site Last Seen:**	2007-10-17
Occ. Type:	Natural/Native occurrence	**Trend:**	Fluctuating	**Record Last Updated:**	2010-08-11

Quad Summary: Moorpark (3411838), Newhall (3411845), Val Verde (3411846), Piru (3411847), Fillmore (3411848), Santa Paula (3411931), Saticoy (3411932)

County Summary: Los Angeles, Ventura

Lat/Long:	34.38793 / -118.89418	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3806796 E325863	**Elevation (ft):**	950
PLSS:	T04N, R19W, Sec. 32 (S)	**Acres:**	2610.0

Location: SANTA CLARA RIVER FROM JUST WEST OF HWY 118, EAST TO MOUTH OF SAN FRANCISQUITO CREEK, E OF I-5. LA & VENTURA COUNTIES.

Detailed Location: INCLUDES REFUGE AREA DESIGNATED IN 1991 JUST NORTH OF MAGIC MOUNTAIN PARKING LOT ALONG BLUFF. HIGHER NUMBERS OF FISH BETWEEN 2003 & 2007 HAVE BEEN IN THE EASTERN PART OF THE FEATURE IN THE VICINITY OF I-5.

Ecological: MANY SURVEYS IN DIFFERENT PARTS OF THE RIVER OVER THE YEARS.

General: 20 JUL & 2 AUG 1994:195 OBS. '95: 9 COLL. '97: 200 OBS. 2 SEP '98: 5 OBS. 9 MAY & 13 OCT 2000: 66 OBS. SEPT '03: 522 RELOCATED. NOV 8 '04: 8 DIPNETTED FROM LONG CYN TO HWY 126. 2 FEB '05: 1 OBS. '06: COMMON IN REFUGE. '07: 630 RELOCATED.

Owner/Manager: PVT, OTHER

Myotis ciliolabrum **Element Code:** AMACC01140

western small-footed myotis

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S3
	Other:	BLM_S-Sensitive, IUCN_LC-Least Concern, WBWG_M-Medium Priority			
Habitat:	**General:**	WIDE RANGE OF HABITATS MOSTLY ARID WOODED & BRUSHY UPLANDS NEAR WATER. SEEKS COVER IN CAVES, BUILDINGS, MINES & CREVICES			
	Micro:	PREFERS OPEN STANDS IN FORESTS AND WOODLANDS. REQUIRES DRINKING WATER. FEEDS ON A WIDE VARIETY OF SMALL FLYING INSECTS.			

Occurrence No.	35	**Map Index:** 68847	**EO Index:**	69443	**Element Last Seen:** 2004-07-XX
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:** 2004-07-XX
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 2007-04-06

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.20900 / -118.76863	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3786744 E337062	**Elevation (ft):**	2050
PLSS:	T02N, R18W, Sec. 33 (S)	**Acres:**	0.0

Location: CHINA FLAT IN THE SIMI HILLS, SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA.

Detailed Location:

Ecological: MIST NETS SET OVER AN EPHEMERAL POND IN A GRASSLAND AREA SURROUNDED BY OAKS.

General: INDIVIDUALS DETECTED ACOUSTICALLY DURING SURVEYS BETWEEN APR 2002 AND JUL 2004. A LACTATING FEMALE WAS MIST-NETTED IN JULY 2003.

Owner/Manager: NPS-SANTA MONICA MOUNTAINS NRA

Lasiurus cinereus

Element Code: AMACC05030

hoary bat

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S4
	Other:	IUCN_LC-Least Concern, WBWG_M-Medium Priority			
Habitat:	**General:**	PREFERS OPEN HABITATS OR HABITAT MOSAICS, WITH ACCESS TO TREES FOR COVER & OPEN AREAS OR HABITAT EDGES FOR FEEDING.			
	Micro:	ROOSTS IN DENSE FOLIAGE OF MEDIUM TO LARGE TREES. FEEDS PRIMARILY ON MOTHS. REQUIRES WATER.			

Occurrence No.	134	**Map Index:** 66640	**EO Index:**	68897	**Element Last Seen:** 1949-01-07
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:** 1949-01-07
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 2007-03-19

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.40375 / -118.91517	**Accuracy:**	1 mile
UTM:	Zone-11 N3808588 E323967	**Elevation (ft):**	
PLSS:	T04N, R19W, Sec. 30 (S)	**Acres:**	0.0

Location: FILLMORE.

Detailed Location: MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY MANIS, WITH UNCERTAINTY OF 965.6064 M.

Ecological:

General: 2 MALE SPECIMENS (MVZ #112490-112491) COLLECTED BY S.B. PEYTON AND OLIVER P. PEARSON ON 7 JAN 1949.

Owner/Manager: UNKNOWN

Antrozous pallidus

Element Code: AMACC10010

pallid bat

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S3
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority			
Habitat:	**General:**	DESERTS, GRASSLANDS, SHRUBLANDS, WOODLANDS & FORESTS. MOST COMMON IN OPEN, DRY HABITATS WITH ROCKY AREAS FOR ROOSTING.			
	Micro:	ROOSTS MUST PROTECT BATS FROM HIGH TEMPERATURES. VERY SENSITIVE TO DISTURBANCE OF ROOSTING SITES.			

Occurrence No.	309	**Map Index:**	66640	**EO Index:**	66784	**Element Last Seen:**	1942-05-02
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1942-05-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-10-05

Quad Summary: Fillmore (3411848)
County Summary: Ventura

Lat/Long:	34.40375 / -118.91517	**Accuracy:**	1 mile
UTM:	Zone-11 N3808588 E323967	**Elevation (ft):**	480
PLSS:	T04N, R19W, Sec. 30 (S)	**Acres:**	0.0

Location: FILLMORE.
Detailed Location: EXACT LOCATION UNKNOWN. MAPPED IN THE GENERAL VICINITY OF FILLMORE.
Ecological:
General: 2 MALE SPECIMENS COLLECTED BY K.E. STAGER 25 APR AND 2 MAY 1942, LACM #8929-8930.
Owner/Manager: UNKNOWN

Occurrence No.	310	**Map Index:**	66641	**EO Index:**	66786	**Element Last Seen:**	1906-08-01
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1906-08-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-10-05

Quad Summary: Santa Paula (3411931)
County Summary: Ventura

Lat/Long:	34.35483 / -119.06208	**Accuracy:**	1 mile
UTM:	Zone-11 N3803426 E310351	**Elevation (ft):**	280
PLSS:	T03N, R21W, Sec. 10 (S)	**Acres:**	0.0

Location: SANTA PAULA.
Detailed Location: EXACT LOCATION UNKNOWN. MAPPED IN THE GENERAL VICINITY OF SANTA PAULA.
Ecological:
General: 9 MALES AND 6 FEMALES COLLECTED BY J. PROCTER ON 1 AUG 1906, CAS #17232-17246.
Owner/Manager: UNKNOWN

Occurrence No.	366	**Map Index:**	68847	**EO Index:**	69444	**Element Last Seen:**	2004-07-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-07-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-04-06

Quad Summary: Thousand Oaks (3411827)
County Summary: Ventura

Lat/Long:	34.20900 / -118.76863	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3786744 E337062	**Elevation (ft):**	2050
PLSS:	T02N, R18W, Sec. 33 (S)	**Acres:**	0.0

Location: CHINA FLAT IN THE SIMI HILLS, SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA.
Detailed Location:
Ecological: HABITAT WHERE ACOUSTIC DETECTIONS WERE MADE IS AN EPHEMERAL POND IN A GRASSLAND AREA SURROUNDED BY OAKS.
General: INDIVIDUALS DETECTED ACOUSTICALLY DURING SURVEY BETWEEN APR 2002 AND JUL 2004. THE MAJORITY OF THE DETECTIONS IN THE SMMNRA WERE AT THIS SITE.
Owner/Manager: NPS-SANTA MONICA MOUNTAINS NRA

Eumops perotis californicus

Element Code: AMACD02011

western mastiff bat

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T4
	State:	None		**State:**	S3S4
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, WBWG_H-High Priority			
Habitat:	**General:**	MANY OPEN, SEMI-ARID TO ARID HABITATS, INCLUDING CONIFER & DECIDUOUS WOODLANDS, COASTAL SCRUB, GRASSLANDS, CHAPARRAL ETC			
	Micro:	ROOSTS IN CREVICES IN CLIFF FACES, HIGH BUILDINGS, TREES & TUNNELS.			

Occurrence No.	158	**Map Index:** 66418	**EO Index:** 66514	**Element Last Seen:**	1992-08-28
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1992-08-28
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2006-09-26

Quad Summary: Val Verde (3411846), Piru (3411847), Whitaker Peak (3411856), Cobblestone Mtn. (3411857)

County Summary: Los Angeles, Ventura

Lat/Long:	34.50250 / -118.75535	**Accuracy:**	1 mile
UTM:	Zone-11 N3819273 E338848	**Elevation (ft):**	1070
PLSS:	T05N, R18W, Sec. 22 (S)	**Acres:**	0.0

Location: LAKE PIRU, 2 KM (ABOUT 1.2 MI) SOUTH OF BLUE PT. CAMPGROUND.

Detailed Location: MAPPED ACCORDING TO LOCALITY DESCRIPTION AT 1.2 MI S OF BLUE PT. CAMP. LAT/LONG COORDINATES GIVEN ARE ABOUT 4.8 MI S OF BLUE PT. CAMP (NOT USED).

Ecological:

General: MULTIPLE INDIVIDUALS DETECTED 28 AUG 1992.

Owner/Manager: UNKNOWN

Occurrence No.	228	**Map Index:** 68847	**EO Index:** 69445	**Element Last Seen:**	2004-07-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	2004-07-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2007-04-06

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.20900 / -118.76863	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3786744 E337062	**Elevation (ft):**	2050
PLSS:	T02N, R18W, Sec. 33 (S)	**Acres:**	0.0

Location: CHINA FLAT IN THE SIMI HILLS, SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA.

Detailed Location:

Ecological: HABITAT WHERE ACOUSTIC DETECTIONS WERE MADE IS AN EPHEMERAL POND IN A GRASSLAND AREA SURROUNDED BY OAKS.

General: INDIVIDUALS DETECTED ACOUSTICALLY AN HOUR AFTER DARK FORAGING IN THIS AREA DURING SURVEYS BETWEEN APR 2002 AND JUL 2004.

Owner/Manager: NPS-SANTA MONICA MOUNTAINS NRA

Neotoma lepida intermedia

Element Code: AMAFF08041

San Diego desert woodrat

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T3T4
	State:	None		**State:**	S3S4
	Other:	CDFW_SSC-Species of Special Concern			
Habitat:	**General:**	COASTAL SCRUB OF SOUTHERN CALIFORNIA FROM SAN DIEGO COUNTY TO SAN LUIS OBISPO COUNTY.			
	Micro:				

MODERATE TO DENSE CANOPIES PREFERRED. THEY ARE PARTICULARLY ABUNDANT IN ROCK OUTCROPS & ROCKY CLIFFS & SLOPES.

Occurrence No.	17	**Map Index:**	33553	**EO Index:**	29703	**Element Last Seen:**	1992-07-16
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-07-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1996-11-06

Quad Summary: Simi (3411837)
County Summary: Ventura

Lat/Long:	34.29241 / -118.83499	**Accuracy:**	80 meters
UTM:	Zone-11 N3796102 E331114	**Elevation (ft):**	680
PLSS:	T03N, R19W, Sec. 35 (S)	**Acres:**	0.0

Location: JUST NORTH OF SPRR-ROW, 0.7 MILE WEST OF OAK PARK AND SOUTH OF MOORPARK COLLEGE, SIMI VALLEY.
Detailed Location: LOCATED ALONG NORTH AND SOUTH SIDES OF RR-ROW.
Ecological: HABITAT CONSISTS OF DENSE COASTAL SAGE SCRUB, COMPOSED OF OPUNTIA SP, ARTEMISIA SP, ENCELIA SP, SALVIA SP, ERIOGONUM SP, ELDERBERRY, YUCCA, AND GRANT RYE GRASS, ON A MODERATELY-STEEP, ROCKY, SOUTH-FACING SLOPE.
General: 2 ADULT MALES, 2 ADULT FEMALES, 2 SUBADULT FEMALES, 3 SUBADULT MALES, AND 1 MALE JUVENILE CAPTURED ON 16 JULY 1992.
Owner/Manager: PVT-SPRR

Occurrence No.	18	**Map Index:**	33554	**EO Index:**	29704	**Element Last Seen:**	1992-07-16
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-07-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1996-11-06

Quad Summary: Simi (3411837)
County Summary: Ventura

Lat/Long:	34.28131 / -118.79485	**Accuracy:**	80 meters
UTM:	Zone-11 N3794805 E334787	**Elevation (ft):**	800
PLSS:	T02N, R18W, Sec. 05 (S)	**Acres:**	0.0

Location: NORTH SIDE OF SPRR-ROW, 0.1 EAST OF MADERA ROAD, SIMI VALLEY.
Detailed Location:
Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB, DOMINATED BY OPUNTIA SP AND BACCHARIS PILULARIS.
General: 5 ADULT MALES CAPTURED ON 16 JULY 1992.
Owner/Manager: PVT-SPRR

Occurrence No.	19	**Map Index:** 33555	**EO Index:**	29702	**Element Last Seen:**	1992-07-16
Occ. Rank:	Fair		**Presence:**	Presumed Extant	**Site Last Seen:**	1992-07-16
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	1996-11-06

Quad Summary: Moorpark (3411838)

County Summary: Ventura

Lat/Long:	34.28057 / -118.91394	**Accuracy:**	80 meters
UTM:	Zone-11 N3794923 E323822	**Elevation (ft):**	450
PLSS:	T02N, R19W, Sec. 06 (S)	**Acres:**	0.0

Location: 0.6 MILE WEST OF THE INTERSECTION OF GABBERT ROAD AND SPRR-ROW, SIMI VALLEY.

Detailed Location:

Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB, COMPOSED OF SCATTERED EPHYDRA SP, BACCHARIS PILULARIS, AND OPUNTIA SP, IN SANDY SOIL.

General: 3 ADULT MALES, 1 ADULT FEMALE, 1 SUBADULT, AND 1 IMMATURE MALE CAPTURED ON 16 JULY 1992.

Owner/Manager: PVT-SPRR

Taxidea taxus

Element Code: AMAJF04010

American badger

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S3
	Other:	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern			
Habitat:	**General:**	MOST ABUNDANT IN DRIER OPEN STAGES OF MOST SHRUB, FOREST, AND HERBACEOUS HABITATS, WITH FRIABLE SOILS.			
	Micro:	NEEDS SUFFICIENT FOOD, FRIABLE SOILS & OPEN, UNCULTIVATED GROUND. PREYS ON BURROWING RODENTS. DIGS BURROWS.			

Occurrence No.	84	**Map Index:** 56605	**EO Index:**	56621	**Element Last Seen:**	1991-07-04
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	1991-07-04
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2004-09-02

Quad Summary: Piru (3411847), Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.47517 / -118.87528	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3816440 E327780	**Elevation (ft):**	3600
PLSS:	T05N, R19W, Sec. 33 (S)	**Acres:**	639.6

Location: AREA BETWEEN BEAR CREEK AND HOPPER MOUNTAIN, 5 MILES NNE OF FILLMORE.

Detailed Location: LOCATION GIVEN (AND MAPPED AS) T5N R19W SECTION 33.

Ecological: HABITAT CONSISTS OF OAK WOODLAND INTERSPERSED WITH GRASSES. SITE IS ON OIL LEASE PROPERTY.

General: 1 OBSERVED GUARDING DEN ON 4 JUL 1991.

Owner/Manager: UNKNOWN

Occurrence No.	417	**Map Index:**	73789	**EO Index:**	74759	**Element Last Seen:**	2008-10-29
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-10-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-03-04

Quad Summary: Santa Paula (3411931)

County Summary: Ventura

Lat/Long:	34.28751 / -119.11397	**Accuracy:**	specific area
UTM:	Zone-11 N3796058 E305423	**Elevation (ft):**	800
PLSS:	T02N, R21W, Sec. 05 (S)	**Acres:**	10.0

Location: SOUTH MOUNTAIN, ABOUT 2.2 MI NORTH OF HWY 118 (LOS ANGELES AVE) AT SANTA CLARA AVE, ABOUT 9 MI EAST OF VENTURA.

Detailed Location: MAPPED APPROXIMATELY TO TRS AND POINTS GIVEN IN MAP.

Ecological: ARTEMISIA CALIFORNICA/SALVIA MELLIFERA. SANDY CLAY SOILS OF ELEVATED PLIOCENE SEAKNOLL, SW TERMINUS OF S MTN, LOCALLY CALLED "BUTLER HILL." ASPECTS NORTHERLY AND SOUTHEASTERLY, MOSTLY RIDGELINE LOCATIONS. SLOPE VERY LOW TO MODERATELY STEEP.

General: ON 29 OCT 2008 EVIDENT DIGGINGS DETERMINED BY OVAL SHAPE AND CLAWMARKS ON CEILING OF HOLE OBSERVED AT SEVERAL LOCATIONS ALONG RIDGELINE. CA GROUND SQUIRRELS (A MAJOR DIET SPECIES) ABUNDANT IN AREA & SOILS SOFT & FRIABLE.

Owner/Manager: PVT

Occurrence No.	443	**Map Index:**	77627	**EO Index:**	78532	**Element Last Seen:**	2009-08-05
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-08-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-12-24

Quad Summary: Santa Paula (3411931)

County Summary: Ventura

Lat/Long:	34.30833 / -119.12445	**Accuracy:**	80 meters
UTM:	Zone-11 N3798387 E304506	**Elevation (ft):**	200
PLSS:	T03N, R21W, Sec. 30 (S)	**Acres:**	0.0

Location: ALONG HIGHWAY 126 (SANTA PAULA FWY) ABOUT 0.3 MI NE OF EDWARDS RANCH RD, 0.2 MI NNW OF BENCH MARK 194.

Detailed Location: FOUND DEAD ON THE WESTBOUND SIDE OF HIGHWAY 129 BETWEEN ELLSWORTH BARRANCA & TODD BARRANCA. MAPPED TO PROVIDED COORDINATES.

Ecological: PAVED HIGHWAY BISECTING CITRUS ORCHARDS AND EUCALYPTUS WINDROWS.

General: 1 BADGER WAS FOUND AND PHOTOGRAPHED DEAD ON THE ROAD ON 5 AUG 2009. THE SITE WAS ALSO VISITED ON 12 NOV 2009 AND THE CARCASS WAS STILL THERE.

Owner/Manager: CALTRANS ROW

Emys marmorata

Element Code: ARAAD02030

western pond turtle

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3G4
	State:	None		**State:**	S3
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive			
Habitat:	**General:**	A THOROUGHLY AQUATIC TURTLE OF PONDS, MARSHES, RIVERS, STREAMS & IRRIGATION DITCHES, USUALLY WITH AQUATIC VEGETATION, BELOW 6000 FT ELEVATION.			
	Micro:	NEED BASKING SITES AND SUITABLE (SANDY BANKS OR GRASSY OPEN FIELDS) UPLAND HABITAT UP TO 0.5 KM FROM WATER FOR EGG-LAYING.			

Occurrence No.	805	**Map Index:**	00229	**EO Index:**	13580	**Element Last Seen:**	1970-06-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1987-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1991-06-12

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.21553 / -118.88897	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3787667 E325987	**Elevation (ft):**	700
PLSS:	T02N, R19W, Sec. 32 (S)	**Acres:**	0.0

Location: POND 150 FT SW OF JUNCTION OF LYNN RD & AVENIDA LOS FLORES, NW OF THOUSAND OAKS.

Detailed Location:

Ecological: HABITAT IS POND WITH DOMINATE VEGETATION OF TYPHA LATIFOLIA AND SALIX.

General: ONE INDIVIDUAL OBSERVED BY MANNING IN 1970. BRATTSTROM (1990) CONSIDERS THIS POP EXTIRPATED.

Owner/Manager: UNKNOWN

Occurrence No.	846	**Map Index:**	72504	**EO Index:**	28229	**Element Last Seen:**	1955-02-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1987-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-10-09

Quad Summary: Thousand Oaks (3411827), Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.13900 / -118.86984	**Accuracy:**	4/5 mile
UTM:	Zone-11 N3779148 E327594	**Elevation (ft):**	955
PLSS:	T01N, R19W, Sec. 28 (S)	**Acres:**	0.0

Location: LAKE SHERWOOD, SANTA MONICA MOUNTAINS.

Detailed Location:

Ecological:

General: MUSEUM COLLECTION. LACM 23492, COLLECTED FEBRUARY 1955. BRATTSTROM (1990) CONSIDERS THIS POP EXTIRPATED.

Owner/Manager: UNKNOWN

Occurrence No.	865	**Map Index:**	72633	**EO Index:**	507	**Element Last Seen:**	1987-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-10-21

Quad Summary: Val Verde (3411846), Piru (3411847), Cobblestone Mtn. (3411857)

County Summary: Ventura

Lat/Long:	34.47913 / -118.75315	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3816678 E339005	**Elevation (ft):**	1055
PLSS:	T05N, R18W, Sec. 34 (S)	**Acres:**	1889.0

Location: LAKE PIRU, E OF SESPE WILDLIFE AREA.

Detailed Location:

Ecological:

General: OBSERVED BY MESSER DURING APRIL-DECEMBER 1987 FIELD SURVEY; POPULATION SIZE MODERATE.

Owner/Manager: USFS-LOS PADRES NF, ANGELES NF

Occurrence No.	870	**Map Index:**	72525	**EO Index:**	28211	**Element Last Seen:**	1988-07-20
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1988-07-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-10-15

Quad Summary: Santa Paula Peak (3411941)

County Summary: Ventura

Lat/Long:	34.41347 / -119.08227	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3809968 E308628	**Elevation (ft):**	800
PLSS:	T04N, R21W, Sec. 21 (S)	**Acres:**	142.0

Location: SANTA PAULA CREEK, SE OF OJAI AND N OF SANTA PAULA.

Detailed Location: TURTLES OCCUR IN AND ALONG THE CREEK, NEAR THOMAS AQUINAS COLLEGE.

Ecological:

General: 7/20/1988: 7 COLLECTED, 3 RETAINED IN CREEK AT THOMAS AQUINAS COLLEGE; OBSERVED BY MESSER DURING APRIL-DECEMBER 1987 FIELD SURVEY; POPULATION SIZE LARGE.

Owner/Manager: UNKNOWN

Occurrence No.	904	**Map Index:**	00123	**EO Index:**	13602	**Element Last Seen:**	1987-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-06-23

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.38753 / -118.94897	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3806847 E320825	**Elevation (ft):**	400
PLSS:	T04N, R20W, Sec. 35 (S)	**Acres:**	316.5

Location: SESPE CREEK, 0.5 MILE SW OF JUNCTION WITH HWY 126, SW OF NORTH FILLMORE.

Detailed Location:

Ecological: THIS SITE IS WITHIN THE MAPPED CNDDB COMMUNITY OF SOUTHERN RIPARIAN SCRUB.

General: LACM #127423, COLLECTED SEPTEMBER 1977. BRATTSTROM (1988) STATES THERE WERE 7 SITES ALONG SESPE CREEK WITH TURTLES, MAKING UP A LARGE POPULATION.

Owner/Manager: UNKNOWN

Occurrence No.	972	**Map Index:**	23829	**EO Index:**	24872	**Element Last Seen:**	1993-05-13
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1993-05-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1993-06-02

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.21399 / -118.91078	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3787533 E323975	**Elevation (ft):**	300
PLSS:	T02N, R19W, Sec. 31 (S)	**Acres:**	35.1

Location: NORTH FORK OF CONEJO CREEK, ABOVE AND BELOW PARADISE FALLS, WILDWOOD PARK.

Detailed Location: 4 TURTLES OBSERVED AT 3 DIFFERENT LOCATIONS ABOVE AND BELOW PARADISE FALLS.

Ecological: TURTLES UTILIZED EITHER SUNNY STREAM EDGES OR ALGAL MATS FOR BASKING. SURROUNDING HABITAT CONSISTS OF SOUTH COAST LIVE OAK RIPARIAN FOREST.

General: OTHER RARE SPECIES OBSERVED IN THE AREA INCLUDE CONEJO DUDLEYA AND CONEJO BUCKWHEAT.

Owner/Manager: CONEJO OPEN SPACE CONS AGENCY

Occurrence No.	1042	**Map Index:**	32745	**EO Index:**	652	**Element Last Seen:**	1987-XX-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1996-03-04

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.46717 / -118.94359	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3815670 E321489	**Elevation (ft):**	720
PLSS:	T04N, R20W, Sec. 02 (S)	**Acres:**	491.4

Location:	SESPE CREEK, FROM 0.6 KM N OF TAR CREEK TO ABOUT 3.0 KM N OF FILLMORE.
Detailed Location:	
Ecological:	
General:	CAS #50473, DATE UNKNOWN. 4/4/1954-LACM #23491. 4/4/1962-LACM #7996. 10/XX/1965-LACM #61184. 7/8/1966-J. BRODE OBS TURTLES. BRATTSTROM (1988) OBS TURTLES AT 7 SITES ALONG CREEK IN 1987; MAY BE ONE OF THE LARGEST POPULATIONS IN THE COUNTY.
Owner/Manager:	USFS-LOS PADRES NF

Occurrence No.	1070	**Map Index:**	34703	**EO Index:**	23150	**Element Last Seen:**	2000-08-18
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-08-18
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-01-31

Quad Summary:	Newbury Park (3411828), Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.21165 / -118.92720	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3787303 E322457	**Elevation (ft):**	140
PLSS:	T02N, R20W (S)	**Acres:**	636.9

Location:	ARROYO CONEJO AND CONEJO CREEK; BETWEEN THOUSAND OAKS AND OXNARD IN EASTERN REGION OF PLEASANT VALLEY.
Detailed Location:	CENTER OF CREEK DISTRIBUTION IS A PORTION OF THE CREEK WHICH HAD BEEN DREDGED, INCREASING DEPTH; CREEKS USED FOR FLOOD CONTROL BY VENTURA COUNTY.
Ecological:	CREEKS WITH LOW CURRENT VELOCITY; WATER DEPTH EXCEEDING 18 INCHES; SOME RIPARIAN COVER NEARBY, BUT NEEDS SUFFICIENT WATER DEPTH, TURBIDITY AND VEGETATION COVER TO CONCEAL MOVEMENTS FROM PREDATORS.
General:	15 ADULTS & 1 JUV OBS ON 31 AUG 1992. 4 ADULTS OBS ON 5 AUG & 8 AUG 1998. ~45 ADULTS, 10 JUV OBS ALONG CREEKS, APR 1995. THAMNOPHIS HAMMONDII ALSO PRESENT. 4-5 ADULTS OBS ON CONEJO JUST UPSTREAM OF CALLEGUAS CREEK, 2000.
Owner/Manager:	VEN COUNTY

Occurrence No.	1078	**Map Index:**	72502	**EO Index:**	30061	**Element Last Seen:**	1996-08-09
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1996-08-09
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-10-09

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.17328 / -118.97927	**Accuracy:**	80 meters
UTM:	Zone-11 N3783139 E317577	**Elevation (ft):**	800
PLSS:	T01N, R20W, Sec. 16 (S)	**Acres:**	0.0

Location:	1.6 MILES NW OF THE INTERSECTION OF POTRERO ROAD AND NORTH POTRERO ROAD, SE OF CONEJO MOUNTAIN.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A SMALL, HISTORIC CATTLE POND SURROUNDED BY TYPHA, SALIX, & BACCHARIS PILULARIS. POND IS OVER-POPULATED BY BLUEGILLS & BULLFROGS. TWO-STRIPED GARTER SNAKES ALSO OCCUR AT THIS SITE.
General:	5 ADULTS OBSERVED BASKING ON 9 AUGUST 1996.
Owner/Manager:	PVT

Occurrence No.	1099	**Map Index:**	45176	**EO Index:**	45176	**Element Last Seen:**	2000-08-16
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-08-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2001-04-10

Quad Summary:	Val Verde (3411846), Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.40466 / -118.73703	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3808393 E340344	**Elevation (ft):**	
PLSS:	T04N, R18W, Sec. 26 (S)	**Acres:**	156.6

Location:	SANTA CLARA RIVER, BETWEEN CAMUELOS DIVERSION AND LAS BRISAS BRIDGE.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF AN OPEN RIVER CHANNEL. SURROUNDING AREA IS FARMED.
General:	1 INDIVIDUAL OBSERVED BETWEEN CAMUELOS DIVERSION AND 1 OBSERVED DOWNSTREAM OF LAS BRISAS BRIDGE ON 16 AUG 2000.
Owner/Manager:	PVT-NEWHALL LAND & FARMING

Occurrence No.	1194	**Map Index:**	71048	**EO Index:**	71960	**Element Last Seen:**	2007-06-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-03-20

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Los Angeles

Lat/Long:	34.13858 / -118.75853	**Accuracy:**	specific area
UTM:	Zone-11 N3778918 E337857	**Elevation (ft):**	800
PLSS:	T01N, R18W, Sec. 27 (S)	**Acres:**	18.0

Location:	MEDEA CREEK, NEAR AGOURA HILLS, SANTA MONICA MOUNTAINS.
Detailed Location:	LOCATED BETWEEN 200 TO 1400 FT SE OF THE INTERSECTION OF CORNELL RD AND KANAN RD. TRIANGLE RANCH RESIDENTIAL DEVELOPMENT PROJECT CUP.
Ecological:	HABITAT CONSISTS OF A SLOW FLOWING CREEK WITH DEEP POOLS SURROUNDED BY WILLOW RIPARIAN WOODLAND, CHAPARRAL, AND RUDERAL UPLANDS. BUSY ROADWAYS IMMEDIATELY TO THE EAST AND RESIDENTIAL/URBAN IMMEDIATELY DOWN AND UPSTREAM FROM SITE.
General:	2 ADULT MALES AND 1 JUVENILE LIVE TRAPPED AND RELEASED BY ECORP CONSULTANTS, INC. DURING MAY AND JUNE 2007 FOR PRESENCE ABSENCE STUDY. JUVENILE FEMALE INDICATES THAT A BREEDING POPULATION IS AT THIS SITE.
Owner/Manager:	PVT

Occurrence No.	1218	**Map Index:**	78677	**EO Index:**	79643	**Element Last Seen:**	2010-04-22
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-04-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-04-27

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.27778 / -118.79833	**Accuracy:**	80 meters
UTM:	Zone-11 N3794420 E334460	**Elevation (ft):**	710
PLSS:	T02N, R18W, Sec. 07 (S)	**Acres:**	0.0

Location:	0.1 MILES WEST OF THE N MADERA RD BRIDGE (HWY 118) OVER ARROYO SIMI, IN ARROYO SIMI, SIMI VALLEY.
Detailed Location:	MAPPED TO COORDINATES GIVEN.
Ecological:	CONCRETE RIPRAP BANKS & NARROW CHANNEL; OCCASIONAL CHECK DAMS W/ SMALL POOLS & SOME BASKING AREAS. SOME EMERGENT VEGETATION (CATTAILS, ETC); NO LARGE VEGETATION. CHANNEL SURROUNDED BY WALKING TRAIL & DEVELOPMENT. BETTER HABITAT DOWNSTREAM.
General:	1 LARGE ADULT WAS OBSERVED BASKING ON A ROCK IN THE MIDDLE OF THE CHANNEL ON 22 APR 2010. SITE LIKELY USED FOR REARING, FEEDING, & BASKING, BUT NOT APPROPRIATE FOR BREEDING/NESTING. BETTER HABITAT ABOUT 1/4 MI DOWNSTREAM FOR REPRODUCTION.
Owner/Manager:	CITY OF SIMI VALLEY

Occurrence No.	1247	**Map Index:**	88270	**EO Index:**	89283	**Element Last Seen:**	2008-09-19
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-09-19
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-02-21

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.44958 / -118.82422	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3813516 E332419	**Elevation (ft):**	1200
PLSS:	T04N, R19W, Sec. 12 (S)	**Acres:**	85.0

Location:	HOPPER CANYON, ABOUT 1.6 MI NE OF HUTTON PEAK, AND ABOUT 1.3 MI E OF MODEL PEAK, ABOUT 3 MI NNW OF PIRU.
Detailed Location:	MAPPED TO STREAM SEGMENT 1.5 MILES LONG IN HOPPER CANYON BETWEEN PROVIDED START AND END SURVEY COORDINATES.
Ecological:	"PERENNIAL WATER CREEK WITH WILLOW/MULEFAT SCRUB, CATTAIL SP. WITH ADJACENT UPLAND SAGE SPECIES AND SYCAMORE/OAK WOODLANDS. BOULDER SUBSTRATE WITH NUMEROUS POOLS, RIFFLES, AND GLIDES. NUMEROUS BASKING SITES."
General:	14 ADULTS AND 1 JUVENILE WERE OBSERVED ON 19 SEP 2008 WHILE SURVEYING 1.5 MILES OF A STREAM.
Owner/Manager:	UNKNOWN

Occurrence No.	1248	**Map Index:**	89862	**EO Index:**	90870	**Element Last Seen:**	2013-06-20
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2013-06-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2013-08-02

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.20951 / -119.11098	**Accuracy:**	80 meters
UTM:	Zone-11 N3787402 E305518	**Elevation (ft):**	55
PLSS:	T02N, R21W, Sec. 32 (S)	**Acres:**	0.0

Location:	ALONG REVOLUTION SLOUGH NEAR BEARDSLEY SLOUGH, VICINITY OF WEST END OF CAMARILLO AIRPORT (OXNARD AFB), CAMARILLO.
Detailed Location:	SOUTHERN PORTION OF CAMARILLO HILLS DRAIN. MAPPED TO PROVIDED COORDINATES.
Ecological:	HABITAT DESCRIBED AS DEGRADED POND HABITAT IN NON-VEGETATED PORTION OF THE CAMARILLO HILLS DRAIN WITH ROCK RIPRAP SLOPES AND SILT BOTTOM CHANNEL. AREA SURROUNDED BY AGRICULTURE AND AIRPORT. SITE WILL BE DE-WATERED FOR CONSTRUCTION.
General:	ONE POND TURTLE OBSERVED BASKING ON ROCK IN CHANNEL ON 20 JUN 2013.
Owner/Manager:	VEN COUNTY-WPD

Anniella pulchra pulchra

Element Code: ARACC01012

silvery legless lizard

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3G4T3T4Q
	State:	None		**State:**	S3
	Other:	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive			
Habitat:	**General:**	SANDY OR LOOSE LOAMY SOILS UNDER SPARSE VEGETATION.			
	Micro:	SOIL MOISTURE IS ESSENTIAL. THEY PREFER SOILS WITH A HIGH MOISTURE CONTENT.			

Occurrence No.	78	**Map Index:** 79331	**EO Index:** 80196	**Element Last Seen:**	2009-09-18
Occ. Rank:	Poor		**Presence:** Presumed Extant	**Site Last Seen:**	2009-09-18
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2010-07-14

Quad Summary: Thousand Oaks (3411827)

County Summary: Los Angeles

Lat/Long:	34.15783 / -118.80267	**Accuracy:**	specific area
UTM:	Zone-11 N3781125 E333825	**Elevation (ft):**	1100
PLSS:	T01N, R18W, Sec. 19 (S)	**Acres:**	10.0

Location: NORTH OF E THOUSAND OAKS BLVD, FROM 0.2 - 0.4 MILE EAST OF VIA COLINAS (ROAD), THOUSAND OAKS.

Detailed Location: LA BAYA PARK PROJECT SITE. WESTLAKE VILLAGE. LOCATION MAPPED TO PROVIDED COORDINATES.

Ecological: MOSTLY COASTAL SAGE SCRUB W/SCATTERED STANDS OF OAK WOODLAND. QUALITY OF SITE FAIR TO EXCELLENT PRIOR TO DEVELOPMENT, BUT POOR AFTER DEVELOPMENT. PARK WILL BE COMPRISED OF BALL FIELDS; PERIMETER WILL BE COASTAL SAGE SCRUB W/PLANTED OAKS.

General: 1 ADULT FOUND DEAD ON 13 AUG 2009. 1 OF UNKNOWN AGE FOUND DEAD ON18 SEP 2009. BOTH INDIVIDUALS FOUND DURING CONSTRUCTION MONITORING FOR PROJECT. SURROUNDING LAND COMPRISED OF OPEN SPACE, RESIDENTIAL, AND COMMERCIAL DEVELOPMENT.

Owner/Manager: CITY OF WESTLAKE VILLAGE

Phrynosoma blainvillii

Element Code: ARACF12100

coast horned lizard

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3G4
	State:	None		**State:**	S3S4
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern			
Habitat:	**General:**	FREQUENTS A WIDE VARIETY OF HABITATS, MOST COMMON IN LOWLANDS ALONG SANDY WASHES WITH SCATTERED LOW BUSHES.			
	Micro:	OPEN AREAS FOR SUNNING, BUSHES FOR COVER, PATCHES OF LOOSE SOIL FOR BURIAL, & ABUNDANT SUPPLY OF ANTS & OTHER INSECTS.			

Occurrence No.	494	**Map Index:**	52852	**EO Index:**	52852	**Element Last Seen:**	2002-05-28
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2002-05-28
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2003-10-08

Quad Summary: Simi (3411837)
County Summary: Ventura

Lat/Long:	34.33752 / -118.85580	**Accuracy:**	80 meters
UTM:	Zone-11 N3801140 E329290	**Elevation (ft):**	1700
PLSS:	T03N, R19W, Sec. 15 (S)	**Acres:**	0.0

Location: BIG MOUNTAIN AREA, 4 MILES NNE OF MOORPARK.
Detailed Location:
Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB, BISECTED BY FIRE/UTILITY ACCESS ROADS.
General: 2 ADULTS OBSERVED ON 28 MAY 2002.
Owner/Manager: UNKNOWN

Occurrence No.	495	**Map Index:**	52853	**EO Index:**	52853	**Element Last Seen:**	2002-05-28
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2002-05-28
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2003-10-08

Quad Summary: Simi (3411837)
County Summary: Ventura

Lat/Long:	34.34738 / -118.85045	**Accuracy:**	specific area
UTM:	Zone-11 N3802225 E329802	**Elevation (ft):**	1400
PLSS:	T03N, R19W, Sec. 15 (S)	**Acres:**	15.3

Location: BIG MOUNTAIN AREA, 4.5 MILES NNE OF MOORPARK.
Detailed Location:
Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB, BISECTED BY FIRE/UTILITY ACCESS ROADS.
General: 2 ADULTS OBSERVED ON 28 MAY 2002.
Owner/Manager: UNKNOWN

Occurrence No.	496	**Map Index:**	52854	**EO Index:**	52854	**Element Last Seen:**	2002-05-28
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2002-05-28
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2003-10-08

Quad Summary: Simi (3411837)
County Summary: Ventura

Lat/Long:	34.35005 / -118.83945	**Accuracy:**	80 meters
UTM:	Zone-11 N3802503 E330820	**Elevation (ft):**	1600
PLSS:	T03N, R19W, Sec. 14 (S)	**Acres:**	0.0

Location: BIG MOUNTAIN AREA, 5 MILES NNE OF MOORPARK.
Detailed Location:
Ecological: HABITAT CONSISTS OF COASTAL SAGE SCRUB, BISECTED BY FIRE/UTILITY ACCESS ROADS.
General: 1 ADULT OBSERVED ON 28 MAY 2002.
Owner/Manager: UNKNOWN

Occurrence No.	497	**Map Index:**	52864	**EO Index:**	52864	**Element Last Seen:**	2003-10-10
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-10-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2003-11-06

Quad Summary: Moorpark (3411838), Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.37641 / -118.96915	**Accuracy:**	specific area
UTM:	Zone-11 N3805650 E318945	**Elevation (ft):**	400
PLSS:	T03N, R20W, Sec. 03 (S)	**Acres:**	28.0

Location: BETWEEN TELEGRAPH ROAD (HIGHWAY 126) AND THE SANTA CLARA RIVER, 3 MILES SW OF FILLMORE.

Detailed Location: LIZARDS FOUND IN THE VICINITY OF A DRY STREAMBED AND WITHIN A COMMERCIAL NURSERY.

Ecological: HABITAT CONSISTS OF A SANDY STREAMBED WITH NEARBY SOUTHERN RIPARIAN SCRUB AND COASTAL SAGE SCRUB.

General: 2 JUVENILES OBSERVED ON 30 SEP 2003; 1 JUVENILE OBSERVED ON 7 OCT 2003; 1 JUVENILE OBSERVED ON 10 OCT 2003.

Owner/Manager: PVT-VALLEY CREST TREE CO

Occurrence No.	670	**Map Index:**	71371	**EO Index:**	72270	**Element Last Seen:**	2008-04-16
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-04-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-05-27

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.29222 / -118.81000	**Accuracy:**	80 meters
UTM:	Zone-11 N3796041 E333414	**Elevation (ft):**	780
PLSS:	T03N, R18W, Sec. 31 (S)	**Acres:**	0.0

Location: ALAMOS CANYON, 150 METERS NORTH OF STATE ROUTE 118, NORTHWEST OF SIMI VALLEY.

Detailed Location: JUST EAST OF ALAMOS CANYON ROAD.

Ecological: HABITAT CONSISTS OF AN UPLAND AREA. THE OVERALL AREA IS COMPRISED OF OPEN AND A RIPARIAN ZONE. NUMEROUS NON-ARGENTINE ANT COLONIES WERE PRESENT IN THE IMMEDIATE AREA.

General: 1 ADULT OBSERVED UNDER A SMALL WEEDY BUSH AT 11 AM ON 16 APR 2008. ESTIMATED TEMPERATURE: 75 DEGREES F.

Owner/Manager: PVT-WASTE MANAGEMENT

Occurrence No.	688	**Map Index:**	76267	**EO Index:**	77246	**Element Last Seen:**	2008-05-13
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-05-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-08-17

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.42924 / -118.83403	**Accuracy:**	80 meters
UTM:	Zone-11 N3811277 E331477	**Elevation (ft):**	866
PLSS:	T04N, R19W, Sec. 14 (S)	**Acres:**	0.0

Location:	SOUTH END OF HOPPER CANYON, 0.75 MILE ESE OF HUTTON PEAK, 2 MILES NNW OF BUCKTHORN.
Detailed Location:	LOCATED ALONG HOPPER CANYON ROAD, 0.6 ROAD MILE NORTH OF TOMS CANYON.
Ecological:	PRISTINE RIPARIAN AREA (HOPPER CREEK) CONSISTING OF SOUTHERN WILLOW/MULEFAT SCRUB AND SYCAMORE WOODLANDS. ADJACENT UPLAND COMPRISED OF SAGE AND OAK WOODLAND COMMUNITIES.
General:	ONE ADULT OBSERVED AT THIS LOCATION. SURROUNDING LAND MOSTLY OPEN SPACE WITH A FEW OIL WELLS ON-SITE (OIL LEASE LAND) AND ACCESS ROAD WITH MODERATE ACTIVITY. DOWNSTREAM HABITAT BECOMES DEGRADED.
Owner/Manager:	PVT-DCOR LLC

Occurrence No.	707	**Map Index:**	80418	**EO Index:**	81406	**Element Last Seen:**	2010-05-13
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-05-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-10-19

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.39843 / -118.79333	**Accuracy:**	80 meters
UTM:	Zone-11 N3807793 E335156	**Elevation (ft):**	635
PLSS:	T04N, R18W, Sec. 29 (S)	**Acres:**	0.0

Location:	0.1 MI SSE OF HOWE RD AT TORREY RD, 1.2 MI S OF PIRU PO, NORTH RIVERBANK OF SANTA CLARA RIVER.
Detailed Location:	MAPPED TO COODINATES PROVIDED.
Ecological:	HABITAT CONSISTS OF SCATTERED NATIVE AND NON-NATIVE SHRUBS INCLUDES MULEFAT, COCKLEBUR, TELEGRAPH WEED, GIANT REED, & CALIFORNIA SAGEBRUSH.
General:	1 ADULT WAS BASKING IN SAND ON 13 MAY 2010.
Owner/Manager:	TNC-SANTA CLARA RIVER

Occurrence No.	725	**Map Index:**	80541	**EO Index:**	81522	**Element Last Seen:**	2009-10-21
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-10-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-10-28

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.38740 / -118.91192	**Accuracy:**	80 meters
UTM:	Zone-11 N3806769 E324231	**Elevation (ft):**	425
PLSS:	T04N, R19W, Sec. 31 (S)	**Acres:**	0.0

Location: S OF SANTA CLARA RIVER, 0.2 MI UPSTREAM OF CHAMBERSBURG RD (HWY 23) BRIDGE, 1 MI N OF ELKINS RANCH GOLF COURSE.

Detailed Location: MAPPED TO COORDINATES PROVIDED.

Ecological: HABITAT CONSISTS OF SANDY AREA WITHIN THE FLOODPLAIN DOMINATED BY MULEFAT. SITE IS A MITIGATION AREA FOR A SOIL CEMENT LEVEE INSTALLED TO PROTECT THE FILLMORE COUNTY LANDFILL CLOSED IN 1972.

General: TWO JUVENILES WERE OBSERVED TOGETHER ON 21 OCT 2009.

Owner/Manager: CITY OF FILLMORE

Occurrence No.	733	**Map Index:**	80616	**EO Index:**	81607	**Element Last Seen:**	2007-04-17
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-04-17
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-11-04

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.24794 / -118.93453	**Accuracy:**	80 meters
UTM:	Zone-11 N3791340 E321858	**Elevation (ft):**	500
PLSS:	T02N, R20W, Sec. 24 (S)	**Acres:**	0.0

Location: 1 MI NNE OF SANTA ROSA RD AT GERRY RD, 1.7 MI SE OF LAGOL, S SLOPE OF LAS POSAS HILLS.

Detailed Location: MAPPED TO COORDINATES PROVIDED.

Ecological: CHAPARRAL HABITAT.

General: TWO ADULTS WERE OBSERVED ON 17 APR 2007.

Owner/Manager: PVT

Aspidoscelis tigris stejnegeri

Element Code: ARACJ02143

coastal whiptail

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T3T4
	State:	None		**State:**	S2S3
	Other:				
Habitat:	**General:**	FOUND IN DESERTS & SEMIARID AREAS WITH SPARSE VEGETATION AND OPEN AREAS. ALSO FOUND IN WOODLAND & RIPARIAN AREAS.			
	Micro:	GROUND MAY BE FIRM SOIL, SANDY, OR ROCKY.			

Occurrence No.	11	**Map Index:**	33615	**EO Index:**	30049	**Element Last Seen:**	1996-05-22
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1996-05-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1997-01-06

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.29051 / -118.81185	**Accuracy:**	80 meters
UTM:	Zone-11 N3795853 E333240	**Elevation (ft):**	750
PLSS:	T02N, R18W, Sec. 06 (S)	**Acres:**	0.0

Location: ALAMOS CANYON ROAD, NORTH OF HWY 118, 1.5 MILES EAST OF MOORPARK COLLEGE, SIMI VALLEY.

Detailed Location:

Ecological: HABITAT CONSISTS OF BUCKBRUSH CHAPARRAL TO THE EAST OF ROAD & VENTURAN COASTAL SAGE SCRUB TO THE WEST OF ROAD.

General: ONE ADULT OBSERVED ON 22 MAY 1996.

Owner/Manager: PVT

Occurrence No.	12	**Map Index:**	33616	**EO Index:**	30050	**Element Last Seen:**	1996-05-22
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1996-05-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1997-01-06

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.28618 / -118.80485	**Accuracy:**	80 meters
UTM:	Zone-11 N3795361 E333877	**Elevation (ft):**	710
PLSS:	T02N, R18W, Sec. 06 (S)	**Acres:**	0.0

Location: UNNAMED CANYON, BETWEEN ALAMOS CANYON AND BREA CANYON, NORTH SIDE OF HWY 118, NW OF SIMI.

Detailed Location: SITE IS LOCATED NEAR THE WESTERN TERMINOUS OF COCHRAN ROAD.

Ecological:

General: 1 ADULT OBSERVED ON 22 MAY 1996.

Owner/Manager: PVT

Occurrence No.	22	**Map Index:**	41896	**EO Index:**	41896	**Element Last Seen:**	1999-07-21
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1999-07-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1999-11-17

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.13534 / -118.84450	**Accuracy:**	80 meters
UTM:	Zone-11 N3778699 E329924	**Elevation (ft):**	1200
PLSS:	T01N, R19W, Sec. 26 (S)	**Acres:**	0.0

Location: 1 MILE EAST OF LAKE SHERWOOD, NORTH OF SANTA MONICA MOUNTAINS RECREATION AREA, THOUSAND OAKS.

Detailed Location: SITE IS LOCATED AT THE END OF YELLOW WOOD DRIVE, THOUSAND OAKS, JUST NORTH OF THE VENTURA/LOS ANGELES COUNTY LINE.

Ecological: HABITAT CONSISTS OF BUCK BRUSH CHAPARRAL; SURROUNDED BY RESIDENTIAL AND OPEN SPACE. LYONS PENTACHAETA ALSO FOUND AT THIS SITE.

General: 1 ADULT OBSERVED ON 21 JUL 1999.

Owner/Manager: PVT-CANYON WEST

Occurrence No.	24	**Map Index:**	43159	**EO Index:**	43159	**Element Last Seen:**	2000-06-21
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-06-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-06-29

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Los Angeles

Lat/Long:	34.12680 / -118.85421	**Accuracy:**	80 meters
UTM:	Zone-11 N3777768 E329011	**Elevation (ft):**	1100
PLSS:	T01N, R19W, Sec. 34 (S)	**Acres:**	0.0

Location:	ADJACENT TO KIRSTEN LEE ROAD, EAST OF DECKER ROAD, JUST SOUTH OF THE VENTURA COUNTY LINE, WESTLAKE VILLAGE.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF CHAPARRAL, NON-NATIVE GRASSLAND, AND OAK WOODLAND; DOMINATED BY CEANOTHUS SP, QUERCUS BERBERIDIFOLIA, QUERCUS AGRIFOLIA, ADENOSTOMA FASCICULATUM, TOXICODENDRON DIVERSILOBUM, AND SALVIA MELLIFERA.
General:	1 ADULT OBSERVED ON A PREVIOUSLY-GRADED SLOPE ON 21 JUN 2000.
Owner/Manager:	PVT

Occurrence No.	101	**Map Index:**	80071	**EO Index:**	81058	**Element Last Seen:**	2009-04-08
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-04-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-10-25

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.41831 / -118.78944	**Accuracy:**	80 meters
UTM:	Zone-11 N3809991 E335553	**Elevation (ft):**	700
PLSS:	T04N, R18W, Sec. 20 (S)	**Acres:**	0.0

Location:	PIRU CREEK AND ITS RIVERBANK, ABOUT 0.1 MILE ENE OF PIRU CANYON RD (N MAIN ST) AT ORCHARD ST, & 0.3 MILE NE OF PIRU PO.
Detailed Location:	VENTURA COUNTY WATERSHED PROTECTION DISTRICT PIRU BANK STABILIZATION PROJECT SITE (2009).
Ecological:	SCRUB VEGETATION WITH RANDAMLY SPACED OPEN AREAS LOCATED WITHIN PIRU CREEK, SURROUNDED BY RESIDENTIAL, AGRICULTUAL AND HILSIDE AREA.
General:	TWO ADULTS OBSERVED BY K. GILLILAND ON 8 APR 2009.
Owner/Manager:	PVT

Salvadora hexalepis virgultea **Element Code:** ARADB30033

coast patch-nosed snake

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T4
	State:	None		**State:**	S2S3
	Other:	CDFW_SSC-Species of Special Concern			
Habitat:	**General:**	BRUSHY OR SHRUBBY VEGETATION IN COASTAL SOUTHERN CALIFORNIA.			
	Micro:	REQUIRE SMALL MAMMAL BURROWS FOR REFUGE AND OVERWINTERING SITES.			

Occurrence No.	18	**Map Index:** 73564	**EO Index:** 74539	**Element Last Seen:**	2008-05-13
Occ. Rank:	Good		**Presence:** Presumed Extant	**Site Last Seen:**	2008-05-13
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2009-02-11

Quad Summary: Piru (3411847)

County Summary: Ventura

Lat/Long:	34.42536 / -118.83381	**Accuracy:**	80 meters
UTM:	Zone-11 N3810846 E331489	**Elevation (ft):**	810
PLSS:	T04N, R19W, Sec. 14 (S)	**Acres:**	0.0

Location: HOPPER CREEK, 2.10 MI NW OF PIRU.

Detailed Location:

Ecological: PRISTINE RIPARIAN AREA CONSISTING SOUTHERN WILLOW/MULEFLAT SCRUB AND SYCAMORE WOODLANDS. ADJACENT UPLAND SAGE AND OAK WOODLAND COMMUNITIES. SURROUNDING AREA IS OIL LEASE LAND, MOSTLY OPEN SPACE WITH A FEW OIL WELLS ON SITE.

General: A LARGE ADULT FEMALE WAS FOUND IN CANYON. DISTURBED BY ACCESS ROAD WITH MODERATE VEHICLE ACTIVITY; DOWNSTREAM HABITAT BECOMES DEGRADED.

Owner/Manager: PVT-DCOR LLC

Thamnophis sirtalis ssp.

Element Code: ARADB3613F

south coast garter snake

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T1T2
	State:	None		**State:**	S1S2
	Other:	CDFW_SSC-Species of Special Concern			
Habitat:	**General:**	SOUTHERN CALIFORNIA COASTAL PLAIN FROM VENTURA CO. TO SAN DIEGO CO., AND FROM SEA LEVEL TO ABOUT 850 M.			
	Micro:	MARSH & UPLAND HABITATS NEAR PERMANENT WATER WITH GOOD STRIPS OF RIPARIAN VEGETATION.			

Occurrence No.	2	**Map Index:** 73561	**EO Index:** 74537	**Element Last Seen:**	2008-04-04
Occ. Rank:	Good		**Presence:** Presumed Extant	**Site Last Seen:**	2008-04-04
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2009-02-11

Quad Summary: Santa Paula (3411931)

County Summary: Ventura

Lat/Long:	34.30887 / -119.10087	**Accuracy:**	80 meters
UTM:	Zone-11 N3798403 E306678	**Elevation (ft):**	184
PLSS:	T03N, R21W, Sec. 29 (S)	**Acres:**	0.0

Location: 0.5 KM NORTH OF THE SANTA CLARA RIVER CHANNEL, ABOUT 2.0 MI SW OF SANTA PAULA.

Detailed Location: 0.40 MI SSE OF THE INTERSECTION OF MISSION ROCK RD & SHELL RD.

Ecological: CALIFORNIA SAGEBRUSH SERIES/CALIFORNIA ANNUAL GRASSLAND SERIES. SITE WAS A FORMERLY A CEMENT BATCH PLANT, NOW PRESERVED OPEN SPACE.

General: THE SNAKE WAS BIG (AT LEAST A METER LONG), FAT, AND LOOKED PRETTY HEALTHY. IT MOVED VERY QUICKLY ONCE STARTLED. THE SIGHTING WAS AT ~11:00AM, IN DEGRADED HABITAT.

Owner/Manager: TNC

Thamnophis hammondii

Element Code: ARADB36160

two-striped garter snake

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G4
	State:	None		**State:**	S3S4
	Other:	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive			
Habitat:	**General:**	COASTAL CALIFORNIA FROM VICINITY OF SALINAS TO NORTHWEST BAJA CALIFORNIA. FROM SEA TO ABOUT 7,000 FT ELEVATION.			
	Micro:	HIGHLY AQUATIC, FOUND IN OR NEAR PERMANENT FRESH WATER. OFTEN ALONG STREAMS WITH ROCKY BEDS AND RIPARIAN GROWTH.			

Occurrence No.	4	**Map Index:**	23952	**EO Index:**	13496	**Element Last Seen:**	1993-05-27
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	1993-05-27
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1994-04-08

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.28073 / -118.80508	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3794758 E333845	**Elevation (ft):**	640
PLSS:	T02N, R18W, Sec. 06 (S)	**Acres:**	0.0

Location: ARROYO SIMI, 0.7 MILE NW OF THE JUNCTION OF LOS ANGELES AVENUE AND MADERA ROAD, SIMI VALLEY.

Detailed Location:

Ecological: HABITAT CONSISTS OF RIPARIAN SCRUB HABITAT, LOCATED ON THE TERRACES ELEVATED ABOVE THE FLOW OF THE ARROYO SIMI.

General: TWO JUVENILE SNAKES FOUND WITHIN THE ARROYO SIMI.

Owner/Manager: CITY OF SIMI VALLEY

Occurrence No.	27	**Map Index:**	31289	**EO Index:**	21108	**Element Last Seen:**	1985-02-16
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1985-02-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1995-05-10

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.48828 / -118.90912	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3817951 E324700	**Elevation (ft):**	2100
PLSS:	T05N, R19W (S)	**Acres:**	54.8

Location: MAPLE CREEK, 0.5-1.0 MILE WEST OF THE MAPLE CREEK JUNCTION WITH SQUAW FLAT ROAD, NORTH OF FILLMORE.

Detailed Location:

Ecological:

General: UCSB SPECIMEN #27721, COLLECTED ON 16 FEBRUARY 1985.

Owner/Manager: USFS-LOS PADRES NF

Occurrence No.	40	**Map Index:**	27911	**EO Index:**	22660	**Element Last Seen:**	1995-04-XX
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1995-04-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1996-04-17

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.21249 / -118.99085	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3787509 E316594	**Elevation (ft):**	120
PLSS:	T02N, R20W (S)	**Acres:**	0.0

Location: CONEJO CREEK, JUST NORTHEAST OF HWY 101 IN PLEASANT VALLEY.

Detailed Location: OBSERVED 1000 FEET UPSTREAM FROM THE HWY 101 OVERCROSSING.

Ecological: CREEK IS +/-300 FEET WIDE, CONSTRAINED BY LEVEES. RIPARIAN VEGETATION IS LIMITED TO A FEW STRIPS OF SMALL ARROYO WILLOWS; MUCH OF THE VEGETATION WAS SCOURED BY MAJOR STORMS IN JAN-MAR 1995.

General: ONE ADULT OBSERVED IN APRIL 1995; A GOOD POPULATION OF SOUTHWESTERN POND TURTLE ALSO FOUND HERE.

Owner/Manager: VEN COUNTY

Occurrence No.	46	**Map Index:**	33595	**EO Index:**	30060	**Element Last Seen:**	1996-08-09
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1996-08-09
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1997-02-04

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.17328 / -118.97953	**Accuracy:**	80 meters
UTM:	Zone-11 N3783139 E317553	**Elevation (ft):**	800
PLSS:	T01N, R20W, Sec. 16 (S)	**Acres:**	0.0

Location:	1.6 MILES NW OF THE INTERSECTION OF POTRERO ROAD AND NORTH POTRERO ROAD, SE OF CONEJO MOUNTAIN.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF A SMALL, HISTORIC CATTLE POND SURROUNDED BY TYPHA, SALIX, & BACCHARIS PILULARIS. POND IS OVER-POPULATED BY BLUEGILLS & BULLFROGS. SOUTHWESTERN POND TURTLES ALSO OCCUR AT THIS SITE.
General:	8 SNAKES OBSERVED BASKING/FORAGING ON 9 AUGUST 1996.
Owner/Manager:	PVT

Occurrence No.	81	**Map Index:**	52351	**EO Index:**	52351	**Element Last Seen:**	2003-08-28
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-08-28
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2003-09-08

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.49028 / -118.92834	**Accuracy:**	80 meters
UTM:	Zone-11 N3818207 E322939	**Elevation (ft):**	1911
PLSS:	T05N, R20W, Sec. 25 (S)	**Acres:**	0.0

Location:	TAR CREEK, ABOUT 1 MILE UPSTREAM FROM THE SESPE CREEK CONFLUENCE, LOS PADRES NATIONAL FOREST.
Detailed Location:	LOCATED WHERE A USFS TRAIL LEADING DOWN TO TAR CREEK CROSSES TAR CREEK.
Ecological:	HABITAT CONSISTS OF A MOSTLY-DRY CREEK BED, AMONG BOULDERS/ROCKS/SAND. MANY TREEFROG AND CHORUS FROG METAMORPHS PRESENT.
General:	1 JUVENILE SNAKE OBSERVED ON 28 AUG 2003.
Owner/Manager:	USFS-LOS PADRES NF

Occurrence No.	97	**Map Index:**	63699	**EO Index:**	63794	**Element Last Seen:**	2005-12-22
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2005-12-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2011-08-25

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.39376 / -118.91337	**Accuracy:**	80 meters
UTM:	Zone-11 N3807476 E324111	**Elevation (ft):**	430
PLSS:	T04N, R19W, Sec. 30 (S)	**Acres:**	0.0

Location:	0.3 MILE SE OF THE INTERSECTION OF HIGHWAY 23 AND CHAMBERSBURG ROAD, ON THE SOUTH EDGE OF FILLMORE.
Detailed Location:	
Ecological:	HABITAT CONSISTS OF SOUTHERN RIPARIAN SCRUB THAT IS HIGHLY INVADED BY GIANT REED (ARUNDO DONAX); OTHER DOMINANTS INCLUDE BACCHARIS SALICIFOLIA, SALIX LASIOLEPIS, AND SALIX EXIGUA. SITE IS LOCATED ON AN ALLUVIAL FAN/100-YEAR FLOODPLAIN.
General:	1 ADULT CAPTURED EACH ON 22 & 27 DEC 2005, BOTH RELEASED OFF-SITE (DUE TO CURRENT DEVELOPMENT).
Owner/Manager:	PVT

Occurrence No.	114	**Map Index:**	76038	**EO Index:**	77038	**Element Last Seen:**	2009-04-06
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-04-06
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-07-30

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.14169 / -118.94520	**Accuracy:**	80 meters
UTM:	Zone-11 N3779576 E320650	**Elevation (ft):**	1032
PLSS:	T01N, R20W, Sec. 26 (S)	**Acres:**	0.0

Location:	UPPER END OF SYCAMORE CANYON, 3.5 MILES SOUTHWEST OF NEWBURY PARK PO, SANTA MONICA MOUNTAINS.
Detailed Location:	1.5 MILES SW OF BENCHMARK 1316 NORTH OF POTRERO ROAD. LOCATION LIES EAST OF OLD BONEY ROAD, SOUTH OF DANIELSON FIRE ROAD, AND WEST OF STABER ROAD.
Ecological:	PERMANENT FRESH WATER STREAM WITH ROCKY BED BORDERED BY LIVE OAK, SYCAMORE, AND BAY LAUREL. AREA IS HEAVILY USED BY HIKERS.
General:	ONE ADULT SPOTTED SWIMMING 6 APR 2006 AT BASE OF WATERFALL IN STREAM (PHOTO ATTACHED).
Owner/Manager:	DPR-POINT MUGU SP

Occurrence No.	115	**Map Index:**	76040	**EO Index:**	77040	**Element Last Seen:**	2008-05-13
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-05-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-07-30

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.42658 / -118.83107	**Accuracy:**	80 meters
UTM:	Zone-11 N3810977 E331744	**Elevation (ft):**	865
PLSS:	T04N, R19W, Sec. 13 (S)	**Acres:**	0.0

Location:	HOPPER CANYON CREEK, 1.8 MILES NORTH OF STATE ROUTE 126 AND HOPPER CANYON ROAD INTERSECTION, 2.25 MILES WNW OF PIRU.
Detailed Location:	JUST NORTHEAST OF TOM'S CANYON, 0.95 MILES SE OF HUTTON'S PEAK, JUST EAST OF HOPPER ROAD. MAPPED ACCORDING TO COORDINATES GIVEN.
Ecological:	PRISTINE RIPARIAN AREA CONSISTING OF SOUTHERN WILLOW/MULEFAT SCRUB AND SYCAMORE WOODLANDS. ADJACENT TO UPLAND SAGE AND OAK WOODLAND COMMUNITIES. DOWNSTREAM THE HABITAT BECOMES DEGRADED.
General:	ONE ADULT SNAKE HAND CAPTURED, PHOTOGRAPHED, AND RELEASED AT THIS SITE. OIL LEASE LANDS CONSITSTING OF MOSTLY OPEN SPACE WITH A FEW OIL WELLS ON SITE. ACCESS ROADS HAVE MODERATE ACTIVITY.
Owner/Manager:	PVT-DCOR LLC

Occurrence No.	116	**Map Index:**	76042	**EO Index:**	77042	**Element Last Seen:**	2007-11-20
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-11-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-10-13

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.16388 / -119.06250	**Accuracy:**	80 meters
UTM:	Zone-11 N3782250 E309883	**Elevation (ft):**	30
PLSS:	T01N, R21W, Sec. 15 (S)	**Acres:**	0.0

Location:	CALLEGUAS CREEK, JUST WEST OF ROUND MOUNTAIN, 4.2 MILES SSW OF CAMARILLO PO.
Detailed Location:	JUST SOUTHWEST OF THE HUENEME ROAD/LAGUNA ROAD INTERSECTION BEFORE IT CROSSES OVER CALLEGUAS CREEK HEADING TOWARDS ROUND MOUNTAIN.
Ecological:	DISTURBED RIPARIAN HABITAT SURROUNDED BY AGRICULTURE, DRAINAGE DITCHES, AND LEVEES.
General:	ONE ADULT SNAKE WAS SEEN 20 NOV 2007 CROSSING FROM THE WEST SIDE LEVEE ROAD FROM REVOLON DITCH TO CALLEGUAS CREEK.
Owner/Manager:	VEN COUNTY

Occurrence No.	133	**Map Index:**	80071	**EO Index:**	81235	**Element Last Seen:**	2009-04-22
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-04-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-10-04

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.41831 / -118.78944	**Accuracy:**	80 meters
UTM:	Zone-11 N3809991 E335553	**Elevation (ft):**	700
PLSS:	T04N, R18W, Sec. 20 (S)	**Acres:**	0.0

Location:	PIRU CREEK ABOUT 0.1 MILE ENE OF PIRU CANYON RD (N MAIN ST) AT ORCHARD ST.
Detailed Location:	VENTURA COUNTY WATERSHED PROTECTION DISTRICT PIRU BANK STABILIZATION PROJECT SITE (2009). MAPPED TO COORDINATES PROVIDED.
Ecological:	EXTENSIVE RUN/POOLS/RIFFLE COMPLEX. POOLS DEEP & LINED WITH VEGETATION. RIPARIAN VEGETATION DOMINATED BY ARROYO WILLOW WITH WESTERN SYCAMORE, WHITE ALDER, FREMONT COTTONWOOD, NARROW LEAF WILLOW & MULEFAT. PREY SPECIES PRESENT.
General:	1 ADULT WAS OBSERVED BY K. GILLILAND ON 22 APR 2009. PACIFIC CHORUS FROG, WESTERN FENCE LIZARD, AND 4 FISH SPECIES WERE ALSO OBSERVED DURING SURVEY.
Owner/Manager:	PVT

Occurrence No.	134	**Map Index:**	80251	**EO Index:**	81236	**Element Last Seen:**	2009-06-29
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-06-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-10-26

Quad Summary:	Santa Paula (3411931)
County Summary:	Ventura

Lat/Long:	34.37393 / -119.05617	**Accuracy:**	80 meters
UTM:	Zone-11 N3805534 E310937	**Elevation (ft):**	425
PLSS:	T03N, R21W, Sec. 02 (S)	**Acres:**	0.0

Location:	FISH LADDER FACILITY IN SANTA PAULA CREEK, 0.5 MI ENE OF OJAI RD (150) AT OAKDALE PLACE.
Detailed Location:	MAPPED TO COORDINATES PROVIDED.
Ecological:	HABITAT IS PRISTINE RIPARIAN AREA CONSISTING OF SOUTHERN WILLOW AND MULEFAT SCRUB. VENTURA COUNTY FLOOD CONTROL MAINTAINED AREA. ORCHARDS ADJACENT TO CREEK. NOT A LOT OF ADJACENT QUALITY UPLANDS.
General:	1 ADULT WAS OBSERVED BY J. HUMBLE ON 29 JUN 2009.
Owner/Manager:	PVT

Occurrence No.	136	**Map Index:**	80319	**EO Index:**	81307	**Element Last Seen:**	2009-04-08
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-04-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-10-07

Quad Summary:	Santa Paula (3411931)
County Summary:	Ventura

Lat/Long:	34.34780 / -119.05204	**Accuracy:**	specific area
UTM:	Zone-11 N3802628 E311258	**Elevation (ft):**	250
PLSS:	T03N, R21W, Sec. 14 (S)	**Acres:**	9.0

Location:	AROUND BRIDGE OF S MOUNTAIN RD OVER THE SANTA CLARA RIVER, ABOUT 0.3 MI SE OF SANTA PAULA FWY 126 AT S 12TH STREET.
Detailed Location:	LEFT BANK OF SANTA CLARA RIVER. MAPPED TO COORDINATES PROVIDED.
Ecological:	DOMINANT PLANT COMMUNITY IS WILLOW RIPARIAN SCRUB.
General:	2 ADULTS WERE OBSERVED ON 8 APR 2009. ONE SNAKE WAS BASKING NEAR THE BANK AND ONE WAS COILED BENEATH A WILLOW TREE NEAR WATERS EDGE.
Owner/Manager:	TNC-SANTA CLARA RIVER, VEN CO

Valley Needlegrass Grassland

Element Code: CTT42110CA

Valley Needlegrass Grassland

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3.1
	Other:				
Habitat:	**General:**				
	Micro:				

Occurrence No.	45	**Map Index:** 00039	**EO Index:**	16278	**Element Last Seen:**	1985-06-11
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	1985-06-11
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	1998-07-15

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.16494 / -118.97559	**Accuracy:**	specific area
UTM:	Zone-11 N3782208 E317898	**Elevation (ft):**	940
PLSS:	T01N, R20W, Sec. 16 (S)	**Acres:**	73.2

Location: DOS VIENTOS RANCH, EAST-WEST TRENDING VALLEY ABOUT 1 KM NORTH OF POTRERO VALLEY.

Detailed Location: ADJACENT TO VENTURAN COASTAL SAGE SCRUB.

Ecological: NATIVE GRASSLAND W/LARGE COMPONENT OF NASSELLA PULCHRA, BLOOMERIA, SISYRINCHIUM, LUPINUS, ORTHOCARPUS, ESCHSCHOLZIA.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: PVT

Southern Riparian Forest

Element Code: CTT61300CA

Southern Riparian Forest

Listing Status: **Federal:** None
State: None
Other:
Habitat: **General:**
Micro:

CNDDB Element Ranks: **Global:** G4 **State:** S4

Occurrence No.	13 **Map Index:** 00134	**EO Index:**	16037	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown	**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence	**Trend:**	Unknown	**Record Last Updated:**	1998-07-23

Quad Summary: Newbury Park (3411828)
County Summary: Ventura

Lat/Long:	34.20986 / -118.93733	**Accuracy:**	specific area
UTM:	Zone-11 N3787122 E321520	**Elevation (ft):**	280
PLSS:	T02N, R20W, Sec. 36 (S)	**Acres:**	237.8

Location: ARROYO CONEJO & TRIBUTARIES, FROM EAST OF SEWAGE DISPOSAL FACILITY WEST FOR ABOUT 1.5 MILES.

Detailed Location: BOUNDARY REPRESENTS EXTENT AS INTERPRETED FROM 1987 AERIAL PHOTOS BUT INCLUDES A BRIEF UNFORESTED STRETCH.

Ecological: QUERCUS AGRIFOLIA & Q. LOBATA FORMING OPEN WOODLAND OVER GRASS ACCORDING TO WIESLANDER SURVEY. SOME JUGLANS CALIFORNICA PRESENT TOWARD WEST END PER WIESLANDER.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Southern Coast Live Oak Riparian Forest

Element Code: CTT61310CA

Southern Coast Live Oak Riparian Forest

Listing Status: **Federal:** None
State: None
Other:
Habitat: **General:**
Micro:

CNDDB Element Ranks: **Global:** G4 **State:** S4

Occurrence No.	12	**Map Index:**	00535	**EO Index:**	16020	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary:	Santa Susana (3411836), Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.31644 / -118.77719	**Accuracy:**	specific area
UTM:	Zone-11 N3798673 E336481	**Elevation (ft):**	1140
PLSS:	T03N, R18W, Sec. 28 (S)	**Acres:**	276.9

Location:	ALAMOS CANYON, FROM ABOUT 1/2 AIR MILE EAST OF LANDING STRIP U/S ABOUT 3 MILES.
Detailed Location:	MAPPED PER INTERPRETATION OF 1987 AERIAL PHOTOS. FORMERLY EXTENDED D/S 1-2 MILES FURTHER.
Ecological:	MAPPED BY WIESLANDER SURVEY AS QUERCUS AGRIFOLIA WOODLAND W/SALVIA LEUCOPHYLLA & LOTUS SCOPARIUS IN UNDERSTORY IN U/S REACHES.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	13	**Map Index:**	00416	**EO Index:**	16021	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.30199 / -118.81020	**Accuracy:**	specific area
UTM:	Zone-11 N3797124 E333415	**Elevation (ft):**	860
PLSS:	T03N, R18W, Sec. 31 (S)	**Acres:**	64.1

Location:	WEST FORK OF ALAMOS CANYON FROM NEAR WHERE IT FORKS FROM MAIN CANYON TO NEAR LANDING STRIP.
Detailed Location:	MAPPED PER INTERPRETATION OF 1987 AERIAL PHOTOS.
Ecological:	QUERCUS AGRIFOLIA W/ UNDERSTORY OF LOTUS SCOPARIUS ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	14	**Map Index:**	00383	**EO Index:**	13417	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.31553 / -118.81866	**Accuracy:**	specific area
UTM:	Zone-11 N3798639 E332664	**Elevation (ft):**	800
PLSS:	T03N, R19W, Sec. 25 (S)	**Acres:**	517.9

Location: CANYON & TRIBUTARIES EAST-NORTHEAST OF MOORPARK COLLEGE.

Detailed Location: MAPPED PER INTERPRETATION OF 1987 AERIAL PHOTOS.

Ecological: OPEN WOODLAND OF QUERCUS AGRIFOLIA OVER LOTUS SCOPARIUS, SALVIA LEUCOPHYLLA, ARTEMISIA CALIFORNICA ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	15	**Map Index:**	00153	**EO Index:**	16018	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-31

Quad Summary: Moorpark (3411838)

County Summary: Ventura

Lat/Long:	34.34141 / -118.92356	**Accuracy:**	specific area
UTM:	Zone-11 N3801688 E323064	**Elevation (ft):**	940
PLSS:	T03N, R20W, Sec. 13 (S)	**Acres:**	67.8

Location: TRIBUTARY TO GRIMES CANYON, WEST OF HWY 23, ABOVE QUARRY.

Detailed Location: MAPPED PER INTERPRETATION OF 1987 AERIAL PHOTOS.

Ecological:

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	16	**Map Index:**	00008	**EO Index:**	16019	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.12991 / -118.99639	**Accuracy:**	specific area
UTM:	Zone-11 N3778360 E315904	**Elevation (ft):**	360
PLSS:	T01N, R20W, Sec. 32 (S)	**Acres:**	24.8

Location: TRIBUTARY TO BIG SYCAMORE CREEK.

Detailed Location: MAPPED PER INTERPRETATION OF 1987 AERIAL PHOTOS.

Ecological: CLOSED CANOPY DOMINATED BY QUERCUS AGRIFOLIA ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	19	**Map Index:**	15927	**EO Index:**	16017	**Element Last Seen:**	1987-01-12
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-12
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.14616 / -119.00678	**Accuracy:**	specific area
UTM:	Zone-11 N3780181 E314981	**Elevation (ft):**	640
PLSS:	T01N, R20W (S)	**Acres:**	64.9

Location:	SANTA MONICA MTNS, ABOUT 2 MILES ESE OF CAMARILLO STATE HOSPITAL.
Detailed Location:	EXTANT, 1987, ACCORDING TO INTERPRETATION OF AERIAL PHOTOS, MORE EXTENSIVE THAN MAPPED IN 1934.
Ecological:	CLOSED CANOPY WOODLAND DOMINATED BY QUERCUS AGRIFOLIA ACCORDING TO WIESLANDER SURVEY, 1934.
General:	VEGETATION COMPOSITION UNKNOWN. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	20	**Map Index:**	15903	**EO Index:**	26544	**Element Last Seen:**	1987-01-12
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-12
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.14622 / -119.02708	**Accuracy:**	specific area
UTM:	Zone-11 N3780225 E313110	**Elevation (ft):**	320
PLSS:	T01N, R21W, Sec. 25 (S)	**Acres:**	77.0

Location:	SANTA MONICA MTNS, ABOUT 1.2 MILES ESE OF CAMARILLO STATE HOSPITAL, WEST OF WOOD CANYON.
Detailed Location:	MAPPED PER INTERPRETATION OF 1987 AERIAL PHOTOS.
Ecological:	CLOSED CANOPY WOODLAND DOMINATED BY QUERCUS AGRIFOLIA ACCORDING TO WIESLANDER SURVEY.
General:	NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	39	**Map Index:**	00545	**EO Index:**	15998	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-31

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.22834 / -118.76575	**Accuracy:**	specific area
UTM:	Zone-11 N3788884 E337365	**Elevation (ft):**	1200
PLSS:	T02N, R18W, Sec. 28 (S)	**Acres:**	174.2

Location:	BUS CANYON FROM LONE OAK CANYON D/S TO CONFLUENCE OF TROUGH CANYON & UP TROUGH CANYON ABOUT 0.8 MILE.
Detailed Location:	FORMERLY EXTENDING D/S CANYON 1 MILE FURTHER.
Ecological:	QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	40	**Map Index:**	00489	**EO Index:**	15999	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-31

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.22756 / -118.78781	**Accuracy:**	specific area
UTM:	Zone-11 N3788833 E335331	**Elevation (ft):**	1125
PLSS:	T02N, R18W, Sec. 29 (S)	**Acres:**	191.8

Location:	OAK CANYON, FROM ABOUT 0.5 MILE NORTH OF CHINA FLAT NORTH (D/S) FOR ABOUT 2 MILES.
Detailed Location:	
Ecological:	QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	41	**Map Index:**	00424	**EO Index:**	15997	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-31

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.20926 / -118.78790	**Accuracy:**	specific area
UTM:	Zone-11 N3786803 E335287	**Elevation (ft):**	1125
PLSS:	T02N, R18W, Sec. 32 (S)	**Acres:**	293.9

Location: EAST-WEST STREAM FROM SIMI HILLS TO NEAR ERBES ROAD, THOUSAND OAKS.

Detailed Location: FORMERLY EXTENDED D/S ABOUT 2 MILES FURTHER.

Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY; VEG OF WESTERN PORTION INCLUDES QUERCUS LOBATA & PLATANUS RACEMOSA FROM AERIAL PHOTOS.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	46	**Map Index:**	00576	**EO Index:**	15992	**Element Last Seen:**	1976-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1976-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary: Santa Susana (3411836), Simi (3411837)

County Summary: Ventura

Lat/Long:	34.34253 / -118.74931	**Accuracy:**	specific area
UTM:	Zone-11 N3801522 E339096	**Elevation (ft):**	1800
PLSS:	T03N, R18W, Sec. 15 (S)	**Acres:**	476.9

Location: TRIPAS CANYON & BRANCH (UNNAMED ON USGS MAP) TO SOUTH OF MAIN CANYON.

Detailed Location: EXTANT, 1976, ACCORDING TO NWI MAP BASED ON U2 IMAGERY.

Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	47	**Map Index:**	00386	**EO Index:**	15990	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.36359 / -118.81788	**Accuracy:**	specific area
UTM:	Zone-11 N3803968 E332831	**Elevation (ft):**	1400
PLSS:	T03N, R19W, Sec. 12 (S)	**Acres:**	64.1

Location: STREAM TO EAST OF WILEY CANYON ON NORTH SLOPE OF OAK RIDGE.

Detailed Location:

Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	48	**Map Index:**	00448	**EO Index:**	15991	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.37150 / -118.80025	**Accuracy:**	specific area
UTM:	Zone-11 N3804816 E334468	**Elevation (ft):**	1650
PLSS:	T03N, R18W, Sec. 06 (S)	**Acres:**	20.4

Location:	STREAM TO WEST OF TORREY CANYON, NORTH SLOPE OF OAK RIDGE.
Detailed Location:	
Ecological:	QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	49	**Map Index:**	00371	**EO Index:**	15989	**Element Last Seen:**	1976-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.34515 / -118.82398	**Accuracy:**	specific area
UTM:	Zone-11 N3801933 E332233	**Elevation (ft):**	1560
PLSS:	T03N, R19W, Sec. 13 (S)	**Acres:**	670.2

Location:	HAPPY CAMP CANYON FROM NEAR HAPPY CAMP U/S FOR SEVERAL MILES.
Detailed Location:	
Ecological:	Q. AGRIFOLIA IN OPEN STAND OVER NICOTIANA GLAUCA, ARTEMISIA CALIFORNICA, ERICAMERIA PINIFOLIA, SALVIA APIANA ACCORDING TO WIESLANDER 1934 SURVEY. NATIONAL WETLAND INVENTORY MAPPED AS FORESTED & SCRUB PORTIONS BASED ON 1976 AERIAL PHOTO.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	50	**Map Index:**	00508	**EO Index:**	15987	**Element Last Seen:**	1976-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1976-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary: Piru (3411847)

County Summary: Ventura

Lat/Long:	34.46321 / -118.77256	**Accuracy:**	specific area
UTM:	Zone-11 N3814943 E337192	**Elevation (ft):**	1600
PLSS:	T04N, R18W, Sec. 04 (S)	**Acres:**	179.3

Location: LIME CANYON FROM NEAR PIRU CANYON ROAD U/S TO ABOUT 0.5 MILE BEYOND ARUNDEL SPRING.

Detailed Location: 1976 EXTENT SHOWN BASED ON NATIONAL WETLANDS INVENTORY INTERPRETATION OF AERIAL PHOTOS.

Ecological: QUERCUS AGRIFOLIA & JUGLANS CALIFORNICA FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	51	**Map Index:**	00543	**EO Index:**	15988	**Element Last Seen:**	1976-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1976-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary: Val Verde (3411846), Piru (3411847)

County Summary: Ventura

Lat/Long:	34.38868 / -118.78185	**Accuracy:**	specific area
UTM:	Zone-11 N3806692 E336193	**Elevation (ft):**	1120
PLSS:	T04N, R18W, Sec. 32 (S)	**Acres:**	147.5

Location: EUREKA CANYON, U/S OF CONFLUENCE W/ SANTA CLARA RIVER.

Detailed Location:

Ecological: QUERCUS AGRIFOLIA FORMING OPEN CANOPY OVER LOTUS SCOPARIUS, ARTEMISIA CALIFORNICA, SALVIA LEUCOPHYLLA PER WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	52	**Map Index:**	00438	**EO Index:**	15986	**Element Last Seen:**	1976-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1976-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary: Piru (3411847)

County Summary: Ventura

Lat/Long:	34.48336 / -118.80322	**Accuracy:**	specific area
UTM:	Zone-11 N3817227 E334415	**Elevation (ft):**	1780
PLSS:	T05N, R18W, Sec. 30 (S)	**Acres:**	28.7

Location: DOMINGUEZ CANYON ABOUT 0.2-0.7 MILE U/S OF DOMINGUEZ CAMPGROUND.

Detailed Location: 1976 EXTENT SHOWN AS MAPPED BY NATIONAL WETLANDS INVENTORY FROM INTERPRETATION OF AERIAL PHOTOS.

Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	53	**Map Index:**	00186	**EO Index:**	15985	**Element Last Seen:**	1986-12-10
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1986-12-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-31

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.42768 / -118.91094	**Accuracy:**	specific area
UTM:	Zone-11 N3811234 E324406	**Elevation (ft):**	1000
PLSS:	T04N, R19W, Sec. 18 (S)	**Acres:**	66.3

Location: CREEK TO EAST OF GOODENOUGH ROAD ABOUT 2 MILES NORTH OF FILLMORE UNION HIGH SCHOOL.

Detailed Location: INTERPRETED FROM 1986 AERIAL PHOTOS.

Ecological: VEGETATION COMPOSITION UNKNOWN. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	54	**Map Index:**	00122	**EO Index:**	15983	**Element Last Seen:**	1986-12-10
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1986-12-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-31

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.42928 / -118.94576	**Accuracy:**	specific area
UTM:	Zone-11 N3811472 E321209	**Elevation (ft):**	640
PLSS:	T04N, R20W, Sec. 14 (S)	**Acres:**	108.0

Location: CREEK TO WEST OF GRAND AVENUE, ABOUT 0.8 AIR MILES NNE OF BROWNSTONE RESERVOIR.

Detailed Location: INTERPRETED FROM 1986 AERIAL PHOTOS.

Ecological: VEGETATION COMPOSITION UNKNOWN. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Southern Cottonwood Willow Riparian Forest **Element Code:** CTT61330CA

Southern Cottonwood Willow Riparian Forest

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3.2
	Other:				
Habitat:	**General:**	□			
	Micro:	□			

Occurrence No.	26	**Map Index:**	00577	**EO Index:**	28912	**Element Last Seen:**	1987-11-19
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-11-19
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-20

Quad Summary:	Val Verde (3411846), Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.45299 / -118.75254	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3813777 E339011	**Elevation (ft):**	840
PLSS:	T04N, R18W, Sec. 10 (S)	**Acres:**	0.0

Location:	ABOUT 1/2 MILE SOUTH OF SANTA FELICIA DAM ON PIRU CREEK.
Detailed Location:	SMALL STAND OF COTTONWOODS SEEN IN BRIEF FIELD VISIT.
Ecological:	
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	27	**Map Index:**	00503	**EO Index:**	15823	**Element Last Seen:**	1976-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1976-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-20

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.43565 / -118.78293	**Accuracy:**	specific area
UTM:	Zone-11 N3811903 E336186	**Elevation (ft):**	1160
PLSS:	T04N, R18W, Sec. 17 (S)	**Acres:**	110.0

Location:	MODELO CANYON, FROM ABOUT 0.3 MILE U/S OF CONFLUENCE W/ PIRU CREEK U/S FOR ABOUT 1.5 MILES.
Detailed Location:	EXTENT MAPPED NWI INTERPRETATION OF 1976 AERIAL PHOTOGRAPHS.
Ecological:	SALIX & POPULUS FREMONTII FORMING OPEN CANOPY OVER BACCHARIS VIMINEA ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	28	**Map Index:**	00115	**EO Index:**	15822	**Element Last Seen:**	1976-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1976-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-20

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.47653 / -118.93980	**Accuracy:**	specific area
UTM:	Zone-11 N3816702 E321858	**Elevation (ft):**	880
PLSS:	T05N, R20W, Sec. 35 (S)	**Acres:**	221.7

Location: SESPE CREEK FROM ABOUT 0.5 MILE NORTH OF TAR CREEK D/S TO ABOUT 0.8 MILE SOUTH OF DEVILS GATE.

Detailed Location: MAPPED BY NWI FROM INTERPRETATION OF 1976 AERIAL PHOTOS.

Ecological: CLOSED CANOPY FOREST OF QUERCUS AGRIFOLIA, PLATANUS RACEMOSA, ALNUS RHOMBIFOLIA, ACER MACROPHYLLUM & POPULUS TRICHOCARPA ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Southern Mixed Riparian Forest

Element Code: CTT61340CA

Southern Mixed Riparian Forest

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2
	State:	None		**State:**	S2.1
	Other:				
Habitat:	**General:**	□			
	Micro:	□			

Occurrence No.	4	**Map Index:**	00480	**EO Index:**	15744	**Element Last Seen:**	1976-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1976-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-23

Quad Summary: Piru (3411847), Cobblestone Mtn. (3411857)

County Summary: Ventura

Lat/Long:	34.49895 / -118.78419	**Accuracy:**	specific area
UTM:	Zone-11 N3818925 E336194	**Elevation (ft):**	1360
PLSS:	T05N, R18W, Sec. 20 (S)	**Acres:**	610.8

Location: REASONER CANYON FROM NEAR PIRU CANYON ROAD U/S FOR SEVERAL MILES & LOWER PART DOMINGUEZ CANYON.

Detailed Location: 1976 EXTENT SHOWN BASED ON INTERPRETATION BY NATIONAL WETLANDS INVENTORY. SHOWN FARTHER NORTH IN 1976 THAN 1934. VEG TYPE OF NORTH PART MAPPED BY INFERENCE.

Ecological: MAPPED BY WIESLANDER SURVEY (1935) AS QUERCUS AGRIFOLIA, PLATANUS RACEMOSA, POPULUS FREMONTII FORMING CLOSED CANOPY.

General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	5	**Map Index:**	17335	**EO Index:**	15743	**Element Last Seen:**	1987-11-19
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-11-19
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-23

Quad Summary: Piru (3411847), Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.44040 / -118.88702	**Accuracy:**	specific area
UTM:	Zone-11 N3812603 E326631	**Elevation (ft):**	760
PLSS:	T04N, R19W, Sec. 17 (S)	**Acres:**	739.3

Location: POLE CREEK, FROM NEAR FILLMORE U/S FOR SEVERAL MILES.

Detailed Location: LOWER REACH MAPPED FROM 1986 AERIAL PHOTOS; UPPER FROM INTERPRETATION OF 1976 PHOTOS.

Ecological: MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA, POPULUS FREMONTII, PLATANUS RACEMOSA, SALIX SPP, JUGLANS CALIFORNICA AND ACER MACROPHYLLUM. VEG COMPOSITION VARIES IN DIFFERENT REACHES OF THE STREAM.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	6	**Map Index:**	00365	**EO Index:**	15742	**Element Last Seen:**	1976-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1976-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary: Piru (3411847)

County Summary: Ventura

Lat/Long:	34.43954 / -118.83416	**Accuracy:**	specific area
UTM:	Zone-11 N3812418 E331486	**Elevation (ft):**	1200
PLSS:	T04N, R19W, Sec. 11 (S)	**Acres:**	448.0

Location: HOPPER CANYON, FROM WEST OF MODELO PEAK D/S TO ABOUT 1 MILE ENE OF SULPHUR MTN.

Detailed Location: EXTENT MAPPED INCLUDES BOTH FOREST & SCRUB/SHRUB AS MAPPED BY NWI FROM INTERPRETATION OF AERIAL PHOTOS.

Ecological: MAPPED BY WIESLANDER SURVEY (1935) AS CLOSED CANOPY QUERCUS AGRIFOLIA, POPULUS FREMONTII AND PLATANUS RACEMOSA.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Southern Sycamore Alder Riparian Woodland

Element Code: CTT62400CA

Southern Sycamore Alder Riparian Woodland

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G4
	State:	None		**State:**	S4
	Other:				
Habitat:	**General:**	□			
	Micro:	□			

Occurrence No.	23	**Map Index:**	00431	**EO Index:**	15531	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.23532 / -118.80561	**Accuracy:**	specific area
UTM:	Zone-11 N3789722 E333706	**Elevation (ft):**	1000
PLSS:	T02N, R18W, Sec. 19 (S)	**Acres:**	69.9

Location:	SYCAMORE CANYON, EAST OF WOOD RANCH RESERVOIR, EXTENDS FOR ABOUT 1 MILE, NEAR SIMI VALLEY.
Detailed Location:	INTERPRETED FROM 1987 AERIAL PHOTOS.
Ecological:	
General:	SITE VISIT NEEDED. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	24	**Map Index:**	00017	**EO Index:**	15529	**Element Last Seen:**	1986-12-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1986-12-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.40778 / -118.98929	**Accuracy:**	specific area
UTM:	Zone-11 N3809165 E317162	**Elevation (ft):**	1280
PLSS:	T04N, R20W, Sec. 28 (S)	**Acres:**	94.4

Location:	CREEK TO WEST OF BOULDER CREEK, WNW OF SESPE VILLAGE.
Detailed Location:	EXTENT MAPPED ACCORDING TO 1987 AIR PHOTOS.
Ecological:	QUERCUS AGRIFOLIA AND PLATANUS RACEMOSA FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	25	**Map Index:**	00030	**EO Index:**	15528	**Element Last Seen:**	1986-12-10
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1986-12-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.42132 / -118.98396	**Accuracy:**	specific area
UTM:	Zone-11 N3810657 E317681	**Elevation (ft):**	1480
PLSS:	T04N, R20W, Sec. 21 (S)	**Acres:**	134.8

Location:	BOULDER CREEK, FROM ABOUT 1 MILE NORTH OF SYCAMORE ROAD U/S FOR ABOUT 2 MILES.
Detailed Location:	NORTH PORTION OF MAPPED EXTENT FROM INTERPRETATION OF 1976 AERIALS BY NWI, SOUTH PART FROM 1986 AERIALS. FORMERLY ALSO EXTENDED UP FORK TO NW, INTO SECTION 17.
Ecological:	QUERCUS AGRIFOLIA & PLATANUS RACEMOSA FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	26	**Map Index:**	00078	**EO Index:**	15527	**Element Last Seen:**	1986-12-10
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1986-12-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.42606 / -118.95879	**Accuracy:**	specific area
UTM:	Zone-11 N3811138 E320005	**Elevation (ft):**	1400
PLSS:	T04N, R20W, Sec. 15 (S)	**Acres:**	74.2

Location:	SNOW CANYON, ABOUT 1/2 MILE NORTH OF SYCAMORE ROAD, EXTENDING U/S FOR ABOUT 1 MILE.
Detailed Location:	U/S EXTENT MAPPED FROM NWI INTERPRETATION OF 1976 AERIALS; D/S FROM 1986 AERIALS, ONCE EXTENDED FARTHER D/S.
Ecological:	LOWER PORTION QUERCUS AGRIFOLIA & PLATANUS RACEMOSA FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY. UPPER PART OPEN STANDS OF Q. AGRIFOLIA, JUGLANS CALIFORNICA, SALVIA LEUCOPHYLLA, ARTEMISIA.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	27	**Map Index:**	00347	**EO Index:**	15526	**Element Last Seen:**	1976-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1976-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary:	Piru (3411847), Cobblestone Mtn. (3411857)
County Summary:	Ventura

Lat/Long:	34.48564 / -118.83038	**Accuracy:**	specific area
UTM:	Zone-11 N3817525 E331925	**Elevation (ft):**	1880
PLSS:	T05N, R19W, Sec. 25 (S)	**Acres:**	985.9

Location:	HOPPER CANYON & TRIBUTARIES FROM WEST OF MODELO PEAK U/S TO BEYOND "HOLE-IN-THE-WALL."
Detailed Location:	EXTENT MAPPED FROM NWI INTERPRETATION OF 1976 AERIAL PHOTOS.
Ecological:	QUERCUS AGRIFOLIA, ALNUS RHOMBIFOLIA, ACER MACROPHYLLUM & PLATANUS RACEMOSA ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	28	**Map Index:**	00288	**EO Index:**	15525	**Element Last Seen:**	1976-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1976-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.43878 / -118.85525	**Accuracy:**	specific area
UTM:	Zone-11 N3812370 E329547	**Elevation (ft):**	1600
PLSS:	T04N, R19W, Sec. 10 (S)	**Acres:**	244.5

Location:	TOMS CANYON, FROM ABOUT 0.25 MILE U/S FROM CONFLUENCE W/ HOPPER CANYON U/S FOR >2 MILES.
Detailed Location:	EXTENT MAPPED FROM NWI INTERPRETATION OF 1976 AERIAL PHOTOS.
Ecological:	QUERCUS AGRIFOLIA, ACER MACROPHYLLUM, JUGLANS CALIFORNICA (IN LOWER PORTION) & PLATANUS RACEMOSA ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	29	**Map Index:**	00516	**EO Index:**	15523	**Element Last Seen:**	1976-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1976-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.44703 / -118.77516	**Accuracy:**	specific area
UTM:	Zone-11 N3813152 E336921	**Elevation (ft):**	1320
PLSS:	T04N, R18W, Sec. 09 (S)	**Acres:**	120.8

Location:	BLANCHARD CANYON, FROM PIRU CANYON ROAD U/S TO VICINITY OF CHINO FLAT.
Detailed Location:	1976 EXTENT SHOWN; FROM INTERPRETATION OF AERIAL PHOTOS BY NATIONAL WETLANDS INVENTORY.
Ecological:	QUERCUS AGRIFOLIA & PLATANUS RACEMOSA ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	30	**Map Index:**	00203	**EO Index:**	15524	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.21270 / -118.89690	**Accuracy:**	specific area
UTM:	Zone-11 N3787367 E325251	**Elevation (ft):**	460
PLSS:	T02N, R19W, Sec. 32 (S)	**Acres:**	97.8

Location:	NORTH FORK ARROYO CONEJO, IN VICINITY OF WILDWOOD PARK, SOUTH SIDE OF MOUNTCLEF RIDGE.
Detailed Location:	1987 EXTENT SHOWN; MAPPED FROM AERIAL PHOTOS. FORMERLY EXTENDED D/S TO ARROYO CONEJO.
Ecological:	ASSOCIATED WITH QUERCUS AGRIFOLIA & PLATANUS RACEMOSA ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	VEN COUNTY-WILDWOOD PARK, UNK

Occurrence No.	31	**Map Index:**	00218	**EO Index:**	22267	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.12982 / -118.88494	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3778155 E326183	**Elevation (ft):**	1100
PLSS:	T01N, R19W, Sec. 33 (S)	**Acres:**	125.7

Location: TRIBUTARY TO LAKE SHERWOOD, SANTA MONICA MOUNTAINS, ABOUT 1 MILE SOUTH OF HIDDEN VALLEY.

Detailed Location: 1987 EXTENT SHOWN; BASED ON AIR PHOTO INTERPRETATION.

Ecological: QUERCUS AGRIFOLIA, SALIX & PLATANUS RACEMOSA ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	32	**Map Index:**	00107	**EO Index:**	15520	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.15485 / -118.94185	**Accuracy:**	specific area
UTM:	Zone-11 N3781029 E320987	**Elevation (ft):**	900
PLSS:	T01N, R20W, Sec. 23 (S)	**Acres:**	82.7

Location: CREEK JUST SOUTH OF POTRERO ROAD, EAST OF JUNCTION W/ NORTH POTRERO ROAD ABOUT 0.25 TO 1.4 MILES.

Detailed Location: 1987 EXTENT SHOWN; INTERPRETATION OF AERIAL PHOTOS.

Ecological: QUERCUS AGRIFOLIA & PLATANUS RACEMOSA FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	33	**Map Index:**	00193	**EO Index:**	15521	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.19571 / -118.90863	**Accuracy:**	specific area
UTM:	Zone-11 N3785502 E324135	**Elevation (ft):**	360
PLSS:	T01N, R19W, Sec. 06 (S)	**Acres:**	180.1

Location: ARROYO CONEJO, FROM NEAR HWY 101 TO ABOUT 1/2 MILE EAST OF SEWAGE DISPOSAL FACILITY.

Detailed Location: MAPPED EXTENT FROM 1987 AERIAL PHOTOS.

Ecological: QUERCUS AGRIFOLIA, Q. LOBATA & PLATANUS RACEMOSA FORMING OPEN CANOPY OVER GRASS ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	34	**Map Index:**	15922	**EO Index:**	15519	**Element Last Seen:**	1935-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1935-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary:	Triunfo Pass (3411818), Newbury Park (3411828), Point Mugu (3411911), Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.10974 / -119.01126	**Accuracy:**	specific area
UTM:	Zone-11 N3776150 E314489	**Elevation (ft):**	200
PLSS:	T01S, R20W (S)	**Acres:**	1215.5

Location:	BIG SYCAMORE CANYON, WOOD CANYON, SERRANO CANYON, WEST END OF SANTA MONICA MOUNTAINS.
Detailed Location:	WITHIN POINT MUGU STATE PARK.
Ecological:	OPEN TO CLOSED WOODLANDS DOMINATED BY QUERCUS AGRIFOLIA, PLATANUS RACEMOSA AND (LOCALLY) JUGLANS CALIFORNICA.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	DPR-POINT MUGU SP

Occurrence No.	38	**Map Index:**	00172	**EO Index:**	15515	**Element Last Seen:**	1976-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1976-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary:	Fillmore (3411848), Devils Heart Peak (3411858)
County Summary:	Ventura

Lat/Long:	34.49042 / -118.87978	**Accuracy:**	specific area
UTM:	Zone-11 N3818138 E327398	**Elevation (ft):**	2000
PLSS:	T05N, R19W, Sec. 28 (S)	**Acres:**	445.7

Location:	TAR CREEK & MAPLE CREEK, EXTENDING FROM CONFLUENCE W/ SESPE CREEK U/S FOR OVER 3.5 MILES.
Detailed Location:	UPPER TAR CREEK ALSO HAS POPULUS FREMONTII PER WIESLANDER. EXTENT MAPPED FROM NWI INTERPRETATION OF 1976 AERIAL PHOTOS.
Ecological:	QUERCUS AGRIFOLIA, ALNUS RHOMBIFOLIA, ACER MACROPHYLLUM & PLATANUS RACEMOSA FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.
General:	TAR CREEK IS MOSTLY IN LOS PADRES NATIONAL FOREST. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	USFS-LOS PADRES NF

Occurrence No.	39	**Map Index:**	00446	**EO Index:**	15514	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary: Point Dume (3411817), Thousand Oaks (3411827)

County Summary: Los Angeles

Lat/Long:	34.11912 / -118.78382	**Accuracy:**	specific area
UTM:	Zone-11 N3776800 E335488	**Elevation (ft):**	820
PLSS:	T01N, R18W, Sec. 32 (S)	**Acres:**	269.2

Location: TRIUNFO CANYON FROM ABOUT 1 MILE EAST OF LOS ANGELES/VENTURA COUNTY LINE TO MALIBU LAKE.

Detailed Location: NORTH PORTION 1987 EXTENT SHOWN BASED ON INTERPRETATION OF AERIAL PHOTOS; SOUTH PORTION ON PT DUME QUAD, SHOWS EXTENT AS MAPPED BY NATIONAL WETLANDS INVENTORY, BASED ON U2 IMAGERY.

Ecological: QUERCUS AGRIFOLIA, SALIX SPP & PLATANUS RACEMOSA FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	40	**Map Index:**	00335	**EO Index:**	15512	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary: Thousand Oaks (3411827)

County Summary: Los Angeles

Lat/Long:	34.13412 / -118.83783	**Accuracy:**	specific area
UTM:	Zone-11 N3778552 E330536	**Elevation (ft):**	900
PLSS:	T01N, R19W, Sec. 26 (S)	**Acres:**	68.1

Location: JUST SOUTH OF VENTURA/LOS ANGELES COUNTY LINE, CREEK ABOVE TRIUNFO CANYON.

Detailed Location: NOT INDICATED IN NATIONAL WETLANDS INVENTORY MAP BASED ON U2 IMAGERY.

Ecological: QUERCUS AGRIFOLIA & PLATANUS RACEMOSA FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	41	**Map Index:**	00309	**EO Index:**	15513	**Element Last Seen:**	1987-12-28
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-12-28
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.13806 / -118.85053	**Accuracy:**	specific area
UTM:	Zone-11 N3779010 E329373	**Elevation (ft):**	940
PLSS:	T01N, R19W, Sec. 27 (S)	**Acres:**	29.2

Location: JUST NORTH OF LAKE ELEANOR, ON LAKE ELEANOR CREEK.

Detailed Location: 1987 EXTENT SHOWN BASED ON INTERPRETATION OF AERIAL PHOTOS.

Ecological: QUERCUS AGRIFOLIA & PLATANUS RACEMOSA FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	42	**Map Index:**	00258	**EO Index:**	15511	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary: Point Dume (3411817), Triunfo Pass (3411818), Thousand Oaks (3411827), Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.12767 / -118.87081	**Accuracy:**	specific area
UTM:	Zone-11 N3777892 E327482	**Elevation (ft):**	960
PLSS:	T01N, R19W, Sec. 33 (S)	**Acres:**	62.5

Location: SOUTH OF LAKE SHERWOOD, NEAR CARLISLE ROAD, NEAR VENTURA/LOS ANGELES COUNTY LINE.

Detailed Location: STILL EXTANT ACCORDING TO NATIONAL WETLANDS INVENTORY, BASED ON U2 AIR PHOTOS.

Ecological: QUERCUS AGRIFOLIA, SALIX SPP & PLATANUS RACEMOSA FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: NPS-SANTA MONICA MTNS NRA, UNK

Occurrence No.	64	**Map Index:**	00050	**EO Index:**	15490	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-22

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.42602 / -118.97263	**Accuracy:**	specific area
UTM:	Zone-11 N3811158 E318733	**Elevation (ft):**	2200
PLSS:	T04N, R20W, Sec. 15 (S)	**Acres:**	26.7

Location: INTERMITTENT STREAM WEST OF SNOW CANYON, NW OF FILLMORE.

Detailed Location: RECENT AIR PHOTOS UNAVAILABLE.

Ecological: CLOSED CANOPY QUERCUS AGRIFOLIA & PLATANUS RACEMOSA ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: USFS-LOS PADRES NF

Southern Riparian Scrub **Element Code:** CTT63300CA

Southern Riparian Scrub

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3.2
	Other:				
Habitat:	**General:**				
	Micro:				

Occurrence No.	18 **Map Index:** 00063	**EO Index:**	28814	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown	**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence	**Trend:**	Unknown	**Record Last Updated:**	1998-07-23

Quad Summary: Moorpark (3411838)

County Summary: Ventura

Lat/Long:	34.26129 / -118.96723	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3792879 E318875	**Elevation (ft):**	300
PLSS:	T02N, R20W, Sec. 15 (S)	**Acres:**	0.0

Location: ARROYO LAS POSAS, ABOUT 1.7 MILES EAST OF SOMIS.

Detailed Location: SMALL PATCH SCRUB AS INTERPRETED FROM 1987 AERIAL PHOTOGRAPHS.

Ecological: UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	19 **Map Index:** 00088	**EO Index:**	28812	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown	**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence	**Trend:**	Unknown	**Record Last Updated:**	1998-07-23

Quad Summary: Moorpark (3411838)

County Summary: Ventura

Lat/Long:	34.26500 / -118.95732	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3793272 E319795	**Elevation (ft):**	340
PLSS:	T02N, R20W, Sec. 10 (S)	**Acres:**	0.0

Location: ARROYO LAS POSAS, ABOUT 1.7 MILES WEST OF JUNCTION OF GRIMES CANYON ROAD & HWY 118.

Detailed Location: SMALL PATCH OF SCRUB AS INTERPRETED FROM 1987 AERIAL PHOTOGRAPHS.

Ecological: UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	20	**Map Index:**	00224	**EO Index:**	13368	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-23

Quad Summary: Moorpark (3411838)

County Summary: Ventura

Lat/Long:	34.34926 / -118.89308	**Accuracy:**	specific area
UTM:	Zone-11 N3802505 E325885	**Elevation (ft):**	1300
PLSS:	T03N, R19W, Sec. 17 (S)	**Acres:**	33.7

Location: GRIMES CANYON, U/S OF GRIMES CANYON ROAD ABOUT 0.6-1.0 MILE.

Detailed Location: 1987 EXTENT MAPPED PER INTERPRETATION OF AERIAL PHOTOS; FORMERLY EXTENDED D/S ABOUT 1.5 MILES FARTHER.

Ecological: OPEN QUERCUS AGRIFOLIA OVER ARTEMISIA CALIFORNICA & SALVIA LEUCOPHYLLA ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	21	**Map Index:**	00262	**EO Index:**	15322	**Element Last Seen:**	1987-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-23

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.28847 / -118.79006	**Accuracy:**	specific area
UTM:	Zone-11 N3795592 E335242	**Elevation (ft):**	800
PLSS:	T02N, R18W, Sec. 05 (S)	**Acres:**	52.6

Location: BREA CANYON, NORTH OF SOUTHERN PACIFIC RAILROAD TRACKS.

Detailed Location: 1987 EXTENT MAPPED FROM INTERPRETATION OF AERIAL PHOTOGRAPHS.

Ecological: MAPPED BY WIESLANDER SURVEY AS OPEN STAND OF QUERCUS AGRIFOLIA, LOTUS SCOPARIUS AND SALVIA LEUCOPHYLLA.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	22	**Map Index:**	00263	**EO Index:**	13367	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-23

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.32570 / -118.86753	**Accuracy:**	specific area
UTM:	Zone-11 N3799849 E328187	**Elevation (ft):**	1000
PLSS:	T03N, R19W, Sec. 21 (S)	**Acres:**	286.2

Location:	HAPPY CAMP CANYON FROM ABOUT 1 MILE NORTH OF VIRGINIA COLONY U/S TO VICINITY OF HAPPY CAMP.
Detailed Location:	BELOW HAPPY CAMP, MAPPED FROM 1987 AERIALS, WEST FORK ABOVE NWI.
Ecological:	MAPPED BY WIESLANDER SURVEY AS OPEN STAND OF QUERCUS AGRIFOLIA W/UNDERSTORY OF NICOTIANA GLAUCA, ERICAMERIA PINIFOLIA (LOWER PART) & INCLUDES ARTEMISIA CALIFORNICA, SALVIA APIANA (UPPER PART).
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	23	**Map Index:**	00351	**EO Index:**	15321	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-23

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.36716 / -118.83084	**Accuracy:**	specific area
UTM:	Zone-11 N3804386 E331646	**Elevation (ft):**	1200
PLSS:	T03N, R19W, Sec. 01 (S)	**Acres:**	52.8

Location:	STREAM TO WEST OF WILEY CANYON, NORTH SLOPE OF OAK RIDGE.
Detailed Location:	
Ecological:	MAPPED BY WIESLANDER SURVEY AS OPEN STAND OF QUERCUS AGRIFOLIA AND LOTUS SCOPARIUS.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	24	**Map Index:**	00362	**EO Index:**	15320	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1976-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-23

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.36494 / -118.82328	**Accuracy:**	specific area
UTM:	Zone-11 N3804127 E332337	**Elevation (ft):**	1550
PLSS:	T03N, R19W, Sec. 01 (S)	**Acres:**	91.0

Location:	WILEY CANYON ON NORTH SIDE OF OAK RIDGE, NORTH OF BIG MOUNTAIN.
Detailed Location:	STILL EXTANT PER NATIONAL WETLANDS INVENTORY MAP, BASED ON 1976 U2 IMAGERY.
Ecological:	MAPPED BY WIESLANDER SURVEY AS OPEN STAND OF QUERCUS AGRIFOLIA, LOTUS SCOPARIUS, SALVIA LEUCOPHYLLA, ARTEMISIA CALIFORNICA.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	25	**Map Index:**	00106	**EO Index:**	15318	**Element Last Seen:**	1986-12-10
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1986-12-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-23

Quad Summary:	Moorpark (3411838), Piru (3411847), Fillmore (3411848), Santa Paula (3411931), Saticoy (3411932)
County Summary:	Ventura

Lat/Long:	34.34567 / -119.05895	**Accuracy:**	specific area
UTM:	Zone-11 N3802404 E310618	**Elevation (ft):**	360
PLSS:	T03N, R21W, Sec. 14 (S)	**Acres:**	4299.3

Location:	SANTA CLARA RIVER BED FROM NEAR CONFLUENCE CALUMET CANYON D/S TO VICINITY OF SATICOY.
Detailed Location:	SEEN IN 1986 AERIALS.
Ecological:	MAPPED BY WIESLANDER SURVEY AS SCRUB W/DOMINANTS BACCHARIS VIMINEA, NICOTIANA GLAUCA, LEPIDOSPARTUM SQUAMATUM, ERIOGONUM FASCICULATUM, CORETHROGYNE FILAGINIFOLIA, GRASSES AND WILLOWS. DOMINANCE CHANGES ALONG STREAM COURSE.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Southern Willow Scrub

Element Code: CTT63320CA

Southern Willow Scrub

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S2.1
	Other:				
Habitat:	**General:**				
	Micro:				

Occurrence No.	16	**Map Index:**	00343	**EO Index:**	15279	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-21

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.28659 / -118.82527	**Accuracy:**	specific area
UTM:	Zone-11 N3795441 E331997	**Elevation (ft):**	600
PLSS:	T02N, R19W, Sec. 01 (S)	**Acres:**	261.1

Location:	ARROYO SIMI, FROM VIRGINIA COLONY U/S TO JUST BEYOND EASTERN BOUNDARY OF OAK PARK.
Detailed Location:	INTERPRETED FROM 1987 AERIAL PHOTOS.
Ecological:	WIESLANDER MAPPED AS SALIX, BACCHARIS VIMINEA, NICOTIANA GLAUCA, SAMBUCUS GLAUCA AND ATRIPLEX LENTIFORMIS.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	17	**Map Index:**	00034	**EO Index:**	28808	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-21

Quad Summary:	Moorpark (3411838)
County Summary:	Ventura

Lat/Long:	34.34416 / -118.97887	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3802090 E317982	**Elevation (ft):**	425
PLSS:	T03N, R20W, Sec. 16 (S)	**Acres:**	26.8

Location:	BALCOM CANYON, ABOUT 0.6 MILE OF SOUTH MOUNTAIN ROAD.
Detailed Location:	INTERPRETED FROM AERIAL PHOTOS.
Ecological:	UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	18	**Map Index:** 00393	**EO Index:**	13359	**Element Last Seen:**	1986-XX-XX
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	1986-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	1998-07-21

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.41760 / -118.78965	**Accuracy:**	specific area
UTM:	Zone-11 N3809912 E335533	**Elevation (ft):**	580
PLSS:	T04N, R18W, Sec. 20 (S)	**Acres:**	2339.2

Location:	SANTA CLARA RIVER BED & PIRU CREEK BED IN VICINITY OF PIRU.
Detailed Location:	COMMUNITY BOUNDARY CHANGES AS RIVER CHANNEL CHANGES. MAPPED FROM 1986 ARMY CORPS OF ENGINEERS' PHOTOS.
Ecological:	VEGETATION INCL SALIX SP, CORETHROGYNE FILAGINIFOLIA, BACCHARIS VIMINEA, LEPIDOSPARTUM SQUAMATUM, POPULUS FREMONTII, CHRYSOTHAMNUS NAUSEOSUS ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Valley Oak Woodland

Element Code: CTT71130CA

Valley Oak Woodland

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S2.1
	Other:				
Habitat:	**General:**	□			
	Micro:	□			

Occurrence No.	63	**Map Index:** 00397	**EO Index:**	15118	**Element Last Seen:**	1987-12-23
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:**	1987-12-23
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	1998-07-31

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.21583 / -118.81668	**Accuracy:**	specific area
UTM:	Zone-11 N3787579 E332648	**Elevation (ft):**	1125
PLSS:	T02N, R19W, Sec. 36 (S)	**Acres:**	27.3

Location:	TRIBUTARY TO UNNAMED CREEK ABOUT 0.7 MILE EAST OF LANG RANCH.
Detailed Location:	IN RIPARIAN SETTING ALONG INTERMITTENT STREAM. 1987 EXTENT SHOWN; MAPPED FROM AERIAL PHOTOS.
Ecological:	QUERCUS LOBATA AND Q. AGRIFOLIA WITH OPEN CANOPY WITH GRASS UNDERSTORY ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	64	**Map Index:**	00359	**EO Index:**	13357	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-31

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.21245 / -118.82716	**Accuracy:**	specific area
UTM:	Zone-11 N3787221 E331676	**Elevation (ft):**	
PLSS:	T02N, R19W, Sec. 36 (S)	**Acres:**	17.4

Location:	TRIBUTARY TO UNNAMED CREEK JUST BELOW LANG RANCH BUILDINGS.
Detailed Location:	IN RIPARIAN SETTING ALONG INTERMITTENT CREEK. 1987 EXTENT SHOWN; MAPPED FROM AERIAL PHOTOS.
Ecological:	QUERCUS LOBATA W/OPEN CANOPY WITH GRASS UNDERSTORY ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	65	**Map Index:**	00586	**EO Index:**	15116	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-31

Quad Summary:	Santa Susana (3411836), Simi (3411837), Val Verde (3411846), Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.37538 / -118.74088	**Accuracy:**	specific area
UTM:	Zone-11 N3805152 E339934	**Elevation (ft):**	2380
PLSS:	T03N, R18W, Sec. 02 (S)	**Acres:**	766.9

Location:	OAK RIDGE NEAR EUREKA CANYON, WEST OF TAPO CANYON. PARTS IN OAK RIDGE OIL FIELD.
Detailed Location:	
Ecological:	QUERCUS LOBATA AND Q. AGRIFOLIA IN OPEN WOODLAND OVER LOTUS SCOPARIUS, ARTEMISIA CALIFORNICA AND SALVIA LEUCOPHYLLA ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	66	**Map Index:**	00135	**EO Index:**	12451	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	None			**Presence:**	Extirpated	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.14413 / -118.93392	**Accuracy:**	specific area
UTM:	Zone-11 N3779826 E321696	**Elevation (ft):**	1240
PLSS:	T01N, R20W, Sec. 25 (S)	**Acres:**	274.5

Location:	WEST AND SOUTH SIDES OF HIDDEN VALLEY, SOUTH OF VENTU PARK.
Detailed Location:	EXTIRPATED AS A NATURAL COMMUNITY AS SEEN IN 1987 AIR PHOTOS.
Ecological:	QUERCUS LOBATA AND Q. AGRIFOLIA IN OPEN WOODLAND ACCORDING TO WIESLANDER SURVEY.
General:	SECTION NUMBER NOT U.S. LAND SURVEY. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	67	**Map Index:**	00146	**EO Index:**	28772	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	1998-07-31

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.14493 / -118.92809	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3779905 E322235	**Elevation (ft):**	1120
PLSS:	T01N, R20W, Sec. 25 (S)	**Acres:**	0.0

Location:	HIDDEN VALLEY, NEAR EAST END OF VALLEY.
Detailed Location:	ONLY SMALL STAND REMAINS AT THIS END OF VALLEY AS SEEN IN 1987 AERIAL PHOTOS.
Ecological:	OPEN WOODLAND OF QUERCUS LOBATA ACCORDING TO WIESLANDER SURVEY.
General:	SEE ALSO OCC'S #066 & #068. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	68	**Map Index:**	00206	**EO Index:**	15115	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	1998-07-31

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.15074 / -118.88031	**Accuracy:**	specific area
UTM:	Zone-11 N3780467 E326653	**Elevation (ft):**	1030
PLSS:	T01N, R19W, Sec. 21 (S)	**Acres:**	482.0

Location: HIDDEN VALLEY.

Detailed Location: STANDS MAPPED WITH ARTIFICIAL CONNECTIONS.

Ecological: THREE STANDS QUERCUS LOBATA SAVANNA, UNDERSTORY CULTIVATED AS INTERPRETED FROM 1987 AERIAL PHOTOS. WIESLANDER, 1934, MAPPED AS OPEN WOODLAND OF QUERCUS LOBATA AND Q. AGRIFOLIA.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	69	**Map Index:**	00243	**EO Index:**	15113	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	None			**Presence:**	Extirpated	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.13553 / -118.88216	**Accuracy:**	specific area
UTM:	Zone-11 N3778783 E326451	**Elevation (ft):**	1000
PLSS:	T01N, R19W, Sec. 28 (S)	**Acres:**	104.3

Location: WEST OF LAKE SHERWOOD, SOUTH OF POTRERO ROAD.

Detailed Location: COMMUNITY EXTIRPATED, AS SEEN IN 1987 AERIAL PHOTOS, EXCEPT FOR SMALL PATCH TO EAST (SEE OCC #070).

Ecological: OPEN WOODLAND OF QUERCUS LOBATA ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	70	**Map Index:**	00249	**EO Index:**	28770	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-31

Quad Summary: Thousand Oaks (3411827), Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.13444 / -118.87870	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3778656 E326768	**Elevation (ft):**	960
PLSS:	T01N, R19W, Sec. 28 (S)	**Acres:**	0.0

Location: SOUTHWEST OF LAKE SHERWOOD.

Detailed Location: ONLY SMALL STAND REMAINS, AS SEEN IN 1987 AERIAL PHOTOS.

Ecological: OPEN WOODLAND OF QUERCUS LOBATA ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	71	**Map Index:**	00236	**EO Index:**	15114	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	None			**Presence:**	Extirpated	**Site Last Seen:**	1987-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-02

Quad Summary: Thousand Oaks (3411827), Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.17680 / -118.88392	**Accuracy:**	specific area
UTM:	Zone-11 N3783363 E326373	**Elevation (ft):**	680
PLSS:	T01N, R19W, Sec. 16 (S)	**Acres:**	224.3

Location: VICINITY OF LOS ROBLES GREENS COUNTRY CLUB.

Detailed Location: EXTIRPATED AS NATURAL COMMUNITY AS SEEN IN 1987 AERIAL PHOTOS.

Ecological: OPEN WOODLAND OF QUERCUS LOBATA AND Q. AGRIFOLIA ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Occurrence No.	72	**Map Index:**	00142	**EO Index:**	28771	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-07-31

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.22267 / -118.92964	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3788529 E322255	**Elevation (ft):**	220
PLSS:	T02N, R20W, Sec. 25 (S)	**Acres:**	0.0

Location: ARROYO CONEJO, WEST OF MOUNTCLEF RIDGE.

Detailed Location:

Ecological: OPEN QUERCUS LOBATA WOODLAND WITH GRASS UNDERSTORY ACCORDING TO WIESLANDER SURVEY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

California Walnut Woodland

Element Code: CTT71210CA

California Walnut Woodland

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2
	State:	None		**State:**	S2.1
	Other:				
Habitat:	**General:**	□			
	Micro:	□			

Occurrence No.	21	**Map Index:**	00437	**EO Index:**	15079	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-09-01

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.47469 / -118.80320	**Accuracy:**	specific area
UTM:	Zone-11 N3816266 E334400	**Elevation (ft):**	2240
PLSS:	T05N, R18W, Sec. 31 (S)	**Acres:**	674.1

Location:	NORTH-FACING SLOPE SOUTH OF DOMINGUEZ CANYON, WEST OF RODEO FLAT TO EAST OF MAPLE CANYON.
Detailed Location:	
Ecological:	MAPPED BY WIESLANDER SURVEY AS OPEN WOODLAND OF JUGLANS CALIFORNICA AND QUERCUS AGRIFOLIA OVER LOTUS SCOPARIUS, ARTEMISIA, SALVIA LEUCOPHYLLA AND RHAMNUS CROCEA.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	USFS-LOS PADRES NF

Occurrence No.	22	**Map Index:**	00304	**EO Index:**	15078	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-09-01

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.43243 / -118.84947	**Accuracy:**	specific area
UTM:	Zone-11 N3811655 E330064	**Elevation (ft):**	1880
PLSS:	T04N, R19W, Sec. 14 (S)	**Acres:**	210.8

Location:	VICINITY OF HUTTON PEAK, WEST OF HOPPER CANYON.
Detailed Location:	
Ecological:	MAPPED BY WIESLANDER SURVEY AS THREE STANDS OF JUGLANS CALIFORNICA AND QUERCUS AGRIFOLIA OVER SAGEBRUSH. UNDERSTORY INCL SALVIA LEUCOPHYLLA AND HETEROMELES ARBUTIFOLIA.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	BLM-CALIENTE RA, UNKNOWN

Occurrence No.	23	**Map Index:**	00299	**EO Index:**	15077	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-09-01

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.42854 / -118.86309	**Accuracy:**	specific area
UTM:	Zone-11 N3811247 E328805	**Elevation (ft):**	1360
PLSS:	T04N, R19W, Sec. 15 (S)	**Acres:**	423.1

Location:	WEST OF HUTTON PEAK, NORTH OF SULPHUR MTN, WEST (& SOUTH) OF TOMS CANYON.
Detailed Location:	THREE PATCHES MAPPED W/ARTIFICIAL CONNECTIONS.
Ecological:	MAPPED BY WIESLANDER SURVEY AS OPEN WOODLAND OF JUGLANS CALIFORNICA AND QUERCUS AGRIFOLIA OVER SALVIA LEUCOPHYLLA AND ARTEMISIA CALIFORNICA. ORDER OF TREE DOMINANCE VARIES.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	24	**Map Index:**	00322	**EO Index:**	13350	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-31

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.47620 / -118.84572	**Accuracy:**	specific area
UTM:	Zone-11 N3816504 E330498	**Elevation (ft):**	2800
PLSS:	T05N, R19W, Sec. 35 (S)	**Acres:**	82.8

Location:	NEAR TRIBUTARY TO HOPPER CANYON, <1 MILE EAST OF HOPPER MTN.
Detailed Location:	MAPPED W/ARTIFICIAL CONNECTION BETWEEN STANDS. WITHIN THE SESPE CONDOR SANCTUARY.
Ecological:	MAPPED BY WIESLANDER SURVEY AS TWO PATCHES OF OPEN WOODLAND OF JUGLANS CALIFORNICA AND QUERCUS AGRIFOLIA; ONE STAND W/GRASS UNDERSTORY, THE OTHER W/SALVIA LEUCOPHYLLA AND ARTEMISIA CALIFORNICA.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	USFS-LOS PADRES NF

Occurrence No.	25	**Map Index:**	00296	**EO Index:**	15076	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-31

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.46875 / -118.85482	**Accuracy:**	specific area
UTM:	Zone-11 N3815693 E329647	**Elevation (ft):**	3280
PLSS:	T05N, R19W, Sec. 34 (S)	**Acres:**	51.8

Location:	ABOUT 1 MILE SE OF HOPPER MTN.
Detailed Location:	
Ecological:	MAPPED BY WIESLANDER SURVEY AS OPEN WOODLAND OF JUGLANS CALIFORNICA AND QUERCUS AGRIFOLIA OVER GRASS.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	USFS-LOS PADRES NF

Occurrence No.	26	**Map Index:**	00342	**EO Index:**	15075	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-31

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.46426 / -118.83513	**Accuracy:**	specific area
UTM:	Zone-11 N3815162 E331446	**Elevation (ft):**	2280
PLSS:	T04N, R19W, Sec. 02 (S)	**Acres:**	154.9

Location:	WEST OF HOPPER CANYON JUST SOUTH OF LOS PADRES NF BOUNDARY.
Detailed Location:	
Ecological:	WEST PORTION OPEN WOODLAND OF QUERCUS AGRIFOLIA AND JUGLANS CALIFORNICA OVER GRASS; EAST PART OPEN WOODLAND OF Q. AGRIFOLIA AND J. CALIFORNICA ACCORDING TO WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	27	**Map Index:**	00331	**EO Index:**	15074	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1989-05-26
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-08-31

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.45347 / -118.83959	**Accuracy:**	specific area
UTM:	Zone-11 N3813972 E331015	**Elevation (ft):**	2000
PLSS:	T04N, R19W, Sec. 02 (S)	**Acres:**	392.4

Location:	SE OF HOPPER RANCH BUILDINGS, EXTENDING SOUTH FOR ABOUT 0.5 MILE & EAST FOR ABOUT 2 MILES TO HOPPER CANYON.
Detailed Location:	NORTHEAST SLOPE IN THE SOUTH CENTRAL PART OF THE HOPPER NWR.
Ecological:	MAPPED BY WIESLANDER SURVEY AS OPEN WOODLAND OF JUGLANS CALIFORNICA AND QUERCUS AGRIFOLIA OVER GRASS AND SALVIA LEUCOPHYLLA.
General:	MANAGED BY INTERAGENCY COOPERATIVE AGREEMENT BETWEEN DFG, USFS AND USFWS. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	DFG, USFS, USFWS

Occurrence No.	28	**Map Index:**	00412	**EO Index:**	15073	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-09-01

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.43973 / -118.80916	**Accuracy:**	specific area
UTM:	Zone-11 N3812398 E333783	**Elevation (ft):**	1880
PLSS:	T04N, R18W, Sec. 07 (S)	**Acres:**	340.4

Location:	SOUTH OF MODELO PEAK <1 MILE, WEST OF MODELO CANYON EXTENDING ABOUT 2.5 MILES TO HOPPER CANYON.
Detailed Location:	MAPPED W/ARTIFICIAL CONNECTION.
Ecological:	WEST PART OPEN JUGLANS CALIFORNICA & QUERCUS AGRIFOLIA OVER SALVIA LEUCOPHYLLA, ARTEMISIA CALIFORNICA, GRASS & HETEROMELES ARBUTIFOLIA; EAST PART OPEN Q. AGRIFOLIA & J. CALIFORNICA OVER LOTUS SCOPARIUS & GRASS PER WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	29	**Map Index:**	00513	**EO Index:**	15071	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-09-01

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.46744 / -118.77046	**Accuracy:**	specific area
UTM:	Zone-11 N3815409 E337393	**Elevation (ft):**	1800
PLSS:	T04N, R18W, Sec. 04 (S)	**Acres:**	492.8

Location:	WEST & EAST OF LIME CANYON, WEST OF LAKE PIRU.
Detailed Location:	
Ecological:	WEST STAND OPEN JUGLANS CALIFORNICA & QUERCUS AGRIFOLIA OVER LOTUS SCOPARIUS; EAST PART SAME DOMINANT TREES OVER L. SCOPARIUS & GRASS OR SALVIA LEUCOPHYLLA & ARTEMISIA CALIFORNICA PER WIESLANDER SURVEY.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	30	**Map Index:**	00517	**EO Index:**	15072	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-09-01

Quad Summary:	Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.44784 / -118.78299	**Accuracy:**	specific area
UTM:	Zone-11 N3813255 E336204	**Elevation (ft):**	2000
PLSS:	T04N, R18W, Sec. 08 (S)	**Acres:**	211.5

Location:	SLOPE TO SOUTH OF BLANCHARD CANYON & AREA NORTH OF THE CANYON.
Detailed Location:	TWO STANDS.
Ecological:	MAPPED BY WIESLANDER SURVEY AS OPEN WOODLAND OF JUGLANS CALIFORNICA AND QUERCUS AGRIFOLIA OVER SALVIA LEUCOPHYLLA AND ARTEMISIA CALIFORNICA.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	31	**Map Index:**	00533	**EO Index:**	13488	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-09-01

Quad Summary:	Simi (3411837), Piru (3411847)
County Summary:	Ventura

Lat/Long:	34.37854 / -118.76451	**Accuracy:**	specific area
UTM:	Zone-11 N3805539 E337768	**Elevation (ft):**	1200
PLSS:	T03N, R18W, Sec. 04 (S)	**Acres:**	457.3

Location:	NORTH & WEST OF OAK RIDGE & IN SMITH CANYON FROM GUIBERSON ROAD U/S FOR ABOUT 2 MILES.
Detailed Location:	FOUR STANDS. MAPPED HERE W/ARTIFICIAL CONNECTIONS BETWEEN STANDS.
Ecological:	MAPPED BY WIESLANDER SURVEY AS OPEN JUGLANS CALIFORNICA, QUERCUS AGRIFOLIA AND Q. LOBATA. UNDERSTORY INCLUDES LOTUS SCOPARIUS, SALVIA LEUCOPHYLLA, ARTEMISIA CALIFORNICA AND GRASS.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	32	**Map Index:**	00179	**EO Index:**	15070	**Element Last Seen:**	1987-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-09-01

Quad Summary:	Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.44970 / -118.90811	**Accuracy:**	specific area
UTM:	Zone-11 N3813671 E324712	**Elevation (ft):**	1000
PLSS:	T04N, R19W, Sec. 07 (S)	**Acres:**	919.5

Location:	EAST OF GOODENOUGH ROAD, FROM JUST NORTH OF FILLMORE TO SOUTH OF SESPE CREEK.
Detailed Location:	
Ecological:	MAPPED BY WIESLANDER SURVEY AS FOUR STANDS OF OPEN JUGLANS CALIFORNICA AND QUERCUS AGRIFOLIA OVER SALVIA LEUCOPHYLLA AND ARTEMISIA CALIFORNICA W/DOMINANCE BY THE TREE SPP VARYING AMONG STANDS.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	33	**Map Index:**	00240	**EO Index:**	15069	**Element Last Seen:**	1987-01-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-01-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-09-01

Quad Summary:	Piru (3411847), Fillmore (3411848)
County Summary:	Ventura

Lat/Long:	34.41512 / -118.88270	**Accuracy:**	specific area
UTM:	Zone-11 N3809792 E326975	**Elevation (ft):**	1000
PLSS:	T04N, R19W, Sec. 21 (S)	**Acres:**	149.9

Location:	SLOPES ABOVE POLE CREEK EAST OF FILLMORE ABOUT 1 MILE & SMALL PATCHES NORTH FOR 1 MILE.
Detailed Location:	PORTIONS SEEN IN 1987 AERIALS, OTHER PARTS OUTSIDE COVERAGE.
Ecological:	MAPPED BY WIESLANDER SURVEY AS JUGLANS CALIFORNICA AND QUERCUS AGRIFOLIA OVER SALVIA LEUCOPHYLLA AND ARTEMISIA CALIFORNICA.
General:	SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Occurrence No.	68	**Map Index:**	21004	**EO Index:**	17560	**Element Last Seen:**	1983-09-20
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1983-09-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-09-01

Quad Summary:	Santa Paula Peak (3411941)
County Summary:	Ventura

Lat/Long:	34.42541 / -119.09532	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3811317 E307455	**Elevation (ft):**	1200
PLSS:	T04N, R21W (S)	**Acres:**	86.9

Location:	ON NORTH-FACING SLOPES ACROSS HIGHWAY 152 FROM SULPHUR SPRINGS.
Detailed Location:	AT LEAST 0.5 MILE LONG BENEATH THE RIDGE LINE TO THE VALLEY FLOOR.
Ecological:	NATURAL STAND OF WALNUTS. MIX OF MATURE AND YOUNG TREES.
General:	MORE INFO NEEDED. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
Owner/Manager:	UNKNOWN

Walnut Forest

Element Code: CTT81600CA

Walnut Forest

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1
	State:	None		**State:**	S1.1
	Other:				
Habitat:	**General:**				
	Micro:				

Occurrence No.	2	**Map Index:** 00311	**EO Index:** 15046	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	1998-09-01

Quad Summary: Piru (3411847)

County Summary: Ventura

Lat/Long:	34.48997 / -118.84736	**Accuracy:**	specific area
UTM:	Zone-11 N3818034 E330375	**Elevation (ft):**	3200
PLSS:	T05N, R19W, Sec. 26 (S)	**Acres:**	111.1

Location: SLOPES ABOVE TRIBUTARY TO HOPPER CANYON, ABOUT 1 MILE ENE OF HOPPER MTN.

Detailed Location: MAPPED W/ARTIFICIAL CONNECTION BETWEEN PORTIONS. SITE IS WITHIN THE SESPE CONDOR SANCTUARY.

Ecological: MAPPED BY WIESLANDER SURVEY AS WOODLANDS FORMING CLOSED CANOPY: WESTERN TWO BRANCHES, QUERCUS AGRIFOLIA, JUGLANS CALIFORNICA, ACER MACROPHYLLUM DOM; EASTERN BRANCH Q. AGRIFOLIA, J. CALIFORNICA.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: USFS-LOS PADRES NF

Occurrence No.	3	**Map Index:** 00294	**EO Index:** 15044	**Element Last Seen:**	1934-XX-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1934-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	1998-09-01

Quad Summary: Piru (3411847)

County Summary: Ventura

Lat/Long:	34.43516 / -118.85427	**Accuracy:**	specific area
UTM:	Zone-11 N3811966 E329629	**Elevation (ft):**	1520
PLSS:	T04N, R19W, Sec. 15 (S)	**Acres:**	74.3

Location: BETWEEN CREEK IN TOMS CANYON & ANGELS PASS, WEST OF HUTTON PEAK.

Detailed Location:

Ecological: MAPPED BY WIESLANDER SURVEY AS JUGLANS CALIFORNICA AND QUERCUS AGRIFOLIA FORMING CLOSED CANOPY.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: UNKNOWN

Streptocephalus woottoni **Element Code:** ICBRA07010

Riverside fairy shrimp

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G1G2
	State:	None		**State:**	S1S2
	Other:	IUCN_EN-Endangered			
Habitat:	**General:**	ENDEMIC TO W RIV, ORA & SDG COUNTIES IN AREAS OF TECTONIC SWALES/EARTH SLUMP BASINS IN GRASSLAND & COASTAL SAGE SCRUB.			
	Micro:	INHABIT SEASONALLY ASTATIC POOLS FILLED BY WINTER/SPRING RAINS. HATCH IN WARM WATER LATER IN THE SEASON.			

Occurrence No.	9	**Map Index:** 39360	**EO Index:** 34362	**Element Last Seen:**	2011-04-07
Occ. Rank:	Good		**Presence:** Presumed Extant	**Site Last Seen:**	2011-04-07
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2014-04-14

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.26606 / -118.85556	**Accuracy:**	specific area
UTM:	Zone-11 N3793214 E329168	**Elevation (ft):**	650
PLSS:	T02N, R19W, Sec. 10 (S)	**Acres:**	4.6

Location: TIERRA REJADA VERNAL POOL PRESERVE, 0.1 MILES NORTH OF SUNSET VALLEY ROAD AT TIERRA REJADA ROAD, MOORPARK.

Detailed Location:

Ecological: HABITAT A SAGPOND/VERNAL POOL. BRANCHINECTA LINDAHLI ALSO PRESENT. B. LINDAHLI, BUT NO S. WOOTTONI, FOUND IN 2006. INSUFFICIENT PONDING FOR FAIRY SHRIMP IN 2002, 2007 & 2010. PONDED TO ABOUT 2.77 ACRES & 14" DEEP IN 2011.

General: ESTIMATED ABUNDANCE 5,000-10,000 ON 1 MAR 1998; 20 VOUCHERS SENT TO LACM. REPORTEDLY DETECTED IN 2001. WET-SEASON SURVEYS 2002-2006 FOUND 0 ADULTS. ESTIMATED ABUNDANCE 1000S OF S. WOOTTONI & 1 B. LINDAHLI FOUND ON 7 APR 2011.

Owner/Manager: MRCA-TIERRA REJADA PRESERVE

Bombus crotchii **Element Code:** IIHYM24480

Crotch bumble bee

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3G4
	State:	None		**State:**	S1S2
	Other:				
Habitat:	**General:**	COASTAL CALIFORNIA EAST TO THE SIERRA-CASCADE CREST AND SOUTH INTO MEXICO.			
	Micro:	FOOD PLANT GENERA INCLUDE ANTIRRHINUM, PHACELIA, CLARKIA, DENDROMECON, ESCHSCHOLZIA, AND ERIOGONUM.			

Occurrence No.	124	**Map Index:** 97582	**EO Index:** 98909	**Element Last Seen:**	1963-09-23
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1963-09-23
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2015-09-21

Quad Summary: Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.21665 / -119.03325	**Accuracy:**	1 mile
UTM:	Zone-11 N3788048 E312696	**Elevation (ft):**	150
PLSS:	T02N, R21W, Sec. 36 (S)	**Acres:**	0.0

Location: CAMARILLO.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN THE GENERAL VICINITY OF THE CITY OF CAMARILLO.

Ecological:

General: A COLLECTION WAS MADE IN THIS VICINITY ON 23 SEPT 1963.

Owner/Manager: PVT

Trimerotropis occidentiloides **Element Code:** IIORT36300

Santa Monica grasshopper

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1G2
	State:	None		**State:**	S1S2
	Other:	IUCN_EN-Endangered			
Habitat:	**General:**	KNOWN ONLY FROM THE SANTA MONICA MOUNTAINS.			
	Micro:	FOUND ON BARE HILLSIDES AND ALONG DIRT TRAILS IN CHAPARRAL.			

Occurrence No.	3	**Map Index:**	60414	**EO Index:**	60450	**Element Last Seen:**	1974-05-09
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1974-05-09
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2005-03-08

Quad Summary: Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.15741 / -119.01138	**Accuracy:**	2/5 mile
UTM:	Zone-11 N3781437 E314581	**Elevation (ft):**	360
PLSS:	T01N, R20W, Sec. 19 (S)	**Acres:**	0.0

Location: LONG GRADE CANYON, 18.5 KM EAST OF OXNARD.

Detailed Location: 5.3 KM WEST OF INTERSECTION OF POTRERO ROAD AND REINO ROAD (REINO ROAD CALLED NORTH POTRERO ROAD ON TOPO MAP).

Ecological:

General: 3 MALES COLLECTED.

Owner/Manager: UNKNOWN

Occurrence No.	4	**Map Index:**	60470	**EO Index:**	60506	**Element Last Seen:**	1973-08-14
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1973-08-14
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2005-03-10

Quad Summary: Thousand Oaks (3411827)

County Summary: Los Angeles

Lat/Long:	34.12978 / -118.77353	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3777967 E336457	**Elevation (ft):**	1200
PLSS:	T01N, R18W, Sec. 33 (S)	**Acres:**	0.0

Location: PASS ON KANAN RD, 2.2 KM (1.4 MI) NE OF INTERSECTION KIMBERLEY AND SIERRA CREEK ROAD.

Detailed Location:

Ecological:

General: 7 MALES COLLECTED.

Owner/Manager: UNKNOWN

Texosporium sancti-jacobi

Element Code: NLTEST7980

woven-spored lichen

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S1
	Other:	Rare Plant Rank - 3			
Habitat:	**General:**	CHAPARRAL.			
	Micro:	OPEN SITES; IN CALIFORNIA WITH ADENOSTOMA FASCICULATUM, ERIOGONUM, SELAGINELLA. AT PINNACLES, ON SMALL MAMMAL PELLETS. 290-660 M.			

Occurrence No.	20	**Map Index:** 56302	**EO Index:**	56318	**Element Last Seen:** 2003-03-29
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:** 2003-03-29
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 2004-08-02

Quad Summary: Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.15884 / -119.03111	**Accuracy:**	80 meters
UTM:	Zone-11 N3781632 E312766	**Elevation (ft):**	347
PLSS:	T01N, R21W, Sec. 24 (S)	**Acres:**	0.0

Location: WESTERN SANTA MONICA MOUNTAINS, SOUTH OF CAMARILLO, LONG GRADE CANYON ALONG PORTERO ROAD SOUTH OF HUENEME ROAD.

Detailed Location: LOCATED ABOUT 0.5 MI E OF CAMARILLO STATE HOSPITAL.

Ecological: VERY RARE ON SOIL WITH CRYPTOGAMIC CRUST ORGANISMS. ON RABBIT DUNG AND ON OLD TWIGS IN SOIL DUFF WITH SELAGINELLA BIGELOVII. ON COASTAL SAGE SCRUB OVER VOLCANIC ROAD.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 2003 COLLECTION BY RIEFNER. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Deinandra minthornii

Element Code: PDAST4R0J0

Santa Susana tarplant

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2
	State:	Rare		**State:**	S2
	Other:	Rare Plant Rank - 1B.2, BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden			
Habitat:	**General:**	CHAPARRAL, COASTAL SCRUB.			
	Micro:	ON SANDSTONE OUTCROPS AND CREVICES, IN SHRUBLAND. 280-760 M.			

Occurrence No.	16	**Map Index:**	00551	**EO Index:**	13181	**Element Last Seen:**	1987-09-29
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-09-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-04-28

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.20559 / -118.77944	**Accuracy:**	specific area
UTM:	Zone-11 N3786383 E336059	**Elevation (ft):**	2100
PLSS:	T01N, R18W, Sec. 04 (S)	**Acres:**	15.8

Location: JUST EAST OF SIMI PEAK SUMMIT ON JORDAN RANCH, SIMI HILLS.

Detailed Location: THREE COLONIES MAPPED MOSTLY WITHIN THE NE CORNER OF SECTION 5 (OR 4; SECTIONS CONFUSING IN THIS AREA). SITES MAPPED ABOUT 200 M EAST OF VABM 2403, 100 M NE OF VABM, AND 200 M NORTH OF VABM.

Ecological: ON SANDSTONE OUTCROPS IN MIXED CHAPARRAL AND CEANOTHUS CRASSIFOLIUS CHAPARRAL. ASSOCIATED WITH ERIOGONUM WRIGHTII MEMBRANACEUM.

General: ABOUT 200 PLANTS OBSERVED AT JORDAN RANCH IN 1987 (INCLUDING OCCURRENCES #16, 39, 40, AND 41). SPECIES MAY BE MORE WIDESPREAD THAN INDICATED BY SURVEY (WISHNER 1987). NEW OCCURRENCES # 39-41 FORMERLY CONSIDERED PART OF THIS OCCURRENCE.

Owner/Manager: PVT

Occurrence No.	21	**Map Index:**	00461	**EO Index:**	16963	**Element Last Seen:**	XXXX-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	XXXX-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-04-28

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.20976 / -118.79782	**Accuracy:**	specific area
UTM:	Zone-11 N3786875 E334374	**Elevation (ft):**	1400
PLSS:	T02N, R18W, Sec. 32 (S)	**Acres:**	22.1

Location: ABOUT 1 MILE WNW OF SIMI PEAK SUMMIT, SIMI HILLS.

Detailed Location: MAPPED ALONG SOUTH SIDE OF ALBERTSON MOTORWAY MOSTLY WITHIN THE NE 1/4 OF SE 1/4 OF SECTION 31 AND NW 1/4 OF SW 1/4 OF SECTION 32. POPULATION MAY EXTEND FURTHER TO THE SOUTH.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY KUHN.

Owner/Manager: UNKNOWN

Occurrence No.	34	**Map Index:**	21647	**EO Index:**	8496	**Element Last Seen:**	1989-01-19
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1989-01-19
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1992-09-09

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.14806 / -118.86723	**Accuracy:**	specific area
UTM:	Zone-11 N3780147 E327853	**Elevation (ft):**	1100
PLSS:	T01N, R19W, Sec. 22 (S)	**Acres:**	4.2

Location: NORTH SIDE OF LAKE SHERWOOD, ALONG MAJOR TRIBUTARY, SANTA MONICA MOUNTAINS.

Detailed Location: MAPPED ALONG EAST SIDE OF TRIBUTARY NEAR BOTTOM OF SLOPE ABOUT 500 METERS NNE OF POTRERO ROAD AND 0.7 MILES NW OF SPILLWAY AT LAKE SHERWOOD.

Ecological: ON VERTICAL FACES ALONG WEST ASPECT OF CANYON, ON OUTCROPS OF CONEJO VOLCANIC BRECCIA IN COASTAL SAGEBRUSH, ADJACENT TO SOUTHERN OAK WOODLAND/WILLOW SCRUB IN CANYON BOTTOM. NOT TYPICAL HABITAT FOR THIS PLANT (USUALLY FOUND ON SANDSTONE).

General: ABOUT 20 PLANTS SEEN IN 1989. ACCORDING TO WISHNER, THIS SITE REPRESENTS A SPECTACULAR EXAMPLE OF WOODLAND AND RIPARIAN HABITATS.

Owner/Manager: PVT

Occurrence No.	35	**Map Index:**	21646	**EO Index:**	8497	**Element Last Seen:**	1992-04-28
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-04-28
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-12-07

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.19965 / -118.79601	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3785751 E334521	**Elevation (ft):**	1700
PLSS:	T01N, R18W, Sec. 06 (S)	**Acres:**	10.8

Location: CITY OF THOUSAND OAKS, 1.1 MILE SW OF SIMI PEAK, SIMI HILLS.

Detailed Location: WEST OF WESTERN TERMINUS OF FALLING STAR AVENUE AND NORTH OF KANAN ROAD. MOST ACCURATE MAP FOR SITE IS BASED ON 1992 OBSERVATION OF ASTRAGALUS BRAUNTONII WHICH REPORTED H. MINTHORNII AS ASSOCIATE.

Ecological: VENTURAN COASTAL SCRUB IN CRACKS IN LARGE SANDSTONE BOULDERS WITH ERIOGONUM FASCICULATUM, ADENOSTOMA FASCICIULATUM, ARTEMISIA CALIFORNICA, MALOSMA. NEAR OTHER RARE PLANTS: ASTRAGALUS BRAUNTONII, CALOCHORTUS CATALINAE, AND NOLINA PARRYI.

General: 1 PLANT SEEN IN 1989; 29 SEEN IN 1992. CURRENTLY IN NATURAL OPEN SPACE. AREA IS INACCESSSIBLE EXCEPT BY HIKING OVER BOULDERS AND THROUGH BRUSH.

Owner/Manager: PVT-COSCA

Occurrence No.	39	**Map Index:**	38641	**EO Index:**	33648	**Element Last Seen:**	1987-09-29
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-09-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-04-28

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.20491 / -118.77173	**Accuracy:**	80 meters
UTM:	Zone-11 N3786295 E336768	**Elevation (ft):**	2100
PLSS:	T01N, R18W, Sec. 04 (S)	**Acres:**	0.0

Location:	SOUTH OF CHINA FLAT, ABOUT 0.5 MILE EAST OF SIMI PEAK SUMMIT ON JORDAN RANCH, SIMI HILLS.
Detailed Location:	MAPPED WITHIN THE NE 1/4 NW 1/4 SECTION 4.
Ecological:	ON SANDSTONE OUTCROPS IN MIXED CHAPARRAL AND CEANOTHUS CRASSIFOLIUS CHAPARRAL. ASSOCIATED WITH ERIOGONUM WRIGHTII MEMBRANACEUM.
General:	ABOUT 200 PLANTS OBSERVED AT JORDAN RANCH IN 1987 (INCLUDING OCCURRENCES #16, 39, 40, AND 41). SPECIES MAY BE MORE WIDESPREAD THAN INDICATED BY SURVEY (WISHNER 1987). THIS SITE FORMERLY CONSIDERED PART OF OCCURRENCE #16.
Owner/Manager:	PVT

Occurrence No.	40	**Map Index:**	38642	**EO Index:**	33649	**Element Last Seen:**	1987-09-29
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-09-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-05-15

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.20721 / -118.76392	**Accuracy:**	specific area
UTM:	Zone-11 N3786538 E337492	**Elevation (ft):**	2000
PLSS:	T02N, R18W, Sec. 34 (S)	**Acres:**	28.7

Location:	EAST OF CHINA FLAT, ABOUT 1 MILE ENE OF SIMI PEAK SUMMIT ON JORDAN RANCH, SIMI HILLS.
Detailed Location:	6 COLONIES MAPPED MOSTLY WITHIN THE SE 1/4 SE 1/4 SECTION 33.
Ecological:	ON SANDSTONE OUTCROPS IN MIXED CHAPARRAL AND CEANOTHUS CRASSIFOLIUS CHAPARRAL. ASSOCIATED WITH ERIOGONUM WRIGHTII MEMBRANACEUM.
General:	ABOUT 200 PLANTS OBSERVED AT JORDAN RANCH IN 1987 (INCLUDING OCCURRENCES #16, 39, 40, AND 41). SPECIES MAY BE MORE WIDESPREAD THAN INDICATED BY SURVEY (WISHNER 1987). THIS SITE FORMERLY CONSIDERED PART OF OCCURRENCE #16.
Owner/Manager:	PVT

Occurrence No.	41	**Map Index:** 38643	**EO Index:**	33650	**Element Last Seen:**	1987-09-29
Occ. Rank:	Excellent		**Presence:**	Presumed Extant	**Site Last Seen:**	1987-09-29
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	1998-04-28

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.20798 / -118.75404	**Accuracy:**	specific area
UTM:	Zone-11 N3786607 E338404	**Elevation (ft):**	1900
PLSS:	T02N, R18W, Sec. 34 (S)	**Acres:**	14.9

Location: EAST OF CHINA FLAT, ABOUT 1.5 MILE EAST OF SIMI PEAK SUMMIT ON JORDAN RANCH, SIMI HILLS.

Detailed Location: THREE COLONIES MAPPED MAPPED ALONG DIRT ROAD TO CHINA FLAT, WITHIN THE SE 1/4 SW 1/4 SECTION 34.

Ecological: ON SANDSTONE OUTCROPS IN MIXED CHAPARRAL AND CEANOTHUS CRASSIFOLIUS CHAPARRAL. ASSOCIATED WITH ERIOGONUM WRIGHTII MEMBRANACEUM.

General: ABOUT 200 PLANTS OBSERVED AT JORDAN RANCH IN 1987 (INCLUDING OCCURRENCES #16, 39, 40, AND 41). SPECIES MAY BE MORE WIDESPREAD THAN INDICATED BY SURVEY (WISHNER 1987). THIS SITE FORMERLY CONSIDERED PART OF OCCURRENCE #16.

Owner/Manager: PVT

Centromadia parryi ssp. australis

Element Code: PDAST4R0P4

southern tarplant

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3T2
	State:	None		**State:**	S2
	Other:	Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden			
Habitat:	**General:**	MARSHES AND SWAMPS (MARGINS), VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS.			
	Micro:	OFTEN IN DISTURBED SITES NEAR THE COAST AT MARSH EDGES; ALSO IN ALKALINE SOILS SOMETIMES WITH SALTGRASS. SOMETIMES ON VERNAL POOL MARGINS. 0-975 M.			

Occurrence No.	53	**Map Index:** 40478	**EO Index:**	35485	**Element Last Seen:**	2003-06-29
Occ. Rank:	Fair		**Presence:**	Presumed Extant	**Site Last Seen:**	2003-06-29
Occ. Type:	Natural/Native occurrence		**Trend:**	Decreasing	**Record Last Updated:**	2003-12-05

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.18579 / -118.93296	**Accuracy:**	specific area
UTM:	Zone-11 N3784445 E321872	**Elevation (ft):**	638
PLSS:	T01N, R20W, Sec. 12 (S)	**Acres:**	4.6

Location: CONEJO VALLEY, SOUTH OF I-101, ABOUT 0.4 TO 0.7 MILE WEST INTERCHANGE (BRIDGE), THOUSAND OAKS.

Detailed Location: EAST COLONY IN FLOOD CONTROL AREA SOUTH OF 101, 0.4 MI WEST OF BORCHARD RD BRIDGE, MAPPED WITHIN THE SE 1/4 NW 1/4 SECTION 12. WEST COLONY ABOUT 0.7 MI WEST OF BRIDGE, 0.3 MI SOUTH OF HWY 101 AND 0.4 MI NORTH OF BORCHARD RD.

Ecological: SEASONALLY WET FLOOD CONTROL AREA WITH CRESSA SP., BROMUS MOLLIS, HORDEUM SP., AND SIDA SP.

General: FEWER THAN 6 PLANTS IN 1998 AT EAST COLONY. 1000-2000 AT NEW WEST COLONY IN 4/03, SITE OVERGROWN IN 6/03. SITE DISKED EXTREMELY THOROUGHLY IN LATE 6/03; AT LEAST 75% OF PLANTS DESTROYED. A FEW LEFT ALONG ACCESS ROAD & IN OPEN AREAS.

Owner/Manager: CITY OF THOUSAND OAKS, CALTRAN

Pentachaeta lyonii

Element Code: PDAST6X060

Lyon's pentachaeta

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G1
	State:	Endangered		**State:**	S1
	Other:	Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden			

Habitat:	**General:**	CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, COASTAL SCRUB.
	Micro:	EDGES OF CLEARINGS IN CHAPARRAL, USUALLY AT THE ECOTONE BETWEEN GRASSLAND AND CHAPARRAL OR EDGES OF FIREBREAKS. 30-630 M.

Occurrence No.	10	**Map Index:**	00291	**EO Index:**	8882	**Element Last Seen:**	2006-06-01
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2012-05-31
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2012-10-02

Quad Summary:	Point Dume (3411817), Thousand Oaks (3411827)
County Summary:	Los Angeles, Ventura

Lat/Long:	34.12710 / -118.85441	**Accuracy:**	specific area
UTM:	Zone-11 N3777802 E328993	**Elevation (ft):**	1000
PLSS:	T01N, R19W, Sec. 34 (S)	**Acres:**	34.0

Location:	IN THE VICINITY OF THE INTERSECTION OF DECKER ROAD AND CARLISLE ROAD, SSW OF LAKE ELEANOR, SANTA MONICA MOUNTAINS.
Detailed Location:	MAPPED BY CNDDB AS 9 POLYGONS ON BOTH SIDES OF THE VEN/LAX COUNTY LINE. MAPPED TO ENCOMPASS MAP INFO FROM THOMAS 1983, WESTEC SERVICES (DATE UNK), A 1990 VANDER MAP, A 1992 KEELEY MAP, A 1999 WELTER MAP, & 2006 GPS INFO FROM WARNIMENT.
Ecological:	FOUND IN SMALL GRASSY OPENINGS OF COASTAL SAGE SCRUB/CHAPARRAL ALONG FIRE ROAD CUTS AND IN SOME NATURAL OPENINGS. CLAY DERIVED FROM VOLCANICS WITH OCCASIONAL BOULDERS. ASSOCIATES INCLUDE NASSELLA PULCHRA, CALOCHORTUS PLUMMERAE, ETC.
General:	>1000 IN 1983, 1000 IN '87, 1000 IN '88 & '90. PORTIONS IN LAX HAD 1000+ IN '90, 6000-9000 IN '91 & '92, 14,000 IN '95, 80,000 IN '98, MUCH HAS SINCE BEEN EXTIRP BY DEV. 20 IN W POLY IN '06. NO PLANTS IN MIDDLE AREA IN '12. INCL FRMR EO#28.
Owner/Manager:	CONEJO OPEN SPACE CONS AG, PVT

Occurrence No.	11	**Map Index:**	00315	**EO Index:**	8226	**Element Last Seen:**	1999-05-16
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1999-05-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-10-02

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.13938 / -118.84401	**Accuracy:**	specific area
UTM:	Zone-11 N3779146 E329977	**Elevation (ft):**	1225
PLSS:	T01N, R19W, Sec. 26 (S)	**Acres:**	24.0

Location:	RIDGE EAST OF LAKE ELEANOR DAM, EAST OF WESTLAKE BLVD, SANTA MONICA MOUNTAINS.
Detailed Location:	THREE COLONIES ALONG AND EAST OF RIDGE.
Ecological:	ON RIDGETOP IN NARROW STRIP OF GRASSLAND IN CHAMISE AND RED-SHANK CHAPARRAL IN THIN SOIL ON VOLCANIC BRECCIA. ASSOCIATED WITH ORTHOCARPUS PURPURASCENS, STYLOCLINE GNAPHALOIDES, BROMUS HORDACEUS, BROMUS MADRITENSIS, TRIFOLIUM TRIDENTATUM.
General:	NORTHERN POLY: 1000 INDIVIDUALS OBSERVED IN 1998. SOUTHEAST POLY: 8000-9000 PLANTS OBSERVED IN 1999. SOUTHWEST POLY: <100 PLANTS SEEN IN 1983, 0 IN 1987, <100 IN 1992. SITE BURNED IN 1996, 10 PLANTS OBSERVED ON EAST EDGE OF BURN IN 1997.
Owner/Manager:	CONEJO OPEN SPACE CONS AG, PVT

Occurrence No.	12	**Map Index:**	00189	**EO Index:**	5249	**Element Last Seen:**	1997-XX-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1997-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-09-26

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.21955 / -118.91300	**Accuracy:**	specific area
UTM:	Zone-11 N3788154 E323782	**Elevation (ft):**	700
PLSS:	T02N, R19W, Sec. 31 (S)	**Acres:**	19.0

Location:	WILDWOOD PARK, NEAR THE SW END OF MOUNTCLEF RIDGE.
Detailed Location:	FIVE COLONIES ALONG SOUTHWEST PART OF RIDGE. MAPPED ACCORDING TO A 1984 THOMAS MAP AND A 1985 SMITH MAP.
Ecological:	HABITAT IS AN INTERFACE BETWEEN DISTURBED GRASSLAND (AVENA BARBATA, BROMUS HORDACEUS, B. MADRITENSIS, BRASSICA NIGRA, ET AL) & CACTUS SAGE SCRUB W/ THIN ROCKY SOIL (DUDLEYA PARVA, OPUNTIA PROLIFERA, O. BASILARIS, & ERIOGONUM FASCICULATUM).
General:	BETWEEN THIS OCCURRENCE AND OCCURRENCE #46: OVER 1000 PLANTS SEEN IN 1984, 1987, & 1988; APPROXIMATELY 1200 IN 1997.
Owner/Manager:	CONEJO OPEN SPACE CONS AGENCY

Occurrence No.	14	**Map Index:**	22703	**EO Index:**	8205	**Element Last Seen:**	1992-12-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-12-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2002-09-10

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.24727 / -118.82957	**Accuracy:**	80 meters
UTM:	Zone-11 N3791087 E331524	**Elevation (ft):**	1060
PLSS:	T02N, R19W, Sec. 24 (S)	**Acres:**	0.0

Location:	ABOUT 0.3 MILE NORTH OF WOOD RANCH RESERVOIR JUST EAST OF VENTURA COUNTY SHERIFF'S SUBSTATION ON OLSON ROAD.
Detailed Location:	ABOVE CALLEGUAS MUNICIPAL WATER DISTRICT FACILITY.
Ecological:	FLAT AREA OF DISTURBED COASTAL SCRUB/CACTUS SCRUB. IN COARSE SOILS WITH LITTLE VEGETATION. FESTUCA MEGALURA, GILIA ANGELENSIS, HEMIZONIA FASCICULATA, STYLOCLINE GNAPHALOIDES, LESSINGIA FILAGINIFOLIA, ARTEMISIA CALIFORNICA, ET AL.
General:	400 PLANTS SEEN IN 1989. 20% OF POPULATION IMPACTED IN 1992 BY EARTHMOVING OPERATIONS RELATED TO WATER DISTRICT'S EXPANSION. OWNED/MANAGED BY CALLEGUAS MUNICIPAL WATER DISTRICT.
Owner/Manager:	PVT

Occurrence No.	15	**Map Index:**	22706	**EO Index:**	8228	**Element Last Seen:**	1998-XX-XX
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1998-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-09-26

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.13038 / -118.86547	**Accuracy:**	specific area
UTM:	Zone-11 N3778184 E327979	**Elevation (ft):**	1100
PLSS:	T01N, R19W, Sec. 34 (S)	**Acres:**	12.0

Location:	ADJACENT TO CARLISLE INLET AND DRAINAGE ON BOTH SIDES OF PARK ROAD, SOUTH OF LAKE SHERWOOD.
Detailed Location:	ON BOTH SIDES OF INLET. MAPPED AS 7 POLYGONS ACCORDING TO A 1998 WISHNER MAP.
Ecological:	ON SLOPES IN OPENINGS IN CHAPARRAL WITH CEANOTHUS CUNEATUS, C. CRASSIFOLIUS, ADENOSTOMA FASCICULATA. (OPENINGS CAUSED BY BRUSH CLEARANCE IN 1986 AND FIRE IN 1988).
General:	3700-4400 PLANTS IN 1990, <4000 IN 1993, 3300-3600 PLANTS IN 1998. ONE SUB-POP'N (EST. SIZE 500 PLANTS) DISKED AS PART OF FIRE MGMNT IN 1993; <10 PLANTS REMAINED IN THIS SUBPOP IN 1994, RECOVERED TO 400 IN 1998.
Owner/Manager:	PVT

Occurrence No.	16	**Map Index:**	22705	**EO Index:**	8229	**Element Last Seen:**	2001-07-17
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2001-07-17
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2008-09-24

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.14607 / -118.86832	**Accuracy:**	specific area
UTM:	Zone-11 N3779929 E327748	**Elevation (ft):**	1050
PLSS:	T01N, R19W, Sec. 28 (S)	**Acres:**	8.0

Location:	ON SLOPES ADJACENT TO MAJOR TRIBUTARY TO LAKE, NORTH OF LAKE SHERWOOD.
Detailed Location:	MAPPED ACCORDING TO A 1990 WISHNER MAP. WEST POLYGON (CONSISTS OF 2 SUBPOPULATIONS): BULLDOZED (2000?), UNKNOWN IF NOW EXTIRPATED. EAST POLYGON: SEVERE DECLINE AND NOW CONTAINS A MIXTURE OF NATURAL AND TRANSPLANTED INDIVIDUALS.
Ecological:	IN OPENINGS IN CHAPARRAL DOMINATED BY GRASSES AND NATIVE ANNUAL HERBS. ALSO ASSOCIATED WITH CEANOTHUS CUNEATUS AND ADENOSTOMA FASCICULATUM.
General:	TOTAL OF 330 PLANTS SEEN IN 1990 IN 3 SUBPOPULATIONS. TWO OF 3 SUBPOPS BULLDOZED, 3RD SUB POP IN SEVERE DECLINE AND WAS SUBSEQUENTLY ENHANCED WITH TRANSPLANTS IN 2001 (110 OF 230 TRANSPLANTS SURVIVED AS OF JULY 2001). NEEDS FIELDWORK.
Owner/Manager:	PVT

Occurrence No.	19	**Map Index:**	22132	**EO Index:**	18658	**Element Last Seen:**	1994-XX-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1994-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1995-10-30

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.12688 / -118.89103	**Accuracy:**	specific area
UTM:	Zone-11 N3777839 E325615	**Elevation (ft):**	1000
PLSS:	T01N, R19W, Sec. 32 (S)	**Acres:**	8.9

Location:	ON THE LAKE SHERWOOD RANCH AT THE SW END OF LAKE SHERWOOD.
Detailed Location:	MOST OF OCCURRENCE ALONG DIRT ROAD. ALSO IN NW 1/4 OF SECTION 33. SOME SEEDS FROM THIS SITE WERE TRANSPLANTED IN CARLISLE CYN BURN AREA; UNKNOWN WHERE SEEDS WERE PLANTED BUT APPARENTLY 30 PLANTS WERE PRODUCED FROM THIS EFFORT.
Ecological:	BROAD VALLEY WITH GRASSLAND, OAK SAVANNAH, SYCAMORE RIPARIAN WOODLANDS. PENTACHAETA IN OPEN GRASSY AREA OF A FUELBREAK. PLANTS FOUND IN DISTURBED SITES (BRUSH CLEARANCE).
General:	3200+ PLANTS IN 1987 IN 4 COLONIES, 200 IN 1988. POP DECLINED TO 40 PLANTS BY 1992, 7 IN 1993, AND 1 IN 1994 AT "HOLE #10". PLANTS IN AN AREA 50'X100'. ATTEMPT TO AUGMENT POP BY SEEDING NEAR "HOLES 15-16" HAS MET WITH REPEATED FAILURE.
Owner/Manager:	PVT-MURDOCK DEV CO

Occurrence No.	20	**Map Index:**	22707	**EO Index:**	28531	**Element Last Seen:**	1988-04-27
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1988-04-27
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-09-24

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.22106 / -118.88535	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3788274 E326331	**Elevation (ft):**	900
PLSS:	T02N, R19W, Sec. 29 (S)	**Acres:**	0.0

Location:	RIDGE NEAR MOUNTCLEF VILLAGE, SOUTH OF OLSON ROAD, JUST WEST OF CAL LUTHERAN UNIVERSITY CAMPUS, S OF MOUNTCLEF RIDGE.
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED IN VICINITY OF HILL WEST OF CAL LUTHERAN UNIVERSITY AND SOUTH OF OLSON ROAD. NEED MAP DETAIL.
Ecological:	TOP OF HILL IN CONEJO VOLCANICS WITH CACTUS SCRUB ON E AND S-FACING SLOPES. PLANTS IN SHORT GRASS (MOSTLY FESTUCA MEGALURA). ALSO WITH ERODIUM, AVENA BARBATA, BRASSICA, BROMUS RUBENS, AND DUDLEYA ABRAMSII PARVA. NESTING CACTUS WREN NEARBY.
General:	2 SMALL POPULATIONS WITH A TOTAL OF 225 PLANTS SEEN IN 1988. NEEDS FIELDWORK.
Owner/Manager:	UNKNOWN

Occurrence No.	21	**Map Index:**	22133	**EO Index:**	9226	**Element Last Seen:**	1994-XX-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1994-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-09-26

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.23410 / -118.87999	**Accuracy:**	specific area
UTM:	Zone-11 N3789712 E326852	**Elevation (ft):**	910
PLSS:	T02N, R19W, Sec. 28 (S)	**Acres:**	14.0

Location:	0.6 MILE NORTH OF OLSON ROAD, ABOUT 0.3 AIR MILE EAST OF MOUNT CLEF PEAK.
Detailed Location:	MOSTLY WITHIN BOUNDARY FOR CAL LUTHERAN UNIVERSITY. MAPPED ACC TO A 1991 BOWLAND MAP. WISHNER (1993) MENTIONS THAT IN 1992 THERE WERE SEVERAL OTHER POCKETS OF PLANTS LOCATED IN "SADDLES" TOWARD THE WEST OF THIS LOCATION; NEED MAP DETAIL.
Ecological:	NEAR AN OCCURRENCE OF DUDLEYA ABRAMSII SSP. PARVA. N-FACING SLOPES.
General:	2 POPULATIONS WITH A TOTAL OF 35 PLANTS OBSERVED IN 1991. "GOOD NUMBERS OF PLANTS" OBSERVED IN 1992. 3 SUBPOPULATIONS OBSERVED HERE IN 1994 WITH A TOTAL OF 200 PLANTS. NEEDS FIELDWORK. INCLUDES FORMER OCCURRENCE #25.
Owner/Manager:	PVT-CAL LUTHERAN UNIVERSITY

Occurrence No.	22	**Map Index:**	22709	**EO Index:**	28591	**Element Last Seen:**	2010-05-05
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-05-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-10-11

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.19936 / -118.93805	**Accuracy:**	specific area
UTM:	Zone-11 N3785959 E321431	**Elevation (ft):**	700
PLSS:	T01N, R20W, Sec. 02 (S)	**Acres:**	16.0

Location:	NORTHWEST OF NEWBURY PARK ACADEMY, CITY OF THOUSAND OAKS.
Detailed Location:	NORTH POLYGON IS ALONG MARGINS OF A DIRT ROAD ON SEVENTH DAY ADVENTIST PROPERTY. SOUTH POLYGON IS LOCATED WITHIN USFWS-DESIGNATED CRITICAL HABITAT FOR THIS SPECIES.
Ecological:	IN SPARSELY VEGETATED COASTAL SAGE SCRUB/ANNUAL GRASSLAND PLANT COMMUNITIES. ASSOCIATED SPECIES INCLUDE AVENA FATUA, STIPA LEPIDA, LASTHENIA CHRYSOSTOMA, LAMARCKIA AUREA, ETC. HEAVY CLAY SOILS APPARENTLY DERIVED FROM CONEJO VOLCANIC ROCKS.
General:	N POLY: 50-100 PLANTS IN 1991, 200 IN 1993; A 1998 REPORT MENTIONS THAT THIS POPULATION IS ON THE VERGE OF EXTINCTION DUE TO ABUNDANT ORV USE, SCRAPING, & AVENA INVASION. S POLY: 200 IN 1991, >1000 IN 1993, 4000 IN 2010. INCL FRMR EO #23.
Owner/Manager:	PVT, CITY OF THOUSAND OAKS

Occurrence No.	24	**Map Index:**	22708	**EO Index:**	5248	**Element Last Seen:**	2012-05-24
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2012-05-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-10-02

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.21024 / -118.89096	**Accuracy:**	specific area
UTM:	Zone-11 N3787084 E325793	**Elevation (ft):**	700
PLSS:	T02N, R19W, Sec. 32 (S)	**Acres:**	4.0

Location: WEST OF SIDLEE STREET OFF OF LYNN ROAD, WILDWOOD-LYNNMERE NORTH OPEN SPACE.

Detailed Location: ON AND ADJACENT TO OLD DIRT ACCESS ROAD. SITE IS DEDICATED OPEN SPACE ADMINISTERED BY COSCA (CONEJO OPEN SPACE CONSERVATION AGENCY). COSCA RANGERS ARE AWARE OF THE PLANTS AND THE TRAIL IS INFREQUENTLY USED.

Ecological: ON LEVEL AREAS AND GENTLE W-FACING SLOPES IN CLAY LOAM DERIVED FROM CONEJO VOLCANICS. ASSOC WITH CEANOTHUS MEGACARPUS, ERIOGONUM FASCICULATUM, SALVIA MELLIFERA, ERODIUM CICUTARIUM, HEMIZONIA SP., LAMARCKIA AUREA, & CENTAUREA MELITENSIS.

General: ABOUT 500 PLANTS SEEN IN 3 SUBPOPS IN 1991. 1997: PLANTS ARE RESTRICTED TO WITHIN 5 METERS OF THE PATH DUE TO COMPETITION WITH NON-NATIVE GRASSES. 384 PLANTS SEEN IN 4 SUBPOPS IN 2003. 450 PLANTS SEEN IN 2 SUBPOPS IN 2012.

Owner/Manager: CONEJO OPEN SPACE CONS AGENCY

Occurrence No.	26	**Map Index:**	22760	**EO Index:**	18655	**Element Last Seen:**	1992-05-29
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-05-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-09-24

Quad Summary: Thousand Oaks (3411827)

County Summary: Los Angeles

Lat/Long:	34.12881 / -118.84058	**Accuracy:**	specific area
UTM:	Zone-11 N3777968 E330272	**Elevation (ft):**	1100
PLSS:	T01N, R19W, Sec. 35 (S)	**Acres:**	7.0

Location: PART OF "BALDWIN WESTLAKE PROPERTY"; ABOUT 0.8 MI E OF DECKER ROAD, JUST W OF LAS VIRGENES RESERVOIR, SANTA MONICA MTNS.

Detailed Location: ALONG THE ENTRANCE ROAD TO THE RESERVOIR FACILITIES COMPLEX. OWNERSHIP IS LVMWD & PVT. OVER 95% OF OCCURRENCE MANAGED BY SANTA MONICA MOUNTAINS CONSERVANCY, REMAINDER IS ON PRIVATE HOLDINGS.

Ecological: GRASSLAND AND CHAPARRAL ECOTONES IN AREAS OF RECENT DISTURBANCES WITH LITTLE COMPETITION FROM SHRUBS AND ANNUAL GRASSES. ASSOCIATES INCLUDE BROMUS HORDEACEUS, B. MADRITENSIS, AVENA BARBATA, CENTAUREA MELITENSIS, PLANTAGO ERECTA, ETC.

General: OVER 5000 TOTAL PLANTS SEEN HERE AND AT OCCURRENCE #27 IN 1992.

Owner/Manager: NPS-SANTA MONICA MTNS NRA, PVT

Occurrence No.	27	**Map Index:**	22761	**EO Index:**	8204	**Element Last Seen:**	2012-06-05
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2012-06-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Increasing	**Record Last Updated:**	2012-10-11

Quad Summary: Thousand Oaks (3411827)

County Summary: Los Angeles

Lat/Long:	34.12991 / -118.81963	**Accuracy:**	specific area
UTM:	Zone-11 N3778056 E332206	**Elevation (ft):**	950
PLSS:	T01N, R19W, Sec. 36 (S)	**Acres:**	47.0

Location: PART OF "BALDWIN WESTLAKE PROPERTY"; 1.7-2.5 MILES E OF DECKER ROAD, E OF LAS VIRGENES RESERVOIR, SANTA MONICA MTNS.

Detailed Location: OWNERSHIP IS LAS VIRGENES MUNICIPAL WATER DISTRICT & PVT; MORE THAN 95% OF OCCURRENCE IS MANAGED BY THE SANTA MONICA MOUNTAINS CONSERVANCY. NW-MOST POLY MAY BE ERRONEOUS; MAPPED ACC TO A WALL MAP BUT MAP DOES NOT MATCH COORDINATES.

Ecological: GRASSLAND AND CHAPARRAL ECOTONES; IN AREAS SUCH AS ROADWAYS AND RECENT DISTURBANCES, WITH LITTLE COMPETITION FROM SHRUBS AND ANNUAL GRASSES. ASSOCIATES INCLUDE ERIOGONUM FASCICULATUM, BLOOMERIA CROCEA, DICHELOSTEMMA CAPITATUM, ETC.

General: >5000 PLANTS TOTAL SEEN IN 1992 BETWEEN HERE & EO #26. 1997: "NUMEROUS DENSE PATCHES IN DISTURBED AREAS, SPARSE POPULATIONS IN GAPS BTW SHRUBS IN CHAPARRAL." UNKNOWN # SEEN IN 2004. 5000 PLANTS SEEN IN 2005 AND 18,600 PLANTS SEEN IN 2012.

Owner/Manager: NPS-SANTA MONICA MTNS NRA, PVT

Occurrence No.	29	**Map Index:**	24356	**EO Index:**	26999	**Element Last Seen:**	1994-XX-XX
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	1994-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2008-09-24

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.25710 / -118.81698	**Accuracy:**	specific area
UTM:	Zone-11 N3792157 E332702	**Elevation (ft):**	1200
PLSS:	T02N, R19W, Sec. 13 (S)	**Acres:**	8.0

Location: RONALD REAGAN PRESIDENTIAL LIBRARY SITE, ALONG PRESIDENTIAL DRIVE, WEST OF SIMI VALLEY.

Detailed Location: MAPPED BY CNDDB ACCORDING TO A 1989 MCCLELLAND MAP. A 1998 FOTHERINGHAM REPORT MENTIONS THAT THERE ARE STILL POPULATIONS SOUTH OF THE LIBRARY THAT ARE IN YET-TO-BE-BUILT LOTS; NEED MAP DETAIL.

Ecological: SHALLOW VOLCANIC-DERIVED SOILS WITH DUDLEYA ABRAMSII PARVA (ALSO RARE).

General: IN 1994, THOMAS MENTIONS THERE WERE 2 SUBPOPS, ONE WAS DESTROYED BY THE RD & MITIGATION PLANTING HAS FAILED; THE OTHER SUBPOP LOCATED ADJACENT TO THE RD HAD 500 PLANTS IN 1994. UNSURE WHICH SUBPOPS THOMAS IS REFERRING TO. NEEDS FIELDWORK.

Owner/Manager: PVT

Occurrence No.	30	**Map Index:**	25140	**EO Index:**	28650	**Element Last Seen:**	2008-06-25
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-06-25
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2012-11-06

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.26538 / -118.85495	**Accuracy:**	specific area
UTM:	Zone-11 N3793138 E329222	**Elevation (ft):**	675
PLSS:	T02N, R19W, Sec. 10 (S)	**Acres:**	8.0

Location:	CARLSBERG DEVELOPMENT; IMMEDIATELY NW OF THE INTERSECTION OF THE HWY 23 FREEWAY AND TIERRA REJADA RD, CLOVERLEAF.
Detailed Location:	BETWEEN VERNAL POOL AND TIERRA REJADA. MAPPED BY CNDDB TO ENCOMPASS MULTIPLE YEARS WORTH OF SURVEY DATA FROM MOUNTAINS RECREATION AND CONSERVATION AUTHORITY (LAST SURVEY IN 2007).
Ecological:	IN THIN ROCKY CONEJO VOLCANICS, ON NE SIDE OF A COASTAL SAGE SCRUB STAND. WITH SALVIA LEUCOPHYLLA, ENCELIA CALIFORNICA, BACCHARIS PILULARIS, LASTHENIA CALIFORNICA, PECTOCARYA LINEARIS. ADJACENT VERNAL POOL SUPPORTS ORCUTTIA CALIFORNICA.
General:	1000 PLANTS IN 1991. 230,000 PLANTS PRESENT IN 1997 PER FOTHERINGHAM (LARGEST KNOWN POPULATION). UNKNOWN NUMBER OF PLANTS SEEN IN 2004 AND 2005. <1000 INDIVIDUALS OBSERVED IN 2007. 4 PLANTS OBSERVED IN 2008.
Owner/Manager:	MTNS REC & CONS AUTHORITY

Occurrence No.	31	**Map Index:**	25971	**EO Index:**	5250	**Element Last Seen:**	1991-05-XX
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1991-05-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-06-02

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.27414 / -118.84160	**Accuracy:**	specific area
UTM:	Zone-11 N3794087 E330469	**Elevation (ft):**	1100
PLSS:	T02N, R19W, Sec. 11 (S)	**Acres:**	12.2

Location:	CLOVER CAST DEVELOPMENT; VICINITY OF SIMI VALLEY, EAST OF HWY 23, NORTH OF TIERRA REJADA ROAD.
Detailed Location:	SUMMIT OF RIDGELINE IN SECTION 11; ONE IN A SADDLE AND ONE NEAR THE TOP OF THE SECOND HIGHEST KNOB.
Ecological:	IN SPARSELY VEGETATED, GRASSY OPENINGS IN VOLCANIC CLAY SOILS WITHIN COASTAL SAGE SCRUB. CALOCHORTUS CATALINAE COMMON NEARBY AND ON NORTH-FACING SLOPES.
General:	60 PLANTS IN 1991. TO BE INCLUDED IN "RARE PLANT PRESERVE" OF ABOUT 50 ACRES AS MITIGATED NEGATIVE DECLARATION FOR HOUSING DEVELOPMENT. MAY NEED ACTIVE MANAGEMENT PLAN SOON.
Owner/Manager:	PVT

Occurrence No.	32	**Map Index:**	25972	**EO Index:**	5262	**Element Last Seen:**	1991-11-XX
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1991-11-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-09-25

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.15681 / -118.85944	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3781106 E328589	**Elevation (ft):**	1100
PLSS:	T01N, R19W, Sec. 22 (S)	**Acres:**	0.0

Location:	AT NORTHWEST TERMINUS OF BRIDGEGATE STREET; WEST OF THORNHILL AVENUE, THOUSAND OAKS.
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED AT THE END OF BRIDGEGATE STREET AT CNDDB. MAP DETAIL NEEDED. THIS AREA WAS ONCE PRIVATE BUT NOW APPEARS TO BE OWNED BY CONEJO OPEN SPACE CONSERVATION AGENCY (COSCA).
Ecological:	ASSOCIATED WITH FRITILLARIA BIFLORA, LEWISIA REDIVIVA, & DUDLEYA CYMOSA OVATIFOLIA.
General:	11,050 IN 1991 IN 4 GROUPS: 10,000 ON E-FACING SLOPE OF WESTERNMOST RIDGE; 500 JUST SOUTH OF THAT; 500 ON WEST FACE ON NORTH PORTION; AND 50 JUST NORTH OF THE LATTER. NEEDS FIELDWORK.
Owner/Manager:	CONEJO OPEN SPACE CONS AGENCY?

Occurrence No.	33	**Map Index:**	26105	**EO Index:**	5210	**Element Last Seen:**	1992-05-XX
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-05-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-10-03

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Los Angeles

Lat/Long:	34.13463 / -118.75257	**Accuracy:**	specific area
UTM:	Zone-11 N3778470 E338400	**Elevation (ft):**	900
PLSS:	T01N, R18W, Sec. 27 (S)	**Acres:**	8.1

Location:	CORNELL ROAD BEHIND THE MALIBU FIRE STATION, SOUTH OF MALIBU JUNCTION.
Detailed Location:	TWO COLONIES MAPPED WITHIN 0.1 MILE OF THE ROAD; ONE DUE EAST OF THE FIRE STATION, THE OTHER NNE OF THE STATION.
Ecological:	GROWING IN DISTURBED GRASSLAND AND BUCKWHEAT SCRUB.
General:	4,000 PLANTS OBSERVED BETWEEN THIS SITE AND OCCURRENCE #34 ACROSS THE ROAD IN 1992. SITE ORIGINALLY OBSERVED IN 1988 BUT NEVER REPORTED.
Owner/Manager:	PVT

Occurrence No.	34	**Map Index:**	26104	**EO Index:**	5211	**Element Last Seen:**	1992-05-XX
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-05-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-09-23

Quad Summary: Thousand Oaks (3411827)

County Summary: Los Angeles

Lat/Long:	34.13624 / -118.75978	**Accuracy:**	specific area
UTM:	Zone-11 N3778660 E337738	**Elevation (ft):**	880
PLSS:	T01N, R18W (S)	**Acres:**	7.3

Location: SMALL RIDGETOPS AT EAST END OF LADYFACE NEAR CORNELL ROAD, SOUTH OF MALIBU JUNCTION.

Detailed Location: TWO COLONIES MAPPED ABOUT 0.6 AND 0.7 MILES, RESPECTIVELY, SOUTH OF WHERE CORNELL ROAD MEETS HIGHWAY 101.

Ecological: GROWING IN DISTURBED GRASSLAND AND BUCKWHEAT SCRUB.

General: 4,000 PLANTS OBSERVED BETWEEN THIS SITE AND OCCURRENCE #33 ACROSS THE ROAD IN 1992. SITE ORIGINALLY OBSERVED IN 1988 BUT NEVER REPORTED.

Owner/Manager: PVT

Occurrence No.	36	**Map Index:**	35323	**EO Index:**	19825	**Element Last Seen:**	2000-05-14
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-05-14
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-09-23

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.21143 / -118.93893	**Accuracy:**	specific area
UTM:	Zone-11 N3787299 E321375	**Elevation (ft):**	500
PLSS:	T02N, R20W, Sec. 35 (S)	**Acres:**	10.0

Location: 0.9 MI WEST OF HILL CYN SEWAGE TREATMENT PLANT, WEST FORK OF ARROYO CONEJO CREEK, 1.2 MI NORTH OF NEWBURY PARK ACADEMY.

Detailed Location: 2 COLONIES MAPPED IN NE1/4 OF SE1/4 SEC 35.

Ecological: IN ANNUAL GRASSLAND/CHAPARRAL ECOTONE. ASSOCIATED W/ SALVIA MELLIFERA, LESSINGIA FILAGINIFOLIA, VULPIA MYUROS, AVENA SP., BROMUS MADRITENSIS RUBENS, CENTAUREA MELITENSIS, NASSELLA PULCHRA, & ADENOSTOMA FASCICULATUM. ON ROCKY VOLCANIC SOIL.

General: 30 PLANTS OBSERVED IN SOUTH COLONY IN 1996. UNKNOWN NUMBER OF PLANTS OBSERVED IN NORTH COLONY IN 2000.

Owner/Manager: PVT

Occurrence No.	37	**Map Index:**	38849	**EO Index:**	33856	**Element Last Seen:**	1995-05-22
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1995-05-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-05-29

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.28090 / -118.84928	**Accuracy:**	specific area
UTM:	Zone-11 N3794849 E329776	**Elevation (ft):**	920
PLSS:	T02N, R19W, Sec. 03 (S)	**Acres:**	2.4

Location:	ABOUT 4000 FT ESE OF INTERSECTION OF HWY 23 AND NEW LOS ANGELES AVE, EAST OF MOORPARK, TIERRA REJADA HILLS.
Detailed Location:	PLANTS FOUND WITHIN GRADED DIRT ROADWAY AND MARGINS.
Ecological:	COASTAL SCRUB/GRASSLAND ECOTONE. IN SOME PLACES HIGHLY DISTURBED AND DOMINATED BY STUNTED GROWTH OF CENTAUREA MELITENSIS.
General:	1200 PLANTS IN 1995.
Owner/Manager:	PVT

Occurrence No.	38	**Map Index:**	38868	**EO Index:**	33875	**Element Last Seen:**	1996-05-09
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1996-05-09
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1998-06-03

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.21345 / -118.90468	**Accuracy:**	1/10 mile
UTM:	Zone-11 N3787463 E324536	**Elevation (ft):**	480
PLSS:	T02N, R19W, Sec. 31 (S)	**Acres:**	0.0

Location:	WILDWOOD REGIONAL PARK; JUST SOUTH OF THE NORTH FORK OF ARROYO CONEJO, ABOUT 0.8 MILE SOUTH OF MOUNTCLEF RIDGE.
Detailed Location:	ON AND ABOUT DIRT ACCESS ROAD TO LYNNMERE DEVELOPMENT. SOUTH SIDE OF WILDWOOD CREEK, SOUTH OF WILDWOOD NATURE CENTER.
Ecological:	CHAPARRAL DOMINATED BY QUERCUS BERBERIDIFOLIA, SALVIA LEUCOPHYLLA, RHUS OVATA, ARTEMISIA CA, NASSELLA LEPIDA, ERIOPHYLLUM CONFERTIFLORUM, PLANTAGO ERECTA, LESSINGIA FILAGINIFOLIA, DAUCUS PUSILLUS & VULPIA SP. ON CONEJO VOLCANICS SOILS.
General:	3000 PLANTS ESTIMATED IN 1996.
Owner/Manager:	CONEJO RECREATION & PARK DIST

Occurrence No.	39	**Map Index:**	40420	**EO Index:**	35427	**Element Last Seen:**	1998-05-07
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1998-05-07
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-09-22

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.21669 / -118.92981	**Accuracy:**	80 meters
UTM:	Zone-11 N3787866 E322227	**Elevation (ft):**	280
PLSS:	T02N, R20W, Sec. 36 (S)	**Acres:**	0.0

Location: WEST SIDE OF DIRT ACCESS ROAD AND ARROYO CONEJO, 2.73 KM S OF SANTA ROSA RD ALONG HILL CANYON RD, W OF MOUNTCLEF RIDGE.

Detailed Location:

Ecological: IN OPENINGS & UNDERSTORY OF VENTURAN SAGE SCRUB ON E-FACING SLOPE. W/ ARTEMISIA CA, YUCCA WHIPPLEI, LOTUS SCOPARIUS, ERIOGONUM CINEREUM, LESSINGIA FILAGINIFOLIA, VULPIA MYUROS, V. MICROSTACHYS, PLANTAGO ERECTA, DAUCUS PUSILLUS, & FILAGO CA.

General: 43 PLANTS IN 1998.

Owner/Manager: CITY OF THOUSAND OAKS

Occurrence No.	45	**Map Index:**	72372	**EO Index:**	73308	**Element Last Seen:**	1992-05-21
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-05-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-09-23

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.14317 / -118.89813	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3779658 E324993	**Elevation (ft):**	1312
PLSS:	T01N, R19W, Sec. 29 (S)	**Acres:**	70.0

Location: POTRERO ROAD, 3 MILES WEST OF WESTLAKE BLVD, SANTA MONICA MTNS.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS ALONG POTRERO ROAD APPROXIMATELY 3 ROAD MILES WEST OF WESTLAKE BLVD.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1992 KEELEY COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No.	46	**Map Index:**	72381	**EO Index:**	73341	**Element Last Seen:**	1997-XX-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1997-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-09-26

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.21959 / -118.90344	**Accuracy:**	specific area
UTM:	Zone-11 N3788142 E324662	**Elevation (ft):**	650
PLSS:	T02N, R19W, Sec. 31 (S)	**Acres:**	4.0

Location:	WILDWOOD PARK, JUST WEST OF WESTERN TERMINUS OF AVENIDA DE LOS ARBOLES, SOUTH OF MOUNTCLEF RIDGE.
Detailed Location:	MAPPED BY CNDDB ACCORDING TO A 1985 SMITH MAP.
Ecological:	HABITAT IS AN INTERFACE BETWEEN DISTURBED GRASSLAND (AVENA BARBATA, BROMUS HORDACEUS, B. MADRITENSIS, BRASSICA NIGRA, ET AL) & CACTUS SAGE SCRUB W/ THIN ROCKY SOIL (DUDLEYA PARVA, OPUNTIA PROLIFERA, O. BASILARIS, & ERIOGONUM FASCICULATUM).
General:	BETWEEN THIS OCCURRENCE AND OCCURRENCE #12: OVER 1000 PLANTS SEEN IN 1984, 1987, & 1988; APPROXIMATELY 1200 IN 1997.
Owner/Manager:	CONEJO OPEN SPACE CONS AGENCY

Senecio aphanactis **Element Code:** PDAST8H060

chaparral ragwort

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S2
	Other:	Rare Plant Rank - 2B.2			
Habitat:	**General:**	CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.			
	Micro:	DRYING ALKALINE FLATS. 20-855 M.			

Occurrence No.	5	**Map Index:** 22708	**EO Index:** 170	**Element Last Seen:**	2003-03-12
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	2003-03-12
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2012-08-14

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.21024 / -118.89096	**Accuracy:**	specific area
UTM:	Zone-11 N3787084 E325793	**Elevation (ft):**	700
PLSS:	T02N, R19W, Sec. 32 (S)	**Acres:**	4.0

Location: WEST OF SIDLEE STREET OFF OF LYNN ROAD, LYNNMERE OPEN SPACE.

Detailed Location: ON AND ADJACENT TO OLD DIRT ACCESS ROAD. SITE IS DEDICATED OPEN SPACE ADMINISTERED BY COSCA (CONEJO OPEN SPACE CONSERVATION AGENCY). COSCA RANGERS ARE AWARE OF THE PLANTS AND THE TRAIL IS INFREQUENTLY USED.

Ecological: ON LEVEL AREAS AND GENTLE W-FACING SLOPES IN CLAY LOAM DERIVED FROM CONEJO VOLCANICS. ASSOCIATED WITH CEANOTHUS MEGACARPUS, ERIOGONUM FASCICULATUM, ERODIUM CICUTARIUM, HEMIZONIA SP., LAMARCKIA AUREA, AND SALVIA MELLIFERA.

General: UNKNOWN NUMBER OF PLANTS SEEN IN 2003; MAIN SOURCE OF INFORMATION FOR THIS SITE IS A SURVEY FORM FOR PENTACHAETA LYONII. A 1957 ROOS COLLECTION FROM "HILLS NEAR NEWBERRY PARK AND CONEJO GRADE" ALSO ATTRIBUTED HERE. INCLUDES FORMER EO #32.

Owner/Manager: CONEJO OPEN SPACE CONS AGENCY

Occurrence No.	7	**Map Index:** 35084	**EO Index:** 169	**Element Last Seen:**	1962-03-30
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1962-03-30
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	1996-05-09

Quad Summary: Newbury Park (3411828), Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.15843 / -119.00164	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3781532 E315482	**Elevation (ft):**	
PLSS:	T01N, R20W (S)	**Acres:**	383.4

Location: 0.5 MILE IN FROM GATE ON LONG GRADE ROAD, RANCHO GUADALASCA.

Detailed Location: EXACT LOCATION UNKNOWN, UNABLE TO LOCATE GATE. MAPPED AS BEST GUESS BY CNDDB ALONG POTRERO ROAD IN LONG GRADE CANYON.

Ecological: OPEN HILLSIDE.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1962 COLLECTION BY POLLARD. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Symphyotrichum greatae

Element Code: PDASTE80U0

Greata's aster

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3
	Other:	Rare Plant Rank - 1B.3, BLM_S-Sensitive			
Habitat:	**General:**	CHAPARRAL, CISMONTANE WOODLAND, BROADLEAVED UPLAND FOREST, LOWER MONTANE CONIFEROUS FOREST, RIPARIAN WOODLAND.			
	Micro:	MESIC CANYONS. 300-2010 M.			

Occurrence No.	41	**Map Index:**	59111	**EO Index:**	59147	**Element Last Seen:**	1890-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1890-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2016-01-04

Quad Summary: Piru (3411847)

County Summary: Ventura

Lat/Long:	34.43225 / -118.83068	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3811605 E331790	**Elevation (ft):**	
PLSS:	T04N, R19W, Sec. 13 (S)	**Acres:**	212.3

Location: HOPPER CANYON.

Detailed Location: BASED ON DAVIDSON COLLECTION FROM "HOPPERS CANYON." MAPPED AS BEST GUESS BY CNDDB ALONG LOWER STRETCH OF HOPPER CANYON, BASED ON EASE OF ACCESS. UNKNOWN EXACTLY WHERE IN THE CANYON THE COLLECTION WAS MADE.

Ecological:

General: BASED ON ON AN 1890 DAVIDSON COLLECTION. RANGE EXTENSION FROM LAX CO. ID CONFIRMED BY A. JONES AND S. BOYD. SITE NEEDS FIELDWORK TO DETERMINE LOCATION OF PLANTS.

Owner/Manager: UNKNOWN

Occurrence No.	56	**Map Index:**	98657	**EO Index:**	100114	**Element Last Seen:**	2007-06-06
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-06-06
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2016-01-04

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.45341 / -118.95593	**Accuracy:**	80 meters
UTM:	Zone-11 N3814166 E320327	**Elevation (ft):**	1200
PLSS:	T04N, R20W, Sec. 3 (S)	**Acres:**	5.0

Location: PINE CANYON, ABOUT 1 MILE SOUTHWEST OF CONFLUENCE WITH SESPE CREEK, SESPE CONDOR SANCTUARY.

Detailed Location: MAPPED IN THE SE 1/4 OF THE SE 1/4 OF SECTION 3 ACCORDING TO 2007 GROSS COORDINATES.

Ecological: SEEP ALONG THE SOUTH BASE OF THE CANYON SLOPE. ONE LARGE ALNUS GROWING FROM THIS SMALL SEEP, BUT A LOT OF ALNUS SEEDLINGS COMING UP. ASSOC W/ LOBELIA DUNNII SERRATA, MIMULUS GUTTATUS, M. CARDINALIS, ADIANTUM CAPILLUS-VENERIS, ETC.

General: SITE IS BASED ON A 2007 GROSS COLLECTION.

Owner/Manager: USFS-LOS PADRES NF

Dudleya parva

Element Code: PDCRA04016

Conejo dudleya

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G1
	State:	None		**State:**	S1
	Other:	Rare Plant Rank - 1B.2, SB_RSABG-Rancho Santa Ana Botanic Garden			
Habitat:	**General:**	COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.			

Micro: IN CLAY OR VOLCANIC SOILS ON ROCKY SLOPES AND GRASSY HILLSIDES. 90-380 M.

Occurrence No.	3	**Map Index:**	00277	**EO Index:**	12346	**Element Last Seen:**	2010-07-16
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-07-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-09-25

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.23539 / -118.86205	**Accuracy:**	specific area
UTM:	Zone-11 N3789824 E328507	**Elevation (ft):**	1000
PLSS:	T02N, R19W, Sec. 22 (S)	**Acres:**	17.0

Location: BOTH SIDES OF MOORPARK RD, FROM CALLE CONTENTO TO 0.4 AIR MILE NORTH OF CALLE CONTENTO, NORWEGIAN GRADE, THOUSAND OAKS.

Detailed Location: MAPPED BY CNDDB AS 8 POLYGONS BASED UPON MULTIPLE HISTORIC MAPS AND GPS DATA FROM 2010.

Ecological: CREVICES OF VOLCANIC ROCK OUTCROPPINGS, PRIMARILY NORTH AND WEST-FACING SLOPES IN COASTAL SAGE SCRUB AND NON-NATIVE ANNUAL GRASS SLOPES. ASSOCIATED WITH SALVIA APIANA, ENCELIA CALIFORNICA, ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM.

General: 3 FAR E POLYS: <10,000 PLANTS SEEN IN 1983, ~58,000 IN 2010 (CLONALITY MAY HAVE BEEN UNDERESTIMATED). FAR W POLY: 50-100 PLANTS IN 1991, 88 SEEN IN 2010. 4 FAR N POLYS: 200 OBSERVED IN 1997. INCLUDES FORMER OCCS #4 & 15.

Owner/Manager: CONEJO OPEN SPACE CONS AGENCY

Occurrence No.	5	**Map Index:**	86795	**EO Index:**	19661	**Element Last Seen:**	2006-XX-XX
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-10-02

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.19838 / -118.96130	**Accuracy:**	specific area
UTM:	Zone-11 N3785891 E319286	**Elevation (ft):**	1000
PLSS:	T01N, R20W, Sec. 03 (S)	**Acres:**	1.0

Location: RIDGETOP JUST SOUTH OF HIGHWAY 101 AT CONEJO GRADE, BETWEEN CAMARILLO AND NEWBURY PARK.

Detailed Location: 0.3 ROAD MILE SW OF THE NORTH END OF OLD CONEJO ROAD, ALONG DIRT ROAD / FIREBREAK, UNDER A SET OF TRANSMISSION LINES.

Ecological: TINY CLAY-LIKE SOIL POCKETS ON BARE ROCK OF CONEJO VOLCANICS WITHIN COASTAL SAGE SCRUB. FLAT TO STEEP NORTH-FACING SLOPES. ASSOCIATED WITH ALLIUM, MONTIA, COREOPSIS, DUDLEYA PULVERULENTA, AND DUDLEYA BLOCHMANIAE SSP. BLOCHMANIAE.

General: TYPE LOCALITY. BETWEEN 600 AND 1000 PLANTS OBSERVED IN 1983. 25 PLANTS OBSERVED IN 2006. SITE WAS VIEWED THROUGH BINOCULARS IN 2010; NO PLANTS WERE VISIBLE BUT THE SITE APPEARED INTACT.

Owner/Manager: CITY OF THOUSAND OAKS

Occurrence No.	6	**Map Index:**	72693	**EO Index:**	73526	**Element Last Seen:**	1980-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1987-03-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-09-28

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.19760 / -118.98911	**Accuracy:**	specific area
UTM:	Zone-11 N3785854 E316722	**Elevation (ft):**	300
PLSS:	T01N, R20W, Sec. 04 (S)	**Acres:**	7.0

Location:	AT THE SW END OF CAMARILLO SPRINGS ROAD, NEAR CAMARILLO SPRINGS GOLF COURSE, SOUTH OF HIGHWAY 101, CAMARILLO.
Detailed Location:	ON CLIFFS.
Ecological:	
General:	OCCURRENCE KNOWN MAINLY FROM A 1980 MAP, PRESUMABLY REPRESENTING AN OBSERVATION MADE IN 1980, OR PERHAPS EARLIER. HABITAT APPEARED IN EXCELLENT CONDITION IN 1987 DURING A HABITAT SURVEY FROM ROADWAY BUT NO PLANTS COULD BE SPOTTED FROM ROAD.
Owner/Manager:	PVT

Occurrence No.	8	**Map Index:**	00129	**EO Index:**	19485	**Element Last Seen:**	2010-06-21
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-06-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-09-19

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.20004 / -118.93930	**Accuracy:**	specific area
UTM:	Zone-11 N3786037 E321317	**Elevation (ft):**	700
PLSS:	T01N, R20W, Sec. 02 (S)	**Acres:**	10.0

Location:	N OF WENDY DRIVE, ABOUT 0.1 TO 0.5 AIR MILE W OF INTERSECTION OF CONEJO CENTER DR AND CONEJO SPECTRUM ST, NEWBURY PARK.
Detailed Location:	MAPPED BY CNDDB AS 4 POLYGONS BASED ON MAPS FROM 1991 AND 1993 AND A SET OF GPS COORDINATES FROM 2010.
Ecological:	ROCKY CLAY SOIL ON ROCK OUTCROPS WITHIN COASTAL SAGE SCRUB AND NON-NATIVE GRASSLAND. ASSOCIATED WITH BLOOMERIA CROCEA, ERIOGONUM FASCICULATUM, E. ELONGATUM, BROMUS MADRITENSIS SSP. RUBENS, AVENA, PENTACHAETA LYONII, SELAGINELLA BIGELOVII.
General:	FAR SE POLYGON: 50 PLANTS OBSERVED IN 1991 AND 100 SEEN IN 1993. APPROXIMATELY 200 PLANTS OBSERVED IN THE REMAINING (3 COMBINED) NW POLYGONS IN 1991 AND 1993. 25 PLANTS SEEN IN THE FAR NE POLYGON IN 2010.
Owner/Manager:	PVT, CITY OF THOUSAND OAKS

Occurrence No.	9	**Map Index:**	00184	**EO Index:**	13945	**Element Last Seen:**	2010-06-30
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-06-30
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-09-25

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.21451 / -118.91059	**Accuracy:**	specific area
UTM:	Zone-11 N3787591 E323993	**Elevation (ft):**	600
PLSS:	T02N, R19W, Sec. 31 (S)	**Acres:**	39.0

Location: ALONG NORTH FORK ARROYO CONEJO, NORTH OF MOBERLY COURT, SOUTH OF THE WEST END OF MOUNTCLEF RIDGE.

Detailed Location: WITHIN WILDWOOD PARK, WILDWOOD MESA OPEN SPACE, AND LYNNMERE NORTH OPEN SPACE. MAPPED BY CNDDB AS TWO POLYGONS, ON BOTH SIDES OF THE CANYON.

Ecological: VOLCANIC ROCK OUTCROPS SURROUNDED BY GRASSLAND, COASTAL SCRUB, AND SOUTHERN OAK WOODLAND. ASSOCIATED WITH SELAGINELLA BIGELOVII, ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM, YUCCA WHIPPLEI, PELLAEA ANDROMEDIFOLIA, POLYPODIUM CALIFORNICUM.

General: N POLY: <10 PLANTS IN 1983, UNKNOWN NUMBER IN 1984, 6158 IN 2010. S POLY: <100 SEEN IN 1983 AND 504 SEEN IN 2010. 1996 COLLECTION FROM "0.2 MILES S OF HILL CYN SEWAGE TREATMENT FACILITY" ALSO ATTRIBUTED HERE. INCLUDES FORMER OCC #14.

Owner/Manager: CONEJO OPEN SPACE CONS AGENCY

Occurrence No.	10	**Map Index:**	00228	**EO Index:**	11902	**Element Last Seen:**	2010-08-09
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-08-09
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-09-26

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.22800 / -118.88661	**Accuracy:**	specific area
UTM:	Zone-11 N3789047 E326230	**Elevation (ft):**	900
PLSS:	T02N, R19W, Sec. 29 (S)	**Acres:**	10.0

Location: JUST WEST OF CALIFORNIA LUTHERAN UNIVERSITY, NORTH OF OLSEN ROAD, MOUNTCLEF RIDGE, THOUSAND OAKS.

Detailed Location: MOSTLY WITHIN WILDWOOD PARK. MAPPED BY CNDDB AS TWO POLYGONS BASED ON GPS DATA FROM 2010.

Ecological: VOLCANIC OUTCROPPINGS WITHIN COASTAL SAGE SCRUB. ASSOCIATED WITH SELAGINELLA BIGELOVII, ARTEMISIA CALIFORNICA, AND CARDUUS PYCNOCEPHALUS.

General: APPROXIMATELY 50 PLANTS OBSERVED IN 1991 AND 10,177 INFLORESCENCE STALKS SEEN IN 2010 IN SOUTHERN POLYGON. 46,690 STALKS OBSERVED IN NORTHERN POLYGON IN 2010.

Owner/Manager: CONEJO REC & PARK DIST, PVT

Occurrence No.	12	**Map Index:**	00156	**EO Index:**	19484	**Element Last Seen:**	2010-XX-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-09-27

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.21882 / -118.92303	**Accuracy:**	specific area
UTM:	Zone-11 N3788091 E322855	**Elevation (ft):**	900
PLSS:	T02N, R20W, Sec. 36 (S)	**Acres:**	2.0

Location:	WEST END OF MOUNTCLEF RIDGE, 0.4 AIR MILE NNW OF WASTEWATER TREATMENT FACILITY, WILDWOOD PARK, NORTH OF NEWBURY PARK.
Detailed Location:	MAPPED BY CNDDB AS TWO POLYGONS BASED ON GPS DATA WHICH WAS COLLECTED IN 2010.
Ecological:	IN CREVICES IN NORTH-FACING ROCKY OUTCROPS OF CONEJO VOLCANICS, SURROUNDED BY GRASSLAND. ASSOCIATED WITH LOTUS SCOPARIUS, ERIOGONUM CINEREUM, SELAGINELLA BIGELOVII, AND ALLIUM PENINSULARE.
General:	FEWER THAN 50 PLANTS OBSERVED IN 1983. 6158 INFLORESCENCE STALKS OBSERVED IN WESTERN POLYGON AND 811 OBSERVED IN EASTEN POLYGON IN 2010.
Owner/Manager:	CONEJO RECREATION & PARK DIST

Occurrence No.	13	**Map Index:**	86796	**EO Index:**	19656	**Element Last Seen:**	2010-08-02
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-08-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-09-26

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.22106 / -118.88686	**Accuracy:**	specific area
UTM:	Zone-11 N3788277 E326193	**Elevation (ft):**	815
PLSS:	T02N, R19W, Sec. 29 (S)	**Acres:**	2.0

Location:	0.1 AIR MILE SE OF THUNDERHEAD STREET, WEST OF CALIFORNIA LUTHERAN UNIVERSITY, SOUTH OF MOUNTCLEF RIDGE, THOUSAND OAKS.
Detailed Location:	SUMMIT HOUSE UNIT OF CONEJO OPEN SPACE CONSERVATION AGENCY. SITE SOMETIMES REFERRED TO AS "MORNING STAR." MAPPED BY CNDDB AS TWO POLYGONS ACCORDING TO 2010 GPS DATA.
Ecological:	
General:	AT LEAST 477 INFLORESCENCE STALKS OBSERVED IN 2010.
Owner/Manager:	CONEJO OPEN SPACE CONS AGENCY

Occurrence No.	16	**Map Index:**	21614	**EO Index:**	17767	**Element Last Seen:**	1991-05-08
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1991-05-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-09-26

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.23419 / -118.88147	**Accuracy:**	specific area
UTM:	Zone-11 N3789724 E326716	**Elevation (ft):**	1000
PLSS:	T02N, R19W, Sec. 28 (S)	**Acres:**	2.0

Location:	0.3 AIR MI S OF JUNCTION OF ANDALUSIA DR & ALICANTE CT, N OF CALIFORNIA LUTHERAN UNIVERSITY, MOUNT CLEF, THOUSAND OAKS.
Detailed Location:	WITHIN MOUNT CLEF RIDGE OPEN SPACE.
Ecological:	NORTH-FACING SLOPES IN COASTAL SAGE SCRUB. ASSOCIATED WITH ARTEMISIA CALIFORNICA, CERCOCARPUS BETULOIDES, ERIOGONUM SP., ENCELIA CALIFORNICA, STIPA LEPIDA, YUCCA WHIPPLEI, AND SELAGINELLA BIGELOVII.
General:	25 PLANTS OBSERVED IN 1991.
Owner/Manager:	CONEJO OPEN SPACE CONS AGENCY

Occurrence No.	17	**Map Index:**	86799	**EO Index:**	87765	**Element Last Seen:**	2010-XX-XX
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-09-27

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.22937 / -118.90009	**Accuracy:**	specific area
UTM:	Zone-11 N3789221 E324991	**Elevation (ft):**	800
PLSS:	T02N, R19W, Sec. 29 (S)	**Acres:**	18.0

Location:	MOUNTCLEF RIDGE 0.4 TO 1.4 MILES WSW OF MOUNT CLEF, WILDWOOD PARK, THOUSAND OAKS.
Detailed Location:	MAPPED BY CNDDB AS 12 POLYGONS BASED ON GPS DATA FROM 2010.
Ecological:	OPEN AREAS OF COASTAL SAGE SCRUB IN VOLCANIC SOIL.
General:	SEVERAL THOUSAND PLANTS OBSERVED IN 2006. NUMBERS OF INFLORESCENCE STALKS OBSERVED IN 2010, FROM NORTHERN TO SOUTHERN POLYGONS: 627, 6389, 18,686, 239, (NO POPULATION NUMBERS PROVIDED FOR THE NEXT 5 POLYGONS), 1335, 1802, AND 1167.
Owner/Manager:	CONEJO RECREATION & PARK DIST

Occurrence No.	18	**Map Index:**	86801	**EO Index:**	87766	**Element Last Seen:**	2010-XX-XX
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-09-27

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.22434 / -118.91884	**Accuracy:**	specific area
UTM:	Zone-11 N3788696 E323253	**Elevation (ft):**	400
PLSS:	T02N, R19W, Sec. 30 (S)	**Acres:**	1.0

Location: SE SIDE OF BOX CANYON TRAIL, JUST SOUTH OF THE SW END OF ROCKY HIGH RD, WILDWOOD PARK, N OF THE W END OF MONTCELF RIDGE.

Detailed Location:

Ecological: NORTH-FACING SLOPE OF VOLCANIC OUTCROP.

General: 134 INFLORESCENCE STALKS OBSERVED IN 2010. A 1989 STORRER COLLECTION FROM "FOOT OF MOUNTCLEF RIDGE, S EDGE OF E SANTA ROSA VALLEY NEAR JCT OF SANTA ROSA RD AND SANTA ROSA CRK" ALSO ATTRIBUTED HERE.

Owner/Manager: CONEJO RECREATION & PARK DIST

Occurrence No.	19	**Map Index:**	86802	**EO Index:**	87767	**Element Last Seen:**	1998-05-27
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1998-05-27
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-09-26

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.26204 / -118.83117	**Accuracy:**	specific area
UTM:	Zone-11 N3792728 E331404	**Elevation (ft):**	850
PLSS:	T02N, R19W, Sec. 13 (S)	**Acres:**	3.0

Location: BETWEEN LAPEYRE ROAD AND ESPERANCE DRIVE, 0.5 MILE SOUTH OF TIERRA REJADA ROAD, MOORPARK.

Detailed Location: MAPPED BY CNDDB AAS 4 POLYGONS.

Ecological: NON-NATIVE GRASSLAND WITH SCATTERED ROCK OUTCROPS. ASSOC WITH AVENA, HAZARDIA SQUAROSSA, SALVIA LEUCOPHYLLA, ARTEMISIA CALIFORNICA, ERIOGONUM FASCICULATUM, BRASSICA, BROMUS, HORDEUM MURINUM, PHALARIS PARADOXA, XANTHIUM, TOCALOTE, ERODIUM.

General: OVER 250 PLANTS OBSERVED IN 1998.

Owner/Manager: PVT

Occurrence No.	20	**Map Index:**	86803	**EO Index:**	87768	**Element Last Seen:**	1988-06-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1988-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-09-26

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.25690 / -118.81752	**Accuracy:**	specific area
UTM:	Zone-11 N3792136 E332651	**Elevation (ft):**	1240
PLSS:	T02N, R19W, Sec. 13 (S)	**Acres:**	3.0

Location: NEAR RONALD REAGAN PRESIDENTIAL LIBRARY AND MUSEUM, PRESIDENTIAL DRIVE, NEAR SIMI VALLEY.

Detailed Location: MAPPED BY CNDDB AS 3 POLYGONS.

Ecological: IN CRACKS ON NORTH-FACING CONJEO VOLCANIC ROCKS.

General: AN UNKNOWN NUMBER OF PLANTS WERE OBSERVED HERE IN 1988.

Owner/Manager: PVT

Dudleya blochmaniae ssp. blochmaniae **Element Code:** PDCRA04051

Blochman's dudleya

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3T2
	State:	None		**State:**	S2
	Other:	Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden			
Habitat:	**General:**	COASTAL SCRUB, COASTAL BLUFF SCRUB, CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND.			
	Micro:	OPEN, ROCKY SLOPES; OFTEN IN SHALLOW CLAYS OVER SERPENTINE OR IN ROCKY AREAS WITH LITTLE SOIL. 5-450 M.			

Occurrence No.	12	**Map Index:** 17731	**EO Index:** 9977	**Element Last Seen:**	1989-04-19
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1989-04-19
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2015-01-29

Quad Summary: Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.15826 / -119.02713	**Accuracy:**	80 meters
UTM:	Zone-11 N3781560 E313132	**Elevation (ft):**	200
PLSS:	T01N, R21W (S)	**Acres:**	0.0

Location: LONG GRADE CANYON; SOUTH SIDE OF POTRERO ROAD ABOUT 0.8 AIR MILE SE OF CAMARILLO STATE HOSPITAL.

Detailed Location: 2 MILES EAST OF JUNCTION WITH LEWIS ROAD.

Ecological: STEEP ROCKY AREA WITH ARTEMISIA CALIFORNICA, OPUNTIA LITTORALIS, ERIOGONUM FASCICULATUM, ALLIUM PENINSULARE, DUDLEYA VERITYI, D. PULVERULENTA, AND D. LANCEOLATA.

General: THOUSANDS SEEN IN 1983. UNKNOWN NUMBER OBSERVED IN 1989 DURING SURVEYS FOR DELPHINIUM PARRYI SSP. BLOCHMANIAE. 1946 MORAN COLLECTION FROM "0.5 MI E OF CAMARILLO STATE HOSPITAL, LONG GRADE CYN" AND 1968 THORNE COLLECTION ATTRIBUTED HERE.

Owner/Manager: PVT

Occurrence No.	13	**Map Index:** 17732	**EO Index:** 10142	**Element Last Seen:**	2010-08-17
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	2010-08-17
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2015-02-04

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.19838 / -118.96171	**Accuracy:**	80 meters
UTM:	Zone-11 N3785891 E319249	**Elevation (ft):**	950
PLSS:	T01N, R20W, Sec. 15 (S)	**Acres:**	0.0

Location: CONEJO GRADE, ABOUT 3 MILES WEST OF NEWBURY PARK, SANTA MONICA MOUNTAINS.

Detailed Location:

Ecological: IN SMALL POCKETS OF SOIL ON VOLCANIC ROCKS AND ON LAVA FLATS. ASSOCIATED WITH SELAGINELLA BIGELOVII, ERIOGONUM FASCICULATUM, MIMULUS AURANTIACUS, TOXICODENDRON DIVERSILOBUM, ERIOGONUM CINEREUM, COREOPSIS GIGANTEA, DUDLEYA PARVA, ETC.

General: THOUSANDS OF PLANTS REPORTED IN 1983. OBSERVED IN 2010 DURING SURVEYS FOR ERIOGONUM CROCATUM. A 1980 NAKAI COLLECTION FROM "CONEJO GRADE ACROSS FROM TRUCK SCALE AT THE TOP OF GRADE" IS ALSO ATTRIBUTED HERE; "EXCEEDINGLY ABUNDANT" IN 1980.

Owner/Manager: PVT

Occurrence No.	14	**Map Index:**	17733	**EO Index:**	10141	**Element Last Seen:**	1995-06-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1995-06-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-01-29

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.17899 / -118.98988	**Accuracy:**	specific area
UTM:	Zone-11 N3783791 E316611	**Elevation (ft):**	900
PLSS:	T01N, R20W (S)	**Acres:**	12.3

Location: DOS VIENTOS RANCH; SE OF CONEJO MOUNTAIN, IN AN EAST-WEST TRENDING VALLEY.

Detailed Location: VICINITY OF HILL "952" ON TOPO MAP. MAPPED BY CNDDB ACCORDING TO A 1985 WISHNER MAP.

Ecological: IN THIN SOILS OVER CONEJO VOLCANICS, ON NORTH SIDES OF LOW HILLS, USUALLY AT THE BASE OF SLOPES. COASTAL SAGE SCRUB VEGETATION.

General: 200+ PLANTS IN 1985 IN SMALL ISLANDS OR COLONIES. A 1993 BURGESS COLLECTION FROM "DOS VIENTOS RANCH, W PORTION..." AND A 1995 BOMKAMP COLLECTION FROM "....ROCKY SUMMIT OF HILLOCK DUE SOUTH OF HILL '952'" ARE ALSO ATTRIBUTED TO THIS SITE.

Owner/Manager: PVT

Occurrence No.	21	**Map Index:**	21413	**EO Index:**	8972	**Element Last Seen:**	2014-06-15
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2014-06-15
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-01-29

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.20020 / -118.94121	**Accuracy:**	specific area
UTM:	Zone-11 N3786058 E321142	**Elevation (ft):**	760
PLSS:	T01N, R20W, Sec. 02 (S)	**Acres:**	3.0

Location: ABOUT 0.4 AIR MILE ENE OF PEAK 1338, NEWBURY PARK.

Detailed Location: SEVENTH DAY ADVENTISTS PROPERTY. NW OF THE NORTHERN TERMINUS OF N WENDY DRIVE. MAPPED BY CNDDB ACCORDING TO A 2014 ANDERSON MAP, IN THE SE 1/4 OF THE NE 1/4 OF SECTION 2.

Ecological: ON CONEJO VOLCANIC OUTCROPS WITH LITTLE OR NO SOIL MANTLE. E- TO NE-FACING SLOPE. ASSOCIATED WITH AVENA SPP., BROMUS SPP., LASTHENIA CHRYSOSTOMA, LAMARCKIA AUREA, HEMIZONIA RAMOSISSIMA, AND BRODIAEA JOLONENSIS.

General: ABOUT 100 PLANTS SEEN IN 1991, 125 IN 1993. UNKNOWN NUMBER OBSERVED IN 2014. A 1960 RAVEN COLLECTION FROM "N OF CONEJO GRADE, 500 FT" IS ALSO ATTRIBUTED TO THIS SITE.

Owner/Manager: PVT

Occurrence No.	54	**Map Index:**	94948	**EO Index:**	96069	**Element Last Seen:**	2010-10-08
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-10-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-02-06

Quad Summary:	Newbury Park (3411828), Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.19302 / -119.00192	**Accuracy:**	specific area
UTM:	Zone-11 N3785370 E315531	**Elevation (ft):**	200
PLSS:	T01N, R20W, Sec. 05 (S)	**Acres:**	8.0

Location:	WEST END OF CONEJO MOUNTAIN; JUST EAST OF THE JUNCTION OF SANITATION ROAD AND HOWARD ROAD, SOUTH SIDE OF CONEJO CREEK.
Detailed Location:	MAPPED BY CNDDB ACCORDING TO COORDINATES ON TWO FIELD SURVEY FORMS FOR ERIOGONUM CROCATUM WITH DUDLEYA BLOCHMANIAE SSP. BLOCHMANIAE MENTIONED AS AN ASSOCIATE.
Ecological:	ROCK OUTCROPPING WITH OPEN COASTAL SAGE SCRUB. ASSOCIATED WITH COREOPSIS GIGANTEA, DUDLEYA VERITYI, D. LANCEOLATA, ERIOGONUM FASCICULATUM, E. CROCATUM, CHEILANTHES NEWBERRYI, OPUNTIA ORICOLA, NON-NATIVE ANNUAL GRASSES, LICHENS, MOSSES, ETC.
General:	OBSERVED DURING 2010 ERIOGONUM CROCATUM SURVEYS. 1981 NAKAI COLLECTIONS FROM "S SLOPE OF MOUNT CONEJO ACROSS FROM WATER TREATMENT PLANT" AND A 1985 BURGESS COLLECTION FROM "SE SIDE OF CONEJO CRK BTWN HWY 101 & CALLEGUAS CRK" ATTRIB HERE.
Owner/Manager:	CITY OF CAMARILLO

Occurrence No.	55	**Map Index:**	94949	**EO Index:**	96070	**Element Last Seen:**	2010-05-19
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-05-19
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-01-22

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.16160 / -119.03511	**Accuracy:**	80 meters
UTM:	Zone-11 N3781946 E312403	**Elevation (ft):**	400
PLSS:	T01N, R21W, Sec. 24 (S)	**Acres:**	0.0

Location:	EAST END OF THE HISTORIC CAMARILLO STATE HOSPITAL, NEAR THE MOUTH OF LONG GRADE CANYON.
Detailed Location:	MAPPED BY CNDDB ACCORDING TO COORDINATES ON A FIELD SURVEY FORM FOR ERIOGONUM CROCATUM WITH DUDLEYA BLOCHMANIAE SSP. BLOCHMANIAE MENTIONED AS AN ASSOCIATE.
Ecological:	COASTAL SAGE SCRUB DOMINATED BY ARTEMISIA CALIFORNICA, OPUNTIA ORICOLA, NASSELLA LEPIDA, LEYMUS CONDENSATUS, MIMULUS AURANTIACUS, DUDLEYA VERITYI, D. LANCEOLATA, YUCCA WHIPPLEI, ETC.
General:	OBSERVED DURING 2010 ERIOGONUM CROCATUM SURVEYS.
Owner/Manager:	CSU-CHANNEL ISLANDS

Occurrence No.	56	**Map Index:**	94950	**EO Index:**	96071	**Element Last Seen:**	2010-05-18
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-05-18
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-02-06

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.16567 / -119.04106	**Accuracy:**	1/10 mile
UTM:	Zone-11 N3782408 E311863	**Elevation (ft):**	100
PLSS:	T01N, R21W, Sec. 13 (S)	**Acres:**	0.0

Location:	NORTH END OF THE HISTORIC CAMARILLO STATE HOSPITAL, NEAR THE MOUTH OF LONG GRADE CANYON.
Detailed Location:	N OF RINCON DR. MAPPED ACCORDING TO COORDINATES ON FIELD SURVEY FORM FOR ERIOGONUM CROCATUM WITH DUDLEYA BLOCHMANIAE LISTED AS ASSOCIATE. COORDINATES GIVEN IN NAD 27 BUT NAD 83 MATCHES GIVEN ELEV (25 M/~80 FT); MAPPED AROUND BOTH POINTS.
Ecological:	COASTAL SAGE SCRUB WITH RHUS OVATA, ARTEMISIA CALIFORNICA, OPUNTIA ORICOLA, SOLANUM XANTI, NASSELLA PULCHRA, DUDLEYA VERITYI, AND ERIOGONUM CROCATUM.
General:	OBSERVED DURING 2010 ERIOGONUM CROCATUM SURVEYS.
Owner/Manager:	CSU-CHANNEL ISLANDS

Dudleya cymosa ssp. marcescens

Element Code: PDCRA040A3

marcescent dudleya

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G5T2
	State:	Rare		**State:**	S2
	Other:	Rare Plant Rank - 1B.2, SB_RSABG-Rancho Santa Ana Botanic Garden			
Habitat:	**General:**	CHAPARRAL.			
	Micro:	ON SHEER ROCK SURFACES AND ROCKY VOLCANIC CLIFFS. 145-670 M.			

Occurrence No.	8	**Map Index:** 00145	**EO Index:**	19727	**Element Last Seen:** 2010-06-04
Occ. Rank:	Good		**Presence:**	Presumed Extant	**Site Last Seen:** 2010-06-04
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 2015-07-24

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.14135 / -118.92701	**Accuracy:**	specific area
UTM:	Zone-11 N3779506 E322326	**Elevation (ft):**	1250
PLSS:	T01N, R20W, Sec. 25 (S)	**Acres:**	6.0

Location: WEST END OF HIDDEN VALLEY, SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA.

Detailed Location: MAPPED BY CNDDB AS 2 POLYGONS ACCORDING TO 2012 AGUILAR DIGITAL DATA.

Ecological: VOLCANIC ROCK OUTCROP COVERED WITH MOSS. NORTH ASPECT. UNDER PARTIAL INFLUENCE OF COAST LIVE OAK CANOPY CLOSE TO THE BREAK IN SLOPE FORMED BETWEEN THE VALLEY FLOOR AND BONEY RIDGE. WITH QUERCUS AGRIFOLIA AND UMBELLULARIA CALIFORNICA

General: MORE THAN 100 PLANTS SEEN IN 1984; MOST MATURE AND IN FLOWER. 4000 PLANTS REPORTED IN 2003. 2819 PLANTS IN 2010; ALL DUDLEYA WERE DORMANT.

Owner/Manager: NPS-SANTA MONICA MTNS, PVT

Occurrence No.	15	**Map Index:** 96936	**EO Index:**	98162	**Element Last Seen:** 2010-06-11
Occ. Rank:	Good		**Presence:**	Presumed Extant	**Site Last Seen:** 2010-06-11
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 2015-07-22

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.12536 / -118.92758	**Accuracy:**	specific area
UTM:	Zone-11 N3777733 E322241	**Elevation (ft):**	2200
PLSS:	T01N, R20W, Sec. 36 (S)	**Acres:**	1.0

Location: ECHO CLIFFS IN CARLISLE CANYON, ABOUT 0.4 AIR MILE NE OF SANDSTONE PEAK, CIRCLE X RANCH.

Detailed Location: MAPPED BY CNDDB ACCORDING TO 2012 AGUILAR DIGITAL DATA, IN THE NW 1/4 OF THE SE 1/4 OF SECTION 36.

Ecological: DUDLEYA LANCEOLATA ALSO PRESENT.

General: 112 PLANTS OBSERVED IN 2010 (ALL DUDLEYA WERE DORMANT).

Owner/Manager: NPS-CIRCLE X RANCH

Dudleya cymosa ssp. agourensis

Element Code: PDCRA040A7

Agoura Hills dudleya

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G5T1
	State:	None		**State:**	S2
	Other:	Rare Plant Rank - 1B.2, SB_RSABG-Rancho Santa Ana Botanic Garden			
Habitat:	**General:**	CHAPARRAL, CISMONTANE WOODLAND.			
	Micro:	ROCKY, VOLCANIC BRECCIA. 200-500 M.			

Occurrence No.	1	**Map Index:**	17774	**EO Index:**	43525	**Element Last Seen:**	1990-03-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1990-03-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-08-18

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.14186 / -118.84846	**Accuracy:**	80 meters
UTM:	Zone-11 N3779428 E329572	**Elevation (ft):**	1000
PLSS:	T01N, R19W, Sec. 26 (S)	**Acres:**	0.0

Location: JUST SE OF INTERSECTION OF POTRERO RD & DECKER RD (WESTLAKE BLVD), EAST OF LAKE SHERWOOD, SOUTH OF THOUSAND OAKS.

Detailed Location:

Ecological: N-FACING LOWER VOLCANIC SLOPES. ASSOCIATED SPECIES NEARBY INCLUDE JUNIPERUS CALIFORNICA, LASTHENIA CORONARIA, CALOCHORTUS VENUSTUS, AND LEWISIA REDIVIVA.

General: ABOUT 100 PLANTS OBSERVED IN 1990 BETWEEN THIS OCCURRENCE AND OCCURRENCES #5, 6, 7. THIS OCCURRENCE WAS FORMERLY D. CYMOSA SSP. OVATIFOLIA OCCURRENCE #6.

Owner/Manager: PVT

Occurrence No.	2	**Map Index:**	17773	**EO Index:**	43526	**Element Last Seen:**	1986-05-20
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1986-05-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-08-18

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.13830 / -118.85553	**Accuracy:**	80 meters
UTM:	Zone-11 N3779045 E328912	**Elevation (ft):**	1500
PLSS:	T01N, R19W, Sec. 27 (S)	**Acres:**	0.0

Location: WEST OF LAKE ELEANOR, 0.2 MI WEST OF WESTLAKE ROAD ABOUT 0.5 MI SOUTH OF JCT WITH POTRERO RD, SOUTH OF THOUSAND OAKS.

Detailed Location: ON LEVEL AREAS & SHEER CLIFFS. FIELD FORM SAID "SE OF SE QUARTER OF SEC. 27; MAPPING IN CNDDB SHOULD BE CLOSE; MAY BE A LITTLE OFF.

Ecological: PARTIAL SHADE ON N-FACING VOLCANIC CLIFFS & OUTCROPS (CONEJO VOLCANICS) IN UNIQUE RUPICOLOUS ASSOCIATION TERMED CONEJO ROCK PLANT BY BURGESS;WITH SELAGINELLA BIGELOVII,ERIOGONUM CROCATUM & DUDLEYA LANCEOLATA. SURROUNDED BY COAST SAGE SCRUB.

General: ABOUT 100 PLANTS IN 1986. SITE TO BE PERMANENTLY PRESERVED AS OPEN SPACE BY CONEJO OPEN SPACE CONSERVATION AGENCY (COSCA). FORMERLY DUDLEYA CYMOSA SSP. OVATIFOLIA OCCURRENCE #7.

Owner/Manager: CONEJO OPEN SPACE CONS AGENCY

Occurrence No.	3	**Map Index:**	43527	**EO Index:**	43527	**Element Last Seen:**	1980-05-25
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1980-05-25
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-08-18

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Los Angeles, Ventura

Lat/Long:	34.13281 / -118.85079	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3778428 E329338	**Elevation (ft):**	980
PLSS:	T01N, R19W, Sec. 34 (S)	**Acres:**	0.0

Location:	EAST OF LAKE ELEANOR, ON HIGHWAY 23 BETWEEN POTRERO ROAD AND CARLISLE ROAD, SANTA MONICA MOUNTAINS.
Detailed Location:	ON NORTH-FACING VOLCANIC ROCK. EXACT LOCATION UNKNOWN; DIRECTIONS GIVEN VARIOUSLY AS "EAST OF LAKE ELEANOR" AND "ACROSS LAKE ELEANOR". MAPPED AS BEST GUESS BY CNDDB TO INCLUDE SLOPES EAST OF LAKE ELEANOR.
Ecological:	ON MOSSY, NORTH-FACING VOLCANIC ROCK WITH QUERCUS AGRIFOLIA, RHUS DIVERSILOBA, AND RHAMNUS CROCEA.
General:	UNKNOWN NUMBER OF PLANTS OBSERVED IN 1980; NEEDS FIELDWORK.
Owner/Manager:	UNKNOWN

Occurrence No.	4	**Map Index:**	43528	**EO Index:**	43528	**Element Last Seen:**	1992-05-29
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-05-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-08-18

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Los Angeles

Lat/Long:	34.13416 / -118.83197	**Accuracy:**	specific area
UTM:	Zone-11 N3778547 E331077	**Elevation (ft):**	1000
PLSS:	T01N, R19W, Sec. 25 (S)	**Acres:**	15.9

Location:	BALDWIN WESTLAKE PROPERTY, ABOUT 1.1 MILES EAST OF NORTH END OF LAKE ELEANOR, SANTA MONICA MOUNTAINS.
Detailed Location:	491 ACRES SURROUNDING LAS VIRGENES RESERVOIR, CITY OF WESTLAKE VILLAGE.
Ecological:	ON ROCKY SUBSTRATES, MOSTLY NORTH-FACING SLOPES.
General:	ABOUT 1000 PLANTS OBSERVED IN 1992 BETWEEN THIS OCCURRENCE AND OCCURRENCE #5. WISHNER STATES THAT THIS SITE CONTAINS OTHER SIGNIFICANT HABITAT AND BIOLOGICAL RESOURCE VALUES.
Owner/Manager:	PVT-FDIC

Occurrence No.	5	**Map Index:**	43529	**EO Index:**	43529	**Element Last Seen:**	1990-03-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1990-03-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-08-18

Quad Summary: Point Dume (3411817), Thousand Oaks (3411827)

County Summary: Los Angeles

Lat/Long:	34.12952 / -118.82011	**Accuracy:**	specific area
UTM:	Zone-11 N3778013 E332162	**Elevation (ft):**	900
PLSS:	T01N, R19W, Sec. 36 (S)	**Acres:**	58.8

Location: VICINITY OF SANTA MONICA MOUNTAINS RECREATION AREA AND TRIUNFO CANYON, ABOUT 1-1.5 MI S OF HWY 101, WSW OF AGOURA HILLS.

Detailed Location: 24 COLONIES MAPPED AS 13 POLYGONS. COLONIES SCATTERED BETWEEN NORTH END OF TRIUNFO CANYON, SMMRA, AND LAS VIRGENES RESERVOIR.

Ecological: ON N AND S-FACING SLOPES OF TRIUNFO CANYON. IN COASTAL SAGE SCRUB AND SOUTHERN OAK WOODLAND ON S SIDE OF CANYON, IN ANNUAL GRASSLAND ON UPPER SLOPES OF NORTH SIDE OF CANYON.

General: SMALL PORTION OF THIS OCCURRENCE SEEN BY T. THOMAS IN 1990, REST OF OCCURRENCE SEEN BY WISHNER IN 1986. THIS OCCURRENCE WAS FORMERLY D. CYMOSA SSP. OVATIFOLIA OCCURRENCE #3.

Owner/Manager: UNKNOWN

Occurrence No.	6	**Map Index:**	17775	**EO Index:**	43530	**Element Last Seen:**	1990-03-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1990-03-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-08-18

Quad Summary: Thousand Oaks (3411827)

County Summary: Los Angeles

Lat/Long:	34.14172 / -118.78842	**Accuracy:**	80 meters
UTM:	Zone-11 N3779314 E335107	**Elevation (ft):**	1060
PLSS:	T01N, R18W (S)	**Acres:**	0.0

Location: LADYFACE MOUNTAIN, ABOUT 1 MILE NW OF LADYFACE SUMMIT, 0.3 MILE SOUTH OF VENTURA FREEWAY, WSW OF AGOURA HILLS.

Detailed Location:

Ecological: N-FACING VOLCANIC SLOPES. NEARBY ASSOCIATES INCLUDE JUNIPERUS CALIFORNICA, LASTHENIA CORONARIA, AND HAPLOPAPPUS LINEARIFOLIUM.

General: PROPOSED DEVELOPMENT WOULD REMOVE THE MAJORITY OF POTENTIAL HABITAT. ABOUT 100 PLANTS SEEN IN 1990 BETWEEN THIS OCCURRENCE AND OCC'S 1, 5, 7. THIS OCCURRENCE WAS FORMERLY D. CYMOSA SSP. OVATIFOLIA OCCURRENCE #4.

Owner/Manager: PVT

Occurrence No.	7	**Map Index:**	17776	**EO Index:**	43531	**Element Last Seen:**	2000-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-08-18

Quad Summary: Thousand Oaks (3411827)

County Summary: Los Angeles

Lat/Long:	34.14154 / -118.75756	**Accuracy:**	specific area
UTM:	Zone-11 N3779245 E337953	**Elevation (ft):**	900
PLSS:	T01N, R18W (S)	**Acres:**	3.5

Location: CORNELL CORNERS, 0.1-0.3 AIR MILES SOUTH OF MALIBU JUNCTION, ALONG CORNELL ROAD, SOUTH OF AGOURA HILLS.

Detailed Location: ON SE SIDE OF CORNELL RD. SEVERAL OLD COLLECTIONS FROM THE CORNELL CORNERS AREA.

Ecological: N-FACING VOLCANIC SLOPES. NEARBY ASSOCIATED SPECIES INCLUDE JUNIPERUS CALIFORNICA, LASTHENIA CORONARIA, LEWISIA REDIVIVA, MALOSMA LAURINA, HAPLOPAPPUS LINEARIS, DICHELOSTEMMA PULCHELLA, DELPHINIUM PARRYI, CALOCHORTUS VENUSTUS.

General: THIS OCCURRENCE WAS FORMERLY D. CYMOSA SSP. OVATIFOLIA OCCURRENCE #5.

Owner/Manager: PVT

Occurrence No.	8	**Map Index:**	43532	**EO Index:**	43532	**Element Last Seen:**	2000-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-08-18

Quad Summary: Thousand Oaks (3411827)

County Summary: Los Angeles

Lat/Long:	34.13056 / -118.76232	**Accuracy:**	1/10 mile
UTM:	Zone-11 N3778035 E337493	**Elevation (ft):**	1000
PLSS:	T01N, R18W, Sec. 34 (S)	**Acres:**	0.0

Location: WEST SIDE OF KANAN ROAD NEAR CASTLE VIEW DRIVE. 1.5 ROAD MILES SOUTH OF HIGHWAY 101. SOUTH OF AGOURA HILLS.

Detailed Location: WEST SIDE OF KANAN ROAD. MAPPED AT INTERSECTION OF KANAN ROAD AND CASTLE VIEW DRIVE BY CNDDB.

Ecological:

General: RIEFNER VISITED SITE IN SPRING 2000. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Dudleya verityi **Element Code:** PDCRA040U0

Verity's dudleya

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G1
	State:	None		**State:**	S1
	Other:	Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden			
Habitat:	**General:**	CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.			
	Micro:	ON VOLCANIC ROCK OUTCROPS IN THE SANTA MONICA MOUNTAINS. 60-335 M.			

Occurrence No.	1	**Map Index:**	97503	**EO Index:**	29818	**Element Last Seen:**	2010-10-13
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-10-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2015-09-21

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.16161 / -119.03553	**Accuracy:**	specific area
UTM:	Zone-11 N3781948 E312364	**Elevation (ft):**	300
PLSS:	T01N, R21W, Sec. 24 (S)	**Acres:**	41.0

Location:	LONG GRADE CANYON ON RIDGES ABOVE CSU CHANNEL ISLANDS CAMPUS, ABOUT 1 MILE EAST OF LEWIS RD.
Detailed Location:	MAPPED AS 9 POLYGONS. 2 NW POLYS MAPPED FROM 2010 FIELD SURVEY & 2009 USFWS REPORT; 5 MIDDLE POLYS MAPPED FROM 2010 NPS DIGITAL DATA; 2 POLYS S OF POTRERO RD MAPPED FROM 1980S FIELD SURVEYS & 2009 USFWS REPORT. SITE QUALITY "GOOD" PRE-FIRE.
Ecological:	ON CONEJO ROCK OUTCROP WITH DELPHINIUM PARRYI BLOCHMANIAE, D. LANCEOLATA, D. PULVERULENTA, CALOCHORTUS CATALINAE, ERIOGONUM CROCATUM, COREOPSIS GIGANTEA, RHUS INTEGRIFOLIA, ETC. BURNED IN 2013. SOME DUDLEYA HYBRIDS MAY ALSO BE PRESENT.
General:	TYPE LOCALITY. S OF POTRERO RD: THOUSANDS OF PLANTS IN 1987, 1100 IN 2003. N OF POTRERO RD: 1600 IN 2003, 1400+ IN 2010. MANY COLLECTIONS FROM "EAST OF CAMARILLO STATE HOSPITAL" AND "LONG GRADE CANYON" ATTRIBUTED HERE.
Owner/Manager:	PVT, CSU-CHANNEL ISLANDS

Occurrence No.	2	**Map Index:**	15935	**EO Index:**	19584	**Element Last Seen:**	2015-05-08
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2015-05-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2015-09-21

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.19327 / -119.00193	**Accuracy:**	specific area
UTM:	Zone-11 N3785397 E315531	**Elevation (ft):**	300
PLSS:	T01N, R20W, Sec. 05 (S)	**Acres:**	3.0

Location:	WEST END OF CONEJO MOUNTAIN 1 AIR MILE WNW OF SUMMIT, ACROSS FROM WATER TREATMENT PLANT.
Detailed Location:	MAPPED AS 2 POLYGONS. NORTH POLY BASED ON 2010 NPS DIGITAL DATA AND FIELD SURVEYS; SOUTH POLY BASED ON A 2006 FRAGA SPECIMEN AND 2013 ABBEY COORDINATES. 2013 FIRE BURNED ENTIRE KNOWN RANGE (ELVIN 2014). SITE QUALITY "FAIR" PRE-FIRE.
Ecological:	CONEJO VOLCANIC ROCK OUTCROPPING WITHIN OPEN COASTAL SAGE SCRUB. ASSOCIATES INCLUDE COREOPSIS GIGANTEA, DUDLEYA BLOCHMANIAE, CHEILANTHES NEWBERRYI, ERIOGONUM CROCATUM, E. FASCICULATUM, LICHENS.
General:	WHOLE SITE: 10,000 PLANTS SEEN IN 2003. N POLY: 1530 PLANTS SEEN IN 2010 BUT THIS MAY BE AN OVER-ESTIMATE. 30+ PLANTS SEEN IN FLOWER IN 2015 FOLLOWING THE FIRE. SOUTH POLY: SEVERAL THOUSAND PLANTS SEEN IN 2006, 11-50 SEEN IN 2013.
Owner/Manager:	PVT

Occurrence No.	3	**Map Index:**	00036	**EO Index:**	19586	**Element Last Seen:**	2003-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2015-09-21

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.19680 / -118.98647	**Accuracy:**	specific area
UTM:	Zone-11 N3785761 E316963	**Elevation (ft):**	450
PLSS:	T01N, R20W, Sec. 04 (S)	**Acres:**	10.0

Location: NORTH BASE OF CONEJO MOUNTAIN ABOUT 0.6 AIR MILE SOUTH OF HWY 101 AT CAMARILLO SPRINGS RD.

Detailed Location: MAPPED AS 2 POLYGONS BY CNDDB BASED ON 2009 USFWS MAP. 2013 CAMARILLO SPRINGS FIRE BURNED ENTIRE RANGE OF D. VERITYI WITH AN ESTIMATED 92% MORTALITY ACROSS RANGE (ELVIN 2014).

Ecological: ON VOLCANIC ROCK AND CLIFFS NEAR ABANDONED ROCK QUARRY, ASSOCIATED WITH ERIOGONUM CROCATUM, COREOPSIS GIGANTEA, BRICKELLIA ARGUTA, AND ERIOPHYLLUM CONFERTIFLORUM.

General: UNKNOWN NUMBER OF PLANTS SEEN IN THE 1980S AND 2003. VARIOUS COLLECTIONS FROM "NORTH BASE OF CONEJO MTN" AND "CAMARILLO SPRINGS ROCK QUARRY" ATTRIBUTED HERE, THOUGH EXACT LOCATION OF QUARRY IS UNKNOWN. NEEDS FIELDWORK.

Owner/Manager: PVT

Occurrence No.	4	**Map Index:**	97504	**EO Index:**	98785	**Element Last Seen:**	1960-05-07
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1960-05-07
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2015-09-21

Quad Summary: Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.15722 / -119.01322	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3781420 E314412	**Elevation (ft):**	200
PLSS:	T01N, R20W, Sec. 19 (S)	**Acres:**	60.0

Location: ABOUT 2 MILES ABOVE CAMARILLO STATE HOSPITAL, LONG GRADE CANYON, SANTA MONICA MTNS.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED ABOUT 1-2 MI EAST OF CSU CHANNEL ISLANDS CAMPUS (FORMERLY CAMARILLO STATE HOSPITAL) ALONG POTRERO ROAD. ELEVATION ON COLLECTION LABEL IS 200 FEET.

Ecological: SHALLOW SOIL ON ROCKS.

General: SITE BASED ON A 1960 RAVEN COLLECTION. NEEDS FIELDWORK; POSSIBLY REFERENCING OCCURRENCE #1 TO THE WEST. 2013 CAMARILLO SPRINGS FIRE BURNED ENTIRE RANGE OF D. VERITYI WITH AN ESTIMATED 92% MORTALITY ACROSS RANGE (ELVIN 2014).

Owner/Manager: UNKNOWN

Occurrence No.	5	**Map Index:**	97486	**EO Index:**	98786	**Element Last Seen:**	2003-06-29
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-06-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2015-09-21

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.17568 / -118.99493	**Accuracy:**	1/10 mile
UTM:	Zone-11 N3783434 E316138	**Elevation (ft):**	1100
PLSS:	T01N, R20W, Sec. 17 (S)	**Acres:**	0.0

Location:	WEST OF DOS VIENTOS DEVELOPMENT, NEAR POWER LINES, ABOUT 1 AIR MILE SW OF CONEJO MOUNTAIN SUMMIT.
Detailed Location:	MAPPED BY CNDDB FROM 2009 USFWS REPORT. NPS POPULATION #DUVE-202.
Ecological:	ROCKY CLIFF NEAR POWER LINES. ASSOCIATED WITH ERIOGONUM CROCATUM AND LICHENS.
General:	1500 PLANTS SEEN IN 2003. 2013 CAMARILLO SPRINGS FIRE BURNED ENTIRE RANGE OF D. VERITYI WITH AN ESTIMATED 92% MORTALITY ACROSS RANGE (ELVIN 2014).
Owner/Manager:	MRCA-DOS VIENTOS OS, PVT

Occurrence No.	6	**Map Index:**	97487	**EO Index:**	98788	**Element Last Seen:**	2010-05-24
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-05-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2015-09-21

Quad Summary:	Camarillo (3411921)
County Summary:	Ventura

Lat/Long:	34.17593 / -119.03789	**Accuracy:**	specific area
UTM:	Zone-11 N3783540 E312179	**Elevation (ft):**	200
PLSS:	T01N, R21W, Sec. 13 (S)	**Acres:**	11.0

Location:	ABOUT 0.5 MILE SOUTH OF JUNCTION BETWEEN LEWIS ROAD AND CAMARILLO DRIVE, NEAR AIRFIELD.
Detailed Location:	MAPPED AS 3 POLYGONS BY CNDDB. SMALL NE POLYGON BASED ON 2010 NPS FIELD SURVEYS AND DIGITAL DATA. TWO SOUTHERN POLYGONS BASED ON A 2009 USFWS MAP. NPS POPULATION #DUVE-103.
Ecological:	FENNEL AND ITALIAN THISTLE PRESENT.
General:	750 PLANTS SEEN IN 2003, 541 SEEN IN SMALL NORTHEAST POLYGON IN 2010. SITE QUALITY WAS "GOOD" PRE-FIRE. 2013 CAMARILLO SPRINGS FIRE BURNED ENTIRE KNOWN RANGE OF D. VERITYI WITH AN ESTIMATED 92% MORTALITY ACROSS RANGE (ELVIN 2014).
Owner/Manager:	CSU-CHANNEL ISLANDS

Occurrence No.	7	**Map Index:**	97488	**EO Index:**	98789	**Element Last Seen:**	2003-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2015-09-21

Quad Summary: Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.16315 / -119.05572	**Accuracy:**	1/10 mile
UTM:	Zone-11 N3782155 E310507	**Elevation (ft):**	500
PLSS:	T01N, R21W, Sec. 14 (S)	**Acres:**	0.0

Location: ROUND MOUNTAIN, NEAR SUMMIT, EAST OF INTERSECTION OF POTRERO RD AND LEWIS RD.

Detailed Location: MAPPED BY CNDDB FROM A 2009 USFWS MAP BASED ON 2003 SAGAR FIELD SURVEYS. NPS POPULATION #DUVE-201.

Ecological:

General: 50 PLANTS OBSERVED BY SAGAR IN 2003. 2013 CAMARILLO SPRINGS FIRE BURNED ENTIRE KNOWN RANGE OF D. VERITYI WITH AN ESTIMATED 92% MORTALITY ACROSS RANGE (ELVIN 2014).

Owner/Manager: CSU-CHANNEL ISLANDS

Occurrence No.	8	**Map Index:**	97489	**EO Index:**	98790	**Element Last Seen:**	2003-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2015-09-21

Quad Summary: Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.18653 / -119.02016	**Accuracy:**	1/10 mile
UTM:	Zone-11 N3784683 E313836	**Elevation (ft):**	400
PLSS:	T01N, R20W, Sec. 07 (S)	**Acres:**	0.0

Location: HILL ABOUT 1.3 AIR MILES SOUTH OF PLEASANT VALLEY ROAD, BETWEEN PANCHO ROAD AND LEWIS ROAD.

Detailed Location: MAPPED BY CNDDB FROM 2009 USFWS MAP BASED ON 2003 SAGAR FIELD SURVEYS. NPS POPULATION #DUVE-102.

Ecological:

General: UNKNOWN NUMBER OF PLANTS OBSERVED BY SAGAR IN 2003. 2013 CAMARILLO SPRINGS FIRE BURNED ENTIRE KNOWN RANGE OF D. VERITYI WITH AN ESTIMATED 92% MORTALITY ACROSS RANGE (ELVIN 2014).

Owner/Manager: PVT

Astragalus brauntonii **Element Code:** PDFAB0F1G0

Braunton's milk-vetch

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:** G2
	State:	None		**State:** S2
	Other:	Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden		
Habitat:	**General:**	CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.		
	Micro:	RECENT BURNS OR DISTURBED AREAS; IN SALINE, SOMEWHAT ALKALINE SOILS HIGH IN CA, MG, WITH SOME K. SOIL SPECIALIST; REQUIRES SHALLOW SOILS TO DEFEAT POCKET GOPHERS AND OPEN AREAS, PREFERABLY ON HILLTOPS, SADDLES OR BOWLS BETWEEN HILLS. 5-640 M.		

Occurrence No.	11	**Map Index:**	00528	**EO Index:**	5261	**Element Last Seen:**	2003-07-29
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-07-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Decreasing	**Record Last Updated:**	2003-10-27

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.18317 / -118.77130	**Accuracy:**	specific area
UTM:	Zone-11 N3783883 E336766	**Elevation (ft):**	1200
PLSS:	T01N, R18W, Sec. 09 (S)	**Acres:**	31.3

Location:	NORTH OF KANAN ROAD, ALONG BOTH SIDES OF MEDEA CREEK, ABOUT 1.2 AIR MILES SSE OF SIMI PEAK SUMMIT.
Detailed Location:	SEV COLONIES MAPPED AS 4 POLYGONS; THE SOUTHERN COLONIES ARE WITHIN OAK CANYON COMMUNITY PARK; THE NORTHERN COLONY IS ON THE EAST SIDE OF THE CANYON ABOUT 0.5 MILE NORTH OF KANAN RD. OCCURRENCE IS WITHIN THE E 1/2 OF THE W 1/2 OF SEC 9.
Ecological:	CHAPARRAL, COASTAL SAGE SCRUB, AND ALSO IN DISTURBED AREAS. ASSOCIATED WITH SALVIA MELLIFERA, ENCELIA CALIFORNICA, RHUS OVATA, MELILOTUS INDICA, BROMUS, MARRUBIUM, NOLINA PARRYI (THE RARE N. CISMONTANA), AND THE RARE CALOCHORTUS CATALINAE.
General:	IN 1993 100+ PLANTS IN N-COLONY, 290 IN S-COLONIES. 1-2 PLANTS IN 1996, 7 IN 1998, 4 IN 2003. PART OF N-COLONY PRESERVED IN 200' WILDLIFE CORRIDOR. LONG TERM VIABILITY OF SITE QUESTIONABLE DUE TO EXISTING & FUTURE DISTURBANCES.
Owner/Manager:	PVT, RANCHO SIMI RPD

Occurrence No.	20	**Map Index:**	17846	**EO Index:**	10019	**Element Last Seen:**	2007-07-27
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-07-27
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-08-13

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.18752 / -118.76086	**Accuracy:**	specific area
UTM:	Zone-11 N3784350 E337736	**Elevation (ft):**	1200
PLSS:	T01N, R18W, Sec. 10 (S)	**Acres:**	14.0

Location:	1.2 TO 1.5 MILES NORTH OF VENTURA/LOS ANGELES COUNTY LINE. OAK PARK PLANNING ZONE.
Detailed Location:	MAPPED AS 5 POLYS. LG NW POLY HAS SCATTERED SITES THROUGHOUT. SMALLER POLYS ARE SPECIFIC SITES. DEMO GARDEN IS AT CORNER OF DEERHILL & DOUBLETREE RDS. A. BRAUNTONII MAY OCCUR IN FIELD N OF DEMO GARDEN. TRANSPLANT MITIGATION PROJECT FAILED.
Ecological:	ON W-FACING, RECENTLY GRADED SLOPE. WITH THE RARE NOLINA CISMONTANA. MOST OF THE NATURAL RIDGES IN THE S AREA WERE KNOCKED DOWN AND THE SOIL SPREAD OVER THE SIDE FOR RESIDENTIAL SITES AND A PLAYING FIELD.
General:	20 IN '90, LIKELY MORE IN SEED BANK. 387 TRANSPLANTED IN '95, 1 IN '98. DESTROYED BY DEV IN '96. 1000 IN '98, DELIBERATELY BULLDOZED. 465-815 IN '02. 340-390 IN '03, W/ 50-100 AT DEMO GARDEN. <175 IN '04. 53 IN '07, MOSTLY IN DEMO GARDEN.
Owner/Manager:	RANCHO SIMI RPD-DEERHILL PARK

Occurrence No.	22	**Map Index:**	17845	**EO Index:**	11928	**Element Last Seen:**	2006-05-12
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2006-05-12
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-08-13

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.20620 / -118.80443	**Accuracy:**	specific area
UTM:	Zone-11 N3786491 E333757	**Elevation (ft):**	1700
PLSS:	T02N, R18W, Sec. 31 (S)	**Acres:**	32.0

Location:	1.1 TO 1.7 AIR MILES WEST OF THE SUMMIT OF SIMI PEAK, THOUSAND OAKS.
Detailed Location:	RIDGELINE SE OF LANG RANCH PARKWAY. MAPPED BY CNDDB AS 9 POLYGONS.
Ecological:	ON AND ABOUT DIRT ACCESS ROADS IN ROCKY, SANDY CLAY LOAM. ASSOCIATED WITH ERIOGONUM FASCICULATUM AND ADENOSTOMA FASCICULATUM. OTHER RARE PLANTS IN THE AREA INCLUDE HEMIZONIA MINTHORNII, CALOCHORTUS CATALINAE, AND NOLINA CISMONTANA.
General:	~15 IN 1989, 29 IN '92 IN FAR E COLONY, 1 IN EACH OF THE 3 W COLONIES IN '97, 7 IN COLONY JUST E IN 2004. IN '06: 2 IN FAR W COLONY, 13 IN 3RD FROM W COLONY, AND 9 IN 2ND FROM E COLONY. ~4400 TOTAL IN 5/2006. INCLUDES FORMER OCCURRENCE #26.
Owner/Manager:	CONEJO OPEN SPACE CONS AGENCY

Occurrence No.	25	**Map Index:**	40530	**EO Index:**	35537	**Element Last Seen:**	2000-0X-XX
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-0X-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2004-03-23

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.21019 / -118.82047	**Accuracy:**	specific area
UTM:	Zone-11 N3786960 E332288	**Elevation (ft):**	1250
PLSS:	T02N, R19W, Sec. 36 (S)	**Acres:**	6.1

Location:	3.6-3.75 MI N OF TRIUNFO CORNER, ALONG FIRE RD WHICH TRAVELS RIDGELINE SE OF JCT WESTLAKE BLVD & LANG RANCH PARKWAY.
Detailed Location:	MAPPED AS THREE POLYGONS: 3 PLANTS MAPPED AS EASTERN POLYGON ALONG FIRE TRAIL. FAR WESTERN COLONY IS AT PROPOSED DAM, CENTRAL COLONY IS AT DEBRIS BASIN SITE.
Ecological:	ALONG OLD, ERODED FIRE RD IN CHAPARRAL. E-FACING SLOPE W/RHUS OVATA, HETEROMELES ARBUTIFOLIA, CEANOTHUS CRASSIFOLIUS, ADENOSTOMA FASCICULATUM, ARCTOSTAPHYLOS GLANDULOSA, ERIOPHYLLUM CONFERTIFLORUM, MALACOTHAMNUS FASCICULATUS, ARTEMISIA CAL.
General:	3 PLANTS IN 1997 (SEVERAL DEAD PLANTS-HABITAT EXTENDS EAST FOR 1 MILE). IN 1999 7 PLANTS AT WEST COLONIES, 6 REMOVED AFTER SEED COLLECTION. 6 WIDELY SPACED PLANTS IN 2000 AT EAST COLONY. NO PLANTS AT WESTERN WASHDOWN COLONIES (2003).
Owner/Manager:	PVT-COSCA

Occurrence No.	28	**Map Index:**	49021	**EO Index:**	49021	**Element Last Seen:**	2006-07-10
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2006-07-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-08-13

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.23299 / -118.77304	**Accuracy:**	specific area
UTM:	Zone-11 N3789411 E336702	**Elevation (ft):**	1400
PLSS:	T02N, R18W, Sec. 28 (S)	**Acres:**	4.4

Location: BUS CANYON, BRIDLE PATH HOMEOWNERS ASSOCIATION MOUNTAIN PARK, SOUTH OF SIMI VALLEY.

Detailed Location: 3 POLYGONS: 3 PLANTS FOUND ALONG EQUESTRIAN TRAIL: #1 AND #2 ARE ALONG THE RIDGE, #3 IS IN "PUNCHBOWL CANYON."

Ecological:

General: IN 1998 2 OR 3 FLOWERING PLANTS SEEN AT LOCATIONS #1 AND #2. IN 1999 3 PLANTS FOUND, ONE AT EACH LOCATION. PLANTS SEEN BY M. CAMPBELL AS REPORTED BY C. SPENGER. IN 1999 PLANTS FROM 1998 WERE OLD, WOODY, AND DEAD. 16 PLANTS SEEN IN 2006.

Owner/Manager: PVT

Occurrence No.	30	**Map Index:**	49832	**EO Index:**	49832	**Element Last Seen:**	2007-07-23
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-07-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-08-18

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.19341 / -118.78456	**Accuracy:**	specific area
UTM:	Zone-11 N3785040 E335564	**Elevation (ft):**	1300
PLSS:	T01N, R18W, Sec. 05 (S)	**Acres:**	2.6

Location: EDISON EASEMENT/OPEN SPACE TRAIL NORTH OF PATHFINDER AVENUE BETWEEN FALLING STAR AVENUE AND DUMZINE AVE, SIMI HILLS.

Detailed Location: PLANTS ARE GROWING ON AND ADJACENT TO A SOUTHERN CALIFORNIA EDISON ACCESS ROAD WHICH FUNCTIONS AS A TRAIL. MAPPED WITHIN THE SE 1/4 OF THE SE 1/4 OF SECTION 5.

Ecological: PLANT COMMUNITY IN THE AREA IS ARID COASTAL SAGE SCRUB, HOWEVER THE SPECIFIC LOCALITY IS DEGRADED DUE TO ITS USE AS AN OPEN SPACE TRAIL AND EDISON EASEMENT. ASSOCIATES INCLUDE ERIOGONUM FASCICULATUM, LESSINGIA FILAGINIFOLIA, ET AL.

General: 35 SEEN IN 2001 BY BURGESS. THE MAJORITY OF PLANTS GROWING ON KNOLL ADJ TO ACCESS ROAD AND THE CITY INTENDS TO FENCE AREA. 68 PLANTS OF ALL AGES SEEN IN 2003. <175 IN 2004, 27 IN 2006 & 15 IN 2007. SITE PROTECTED BY TEMP ORANGE FENCING.

Owner/Manager: CITY OF THOUSAND OAKS

Occurrence No.	31	**Map Index:**	54499	**EO Index:**	54499	**Element Last Seen:**	2007-08-14
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-08-14
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-08-18

Quad Summary: Calabasas (3411826), Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.22898 / -118.74909	**Accuracy:**	specific area
UTM:	Zone-11 N3788929 E338900	**Elevation (ft):**	2080
PLSS:	T02N, R18W, Sec. 27 (S)	**Acres:**	11.0

Location: RIDGE BETWEEN BUS CANYON AND RUNKLE CANYON, ABOUT 2 MILES WEST OF BURRO FLATS, SOUTH SIMI VALLEY.

Detailed Location: ON A RIDGELINE ABOVE A FIRE ROAD, EAST OF POWERLINE TOWER. MAPPED AS 2 POLYGONS WITHIN THE SE 1/4 OF THE NE 1/4 OF SECTION 36. OWNED BY BRIDLE PATH HOMEOWNER'S ASSOCIATION.

Ecological: IN CHAPARRAL/NON-NATIVE GRASSLAND/COASTAL SAGE SCRUB ECOTONE, WITH SPARSE VEGETATION ALONG RIDGELINE. WITH BACCHARIS PILULARIS, SALVIA MELLIFERA, ERIOGONUM FASCICULATUM, CENTAUREA MELITENSIS, BROMUS HORDEACEUS, LOTUS SCOPARIUS, ET AL.

General: 36 PLANTS SEEN IN 2004 IN S POLY, WITH AN ADDITIONAL 30 SENESCENT PLANTS PRESENT. SITE IS DEDICATED RECREATION OPEN SPACE, MANAGED BY A HOMEOWNER'S ASSOCIATION WITH LIMITED PUBLIC ACCESS. 130 PLANTS SEEN IN N POLY IN 2007.

Owner/Manager: PVT

Occurrence No.	36	**Map Index:**	68760	**EO Index:**	69245	**Element Last Seen:**	2006-05-05
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2006-05-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-04-04

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.19954 / -118.81465	**Accuracy:**	80 meters
UTM:	Zone-11 N3785769 E332802	**Elevation (ft):**	1300
PLSS:	T01N, R18W, Sec. 06 (S)	**Acres:**	0.0

Location: KANAN ROAD, IMMEDIATELY WEST OF THE INTERSECTION WITH RAYBURN STREET, THOUSAND OAKS.

Detailed Location: IMMEDIATELY ADJACENT TO A FENCELINE BORDERING THE MAINTAINED MUNICIPAL PARKWAY ALONG THE NORTH SIDE OF KANAN ROAD.

Ecological: CA SAGEBRUSH / CA BUCKWHEAT SERIES HABITAT.

General: 1 PLANT OBSERVED IN 2006.

Owner/Manager: UNKNOWN

Occurrence No.	40	**Map Index:**	76187	**EO Index:**	77106	**Element Last Seen:**	2007-06-11
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-06-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-08-19

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.20678 / -118.77543	**Accuracy:**	specific area
UTM:	Zone-11 N3786509 E336431	**Elevation (ft):**	2100
PLSS:	T02N, R18W, Sec. 33 (S)	**Acres:**	16.0

Location:	EASTERN FLANK OF SIMI PEAK, SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA.
Detailed Location:	ON A LOW ROLLING HILL ADJACENT TO SIMI PEAK TRAIL. MAPPED BASED ON GPS COORDINATES GIVEN BY LANDIS.
Ecological:	ASSOCIATES INCLUDE: MALOSMA LAURINA, ERIODICTYON CRASSIFOLIUM, HAZARDIA SQUARROSA, SALVIA MELLIFERA, LOTUS SCOPARIUM, ADENOSTOMA FASCICULATUM, ARTEMISIA CALIFORNICA, BACCHARIS PILULARIS, HESPEROYUCCA WHIPPLEI, CALYSTEGIA MACROSTEGIA.
General:	447 PLANTS OBSERVED IN 2007.
Owner/Manager:	NPS-SANTA MONICA MOUNTAINS NRA

California macrophylla **Element Code:** PDGER01070

round-leaved filaree

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3?
	State:	None		**State:**	S3?
	Other:	Rare Plant Rank - 1B.2, BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden			
Habitat:	**General:**	CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.			
	Micro:	CLAY SOILS. 15-1200 M.			

Occurrence No.	6	**Map Index:**	45685	**EO Index:**	45685	**Element Last Seen:**	1999-09-19
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1999-09-19
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2001-08-28

Quad Summary: Thousand Oaks (3411827), Simi (3411837)

County Summary: Ventura

Lat/Long:	34.25851 / -118.81455	**Accuracy:**	3/5 mile
UTM:	Zone-11 N3792309 E332929	**Elevation (ft):**	
PLSS:	T02N, R18W, Sec. 18 (S)	**Acres:**	0.0

Location: VICINITY OF REAGAN LIBRARY.

Detailed Location: LOCATED IN FOOTHILLS BETWEEN TIERRA REJADA VALLEY AND SIMI VALLEY, SOUTH OF TIERRA REJADA ROAD.

Ecological: ONE POPULATION IN HEAVY CLAY SOIL.

General: POPULATION PRESENTLY IN OPEN SPACE. NEEDS FIELDWORK.

Owner/Manager: RANCHO SIMI RPD

Occurrence No.	102	**Map Index:**	75411	**EO Index:**	76414	**Element Last Seen:**	1890-05-05
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1890-05-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-06-05

Quad Summary: Piru (3411847)

County Summary: Ventura

Lat/Long:	34.45778 / -118.85144	**Accuracy:**	1 mile
UTM:	Zone-11 N3814471 E329934	**Elevation (ft):**	
PLSS:	T04N, R19W, Sec. 03 (S)	**Acres:**	0.0

Location: HOPPER RANCH.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB CENTERED AT SITE WHICH IS APPARENTLY THE HISTORIC HOPPER RANCHHOUSE (HOPPER MOUNTAIN NAT'L WILDLIFE REFUGE).

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS AN 1890 COLLECTION BY DAVIDSON FROM "HOPPERS RANCH, VENTURA COUNTY". NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Lepechinia rossii **Element Code:** PDLAM0V060

Ross' pitcher sage

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1
	State:	None		**State:**	S1
	Other:	Rare Plant Rank - 1B.2, SB_RSABG-Rancho Santa Ana Botanic Garden, USFS_S-Sensitive			
Habitat:	**General:**	CHAPARRAL.			
	Micro:	SOIL DERIVED FROM FINE-GRAINED, REDDISH SEDIMENTARY ROCK. 305-790 M.			

Occurrence No.	1	**Map Index:** 68006	**EO Index:** 68154	**Element Last Seen:**	1996-06-12
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1996-06-12
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2007-02-02

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.48895 / -118.92864	**Accuracy:**	2/5 mile
UTM:	Zone-11 N3818060 E322908	**Elevation (ft):**	2200
PLSS:	T05N, R20W, Sec. 25 (S)	**Acres:**	0.0

Location: TAR CREEK, ALONG OLD DIRT ROAD LEADING DOWN TO SESPE CANYON OFF OF SQUAW FLAT ROAD, TOPATOPA MOUNTAINS.

Detailed Location: TWO COLLECTIONS MAPPED AT THIS SITE: "TAR CREEK, ON EDGE OF OLD ROAD DOWN TO GREEN CABINS ON SESPE CREEK" AND "ALONG AN OLD DIRT ROAD...ABOUT THE BASE OF HILL '2582' AT THE BOUNDARY OF SESPE CONDOR SANCTUARY".

Ecological: ASSOCIATED WITH CHAPARRAL VEGETATION WITH ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CLEMATIS LASIANTHA, ERIODICTYON CRASSIFOLIUM VAR. NIGRESCENS, ERIOGONUM FASCICULATUM VAR. FOLIOLOSUM, ERIOPHYLLUM CONFERTIFLORUM, ETC.

General: COLLECTED IN THIS VICINITY BY BLAKLEY IN 1994 AND BOYD ET AL. IN 1996. TWO OLD NON-FLOWERING COLLECTIONS FROM EVERMANN AND HOFFMAN AT THIS VICINITY ARE BELIEVED TO BE L. ROSSII BY BOYD AND MISTRETTA.

Owner/Manager: UNKNOWN

Monardella hypoleuca ssp. hypoleuca

Element Code: PDLAM180A3

white-veined monardella

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G4T2T3
	State:	None		**State:**	S2S3
	Other:	Rare Plant Rank - 1B.3			
Habitat:	**General:**	CHAPARRAL, CISMONTANE WOODLAND.			
	Micro:	DRY SLOPES. 50-1525 M.			

Occurrence No.	4	**Map Index:** 87908	**EO Index:** 88871	**Element Last Seen:**	2008-05-31
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	2008-05-31
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2013-01-17

Quad Summary: Triunfo Pass (3411818), Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.11310 / -118.92720	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3776373 E322250	**Elevation (ft):**	
PLSS:	T01S, R20W, Sec. 01 (S)	**Acres:**	4580.0

Location: CIRCLE X RANCH, SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS AS A LARGE NON-SPECIFIC POLYGON AROUND THE BOUNDARY OF CIRCLE X RANCH.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A CALFLORA OBSERVATION RECORD OF MONARDELLA HYPOLEUCA SSP. HYPOLEUCA FROM CIRCLE X RANCH. OBSERVATION MADE DURING A 2008 BIOBLITZ (MAY 30-31, 2008). CNDDB NEEDS ADDITIONAL INFORMATION FOR SITE.

Owner/Manager: NPS-SANTA MONICA MOUNTAINS NRA

Monardella sinuata ssp. gerryi

Element Code: PDLAM18163

Gerry's curly-leaved monardella

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3T1
	State:	None		**State:**	S1
	Other:	Rare Plant Rank - 1B.1			
Habitat:	**General:**	COASTAL SCRUB.			
	Micro:	SANDY OPENINGS. 150-245 M.			

Occurrence No.	1	**Map Index:**	91620	**EO Index:**	99807	**Element Last Seen:**	1976-06-02
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1976-06-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-12-04

Quad Summary:	Newbury Park (3411828), Moorpark (3411838)
County Summary:	Ventura

Lat/Long:	34.24586 / -118.90465	**Accuracy:**	2/5 mile
UTM:	Zone-11 N3791058 E324605	**Elevation (ft):**	700
PLSS:	T02N, R19W, Sec. 19 (S)	**Acres:**	0.0

Location:	ON LAS POSAS ROAD, 0.5 MILE NORTH OF SANTA ROSA VALLEY ROAD, SANTA ROSA VALLEY.
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS A BEST GUESS TO ENCOMPASS THE AREA ABOUT 0.5 ROAD MILE NORTH OF SANTA ROSA VALLEY ROAD ON LAS POSAS ROAD AND AN ELEVATION OF 700 FEET BASED ON LOCATION DESCRIPTION AND ELEVATION ON LABEL.
Ecological:	
General:	ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1976 HOWE COLLECTION. SITE PRESUMED EXTIRPATED BY ELVIN; AREA HAS BEEN SURVEYED MULTIPLE TIMES WITH NO SUCCESS.
Owner/Manager:	UNKNOWN

Occurrence No.	2	**Map Index:**	91621	**EO Index:**	99809	**Element Last Seen:**	1934-04-30
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1934-04-30
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-12-08

Quad Summary:	Camarillo (3411921), Santa Paula (3411931)
County Summary:	Ventura

Lat/Long:	34.25002 / -119.03514	**Accuracy:**	4/5 mile
UTM:	Zone-11 N3791752 E312596	**Elevation (ft):**	600
PLSS:	T02N, R21W, Sec. 24 (S)	**Acres:**	0.0

Location:	2 MILES NORTH OF CAMARILLO.
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS A BEST GUESS ABOUT 2 AIR MILES NORTH OF CAMARILLO WHICH BETTER MATCHES ELEVATION ON COLLECTION LABEL OF 600 FEET (2 ROAD MILES NORTH OF CAMARILLO ON SR 34 IS AT ABOUT 200 FEET IN ELEVATION).
Ecological:	SAGE TYPE. SE SLOPE.
General:	ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1934 FRENCH COLLECTION. SITE PRESUMED EXTIRPATED BY ELVIN; AREA HAS BEEN SURVEYED MULTIPLE TIMES WITH NO SUCCESS.
Owner/Manager:	UNKNOWN

Occurrence No.	3	**Map Index:**	98393	**EO Index:**	99813	**Element Last Seen:**	2015-06-28
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2015-06-28
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-12-09

Quad Summary: Newbury Park (3411828), Moorpark (3411838)

County Summary: Ventura

Lat/Long:	34.25164 / -118.93821	**Accuracy:**	specific area
UTM:	Zone-11 N3791757 E321527	**Elevation (ft):**	650
PLSS:	T02N, R20W, Sec. 14 (S)	**Acres:**	28.0

Location: ALONG UTILITY ROAD NNE OF THE NORTH END OF GERRY ROAD, ABOUT 5.4 AIR KM SW OF MOORPARK.

Detailed Location: MAPPED ACCORDING TO 2015 ELVIN COORDINATES, NEAR COMMON CORNER OF SECTIONS 13, 14, 23, AND 24. POPULATION ASSUMED TO BE CONTINUOUS BETWEEN POINTS PROVIDED BUT DATA IS UNCLEAR. LANDOWNER IS AWARE OF PLANTS AND TRYING TO PROTECT THEM.

Ecological: COASTAL SAGE SCRUB WITH SANDY SOILS DERIVED FROM SANDSTONE BEDROCK. ASSOCIATED WITH CROTON CALIFORNICUS, HORKELIA CUNEATA, ARTEMISIA CALIFORNICA, EUPHORBIA TERRACINA, ERIOGONUM CINEREUM, OPUNTIA ORICOLA, O. LITTORALIS, ETC.

General: TYPE LOCALITY. ABOUT 50-100 INDIVIDUALS OBSERVED IN 2013. UNKNOWN NUMBER OBSERVED IN 2015, BUT FEWER THAN IN PREVIOUS YEARS DUE TO DROUGHT.

Owner/Manager: PVT

Eriogonum crocatum

Element Code: PDPGN081G0

conejo buckwheat

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1
	State:	Rare		**State:**	S1
	Other:	Rare Plant Rank - 1B.2, SB_RSABG-Rancho Santa Ana Botanic Garden			
Habitat:	**General:**	CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.			
	Micro:	CONEJO VOLCANIC OUTCROPS; ROCKY SITES. 50-580 M.			

Occurrence No.	1	**Map Index:**	00140	**EO Index:**	21047	**Element Last Seen:**	2003-05-01
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-05-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-11-01

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.22586 / -118.92953	**Accuracy:**	specific area
UTM:	Zone-11 N3788882 E322272	**Elevation (ft):**	300
PLSS:	T02N, R20W, Sec. 25 (S)	**Acres:**	35.0

Location: NEAR MOUTH OF ARROYO CONEJO (HILL CANYON), SANTA ROSA VALLEY, NW OF THOUSAND OAKS.

Detailed Location: MAPPED BY CNDDB AS 2 POLYGONS BASED ON A 1983 OLSON MAP AND COORDINATES FROM THE SANTA MONICA MOUNTAINS NRA DATABASE (NO OTHER INFORMATION PROVIDED WITH THESE COORDINATES).

Ecological: FOUND ON VERTICAL ROCK FACES WITH SEEPAGE. CONEJO VOLCANIC OUTCROPS. ASSOCIATED WITH DUDLEYA PULVERULENTA, ERIOGONUM FASCICULATUM, AND RHUS LAURINA.

General: 300 PLANTS SEEN IN 1983. UNKNOWN NUMBER OF PLANTS OBSERVED IN 2003. A 1976 HOWE COLLECTION FROM "ENTRANCE TO 1000 OAKS WATER RECLAMATION FACILITY" IS ALSO ATTRIBUTED TO THIS SITE.

Owner/Manager: PVT, CITY OF THOUSAND OAKS

Occurrence No.	4	**Map Index:**	15904	**EO Index:**	14170	**Element Last Seen:**	2010-05-19
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-05-19
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-11-05

Quad Summary: Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.16555 / -119.02498	**Accuracy:**	specific area
UTM:	Zone-11 N3782365 E313346	**Elevation (ft):**	800
PLSS:	T01N, R20W, Sec. 18 (S)	**Acres:**	386.0

Location: EAST OF CAMARILLO STATE HOSPITAL, BOTH SIDES OF LONG GRADE CANYON, SW OF CONEJO MOUNTAIN, CAMARILLO.

Detailed Location: MOSTLY NORTH OF LONG GRADE CANYON. PORTIONS OF SITE ON PRIVATE LAND AND PORTIONS OF SITE OWNED BY CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS. MAPPED BY CNDDB AS 8 POLYGONS ACCORDING TO 1983 AND 1984 MAPS.

Ecological: PLANTS ON ROCK OUTCROPS IN COASTAL SAGE SCRUB DOMINATED BY ARTEMISIA CALIFORNICA AND OPUNTIA ORICOLA. ALSO ASSOCIATED WITH RHUS OVATA, NASSELLA LEPIDA, DELPHINIUM PARRYI BLOCHMANIAE, DUDLEYA VERITYI, D. BLOCHMANIAE, D. LANCEOLATA, ETC.

General: 1000+ PLANTS OBSERVED BY BINOCULARS IN 7 DIFFERENT OUTCROPS IN 1983. SOUTHERNMOST POL: "MANY" PLANTS IN 1979, 100+ IN 1983, <100 IN 1987, UNKNOWN # OF PLANTS IN 1989. 108 PLANTS OBSERVED IN 3 WESTERN POLYS IN 2010. INCLUDES FORMER OCC #5.

Owner/Manager: PVT, CSU-CHANNEL ISLANDS

Occurrence No.	6	**Map Index:**	00301	**EO Index:**	21048	**Element Last Seen:**	1983-06-06
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1983-06-06
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-11-01

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.13610 / -118.85428	**Accuracy:**	specific area
UTM:	Zone-11 N3778799 E329023	**Elevation (ft):**	1300
PLSS:	T01N, R19W, Sec. 27 (S)	**Acres:**	14.0

Location: LAKE ELEANOR, SSW OF THOUSAND OAKS.

Detailed Location: FOUND ON BOTH SIDES OF THE NORTH END OF THE LAKE. MAPPED BY CNDDB AS 2 POLYGONS ACCORDING TO A 1983 COCHRANE MAP AND AN UNDATED WESTEC SERVICES MAP (SUBMITTED BY BURGESS IN 1987).

Ecological: FOUND ON CLIFF AND ROCK OUTCROPS ABOVE CHAPARRAL. CONEJO VOLCANICS. NEAR AN OCCURRENCE OF LEWISIA REDIVIVA MINOR. OTHER ASSOCIATES INCLUDE ADENOSTOMA, YUCCA WHIPPLEI, MALOSMA LAURINA, MIMULUS LONGIFLORUS, DUDLEYA PULVERULENTA, ETC.

General: WEST SIDE OF LAKE: 30 MATURE PLANTS, 15 SEEDLINGS IN 1979; 247 MATURE PLANTS, MANY MORE SEEDLINGS/JUVENILES IN 1983. EAST SIDE OF LAKE: FEWER THAN 20 PLANTS IN 1983. 1978 KOUTNIK COLLECTION FROM "ALONG LAKE ELEANOR" ALSO ATTRIBUTED HERE.

Owner/Manager: CONEJO OPEN SPACE CONS AGENCY

Occurrence No.	9	**Map Index:**	00182	**EO Index:**	12216	**Element Last Seen:**	2010-11-10
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-11-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-11-02

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.21337 / -118.90946	**Accuracy:**	specific area
UTM:	Zone-11 N3787462 E324094	**Elevation (ft):**	500
PLSS:	T02N, R19W, Sec. 31 (S)	**Acres:**	46.0

Location: NORTH FORK ARROYO CONEJO, JUST SOUTH OF MOUNTCLEF RIDGE, WILDWOOD REGIONAL PARK, THOUSAND OAKS.

Detailed Location: FROM THE FIRST PICNIC AREA TO OAK GROVE CAMPGROUND. MAPPED BY CNDDB BASED ON LOCATION DESCRIPTION FROM A 1983 OLSON FIELD SURVEY FORM. 2010 SAGAR COORDINATES AT PARADISE FALLS OCCUR WITHIN MAPPED AREA. MAY ALSO OCCUR FURTHER UP CANYON.

Ecological: ON CONEJO VOLCANIC CLIFFS ABOVE STREAM. NORTH AND SOUTH-FACING OUTCROPS. RIPARIAN VEGETATION WITH COASTAL SAGE SCRUB FURTHER UPLAND. ASSOCIATED WITH DUDLEYA PULVERULENTA, D. LANCEOLATA, D. PARVA, ERIOGONUM FASCICULATUM, MIMULUS, ETC.

General: LOCALLY COMMON ON CANYON WALLS IN WILDWOOD PARK IN 1974, 1000+ PLANTS OBSERVED IN 1983, UNKNOWN NUMBER OF PLANTS OBSERVED IN 1984, 90 PLANTS OBSERVED AT PARADISE FALLS IN 2010. INCLUDES FORMER OCCURRENCES #7 AND #16.

Owner/Manager: CONEJO RECREATION & PARK DIST

Occurrence No.	10	**Map Index:**	00024	**EO Index:**	21044	**Element Last Seen:**	1983-04-12
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1983-04-12
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-11-01

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.20954 / -118.98754	**Accuracy:**	80 meters
UTM:	Zone-11 N3787176 E316892	**Elevation (ft):**	470
PLSS:	T02N, R20W, Sec. 33 (S)	**Acres:**	0.0

Location: SMALL HILL APPROXIMATELY 1.5 AIR MILES NORTH OF CONEJO MOUNTAIN SUMMIT, NE OF HIGHWAY 101, CAMARILLO.

Detailed Location: IN THE WEST HALF OF THE SW 1/4 OF SECTION 33.

Ecological: ON CONEJO VOLCANIC CLIFF FACES, ABOVE GRASSLAND.

General: FEWER THAN 50 PLANTS OBSERVED THROUGH BINOCULARS IN 1983. HABITAT INTACT IN 1987; NO DISTURBANCE EVIDENT.

Owner/Manager: PVT

Occurrence No.	12	**Map Index:**	00091	**EO Index:**	21045	**Element Last Seen:**	1983-04-12
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1983-04-12
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-11-01

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.21565 / -118.95504	**Accuracy:**	80 meters
UTM:	Zone-11 N3787795 E319900	**Elevation (ft):**	1100
PLSS:	T02N, R20W, Sec. 35 (S)	**Acres:**	0.0

Location:	WEST FACE OF NORTH RIDGE OF 1160 FOOT PEAK APPROXIMATELY 2.5 MILES NE OF PEAK OF CONEJO MOUNTAIN, EAST OF CAMARILLO.
Detailed Location:	
Ecological:	ON VOLCANIC CLIFFS AND ROCK OUTCROPS ABOVE GRASSLAND.
General:	FEWER THAN 50 PLANTS OBSERVED THROUGH BINOCULARS IN 1983.
Owner/Manager:	PVT

Occurrence No.	13	**Map Index:**	00057	**EO Index:**	21046	**Element Last Seen:**	1983-04-12
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1983-04-12
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-11-01

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.18553 / -118.96890	**Accuracy:**	specific area
UTM:	Zone-11 N3784480 E318558	**Elevation (ft):**	1400
PLSS:	T01N, R20W, Sec. 10 (S)	**Acres:**	6.0

Location:	APPROXIMATELY 0.9 MILES ESE OF CONEJO MOUNTAIN, EAST SIDE OF NE RIDGE OF 1571 FOOT PEAK, WEST OF NEWBURY PARK.
Detailed Location:	IN THE SW 1/4 OF THE NW 1/4 OF SECTION 10.
Ecological:	ON CONEJO VOLCANIC ROCK CLIFFS, ABOVE GRASSLAND WITH COASTAL SCRUB.
General:	FEWER THAN 100 PLANTS SEEN IN 1983 BY BINOCULAR SURVEY. HABITAT INTACT IN 1987, NO APPARENT DISTURBANCE.
Owner/Manager:	PVT

Occurrence No.	15	**Map Index:**	00021	**EO Index:**	14169	**Element Last Seen:**	2010-10-08
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-10-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-11-02

Quad Summary: Newbury Park (3411828), Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.19390 / -118.98041	**Accuracy:**	specific area
UTM:	Zone-11 N3785429 E317516	**Elevation (ft):**	
PLSS:	T01N, R20W, Sec. 04 (S)	**Acres:**	959.0

Location: CONEJO MOUNTAIN AND CONEJO GRADE, WEST OF NEWBURY PARK.

Detailed Location: MAPPED BY CNDDB AS 11 POLYGONS MOSTLY ACCORDING TO A 1983 COCHRANE MAP AND A 1985 SULLY MAP. VAGUE COLLECTIONS FROM "CONEJO GRADE" AND "CONEJO PASS" ARE ALSO ATTRIBUTED TO THIS SITE.

Ecological: ON CONEJO VOLCANIC OUTCROPS AND CLIFFS IN GRASSLAND AND OPEN COASTAL SAGE SCRUB HABITATS. ASSOCIATED WITH ERIOGONUM FASCICULATUM, MIMULUS AURANTIACUS, TOXICODENDRON DIVERSILOBUM, ERIOGONUM CINEREUM, COREOPSIS GIGANTEA, DUDLEYA, ETC.

General: 1000+ PLANTS IN 1983 (OBSERVED THROUGH BINOCULARS). IN 1985, >100 ALONG CONEJO GRADE AND <100 AT TOP OF CONEJO MTN. POPULATION NUMBERS FOR PARTS OF OCCURRENCE: <100 IN 1990 ~3/4 MI SW OF PEAK, 220 IN 2010. INCLUDES FORMER OCC #2, 3, 8, 11.

Owner/Manager: PVT, CALTRANS

Occurrence No.	17	**Map Index:**	00085	**EO Index:**	21042	**Element Last Seen:**	1991-01-24
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1991-01-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-11-02

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.22610 / -118.95842	**Accuracy:**	specific area
UTM:	Zone-11 N3788960 E319611	**Elevation (ft):**	500
PLSS:	T02N, R20W, Sec. 27 (S)	**Acres:**	20.9

Location: S OF CONEJO CREEK, ABOUT 0.8 AIR MILE NE OF 1006 FT PEAK, 3 AIR MILES NE OF CONEJO MTN, WEST END OF SANTA ROSA VALLEY.

Detailed Location: MAPPED BY CNDDB AS 2 POLYGONS IN THE EAST HALF OF SECTION 27 AND THE WEST HALF OF THE SW 1/4 OF SECTION 26.

Ecological: ON NEAR VERTICAL CANYON WALLS AND ROCK OUTCROPS.

General: ABOUT 100 PLANTS SEEN IN 1991, IN 2 MAIN SUBPOPULATIONS. A 1960 RAVEN & THOMPSON COLLECTION FROM "WEST END OF THE SANTA ROSA VALLEY, NORTH OF CONEJO GRADE, 500 FEET" AND A 1979 OBSERVATION FROM SECTION 26 ARE ALSO ATTRIBUTED TO THIS SITE.

Owner/Manager: PVT

Occurrence No.	18	**Map Index:**	00011	**EO Index:**	21043	**Element Last Seen:**	2003-06-27
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-06-27
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-11-02

Quad Summary:	Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.16644 / -118.99454	**Accuracy:**	specific area
UTM:	Zone-11 N3782408 E316153	**Elevation (ft):**	1100
PLSS:	T01N, R20W, Sec. 17 (S)	**Acres:**	17.0

Location:	JUST NW OF THE JUNCTION OF RANCHO DOS VIENTOS DRIVE AND VIA BONITA, 0.5 MILE NORTH OF LONG GRADE CANYON, NEWBURY PARK.
Detailed Location:	MAPPED BY CNDDB ACCORDING TO A 1985 WISHNER MAP.
Ecological:	ON DRY ROCKY SOUTH AND WEST-FACING SLOPES OF CONEJO VOLCANICS IN VENTURAN COASTAL SAGE SCRUB.
General:	FEWER THAN 100 PLANTS OBSERVED IN 1985. A 2003 BUCHWALTER PHOTO FROM "NEAR DOS VIENTOS DEVELOPMENT" IS ALSO ATTRIBUTED TO THIS SITE.
Owner/Manager:	PVT

Occurrence No.	19	**Map Index:**	17806	**EO Index:**	10007	**Element Last Seen:**	1990-07-25
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1990-07-25
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-11-02

Quad Summary:	Triunfo Pass (3411818), Newbury Park (3411828)
County Summary:	Ventura

Lat/Long:	34.12434 / -118.90149	**Accuracy:**	80 meters
UTM:	Zone-11 N3777575 E324645	**Elevation (ft):**	1900
PLSS:	T01N, R19W, Sec. 32 (S)	**Acres:**	0.0

Location:	ABOUT 10,000 FEET SW OF LAKE SHERWOOD (FIRE STATION) ON UNNAMED PEAK IN UPPER CARLISLE CANYON.
Detailed Location:	
Ecological:	ROCKY, NORTH-FACING CLIFFS OF VOLCANIC MATERIAL IN CHAPARRAL.
General:	ABOUT 200 PLANTS SEEN IN 1990.
Owner/Manager:	PVT

Occurrence No.	20	**Map Index:**	21700	**EO Index:**	14151	**Element Last Seen:**	2010-08-02
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-08-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-11-02

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.22916 / -118.88583	**Accuracy:**	specific area
UTM:	Zone-11 N3789174 E326304	**Elevation (ft):**	850
PLSS:	T02N, R19W, Sec. 29 (S)	**Acres:**	6.0

Location: APPROXIMATELY 0.3 AIR MILE SOUTH OF MOUNT CLEF, NORTH OF OLSON ROAD AND EAST OF PASEO DE NUBLADO, CITY OF THOUSAND OAKS.

Detailed Location: MOSTLY WITHIN WILDWOOD PARK, PORTION OF OCCURRENCE ON CALIFORNIA LUTHERAN UNIVERSITY PROPERTY. IN THE SE 1/4 OF THE NE 1/4 OF SECTION 29.

Ecological: EAST-FACING SLOPE IN FULL SUN ON CONEJO VOLCANIC OUTCROP IN INLAND SAGE SCRUB WITH SELAGINELLA BIGELOVII, ARTEMISIA CALIFORNICA, AND VERY NEAR AN OCCURRENCE OF DUDLEYA PARVA. IN CLAY LOAM SOILS.

General: ABOUT 30 PLANTS SEEN IN 1991. ABOUT 100 PLANTS SEEN IN 2010.

Owner/Manager: CONEJO REC & PARK DIST, PVT

Occurrence No.	21	**Map Index:**	87133	**EO Index:**	88095	**Element Last Seen:**	2010-11-04
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2010-11-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2012-11-02

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.22349 / -118.91104	**Accuracy:**	specific area
UTM:	Zone-11 N3788588 E323970	**Elevation (ft):**	1000
PLSS:	T02N, R19W, Sec. 30 (S)	**Acres:**	2.0

Location: WEST END OF MOUNTCLEF RIDGE, NE OF LIZARD ROCK, WILDWOOD REGIONAL PARK, CITY OF THOUSAND OAKS.

Detailed Location: OCCURS MAINLY ON SHEER ROCK. MAPPED BY CNDDB AS 3 POLYGONS BASED 2010 GPS COORDINATES PROVIDED BY SAGAR.

Ecological: VOLCANIC OUTCROPPINGS WITH VARIABLE ASPECT. PLANTS MORE ABUNDANT ON N-FACING SIDES OF OUTCROPPINGS. GENERAL VEGETATION COMMUNITIES ARE CHAPARRAL AND COASTAL SAGE SCRUB WITH SCATTERED ERIOGONUM FASCICULATUM, CORETHROGYNE FILAGINIFOLIA, ETC.

General: POPULATION NUMBERS IN 2010 FROM WEST-MOST POLYGON TO EAST-MOST POLYGON: 9, 41, 9. A 1989 STORRER COLLECTION FROM "FOOT OF MOUNTCLEF RIDGE, S EDGE OF E SANTA ROSA VALLEY NEAR JUNCTION OF SANTA ROSA RD & SANTA ROSA CRK" ALSO ATTRIBUTED HERE.

Owner/Manager: CONEJO RECREATION & PARK DIST

Acanthoscyphus parishii var. abramsii **Element Code:** PDPGN0J041

Abrams' oxytheca

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G4?T2
	State:	None		**State:**	S2
	Other:	Rare Plant Rank - 1B.2, USFS_S-Sensitive			
Habitat:	**General:**	CHAPARRAL.			
	Micro:	SHALE TO SANDY PLACES. 1155-2075 M.			

Occurrence No.	1	**Map Index:** 38283	**EO Index:** 33290	**Element Last Seen:**	1923-06-18
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1923-06-18
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	1998-03-03

Quad Summary: Fillmore (3411848), Devils Heart Peak (3411858), Santa Paula Peak (3411941), Topatopa Mountains (3411951)

County Summary: Ventura

Lat/Long:	34.53448 / -119.03526	**Accuracy:**	5 miles
UTM:	Zone-11 N3823302 E313219	**Elevation (ft):**	4600
PLSS:	T05N, R21W, Sec. 12 (S)	**Acres:**	0.0

Location: TOPATOPA MOUNTAINS.

Detailed Location: EXACT LOCATION NOT KNOWN. MAPPED BY CNDDB TO INCLUDE THE ENTIRE RANGE.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS 1923 COLLECTION BY MASON.

Owner/Manager: UNKNOWN

Delphinium parryi ssp. blochmaniae

Element Code: PDRAN0B1B1

dune larkspur

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G4T2
	State:	None		**State:**	S2
	Other:	Rare Plant Rank - 1B.2, BLM_S-Sensitive			
Habitat:	**General:**	CHAPARRAL, COASTAL DUNES (MARITIME).			
	Micro:	ON ROCKY AREAS AND DUNES. 0-200 M.			

Occurrence No.	1	**Map Index:** 28618	**EO Index:**	29816	**Element Last Seen:** 1987-XX-XX
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:** 1987-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 1996-12-17

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.12948 / -118.85459	**Accuracy:**	80 meters
UTM:	Zone-11 N3778065 E328981	**Elevation (ft):**	1000
PLSS:	T01N, R19W, Sec. 34 (S)	**Acres:**	0.0

Location: EAST SIDE OF HIGHWAY 23 JUST SOUTH OF LAKE ELEANOR, SOUTH OF THOUSAND OAKS. EAST SIDE OF ROAD.

Detailed Location:

Ecological: MAPPED WITHIN OAK WOODLAND. OTHER RARE PLANTS IN AREA.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP FROM LAKE ELEANOR OPEN SPACE AREA BY WESTEC SERVICES, INC. PROVIDED BY BURGESS.

Owner/Manager: UNKNOWN

Occurrence No.	2	**Map Index:** 15899	**EO Index:**	29817	**Element Last Seen:** 1989-04-19
Occ. Rank:	Good		**Presence:**	Presumed Extant	**Site Last Seen:** 1989-04-19
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 1996-12-17

Quad Summary: Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.15777 / -119.02816	**Accuracy:**	1/5 mile
UTM:	Zone-11 N3781507 E313036	**Elevation (ft):**	200
PLSS:	T01N, R21W, Sec. 24 (S)	**Acres:**	0.0

Location: LONG GRADE CANYON ALONG POTRERO ROAD, ABOUT 2 MILES EAST OF LEWIS ROAD AND SOUTHEAST OF CAMARILLO STATE HOSPITAL.

Detailed Location:

Ecological: VENTURAN COASTAL SAGE SCRUB WITH ARTEMISIA CALIFORNICA, OPUNTIA LITTORALIS, ERIOGONUM FASCICULATUM, ALLIUM PENINSULARE, AVENA FATUA, BROMUS, BLOOMERIA CROCEA, ET AL.

General: 8 PLANTS OBESERVED IN 1989. OTHER RARE PLANTS AT THIS SITE INCLUDE CALOCHORTUS CATALINAE, ERIOGONUM CROCATUM, DUDLEYA VERITYI, AND D. BLOCHMANIAE BLOCHMANIAE.

Owner/Manager: PVT

Delphinium umbraculorum

Element Code: PDRAN0B1W0

umbrella larkspur

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3
	Other:	Rare Plant Rank - 1B.3, BLM_S-Sensitive, USFS_S-Sensitive			
Habitat:	**General:**	CISMONTANE WOODLAND.			
	Micro:	MESIC SITES. 400-1600 M.			

Occurrence No.	28	**Map Index:** 59281	**EO Index:** 59317	**Element Last Seen:**	1999-XX-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1999-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2005-01-12

Quad Summary: Fillmore (3411848), Santa Paula Peak (3411941)

County Summary: Ventura

Lat/Long:	34.44702 / -119.01157	**Accuracy:**	1 mile
UTM:	Zone-11 N3813558 E315200	**Elevation (ft):**	
PLSS:	T04N, R20W, Sec. 07 (S)	**Acres:**	0.0

Location: NORTH SIDE OF SANTA PAULA PEAK.

Detailed Location:

Ecological:

General: BURGESS NOTE CITED IN CNPS SUMMARY. NEEDS FIELDWORK.

Owner/Manager: USFS-LOS PADRES NF

Horkelia cuneata var. puberula

Element Code: PDROS0W045

mesa horkelia

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G4T1
	State:	None		**State:**	S1
	Other:	Rare Plant Rank - 1B.1, USFS_S-Sensitive			
Habitat:	**General:**	CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.			
	Micro:	SANDY OR GRAVELLY SITES. 70-810 M.			

Occurrence No.	75	**Map Index:** 98744	**EO Index:** 100217	**Element Last Seen:**	2011-05-09
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	2011-05-09
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2016-01-08

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.28388 / -118.85416	**Accuracy:**	80 meters
UTM:	Zone-11 N3795189 E329333	**Elevation (ft):**	615
PLSS:	T02N, R19W, Sec. 3 (S)	**Acres:**	5.0

Location: ARROYO SIMI; EAST OF STATE ROUTE 23, SOUTH OF THE METROLINK RAILROAD TRACKS AND SOUTH OF THE CREEK, SIMI VALLEY.

Detailed Location: MAPPED ACCORDING TO 2011 WOOD COORDINATES.

Ecological: NORTH-FACING SLOPE. AMONG NATIVE GRASSES AND OTHER ANNUALS AND PERENNIALS.

General: ROUGHLY 15 PLANTS OBSERVED IN 2011. NOT OBSERVED AT ANY OTHER LOCATIONS IN GENERAL VICINITY.

Owner/Manager: UNKNOWN

Occurrence No.	76	**Map Index:**	98745	**EO Index:**	100218	**Element Last Seen:**	1995-07-27
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1995-07-27
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2016-01-20

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.30417 / -118.87033	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3797466 E327886	**Elevation (ft):**	850
PLSS:	T03N, R19W, Sec. 33 (S)	**Acres:**	162.0

Location: 0.5 MILE WEST OF HAPPY CAMP CANYON, 1.9 MILES NORTH OF ARROYO SIMI CHANNEL, HILLS NORTH OF MOORPARK.

Detailed Location: MAPPED AS BEST GUESS ACCORDING TO TRS ON COLLECTION LABEL IN THE NE 1/4 OF SECTION 33.

Ecological: WEST-FACING SLOPE OF SMALL CANYON. ON SANDY SLOPE OF COASTAL SAGE SCRUB WITH ERICAMERIA PINIFOLIA, RHAMNUS CALIFORNICA, AND ERIASTRUM DENSIFOLIUM SSP. ELONGATUM.

General: 450 INDIVIDUALS OBSERVED IN 1995.

Owner/Manager: UNKNOWN

Occurrence No.	77	**Map Index:**	98746	**EO Index:**	100219	**Element Last Seen:**	2002-03-29
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2002-03-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2016-01-08

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.32664 / -118.8189	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3799872 E332663	**Elevation (ft):**	1475
PLSS:	T03N, R19W, Sec. 24 (S)	**Acres:**	40.0

Location: 1 MILE SOUTH OF MIDDLE RANGE FIRE ROAD, 2 MILES WEST OF NO 2 CANYON FIRE ROAD, MOORPARK.

Detailed Location: MOSTLY ALONG A LONG-ABANDONED ROADWAY. MAPPED AS BEST GUESS ALONG THE ROAD WITHIN GIVEN TRS OF T3N R19W SEC 24 SE1/4.

Ecological: SANDY OPENINGS IN CHAPARRAL. ASSOCIATED WITH CAMISSONIA BISTORTA, C. CALIFORNICA, CHLOROGALUM, PECTOCARYA, ADENOSTOMA FASCICULATUM, CEANOTHUS MEGACARPUS, AND MALACOTHAMNUS FASCICULATUS.

General: OCCASIONAL AND PATCHY IN 2002. NEED MAP DETAIL FOR THIS SITE.

Owner/Manager: UNKNOWN

Nolina cismontana

Element Code: PMAGA080E0

chaparral nolina

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3
	Other:	Rare Plant Rank - 1B.2, SB_RSABG-Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive			
Habitat:	**General:**	CHAPARRAL, COASTAL SCRUB.			
	Micro:	PRIMARILY ON SANDSTONE AND SHALE SUBSTRATES; ALSO KNOWN FROM GABBRO. 140-1275 M.			

Occurrence No.	20	**Map Index:**	93247	**EO Index:**	54600	**Element Last Seen:**	2012-03-30
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2012-03-30
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-08-11

Quad Summary: Calabasas (3411826), Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.18795 / -118.75014	**Accuracy:**	specific area
UTM:	Zone-11 N3784380 E338725	**Elevation (ft):**	1300
PLSS:	T01N, R18W, Sec. 10 (S)	**Acres:**	6.0

Location: PALO COMADO CANYON AND RIDGELINE WEST OF CANYON, APPROXIMATELY 0.9 AIR MILE NORTHEAST OF OAK PARK HIGH SCHOOL.

Detailed Location: 5 POLYGONS MAPPED BY CNDDB. 3 WESTERN POLYGONS MAPPED ACCORDING TO COORDINATES FROM 2010, 2011, AND 2012. 2 EASTERN POLYGONS MAPPED ACCORDING TO 1987 MAP FOR ASTRAGALUS BRAUNTONII; NOLINA LISTED AS AN ASSOCIATED SPECIES.

Ecological: ADENOSTOMA FASCICULATUM CHAPARRAL WITH SALVIA MELLIFERA, HESPEROYUCCA WHIPPLEI, CERCOCARPUS BETULOIDES, ERIOGONUM FASCICULATUM. PLANTS PARTLY ON FIREBREAK. AREA BURNED IN TOPANGA FIRE (FALL 2005). CALCAREOUS SANDSTONE WITH SHALLOW TOPSOIL.

General: SEEN IN VICINITY IN 1987. 80 PLANTS OBSERVED IN 2010. 108 PLANTS OBSERVED IN 2011. 122 PLANTS OBSERVED IN 2012.

Owner/Manager: NPS, RANCHO SIMI RPD

Occurrence No.	21	**Map Index:**	54601	**EO Index:**	54601	**Element Last Seen:**	2012-03-13
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2012-03-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-08-11

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.20135 / -118.80022	**Accuracy:**	specific area
UTM:	Zone-11 N3785947 E334136	**Elevation (ft):**	1600
PLSS:	T01N, R18W, Sec. 06 (S)	**Acres:**	10.0

Location: SIMI HILLS, NORTH RANCH OPEN SPACE, WEST OF WESTERN TERMINUS OF FALLING STAR AVE AND NORTH OF KANAN ROAD.

Detailed Location: 2 POLYGONS MAPPED IN THE EAST 1/2 OF THE NE 1/4 OF SECTION 6 ACCORDING TO A 1992 MAP BY BURGESS AND 2012 AGUILAR COORDINATES.

Ecological: ARID SOUTH AND NORTH-FACING SLOPES IN DENSE SAGE SCRUB. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, SALVIA MELLIFERA, MALOSMA LAURINA, ENCELIA CALIFORNICA, CRYPTANTHA SP., BROMUS RUBENS, MARRUBIUM VULGARE, AND HAPLOPAPPUS SQUARROSUS.

General: 74-100 PLANTS OBSERVED IN SE POLYGON IN 1992. UNKNOWN NUMBER OF PLANTS SEEN IN NW POLYGON IN 2012.

Owner/Manager: CONEJO OPEN SPACE CONS AGENCY

Occurrence No.	22	**Map Index:**	54602	**EO Index:**	54602	**Element Last Seen:**	2012-03-14
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2012-03-14
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-08-11

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.18690 / -118.76613	**Accuracy:**	specific area
UTM:	Zone-11 N3784289 E337249	**Elevation (ft):**	1200
PLSS:	T01N, R18W, Sec. 09 (S)	**Acres:**	31.0

Location: OAK CANYON COMMUNITY PARK AND RIDGE TO THE NORTHEAST, IN THE COMMUNITY OF OAK PARK, SIMI HILLS.

Detailed Location: 3 POLYGONS. SOUTHWESTERN POLYGON MAPPED ACCORDING TO 1993 BURGESS MAPS FOR ASTRAGALUS BRAUNTONII; NOLINA IS LISTED AS AN ASSOCIATED SPECIES. 2 NORTHEASTERN POLYGONS ARE BASED ON 2010 AND 2012 COORDINATES.

Ecological: ON HILLSIDE SLOPES IN SAGE SCRUB, IN DISTURBED AREA OF CALCAREOUS SOIL. ASSOCIATED WITH SALVIA MELLIFERA, ENCELIA CALIFORNICA, RHUS OVATA, MARRUBIUM VULGARE, MELLILOTUS INDICUS, BRASSICA NIGRA, AND BROMUS RUBENS.

General: SEEN IN SW POLYGON IN 1993. 2 NE POLYGONS: 5 PLANTS IN 2010, 32 PLANTS IN 2011, 75 PLANTS IN 2012. TWO 1985 DICE COLLECTIONS FROM "MEDEA CREEK, 5.6 KM NNW OF MALIBU JUNCTION AND 2 KM SSE OF SIMI PEAK" ARE ATTRIBUTED TO THIS SITE.

Owner/Manager: RANCHO SIMI RPD

Occurrence No.	50	**Map Index:**	93323	**EO Index:**	94461	**Element Last Seen:**	2012-03-13
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2012-03-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2014-08-13

Quad Summary: Thousand Oaks (3411827)

County Summary: Ventura

Lat/Long:	34.20757 / -118.81006	**Accuracy:**	specific area
UTM:	Zone-11 N3786652 E333241	**Elevation (ft):**	1600
PLSS:	T02N, R18W, Sec. 31 (S)	**Acres:**	13.0

Location: GROWING ALONG OAKBROOK VISTA TRAIL, SOUTHEAST OF LANG RANCH, FROM 1.3 TO 2.2 AIR MILES WNW OF SIMI PEAK.

Detailed Location: 3 POLYGONS MAPPED BY CNDDB. MIDDLE POLYGON MAPPED ACCORDING TO 2006 BURGESS COORDINATES FOR ASTRAGALUS BRAUNTONII, NOLINA LISTED AS AN ASSOCIATE. EASTERN AND WESTERN POLYGONS MAPPED ACCORDING TO 2012 AGUILAR COORDINATES.

Ecological: CHAMISE CHAPARRAL. PLANTS ARE ALONG TRAIL AND OFTEN UNDER CHAPARRAL. ASSOCIATED WITH ADENOSTOMA FASCICULATUM, CEANOTHUS MEGACARPUS, ARCTOSTAPHYLOS GLANDULOSA, HESPEROYUCCA WHIPPLEI, CERCOCARPUS BETULOIDES, ERIOGONUM FASCICULATUM, ETC.

General: UNKNOWN NUMBER OF PLANTS OBSERVED IN 2004 AND 2006. IN 2012, 100 PLANTS OBSERVED IN WESTERN POLYGON AND 106 PLANTS OBSERVED IN EASTERN POLYGON.

Owner/Manager: CONEJO OPEN SPACE CONS AGENCY

Calochortus plummerae

Element Code: PMLIL0D150

Plummer's mariposa-lily

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G4
	State:	None		**State:**	S4
	Other:	Rare Plant Rank - 4.2, SB_RSABG-Rancho Santa Ana Botanic Garden			
Habitat:	**General:**	COASTAL SCRUB, CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.			
	Micro:	OCCURS ON ROCKY AND SANDY SITES, USUALLY OF GRANITIC OR ALLUVIAL MATERIAL. CAN BE VERY COMMON AFTER FIRE. 100-1700 M.			

Occurrence No.	46	**Map Index:**	27690	**EO Index:**	855	**Element Last Seen:**	1992-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2011-12-02

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.13503 / -118.85062	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3778674 E329358	**Elevation (ft):**	1000
PLSS:	T01N, R19W, Sec. 27 (S)	**Acres:**	79.9

Location:	DECKER CANYON ROAD BETWEEN POTRERO ROAD AND CARLISLE ROAD, SANTA MONICA MOUNTAINS.
Detailed Location:	SITE REPORTED AS "WEST LAKE BLVD-DECKER CANYON ROAD," "DECKER CANYON ROAD/LOS ALISOS CANYON [EXTENDING INTO VENTURA COUNTY]," AND "RIDGE EAST OF WESTLAKE BETWEEN POTRERO & CARLISLE RD."
Ecological:	PORTION OF OCCURRENCE IS IN SMALL GRASSY OPENINGS IN CHAPARRAL AT BASE OF EAST-FACING SLOPES. ASSOCIATED WITH PENTACHAETA LYONII AND NASSELLA PULCHRA. SOILS ARE CLAY DERIVED FROM VOLCANICS WITH OCCASIONAL BOULDERS.
General:	ABOUT 200 PLANTS OBSERVED IN 1979 BY G. BURLEIGH, 200 PLANTS REPORTED BY MCDONALD AND STOKKINK IN 1992. NORTHERN PORTION OF COLONY (VEN COUNTY) REPORTED AS ASSOCIATE OF PENTACHAETA LYONII BY THOMAS IN 1983. INCLUDES FORMER EO #47, 54, 105.
Owner/Manager:	UNKNOWN

Occurrence No.	48	**Map Index:**	27692	**EO Index:**	918	**Element Last Seen:**	1992-06-20
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-06-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1995-11-30

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.22624 / -118.82649	**Accuracy:**	specific area
UTM:	Zone-11 N3788749 E331765	**Elevation (ft):**	1500
PLSS:	T02N, R19W, Sec. 25 (S)	**Acres:**	4.1

Location:	HILL SOUTH OF WOOD RANCH RESERVOIR (AKA LAKE BARD), SIMI HILLS.
Detailed Location:	MAPPED AT THE SOUTHEAST END OF THE 1592' HILLTOP. SITE IS ABOUT 1 MILE EAST OF THE JUNCTION OF HIGHWAY 23 AND SUNSET HILLS BLVD.
Ecological:	CHAPARRAL; IN ROCKY SANDSTONE SUBSTRATE WITH CEANOTHUS MEGACARPUS AND ADENOSTOMA FASCICULATUM.
General:	MORE THAN 50 PLANTS OBSERVED IN 1992.
Owner/Manager:	PVT

Occurrence No.	49	**Map Index:**	27693	**EO Index:**	8239	**Element Last Seen:**	2009-07-13
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-07-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-12-10

Quad Summary: Point Dume (3411817), Triunfo Pass (3411818), Thousand Oaks (3411827), Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.12920 / -118.88167	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3778080 E326483	**Elevation (ft):**	1200
PLSS:	T01N, R19W, Sec. 33 (S)	**Acres:**	847.0

Location: SOUTH AND WEST OF LAKE SHERWOOD, SOUTH OF THOUSAND OAKS, SANTA MONICA MOUNTAINS.

Detailed Location: MAPPED BY CNDDB AS TWO POLYGONS. NORTHERN POLYGON (NON-SPECIFIC) COVERS 846 ACRES AND IS BASED ON MAPS OF LAKE SHERWOOD AREA PLANNING UNIT 2 AND LAKE SHERWOOD TENTATIVE TRACT 4192. SOUTHERN TINY POLYGON MAPPED BASED ON 2009 GPS DATA.

Ecological: ASSOCIATED WITH ADENOSTOMA FASCICULATUM AND CEANOTHUS MEGACARPUS.

General: UNKNOWN NUMBER OF PLANTS OBSERVED IN NORTHERN POLYGON IN 1990 AND 1998. PLANTS WERE RELATIVELY ABUNDANT IN UPLAND AND ROCKY AREAS IN 1998. MORE SPECIFIC LOCATIONS NEEDED FOR PLANTS IN N POLYGON. 1 PLANT OBSERVED IN SOUTHERN POLYGON IN 2009.

Owner/Manager: PVT

Occurrence No.	55	**Map Index:**	27684	**EO Index:**	735	**Element Last Seen:**	1994-05-01
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1994-05-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-10-14

Quad Summary: Camarillo (3411921)

County Summary: Ventura

Lat/Long:	34.15742 / -119.02415	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3781461 E313405	**Elevation (ft):**	400
PLSS:	T01N, R20W (S)	**Acres:**	53.8

Location: LONG GRADE CANYON, ABOUT 1 MILE EAST OF CAMARILLO STATE HOSPITAL, SANTA MONICA MOUNTAINS.

Detailed Location: LOWER END OF CANYON ON NORTH-FACING SLOPES. MAPPED ALONG THE SOUTH SIDE OF POTRERO ROAD.

Ecological: IN COASTAL SAGE SCRUB ON DRY, ROCKY SLOPES. ASSOCIATED WITH SALVIA LEUCOCEPHYLLA, S. MELLIFERA, ERIOGONUM FASCICULATUM FOLIOSUM, MALACOTHAMNUS FASCICULATUS, ETC.

General: MAPPED BASED ON 1968 COLLECTION BY THORNE. 1994 RIEFNER COLLECTION FROM "LONG GRADE CANYON, CA. 1.5 MILES S OF LEWIS ROAD ON POTRERO ROAD" ALSO ATTRIBUTED HERE.

Owner/Manager: UNKNOWN

Occurrence No.	73	**Map Index:**	47964	**EO Index:**	47964	**Element Last Seen:**	1998-06-25
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1998-06-25
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2002-05-21

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.29502 / -118.79664	**Accuracy:**	nonspecific area
UTM:	Zone-11 N3796329 E334650	**Elevation (ft):**	
PLSS:	T03N, R18W, Sec. 32 (S)	**Acres:**	205.2

Location: SIMI VALLEY LANDFILL, NORTH OF SIMI VALLEY, RIDGE BETWEEN BREA AND ALAMOS CANYONS.

Detailed Location: MAPPED WITHIN THE NW 1/4 OF THE NW 1/4 OF SECTION 5, THE NORTH HALF OF THE NE 1/4 OF SECTION 6, THE SOUTH HALF OF THE SE 1/4 OF SECTION 31 AND THE SW 1/4 OF SECTION 32.

Ecological: AREA MOSTLY DISTURBED, DOMINATED BY CENTAUREA MELITENSIS, BUT PLANTS ALSO SEEM TO GROW FROM UNDER CANOPY OF SCATTERED CHAMISE AND PURPLE SAGE SHRUBS.

General: 8 PLANTS OBSERVED IN 1998.

Owner/Manager: PVT-SIMI VALLEY LANDFILL

Occurrence No.	78	**Map Index:**	47988	**EO Index:**	47988	**Element Last Seen:**	XXXX-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	XXXX-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2002-05-22

Quad Summary: Newbury Park (3411828)

County Summary: Ventura

Lat/Long:	34.18414 / -118.93024	**Accuracy:**	1 mile
UTM:	Zone-11 N3784257 E322119	**Elevation (ft):**	640
PLSS:	T01N, R20W, Sec. 12 (S)	**Acres:**	0.0

Location: CONEJO VALLEY.

Detailed Location: EXACT LOCATION UNKNOWN, MAPPED IN GENERAL VICINITY OF CONEJO VALLEY BY CNDDB.

Ecological:

General: SEVERAL POPULATIONS OF CALOCHORTUS PLUMMERAE IN CONEJO VALLEY ACCORDING TO BURGESS (1999).

Owner/Manager: UNKNOWN

Occurrence No.	107	**Map Index:**	61022	**EO Index:**	61058	**Element Last Seen:**	2004-05-24
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-05-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2005-04-19

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.28883 / -118.82307	**Accuracy:**	80 meters
UTM:	Zone-11 N3795685 E332204	**Elevation (ft):**	780
PLSS:	T02N, R19W, Sec. 01 (S)	**Acres:**	0.0

Location: 1 AIR MILE SE OF MOORPARK COLLEGE. JUST NORTH OF HIGHWAY 118 NEAR THE WESTERN EDGE OF OAK PARK.

Detailed Location: IN THE SE 1/4 OF THE NW 1/4 OF SECTION 1. NEAR TRAIL.

Ecological: LOW QUALITY COASTAL SAGE SCRUB, RECENTLY BURNED. ASSOCIATES INCLUDE MUSTARDS, BROMES, AND ENCELIA CALIFORNICA. EXPOSED RIDGELINE TRAIL WITH WHITE, CHALKY SOIL.

General: 1 PLANT OBSERVED IN 2004.

Owner/Manager: VEN COUNTY-PARKS & REC

Occurrence No.	187	**Map Index:**	77476	**EO Index:**	78415	**Element Last Seen:**	2007-06-29
Occ. Rank:	Poor			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-06-29
Occ. Type:	Transplant Outside of Native Hab./Range			**Trend:**	Decreasing	**Record Last Updated:**	2009-12-14

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.25449 / -118.82642	**Accuracy:**	specific area
UTM:	Zone-11 N3791883 E331827	**Elevation (ft):**	1100
PLSS:	T02N, R19W, Sec. 13 (S)	**Acres:**	2.0

Location:	0.1 MILE WEST OF THE WEST END OF PRESIDENTIAL DR, NORTH OF E OLSEN RD, NEAR THE BORDER BETWEEN SIMI VALLEY AND MOORPARK.
Detailed Location:	MAPPED AS 3 POLYGONS.
Ecological:	ROCKY OUTCROPS IN CHAPARRAL. NORTH TO NE-FACING SLOPES.
General:	THE TWO SOUTHERN POLYGONS WERE LOCATIONS WHERE THREE BULBS WERE DUG UP IN 2007. ALL THREE BULBS WERE THEN TRANSPLANTED TO THE NORTHERN POLYGON TO AVOID DEVELOPMENT OCCURRING AT THE SOUTHERN POLYGONS.
Owner/Manager:	PVT

Calochortus fimbriatus

Element Code: PMLIL0D1J2

late-flowered mariposa-lily

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S3
	Other:	Rare Plant Rank - 1B.2, BLM_S-Sensitive, USFS_S-Sensitive			
Habitat:	**General:**	CHAPARRAL, CISMONTANE WOODLAND, RIPARIAN WOODLAND.			
	Micro:	DRY, OPEN COASTAL WOODLAND, CHAPARRAL; ON SERPENTINE. 275-1905 M.			

Occurrence No.	41	**Map Index:** 83391	**EO Index:** 84403	**Element Last Seen:**	2004-07-01
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	2004-07-01
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2011-07-14

Quad Summary: Fillmore (3411848)

County Summary: Ventura

Lat/Long:	34.47499 / -118.91688	**Accuracy:**	1/10 mile
UTM:	Zone-11 N3816491 E323958	**Elevation (ft):**	2750
PLSS:	T05N, R19W, Sec. 31 (S)	**Acres:**	0.0

Location: SQUAW FLAT ROAD OFF GOODENOUGH ROAD BEFORE DOUGH FLAT.

Detailed Location: MAPPED BY CNDDB AS BEST GUESS ACCORDING TO COORDINATES FROM COLLECTION LABEL. COORDINATES PLACE SITE AROUND 2200 FT IN ELEVATION BUT COLLECTION LABEL HAS ELEVATION AS 2750 FT.

Ecological: BARE SOIL, ASH. REDDISH BROWN SANDY-GRAVELLY LOAM. VARIABLE SLOPE.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 2004 DOBROWOLSKI COLLECTION.

Owner/Manager: USFS-LOS PADRES NF

Occurrence No.	54	**Map Index:** 83403	**EO Index:** 84416	**Element Last Seen:**	1998-XX-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1998-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2011-07-18

Quad Summary: Fillmore (3411848), Santa Paula Peak (3411941)

County Summary: Ventura

Lat/Long:	34.44029 / -119.00952	**Accuracy:**	1 mile
UTM:	Zone-11 N3812808 E315374	**Elevation (ft):**	
PLSS:	T04N, R20W, Sec. 07 (S)	**Acres:**	0.0

Location: SANTA PAULA PEAK AND SANTA PAULA CANYON TRAIL.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS AROUND SANTA PAULA PEAK BUT PLANTS LIKELY ALSO OCCUR FURTHER TO THE WEST IN VICINITY OF SANTA PAULA CANYON TRAIL.

Ecological:

General: SITE BASED ON TWO OBSERVATIONS (PRESUMABLY FROM AUSTIN IN 1998) FROM "SANTA PAULA PEAK, VENTURA CO / USFS" AND "SANTA PAULA CANYON TRAIL, VENTURA CO / USFS" CITED IN A "SOCAL BIODIVERSITY STATUS REPORT" FROM THE USFS. NEEDS FIELDWORK.

Owner/Manager: USFS-LOS PADRES NF

Fritillaria ojaiensis

Element Code: PMLIL0V0N0

Ojai fritillary

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2?
	State:	None		**State:**	S2?
	Other:	Rare Plant Rank - 1B.2, BLM_S-Sensitive, USFS_S-Sensitive			
Habitat:	**General:**	BROADLEAVED UPLAND FOREST (MESIC), CHAPARRAL, LOWER MONTANE CONIFEROUS FOREST, CISMONTANE WOODLAND.			

Micro: USUALLY LOAMY SOIL. SOMETIMES ON SERPENTINE; SOMETIMES ALONG ROADSIDES. 225-1000 M.

Occurrence No.	5	**Map Index:**	15814	**EO Index:**	12394	**Element Last Seen:**	1988-04-09
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1988-04-09
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-07-08

Quad Summary: Santa Paula Peak (3411941)

County Summary: Ventura

Lat/Long:	34.44867 / -119.05611	**Accuracy:**	specific area
UTM:	Zone-11 N3813824 E311111	**Elevation (ft):**	1760
PLSS:	T04N, R21W, Sec. 11 (S)	**Acres:**	19.0

Location: BIG CONE CAMP (PINE FLAT), SANTA PAULA CANYON, NORTH OF SANTA PAULA RIDGE AND ABOUT 5 MILES NORTH OF SANTA PAULA.

Detailed Location: 3 POLYGONS MAPPED ALONG TRAIL IN THE SW 1/4 OF THE SW 1/4 OF SECTION 2 AND THE NW 1/4 OF SECTION 11. TYPE COLLECTION BY MARTINDALE IN 1922 FROM "PINE FLATS. ST. PAULA RIVER" ATTRIBUTED HERE.

Ecological: BIGCONE SPRUCE/CANYON LIVE OAK FOREST, BAY FOREST, COAST LIVE OAK FOREST, AND MESIC CHAPARRAL. IN SHADE ON N-FACING SLOPES. SANDY LOAM AND SHALEY LOAM SOILS. ASSOCIATES INCLUDE CLAYTONIA PERFOLIATA, ADIANTUM JORDANII, VIOLA, ETC.

General: TYPE LOCALITY. 1985 FIRE MAY HAVE STIMULATED OCCURRENCE. S POLYGON: 30 PLANTS IN 1987, 0 IN 1988. MIDDLE POLYGON: 57 PLANTS IN 1987, FEWER IN 1988. N POLYGON: 20 PLANTS IN 1988. GOOD TO EXCELLENT SITE QUALITY.

Owner/Manager: USFS-LOS PADRES NF

Occurrence No.	13	**Map Index:**	54900	**EO Index:**	54900	**Element Last Seen:**	2004-04-09
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-04-09
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2015-04-13

Quad Summary: Santa Paula Peak (3411941), Ojai (3411942)

County Summary: Ventura

Lat/Long:	34.47992 / -119.12523	**Accuracy:**	specific area
UTM:	Zone-11 N3817420 E304833	**Elevation (ft):**	3300
PLSS:	T05N, R21W, Sec. 31 (S)	**Acres:**	2.6

Location: SISAR CANYON, ABOUT 0.85 MILE NNW OF HOWELL PLACE, NORTHWEST OF SANTA PAULA PEAK.

Detailed Location: ON THE WHITE LEDGE TRAIL, ALONG NORDHOFF RIDGE. MAPPED WITHIN THE NW 1/4 OF THE NW 1/4 OF SECTION 31.

Ecological: ASSOC: PSEUDOTSUGA MACROCARPA, KECKIELLA CORDIFOLIA, RHAMNUS ILICIFOLIA, PELLAEA MUCRONATA, DELPHINIUM, CLARKIA, PENTAGRAMMA TRIANGULARIS, POTENTILLA GLANDULOSA, DUDLEYA LANCEOLATA, UMBELLULARIA CALIFORNICA, ARCTOSTAPHYLOS GLANDULOSA, ETC.

General: ABOUT 470 PLANTS SEEN IN 2000. POSSIBLY THE LARGEST KNOWN POPULATION OF THIS TAXON. A 1991 BURGESS COLLECTION AND A 2004 MAGNEY PHOTO ARE ALSO ATTRIBUTED TO THIS OCCURRENCE.

Owner/Manager: USFS-LOS PADRES NF

Occurrence No.	16	**Map Index:** 54904	**EO Index:**	54904	**Element Last Seen:**	2003-XX-XX
Occ. Rank:	Good		**Presence:**	Presumed Extant	**Site Last Seen:**	2003-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2015-04-13

Quad Summary: Santa Paula Peak (3411941)

County Summary: Ventura

Lat/Long:	34.46851 / -119.11993	**Accuracy:**	specific area
UTM:	Zone-11 N3816145 E305293	**Elevation (ft):**	3000
PLSS:	T05N, R21W, Sec. 31 (S)	**Acres:**	4.2

Location: HOWELL PLACE, DRON PROPERTY, WEST SIDE OF RIDGE BETWEEN SISAR CANYON & BEAR CANYON, 3 AIR MILES NW OF SULPHUR SPRINGS.

Detailed Location: TWO COLONIES, MAPPED WITHIN THE SW 1/4 OF THE SE 1/4 OF SECTION 31 AND THE NW 1/4 OF THE NE 1/4 OF SECTION 6.

Ecological: ON STEEP, SHADED NORTH-FACING SLOPE. WITH UMBELLULARIA CALIFORNICA, PSEUDOTSUGA MACROCARPA, AND TOXICODENDRON DIVERSILOBUM.

General: 17 PLANTS SEEN IN 2000 AT NORTH COLONY. SOUTH COLONY: 69 PLANTS IN 2002, ABOUT 25 IN 2003.

Owner/Manager: PVT, USFS-LOS PADRES NF

Orcuttia californica

Element Code: PMPOA4G010

California Orcutt grass

Listing Status:	**Federal:**	Endangered	**CNDDB Element Ranks:**	**Global:**	G1
	State:	Endangered		**State:**	S1
	Other:	Rare Plant Rank - 1B.1, SB_RSABG-Rancho Santa Ana Botanic Garden			
Habitat:	**General:**	VERNAL POOLS.			
	Micro:	15-660 M.			

Occurrence No.	28	**Map Index:** 25604	**EO Index:**	8445	**Element Last Seen:**	2011-06-21
Occ. Rank:	Poor		**Presence:**	Presumed Extant	**Site Last Seen:**	2011-06-21
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:**	2016-02-03

Quad Summary: Simi (3411837)

County Summary: Ventura

Lat/Long:	34.26602 / -118.85550	**Accuracy:**	specific area
UTM:	Zone-11 N3793210 E329173	**Elevation (ft):**	655
PLSS:	T02N, R19W, Sec. 10 (S)	**Acres:**	6.0

Location: IMMEDIATELY NW OF THE HWY 23 FREEWAY AND TIERRA REJADA RD, CLOVERLEAF.

Detailed Location: MAPPED BY CNDDB AS 2 POLYGONS ACCORDING TO A MAP IN A 2008 REPORT. THIS IS REPORTEDLY PART OF THE TIERRA REJADA VERNAL POOL PRESERVE (OWNED BY THE SERENATA HOMEOWNERS ASSOCIATION AND MANAGED BY THE MRCA).

Ecological: DEEP 3 ACRE VERNAL POOL REPORTED TO FILL ONLY IN ABOVE AVERAGE RAINFALL YEARS. IN RUDERAL GRASSLAND LIKELY CONVERTED FROM COASTAL SAGE SCRUB. HEAVY CLAY SOIL. WITH VERBENA BRACTEATA, MALVA PARVIFLORA, CRYPSIS NILIACA, JUNCUS BUFONIUS, ETC.

General: 10,000+ PLANTS ESTIMATED IN 1992. NO PLANTS IN 2000; SITE VERY DRY & UPLAND SPECIES INVADING. NO PLANTS IN 2003 & 2004. UNK # SEEN IN 2005. NO PLANTS IN 2006 & 2007 (LIKELY DUE TO LACK OF RAINFALL). OCCASIONAL ON OUTER MARGINS IN 2011.

Owner/Manager: PVT

Occurrence No.	33	**Map Index:**	47238	**EO Index:**	47238	**Element Last Seen:**	XXXX-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	XXXX-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2002-02-14

Quad Summary:	Thousand Oaks (3411827)
County Summary:	Ventura

Lat/Long:	34.16683 / -118.83179	**Accuracy:**	1 mile
UTM:	Zone-11 N3782169 E331159	**Elevation (ft):**	
PLSS:	T01N, R19W, Sec. 13 (S)	**Acres:**	0.0

Location:	THOUSAND OAKS.
Detailed Location:	EXACT LOCATION UNKNOWN, MAPPED IN GENERAL VICINITY OF THOUSAND OAKS.
Ecological:	
General:	RECENT REPORT OF ORCUTTIA CALIFORNICA AT THOUSAND OAKS ACCORDING TO REISER (2001). UNKNOWN WHEN SEEN. NEEDS FIELDWORK.
Owner/Manager:	UNKNOWN

Occurrence No.	35	**Map Index:**	55259	**EO Index:**	55259	**Element Last Seen:**	2003-07-29
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2003-07-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2004-04-23

Quad Summary:	Simi (3411837)
County Summary:	Ventura

Lat/Long:	34.25539 / -118.83831	**Accuracy:**	specific area
UTM:	Zone-11 N3792003 E330734	**Elevation (ft):**	680
PLSS:	T02N, R19W, Sec. 14 (S)	**Acres:**	1.8

Location:	EAST OF TIERRA REJADA VALLEY, APPROXIMATELY 0.5 AIR MILE EAST OF LANDING FIELD.
Detailed Location:	ONE SMALL COLONY LOCATED IN THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 14.
Ecological:	SOUTHERLY LOBE OF VERNAL POOL/MARSH SYSTEM FED BY INTERMITTENT STREAM. DOMINANT PLANTS INCLUDE ECHINODORUS BERTEROI, CRYPSIS VAGINIFLORA, GNAPHALIUM PALUSTRE. ASSOC: ELEOCHARIS MACROSTACHYA, XANTHIUM STRUMARIUM & MALVELLA LEPROSA.
General:	24+ INDIVIDUALS OBSERVED IN 2003.
Owner/Manager:	PVT

C

2021 Coastal California Gnatcatcher Surveys

Rincon Consultants, Inc.

180 N. Ashwood Ave.
Ventura, California 93001

805 644 4455 OFFICE

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www.rinconconsultants.com

July 16, 2021
Project No: 21-11432

Harriet Rapista
Senior Project Manager
Comstock Homes
2301 Rosecrans Avenue, Suite 1150
El Segundo, California 90245
Via email: hrapista@comstock-homes.com

Subject: **Coastal California Gnatcatcher Protocol Breeding Season Survey Report for the Hitch Ranch Specific Plan Project Site, City of Moorpark, Ventura County, California**

Dear Ms. Rapista:

Rincon Consultants, Inc. (Rincon) has prepared this Coastal California Gnatcatcher (*Polioptila californica californica*; CAGN) protocol breeding season survey report to document the methods and results of protocol CAGN surveys conducted for the Hitch Ranch Specific Plan Project (Project) located within the City of Moorpark, Ventura County, California. The required notification to conduct focused surveys was submitted by email to the permit coordinator at the Ventura U.S. Fish and Wildlife Service (USFWS) Office dated May 11, 2021 (Attachment 1).

Project Location and Survey Area

The proposed Project is in southeastern Ventura County between the Simi Hills and Little Simi Valley (Attachment 2, Figure 1). Specifically, the 277.30-acre project site is located within the *Moorpark, California* USGS 7.5-minute topographic quadrangle, Township 3 North, Range 19 West, San Bernardino Baseline and Meridian USGS 2021. The CAGN Survey Area consists of approximately 40 acres of suitable CAGN habitat of the total 277.30 acres (Attachment 2, Figure 2). The Survey Area is located at elevations ranging between 475-695 feet above mean sea level.

Project Description

The proposed Project is designed as a mixed-density community in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. The Project provides for the arrangement of various land uses on the 277.30-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

Vegetation Communities within the Survey Area

The project site consists of 11 vegetation communities or land covers and include annual brome grassland, annual brome grassland (disturbed/grazed), blue elderberry stands, blue elderberry stands (disturbed/grazed), California sagebrush-deerweed scrub, California sagebrush-deerweed scrub (disturbed/grazed), cactus scrub (disturbed/grazed), chaparral yucca scrub (disturbed/grazed), developed, disturbed/disced, and non-native woodland (disturbed/grazed) (Attachment 2, Figure 3). Of these, only California sagebrush-deerweed scrub and California sagebrush-deerweed scrub (disturbed/grazed) are considered suitable habitat for CAGN and together comprise the 40-acre Survey Area. Representative photographs are presented in Attachment 3.

California Sagebrush-Deerweed Scrub (*Artemisia californica-Lotus scoparius* Shrubland Alliance)

Remnant patches of the California sagebrush-deerweed community, which together total 39.13 acres, occur in the western portion of the project site. There is 26.21 acres of this community to the west of Gabbert Road that is relatively undisturbed; whereas 12.92 acres of this community located to the east of Gabbert Road is substantially disturbed by ongoing cattle grazing and other disturbances that have occurred (e.g., fires and agriculture). The vegetation within this community on the east-side of Gabbert Road is sparce and generally stunted from ongoing long-term cattle grazing and drought conditions. These disturbances have limited regeneration and natural recruitment from occurring. The overstory of the California sagebrush-deerweed community is dominated by California sagebrush (*Artemisia californica*) and deerweed (*Acmispon glaber*), which forms a nearly uniform stand within the plant community. Occasional individuals of coyote brush (*Baccharis pilularis*), sawtooth goldenbush (*Hazardia squarrosa*), coast prickly-pear (*Opuntia littoralis*), and giant wildrye (*Elymus condensatus*) occur within this community, along with a few blue elderberry (*Sambucus nigra* ssp*. caerulea*), chaparral yucca (*Hesperoyucca whipplei*), and non-native Peruvian pepper (*Schinus molle*). The understory is composed of non-native grasses.

This community contains poor quality suitable habitat for CAGN, with low species diversity and low abundance of California sagebrush. The majority of the Survey Area was burned by the Rye Fire in 2017 and is currently recovering from the fire, with deer weed occurring as an early successional species.

Survey Methodology

The CAGN surveys described by this report were conducted in accordance with the *Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Guidelines, February 1997* (USFWS); hereafter referred to as the "protocol."

Focused breeding season surveys were conducted by federal 10(a)(1)(A) permitted Rincon biologist Kelly Rios (TE-018909-5) during the 2021 breeding season. A total of six surveys, at least 7 days apart, were conducted between May 26 and June 30, 2021. Surveys were conducted between 0815 and 1200, when weather conditions were favorable (no excessive heat, fog, wind, rain, cold). Survey dates, times, and weather conditions are listed in Table 1.

Surveys consisted of slowly walking linear transects throughout the Survey Area, stopping at approximate 50-foot intervals to play an audio recording of CAGN vocalizations. Binoculars were used to

aid in observing habitat for CAGN and other avian species. The recording was played for several seconds at each interval followed by a brief pause to listen for a response. If any CAGNs were observed, the age, sex, breeding status, and behavioral characteristics were documented, when possible.

Table 1 Coastal California Gnatcatcher Survey Conditions and Results

Date	Biologist	Beginning Conditions	Ending Conditions	CAGN Observed
May 26, 2021	Kelly Rios	0815; 70°F, winds 1-2 mph, 0% clouds	1200; 73°F, winds 3- 5 mph, 0% clouds	Yes
June 2, 2021	Kelly Rios	0830; 62F, winds 1-2 mph, 0% clouds	1200; 75°F, winds 1-2 mph, 00% clouds	Yes
June 9, 2021	Kelly Rios	0800; 60°F, winds 1-2 mph, 40% clouds	1200; 72°F, winds 2-3 mph, 20% clouds	Yes
June 16, 2021	Kelly Rios	0900; 83°F, winds 1-2 mph, 40% clouds	1200; 87°F, winds 2-3 mph, 10% clouds	Yes
June 23, 2021	Kelly Rios	0940; 69°F, winds 2-3 mph, 10% clouds	1200; 87°F, winds 2-7 mph, 0% clouds	Yes
June 30, 2021	Kelly Rios	1000; 74°F, winds 1-2 mph, 0% clouds	1200; 78°F, winds 2-3 mph, 0% clouds	No

Survey Results

The project site consists of rolling hills and is dominated by annual brome grassland vegetation community. Although the California sagebrush-deerweed scrub onsite provides suitable habitat for CAGN, the majority is considered to be poor quality vegetation community. Due to the many years of active cattle grazing onsite, the species density and diversity is very low. Native plants sparsely occur within the community. The tops of many of the plants have been grazed on by cattle. The southwestern portion of the project site, west of Gabbert Road, contains moderate quality California sagebrush-deerweed scrub. No cattle grazing occurs in this portion of the site and the native plants occur in higher density and species diversity.

Despite the poor-quality habitat onsite, coastal California gnatcatchers were observed during 5 of the 6 surveys (Table 1). During the first survey, one pair of CAGN was observed in the northwest portion of the project site within California sagebrush-deerweed scrub. This was the only time this pair was observed during the six surveys. An additional pair was also observed along the northern boundary during the first survey. This pair was most likely nesting in the habitat to the north of the project site. They were also observed during the 2nd-4th surveys and remained in the suitable habitat to the north of the project site. Coastal California gnatcatcher observations are presented in Attachment 2, Figure 3.

A single female or possible juvenile CAGN was observed in the central portion of the project site during the 3rd survey. The CAGN initially responded vocally to the audio recording and then flew further to the southwest and was undetected.

During the 5th survey, a single female or possible juvenile CAGN was observed in the northcentral portion of the project site in a small area containing California sagebrush. This CAGN only responded a couple of times to the recording and then flew to the north.

It is unclear if these sightings were the same CAGN or different individuals. During both observations of the single CAGNs, the birds remained very low in the California sagebrush. They were relatively quiet and were not displaying behaviors of defending a territory. Therefore, these individual sightings of CAGN could possibly be dispersing juveniles from the pair of CAGNs located north of the project site. Most likely they were foraging in the project site, rather than using the California sagebrush as nesting habitat.

No CAGN were detected within the moderate quality California sagebrush-deerweed scrub located in the southwestern portion of the project site.

Avian activity during the protocol surveys was relatively low throughout the surveys. Bird species observed or otherwise detected during surveys include species commonly found in upland scrub habitats such as, but not limited to, California towhee (*Melozone crissalis*), house finch (*Haemorphous mexicanus*), lesser goldfinch (*Spinus psaltria*), Anna's hummingbird (*Calypte anna*), and Bewick's wren (*Thryomanes bewickii*). Attachment 3 provides a complete list of avian species detected or observed in the Survey Area during the protocol CAGN surveys.

One additional sensitive species, southern California Rufous-crowned sparrow (*Aimophila ruficeps canescens*) was observed during the surveys and is on CDFW Watch List. Brown-headed cowbirds (*Molothrus ater*), considered to be nest parasites for CAGNs, were not observed during the surveys. Bird species detected during the surveys are presented in Attachment 4.

Thank you for the opportunity to work with you on this Project. Please contact Greg Ainsworth if you have questions concerning the contents of this report. He may be reached by telephone at 805-465-9091, or by email at gainsworth@rinconconsultants.com.

Sincerely,
Rincon Consultants, Inc.

Kelly Rios
Biologist

CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signed: _____ Date: July 16, 2021

Kelly Rios, Senior Biologist
TE-018909-5

Attachments

Attachment 1 USFWS Survey Notification
Attachment 2 Figures
Attachment 3 Site Photographs
Attachment 4 Avian Species Detected/Observed in the Survey Area

References

United States Geological Survey (USGS). 2021. USGS 7.5-minute topographic quadrangle, accessed via Google Earth. July 2021.

United States Fish and Wildlife Service (USFWS). 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines. February 28.

Attachment 1

USFWS Survey Notification

May 11, 2021
Project No: 21-11432

Chris Kofron
Ventura Fish and Wildlife Office
U.S. Fish and Wildlife Service
2493 Portola Road, Suite B
Ventura, California 93003

Subject: Notification of Intent to Conduct Protocol Breeding Season Surveys for Coastal California Gnatcatcher for the Hitch Ranch Specific Plan Project, City of Moorpark, Ventura County, California

Dear Mr. Kofron,

In accordance with the current U.S. Fish and Wildlife Service (USFWS) survey protocol for coastal California gnatcatcher (*Polioptila californica californica*; CAGN) (dated February 28, 1997), please consider this letter as notification of the intent to commence protocol breeding season surveys on behalf of Comstock Homes for the Hitch Ranch Specific Plan Project (project), in the City of Moorpark, Ventura County, California. The proposed project is in southeastern Ventura County between the Simi Hills and Little Simi Valley (Figure 1). Specifically, the project site is located within the *Moorpark, California* USGS 7.5-minute topographic quadrangle, Township 3 North, Range 19 West, San Bernardino Baseline and Meridian (USGS 2020a) (Figure 2).

The proposed project is designed as a mixed-density community and provides for the arrangement of various land uses on the 277.30-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

Kelly Rios, a Section 10(a)(1)(A) permitted biologist (TE 018909-5) with Rincon Consultants, Inc. (Rincon) will conduct all the CAGN surveys. According to Hitch Ranch Project 2018 Biological Survey Update (Barringer Biological Services, 2018), approximately 40 acres of the total 277.30 acres is comprised of California sagebrush-deerweed scrub, which is considered suitable habitat for CAGN. This habitat, as well as a 500-foot surrounding buffer, together comprise the survey area. The surveys will follow USFWS Coastal California Gnatcatcher Presence/Absence Survey Guidelines, issued July28, 1997 (USFWS 1997). The first survey is scheduled following the 15-day period, on May 26, so thatthe subsequent five surveys
will be completed by the end of the CAGN breeding survey season, June 30.

Sincerely,

Greg Ainsworth, MCRP, Natural Resources Director
Phone: 805-644-4454
Email: gainsworth@rinconconsultants.com

Contact for Clarification

Kelly Rios
Section 10(a)(1)(A) Permitted Biologist (TE 018909-5)
Phone: 714-742-5380
Email: kellymrios@outlook.com

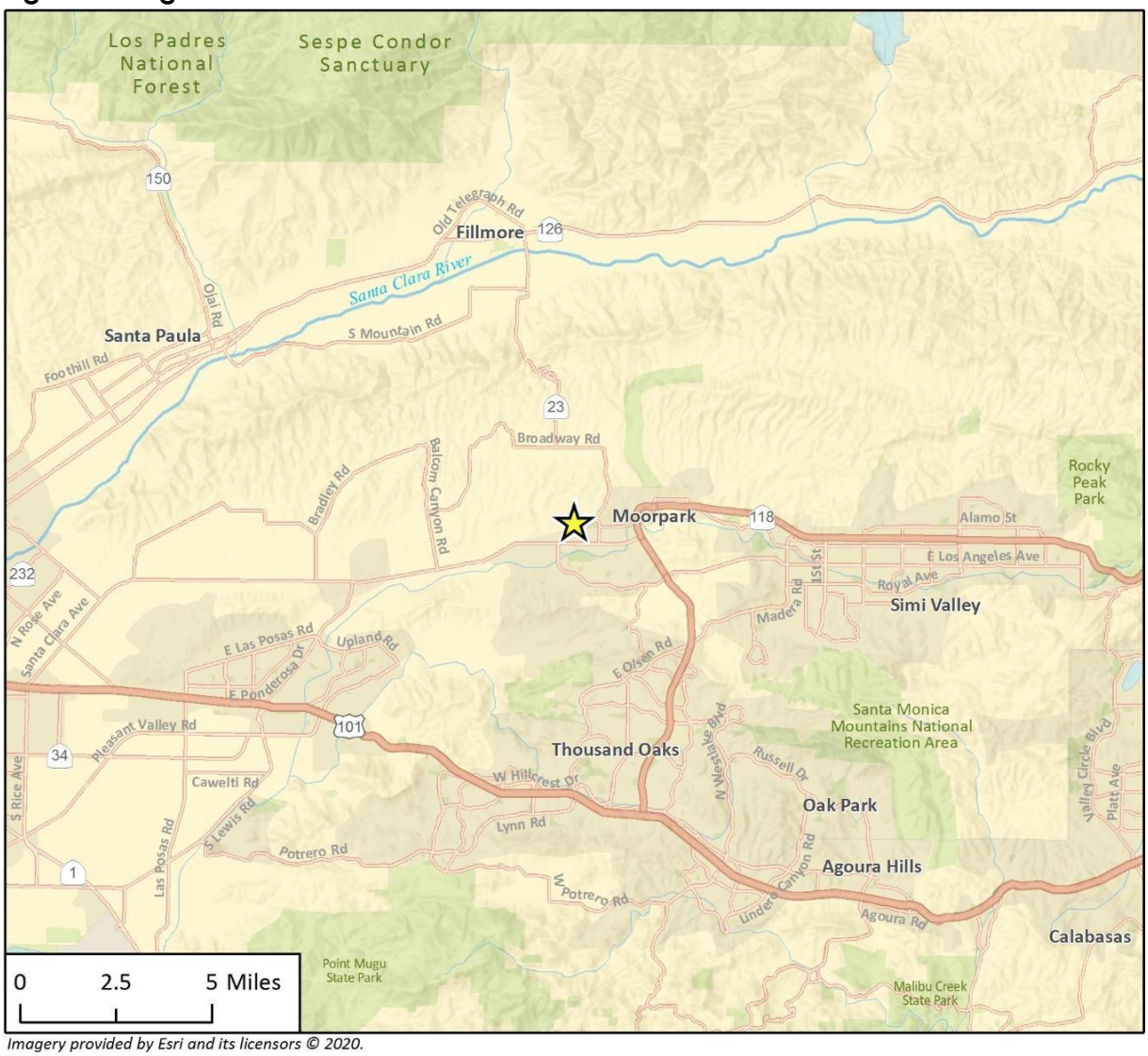
Contact for Additional Information

Rincon Consultants, Inc.

Attachment 2

Figures

Figure 1 Regional Location



Imagery provided by Esri and its licensors © 2020.

Project Location

N

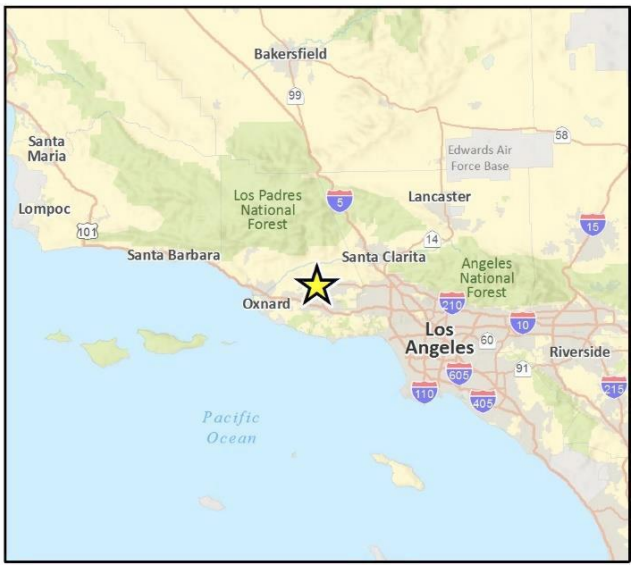


Figure 2 Project Site, Topo Map

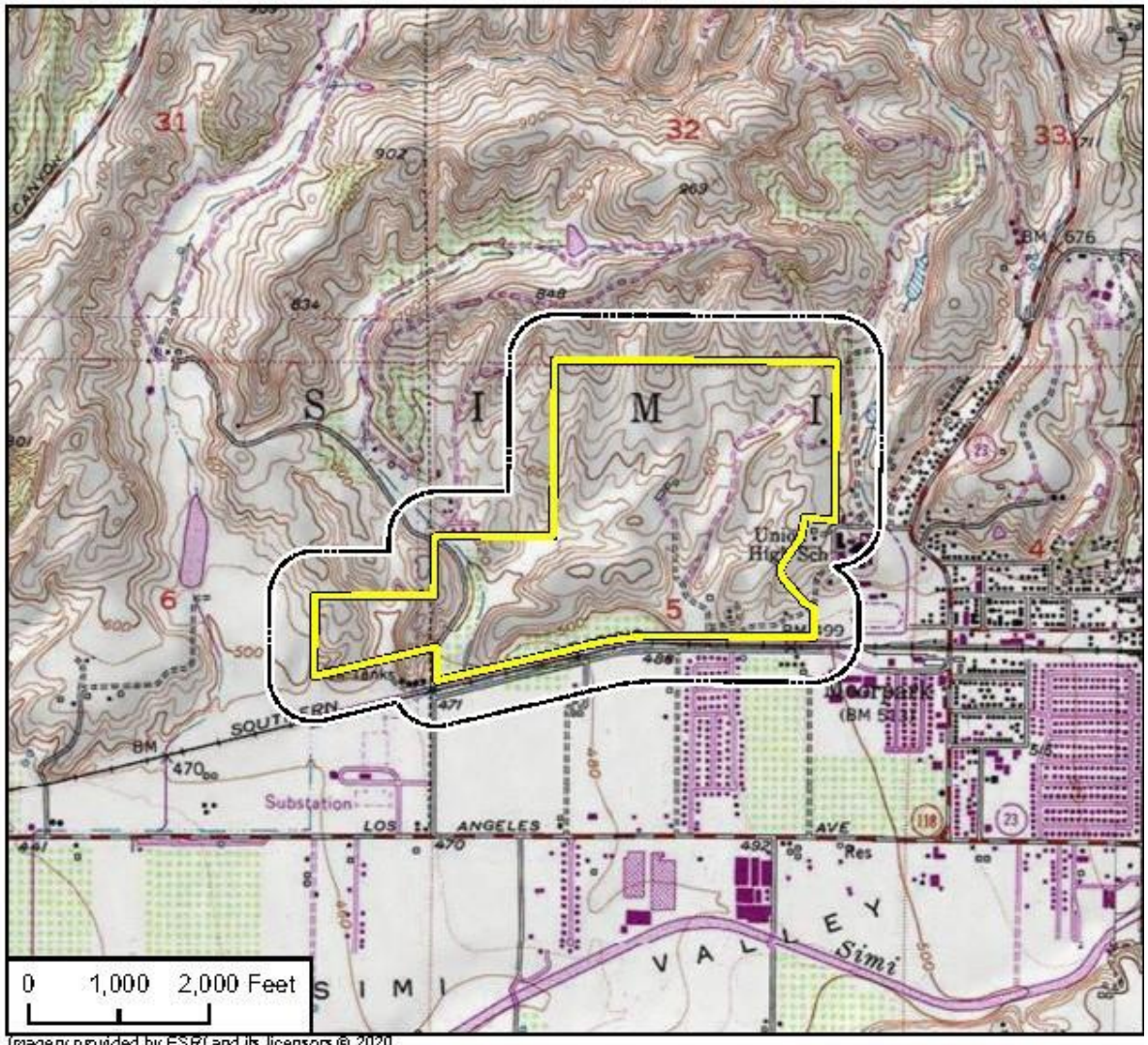
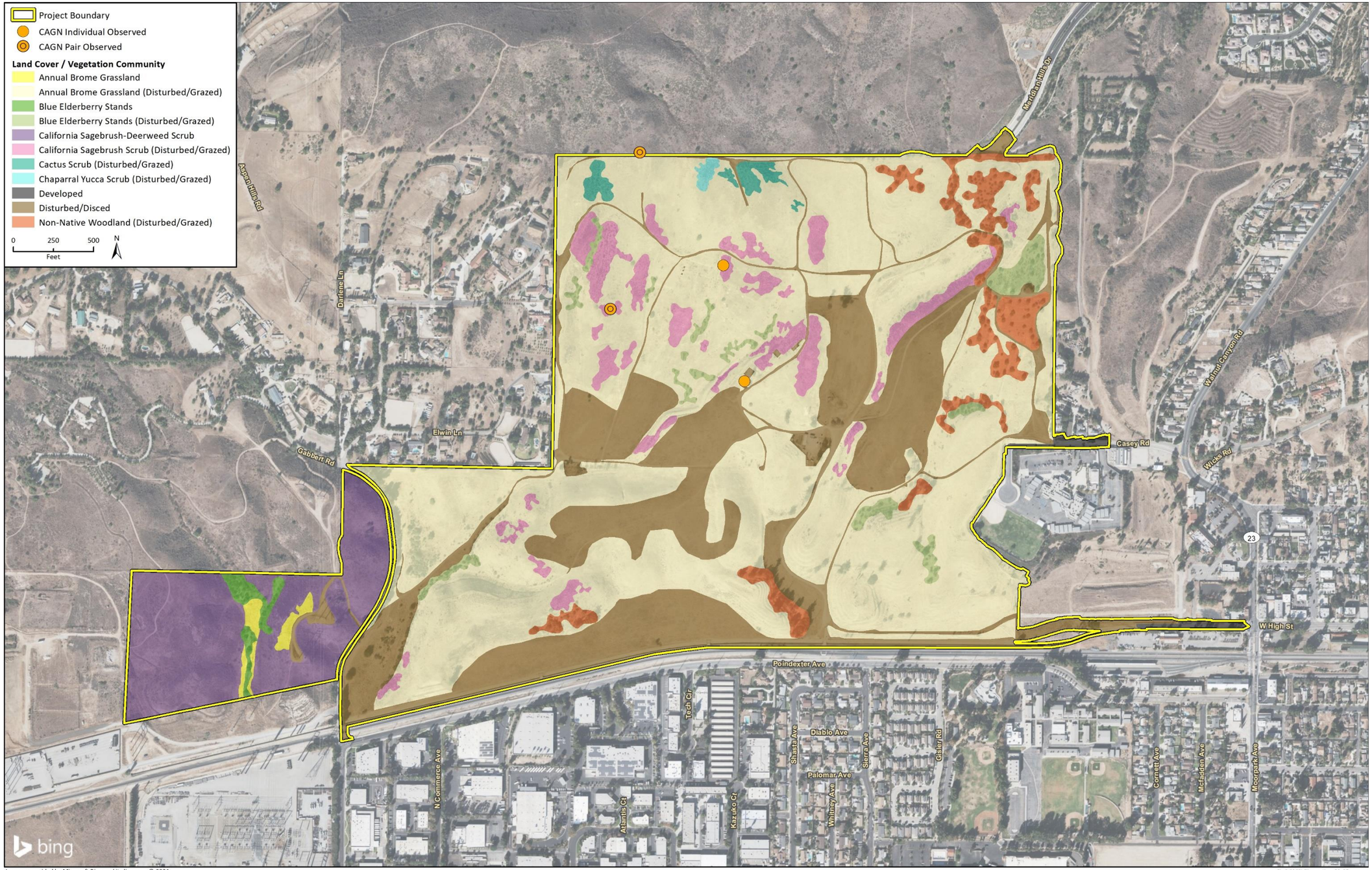


Figure 3 Survey Area and Coastal California Gnatcatcher Locations



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ECG Civil, 2021.

Fig 3 CAGN Observations 11x17

Attachment 3

Site Photographs



Photograph 1. Cactus scrub (facing northwest, 5/26/21).



Photograph 2. Foreground, annual brome grassland; background, California sagebrush-deerweed scrub (facing southwest, 5/26/21).



Photograph 3. CAGN location north of site in California sagebrush-deerweed scrub (facing north, 5/26/21).



Photograph 4. Annual brome grassland (facing southeast, 5/26/21).

Attachment 4

Avian Species Detected/Observed in the Survey Area

Avian Species Observed in the Survey Area

Scientific Name	Common Name	Status
Accipiter cooperii	Cooper's hawk	Native
Aimophila ruficeps canescens	Rufous-crowned sparrow	Native, CDFW Watch List Species
Aeronautes saxatalis	white-throated swift	Native
Aphelocoma californica	California scrub jay	Native
Buteo jamaicensis	red-tailed hawk	Native
Callipepla californica	California quail	Native
Calypte anna	Anna's hummingbird	Native
Campylorhynchus brunneicapillus	cactus wren	Native
Carpodacus mexicanus	house finch	Native
Cathartes aura	turkey vulture	Native
Chamaea fasciata	wrentit	Native
Chondestes grammacus	lark sparrow	Native
Columbia livia	rock dove	Non-native
Corvus brachyrhynchos	American crow	Native
Corvus corax	common raven	Native
Dryobates nuttallii	Nuttall's woodpecker	Native
Falco sparverius	American kestrel	Native
Geococcyn californianus	greater roadrunner	Native
Hirundo rustica	barn swallow	Native
Icterus cucullatus	hooded oriole	Native
Melozone crissalis	California towhee	Native
Mimus polyglottos	northern mockingbird	Native
Passer domesticus	house sparrow	Non-native
Phainopepla nitens	phainopepla	Native
Polioptila californica californica	coastal California gnatcatcher	Native, Federally Threatened, CDFW Species of Special Concern
Psaltriparus minimus	bushtit	Native
Sayornis saya	Say's phoebe	Native
Spinus psaltria	lesser goldfinch	Native
Stelgidopteryx serripennis	northern rough-winged swallow	Native
Streptopelia decaocto	Eurasian collared dove	Non-native
Sturnus vulgaris	European starling	Non-native
Thryomanes bewickii	Bewick's wren	Native
Tyrannus vociferans	Cassin's kingbird	Native
Zenaida macroura	mourning dove	Native

D

2016 Gnatcatcher Survey

IMPACT SCIENCES
231 Village Commons Boulevard, Suite 17
Camarillo, California 93012
(805) 437-1900
www.impactsciences.com

April 29, 2016

Mr. Chris Kofron
US Fish and Wildlife Service
2493 Portola Road, Suite B
Ventura, CA 93003

Re: Results of Focused California Gnatcatcher Surveys; Hitch Ranch Project; Moorpark, CA

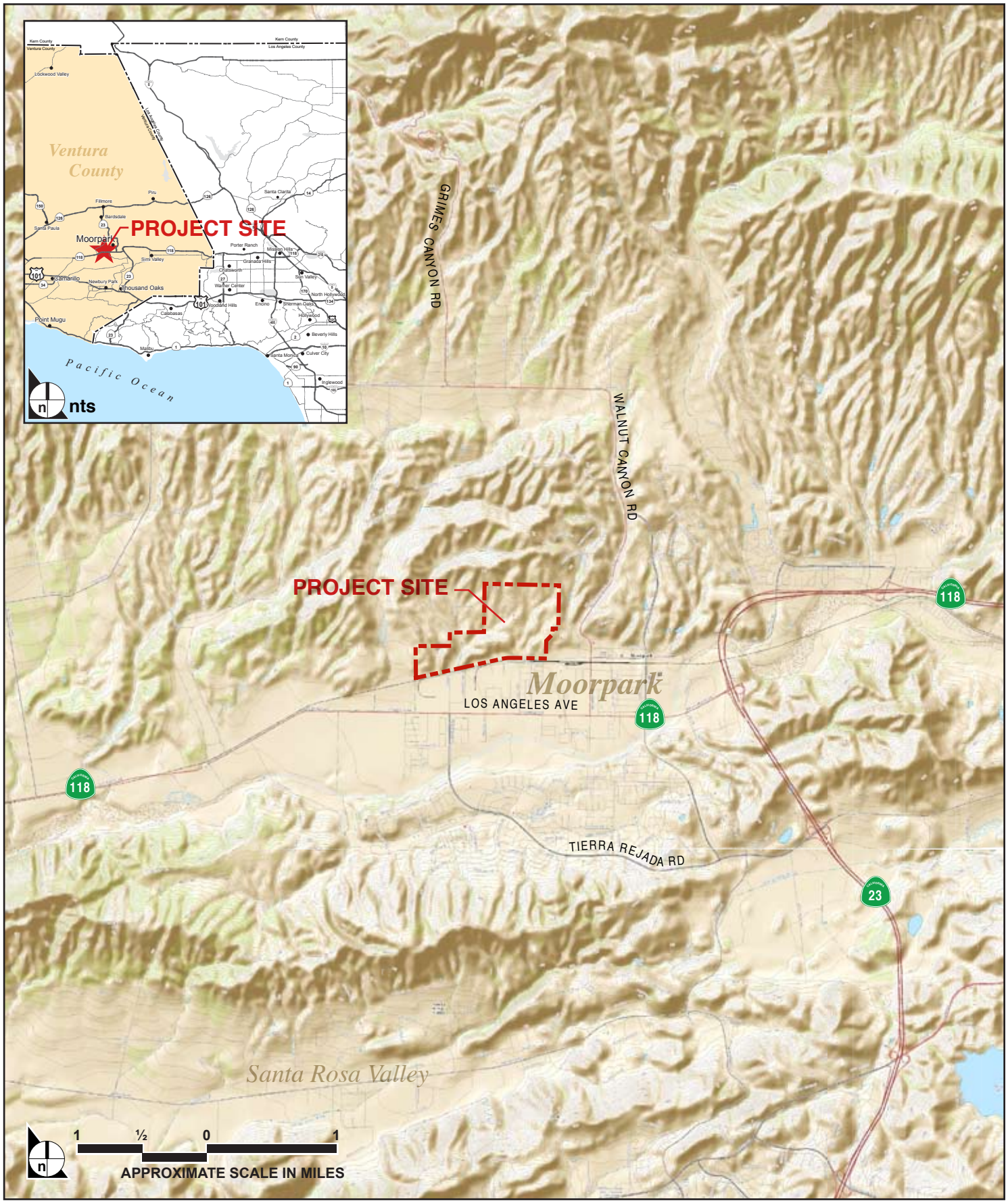
Dear Mr. Kofron:

The purpose of this letter report is to provide the US Fish and Wildlife Service, the City of Moorpark and Development Planning Services with the methodology and findings of surveys for the federally-listed Threatened California gnatcatcher (*Polioptila californica*) (herein CAGN) conducted by Dave Crawford (Permit #TE-821229-7) of Impact Sciences on the Hitch Ranch project site in Moorpark, California (**Figure 1**). The surveys were conducted for the purpose of determining the presence or absence of CAGN within the study area.

BACKGROUND

Projects have been proposed on this site multiple times and entitlements were initiated in 1993. Since then there have been multiple biological surveys, including focused CAGN surveys in 1998, 2000, 2003, 2005, 2009, and 2011. All surveys were negative with the exception of 2000, when a single juvenile was detected during one of the survey dates.

Wildfires occurred on the site in 2003 and again in 2009 which significantly changed the vegetation associations on site. Early surveys on the site documented over 80 acres of coastal sage scrub and coyote brush scrub. Currently there is just over 20 total acres of coastal sage scrub left on the site, which occurs primarily on the western portion of the site on relatively steep slope. There is very little coyote brush scrub left as well. Mostly non-native grasses and annual herbaceous species have taken over the areas of burned out scrub habitats leaving just scattered shrubs.



SOURCE: USGS National Map/Shaded Relief WMTS.

FIGURE **1**

IMPACT SCIENCES

Regional Location and Vicinity

132.03•04/16

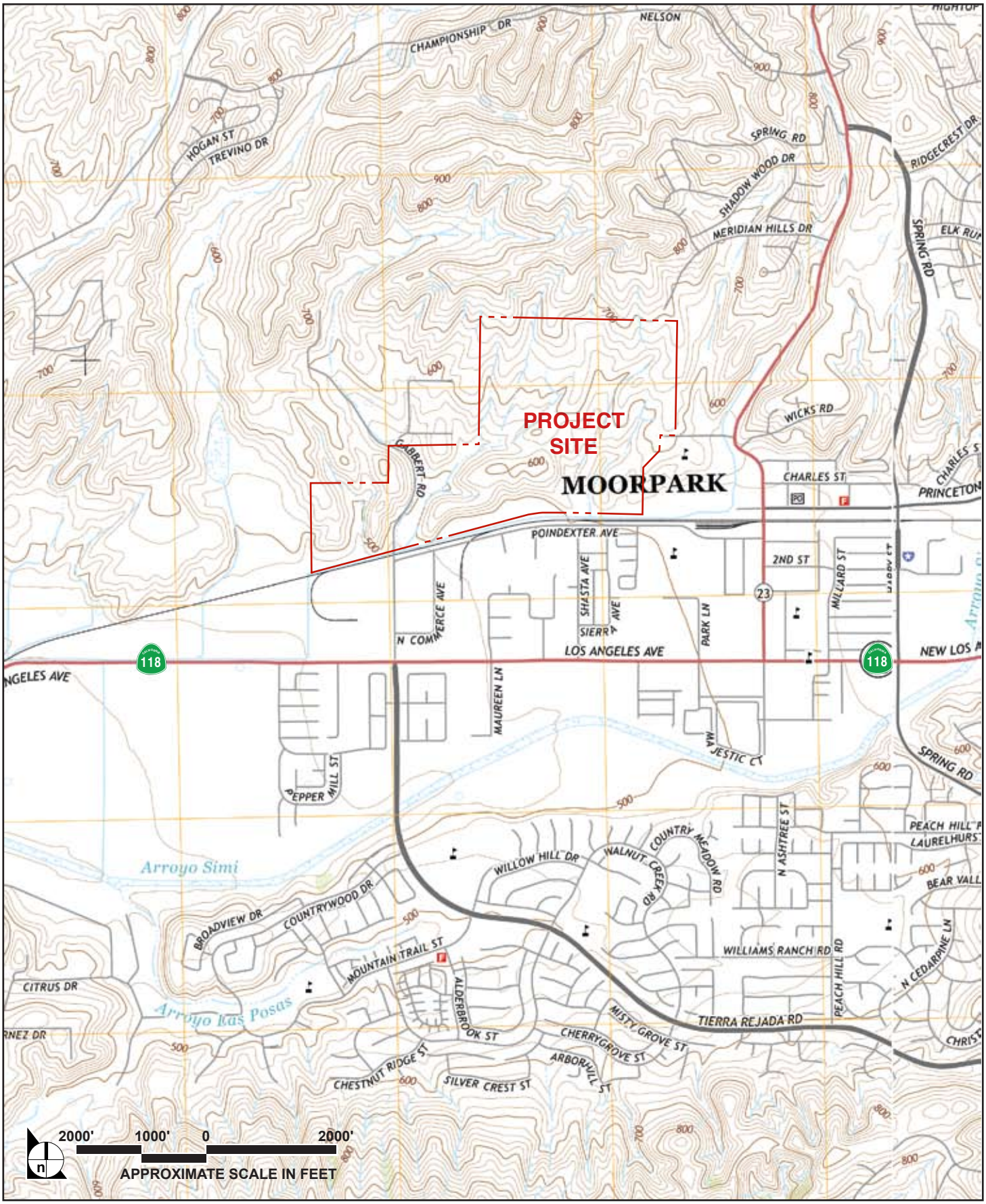
LOCATION

The project site is located in the City of Moorpark, CA. It is situated at the southern limit of the Simi Hills, between the Oak Ridge Mountains to the north and the Las Posas Hills to the south. The project is situated at T2N, R19W, in Sections 5 and 6 of the Moorpark, California USGS 7.5-minute quadrangle map (**Figure 2**).

SITE DESCRIPTION

The subject property totals approximately 283 acres and supports less than 20 acres of coastal sage scrub habitat; most of which occurs on steep slopes in the western portion of the site. It is characterized by a series of north-south trending ridges, gently rolling hills, and shallow valleys. The topography ranges from moderately steep to relatively flat, and is highly varied. The site has been previously disturbed, primarily due to historic agricultural activities, and a major wildfire in 2006 scorched the site, eliminating much of the scrub vegetation. Currently vegetation on the site consists primarily of annual grassland vegetation, with scattered small patches of coastal sage scrub, coyote brush and woodland vegetation communities; mostly eucalyptus. Foundations of a few old structures and numerous dirt roads are still present on the site. Elevation at the site ranges from approximately 475 to 720 feet above mean sea level.

Land uses surrounding the project site include a few single family homes and the Walnut Canyon Elementary School are located immediately east, and the City of Moorpark downtown area is located about one-quarter of one mile further to the east. A mixture of institutional, residential and light industrial uses occurs to the south. Single family homes and farmland are located to the west. Undeveloped hills are located to the north. A Ventura County Flood Control District concrete flood control channel (Walnut Canyon Channel) borders the site to the south. The Southern Pacific Railway tracks border the flood channel. A narrow strip of flat, vacant land separates the tracks from Poindexter Avenue, a two-lane arterial between Moorpark Avenue on the east and Gabbert Road to the west.



SOURCE: USGS 7.5 Minute Quadrangles-Moorpark and Simi Valley West, 2015.

FIGURE **2**

IMPACT SCIENCES

Project Location on USGS 7.5 Minute Quadrangle

132.03•04/16

METHODOLOGY

Surveys were initiated March 17, 2016, following notification to the Ventura USFWS field office. Based on the seasonal timing, it was determined that six focused surveys, conducted at least seven days apart, would be appropriate to determine presence/absence of CAGN on the Hitch Ranch project site. Mr. Dave Crawford conducted the series of surveys under the authority of his own Section 10(a)1(A) Endangered Species Recovery permit.

The surveys were performed March 17, 24, 31, April 7, 14 and 21, 2016. Surveys were focused in areas supporting the coastal sage scrub associations, as well as surrounding buffers of approximately 200 feet. All appropriate habitat areas were systematically surveyed on foot by walking slowly and methodically along random transect routes. The locations of each transect and survey points were based on the vegetation and topographic conditions (size, location, and shape of habitat) of the area to be surveyed to ensure complete coverage. Calling points were separated by approximately 200-foot intervals, or as needed, depending upon the vegetation and topography in each area. A combination of digitally recorded vocalizations (played at 30 to 60 second increments) and "pishing" sounds were used at each calling point.

Due to the relatively clear weather conditions, surveys were generally conducted between 6:45 a.m. and 11:00 a.m. Weather during the surveys was conducive to a high level of bird activity. Temperatures varied from approximately 52 degrees Fahrenheit in the mornings to a maximum of about 75° F at the end of the survey day. Wind speed ranged from 0 to 10 mph and skies ranged from completely overcast to sunny during the six surveys.

RESULTS

No California gnatcatchers were observed or detected during any of the six surveys conducted on site. A total of 56 avian species was observed or detected. Avian species observed included six that are on the California Department of Fish and Wildlife "Special Animals List."[1] There were also four non-native introduced species observed.

---

[1] California Department of Fish and Wildlife, Natural Diversity Database. April 2016. Special Animals List. Periodicpublication.51 pp.

Special-status species observed included Cooper's hawk, rufous hummingbird, Allen's hummingbird, Nuttall's woodpecker, oak titmouse, and lark sparrow. A complete list of all bird species identified on the project site during the survey efforts is included as **Attachment A**.

Prior to the surveys, Dave Crawford communicated with Chris Dellith of the USFWS Ventura Field office. Mr. Dellith provided Mr. Crawford with results from 2015 gnatcatcher surveys in the project vicinity indicating California gnatcatcher had been recorded from adjacent properties east and northwest of the Hitch Ranch site. One report also identified an occurrence within the Hitch Ranch boundaries near the north central border. During the surveys, Mr. Crawford spent considerable time at or near each of the previously reported occupied locations. Vegetation on the Hitch Ranch site was not typical of what is considered suitable gnatcatcher habitat, but off site there were some higher quality habitats. In the western portion of the site, the more common blue-gray gnatcatcher (*Poliptila caerulea*) was observed and heard on two occasions, but there were no indications of the presence of California gnatcatcher.

Based on the previously submitted reports of CAGN occurring on and adjacent to Hitch Ranch, it was expected that CAGN would be observed or detected during the surveys. As such, Mr. Crawford had Ron Francis, Jr. accompany him. Mr. Francis is also permitted to survey CAGN, but did not participate in an 'official' status as he did not play recordings, make "pishing' noises or disturb any habitat. He simply accompanied Mr. Crawford to serve as a second set of eyes and ears in hopes of detecting CAGN. Neither biologist saw or heard any indication of CAGN.

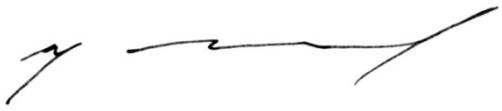
Numerous avian species were observed copulating, and displaying other pairing and nesting behaviors. Four separate pairs of red-tailed hawk were observed on site with at least two pairs actively building nests. It was also interesting to note that an American badger (*Taxidea taxus*), a California species of special concern, was observed during one of the surveys running along a dirt road with a freshly killed California ground squirrel in its mouth. This was interesting as badger had never been documented on site during any of the previous biological surveys and three was no record for this species in the California Natural Diversity DataBase (CNDDB) in the vicinity.

Additionally a few stick nests, attributable to woodrats, were observed on site. Both the common big-eared woodrat (*Neotoma macrotus*) and the CDFW species of special concern San Diego desert woodrat (*Neotoma lepida intermedia*) are known to occur in the area and either can build or utilize stick nests so positive identification cannot be made on the observation of stick nests alone.

CONCLUSIONS

Based on the results of six surveys following USFWS survey protocol methods there were no CAGN present on the Hitch Ranch project site in spring 2016. Because there are records of their occurrence on and adjacent to the site in 2015, it is uncertain why they would not be present this year. Habitat within the Hitch Ranch boundaries is not as suitable as other properties near it, and this survey effort did not include other properties, but since there were multiple pairs and juveniles observed last year, one would expect that one or more would at least have been detected near the project site where they had been previously recorded.

Sincerely,
Impact Sciences, Inc.



Dave Crawford
Managing Principal, Biological Services
Permit #TE-821229-7

Cc: Mr. Dennis Hargrave; Development Planning Services, Inc.

E

2011 Gnatcatcher Survey

compliance•biology inc

September 2, 2011

Mr. Mark Austin
Impact Sciences, Inc.
803 Camarillo Springs Road
Suite A
Camarillo, California 93012

Subject: Results of Focused Coastal California Gnatcatcher Surveys; Hitch Ranch Property; Moorpark, California

Dear Mr. Austin,

This letter report summarizes the methodology and findings of surveys for the federally-listed Threatened California gnatcatcher (*Polioptila californica*) (herein CAGN) conducted by Compliance Biology, Inc. on a project site in the City of Moorpark, Ventura County, California. The surveys were conducted for the purpose of determining the presence or absence of CAGN within the study area.

PROPERTY DESCRIPTION

The subject property totals approximately 283 acres and supports about 15 acres of marginally suitable coastal sage scrub habitat. The project site is located on the north side of Poindexter Road and the Southern Pacific railway, west of SR 23 in the City of Moorpark, Ventura County, California. Gabbert Road runs approximately north-south through the western portion of the site. The survey location is situated at T2N, R19W, on portions of Sections 5 and 6 of the Moorpark, California U.S.G.S. 7.5-minute quadrangle map (**Exhibit 1**). The subject property is characterized by variable topography with a dry drainage feature traversing the site from north to south adjacent and east of Gabbert Road. Elevation at the project site ranges from approximately 480 feet to approximately 720 feet above mean sea level.

Existing residential, institutional and urban development occurs northeast, east and south of the site. Properties to the north and west are undeveloped and rural residential respectively.

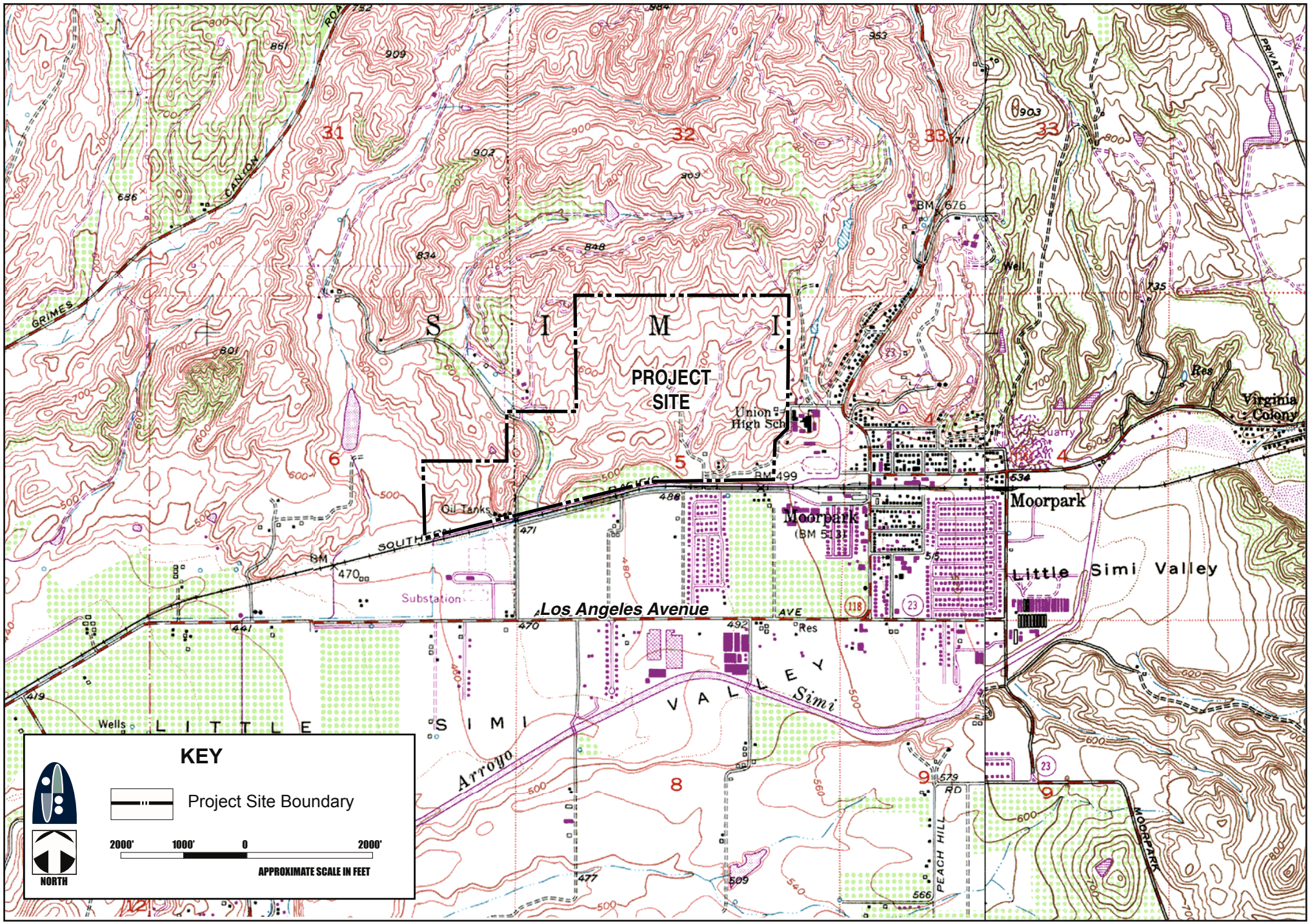


exhibit **1**

PROJECT LOCATION U.S.G.S. 7.5 MINUTE QUADRANGLE

VEGETATION

Nearly the entire subject property was burned during the brush fires of fall 2003. Previously, nine separate plant associations had been identified within the project boundaries. Of these, six had elements of scrub habitats potentially suitable for California gnatcatcher. Now, most of the site is characterized as ruderal or non-native annual grassland with a few areas supporting elements of remnant California coastal sage scrub. Almost all of the sage scrub habitat occurring on the site is new growth, with dense mustard (*Hirschfeldia incana*) and non-native grasses (*Avena*, *Bromus*, etc.) still dominating.

METHODOLOGY

Service recommended survey guidelines stipulate a minimum of six surveys shall be conducted at least one week apart between March 15 through June 30, and from July 1 through March 14, a minimum of nine surveys shall be conducted at least two weeks apart. Guidelines also recommend that surveys be completed between 6:00 a.m. and 12 p.m.; that they shall avoid periods of inclement weather or excessive heat, rain, wind, and fog; and the rate of coverage should be no more than 80 acres per day per permitted biologist.

Based on the aforementioned guidelines, the seasonal timing of initiation of these surveys and discussion with Mr. Chris Dellith of the US Fish and Wildlife Service Ventura Field office, a total of eight (8) focused surveys were conducted within and adjacent to potentially suitable on-site coastal scrub habitats. Seven-day intervals between site visits were utilized for the first three (3) surveys in June and 14-day intervals were utilized for the remaining five (5) surveys. All field surveys were performed by David Crawford under the authority of his individual Endangered Species Recovery Permit.

Surveys were conducted on June 6, 13, 20, July 4, 18, and August 1, 15, and 29 2011. Approximately 20 acres of potentially suitable scrub habitat and a surrounding buffer zone into adjacent habitats were surveyed each day. All potential habitat areas were systematically surveyed on foot by walking slowly and methodically along random transect routes. The location of transects and survey points along each transect were based on the vegetation and topographic conditions

(size, location, and shape of habitat) of the area to be surveyed to ensure complete coverage. A combination of taped vocalizations (played at 30-60 second increments) and "pishing" sounds were used at each calling point.

Weather conditions during the surveys were clear and warm and generally conducive to a high level of bird activity. All surveys were conducted between the hours of about 7:00 a.m. and approximately 11:00 a.m. Temperatures varied from approximately 55 degrees Fahrenheit (F) to a maximum of about 80F. Wind speed ranged from 0 to 10 mph during the surveys and typically averaged less than 5 mph. Cloud cover varied from overcast to completely clear.

RESULTS

A total of 40 avian species was observed or detected on the subject property. No California gnatcatchers or any other federal or state-listed endangered, threatened, or candidate species were observed on site during the survey effort. A complete list of all vertebrate species observed during the survey efforts is included as **Attachment A**.

One avian species considered to be of special-status was observed during three of the surveys. Loggerhead shrike (*Lanius ludovicianus*) is considered a California Species of Special Concern (SSC) and a US Fish and Wildlife Service Bird of Conservation Concern (BCC). Both the SSC and BCC statuses indicated the regulatory agencies' goal to draw attention of those species that are declining with the hopes of promoting greater study and habitat protection for these species.

A single loggerhead shrike was observed on three of the survey dates. The bird was seen at the same perch each time, suggesting it is likely a resident on or near the subject property.

DISCUSSION

This series of surveys for CAGN was the sixth conducted on the site. Surveys following Service protocol guidelines were also completed in 1998, 2000, 2003, 2005 and 2009. In 2000 a single juvenile CAGN was observed on a single occasion. It was concluded at that time that it was likely dispersing from the known occupied site situated approximately one mile east of the subject property, and was not a resident of the site. No CAGN have been observed or detected during any other survey conducted on site. Conditions on the Hitch Ranch project site have changed considerably since 2003 as a result of the brush fires that occurred on site. These

changes have significantly reduced the potential habitat for CAGN. Based on the results this and past protocol surveys, it is concluded that CAGN are not currently present on site, nor are they expected to occur in the near future. As such, this species would not be significantly impacted by any proposed development.

As discussed, a loggerhead shrike was observed on site and is expected to be a resident. The SSC and BCC statuses afforded this species do not provide legal protection. Notwithstanding, project impacts to animals with these designations must be considered when that project undergoes CEQA review.

Further, although none of the individual birds observed are afforded protection under the state or federal endangered species acts, most of the avian species observed are protected under the California Fish and Game Code and the Federal Migratory Bird Species Treaty Act (1985) while actively nesting. As such, grading and/or any other activity resulting in the removal of vegetation should be conducted outside the typical nesting season (February 1 through August 30). Should such activities be required during this period of time, it is recommended that nesting bird surveys be conducted consistent with Service and California Department of Fish and Game guidelines.

Thank you for the opportunity to provide Impact Sciences with continued biological services. Please feel free to contact me if you have any questions regarding the contents of this report.

Sincerely,

Dave Crawford

Dave Crawford
President/Principal Biologist
Compliance Biology, Inc.
Permit #TE-821229-6

Cc: Chris Dellith; US Fish and Wildlife Service
Chris Kofron; US Fish and Wildlife Service

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Attachment A
Vertebrate Species Observed or Detected on the Hitch Ranch Property[1]

Scientific Name[2]	Common Name[2]	Status[3]
BIRDS		
Cathartidae	**New World Vultures**	
Cathartes aura	Turkey vulture	
Accipitridae	**Hawks**	
Buteo lineatus	Red-shouldered hawk	
Buteo jamaicensis	Red-tailed hawk	
Falconidae	**Falcons**	
Falco sparverius	American kestrel	
Phasianidae	**Grouse, Pheasants & Quails**	
Callipepla californica	California quail	
Columbidae	**Pigeons & Doves**	
*Columba livia**	Rock dove	
*Streptopelia decaocto**	Eurasian collared dove	
Zenaida macroura	Mourning dove	
Cuculidae	**Cuckoos & Roadrunners**	
Geococcyx californianus	Greater roadrunner	
Trochilidae	**Hummingbirds**	
Calypte anna	Anna's hummingbird	
Tyrannidae	**Tyrant Flycatchers**	
Sayornis nigricans	Black phoebe	
Sayornis saya	Say's phoebe	
Myiarchus cinerascens	Ash-throated flycatcher	
Tyrannus verticalis	Western kingbird	
Tyrannus vociferans	Cassin’s kingbird	
Hirundinidae	**Swallows**	
Tachycineta thalassina	Violet-green swallow	
Hirundo pyrrhonota	Cliff swallow	
Corvidae	**Jays & Crows**	
Aphelocoma coerulescens	Scrub jay	
Corvus brachyrhynchos	American crow	
Corvus corax	Common raven	
Aegithalidae	**Bushtits**	
Psaltriparus minimus	Bushtit	
Troglodytidae	**Wrens**	
Thryomanes bewickii	Bewick's wren	
Troglodytes aedon	House wren	
Muscicapidae	**Kinglets, Gnatcatchers, Thrushes & Babblers**	
Chamaea fasciata	Wrentit	
Laniidae	**Shrikes**	
Lanius ludovicianus	Loggerhead shrike	**SSC** (nesting)
Mimidae	**Thrashers**	
Mimus polyglottos	Northern mockingbird	
Sturnidae	**Starlings**	
*Sturnus vulgaris**	European starling	

Attachment A (continued)
Vertebrate Species Observed or Detected on the Hitch Ranch Property[1]

Scientific Name[2]	Common Name[2]	Status[3]
Emberizidae	**Wood Warblers, Tanagers, Buntings & Blackbirds**	
Pheucticus melanocephalus	Black-headed grosbeak	
Guiraca caerulea	Blue grosbeak	
Pipilo erythrophthalmus	Spotted towhee	
Pipilo crissalis	California towhee	
Passerculus sandwichensis	Savannah sparrow	
Chondestes grammacus	Lark sparrow	
Agelaius phoeniceus	Red-winged blackbird	
Euphagus cyanocephalus	Brewer's blackbird	
Sturnella neglecta	Western meadowlark	
Icterus bulockii	Bullock's oriole	
Fringillidae	**Finches**	
Carpodacus mexicanus	House finch	
Carduelis psaltria	Lesser goldfinch	
Passeridae	**Old World Sparrows**	
*Passer domesticus**	House sparrow	
REPTILES		
Iguanidae	**Iguanid Lizards**	
Sceloporus occidentalis	Western fence lizard	
Uta stansburiana	Side-blotched lizard	
Colubridae	**Colubrid Snakes**	
Pituophis catenifer	Gopher snake	
MAMMALS		
Leporidae	**Hares & Rabbits**	
Sylvilagus audubonii	Desert cottontail	
Sylvilagus bachmani	Brush rabbit	
Sciuridae	**Squirrels**	
Spermophilus beecheyi	California ground squirrel	
Geomyidae	**Pocket Gophers**	
Thomomys bottae	Botta's pocket gopher	
Canidae	**Wolves & Foxes**	
Canis latrans	Coyote	

KEY:

[1] Occurrences documented during focused CAGN surveys conducted on site from June 6 through August 29, 2011.

[2] Scientific and common names are from Society for the Study of Amphibians and Reptiles (2000) for reptiles, American Ornithologist's Union (2000 and supplements) for birds, and Jones et al. (1992) for mammals.

[3] Status:
SSC : California Species of Special Concern

***** Non-native or introduced species

2016 FOCUSED SPECIAL STATUS PLANT SURVEY REPORT

Hitch Ranch Project; Moorpark, California

Prepared for:

Development Planning Services, Inc.
211 Village Commons Boulevard, Suite 15
Camarillo, CA 93012
Attention: Mr. Dennis Hargrave

Prepared by:

Impact Sciences, Inc.
231 Village Commons Blvd., suite 17
Camarillo, California 93012
ATT: Jacqueline Bowland Worden

July 2016

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Appendix A Special Status Plant Species
Appendix B Observed Flora

INTRODUCTION & SCOPE

This report provides the results of three focused plant surveys conducted in the spring of 2016 of the Hitch Ranch project site, located in the city of Moorpark, Ventura County, California (Figure 1, Regional Location and Vicinity). These surveys searched for special status plant species previously reported as occurring within a nine quadrangle area including and surrounding the 283-acre project site.

The goal was to search for special status plants within the proposed project site. Special-status plants are those listed by the state of California or the Federal Government as Endangered, Threatened, or Rare or are candidates for such listing,[1] and species listed by the California Native Plant Society (CNPS) with a Rare Plant Rank of 1, 2, or 3.[2]

Location & Existing Conditions

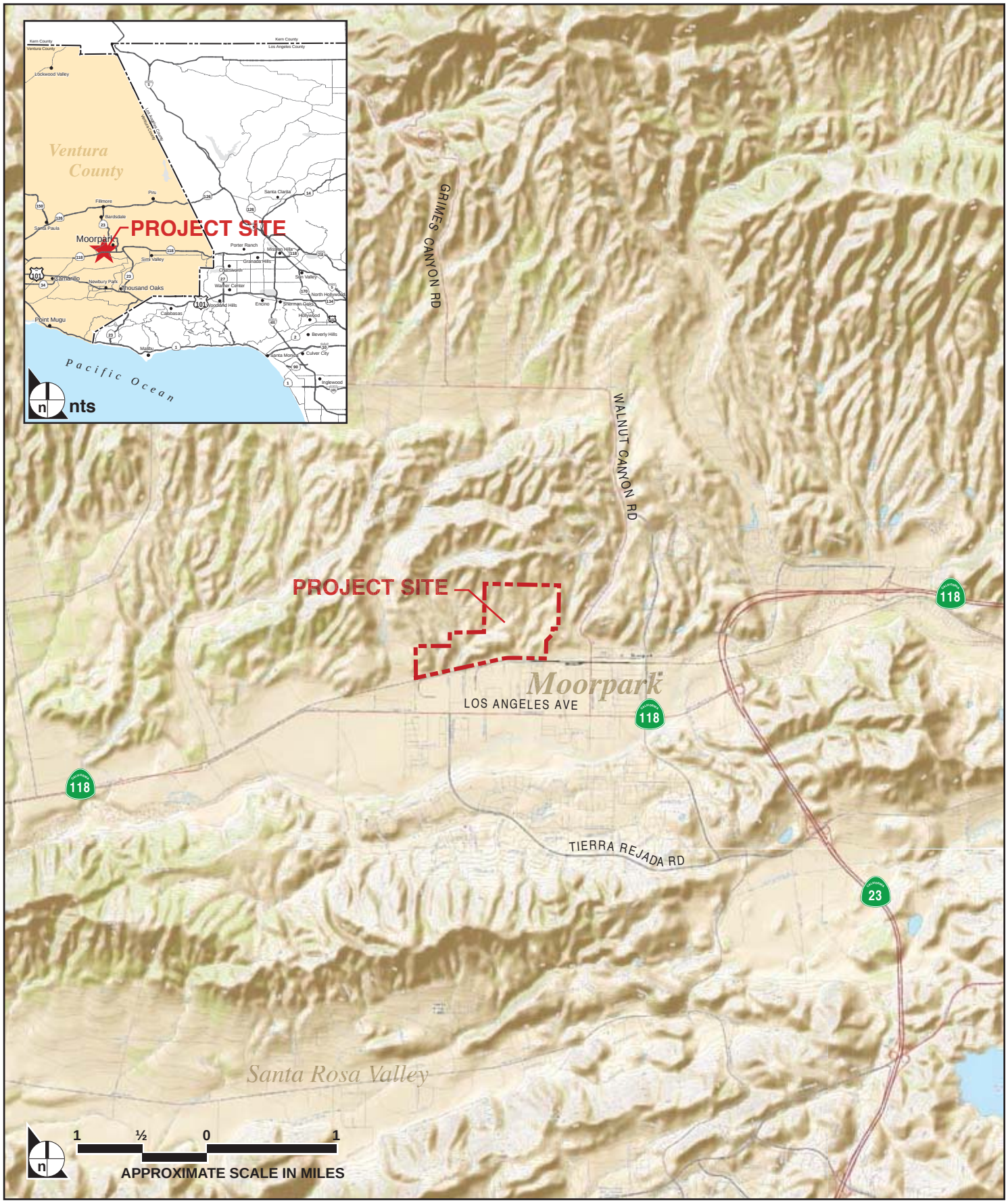
The Hitch Ranch property is located within the Transverse Ranges at the southern limit of the Simi Hills, between the Oak Ridge Mountains to the north and the Las Posas Hills to the south. The property is situated at T2N, R19W, in Sections 5 and 6 of the Moorpark, California USGS 7.5-minute quadrangle map. Regionally, the project site is located in southeastern Ventura County between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue and west of Moorpark Road (State Route 23) and Walnut Canyon Elementary School. The property is located approximately 1,600 feet west of State Route 23, and extends approximately 1,400 feet west of Gabbert Road.

The property contains variable topography, with generally north-south trending ridgelines separated by level to gently sloping valleys. Elevations range from 475 to 720 feet. Vegetative cover is dominated by non-native annual grasslands, with areas of coastal sage scrub and numerous non-native trees, primarily gum (*Eucalyptus* spp.) and pepper (*Schinus* spp.) trees.

Previous disturbances include historic agricultural activities and wildfires, the latter including fires as recently as 2003, 2006 and 2009. Several well-used dirt roads and trails crisscross the property, with indications of equestrian, bicycle, off-road vehicle and pedestrian use. Old foundations evidenced by concrete rubble are present near the southern boundary of the property.

1 Department of Fish and Wildlife. Special Plants. April 2016. The Natural Resources Agency, Biogeographic Data Branch, California Natural Diversity Database. State of California.

2 California Native Plant Society. 2016. Inventory of Rare, Threatened, and Endangered Plants of California.



SOURCE: USGS National Map/Shaded Relief WMTS.

FIGURE **1**

IMPACT SCIENCES

Regional Location and Vicinity

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METHODS

Literature Search

The California Natural Diversity Database[3] and California Native Plant Society Inventory of Rare and Endangered Plants[4] were searched prior to field surveys to identify previously reported special status plant occurrences in the project vicinity. Nine 7.5-minute US Geological Survey (USGS) topographic quadrangles were searched, including for the project quadrangle (Moorpark) and the following eight adjacent quadrangles:, Santa Paula Peak, Fillmore, Piru, Santa Paula, Simi Valley, Camarillo, Newbury Park, and Thousand Oaks. Soils data was reviewed relative to the potential occurrence of substrate endemics.[5]

Field Surveys

Field surveys for were conducted by Jacqueline Bowland Worden of Impact Sciences, Inc. on March 26, April 20, and May 13, 2016. The field surveys followed protocol defined by the California Native Plant Society and California Department of Fish and Wildlife. All areas of the property were walked, and a comprehensive list of all plants was compiled (planted ornamental plants were excluded). The taxonomic reference for all species was the current Jepson Manual.[6]

RESULTS

Literature Search

Data Base Findings

The database search reported 24 special-status plant species as occurring on the Camarillo quadrangle (project site location) and the surrounding seven quadrangles (listed previously). **Appendix A** details these species, along with habitat requirements and occurrence potential on the subject property.

---

3 California Department of Fish and Wildlife. California Department of Fish and Wildlife Natural Diversity Data Base. Commercial Version. March 2016.

4 California Native Plant Society. *Inventory of Rare, Threatened, and Endangered Plants of California*. March 2016.

5 Natural Resources Conservation Service. *Soil survey map and data*. March 2016. http:/websoilsurvey.nrce.usda.gov.

6 Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. *The Jepson Manual: Vascular Plants of California*. Second edition. University of California Press, Berkeley. 2012.

Soils Data

The two predominant soil types found within the study area were identified as containing gravelly loam to loam, with all other soils characterized as sandy loam. Many of the special status plants listed in Appendix A occur primarily on specific soil types, such as those derived from volcanic rocks, alkaline soils, ultramafic (serpentine) soils, clay-rich soils, sandstone, or granitic, rocky soils. None of those specific soil types have been identified as occurring on-site, nor were such conditions observed.

Field Surveys

One special-status plant species was observed during the spring 2016 site surveys, southern California black walnut ((*Juglans californica* var. *californica*). This tree carries a CNPS Rare Plant Rank (RPR) of 4.2, indicating plants of limited distribution (4), fairly threated in California (0.2). **Appendix B** provides a list of all plant species observed during the 2016 field surveys.

Southern California black walnut (*Juglans californica* [var. *californica*]). Several native walnut trees were found in the western area of the property, east of and within about 300 feet of Gabbert Road. These trees do not form a woodland, since they are scattered over a large area. California walnut groves (*Juglans californica* woodland alliance) have a rarity ranking of G3 S3.2, indicating this species is "vulnerable" throughout its range and "threatened" within California.

No other special status plants were found, nor have any been previously recorded as occurring on or near the site. Wildfires, and both previous and current land uses such as orchards, dirt access roads, and fuel modification for fire safety (such as disking, mowing, etc.), have resulted in a substantially reduced probability of such plants occurring on the project site.

Several special-status plant surveys have been conducted on the subject property, all with negative results (except for walnut trees). Spring surveys were completed in 1998, 2000, 2007, 2007 and 2009.

CONCLUSIONS & RECOMMENDATIONS

Native walnut trees should be avoided. A tree survey should be conducted to establish precise locations of these trees such that appropriate protection zones may be defined. No other special status plants species were detected during the 2016 focused rare plant surveys.

APPENDIX A

Special-Status Plant Species Reported From the Project Vicinity

Appendix A
Special-Status Plant Species Recorded for the Hitch Ranch Property Vicinity

March 2016 CNDDB Query for: Moorpark, Newbury Park, Santa Paula, Simi Valley West, Camarillo, Thousand Oaks, Santa Paula Peak, Fillmore, and Piru USGS Quadrangles.

Scientific and Common Name	Status			Habitat Requirements	Elevation Range, Life Form, and Flowering Period	Potential Occurrence
	Federal	State	CNPS			
Abrams' oxytheca *Acanthoscyphus parishii var. abramsii*	--	--	1B.2	Sandy flats and slopes in chaparral and montane conifer woodlands. Known locally only from Topatopa Mountain and Mount Pinos.	1610-2010m AH June-Aug	**Not Expected**: The site is too low in elevation and does not contain suitable substrates.
Braunton's milk-vetch *Astragalus brauntonii*	E	--	1B.1	Recent burns or disturbed areas, usually sandstone with carbonate layers, in chaparral, coastal scrub valley and foothill grassland, closed-cone coniferous forest.	4-640m PH January-August	**Not Expected**: Substrate endemic: no suitable habitat on-site: not present.
Round-leaved filaree *California macrophylla*	-	-	1B.1	Cismontane woodland/valley & foothill grassland on clay soils.	15-1200m AH March-May	**Not Expected:** Suitable grassland habitat may be present but is densely vegetated with non-native plants and does not appear to be clay-rich.
Late-flowered mariposa lily *Calochortus fimbriatus*	--	--	1B.2	Sandy loams on alluvial fans on serpentine	350-1250m PH June- Aug	**Not Expected:** This species is a substrate endemic on serpentine soils. Reported sightings are from 2007 and earlier, at higher elevations.
Southern tarplant *Centromadia parryi ssp. australis*	--	--	1B.1	Salt marshes, vernal pools, freshwater wetlands, moist valley grassland and coastal sage scrub.	0-440m AH May-Nov	**Not Expected:** This species usually occurs in wetlands but occasionally found in non-wetlands (facultative wetland plant). Suitable conditions are not present on-site.
Santa Susana tarplant *Deinandra minthornii*	--	R	1B.2	Chaparral, coastal scrub/ rocks on Santa Susana sandstone substrates.	280-760m. S July-November	**Not Expected:** This species is a substrate endemic: suitable Santa Susana sandstone soils are not present on-site.
Dune larkspur *Delphinium parryi ssp. blochmaniae*	--	--	1B.2	Coastal dunes and chaparral.	20-120m PH April-May	**Not Expected:** Typically found on the coast in sandy habitats. The only Ventura County report is from 1969; other sightings are much farther north.
Umbrella larkspur *Delphinium umbraculorum*	--	--	1B.3	Foothill woodland	460-1450m PH April - June	**Not Expected:** Suitable habitat is not present on the site. Most recent record (2010) from Matilija Canyon.
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*	-	-	1B.1	Chaparral, coastal bluff scrub, ultramafic, valley and foothill grassland with coastal influence. Open, rocky slopes, often serpentine or clay-dominated.	7-550m PH April-June	**Not Expected:** No suitable serpentine or clay soils/substrates on-site. No dudleyas were found on-site.
Marcescent dudleya *Dudleya cymosa ssp. marcescens*	T	-	1B.2	Chaparral, cismontane woodland: open rocky volcanic slopes	<460m PH May-June	**Not Expected:** Endemic to volcanic substrates; there are no volcanic soils or substrates on the site.

Scientific and Common Name	Status			Habitat Requirements	Elevation Range, Life Form, and Flowering Period	Potential Occurrence
	Federal	State	CNPS			
Conejo dudleya *Dudleya parva*	T	--	1B.2	Rocky or gravelly, clay or volcanic. Coastal scrub, valley and foothill grassland.	60-450m PH May-June	**Not Expected:** Endemic to volcanic substrates; there are no volcanic soils or substrates on the site.
Verity's dudleya *Dudleya verityi*	FT	--	1B.2	North-facing volcanic outcrops.	60-120m PH May-June	**Not Expected:** Endemic to volcanic substrates; there are no volcanic soils or substrates on the site.
Conejo buckwheat *Eriogonum crocatum*	--	R	1B.2	Conejo volcanic outcrops, rocky. Chaparral, Coastal scrub, valley and foothill grassland.	50-580 PH April-July	**Not Expected:** Endemic to volcanic substrates; there are no volcanic soils or substrates on the site.
Ojai fritillary *Fritillaria ojaiensis*	--	--	1B.2	Rocky slopes, river basins in partial shade.	300-500m PH(b) Feb-May	**Not Expected: S**uitable habitat is not present.
Mesa horkelia *Horkelia cuneata var. puberula*	--	--	1B.1	Sandy or gravelly soils in maritime chaparral, cismontane woodland and coastal scrub.	40-1110m PH Feb-Sept	**Not Expected:** Suitable habitat is not present.
Ross' pitcher sage *Lepechinia rossii*	--	--	1B.2	Chaparral.	570-1130m S May-Sept	**Not Expected:** Suitable habitat is not present. All reports in Ventura Co. are from the southern slope of Topatopa Mtn, north of Fillmore.
White-veined monardella *Monardella hypoleuca ssp. hypoleuca*	--	--	1B.1	Saline places, vernal pools or moist areas in and adjacent to riparian habitats.	<1000m AH April-May	**Not Expected:** No suitable mesic or riparian habitat is present on site.
Gerry's curly-leaved monardella *Monardella sinuata ssp. gerryi*	--	--	1B.1	Sandy soils, coastal strand, dune and sagebrush scrub, coastal chaparral and oak woodland	150-245m AH April-Sept	**Not Expected:** Suitable habitats are not present.
Ojai navarretia *Navarretia ojaiensis*	--	--	1B.1	Grasslands; openings is chaparral and coastal scrub; on clay soils.	300-1000m AH May-July	**Low potential:** Clay soils are not present, and none were found.
Chaparral nolina *Nolina cismontana*	--	--	1B.3	Oak woodland, chaparral.	<1500m PH June-August	**Low Potential:** Suitable substrates are present; however, this distinctive plant was not found.
California Orcutt grass *Orcuttia californica*	E	E	1B.1	Vernal pools.	15–660m AH April–August	**Not Expected**: No vernal pool habitat is present.
Lyon's pentachaeta *Pentachaeta lyonii*	E	E	1B.1	Grasslands and openings in chaparral of coastal mtns with heavy and/or clay soils.	200-1300m AH April-July	**Not Expected:** Soils on-site are not clay rich; limited suitable habitat is present. The survey timing would have detected this plant if present.
White rabbit tobacco *Pseudognaphalium leucocephalum*	--	--	2B.2	Sandy, gravelly soils in chaparral, cismontane woodland, coastal scrub and riparian woodland.	PH July-Dec	**Not Expected:** Soils do not appear to be suitable. Most reports are older than 20 years.

Scientific and Common Name	Status			Habitat Requirements	Elevation Range, Life Form, and Flowering Period	Potential Occurrence
	Federal	State	CNPS			
Chaparral ragwort *Senecio aphanactis*	--	--	2B.2	Alkaline endemic in chaparral, coastal sage scrub and woodlands.	10-550M AH Jan-April	**Not Expected:** Alkaline soils are not present on the site
Greata's aster *Symphyotrichum greatae*	--	--	1B.3	Broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest, riparian woodland.	300-2010m PH(r) June-Oct	**Not Expected:** Suitable habitat is not present. Reported north of South Mountain in a different watershed.

STATUS KEY:

Federal

FE: Federally Endangered

FT: Federally Threatened Species

FC: Federal Candidate Species

SC: Species of Concern: An informal term that refers to species considered to be in need of concentrated conservation actions.

State

SE: State Endangered
SR: State Rare

CNPS California rare plant ranks

1A: Plants presumed extirpated in California and either rare or extinct elsewhere
1B: Plants rare, threatened, or endangered in California and elsewhere
2A: Plants presumed extirpated in California, but common elsewhere
2B: Plants rare, threatened, or endangered in California, but more common elsewhere
3: Plants about which more information is needed – a review list
4: Plants of limited distribution – a watch list.

Threat Ranks

0.1: Seriously threatened in California (over 80% occurrences threatened/high degree and immediacy of threat
0.2: Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat.
0.3: Not very threatened in California (less than 20% of occurrences threatened/ low degree and immediacy of threat or no current threats known.

LIFE FORM KEY:

AH:	Annual Herb	(b):	bulb
AG:	Annual Grass	(d):	deciduous
PG:	Perennial Grass	(e):	evergreen
PH:	Perennial Herb	(p):	parasitic
PC:	Perennial Cactus	(r):	rhizomatous
S:	Shrub	(s):	stoloniferous
Ss:	Subshrub		
T:	Tree		
*	No flowering period identified		

APPENDIX B

Observed Flora Spring 2016

Hitch Ranch Spring 2016 Surveys (March, April & May)

FAMILY	SCIENTIFIC NAME	VERNACULAR NAME	ORIGIN
EUDIOCTODAE - EUDICOTS (DICOTS)			
Adoxaceae - Muskroot Family			
	Sambucus nigra ssp. caerulea	Blue elderberry	N
Agavaceae [Liliaceae] - Agave Family			
	Hesperoyucca [*Yucca*] *whipplei*	Chaparral yucca	N
Anacardiaceae - Sumac Family			
	Schinus molle	Peruvian pepper	I
Apiaceae - Carrot Family			
	Foeniculum vulgare	Sweet fennel	I
Apocynaceae - Dogbane Family			
	Asclepias fascicularis	Narrow-leaf milkweed	N
Asphodelaceae - Asphodel Family [Liliaceae]			
	Asphodelus tenuifolius	Onion weed	I
Asteraceae - Sunflower Family			
	Ambrosia artemisifolia	Annual ragweed	I
	Artemisia californica	California sagebrush	N
	Artemisia dracunculus	Wild tarragon	N
	Baccharis pilularis	Coyote bush	N
	Baccharis salicifolia	Mulefat	N
	Centaurea melitensis	Tocalote	I
	Corethrogyne filaginifolia	California aster	N
	Cotula australis	Australian cotula	I
	Deinandra fasciculata	Fascicled tarweed	N
	Encelia californica	California sunflower	N
	Ericameria palmeri	Palmer's goldenbush	N
	Eriophyllum confertiflorum var. confertiflorum	Golden yarrow	N
	Hazardia squarrosa var. grindelioides	Sawtoothed goldenbush	N
	Hedypnois cretica	Crete weed	I
	Helminthotheca [*Picris*] *echioides*	Bristly ox-tongue	I
	Heterotheca grandiflora	Telegraph weed	N
	Hypochaeris glabra	Smooth cat's ear	I
	Logfia gallica	Daggerleaf cottonrose	I
	Matricaria discoides	Pineapple weed	I
	Senecio vulgaris	Common groundsel	I
	Sonchus apser	Prickly sow thistle	I
	Sonchus oleraceus	Common sow thistle	I
	Stephanomeria virgata ssp. virgata	Wand chicory	N
Boraginaceae [Hydrophyllaceae] - Borage Family			
	Amsinckia intermedia	Common fiddleneck	N
	Amsinckia menziesii	Fiddleneck	N
	Pectocarya linearis spp. ferocula	Slender pectocarya	N
	Plagiobothrys canescens var. catalinensis	Popcorn flower	N
Brassicaceae - Mustard Family			
	Capsella bursa-pastoris	Shepard's purse	I
	Descurainia pinnata ssp. menziesii	Tansy mustard	N
	Hirschfeldia incana	Mediterranean mustard	I
	Raphanus sativus	Wild radish	I
	Sisymbrium irio	London rocket	I
Cactaceae - Cactus Family			
	Cylindropuntia prolifera	Coast cholla	N
	Opuntia littoralis	Coastal prickly pear	N

FAMILY	SCIENTIFIC NAME	VERNACULAR NAME	ORIGIN
Chenopodiaceae - Goosefoot Family			
	Atriplex semibaccata	Australian saltbush	I
	Chenopodium californicum	California goosefoot	N
	Chenopodium murale	Nettle-leaved goosefoot	I
	Salsola tragus	Russian thistle; tumbleweed	I
Cleomaceae - Spiderflower Family			
	Peritoma arborea	Bladderpod	N
Convolvulaceae - Morning Glory Family			
	Calystegia macrostegia ssp. intermedia	South coast morning glory	N
	Convolvulus arvensis	Field bindweed	I
	Cuscuta sp.	Dodder	N
Crassulaceae - Stonecrop Family			
	Crassula connata [Tillaea erecta]	Pygmy weed	N
Cucurbitaceae - Gourd Family			
	Cucurbita palmata	Coyote melon	N
	Marah macrocarpus var. macrocarpus	Chilicothe; manroot	N
Euphorbiaceae - Spurge Family			
	Ricinus communis	Castor bean	I
Fabaceae - Pea Family			
	Acmispon glaber var. glaber	Deerweed	N
	Acmispon strigosus	Strigose lotus	N
	Lupinus bicolor	Dove lupine	N
	Lupinus spp.	Lupines	N
	Lupinus succulentus	Arroyo lupine	N
	Medicago polymorpha	Burclover	I
	Melilotus indica	Yellow sweetclover	I
	Vicia villosa ssp. varia	Hairy vetch	I
Geraniaceae - Geranium Family			
	Erodium bothrys	Broad leaf filaree	I
	Erodium cicutarium	Redstem filaree	I
Juglandaceae - Walnut Family			
	Juglans californica	**So.Cal. black walnut**	**RPR 4.2**
Lamiaceae - Mint Family			
	Marrubium vulgare	Horehound	I
	Salvia leucophylla	Purple sage	N
Malvaceae - Mallow Family			
	Malva parviflora	Cheeseweed	I
Myrtaceae - Myrtle Family			
	Eucalyptus spp.	Gum trees	I
Oleaceae - Olive Family			
	Olea europaea	Olive	I
Onagraceae - Evening Primrose Family			
	Camissoniopsis micrantha	Small evening primrose	N
	Oenothera sp.	Gaura	?
Orobanchaceae - Broomrape Family			
	Castilleja exserta ssp. exserta	Purple owl's clover	N
Plantaginaceae [Scrophulariaceae] - Plantain Family			
	Plantago arenaria	Sand plantain	I
Polygonaceae - Buckwheat Family			
	Eriogonum cinereum	Ash-leaf buckwheat	N
	Rumex crispus	Curly dock	I
Rhamnaceae - Buckthorn Family			
	Rhamnus crocea	Spiny redberry	N
	Rhamnus ilicifolia	Hollyleaf cherry	N

FAMILY	SCIENTIFIC NAME	VERNACULAR NAME	ORIGIN
Rubiaceae - Bedstraw Family			
	Galium angustifolium ssp. angustifolium	Narrow-leaf bedstraw	N
Solanaceae - Nightshade Family			
	Datura wrightii	Jimson weed	N
	Nicotiana glauca	Tree tobacco	I
	Solanum elaeagnifolium	White horse-nettle	I
MONOCOTYLEDONAE - MONOCOTS			
Poaceae - Grass Family			
	Avena sp.	Wild oats	I
	Bromus diandrus	Ripgut brome	I
	Bromus hordeaceus	Soft chess	I
	Bromus madritensis ssp. rubens	Foxtail brome	I
	Bromus tectorum	Cheatgrass	I
	Cynodon dactylon	Bermuda grass	I
	Distichlis spicata	Salt grass	N
	Elymus [Leymus] condensatus	Giant rye	N
	Festuca [*Vulpia*] myuros	Rat tail fescue	I
	Hordeum murinum	Foxtail barley	I
	Hordeum murinum ssp. leporinum	Mediterranean barley	I
	Lamarkia aurea	Goldentop grass	I
	Schismus arabicus	Arabian grass	I
	Stipa lepida	Foothill needlegrass	N
	Stipa miliacea	Smilo grass	I
	Stipa pulchra	Purple needlegrass	N
Themidaceae [Liliaceae] - Lily Family			
	Dichelostemma capitatum ssp. *capitatum*	Wild hyacinth	N

G

August 2020 Tree Survey

TREE REPORT

SUBJECT
Hitch Ranch - Tentative Tract Map No. 5708
Moorpark

PREPARED FOR
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El Segundo, CA 90245

PREPARED BY

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Date: January 28, 2020
Revised Date: August 6, 2020

LNDG Project No.: 200-772

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OBJECTIVES

The objective of this report is to qualify the present condition of the site's trees and to discuss the potential encroachments to them. This involved:

1. Determining the physiological condition of each tree;
2. Ascertaining the encroachments that will occur due to grading (see site plan/**TREE LOCATION MAP)**;

METHODS OF STUDY

Qualification of this site's trees was accomplished by the use of our standard visual survey, as completed by L. NEWMAN DESIGN GROUP, INC. (**LNDG**) in December of 2020 in accordance with the City of Moorpark Municipal Code Title 12, Chapter 12.12, Historic Trees, Native Oak Trees, and Mature Trees. In the course of the fieldwork, we performed the following:

1. Tree trunks were measured at 4½' above mean natural grade;
2. The trees were tagged with numbered, metal tags. These tags were affixed to the sides of the trees and correspond to the numbers on the **TREE LOCATION MAP**;
3. All of the inventoried trees were located by LNDG on a topographic map/site plan (scale: 1" = 60') prepared by Encompass consultant Group. Refer to the **TREE LOCATION MAP** included herein for the approximate tree locations.

TREE SPECIES

Nearly all of the trees on this site are either blue gums (36 per cent) or Peruvian pepper trees (55 per cent). The blue gums were historically planted for agricultural purposes and have become naturalized. The pepper trees are a common landscape plant and also have become naturalized.

The 2 dominant species on this site and other species present are included on the 410 - Prohibited Plant List (April 2019) published by the Ventura County Fire Protection District. Refer to the Appendix in this report that contains this list which is a list of plants that the Ventura County Fire Department recommends be removed or thinned in Defensible Spaces and Fuel Modification Zones as they define them. The species of trees present on the subject site are:

Qty	Species	Common Name
1	*Cupressus sp.*	Cypress*
98	*Eucalyptus globulus*	Blue gum*
3	*Eucalyptus vimiinalis*	White gum*
1	*Pinus species*	Pine tree*
2	*Rhus lancea*	African sumac
19	*Sambucus mexicana*	Elderberry
146	*Schinus molle*	Peruvian pepper tree*
1	*Ulmus parvifolia*	Chinese elm
5	*Washingtonia robusta*	Mexican fan palm*
6	*Juglans californica*	California black walnut
282		

*Trees that are included on the Ventura County Fire Protection District, 410-Prohibited Plant List.

In comparing the results of this report to the 2019 biological survey, there appear to be 2 discrepancies in the mature tree total but they are not significant. There are approximately 30 fewer mature eucalyptus trees in this report due to the difficulty of distinguishing multiples trunks that are arranged in the windrows. Arborists may differ whether a tree has multiple trunks or the multiple trunks are individual trees. Also, there may have been some mortality of the eucalyptus between the two surveys. There are over 100 mature pepper trees in this report as compared to the 2019 survey which counted 32 mature pepper trees but over 200 immature pepper trees, most of which were badly burned a few years ago. The discrepancy in the mature tree count may be explained by the growth that occurred between the dates of the field work for each study. The pepper trees that burned to stumps prior to both surveys have sprouted new, fast-growing stems since. The definition of a mature tree includes the cumulative square inches of the individual stems. Therefore, multiple small stems can add up to the total square inches required to be considered mature. The increased stem diameter may explain why they were considered immature in 2019 and mature in 2020. All of the walnut trees were finally determined to be *Juglans californica.* The previous study noted one *Juglans nigra* but we now know that it is a *Juglans californica*.

TREE PROTECTION GUIDELINES

The City of Moorpark Zoning Ordinance provides for the protection of certain species of trees, defined as "Protected Trees": in Ordinance 101, Chapter 14.09 - Preservation, Cutting, and Removal of Historical Trees, Native Oak Trees and Mature Trees; and in Ordinance 102, Chapter 14.08 - Planting and Maintenance of Trees, Shrubs and Plants.

Ordinance 101, Section 14.09.101 - Intent and Purpose - It is the determination of the Moorpark City Council that proper and necessary steps should be taken in order to protect and preserve, to the greatest extent possible, mature trees, native Oak trees and historic trees, especially where such trees are associated with proposals for urban development, as such trees are a significant, historical, aesthetic and valuable ecological resource. It is the intent to maintain and enhance the general health, safety and welfare of the citizens of the City by assisting in counteracting air pollution, by minimizing soil erosion and other related environmental damage and by enhancing the aesthetic environment of the City.

Ordinance 102, Section 14.08.101 - Intent and Purpose - Consistent with Chapter 14.09 regulating the preservation, cutting and removal of historic trees, native Oak trees and mature trees and Resolution No. 88-520 setting forth Guidelines for a Master Tree Plan, it shall be the City's policy to utilize whatever techniques, methods and procedures are required to preserve, whenever feasible, all trees in the City including, but not limited to, trees which are creating damage to surface improvements or underground facilities or which are diseased, or located where construction is being considered or will occur.

TREES OF CONCERN

Historical Tree - Any tree or group of trees identified by the City as a landmark, or identified on the Federal or California Historic Resources Inventory to be of historical or cultural significance or identified as contributing to a site or structure of historical or cultural significance.

Mature Tree - All trunks of any tree shall be measured at 4½'. If the trunk of any oak tree trunk exceeds 4 inches in diameter or if the trunk of any other tree species exceeds 9½ inches in diameter, it is to be included in the inventory. Regrowing stumps are not to be included.

Native Oak Tree - Is any living tree of the genus *Quercus* and of the species *agrifolia*, *berberidifolia*, *dumosa*, *lobata* or hybrids thereof.

RESULTS OF STUDY

1. **Physiological Condition of the Trees**

    a. The physiological condition of each tree is shown in the **FIELD OBSERVATION SHEETS**. Nearly all of the trees were damaged in the fire that swept through this area roughly 15 to 20 years ago. Many appear to have been burned to the ground and have re-sprouted from the stumps. Half of the trees are multiple-trunk, Peruvian pepper trees that have become naturalized in southern California. Many of the pepper trees that are on the site are under size and are not a part of this inventory. Although pepper trees make good ornamental trees in cultivated landscapes, they are considered invasive species in the native landscape. Almost half of the trees are blue gums (eucalyptus trees) that are also considered an invasive species in California.

    b. A numerous native tree-like shrub is the California elderberry. Although 19 of the larger ones were included in this inventory, the other numerous, multi-stemmed ones were not. They are not true trees and were not given an appraised value.

2. **Summary of Data/Plan Review**

    a. All of the mature trees included in this inventory will be removed. Most of the trees will be removed due to their locations within the limit of grading. All of the eucalyptus trees and pepper trees will removed because they are on the 410-Excluded Plant List. they are invasive and tend to naturalize in southern California

    b. A circle for each tree is shown on the **TREE LOCATION MAP** to graphically represent its approximate crown spread. The trees were not precisely land surveyed but were accurately located by LNDG based on the topographic survey plan.

3. **Tree Appraisals**

    a. The replacement value of each inventoried tree was established by using the 9th Edition of the *Guide for Plant Evaluation*, as prepared for the International Society of Arboriculture by the Council of Tree and Landscape Appraisers.

b. Refer to the appendix for the appraised value of each tree using the standard trunk formula method including trunk diameter, tree species, health, aesthetics and location.

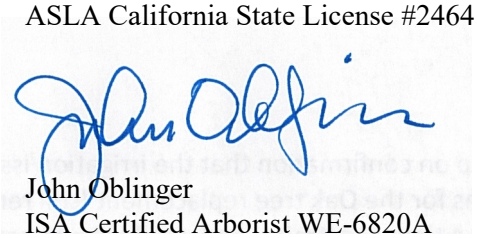
c. The total value of all of the trees as of the date of this report is $558,738.

NOTICE OF DISCLAIMER:

This report represents the independent opinion of the signatory consultant (L. NEWMAN DESIGN GROUP, INC.). The tree(s) discussed herein was/were generally reviewed for physical, biological function and aesthetic conditions. This examination was conducted in accordance with presently accepted industry procedures, which are a ground-plane macro-visual observation only. No extensive micro-biological, soil-root excavations, upper crown examination nor internal tree investigations were conducted and therefore, the reporting herein reflects the overall visual appearance of the tree(s) on the date reviewed and no warranty is implied as to the potential failure, health or demise of any part or of whole of any tree described in the report. Records may not remain accurate after our inspection due to unknown causes of changeable deterioration of the reviewed site.

Respectfully submitted,

L. NEWMAN DESIGN GROUP, INC.
ASLA California State License #2464



John Oblinger
ISA Certified Arborist WE-6820A
ISA Tree Risk Assessor Qualified

SUMMARY OF FIELD OBSERVATIONS

INSPECTION NOTICE

The following information was observed on the date(s) indicated herein, and should only be considered true at the time of field inspection.

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	1	2	3	4	5	6	7	8	9	10
	TREE TAG NUMBER	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510
SPECIES	*Eucalyptus globulus*	X				X		X			X
	Schinus molle		X	X	X		X		X	X	
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	18" 10" 8" 6"	8" 7" 7"	13" 8" 7"	15"	9" 8" 8" 8" 8" 8" 7" 7" 6" 6"	10" 7" 7" 7" 6" 6" 4" 4"	8" 7" 6"	10" 9" 8" 7" 7" 7" 5" 4"	8" 8" 6" 6"	19"
	TREE HEIGHT (APPROX)	25'	20'	30'	30'	35'	30'	30'	30'	20'	20'
	CROWN SPREAD	25'	20'	35'	35'	30'	30'	20'	35'	25'	20'
RATING	HEALTH	C	B	C	C	C	C	C	B	B	D
	FORM	C	B	C	C	C	C	C	C	B	D

SUMMARY OF FIELD OBSERVATIONS

		11	12	13	14	15	16	17	18	19	20
	TREE NUMBER	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520
SPECIES	*Eucalyptus globulus*	X	X	X							
	Schinus molle				X	X	X	X	X	X	X
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	15"	18"	17"	8" 7" 7" 6"	6" 6" 6" 5"	6" 6" 5" 4"	6" 5" 5" 4"	10" 5" 4"	6" 5" 5" 4"	6" 6" 4" 4" 4"
	TREE HEIGHT (APPROX)	20'	35'	30'	18'	15'	20'	18'	20'	20'	20'
	CROWN SPREAD	15'	20'	20'	25'	25'	30'	25'	30'	20'	25'
RATING	HEALTH	D	C	C	C	C	C	C	C	C	C
	FORM	D	D	C	C	C	C	C	C	C	C

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	21	22	23	24	25	26	27	28	29	30
	TREE TAG NUMBER	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530
SPECIES	*Eucalyptus globulus*	X									
	Schinus molle		X	X	X		X	X	X	X	X
	Pinus species										
	Rhus lancea					X					
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	27"	8" 7" 7" 4" 4"	6" 6" 5"	7" 6" 5" 5" 4" 3" 3" 3"	9" 8" 7" 7"	8" 7" 7" 6" 5"	5" 5" 5" 4" 4"	10"	6" 6" 4" 4" 3"	8" 7" 5" 5" 4"
	TREE HEIGHT (APPROX)	50'	25'	18'	25'	30'	20'	20'	20'	15'	20'
	CROWN SPREAD	40'	25'	25'	25'	40'	25'	20'	18'	18'	30'
RATING	HEALTH	C-	B	B	B	D	B	B	C	C	C
	FORM	C-	C	B	C	D	B	B	C	C	C

SUMMARY OF FIELD OBSERVATIONS

		31	32	33	34	35	36	37	38	39	40
	TREE NUMBER	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540
SPECIES	*Eucalyptus globulus*									X	
	Schinus molle	X	X	X	X	X	X	X	X		X
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	7" 6" 6" 6" 4" 4"	7" 7" 5"	9" 8" 6" 5" 4"	6" 5" 5" 5" 4"	8" 5" 3"	7" 5" 4" 3"	8" 7" 7"	10" 7" 7" 4"	9" 7" 4" 3"	7" 6" 5" 4"
	TREE HEIGHT (APPROX)	20'	18'	20'	20'	20'	20'	25'	25'	30'	30'
	CROWN SPREAD	40'	25'	30'	25'	25'	20'	20'	35'	20'	40'
RATING	HEALTH	B	B	B	B	B	B	C	B	B	B
	FORM	C	B	B	B	C	C	C	B	B	C

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	41	42	43	44	45	46	47	48	49	50
	TREE TAG NUMBER	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550
SPECIES	*Eucalyptus globulus*										
	Schinus molle	X	X	X	X	X	X	X	X	X	X
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	9" 8" 7"	7" 4" 4" 3" 3" 3"	6" 6" 6" 4" 3"	9" 7"	8" 6" 6" 4"	9" 8" 7" 6" 3" 3"	7" 7" 7"	10"	11" 8"	7" 6" 5" 5" 4"
	TREE HEIGHT (APPROX)	30'	20'	18'	20'	20'	30'	15'	20'	30'	20'
	CROWN SPREAD	35'	20'	25'	25'	25'	35'	20'	18'	35'	30'
RATING	HEALTH	C	B	B	C	B	B	B	C	C	C
	FORM	C	C	C	C	C	A	B	C	C	C

SUMMARY OF FIELD OBSERVATIONS

		51	52	53	54	55	56	57	58	59	60
	TREE NUMBER	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560
SPECIES	*Eucalyptus globulus*										
	Schinus molle	X	X	X	X	X	X	X	X	X	X
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	6" 6" 5" 5" 4"	12" 8" 8" 5"	11" 8" 6" 4" 4"	9" 7" 6" 4"	9" 8" 7"	9" 7" 6" 3"	7" 7" 6" 6" 6" 5" 5"	7" 6" 6" 4" 4"	7" 6" 6" 4" 3" 2"	9" 6"
	TREE HEIGHT (APPROX)	20'	25'	30'	25'	20'	25'	25'	30'	25'	20'
	CROWN SPREAD	20'	30'	35'	30'	25'	25'	35'	25'	30'	25'
RATING	HEALTH	B	C	C	C	C	C	C	C	C	C
	FORM	B	C	C	C	C	C	C	C	C	C

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	61	62	63	64	65	66	67	68	69	70
	TREE TAG NUMBER	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570
SPECIES	*Eucalyptus globulus*										
	Schinus molle	X	X	X	X	X	X	X	X	X	X
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	7" 6" 5" 5"	8" 6" 6" 5" 4" 4"	8" 6" 4"	7" 7" 6" 6" 6" 5" 5" 5"	8" 4" 3" 3" 3"	7" 6" 5" 4"	9" 3" 3"	7" 6" 5" 4"	7" 6" 4"	6" 6" 5" 4"
	TREE HEIGHT (APPROX)	18'	30'	25'	20'	20'	20'	18'	20'	20'	20'
	CROWN SPREAD	25'	30'	30'	35'	20'	25'	20'	20'	20'	25'
RATING	HEALTH	C	C	C	C	C	C	B	C	C	C
	FORM	C	C	C	C	B	C	B	C	C	C

SUMMARY OF FIELD OBSERVATIONS

		71	72	73	74	75	76	77	78	79	80
	TREE NUMBER	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580
SPECIES	*Eucalyptus globulus*		X	X	X	X	X	X	X	X	X
	Schinus molle	X									
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	9" 6" 6" 5" 5" 5" 5"	24"	27"	22" 8"	6" 6" 6" 6" 6" 5"	10"	8" 6" 6"	10" 7" 7" 5"	8" 7" 7" 7"	8" 8" 8" 7" 7"
	TREE HEIGHT (APPROX)	25'	30'	30'	30'	30'	30'	30'	25'	30'	30'
	CROWN SPREAD	30'	20'	25'	20'	25'	25'	15'	30'	25'	25'
RATING	HEALTH	C	C	C	C	C	C	B	C	C	C
	FORM	C	D	D	D	D	C	B	D	D	D

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	81	82	83	84	85	86	87	88	89	90
	TREE TAG NUMBER	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590
SPECIES	*Eucalyptus globulus*	X	X	X	X	X	X				
	Schinus molle							X	X	X	X
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	25"	29"	10"	10"	10"	10"	7" 6" 5"	7" 6" 6" 5" 3"	8" 7" 6" 5"	6" 6" 5" 5"
	TREE HEIGHT (APPROX)	50'	50'	30'	25'	25'	20'	25'	20'	25'	18'
	CROWN SPREAD	20'	25'	15'	10'	15'	10'	35'	30'	25'	25'
RATING	HEALTH	C	C	B	B	B	D	B	C	C	B
	FORM	D	D	C	C	C	D	B	C	C	C

SUMMARY OF FIELD OBSERVATIONS

		91	92	93	94	95	96	97	98	99	100
	TREE NUMBER	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600
SPECIES	*Eucalyptus globulus*										X
	Schinus molle	X	X	X	X	X	X	X	X	X	
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	7" 6" 5" 3"	8" 7" 7"	11" 8" 7" 6" 3" 3"	8" 6" 4" 2"	6" 6" 5" 5" 4"	5" 5" 4" 4" 4"	5" 4" 4" 4" 3" 2" 2"	7" 6" 4" 4" 3" 3"	8" 7" 5" 3"	11" 10" 7" 6"
	TREE HEIGHT (APPROX)	20'	20'	30'	18'	18'	18'	20'	20'	18'	35'
	CROWN SPREAD	25'	20'	35'	20'	20'	20'	20'	20'	20'	25'
RATING	HEALTH	C	C	C	C	B	B	B	B	B	B
	FORM	C	C	C	C	C	C	C	C	C	C

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	101	102	103	104	105	106	107	108	109	110
	TREE TAG NUMBER	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610
SPECIES	*Eucalyptus globulus*	X	X	X	X	X	X	X	X	X	X
	Schinus molle										
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	6" 6" 5" 5" 3" 3"	9" 7" 6"	12" 7" 6"	15" 13"	14" 5" 5" 2"	6" 5" 5" 4" 3"	14"	28" 7" 6" 5" 4" 4" 4"	12" 11"	18" 10" 4"
	TREE HEIGHT (APPROX)	35'	30'	25'	25'	40'	20'	20'	70'	30'	40'
	CROWN SPREAD	25'	25'	20'	30'	20'	25'	20'	40'	35'	35'
RATING	HEALTH	B	B	B	B	B	B	C	C-	B	B
	FORM	C	B	C	B	B	B	C	C-	B	B

SUMMARY OF FIELD OBSERVATIONS

		111	112	113	114	115	116	117	118	119	120
	TREE NUMBER	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620
SPECIES	*Eucalyptus globulus*		X	X	X	X			X	X	X
	Schinus molle	X					X				
	Pinus species										
	Rhus lancea							X			
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	12" 9" 7" 6" 6"	35"	34"	18" 9"	25"	8" 7" 3"	7" 7" 6" 6" 5" 4" 4" 4" 4" 3"	18" 7" 5"	11" 5"	10"
	TREE HEIGHT (APPROX)	20'	50'	45'	50'	40'	25'	20'	35'	35'	30'
	CROWN SPREAD	40'	40'	30'	25'	25'	20'	35'	25'	20'	10'
RATING	HEALTH	B	C-	B	B	D	B	C	B	B	C
	FORM	B	C-	B	C	D	B	C	B	B	C

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	121	122	123	124	125	126	127	128	129	130
	TREE TAG NUMBER	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630
SPECIES	*Eucalyptus globulus*	X	X	X	X		X	X			
	Schinus molle					X					
	Pinus species									X	
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta								X		X
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	11"	11" 9" 7"	8" 6" 4" 3"	8" 4" 4" 4" 3" 3"	10" 8" 8" 8" 7" 7" 5"	29" 6" 5" 5" 4" 4"	7" 7" 6" 3" 3" 3" 3" 3" 3"	13"	24"	16"
	TREE HEIGHT (APPROX)	30'	30'	30'	30'	30'	35'	25'	20'	20'	40'
	CROWN SPREAD	20'	20'	25'	25'	25'	30'	25'	8'	35'	10'
RATING	HEALTH	C	B	C	B	C	D	B	B	B	B
	FORM	C	C	C	B	C	C	B	B	B	B

SUMMARY OF FIELD OBSERVATIONS

		131	132	133	134	135	136	137	138	139	140
	TREE NUMBER	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640
SPECIES	*Eucalyptus globulus*			X	X	X	X	X	X	X	X
	Schinus molle										
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta	X	X								
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	17"	14"	20" 9" 8" 6" 5"	13" 7" 7" 6"	16"	14"	8" 8" 7" 7" 6" 5" 5"	19" 11" 9"	9" 9" 9" 8" 5" 5" 5"	11" 10"
	TREE HEIGHT (APPROX)	40'	25'	40'	45'	45'	40'	45'	45'	35'	40'
	CROWN SPREAD	8'	8'	40'	25'	20'	25'	25'	30'	30'	25'
RATING	HEALTH	B	B	B	B	B	B	B	B	B	B
	FORM	B	B	B	B	B	B	B	B	B	A

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	141	142	143	144	145	146	147	148	149	150
	TREE TAG NUMBER	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650
SPECIES	*Eucalyptus globulus*	X	X	X	X		X	X	X	X	X
	Schinus molle					X					
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	7" 7" 7" 6" 5" 4"	8" 7" 5" 4"	10" 10" 8"	10"	18" 16" 8" 8" 7" 6"	18" 12" 11" 11"	11" 9"	11" 8" 4"	13" 12" 9" 8" 7"	27"
	TREE HEIGHT (APPROX)	30'	40'	40'	35'	40'	50'	45'	35'	50'	45'
	CROWN SPREAD	20'	20'	30'	20'	50'	35'	25'	25'	40'	40'
RATING	HEALTH	C	B	B	B	B	B	B	B	C	C
	FORM	C	B	B	B	B	B	B	B	C	C

SUMMARY OF FIELD OBSERVATIONS

		151	152	153	154	155	156	157	158	159	160
	TREE NUMBER	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660
SPECIES	*Eucalyptus globulus*	X	X	X	X	X	X	X	X	X	X
	Schinus molle										
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	18"	18"	20"	7" 7" 7"	30"	10" 9" 8"	8" 7"	28" 8"	9" 8" 8" 7" 4" 3"	8" 6" 5" 4"
	TREE HEIGHT (APPROX)	45'	45'	40'	40'	35'	40'	30'	60'	30'	30'
	CROWN SPREAD	20'	25'	25'	20'	25'	35'	20'	45'	30'	20'
RATING	HEALTH	C	C	C	B	C	B	B	C	C	C
	FORM	C	C	C	B	C	B	B	C	C	C

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	161	162	163	164	165	166	167	168	169	170
	TREE TAG NUMBER	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670
SPECIES	*Eucalyptus globulus*	X	X	X							
	Schinus molle				X	X	X	X	X	X	X
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	8" 8" 7" 5" 4" 4"	55"	24" 6" 6"	25"	22" 20"	16" 15" 8"	15" 8"	12" 12" 12" 9"	14" 12" 7"	7" 7" 7" 6"
	TREE HEIGHT (APPROX)	30'	50'	35'	30'	40'	35'	35'	35'	35'	20'
	CROWN SPREAD	25'	40'	35'	30'	25'	25'	25'	25'	25'	25'
RATING	HEALTH	C	D	C	B	B	B	B	B	B	B
	FORM	C	C	C	B	C	B	B	B	B	B

SUMMARY OF FIELD OBSERVATIONS

		171	172	173	174	175	176	177	178	179	180
	TREE NUMBER	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680
SPECIES	*Eucalyptus globulus*										
	Schinus molle	X	X	X					X	X	X
	Pinus species										
	Rhus lancea										
	Sambucus mexicana				X	X	X				
	Washingtonia robusta										
	Juglans californica							X			
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	7" 6" 5"	18"	16" 9" 8"	5" 5" 5" 4" 3"	8" 7" 4"	8" 7" 7" 6" 6" 6" 4" 3"	8" 7" 7" 7" 6" 6" 6"	16" 16"	9"	15" 14"
	TREE HEIGHT (APPROX)	20'	25'	25'	15'	18'	15'	40'	25'	25'	40'
	CROWN SPREAD	25'	25'	25'	20'	18'	25'	40'	35'	15'	35'
RATING	HEALTH	B	C-	C-	C	C	C	B	B	C	B
	FORM	C	C-	C-	C	C	C	B	B	C	B

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	181	182	183	184	185	186	187	188	189	190
	TREE TAG NUMBER	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690
SPECIES	*Eucalyptus globulus*										
	Schinus molle	X	X	X	X	X	X	X	X	X	X
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	13" 11" 11" 10" 5" 4"	8" 7" 7" 4"	10" 10" 9" 7" 7" 6" 5"	11"	9" 8" 8" 7" 5" 5"	8" 7" 6" 5"	28" 11"	7" 7" 6" 5" 5"	9" 8" 8" 7" 7" 6" 6" 6" 5" 4"	10" 10" 7" 5" 5" 3"
	TREE HEIGHT (APPROX)	30'	30'	30'	30'	25'	20'	35'	25'	35'	30'
	CROWN SPREAD	30'	30'	30'	25'	30'	20'	35'	20'	30'	25'
RATING	HEALTH	B	C	C	C	B	B	C	C	C	C
	FORM	B	C	C	C	C	B	C	C	C	C

SUMMARY OF FIELD OBSERVATIONS

		191	192	193	194	195	196	197	198	199	200
	TREE NUMBER	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700
SPECIES	*Eucalyptus globulus*										
	Schinus molle	X	X	X	X	X	X	X	X	X	X
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	8" 8" 7" 7" 6" 6"	10" 9" 9" 8" 8" 7" 4"	12" 8" 6"	7" 6" 6" 5"	11" 9"	10" 9"	7" 6" 5"	12" 6"	14" 13"	9" 8" 6"
	TREE HEIGHT (APPROX)	30'	35'	30'	30'	30'	25'	25'	35'	35'	30'
	CROWN SPREAD	30'	35'	30'	20'	25'	20'	20'	30'	30'	35'
RATING	HEALTH	B	C	B	C	C	C	C	B	B	B
	FORM	B	C	B	C	C	C	C	B	B	B

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	201	202	203	204	205	206	207	208	209	210
	TREE TAG NUMBER	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710
SPECIES	*Eucalyptus globulus*						X	X	X	X	X
	Schinus molle	X	X	X	X	X					
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	10"	12" 7" 6"	8" 7" 7" 7" 6"	6" 5" 5" 5" 3"	7" 7" 4"	15" 15" 12" 10" 8" 6"	28" 9" 8" 6"	9" 8" 8" 7" 7" 6" 6"	24" 7"	30"
	TREE HEIGHT (APPROX)	25'	35'	30'	20'	20'	50'	60'	45'	50'	60'
	CROWN SPREAD	20'	30'	30'	20'	25'	30'	35'	35'	40'	40'
RATING	HEALTH	B	B	B	B	B	C	C	C	C	C
	FORM	C	B	B	B	C	C	C	C	C	C

SUMMARY OF FIELD OBSERVATIONS

		211	212	213	214	215	216	217	218	219	220
	TREE NUMBER	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720
SPECIES	*Eucalyptus globulus*		X								
	Schinus molle	X		X	X	X	X	X	X	X	X
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	25" 10"	36"	14" 10" 9" 8" 8" 7"	9" 6"	9" 9" 7"	7" 5" 4"	10" 9" 4" 4" 4"	13" 11" 7"	10" 8" 8" 4"	9" 9" 9" 7" 6"
	TREE HEIGHT (APPROX)	45'	60'	40'	25'	30'	20'	25'	30'	20'	30'
	CROWN SPREAD	35'	50'	50'	25'	25'	15'	25'	35'	20'	25'
RATING	HEALTH	C	C	B	C	B	C	B	C	C	C
	FORM	C	C	B	C	B	C	C	C	C	C

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	221	222	223	224	225	226	227	228	229	230
	TREE TAG NUMBER	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730
SPECIES	*Eucalyptus globulus*	X		X		X	X	X		X	X
	Schinus molle										
	Pinus species										
	Rhus lancea										
	Sambucus mexicana				X				X		
	Washingtonia robusta		X								
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	35"	16"	40"	12"	11" 8"	8" 8" 8" 8" 7" 7"	10" 10" 10" 8" 8" 8"	7" 7"	9" 8" 8" 7" 7" 7" 6" 6"	10" 8" 6"
	TREE HEIGHT (APPROX)	70'	40'	70'	25'	30'	40'	40'	20'	50'	40'
	CROWN SPREAD	40'	15'	40'	20'	18'	25'	35'	20'	30'	30'
RATING	HEALTH	C	C	C	B	B	C	C	C	B	C
	FORM	C	B	C	B	B	C	C	C	C	C

SUMMARY OF FIELD OBSERVATIONS

		231	232	233	234	235	236	237	238	239	240
	TREE NUMBER	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740
SPECIES	*Eucalyptus globulus*		X	X					X	X	X
	Schinus molle	X			X	X	X	X			
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	12" 10"	40"	23"	9" 8"	13" 12" 8"	9" 8" 6"	9" 7" 6" 5" 5" 5" 5" 4" 4"	22" 8"	17" 15"	26" 15"
	TREE HEIGHT (APPROX)	25'	50'	50'	30'	30'	30'	25'	80'	50'	60'
	CROWN SPREAD	20'	40'	25'	25'	30'	25'	25'	30'	35'	40'
RATING	HEALTH	C	C-	D	C	C	C	C	C-	C	C
	FORM	C	C-	D	C	C	C	C	C-	C	C

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	241	242	243	244	245	246	247	248	249	250
	TREE TAG NUMBER	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750
SPECIES	*Eucalyptus globulus*		X	X							
	Schinus molle	X						X			X
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
	Juglans californica				X	X	X		X		
	Ulmus parvifolia									X	
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	10" 7" 7" 6"	16"	22"	6" 6" 6" 5" 3" 3" 3"	8" 6" 5" 4"	9" 6" 6" 5" 5" 5" 5" 4" 4"	11" 10" 9" 9" 6"	7" 6" 6" 5"	8" 6"	7" 6" 6" 6" 5" 5" 5" 5" 4" 4"
	TREE HEIGHT (APPROX)	35'	30'	60'	30'	30'	30'	25'	20'	25'	25'
	CROWN SPREAD	30'	20'	40'	30'	30'	30'	30'	20'	30'	30'
RATING	HEALTH	C	C	C	B	B	B	B	C	C	B
	FORM	C	C	C	B	B	B	B	C	C	C

SUMMARY OF FIELD OBSERVATIONS

		251	252	253	254	255	256	257	258	259	260
	TREE NUMBER	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760
SPECIES	*Eucalyptus globulus*										
	Schinus molle	X	X	X	X	X	X	X			
	Pinus species										
	Rhus lancea										
	Sambucus mexicana										
	Washingtonia robusta										
	Cupressus sp.								X		
	Eucalyptus species									X	X
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	24"	24" 18"	24" 12"	13" 12"	8" 6"	23" 16"	10" 9"	9" 9" 8"	18" 6" 6" 6" 6"	30"
	TREE HEIGHT (APPROX)	50'	50'	50'	50'	25'	30'	25'	45'	40'	60'
	CROWN SPREAD	35'	40'	40'	40'	25'	35'	30'	20'	30'	35'
RATING	HEALTH	B	B	B	B	C	C	C	D	C-	C
	FORM	C	C	B	B	C	C	C	D	C-	C

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	261	262	263	264	265	266	267	268	269	270
	TREE TAG NUMBER	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770
SPECIES	*Eucalyptus globulus*										
	Schinus molle	X	X	X	X	X		X			
	Pinus species										
	Rhus lancea										
	Sambucus mexicana									X	X
	Washingtonia robusta										
	Eucalyptus species						X				
	Juglans californica								X		
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	9" 9" 8" 8"	8" 6" 6" 5" 5" 4"	8" 8" 7" 7" 6" 5" 4" 3" 3"	8" 7" 7" 5"	8" 6" 4"	9" 7" 7" 5" 4" 4" 4"	9" 8" 6" 5" 5" 4"	6" 6" 2" 2"	5" 5" 5" 4" 4" 3" 3" 3" 2" 2"	5" 5" 4" 4" 4" 3" 3" 3" 2"
	TREE HEIGHT (APPROX)	20'	18'	18'	20'	20'	40'	20'	20'	20'	15'
	CROWN SPREAD	30'	25'	20'	20'	20'	20'	20'	20'	30'	20'
RATING	HEALTH	B	B	B	B	C	C	B	B	C	C
	FORM	B	B	B	B	C	C	C	C	C	C

SUMMARY OF FIELD OBSERVATIONS

		271	272	273	274	275	276	277	278	279	280
	TREE NUMBER	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780
SPECIES	*Eucalyptus globulus*										
	Schinus molle										
	Pinus species										
	Rhus lancea										
	Sambucus mexicana	X	X	X	X	X	X	X	X	X	X
	Washingtonia robusta										
	Cupressus sp.										
	Eucalyptus species										
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	5" 5" 3" 3" 2" 2" 2"	6" 6" 5" 5" 4" 3" 2" 2"	6" 5" 4" 4" 3" 3"	8" 7" 6" 6" 5" 4" 3" 3" 3"	5" 5" 4" 3" 3" 3" 2" 2" 2"	5" 5" 5" 4" 3" 2" 2" 2"	4" 4" 4" 3" 3" 3" 2" 2" 2" 2"	6" 6" 6" 4" 3" 3"	7" 6" 5" 3" 2" 2"	8" 7" 4" 3"
	TREE HEIGHT (APPROX)	15'	20'	20'	20'	20'	15'	20'	15'	15'	15'
	CROWN SPREAD	20'	25'	25'	25'	20'	20'	20'	15'	20'	20'
RATING	HEALTH	C	C	C	C	C	C	C	C	C	C
	FORM	C	C	C	C	C	C	C	C	C	C

SUMMARY OF FIELD OBSERVATIONS

	INVENTORY NUMBER	281	282
	TREE TAG NUMBER	2781	2782
SPECIES	*Eucalyptus globulus*		
	Schinus molle		
	Pinus species		
	Rhus lancea		
	Sambucus mexicana	X	X
	Washingtonia robusta		
	Juglans californica		
	Ulmus parvifolia		
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)	6" 6" 4" 4" 3" 2" 2"	6" 5" 3" 3" 2" 2"
	TREE HEIGHT (APPROX)	15'	15'
	CROWN SPREAD	20'	20'
RATING	HEALTH	C	C
	FORM	C	C

SUMMARY OF FIELD OBSERVATIONS

	TREE NUMBER		
SPECIES	*Eucalyptus globulus*		
	Schinus molle		
	Pinus species		
	Rhus lancea		
	Sambucus mexicana		
	Washingtonia robusta		
	Cupressus sp.		
	Eucalyptus species		
FORM	DIAMETER OF TRUNKS AT 4.5' ABOVE EXISTING GRADE (DBH)		
	TREE HEIGHT (APPROX)		
	CROWN SPREAD		
RATING	HEALTH		
	FORM		

TREE VALUATIONS

Tree Appraisals

InveIntory #	Tree Tag #	Trunk Area	Value
1	2501	411.3	$3,887
2	2502	127.2	$1,005
3	2503	221.4	$1,235
4	2504	176.6	$986
5	2505	420.0	$4,236
6	2506	289.7	$1,616
7	2507	117.0	$1,105
8	2508	339.9	$2,213
9	2509	157.0	$1,241
10	2510	283.4	$1,116
11	2511	176.6	$695
12	2512	254.3	$1,602
13	2513	226.9	$2,144
14	2514	155.4	$867
15	2515	104.4	$583
16	2516	88.7	$495
17	2517	80.1	$447
18	2518	110.7	$618
19	2519	80.1	$447
20	2520	94.2	$526
21	2521	572.3	$4,507
22	2522	152.3	$991
23	2523	76.1	$602
24	2524	139.7	$910
25	2525	190.8	$1,402
26	2526	175.1	$1,384
27	2527	84.0	$664
28	2528	78.5	$438
29	2529	88.7	$495
30	2530	140.5	$784
31	2531	148.4	$966
32	2532	96.6	$763
33	2533	174.3	$1,378
34	2534	99.7	$788
35	2535	76.9	$501
36	2536	77.7	$506
37	2537	127.2	$710
38	2538	168.0	$1,328
39	2539	121.7	$1,629
40	2540	98.9	$644
41	2541	152.3	$850
42	2542	84.8	$552
43	2543	104.4	$680
44	2544	102.1	$569
45	2545	119.3	$777
46	2546	194.7	$1,629
47	2547	115.4	$912
48	2548	78.5	$438
49	2549	145.2	$810
50	2550	118.5	$661
51	2551	108.3	$856

Tree Appraisals

InveIntory #	Tree Tag #	Trunk Area	Value
52	2552	233.1	$1,301
53	2553	198.6	$1,108
54	2554	142.9	$797
55	2555	152.3	$850
56	2556	137.4	$767
57	2557	201.0	$1,121
58	2558	120.1	$670
59	2559	117.8	$657
60	2560	91.8	$512
61	2561	106.0	$591
62	2562	151.5	$845
63	2563	91.1	$508
64	2564	220.6	$1,231
65	2565	84.0	$508
66	2566	98.9	$552
67	2567	77.7	$614
68	2568	98.9	$552
69	2569	79.3	$442
70	2570	88.7	$495
71	2571	198.6	$1,108
72	2572	452.2	$2,849
73	2573	572.3	$3,605
74	2574	430.2	$2,710
75	2575	160.9	$1,014
76	2576	78.5	$742
77	2577	106.8	$1,429
78	2578	175.1	$1,103
79	2579	165.6	$1,044
80	2580	227.7	$1,434
81	2581	490.6	$3,091
82	2582	660.2	$4,159
83	2583	78.5	$865
84	2584	78.5	$865
85	2585	78.5	$865
86	2586	78.5	$309
87	2587	86.4	$683
88	2588	121.7	$679
89	2589	136.6	$762
90	2590	95.8	$623
91	2591	93.4	$521
92	2592	127.2	$710
93	2593	226.1	$1,262
94	2594	94.2	$526
95	2595	108.3	$705
96	2596	76.9	$501
97	2597	70.7	$460
98	2598	106.0	$690
99	2599	115.4	$751
100	2600	240.2	$2,648
101	2601	109.9	$1,212
102	2602	130.3	$1,026

Tree Appraisals

InveIntory #	Tree Tag #	Trunk Area	Value
103	2603	179.8	$1,982
104	2604	309.3	$4,141
105	2605	196.3	$2,627
106	2606	87.1	$1,167
107	2607	153.9	$1,454
108	2608	739.5	$5,823
109	2609	208.0	$2,785
110	2610	345.4	$4,624
111	2611	271.6	$2,147
112	2612	961.6	$7,573
113	2613	907.5	$12,149
114	2614	317.9	$3,505
115	2615	490.6	$1,932
116	2616	95.8	$757
117	2617	203.3	$3,711
118	2618	312.4	$4,183
119	2619	114.6	$1,534
120	2620	78.5	$742
121	2621	95.0	$898
122	2622	197.0	$2,172
123	2623	98.1	$927
124	2624	102.1	$1,366
125	2625	325.8	$1,818
126	2626	752.8	$4,150
127	2627	147.6	$1,976
128	2628	132.7	$675
129	2629	452.2	$8,340
130	2630	201.0	$1,350
131	2631	226.9	$1,350
132	2632	153.9	$900
133	2633	475.7	$6,369
134	2634	237.9	$3,184
135	2635	201.0	$2,690
136	2636	153.9	$2,060
137	2637	244.9	$3,279
138	2638	442.0	$5,917
139	2639	299.9	$4,015
140	2640	173.5	$1,639
141	2641	175.8	$2,354
142	2642	120.9	$1,618
143	2643	207.2	$2,774
144	2644	78.5	$1,051
145	2645	622.5	$4,921
146	2646	557.4	$7,462
147	2647	158.6	$2,123
148	2648	157.8	$2,112
149	2649	398.0	$3,761
150	2650	572.3	$5,408
151	2651	254.3	$2,404
152	2652	254.3	$2,404
153	2653	314.0	$2,967

Tree Appraisals

InveIntory #	Tree Tag #	Trunk Area	Value
154	2654	115.4	$1,545
155	2655	706.5	$6,676
156	2656	179.0	$2,396
157	2657	88.7	$1,188
158	2658	665.7	$6,291
159	2659	222.2	$2,099
160	2660	110.7	$1,046
161	2661	183.7	$1,736
162	2662	2374.6	$13,090
163	2663	508.7	$4,807
164	2664	490.6	$3,878
165	2665	693.9	$4,518
166	2666	427.8	$3,382
167	2667	226.9	$1,793
168	2668	402.7	$3,183
169	2669	305.4	$2,414
170	2670	143.7	$1,136
171	2671	86.4	$562
172	2672	254.3	$1,183
173	2673	314.8	$1,610
174	2674	78.5	$0
175	2675	101.3	$0
176	2676	2508.1	$0
177	2677	250.4	$3,299
178	2678	401.9	$3,177
179	2679	63.6	$355
180	2680	330.5	$2,612
181	2681	433.3	$3,425
182	2682	139.7	$780
183	2683	345.4	$1,927
184	2684	95.0	$530
185	2685	241.8	$1,574
186	2686	136.6	$1,080
187	2687	710.4	$3,964
188	2688	144.4	$806
189	2689	345.4	$1,997
190	2690	241.8	$1,349
191	2691	233.9	$1,849
192	2692	357.2	$1,993
193	2693	191.5	$1,514
194	2694	114.6	$640
195	2695	158.6	$885
196	2696	142.1	$793
197	2697	86.4	$482
198	2698	141.3	$1,117
199	2699	286.5	$2,265
200	2700	142.1	$1,123
201	2701	78.5	$511
202	2702	179.8	$1,421
203	2703	193.9	$1,533
204	2704	94.2	$745

Tree Appraisals

InveIntory #	Tree Tag #	Trunk Area	Value
205	2705	89.5	$583
206	2706	623.3	$5,890
207	2707	757.5	$7,159
208	2708	297.5	$2,812
209	2709	490.6	$4,636
210	2710	706.5	$6,676
211	2711	569.1	$3,176
212	2712	1017.4	$9,614
213	2713	434.9	$3,438
214	2714	91.8	$512
215	2715	165.6	$1,309
216	2716	70.7	$394
217	2717	179.8	$1,170
218	2718	266.1	$1,485
219	2719	191.5	$1,069
220	2720	257.5	$1,437
221	2721	961.6	$9,087
222	2722	201.0	$1,350
223	2723	1256.0	$11,869
224	2724	113.0	$0
225	2725	145.2	$1,944
226	2726	277.9	$2,626
227	2727	386.2	$3,650
228	2728	76.9	$0
229	2729	336.0	$3,704
230	2730	157.0	$1,484
231	2731	191.5	$1,069
232	2732	1256.0	$9,891
233	2733	415.3	$1,635
234	2734	113.8	$635
235	2735	295.9	$1,651
236	2736	142.1	$793
237	2737	233.9	$1,305
238	2738	430.2	$3,388
239	2739	403.5	$3,813
240	2740	707.3	$6,684
241	2741	183.7	$1,025
242	2742	201.0	$1,899
243	2743	379.9	$3,590
244	2744	125.6	$1,655
245	2745	110.7	$1,458
246	2746	223.7	$2,948
247	2747	328.9	$2,600
248	2748	114.6	$1,066
249	2749	78.5	$1,780
250	2750	214.3	$1,477
251	2751	452.2	$2,944
252	2752	706.5	$4,599
253	2753	565.2	$4,468
254	2754	245.7	$1,942
255	2755	78.5	$438

Tree Appraisals

InveIntory #	Tree Tag #	Trunk Area	Value
256	2756	616.2	$3,439
257	2757	142.1	$793
258	2758	177.4	$2,235
259	2759	367.4	$3,182
260	2760	706.5	$6,676
261	2761	227.7	$1,800
262	2762	158.6	$1,253
263	2763	252.0	$1,992
264	2764	146.8	$1,160
265	2765	91.1	$508
266	2766	197.8	$1,869
267	2767	193.9	$1,262
268	2768	70.8	$933
269	2769		
270	2770		
271	2771		
272	2772		
273	2773		
274	2774		
275	2775		
276	2776		
277	2777		
278	2778		
279	2779		
280	2780		
281	2781		
282	2782		
	Total Value		**$558,738**

APPENDIX

PROHIBITED PLANT LIST

VENTURA COUNTY FIRE PROTECTION DISTRICT
FIRE PREVENTION BUREAU
165 DURLEY AVENUE
CAMARILLO, CA 93010
www.vcfd.org
Office: 805-389-9738 Fax: 805-388-4356

410 – PROHIBITED PLANT LIST

This list was first published by the VCFD in 2014. It has been updated as of April 2019. It is intended to provide a list of plants and trees that are not allowed within a new required defensible space (DS) or fuel modification zone (FMZ). It is highly recommended that these plants and trees be thinned and or removed from existing DS and FMZs. In certain instances, the Fire Department may require the thinning and or removal.

This list was prepared by Hunt Research Corporation and Dudek & Associates, and reviewed by Scott Franklin Consulting Co, VCFD has added some plants and has removed plants only listed due to freezing hazard. Please see notes after the list of plants.

For questions regarding this list, please contact the Fire Hazard reduction Program (FHRP) Unit at 085-389-9759 or FHRP@ventura.org

Prohibited plant list:Botanical Name	Common Name	Comment*
Trees		
Abies species	Fir	F
Acacia species (numerous)	Acacia	F, I
Agonis juniperina	Juniper Myrtle	F
Araucaria species (A. heterophylla, A. araucana, A. bidwillii)	Araucaria (Norfolk Island Pine, Monkey Puzzle Tree, Bunya Bunya)	F
Callistemon species (C. citrinus, C. rosea, C. viminalis)	Bottlebrush (Lemon, Rose, Weeping)	F
Calocedrus decurrens	Incense Cedar	F
Casuarina cunninghamiana	River She-Oak	F
Cedrus species (C. atlantica, C. deodara)	Cedar (Atlas, Deodar)	F
Chamaecyparis species (numerous)	False Cypress	F
Cinnamomum camphora	Camphor	F
Cryptomeria japonica	Japanese Cryptomeria	F
Cupressocyparis leylandii	Leyland Cypress	F
Cupressus species (C. fobesii, C. glabra, C. sempervirens,)	Cypress (Tecate, Arizona, Italian, others)	F
Eucalyptus species (numerous)	Eucalyptus	F, I
Juniperus species (numerous)	Juniper	F
Larix species (L. decidua, L. occidentalis, L. kaempferi)	Larch (European, Japanese, Western)	F
Leptospermum species (L. laevigatum, L. petersonii)	Tea Tree (Australian, Tea)	F
Lithocarpus densiflorus	Tan Oak	F

Prohibited plant list:Botanical Name	Common Name	Comment*
Melaleuca species (M. linariifolia, M. nesophila, M. quinquenervia)	Melaleuca (Flaxleaf, Pink, Cajeput Tree)	F, I
Olea europea	Olive	I
Picea (numerous)	Spruce	F
Palm species (numerous)	Palm	F, I,
Pinus species (P. brutia, P. canariensis, P. b. eldarica, P. halepensis, P. pinea, P. radiata, numerous others)	Pine (Calabrian, Canary Island, Mondell, Aleppo, Italian Stone, Monterey)	F
Platycladus orientalis	Oriental arborvitae	F
Podocarpus species (P. gracilior, P. macrophyllus, P. latifolius)	Fern Pine (Fern, Yew, Podocarpus)	F
Pseudotsuga menziesii	Douglas Fir	F
Schinus species (S. molle, S. terebenthifolius)	Pepper (California and Brazilian)	F, I
Tamarix species (T. africana, T. aphylla, T. chinensis, T. parviflora)	Tamarix (Tamarisk, Athel Tree, Salt Cedar, Tamarisk)	F, I
Taxodium species (T. ascendens, T. distichum, T. mucronatum)	Cypress (Pond, Bald, Monarch, Montezuma)	F
Taxus species (T. baccata, T. brevifolia, T. cuspidata)	Yew (English, Western, Japanese)	F
Thuja species (T. occidentalis, T. plicata)	Arborvitae/Red Cedar	F
Tsuga species (T. heterophylla, T. mertensiana)	Hemlock (Western, Mountain)	F
Groundcovers, Shrubs & Vines		
Acacia species	Acacia (except dwarf/prostrate variety)	F
Adenostoma fasciculatum	Chamise	F
Adenostoma sparsifolium	Red Shanks	F
Agropyron repens	Quackgrass	F, I
Anthemis cotula	Mayweed	F, I
Arbutus menziesii	Madrone	F
Arctostaphylos species	Manzanita. Also note that Eastwood Manzanita grows to 8'	F
Arundo donax	Giant Reed	F, I
Artemisia species (A. abrotanium, A. absinthium, A. californica, A. caucasica, A. dracunculus, A. tridentata, A. pynocephala)	Sagebrush (Southernwood, Wormwood, California, Silver, True tarragon, Big, Sandhill)	F
*Atriplex species (numerous)***	Saltbush	F, I**
Avena fatua	Wild Oat	F
Baccharis pilularis	Coyote Bush	F
Bambusa species	Bamboo	F, I
Bougainvillea species	Bougainvillea	F, I, FR
Brassica species (B. campestris, B. nigra, B. rapa)	Mustard (Field, Black, Yellow) Wild Turnip	F, I

Prohibited plant list:Botanical Name	Common Name	Comment*
Bromus rubens	Foxtail, Red brome	F, I
Bromus carinatus	California brome	Grows to 5', Dies if cut
Castanopsis chrysophylla	Giant Chinquapin	F
Cardaria draba	Hoary Cress	I
Carpobrotus species	Ice Plant, Hottentot Fig	I
*Ceonothus griseus " Louis Edmunds***	Louis Edmunds Ceanothus	Grow higher than 18"*
*Ceonothus griseus var. horizontalis***	Carmel Creeper Ceonothus	Grows higher than 18"**
*Ceonothus griseus var. horizontalis "yankee point"**	Yankee Point Ceonothus	Grows higher than 18"**
*Ceonothus megacarpus***	Big pod ceonothus	Grows higher than 18"**
Cirsium vulgare	Wild Artichoke	F,I
Codariocalyx motorius	Telegraph Plant	F
Conyza bonariensis	Horseweed	F
Coprosma pumila	Prostrate Coprosma	F
Cortaderia selloana	Pampas Grass	F, I
Cytisus scoparius	Scotch Broom	F, I
Delosperma "alba"	White trailing Ice Plant	F
Dodonaea viscosa	Hopseed Bush	F
Drosanthemum Floribundum	Rosea Ice plant	F
Eriodictyon californicum	Yerba Santa	F
Eriogonum species (E. fasciculatum)	Buckwheat (California)	F
Fremontodendron species	Flannel Bush	F
Hedera species (H. canariensis, H. helix)	Ivy (Algerian, English)	I
Helix Canariensis	English Ivy	F
Heterotheca grandiflora	Telegraph Plant	F
Hordeum leporinum	Wild barley	F, I
Jasminum humile	Italian Jasmine	F
Juniperus species	Juniper	F
Lactuca serriola	Prickly Lettuce	I
Lamprathus aurantiacus	Bush Ice Plant	F
Lamprathus spectabilis	Trailing Ice Plant	F
Larix species (numerous)	Larch	F
Larrea tridentata	Creosote bush	F
Lepidium virginicum	Peppergrass	F
Leymus condensatus	Giant Wild Rye	Grows to 9' tall
Lolium multiflorum	Ryegrass	F, I
Lonicera japonica	Japanese Honeysuckle	F
Mahonia species	Mahonia	F
Miscanthus species	Eulalie Grass	F
Muhlenbergia species	Deer Grass	F

Prohibited plant list:Botanical Name	Common Name	Comment*
Nassella (stipa)leprida	Foothill needlegrass	Gets to 18" high. Cant cut to 4".
Nassella (stipa) pulchra	Purple needlegrass	Same comment as above
Nerium Oleander	Oleander	Toxic
Nicotiana species (N. bigelovii, N. glauca)	Tobacco (Indian, Tree)	F, I
Pennisetum setaceum	Fountain Grass	F, I
Perovskia atroplicifolia	Russian Sage	F
Phoradendron species	Mistletoe	F
Pickeringia montana	Chaparral Pea	F
Plumbago auriculate	Cape Plumbago	F
*Rhus (R. diversiloba, R. laurina, R. lentii)***	Sumac (Poison oak, Laurel, Pink Flowering)	F**. Poison oak presents a health hazard
Ricinus communis	Castor Bean	F, I
Rhus Lentii	Pink Flowering Sumac	F
Rosmarinus species	Rosemary (except dwarf/prostrate variety)	F
Salvia species (numerous)	Sage	F, I
Salsola australis	Russian Thistle	F, I
Senecio serpens	No common name	FR
Solanum Xantii	Purple Nightshade (toxic)	I, Toxic
Solanum Douglasii	Douglas Nightshade	Toxic
Silybum marianum	Milk Thistle	F, I
Tecoma capensis	Cape Honeysuckle	F
Thuja species	Arborvitae	F
Urtica urens	Burning Nettle	F
Vinca major	Periwnkle	I

*F = flammable, I = Invasive,

NOTES:

1. Plants on this list that are considered invasive are a partial list of commonly found plants. There are many other plants considered invasive that shall not be planted in a fuel modification zone and they can be found on The California Invasive Plant Council's Website www.cal-ipc.org/ip/inventory/index.php. Other plants not considered invasive at this time may be determined to be invasive after further study.
2. The absence of a particular plant, shrub, groundcover, or tree, from this list does not necessarily mean it is fire resistive.
3. Native, drought tolerant, plants are encouraged unless they are on this Prohibited Plant list or otherwise known as flammable or Invasive.
4. **: certain species of Ceonothus, Saltbush and Sumac need to be maintained free of dead materials, which builds up in the plant. Remove any poison oak (Sumac).

TREE LOCATION MAP

1 of 5

SHEET 4

511-0-190-305

511-0-200-255

511-0-210-105

511-0-210-115

511-0-210-175

511-0-010-235

511-0-010-305

511-0-010-295

511-0-010-165

511-0-010-185

511-0-010-405

511-0-010-385

BASIN 2B

BASIN 2

NORTH HILLS PARKWAY

FUTURE NORTH HILLS PARKWAY WIDENING

FUTURE NORTH HILLS PARKWAY EXTENSION (BY OTHERS)

STREET "O"

STREET "P"

HIGH STREET

GABBERT ROAD

POINDEXTER AVENUE

N. COMMERCE AVENUE

U.P.R.R.

WALNUT CYN CHANNEL

AC PASSIVE REC. AREA

CONNECT TO EX. WATERLINE

TRANSITION TO EX. IMPROVEMENTS

REMOVE AND REPLACE EX. WATERLINE

TRACT BOUNDARY

S 89°29'31" E 1321.08'

N 0°25'42" E 891.64'

N 0°26'44" E 659.94'

S 89°41'01" E 1323.02'

S 76°39'09" W 1360.03'

S 76°39'09" W 1258.02'

N 76°39'09" E 1359.92'

REMOVE EX. GABBERT RD. PAVING

EX. GABBERT RD. R.O.W. TO BE VACATED

RIGHT-OF-WAY

EXTEND STORM DRAIN BOX CULVERT BENEATH GABBERT RD

NEW AT-GRADE RAILROAD CROSSING

JOIN EX. IMPROVEMENTS

INLET PIPE FOR STORM WATER TREATMENT DISCHARGE

June 30, 2020
LNDG Job #200-772

L. Newman Design Group, Inc.
Landscape Architecture
Planning
Horticulture
Biological Restoration
31300 Via Colinas ■ Suite 104
Westlake Village, CA 91362-3924
Phone: (818) 991-5556 ■ Fax: (818) 991-3478
E-mail: lndg @ lndg.net

N
W E
S

SCALE: 1"=60'
0 60 120 180

ECG
Encompass Consultant Group
333 h. LANTANA ST, SUITE 287, CAMARILLO, CA 93010
PHONE: 805.322.4443 WEBSITE: WWW.ECGCIVIL.COM

GLEN H. PACE
PROJECT ENGINEER
R.C.E. 61468
DATE: 09/20/2019

HITCH RANCH
TENTATIVE TRACT MAP NO. 5708
PRELIMINARY GRADING, DRAINAGE, & UTILITIES
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE: HORIZ. AS NOTED VERT. N/A

WORK ORDER 0047
DRAWN BY: GJM
CHECKED BY: GHP

SHEET NO. 2 OF 6

DRAWING: n:\projects\5047\02 hitch ranch - comstock\engineering\acad\tentative map\5047-02_tm.dwg



TREE LOCATION MAP

2 of 5

June 30, 2020
LNDG Job #200-772

L. Newman Design Group, Inc.
Landscape Architecture
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Horticulture
Biological Restoration
3150 Ivy Colinas Suite 104
Woodland, Ca 95695
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lndg@lndg.net

N
W E
S

SCALE: 1"=60'
0 60 120 180

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HITCH RANCH
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PRELIMINARY GRADING, DRAINAGE, & UTILITIES
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE: HORIZ. AS NOTED VERT. N/A

WORK ORDER 0047
DRAWN BY: GJM
CHECKED BY: GHP

SHEET NO. 3 OF 6

DRAWING: n:\projects\0047\02 hitch ranch - comstock\engineering\acad\tentative map\0047.02_ttm.dwg

SHEET 3

SHEET 2

SHEET 6

TREE LOCATION MAP

3 of 5

June 30, 2020
LNDG Job #200-772

L. Newman Design Group, Inc.
■ Landscape Architecture
■ Planning
■ Horticulture
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N
W E
S

SCALE: 1"=60'
0 60 120 180

ECG
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GLEN H. PACE
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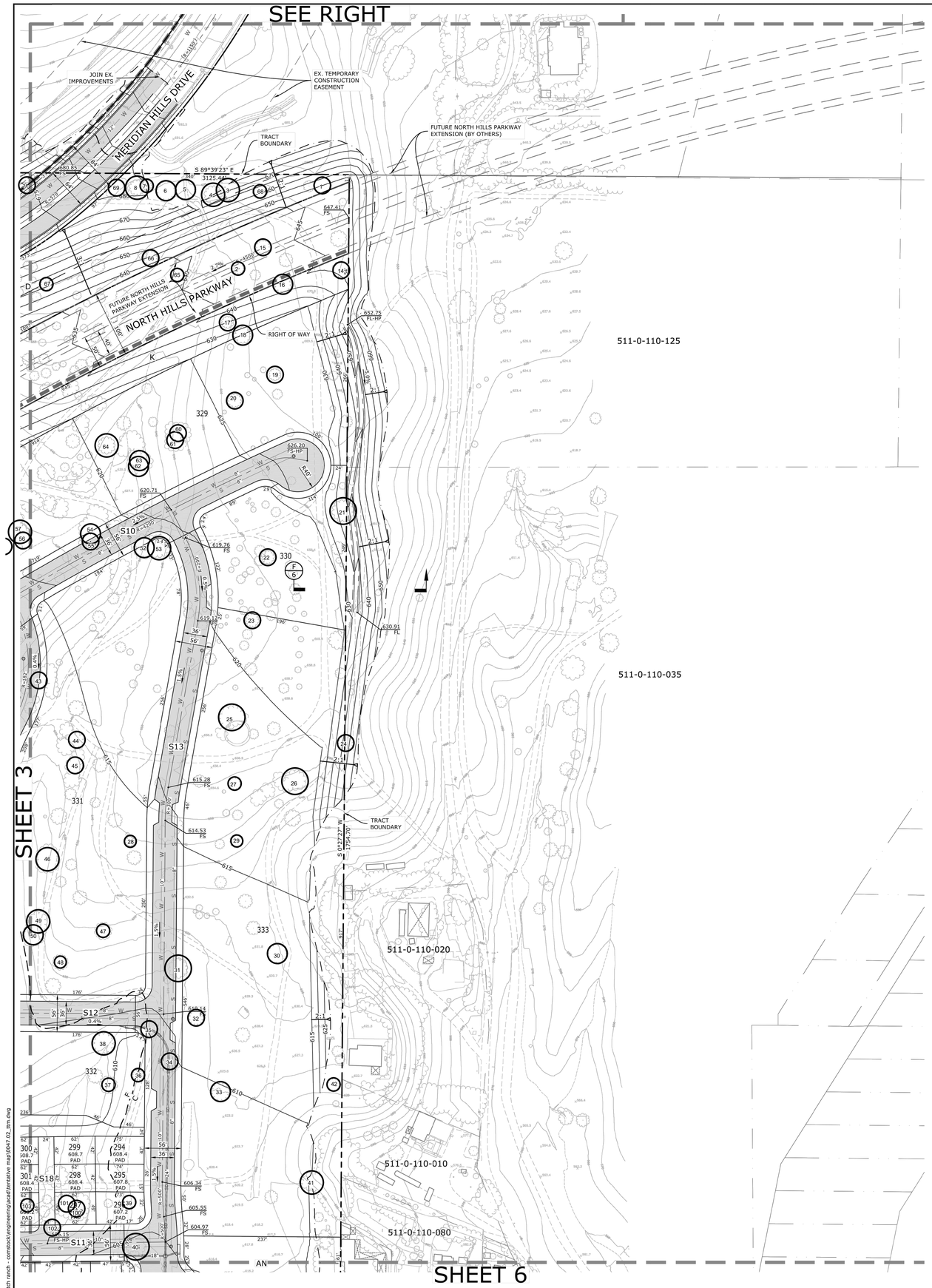
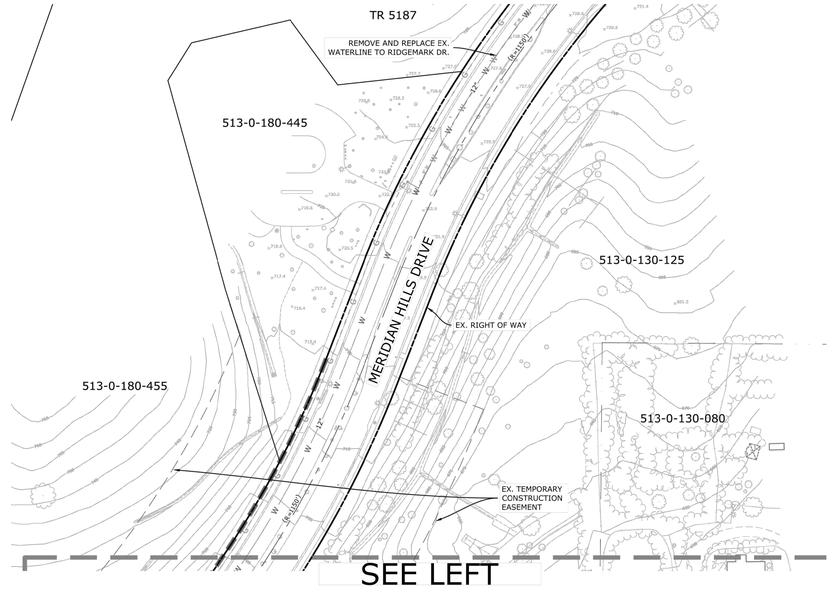
DATE: 09/20/2019

HITCH RANCH
TENTATIVE TRACT MAP NO. 5708
PRELIMINARY GRADING, DRAINAGE, & UTILITIES
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE:	HORIZ. AS NOTED VERT. N/A
WORK ORDER	0047
DRAWN BY:	GJM
CHECKED BY:	GHP

SHEET NO. 4 OF 6





LOT SUMMARY

LOT TABLE		
LOT	AREA (FT²)	PLANNED USE
1	16,121	SFD
2	13,022	SFD
3	13,518	SFD
4	12,078	SFD
5	13,487	SFD
6	13,287	SFD
7	13,286	SFD
8	12,517	SFD
9	25,480	SFD
10	23,496	SFD
11	23,440	SFD
12	23,440	SFD
13	23,440	SFD
14	23,440	SFD
15	23,440	SFD
16	23,440	SFD
17	32,535	SFD
18	62,670	SFD
19	7,959	SFD
20	8,240	SFD
21	8,271	SFD
22	9,759	SFD
23	9,888	SFD
24	8,240	SFD
25	8,941	SFD
26	8,307	SFD
27	10,846	SFD
28	8,408	SFD
29	6,890	SFD
30	7,440	SFD
31	7,440	SFD
32	7,440	SFD
33	7,440	SFD
34	7,547	SFD
35	8,488	SFD
36	7,573	SFD
37	7,826	SFD
38	12,138	SFD
39	9,759	SFD
40	9,327	SFD
41	10,331	SFD
42	9,212	SFD
43	9,112	SFD
44	9,042	SFD
45	10,755	SFD
46	10,102	SFD
47	11,072	SFD
48	18,071	SFD
49	11,271	SFD
50	11,622	SFD
51	8,053	SFD
52	9,524	SFD
53	7,979	SFD
54	7,440	SFD
55	8,320	SFD
56	7,856	SFD
57	7,440	SFD
58	7,440	SFD
59	8,653	SFD
60	10,880	SFD

LOT TABLE		
LOT	AREA (FT²)	PLANNED USE
61	21,373	SFD
62	15,808	SFD
63	10,756	SFD
64	7,440	SFD
65	7,392	SFD
66	8,881	SFD
67	7,761	SFD
68	7,761	SFD
69	7,761	SFD
70	7,761	SFD
71	8,327	SFD
72	8,161	SFD
73	8,161	SFD
74	8,161	SFD
75	8,161	SFD
76	7,440	SFD
77	7,440	SFD
78	8,108	SFD
79	8,214	SFD
80	7,780	SFD
81	8,437	SFD
82	4,805	SFD
83	3,910	SFD
84	3,910	SFD
85	3,910	SFD
86	3,910	SFD
87	3,910	SFD
88	3,910	SFD
89	3,910	SFD
90	3,910	SFD
91	3,910	SFD
92	3,910	SFD
93	3,910	SFD
94	3,910	SFD
95	3,910	SFD
96	4,335	SFD
97	4,335	SFD
98	4,420	SFD
99	4,420	SFD
100	4,420	SFD
101	4,264	SFD
102	6,983	SFD
103	6,507	SFD
104	5,977	SFD
105	5,321	SFD
106	4,883	SFD
107	5,941	SFD
108	4,511	SFD
109	5,241	SFD
110	5,306	SFD
111	6,925	SFD
112	5,314	SFD
113	4,420	SFD
114	4,420	SFD
115	4,420	SFD
116	3,910	SFD
117	3,910	SFD
118	3,959	SFD
119	4,166	SFD
120	4,166	SFD

LOT TABLE		
LOT	AREA (FT²)	PLANNED USE
121	4,618	SFD
122	4,820	SFD
123	4,347	SFD
124	4,347	SFD
125	4,347	SFD
126	4,347	SFD
127	4,347	SFD
128	4,347	SFD
129	5,119	SFD
130	5,119	SFD
131	4,335	SFD
132	3,910	SFD
133	3,912	SFD
134	4,286	SFD
135	3,950	SFD
136	4,025	SFD
137	4,462	SFD
138	4,462	SFD
139	4,426	SFD
140	4,022	SFD
141	4,014	SFD
142	4,014	SFD
143	4,014	SFD
144	3,958	SFD
145	4,287	SFD
146	4,287	SFD
147	4,053	SFD
148	4,222	SFD
149	4,222	SFD
150	4,222	SFD
151	4,247	SFD
152	4,449	SFD
153	4,290	SFD
154	4,001	SFD
155	4,001	SFD
156	4,001	SFD
157	4,001	SFD
158	3,952	SFD
159	4,287	SFD
160	4,797	SFD
161	4,483	SFD
162	4,518	SFD
163	4,518	SFD
164	4,519	SFD
165	4,811	SFD
166	4,938	SFD
167	5,332	SFD
168	5,948	SFD
169	6,507	SFD
170	7,045	SFD
171	4,169	SFD
172	4,420	SFD
173	4,420	SFD
174	4,460	SFD
175	4,982	SFD
176	4,981	SFD
177	4,981	SFD
178	4,981	SFD
179	4,981	SFD
180	4,981	SFD

LOT TABLE		
LOT	AREA (FT²)	PLANNED USE
181	4,981	SFD
182	5,257	SFD
183	5,435	SFD
184	4,981	SFD
185	5,153	SFD
186	5,153	SFD
187	5,097	SFD
188	4,930	SFD
189	5,420	SFD
190	5,840	SFD
191	6,303	SFD
192	8,639	SFD
193	6,759	SFD
194	6,731	SFD
195	5,995	SFD
196	5,509	SFD
197	5,509	SFD
198	5,509	SFD
199	5,509	SFD
200	5,509	SFD
201	5,509	SFD
202	5,005	SFD
203	4,930	SFD
204	5,132	SFD
205	5,301	SFD
206	5,301	SFD
207	5,649	SFD
208	5,242	SFD
209	5,227	SFD
210	5,227	SFD
211	4,966	SFD
212	4,930	SFD
213	5,079	SFD
214	6,545	SFD
215	4,932	SFD
216	5,195	SFD
217	5,195	SFD
218	5,018	SFD
219	4,745	SFD
220	5,307	SFD
221	5,677	SFD
222	4,983	SFD
223	4,979	SFD
224	4,984	SFD
225	4,984	SFD
226	5,076	SFD
227	4,845	SFD
228	4,420	SFD
229	4,420	SFD
230	4,671	SFD
231	6,610	SFD
232	5,280	SFD
233	4,930	SFD
234	4,930	SFD
235	5,072	SFD
236	5,227	SFD
237	5,123	SFD
238	4,930	SFD
239	4,930	SFD
240	5,091	SFD

LOT TABLE		
LOT	AREA (FT²)	PLANNED USE
241	4,532	SFD
242	4,709	SFD
243	4,608	SFD
244	4,628	SFD
245	5,811	SFD
246	5,811	SFD
247	5,811	SFD
248	5,811	SFD
249	5,585	SFD
250	4,420	SFD
251	4,420	SFD
252	4,420	SFD
253	4,347	SFD
254	4,420	SFD
255	4,420	SFD
256	4,940	SFD
257	4,649	SFD
258	4,420	SFD
259	4,420	SFD
260	4,420	SFD
261	4,420	SFD
262	4,469	SFD
263	4,764	SFD
264	7,584	SFD
265	6,580	SFD
266	4,420	SFD
267	4,420	SFD
268	4,420	SFD
269	4,420	SFD
270	3,272	SFD
271	2,604	SFD
272	2,604	SFD
273	2,604	SFD
274	2,604	SFD
275	2,604	SFD
276	2,604	SFD
277	2,604	SFD
278	2,856	SFD
279	2,897	SFD
280	2,897	SFD
281	2,897	SFD
282	2,897	SFD
283	2,803	SFD
284	2,624	SFD
285	2,897	SFD
286	2,897	SFD
287	2,897	SFD
288	2,686	SFD
289	2,604	SFD
290	2,604	SFD
291	2,604	SFD
292	2,604	SFD
293	2,914	SFD
294	3,114	SFD
295	3,078	SFD
296	3,530	SFD
297	3,057	SFD
298	2,604	SFD
299	2,604	SFD
300	2,604	SFD

LOT TABLE		
LOT	AREA (FT²)	PLANNED USE
301	2,604	SFD
302	3,057	SFD
303	3,057	SFD
304	2,604	SFD
305	2,604	SFD
306	2,604	SFD
307	2,604	SFD
308	3,341	SFD
309	3,683	SFD
310	4,312	SFD
311	3,381	SFD
312	2,604	SFD
313	2,604	SFD
314	2,604	SFD
315	2,604	SFD
316	3,038	SFD
317	3,038	SFD
318	2,604	SFD
319	2,604	SFD
320	2,604	SFD
321	2,604	SFD
322	3,038	SFD
323	3,038	SFD
324	2,604	SFD
325	2,604	SFD
326	2,604	SFD
327	2,604	SFD
328	3,047	SFD

LOT TABLE		
LOT	ACRES	PLANNED USE
329	4.49 ±	RESIDENTIAL
330	0.90 ±	RESIDENTIAL
331	3.10 ±	RESIDENTIAL
332	2.08 ±	RESIDENTIAL
333	5.03 ±	RESIDENTIAL
334	10.87 ±	MFD APARTMENTS
335	6.66 ±	NOT A PART*

*LOT 335 SHALL BE DEEDED TO THE CITY OF MOORPARK

LOT TABLE		
LOT	ACRES	PLANNED USE
A	17.63 ±	OPEN SPACE
B	2.77 ±	OPEN SPACE
C	3.18 ±	REC. SPACE
D	2.97 ±	OPEN SPACE
E	0.38 ±	OPEN SPACE
F	1.67 ±	OPEN SPACE
G	0.43 ±	OPEN SPACE
H	0.54 ±	OPEN SPACE
I	4.09 ±	OPEN SPACE
J	3.16 ±	O.S. / BASIN
K	1.54 ±	OPEN SPACE
L	0.86 ±	OPEN SPACE
M	0.63 ±	OPEN SPACE
N	0.12 ±	OPEN SPACE
O	0.31 ±	OPEN SPACE
P	2.11 ±	OPEN SPACE
Q	2.62 ±	OPEN SPACE
R	1.35 ±	OPEN SPACE
S	0.21 ±	OPEN SPACE
T	1.28 ±	OPEN SPACE
U	5.20 ±	OPEN SPACE
V	2.56 ±	OPEN SPACE
W	4.41 ±	OPEN SPACE
X	6.30 ±	DET. BASIN
Y	2.70 ±	OPEN SPACE
Z	25.62 ±	OPEN SPACE

LOT TABLE		
LOT	ACRES	PLANNED USE
AA	0.78 ±	OPEN SPACE
AB	5.96 ±	DET. BASIN
AC	1.32 ±	PASSIVE REC.
AD	5.19 ±	OPEN SPACE
AE	3.46 ±	OPEN SPACE
AF	2.70 ±	OPEN SPACE
AG	5.56 ±	PARK
AH	5.77 ±	OPEN SPACE
AI	12.25 ±	DET. BASIN
AJ	0.31 ±	OPEN SPACE
AK	1.41 ±	REC. SPACE
AL	0.64 ±	OPEN SPACE
AM	2.48 ±	OPEN SPACE
AN	0.81 ±	OPEN SPACE

LOT TABLE		
LOT	ACRES	PLANNED USE
S1	2.40 ±	PRIVATE STREETS
S2	2.05 ±	PRIVATE STREETS
S3	1.33 ±	PRIVATE STREETS
S4	2.49 ±	PRIVATE STREETS
S5	2.27 ±	PRIVATE STREETS
S6	1.17 ±	PRIVATE STREETS
S7	2.34 ±	PRIVATE STREETS
S8	1.42 ±	PRIVATE STREETS
S9	1.77 ±	PRIVATE STREETS
S10	1.80 ±	PRIVATE STREETS
S11	1.37 ±	PRIVATE STREETS
S12	1.03 ±	PRIVATE STREETS
S13	1.71 ±	PRIVATE STREETS
S14	0.07 ±	PRIVATE STREETS
S15	0.07 ±	PRIVATE STREETS
S16	0.08 ±	PRIVATE STREETS
S17	0.08 ±	PRIVATE STREETS
S18	0.07 ±	PRIVATE STREETS

TREE LOCATION MAP

June 30, 2020
LNDG Job #200-772

L. Newman Design Group, Inc.
■ Landscape Architecture
■ Planning
■ Irrigation
■ Biological Restoration
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■ E-mail: lndg @ lndg.net

N W E S

SCALE: 1"=60'
0 60 120 180

ECG Encompass Consultant Group
333 N. LANTANA ST., SUITE 207, CAMARILLO, CA 93010
PHONE: 805.322.4443 WEBSITE: WWW.ECGCIVIL.COM
GLEN H. PACE
PROJECT ENGINEER
R.C.E. 61468

DATE: 09/20/2019

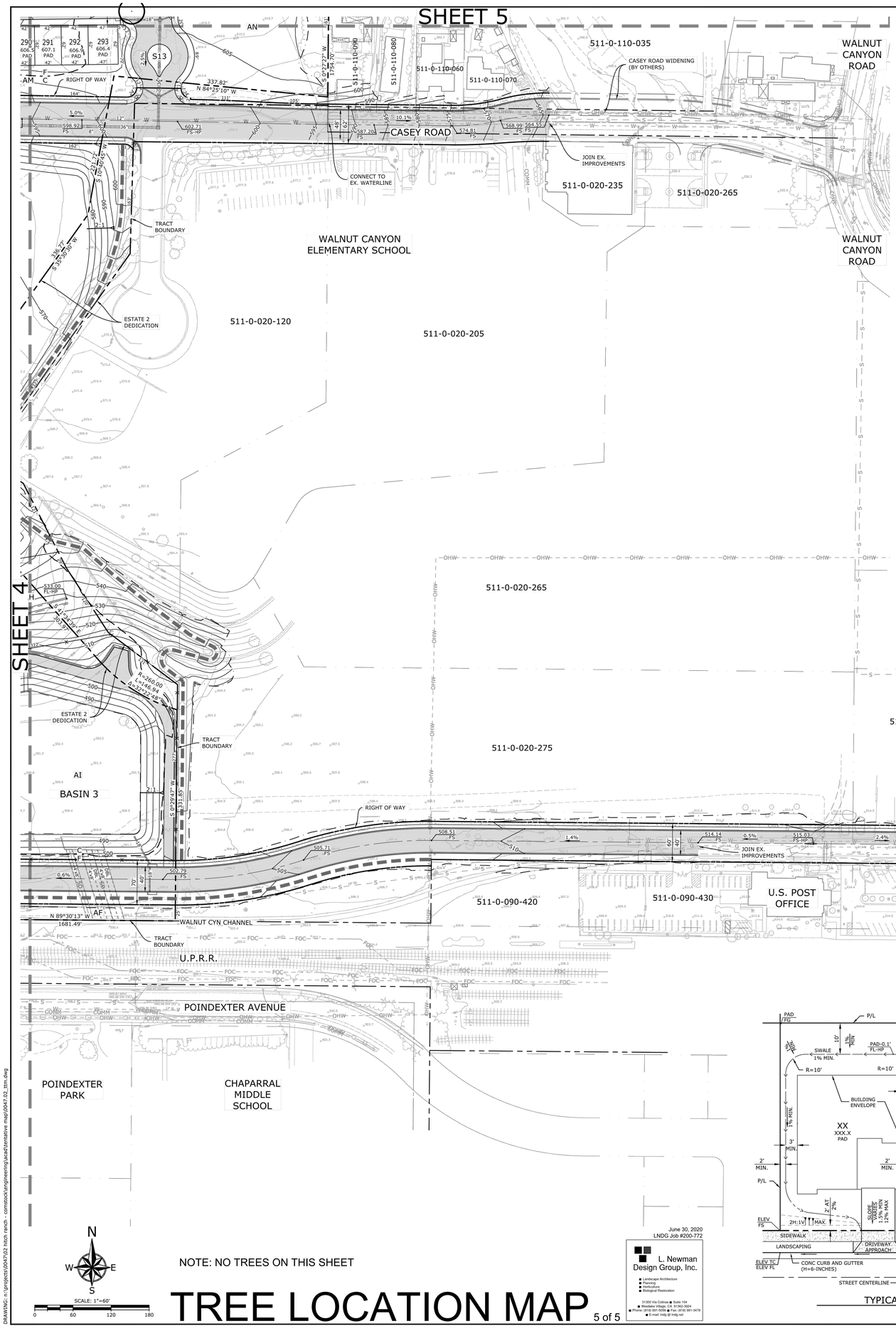
HITCH RANCH
TENTATIVE TRACT MAP NO. 5708
PRELIMINARY GRADING, DRAINAGE, & UTILITIES
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE: HORIZ. AS NOTED VERT. N/A
WORK ORDER 0047
DRAWN BY: GJM
CHECKED BY: GHP
SHEET NO. 5 OF 6

DRAWING: n:\projects\0047\02 hitch ranch - comstock\engineering\ace\tentative map\0047-02_stm.dwg

SHEET 5

SHEET 4



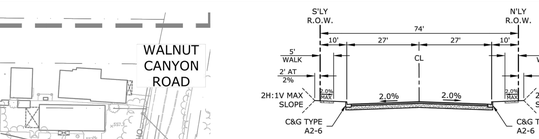
NOTE: NO TREES ON THIS SHEET

TREE LOCATION MAP

5 of 5

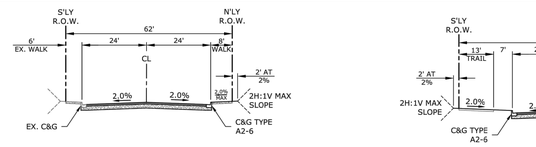
SCALE: 1"=60'

0 60 120 180



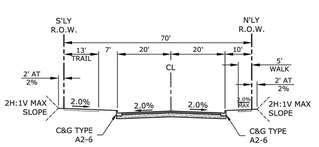
CASEY ROAD WEST OF TRACT BOUNDARY

SCALE: 1"=20' HORIZ. 1"=10' VERT.



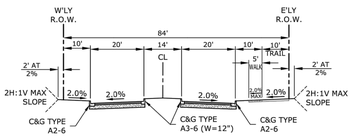
CASEY ROAD EAST OF TRACT BOUNDARY

SCALE: 1"=20' HORIZ. 1"=10' VERT.



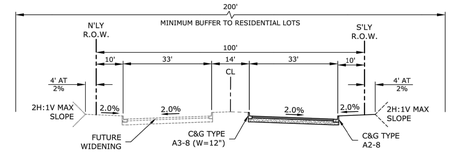
HIGH STREET

SCALE: 1"=20' HORIZ. 1"=10' VERT.



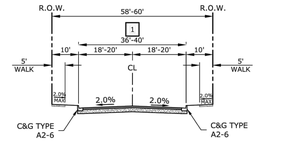
GABBERT ROAD SOUTH OF NORTH HILLS PKWY

SCALE: 1"=20' HORIZ. 1"=10' VERT.



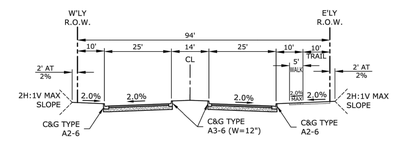
NORTH HILLS PARKWAY

SCALE: 1"=20' HORIZ. 1"=10' VERT.



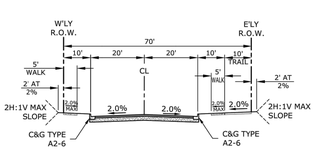
PRIVATE STREETS - STREETS "B" THROUGH "P"

SCALE: 1"=20' HORIZ. 1"=10' VERT.



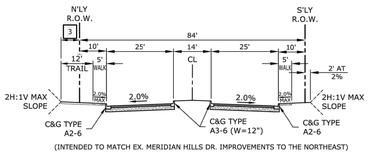
"A" STREET NORTH OF NORTH HILLS PKWY

SCALE: 1"=20' HORIZ. 1"=10' VERT.



"A" STREET SOUTH OF NORTH HILLS PKWY

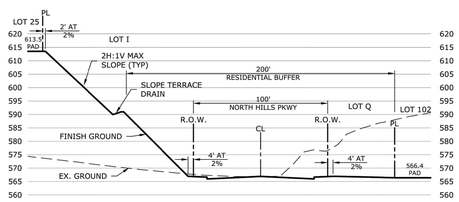
SCALE: 1"=20' HORIZ. 1"=10' VERT.



(INTENDED TO MATCH EX. MERIDIAN HILLS DR. IMPROVEMENTS TO THE NORTHEAST)

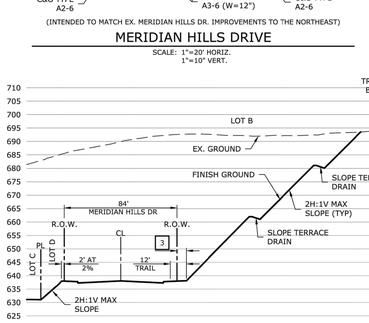
MERIDIAN HILLS DRIVE

SCALE: 1"=20' HORIZ. 1"=10' VERT.



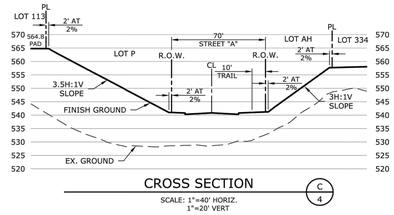
CROSS SECTION (A/3)

SCALE: 1"=40' HORIZ. 1"=20' VERT



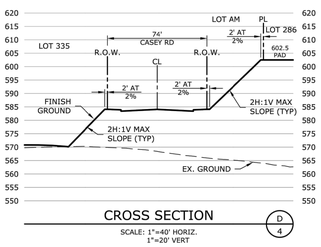
CROSS SECTION (B/3)

SCALE: 1"=40' HORIZ. 1"=20' VERT



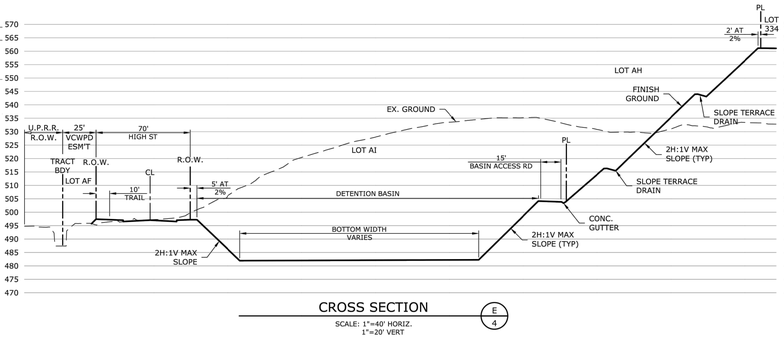
CROSS SECTION (C/4)

SCALE: 1"=40' HORIZ. 1"=20' VERT



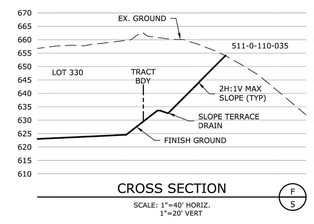
CROSS SECTION (D/4)

SCALE: 1"=40' HORIZ. 1"=20' VERT



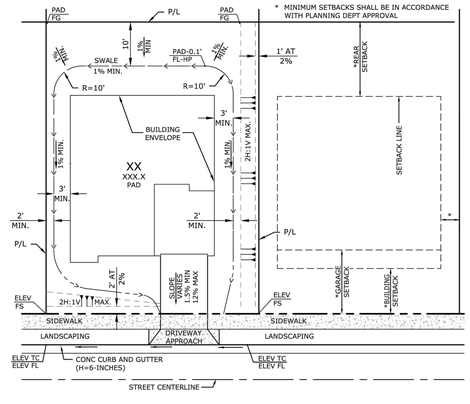
CROSS SECTION (E/4)

SCALE: 1"=40' HORIZ. 1"=20' VERT



CROSS SECTION (F/5)

SCALE: 1"=40' HORIZ. 1"=20' VERT



TYPICAL SFD LOT DRAINAGE

SCALE: N.T.S.

June 30, 2020
LNDG Job #200-772

L. Newman Design Group, Inc.
■ Landscape Architecture
■ Planning
■ Horticulture
■ Biological Restoration
31300 Via Colinas ■ Suite 104
■ Westlake Village, CA 91362-3924
■ Phone: (818) 991-5050 ■ Fax: (818) 991-3478
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ECG Engineering Consultant Group
333 N. LANTANA ST, SUITE 287, CAMARILLO, CA 93010
PHONE: 805.322.4443 WEBSITE: WWW.ECGCIVIL.COM
GLEN H. PACE
PROJECT ENGINEER
R.C.E. 61468
DATE: 09/20/2019

HITCH RANCH
TENTATIVE TRACT MAP NO. 5708
PRELIMINARY GRADING, DRAINAGE, & UTILITIES
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE: HORIZ. AS NOTED VERT. N/A
WORK ORDER 0047
DRAWN BY: GJM
CHECKED BY: GHP
SHEET NO. 6 OF 6

DRAWING: n:\projects\0047\02 hitch ranch - comstock\engineering\acad\tentative map\0047-02_ttm.dwg

H

Rincon 2011 Tree Survey Information

Tree Identification #	Scientific Name	Common Name	DBH (Inches)	Canopy Height (Feet)	Canopy Diameter (Feet)	Overall Health	Health Assessment Code
1	Eucalyptus sp.	Eucalyptus	27	35	20	Average	C
2	Schinus molle	Pepper	10	12	10	Average	C
3	Schinus molle	Pepper	13	13	15	Average	C
4	Schinus molle	Pepper	13	20	15	Average	C
5	Eucalyptus sp.	Pepper	21	35	20	Average	C
6	Schinus molle	Pepper	14	25	20	Average	C
7	Eucalyptus sp.	Eucalyptus	30	15	0	Average	C
8	Schinus molle	Pepper	25	15	0	Average	C
9	Schinus molle	Pepper	16	25	15	Average	C
10	Eucalyptus sp.	Eucalyptus	13	50	15	Below Average	D
11	Eucalyptus sp.	Eucalyptus	30	15	0	Below Average	D
12	Eucalyptus sp.	Eucalyptus	22	60	20	Below Average	D
13	Eucalyptus sp.	Eucalyptus	16	20	10	Average	C
14	Eucalyptus sp.	Eucalyptus	19	40	20	Below Average	D
15	Eucalyptus sp.	Eucalyptus	18	35	15	Below Average	D
16	Eucalyptus sp.	Eucalyptus	17	30	10	Below Average	D
17	Eucalyptus sp.	Eucalyptus	17	30	10	Below Average	D
18	Eucalyptus sp.	Eucalyptus	38	35	15	Below Average	D
19	Eucalyptus sp.	Eucalyptus	12	30	15	Below Average	D
20	Eucalyptus sp.	Eucalyptus	33	30	15	Below Average	D
21	Eucalyptus sp.	Eucalyptus	34	35	20	Below Average	D
22	Eucalyptus sp.	Eucalyptus	10	30	15	Below Average	D
23	Eucalyptus sp.	Eucalyptus	22	25	10	Below Average	D
24	Eucalyptus sp.	Eucalyptus	31	35	15	Below Average	D
25	Eucalyptus sp.	Eucalyptus	15	20	10	Below Average	D
26	Eucalyptus sp.	Eucalyptus	22	25	15	Below Average	D
27	Eucalyptus sp.	Eucalyptus	35	15	0	Below Average	D
28	Eucalyptus sp.	Eucalyptus	17	25	10	Below Average	D
29	Eucalyptus sp.	Eucalyptus	21	20	10	Below Average	D
30	Eucalyptus sp.	Eucalyptus	15	20	10	Below Average	D
31	Eucalyptus sp.	Eucalyptus	25	25	15	Below Average	D
32	Eucalyptus sp.	Eucalyptus	28	30	15	Below Average	D
33	Eucalyptus sp.	Eucalyptus	23	15	10	Below Average	D
34	Eucalyptus sp.	Eucalyptus	32	25	10	Below Average	D
35	Eucalyptus sp.	Eucalyptus	24	45	20	Below Average	D
36	Eucalyptus sp.	Eucalyptus	36	45	20	Below Average	D
37	Eucalyptus sp.	Eucalyptus	12	20	10	Below Average	D
38	Eucalyptus sp.	Eucalyptus	16	25	15	Below Average	D
39	Eucalyptus sp.	Eucalyptus	24	20	15	Below Average	D
40	Eucalyptus sp.	Eucalyptus	27	40	15	Average	C

41	Eucalyptus sp.	Eucalyptus	13	20	15	Below Average	D
42	Eucalyptus sp.	Eucalyptus	31	40	25	Below Average	D
43	Eucalyptus sp.	Eucalyptus	20	35	15	Below Average	D
44	Eucalyptus sp.	Eucalyptus	26	40	20	Below Average	D
45	Eucalyptus sp.	Eucalyptus	9	25	15	Below Average	D
46	Eucalyptus sp.	Eucalyptus	20	40	20	Below Average	D
47	Eucalyptus sp.	Eucalyptus	15	35	15	Below Average	D
48	Eucalyptus sp.	Eucalyptus	12	35	15	Below Average	D
49	Eucalyptus sp.	Eucalyptus	13	35	15	Below Average	D
50	Eucalyptus sp.	Eucalyptus	10	35	15	Below Average	D
51	Eucalyptus sp.	Eucalyptus	14	35	15	Below Average	D
52	Eucalyptus sp.	Eucalyptus	19	30	15	Below Average	D
53	Eucalyptus sp.	Eucalyptus	21	40	20	Below Average	D
54	Eucalyptus sp.	Eucalyptus	11	35	15	Below Average	D
55	Eucalyptus sp.	Eucalyptus	15	40	20	Below Average	D
56	Eucalyptus sp.	Eucalyptus	16	40	20	Below Average	D
57	Eucalyptus sp.	Eucalyptus	11	35	15	Below Average	D
58	Eucalyptus sp.	Eucalyptus	13	35	20	Below Average	D
59	Eucalyptus sp.	Eucalyptus	13	20	15	Below Average	D
60	Eucalyptus sp.	Eucalyptus	15	40	20	Below Average	D
61	Eucalyptus sp.	Eucalyptus	15	45	20	Below Average	D
62	Eucalyptus sp.	Eucalyptus	14	35	15	Below Average	D
63	Eucalyptus sp.	Eucalyptus	20	45	20	Below Average	D
64	Eucalyptus sp.	Eucalyptus	9	40	20	Average	C
65	Eucalyptus sp.	Eucalyptus	40	20	0	Average	C
66	Eucalyptus sp.	Eucalyptus	18	45	20	Below Average	D
67	Eucalyptus sp.	Eucalyptus	43	60	35	Below Average	D
68	Eucalyptus sp.	Eucalyptus	14	40	20	Average	C
69	Schinus molle	Pepper	10	20	15	Average	C
70	Schinus molle	Pepper	10	12	12	Average	C
71	Eucalyptus sp.	Eucalyptus	48	50	20	Below Average	D
72	Eucalyptus sp.	Eucalyptus	26	35	25	Below Average	D
73	other	Other	29	45	35	Below Average	D
74	Eucalyptus sp.	Eucalyptus	48	80	30	Below Average	D
75	Eucalyptus sp.	Eucalyptus	33	65	25	Below Average	D
76	Eucalyptus sp.	Eucalyptus	34	70	25	Below Average	D
77	Eucalyptus sp.	Eucalyptus	48	35	20	Below Average	D
78	Ornamental	Ornamental	13	25	10	Below Average	D
79	Eucalyptus sp.	Eucalyptus	26	80	30	Below Average	D
80	Eucalyptus sp.	Eucalyptus	29	60	30	Below Average	D
81	Eucalyptus sp.	Eucalyptus	18	30	15	Below Average	D
82	Eucalyptus sp.	Eucalyptus	18	30	15	Below Average	D
83	Eucalyptus sp.	Eucalyptus	16	30	15	Below Average	D
84	Eucalyptus sp.	Eucalyptus	17	30	15	Below Average	D
85	Eucalyptus sp.	Eucalyptus	11	35	20	Below Average	D
86	Eucalyptus sp.	Eucalyptus	18	25	10	Below Average	D
87	Eucalyptus sp.	Eucalyptus	29	40	25	Below Average	D

88	Fraxinus sp.	Olive	13	20	30	Average	C
89	Juglans nigra	Black Walnut	14	45	40	Good	B
90	Schinus molle	Pepper	9	40	30	Average	C
91	Eucalyptus sp.	Eucalyptus	44	85	30	Average	C
92	Juglans californica	California Walnut	12	15	15	Average	C
93	Schinus molle	Pepper	11	25	20	Average	C
94	Eucalyptus sp.	Eucalyptus	42	80	40	Average	C
95	Eucalyptus sp.	Eucalyptus	29	25	10	Below Average	D
96	Eucalyptus sp.	Eucalyptus	36	50	20	Below Average	D
97	Schinus molle	Pepper	15	20	45	Below Average	D
98	Eucalyptus sp.	Eucalyptus	20	55	30	Below Average	D
99	Eucalyptus sp.	Eucalyptus	29	55	25	Below Average	D
100	Eucalyptus sp.	Eucalyptus	10	25	15	Average	C
101	Eucalyptus sp.	Eucalyptus	10	25	20	Average	C
102	Eucalyptus sp.	Eucalyptus	26	85	30	Below Average	D
103	Eucalyptus sp.	Eucalyptus	23	75	20	Below Average	D
104	Eucalyptus sp.	Eucalyptus	22	75	20	Below Average	D
105	Eucalyptus sp.	Eucalyptus	18	75	30	Below Average	D
106	Eucalyptus sp.	Eucalyptus	24	40	20	Below Average	D
107	Schinus molle	Pepper	11	35	20	Average	C
108	Eucalyptus sp.	Eucalyptus	16	35	15	Below Average	D
109	Schinus molle	Pepper	16	45	35	Average	C
110	Eucalyptus sp.	Eucalyptus	12	45	30	Average	C
111	Eucalyptus sp.	Eucalyptus	18	30	15	Below Average	D
112	Eucalyptus sp.	Eucalyptus	31	45	20	Below Average	D
113	Eucalyptus sp.	Eucalyptus	14	30	12	Below Average	D
114	Eucalyptus sp.	Eucalyptus	19	30	15	Below Average	D
115	Eucalyptus sp.	Eucalyptus	24	45	25	Below Average	D
116	Eucalyptus sp.	Eucalyptus	13	35	15	Below Average	D
117	Eucalyptus sp.	Eucalyptus	12	30	15	Below Average	D
118	Eucalyptus sp.	Eucalyptus	21	25	15	Below Average	D
119	Eucalyptus sp.	Eucalyptus	42	75	30	Below Average	D
120	Eucalyptus sp.	Eucalyptus	23	40	15	Below Average	D
121	Eucalyptus sp.	Eucalyptus	36	50	25	Below Average	D
122	Eucalyptus sp.	Eucalyptus	12	50	20	Average	C
123	Schinus molle	Pepper	12	30	20	Average	C
124	Eucalyptus sp.	Eucalyptus	24	85	30	Average	C
125	Eucalyptus sp.	Eucalyptus	20	30	15	Below Average	D
126	Eucalyptus sp.	Eucalyptus	46	50	30	Below Average	D
127	Eucalyptus sp.	Eucalyptus	24	45	30	Below Average	D
128	Eucalyptus sp.	Eucalyptus	24	85	20	Below Average	D
129	Eucalyptus sp.	Eucalyptus	30	90	40	Average	C
130	Eucalyptus sp.	Eucalyptus	30	60	35	Below Average	D
131	Eucalyptus sp.	Eucalyptus	40	85	30	Average	C
132	Eucalyptus sp.	Eucalyptus	18	45	20	Below Average	D
133	Eucalyptus sp.	Eucalyptus	24	55	25	Average	C
134	Schinus molle	Pepper	17	45	35	Average	C

135	Schinus molle	Pepper	24	45	30	Average	C
136	Schinus molle	Pepper	27	30	15	Average	C
137	Schinus molle	Pepper	15	30	15	Average	C
138	Schinus molle	Pepper	9	30	15	Average	C
139	Schinus molle	Pepper	11	30	20	Average	C
140	Schinus molle	Pepper	40	25	0	Average	C
141	Schinus molle	Pepper	23	25	20	Average	C
142	Schinus molle	Pepper	28	50	40	Average	C
143	Schinus molle	Pepper	13	35	20	Below Average	D
144	Schinus molle	Pepper	11	20	20	Average	C
145	Schinus molle	Pepper	27	50	30	Average	C
146	Schinus molle	Pepper	31	45	40	Average	C
147	Schinus molle	Pepper	23	45	35	Average	C
148	Schinus molle	Pepper	29	30	45	Average	C
149	Schinus molle	Pepper	27	30	55	Average	C
150	Washingtonia sp.	Palm	17	40	0	Below Average	D
151	Pinus sp.	Pine	20	30	30	Average	C
152	Washingtonia sp.	Palm	18	45	10	Average	C
153	Washingtonia sp.	Palm	15	20	10	Below Average	D
154	Washingtonia sp.	Palm	14	20	10	Average	C
155	Eucalyptus sp.	Eucalyptus	15	35	15	Below Average	D
156	Eucalyptus sp.	Eucalyptus	10	35	15	Average	C
157	Eucalyptus sp.	Eucalyptus	32	65	35	Average	C
158	Eucalyptus sp.	Eucalyptus	17	60	35	Average	C
159	Eucalyptus sp.	Eucalyptus	13	55	30	Average	C
160	Eucalyptus sp.	Eucalyptus	9	50	25	Average	C
161	Eucalyptus sp.	Eucalyptus	14	65	20	Average	C
162	Eucalyptus sp.	Eucalyptus	38	70	25	Below Average	D
163	Eucalyptus sp.	Eucalyptus	56	75	40	Below Average	D
164	Eucalyptus sp.	Eucalyptus	15	40	20	Average	C
165	Eucalyptus sp.	Eucalyptus	16	50	20	Average	C
166	Eucalyptus sp.	Eucalyptus	15	60	20	Average	C
167	Eucalyptus sp.	Eucalyptus	12	40	20	Average	C
168	Eucalyptus sp.	Eucalyptus	16	60	25	Average	C
169	Eucalyptus sp.	Eucalyptus	24	70	25	Below Average	D
170	Eucalyptus sp.	Eucalyptus	45	65	45	Below Average	D
171	Rhus lancea	African Sumac	20	35	35	Average	C
172	Eucalyptus sp.	Eucalyptus	13	45	10	Average	C
173	Eucalyptus sp.	Eucalyptus	52	95	40	Below Average	D
174	Schinus molle	Pepper	9	30	15	Average	C
175	Schinus molle	Pepper	13	45	35	Average	C
176	Eucalyptus sp.	Eucalyptus	36	50	45	Average	C
177	Rhus lancea	African Sumac	15	45	30	Average	C

Notes	Latitude	Longitude
Multi-trunk (10,16,19)	34.293282461	-118.886436180
Charred, multiple resprouts (3,7,5,3,4)	34.293043153	-118.886838266
Charred, multiple resprouts (6,7,9)	34.293363273	-118.886929259
Charred, multiple resprouts (12, 5, 3)	34.293367815	-118.886890208
Charred, multiple resprouts (14, 10, 7, 7, 7)	34.293396911	-118.887143344
Charred, multiple resprouts (6,7,4,5,7,6)	34.293353729	-118.887178701
Original trunk dead, resprouts (11, 6,5)	34.293370977	-118.887291240
Charred, multiple resprouts (4,6,10,7)	34.293368224	-118.887421659
Original trunk dead, resprouts (14, 7, 8, 8, 9)	34.293339810	-118.887912726
Burned with resprouting	34.293395776	-118.888663173
Burned with resprouting	34.293379056	-118.888841850
Burned with resprouting (8,11,13,11)	34.293393664	-118.888887073
	34.293401607	-118.888924236
Burned with resprouting	34.293399490	-118.888956333
Burned with resprouting	34.293394574	-118.889051185
Burned with resprouting	34.293398607	-118.889198043
Charred	34.293394536	-118.889281556
Burned with resprouting	34.293400943	-118.889289276
Charred, multiple resprouts (10,6)	34.293399617	-118.889326028
Original trunk dead, resprouts (32, 6)	34.293387538	-118.889488156
Burned with resprouting	34.293395411	-118.889558395
Charred, multi resprouts (6,5,4,4,4)	34.293373750	-118.889613930
Burned with resprouting	34.293364674	-118.889646905
Burned with resprouting	34.293376959	-118.889668002
Charred, multiple resprouts (10,10)	34.293396402	-118.889765530
Charred, multiple resprouts (21, 6)	34.293375720	-118.889774199
Charred, multiple resprouts (20, 10, 6, 6, 6)	34.293384290	-118.889838051
Charred, multiple resprouts (16, 4)	34.293372733	-118.889958925
original trunk dead, resprouts (20, 3, 3, 3)	34.293365576	-118.890145331
Charred, multiple resprouts (12, 5, 4, 4, 4, 4)	34.293379855	-118.890274222
tag 504, multi resprouts under 4 dbh	34.293392552	-118.890310080
original trunk dead, resprouts (26, 5, 5, 5, 5)	34.293386272	-118.890335815
original trunk dead, resprouts (22, 4, 4)	34.293386312	-118.890387813
original trunk dead, resprouts (30, 5, 7, 6)	34.293390150	-118.890446876
original trunk Charred, resprouts (24, 4)	34.293367718	-118.890516788
original trunk dead, resprouts (36, 4, 5, 7)	34.293384478	-118.890553999
multi trunks (10, 5, 4)	34.293389373	-118.890603154
Charred, multiple resprouts (14, 7, 5)	34.293385042	-118.890622595
Burned with resprouting	34.293387095	-118.890797307
Burned with resprouting	34.292415214	-118.886325604

Burned with resprouting (7,5,4x4,4x3)	34.292016447	-118.886344264
Burned with resprouting	34.291999947	-118.886295049
Charred (14,9,7,5,3x4)	34.291868174	-118.886342243
Charred	34.291287502	-118.886587182
Burned with resprouting (8, 4)	34.289154736	-118.887338079
Charred (8,7,11,11,8)	34.289149700	-118.887592110
Burned with resprouting (11,5,5,3x4)	34.289133802	-118.887650092
Charred	34.289101275	-118.887760158
Charred (11,6)	34.289090984	-118.887792474
Burned with resprouting	34.289046112	-118.887733390
Charred	34.289084398	-118.887806859
Burned with resprouting (8,11,5,5x6)	34.289116139	-118.887829870
Burned with resprouting (12, 17)	34.289124607	-118.887980448
Charred (10,4)	34.289132973	-118.888034306
Charred, tag #464	34.289080392	-118.888109283
Charred	34.289018537	-118.888040426
Charred (8,6,4)	34.288934256	-118.888129553
Charred (12,4)	34.288944075	-118.888178265
Charred	34.289042409	-118.888154148
Burned with resprouting (11,10)	34.289100197	-118.888209719
Charred (10,11)	34.289016746	-118.888248750
Charred (12,4,6)	34.289015289	-118.888321031
Measured at 1 ft	34.288941562	-118.888387026
(8,5)	34.288843778	-118.888505316
Charred (16,7)	34.288805697	-118.888560988
Burned with resprouting	34.289121885	-118.888433401
Burned with resprouting, split trunk	34.289111587	-118.888487655
Charred	34.289218216	-118.888291941
(7,5,4)	34.292580131	-118.888428378
	34.292978418	-118.887812413
Charred, dbh at 1 ft	34.293336197	-118.895994710
Burned with resprouting	34.293185926	-118.896463589
Charred	34.292271950	-118.896610581
Charred	34.290940413	-118.890650336
Charred, tag #393	34.290843831	-118.890618706
Charred (24,24), tag unreadable	34.290821947	-118.890653436
Charred, tag #306	34.290935631	-118.890938066
Charred	34.288953506	-118.891333711
Charred	34.288896357	-118.891737957
Charred (23,18) tag #339	34.288761344	-118.891203415
Burned with resprouting	34.288428611	-118.890942511
Burned with resprouting	34.288377245	-118.890961956
Burned with resprouting	34.288200536	-118.891089106
Charred	34.287223858	-118.891901160
Charred	34.287261379	-118.891700624
Burned with resprouting	34.287262128	-118.891666581
Burned with resprouting	34.287593527	-118.891333873

(7,6,3x5)	34.287923290	-118.899441206
	34.287943429	-118.899898107
(7,6)	34.287921970	-118.900289901
DBH at 1 ft, tag #366	34.287871413	-118.900266965
Root sprouts (7,6,6,5)	34.287372856	-118.899565545
(8,8)	34.284800930	-118.900410256
	34.284329017	-118.898563649
Burned with resprouting	34.285340146	-118.896006856
Charred	34.285321693	-118.896077335
	34.285394064	-118.895874558
	34.285428080	-118.895724305
Charred	34.285484302	-118.895721816
(5,5,4,4,3x3)	34.285190294	-118.891622110
(4,3x5)	34.285150530	-118.891559467
Charred	34.285488176	-118.891876513
Charred	34.285564897	-118.891928203
Charred	34.285605677	-118.891920088
Charred	34.285661728	-118.891903581
Charred	34.285665883	-118.891969031
(7,7,5,3)	34.285406188	-118.891614514
Burned with resprouting	34.285264281	-118.891430974
(12,11)	34.285425886	-118.891374484
(9,6,5x2)	34.285487092	-118.891350396
Burned with resprouting	34.285707365	-118.891735761
Burned with resprouting	34.285819283	-118.891865616
Burned with resprouting	34.286035730	-118.892030651
Burned with resprouting	34.286124733	-118.892096718
Burned with resprouting	34.286174044	-118.892132855
Burned with resprouting (7,7,6,5)	34.286106899	-118.892198495
Burned with resprouting	34.286166563	-118.892326003
Burned with resprouting	34.286185015	-118.892369454
Charred	34.286200351	-118.892446542
Burned with resprouting	34.286208131	-118.892694811
Charred	34.286338692	-118.890555654
(7,6,6,4)	34.286279376	-118.890643831
(6,5,6,7)	34.287984581	-118.900651884
	34.288011243	-118.900535418
Burned with resprouting	34.287959661	-118.900474225
Tag #364	34.287969668	-118.900463015
Burned with resprouting, tag #365	34.287969865	-118.900448835
Burned with resprouting	34.287752077	-118.900248344
Charred	34.287685251	-118.900178556
Burned with resprouting	34.287546656	-118.900043875
	34.287457034	-118.900023731
Burned with resprouting (14,11)	34.287413433	-118.900005576
Burned with resprouting (16,18)	34.287388385	-118.899981364
Burned withmature resprouts (11,7,9,4,6)	34.287023703	-118.899879735

	34.286869977	-118.899948175
Charred (25,11)	34.286796710	-118.899844960
(12,9)	34.286688475	-118.899837302
	34.286654181	-118.899834327
	34.286570199	-118.899818595
(7,7,3)	34.286440534	-118.899817009
Burned with resprouting	34.286135581	-118.899867429
Charred (22,17)	34.285697433	-118.900046592
Burned with resprouting	34.283947756	-118.900892328
Leaning	34.283849332	-118.900897666
(21,13,10)	34.283822711	-118.900903717
Charred (16,16,21)	34.283664464	-118.900958225
Charred tag #424	34.284093915	-118.900999016
One trunk decumbent (17,14,14,22,15,9)	34.284143319	-118.900994522
Charred (22,16)	34.284267112	-118.900974146
Charred	34.285524764	-118.890001810
Charred	34.286119822	-118.890029865
Charred	34.286053161	-118.890318045
Charred	34.286119892	-118.890319334
Charred	34.286200044	-118.890026614
Burned with resprouting	34.286307958	-118.890173328
Burned with resprouting	34.286330490	-118.890162296
Charred	34.286346347	-118.889856494
	34.287700988	-118.888814219
	34.287664828	-118.888835577
	34.287631176	-118.888876811
	34.287614376	-118.888897353
Burned declining	34.287675387	-118.888965038
Burned	34.287726707	-118.888955940
	34.287634521	-118.889161506
Charred	34.287575535	-118.889211134
Charred	34.287578085	-118.889225035
	34.287491980	-118.889204387
	34.287353220	-118.889397736
Charred (22,9)	34.287735245	-118.890392376
Charred tag #100	34.287733362	-118.890649300
	34.288263829	-118.889211154
(6,6,6,8)	34.288052746	-118.889272408
Trunk base burned	34.288060560	-118.889141719
	34.288034597	-118.889091107
Tag #132 (10,9)	34.290306973	-118.887805236
	34.289146666	-118.886691720
Graffiti (9,7,7,6)	34.291157287	-118.886787665

Common Name	Scientific Name	# of mature or qualifying trees	# of immature or non-qualifying trees	Total
Pepper tree	*Schinus molle*	32	208	240
Eucalyptus	*Eucalyptus* sp.	133	5	138
Black walnut	*Juglans californica*	1	10	11
Willow rhus	*Rhus lancea*	2	1	3
Arroyo willow	*Salix lasiolepis*	0	4	4
Acacia	*Acacia* sp.	0	1	1
Ash	*Fraxinus* sp.	1	0	1
Eastern black walnut	*Juglans nigra*	1	0	1
Mexican fan palm	*Washingtonia robusta*	4	0	4
Ornamental conifer	*Pinus* sp.	1	0	1
Ornamental		2	0	2
Dead, downed		0	78	78
Totals		**177**	**307**	**484**

Native to California
No
No
Yes
No
Yes
No
No
No
No
No
No



Bing Maps Aerial: (c) 2010 Microsoft Corporation and its data suppliers.

Tree Inventory

N
0 240 480 Feet

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June 8, 2021

Harriet Rapista
Senior Project Manager
Comstock Homes
2301 Rosecrans Avenue, Suite 1150
El Segundo, California 90245
Via email: HRapista@comstock-homes.com

Subject: **Jurisdictional Delineation within the Hitch Ranch Specific Plan Project Site, City of Moorpark, Ventura County, California**

Dear Ms. Rapista:

This letter report has been prepared by Rincon Consultants, Inc. (Rincon) to assist Comstock Homes with project planning, and for use by the United States Army Corps of Engineers (USACE) to confirm extent of potential jurisdiction under Section 404 of the Clean Water Act, the Regional Water Quality Control Board (RWQCB), to confirm extent of potential jurisdiction pursuant to Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act, and the California Department of Fish and Wildlife (CDFW) jurisdiction pursuant to California Fish and Game Code (CFGC) Section 1600 *et seq*.

This Jurisdictional Delineation (JD) identified two drainages potentially subject to agency jurisdiction. The findings and conclusions presented in this report, including the location and extent of areas potentially subject to regulatory jurisdictions, represent the professional opinion of the consultant biologists. These findings and conclusions should be considered preliminary and at final discretion of the applicable resource agency.

Summary of Project Description

The proposed Hitch Ranch Specific Plan (project) is designed as a mixed-density community in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley (Attachment A, Figure 1). The project provides for the arrangement of various land uses on the 277.3-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

Methods

This study included a literature review and desktop evaluation of existing aerial imagery and published datasets, followed by a field delineation of potential jurisdictional waters. The area surveyed was consistent with the limits of the project site and defined herein as the “study area” (Attachment B, Figure 2). The study area is situated within the *Moorpark, California* USGS 7.5-minute topographic quadrangle, Township 3 North, Range 19 West, San Bernardino Baseline and Meridian. While the entirety of the project site was part of the study area, particular focus was given to erosional and drainage features identified in previous biological studies (Barringer Biological Services, 2019).

Rincon Senior Biologist Robin Murray conducted the field survey on December 30, 2019. Follow-up observations at the site were made by Rincon Natural Resources Director Greg Ainsworth on May 26, 2021. The JD has been prepared in accordance with USACE, RWQCB and CDFW procedures, as outlined below.

Literature Review

Prior to the field survey, Rincon reviewed available background information and published datasets to understand the environmental setting and context of the study area to aide in characterizing the nature and extent of jurisdictional waters potentially occurring on the subject site. These existing resources included aerial imagery depicting the study area (Google Earth 2019), the most recent *Moorpark, California* USGS 7.5-minute topographic quadrangle map (2015), and the Web Soil Survey (USDA NRCS 2019a). The *National Hydrography Dataset* (USGS 2019) and the *National Wetlands Inventory* (NWI) (United States Fish and Wildlife Service 2019) were reviewed to determine if any potential wetlands and/or other waters had been previously mapped on or in the vicinity of the proposed project site. The *State Soils Data Access (SDA) Hydric Soils List* (USDA NRCS 2019b) was also reviewed to determine if any soil map unit types mapped on or near the study area were classified as hydric. Rincon also reviewed precipitation records for the area to understand typical precipitation patterns and average annual precipitation totals.

Field Delineation

Ms. Murray surveyed the study area on foot for potential wetlands and non-wetland aquatic resources including streams that might exhibit an ordinary high water mark (OHWM) and that might constitute waters of the U.S. and/or State. During the field delineation, Ms. Murray noted general site characteristics and documented vegetation present on site. Current federal and state policies, methods and guidelines were used to identify and delineate potential jurisdictional areas and are described in detail below.

Non-Wetland Waters of the United States

The lateral limits of USACE jurisdiction (i.e., width) for non-wetland waters were determined by the presence of physical characteristics indicative of the OHWM. The OHWM was identified in accordance with the applicable Code of Federal Regulations (CFR) sections (33 CFR 328.3 and 33 CFR 328.4) and Regulatory Guidance Letter 05-05 (USACE 2005), as well as in reference to various relevant technical publications, including, but not limited to: *Review of Ordinary High Water Mark Indicators for Delineating Arid Streams in the Southwestern United States* (USACE 2004), *Distribution of Ordinary High Water Mark (OHWM) Indicators and Their Reliability in Identifying the Limits of "Waters of the United States" in Arid Southwestern Channels (*USACE 2006*),* and *A Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States* (USACE 2008b). The regulations were also reviewed in the determination of non-jurisdictional features including ephemeral drainages, artificially irrigated areas and roadway ditches excavated in uplands.

Additionally, Rincon evaluated sources of water, potential connections and distances to Traditional Navigable Waters (TNWs), streams that are perennial or intermittent in nature and other factors that affect whether waters qualify as "waters of the U.S." under the current 2020 Navigable Water Protection Rule. A more detailed regulatory definition of USACE jurisdiction can be found in Attachment B.

Wetland Waters of the United States

Potential wetland features were evaluated for presence of wetland indicators; specifically, hydrophytic vegetation, hydric soils, and wetland hydrology, according to routine delineation procedures within the *Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a). The USACE *Arid West 2018 Regional Wetland Plant List* was used to determine the wetland status of the examined vegetation by the following indicator status categories: Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), and Obligate Wetland (OBL) (Lichvar et al. 2018). Representative sample points were sited in aeras most likely to exhibit wetland characteristics, i.e., a prevalence of hydrophytic vegetation and suitable landform, and examined in the field for potential wetland indicators. Sample points were not conducted in areas with an obvious prevalence of upland vegetation or in areas where the landform would not support wetland features, i.e. concrete channels and sloped areas. A more detailed regulatory definition of USACE jurisdiction can be found in Attachment B.

Waters of the State

The limits of "waters of the State," as defined under the Porter-Cologne Water Quality Control Act, are any surface water or groundwater, including saline waters, within the boundaries of the state. In those areas where a OHWM was present, the OHWM was determined to represent the limits of waters of the State based on current interpretation of jurisdiction by the Los Angeles RWQCB. In those areas where an OHWM was not present, but surface water was present, i.e. roadside ditches that are hydrologically connected to tributaries and TNWs, the limits of waters of the State were determined to be bounded by the top of slope or top of "bank."

Potential State wetland features were evaluated pursuant to the State Water Resources Control Board's (SWRCB) *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2019). Potential state wetlands were evaluated following the SWRCB's definition, which relies on the same three parameters as the USACE definition (hydrophytic vegetation, wetland hydrology, and hydric soils) but allows for naturally unvegetated areas meeting the other two parameters to be considered wetlands. A more detailed regulatory definition of RWQCB jurisdiction can be found in Attachment B.

CDFW Streambeds

The extent of potential streambeds, streambanks, lakes and riparian habitat subject to CDFW jurisdiction under Sections 1600 *et seq*. of the California Fish and Game Code was delineated by reviewing the topography and morphology of potentially jurisdictional features to determine the outer limit of riparian vegetation, where present, or the tops of banks for stream features. A more detailed regulatory definition of CDFW jurisdiction can be found in Attachment B.

Ventura County

Potential redline channels were evaluated, specifically those channels that Ventura County has determined to convey about 500 cubic feet per second or more in a 100-year runoff event. A list of redline channels that were adopted in 1994 by the Ventura County Watershed Protection District were reviewed (Ventura County 2019). For the purposes of this report, the jurisdictional limits of redline channels were determined to be coterminous with USACE jurisdiction since Ventura County does not have guidance on extent of jurisdiction. A more detailed regulatory definition of Ventura County Watershed Protection District jurisdiction can be found in Attachment B.

Data Collection and Processing

Data points representing the top of bank, OHWM, and other observation points were mapped using a Trimble R1 Global Positioning System (GPS) with sub-meter accuracy and were also plotted on aerial photographs. The data were subsequently transferred to Rincon's geographic information system (GIS) and used in combination with recent, high resolution aerial photographs and, topographic datasets to map the extent of streams in the study area. The delineation data were used to produce Figure 1 through Figure 4 (Attachment A). Representative Photographs of delineated features and surrounding conditions are presented in Attachment C.

Existing Setting

Topography

The study area is located within the southwest portion of Ventura County and within the South Coast subregion as defined in the Jepson ecoregion system, which extends from Point Conception to the west southward to Mexico, along the immediate coasts in Ventura County, but also extending inland to the San Gabriel and San Bernardino mountains farther east and south (Baldwin et al. 2012). Elevations within the study area range from approximately 475 to 675 feet above mean sea level. The topography of the study area is characterized by moderately steep hills and canyons covered in open vegetation.

Climate

The project site is located in southern Ventura County, which is characterized by warm, dry summers and wet winters. Average annual precipitation in this area is approximately 14.6 inches, with most of the annual precipitation occurring between the months of December and March.

Hydrology

General hydrology of the study area was evaluated through review of topographic maps, aerial photos, and the National Hydrography Dataset (USGS 2019). The study area is located in Hydrologic Unit Code 18070103. The Simi Hills, north of the study area, generally drain in a southerly direction by a network of drainages that then converge with Arroyo Las Posas south of the study area. Based on an examination of aerial imagery and observation during the site visit, the systems appear to be somewhat "flashy", which is typical for the region and for semi-arid region streams in sandy substrates. Steep hills within the region generate runoff during storm events that collects and flows through the drainages.

Soils

Based on the most recent NRCS soil survey for Ventura County, California (U.S. Department of Agriculture 2019), the study area is underlain by the following soil types: San Andreas sandy loam, 30 to 50 percent slopes (34.4 percent), Chesterton coarse sandy loam, 5 to 15 percent slopes, eroded (25.2 percent), Garretson loam, 2 to 9 percent slopes (13.4 percent), Soper gravelly loam, 30 to 50 percent slopes, eroded (12.9 percent), Metz loamy sand, 2 to 9 percent slopes (7.8 percent), Mocho loam, 0 to 2 percent slopes (5.5 percent), and Arnold sand, 9 to 50 percent slopes (0.9 percent). These soils alluvial and derived from sedimentary or conglomerate rock, and range from moderately well drained to somewhat excessively drained. None of these soils are considered hydric (USDA 2019). Figure 2 depicts the soil types found within the study area.

Vegetation

Habitat classification is based on the classification systems provided in *A Manual of California Vegetation, Second Edition* (Sawyer et al., 2009). Seven terrestrial vegetation communities or land cover types were identified within the study area by Impact Sciences in 2011. The site is predominately vegetated by annual brome grasslands, with scattered patches of California sagebrush-deerweed scrub (*Artemisia californica-Acmispon glaber* shrubland association), coyote brush scrub (*Baccharis pilularis* shrubland alliance), and non-native woodland.

Field Results and Discussion

Based upon the findings of Rincon's jurisdictional delineation, the intermittent storm drain channel Walnut Canyon Drain, one unnamed ephemeral drainage (Drainage 1), and one unnamed erosional feature (Erosional Feature 1) are present in the study area. Representative photographs are provided in Attachment C.

Walnut Canyon Drain

The Walnut Canyon Drain is a rectangular concrete-lined drainage channel that extends along the southern edge of the study area. It is classified by the National Wetland Inventory (NWI, USFWS 2020) as a R4SBCx drainage (riverine, intermittent streambed, seasonally flooded, excavated). Constructed in 1962 (Ventura Countywide Stormwater Quality Management Program 2021), the Walnut Canyon Drain is also considered a redline stream by the Ventura County Watershed Protection District. Stormwater and runoff flows from residential developments and a natural drainage enter Walnut Canyon Drain north of the study area. Within the study area, the drainage flows from east to west, paralleling Poindexter Avenue. West of the study area, the drain travels in a southwesterly direction, until it connects to Arroyo Las Posas approximately 2.5 miles southwest of the study area. Arroyo Las Posas converges with Calleguas Creek, which then flows south to Mugu Lagoon, and ultimately to the Pacific Ocean. Based on its position within the watershed, it appears likely that the feature was a natural drainage prior to its excavation and channelization.

The Walnut Canyon Drain contains a distinct OHWM, bed, and banks, which were defined by the break in slope. The OHWM and top of bank measure eight feet wide, with the top of bank measuring five feet above the concrete-lined bed of the channel. Water was present in the drain during the May 26, 2021 survey, suggesting the feature transmits flows on an intermittent basis. The water appeared to be fed by runoff from the upstream residential developments. Walnut Canyon Drain is likely subject to regulations by the USACE and RWQCB under Sections 404 and 401 of the CWA, respectively, as well as CDFW pursuant to Section 1600 *et seq*. of the CFGC (Attachment A, Figure 4).

Unnamed Drainage 1

Drainage 1 is an ephemeral drainage that experiences surface flow during the winter/wet season and during storm events. It is classified by the NWI as a R4SBC drainage (riverine, intermittent streambed, seasonally flooded). Within the northern portion of the drainage, a clearly incised channel with steeply defined bed and banks was observed. An OHWM was discernible within Drainage 1, and was mapped based on the presence of shelving, sediment and debris deposits, and matted vegetation indicating ordinary hydrologic flows associated with rain events. As the feature flows downstream into lower elevations and gradient, defined banks become less incised and recognizable, though transport of

sediment within the feature remained consistent throughout its length. Drainage 1 flows south and converges with the Walnut Canyon Drain.

The bed of the channel is largely unvegetated and consists of coarse sand. The banks of the channel are primarily vegetated by annual brome grassland, which is contiguous with the surrounding landscape in its vicinity. This community is dominated by non-native grasses and forbs, including ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), red brome (*Bromus madritensis*), slender oat (*Avena barbata*), fennel (*Foeniculum vulgare*), Italian thistle (*Carduus pycnocephalus*), tocalote (*Centaurea melitensis*), black mustard (*Brassica nigra*), red stem filaree (*Erodium cicutarium*), horehound (*Marrubium vulgare*), and turkey mullein (*Croton setiger*). Within the northern portion of the drainage, it is vegetated by non-native woodland dominated by blue gum eucalyptus (*Eucalyptus globulus*), with an herbaceous layer of annual brome grassland. As the drainage flows south, it parallels a windrow of Peruvian pepper trees (*Schinus molle*), with an herbaceous layer of annual brome grassland.

Soft chess and horehound are ranked as FACU species, and red brome is ranked as an UPL species (Lichvar et al. 2016; USACE 2016). The remaining dominant plant species within the annual brome grassland observed along the banks of the drainage do not have a wetland indicator status. Based on the dominance of upland plant species throughout the drainage and the soils consisting of coarse sand, Drainage 1 is not considered a wetland.

Under the Navigable Water Protection Rule, ephemeral features are exempted from USACE jurisdiction; therefore, it is expected that Drainage 1 is subject to RWQCB and CDFW jurisdiction, but not USACE jurisdiction (Attachment A, Figure 5).

Erosional Feature 1 (Non-jurisdictional)

Erosional Feature 1 is situated within the northeast corner of the study area. The feature is not mapped by the NWI (USFWS 2020). It originates at the northern boundary of the property, near the southern terminus of Meridian Hills Drive, which is situated directly north of the property boundary. The feature originates at a culvert outfall, and travels in a southerly direction into the study area. The feature is very steeply incised in the north, but quickly becomes less defined as the surrounding topography becomes less steep and abates into the landscape after approximately 500 feet. No indicators of hydrophytic vegetation or hydric soils were evident. The erosional feature may briefly convey flow from upland areas during storm events over a short period of time, but it does not exhibit a defined bed, bank, channel, or OHWM indicative of a jurisdictional drainage feature. Review of historical aerial photographs confirms that the feature was not present prior to 2005, when Meridian Hills Drive was constructed. Therefore, this feature is not expected to be subject to USACE, RWQCB, and CDFW jurisdictions.

Summary of Jurisdictional Areas

Potentially jurisdictional areas within the study area are identified below in Table 1 and shown on Figures 4 and 5.

Table 1 USACE, RWQCB, and CDFW Jurisdictional Areas

Feature	Waters of the U.S.[1]		Waters of the State[2] (acres/linear feet)	CDFW Jurisdictional Streambed[2] (acres/linear feet)
	Non-wetland Waters of the U.S. (acres/linear feet)	Wetland Waters of the U.S. (acres/linear feet)		
Walnut Canyon Drain	1.02 acre/ 4,996 feet	--/ --	1.02 acre/ 4,996 feet	1.02 acre/ 4,996 feet
Unnamed Drainage 1	--/ --	--/ --	0.30 acre/ 1,755 feet	1.06 acre/ 1,755 feet
Erosion Feature 1	--/ --	--/ --	--/ --	--/ --
Totals	1.02 acre/ 4,996 feet	--/ --	1.32 acre/ 6,751 feet	2.08 acre/ 6,751 feet

[1]Calculated to OHWM

[2]Calculated to top of bank

Conclusions and Recommendations

The Walnut Canyon Drain is likely subject to regulation by the USACE and RWQCB under Sections 404 and 401 of the CWA, respectively, as well as CDFW pursuant to Section 1600 *et seq*. of the CFGC. Walnut Canyon Drain is also subject to Ventura County Watershed Protection District jurisdiction as a redline drainage. Drainage 1 is likely subject to regulation by the RWQCB under Section 401 of the CWA as well as CDFW pursuant to Section 1600 *et seq*. of the CFGC.

The findings and conclusions presented in this report, including the location and extent of areas subject to regulatory jurisdiction, represent the professional opinion of the consultant biologists. These findings and conclusions should be considered preliminary and at final discretion of the applicable resource agency.

Sincerely,
Rincon Consultants, Inc.

Robin Murray
Senior Biologist/Botanist

Christopher Julian
Principal Regulatory Specialist

Attachments

Attachment A	Regulatory Framework
Attachment B	Figures
Attachment C	Representative Site Photographs
Attachment D	Data Summary

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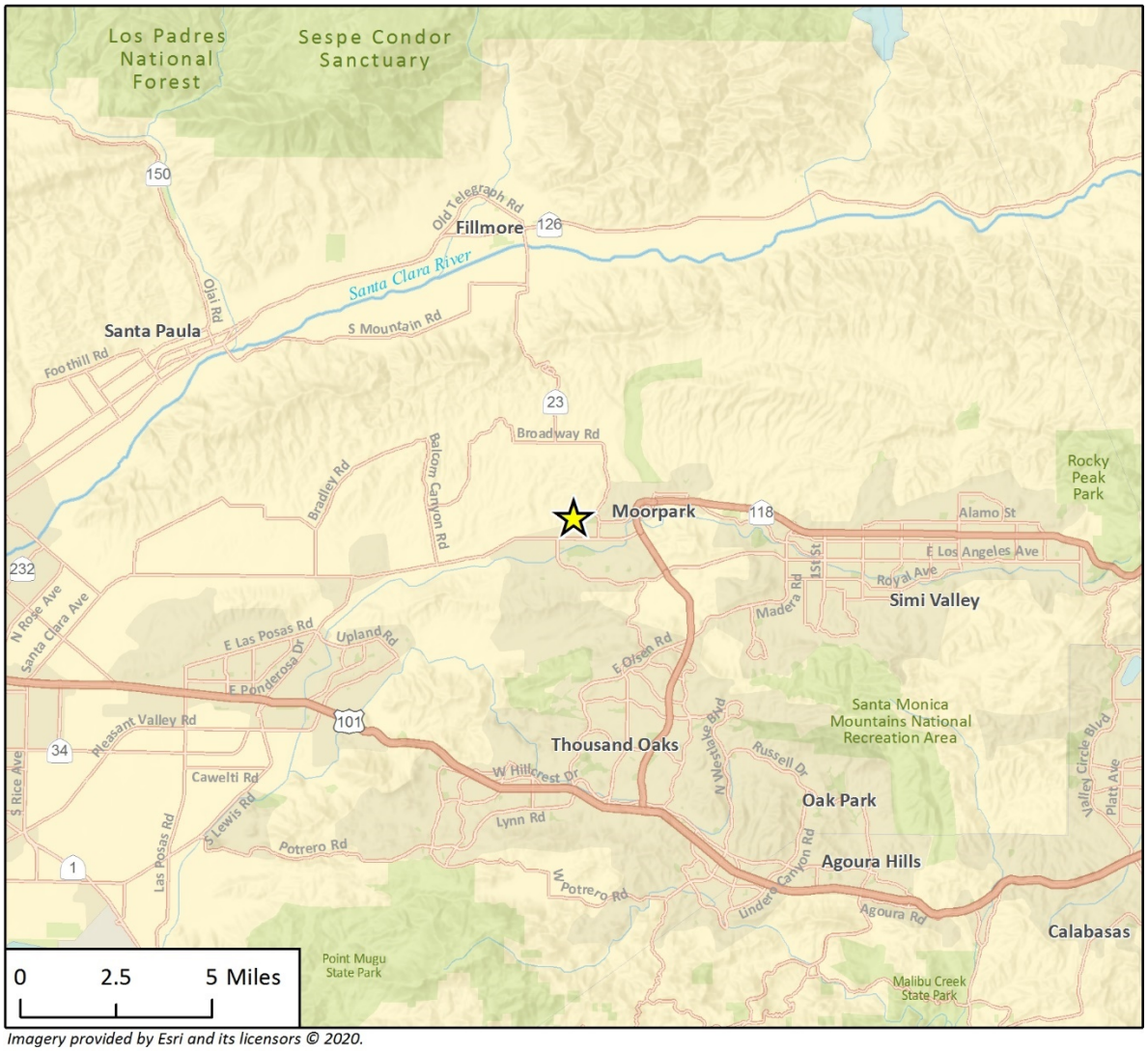
Attachment A Figures

Figure 1 Regional Location



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Project Location

N

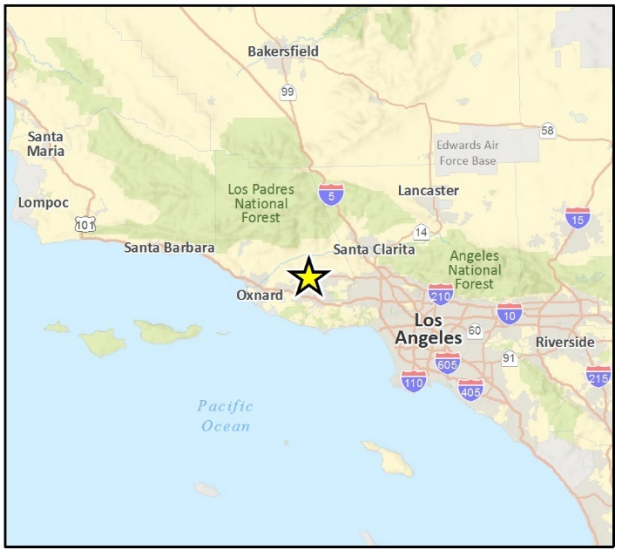

Figure 2 Study Area



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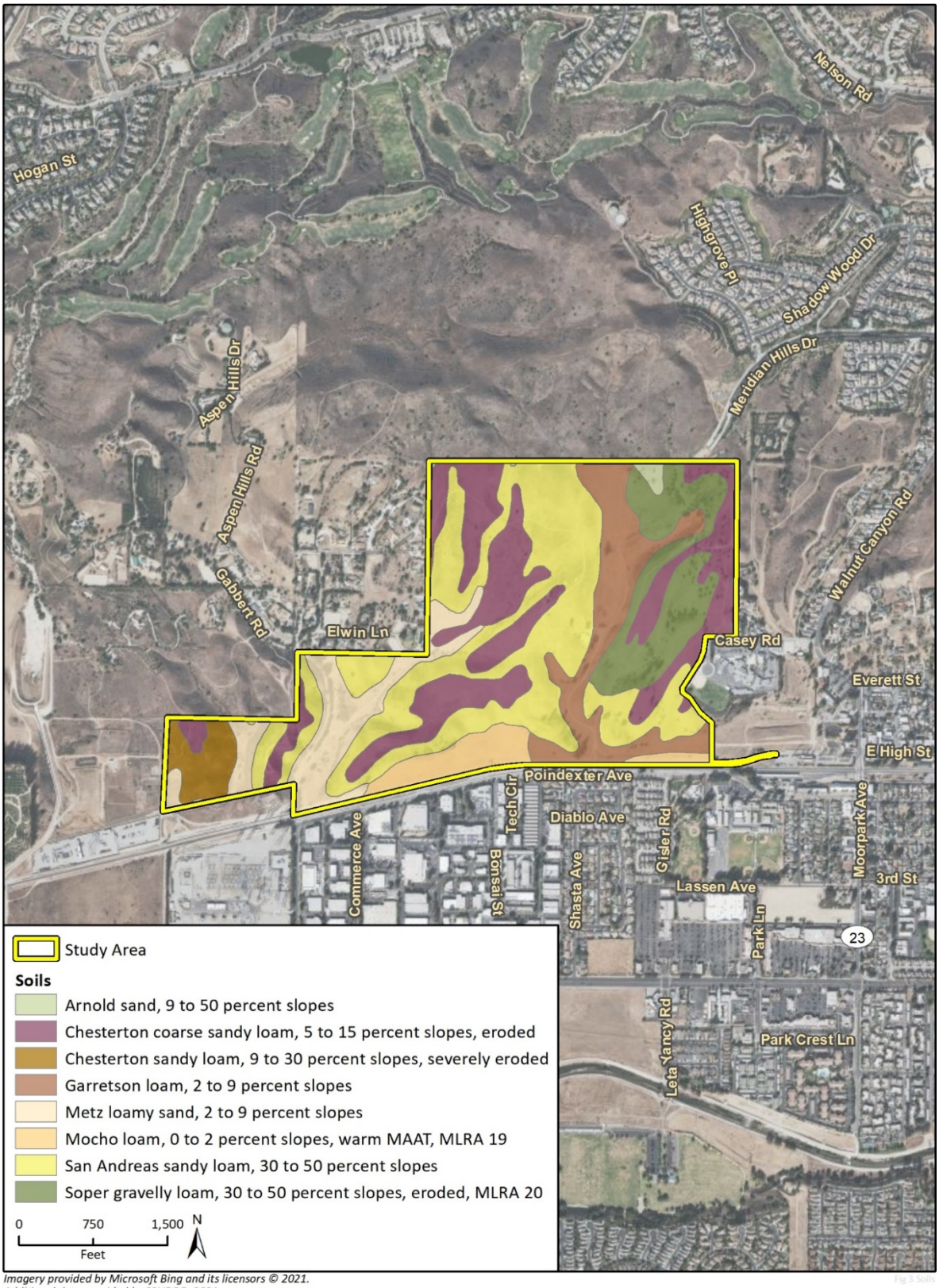
Figure 3 Soils within the Study Area



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Additional data provided by SSURGO, 2021.

Figure 4 Potential Jurisdictional Areas within the Study Area

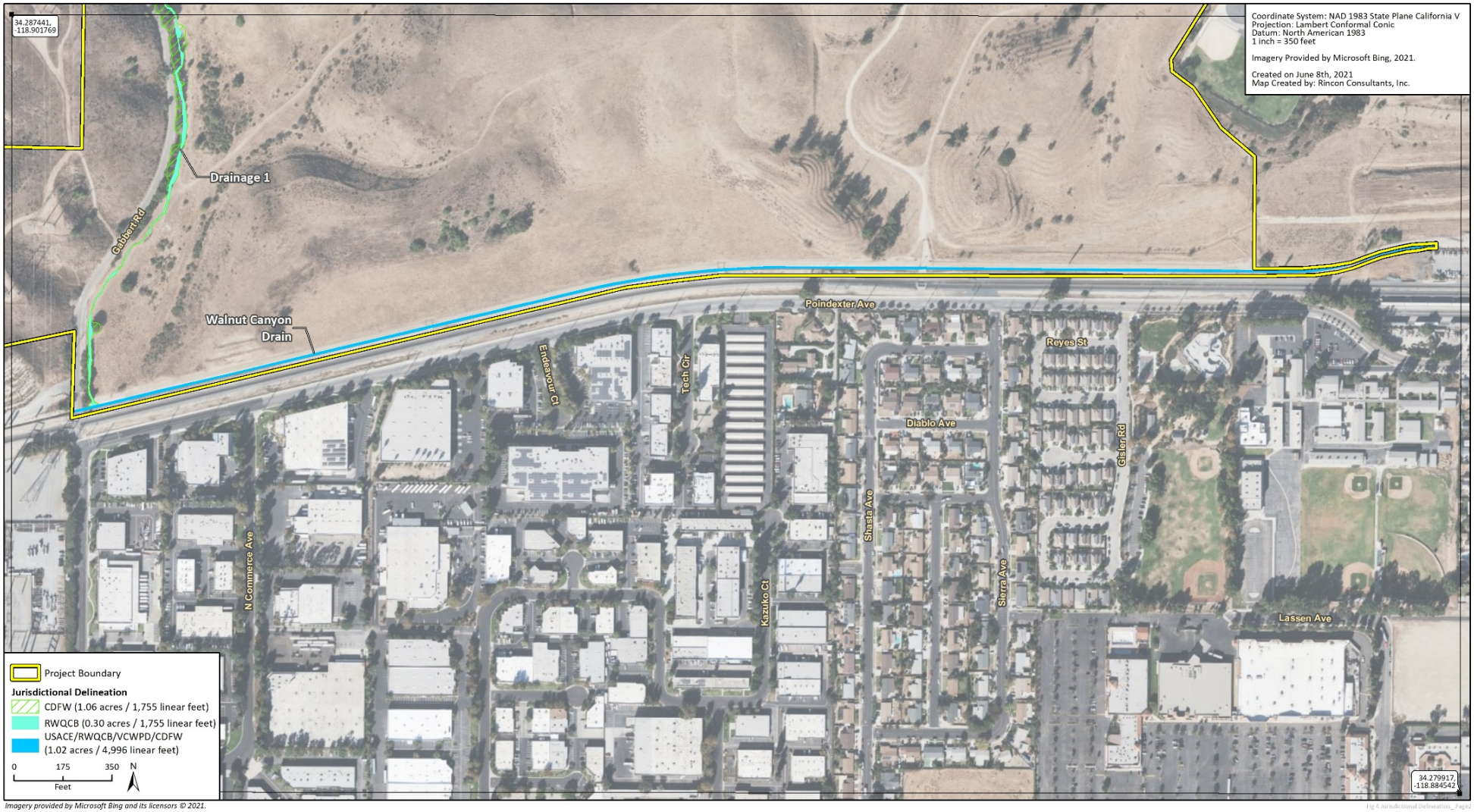

Figure 5 Potential Jurisdictional Areas within the Study Area



Attachment B Regulatory Framework

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, State, and local levels. A number of federal and State statutes provide a regulatory structure which guide the protection of jurisdictional features. Agencies with the responsibility for protection of jurisdictional features within the project site include:

- United States Army Corps of Engineers (non-wetland waters and wetlands of the United States)
- Regional Water Quality Control Board (waters of the State)
- California Department Fish and Wildlife (riparian areas, streambeds, and lakes)
- California Coastal Commission (coastal wetlands)

United States Army Corps of Engineers Jurisdiction

The United States Army Corps of Engineers (USACE), is responsible for administering several federal programs related to ensuring the quality and navigability of the nation's waters.

Clean Water Act Section 404

Congress enacted the CWA "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Under provisions of Section 404 of the Clean Water Act (CWA), the USACE regulates the placement of dredge or fill material into "waters of the United States." In administering this program, the USACE must consider factors including the need to minimize impacts while maintaining the applicant's objectives to the extent practicable, and the CWA's requirement that any permitted discharge of fill must be the least environmentally damaging practicable alternative. The process of obtaining a Section 404 permit can be onerous, and may include public noticing and comment, a robust alternatives analysis performed under the U.S. Environmental Protection Agency's (USEPA) Clean Water Act Section 404(b)(1) Guidelines, environmental review under the National Environmental Policy Act, required interagency consultation processes triggered by other federal laws, and costly compensatory mitigation.

To streamline the permitting process for routine types of projects the USACE has determined will have only minimal environmental impacts, the USACE has issued a series of General Permits, including Nationwide Permits (NWPs) issued at the national level and Regional General Permits (RGPs) issued at the regional level. For activities that meet the criteria, qualifying for coverage under a General Permit can be a boon because it eliminates the most complex steps in the permitting process (404(b)(1) analysis and NEPA review).

Waters of the U.S.

On April 21, 2020, the USACE and U.S. Environmental Protection Agency published the *Navigable Waters Protection Rule to define "Waters of the United States."* This rule, effective on June 22, 2020, defines four categories of jurisdictional features, documents certain types of waters that are excluded from

jurisdiction, and clarifies some regulatory terms. Under the *Navigable Waters Protection Rule*, "waters of the United States" include:

Territorial seas and traditional navigable waters;

Perennial and intermittent tributaries that contribute surface flow to those waters;

Certain Lakes and ponds, and impoundments of jurisdictional waters, and;

Wetlands adjacent to jurisdictional waters.

Tributaries are defined as "a river, stream, or similar naturally occurring surface water channel that contributes surface water flow to the territorial seas or traditional navigable waters in a typical year either directly or through one or more tributaries, jurisdictional lakes, ponds, and impoundments of jurisdictional waters, or adjacent wetlands." The tributary category also includes a ditch that "either relocates a tributary, is constructed in a tributary, or is constructed in an adjacent wetland as long as the ditch is perennial or intermittent and contributes surface water flow to a traditional navigable water or territorial sea in a typical year."

Adjacent wetlands are defined as wetlands that:

(i) Abut, meaning to touch at least at one point or side of, a defined water of the U.S.;

(ii) Are inundated by flooding from a defined water of the U.S in a typical year;

(iii) Are physically separated from a defined water of the U.S. by a natural berm, bank, dune, or similar natural features or by artificial dike, barrier or similar artificial structures as long as direct hydrological surface connection to defined Waters of the U.S. are allowed; or,

(iv) Are physically separated from a defined water of the U.S. only by an artificial dike, barrier, or similar artificial structure so long as that structure allows for a direct hydrologic surface connection between the wetlands and the defined water of the U.S. in a typical year, such as through a culvert, flood or tide gate, pump, or similar artificial feature. An adjacent wetland is jurisdictional in its entirety when a road or similar artificial structure divides the wetland, as long as the structure allows for a direct hydrologic surface connection through or over that structure in a typical year.

The Navigable Waters Protection Rule states that the following areas not considered to be jurisdictional features even where they otherwise meet the definitions described above:

1) Groundwater, including groundwater drained through subsurface drainage systems;
2) Ephemeral features that flow only in direct response to precipitation including ephemeral streams, swales, gullies, rills and pools;
3) Diffuse stormwater runoff and directional sheet flow over uplands;
4) Ditches that are not defined Waters of the U.S. and not constructed in adjacent wetlands subject to certain limitations;
5) Prior converted cropland;
6) Artificially irrigated areas that would revert to upland if artificial irrigation ceases;
7) Artificial lakes and ponds that are not jurisdictional impoundments and that are constructed or excavated in upland or non-jurisdictional waters;
8) Water-filled depressions constructed or excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel;
9) Stormwater control features constructed or excavated in uplands or in non-jurisdictional water to convey, treat, infiltrate, or stormwater run-off;

10) Groundwater recharge, water reuse, and wastewater recycling structures constructed or excavated in upland or in non-jurisdictional waters; and,
11) Waste treatment systems.

USACE jurisdictional limits are typically identified by the ordinary high water mark (OHWM) or the landward edge of adjacent wetlands (where present). The OHWM is the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area" (33 CFR 328.3).

Wetlands

The USACE defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3). The USACE's delineation procedures identify wetlands in the field based on indicators of three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

Hydrophytic Vegetation

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than fifty percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USACE published the National Wetland Plant List (USACE 2018), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

Obligate Wetland (OBL). Almost always occur in wetlands

Facultative Wetland (FACW). Usually occur in wetlands, but occasionally found in non-wetlands

Facultative (FAC). Occur in wetlands or non-wetlands

Facultative Upland (FACU). Usually occur in non-wetlands, but may occur in wetlands

Obligate Upland (UPL). Almost never occur in wetlands

The USACE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories. Any species not appearing on the United States Fish and Wildlife Service's list is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5% vegetative cover to be considered as a vegetated wetland.

Hydric Soils

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, saturation, dark (low

chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying (indicates reducing conditions by a blue-grey color), or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

Wetland Hydrology

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Rivers and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States, and applies to all structures and work. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g. riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. It is important to note that Section 10 applies only to navigable waters, and thus does not apply to work in non-navigable wetlands or tributaries. In some cases, Section 10 authorization is issued by the USACE concurrently with CWA Section 404 authorization, such as when certain Nationwide Permits are used.

Regional Water Quality Control Board Jurisdiction

The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) have jurisdiction over “waters of the State,” which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code sec. 13050(e)). These agencies also have responsibilities for administering portions of the CWA.

Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by the SWRCB for multi-region projects. The process begins when an applicant requests a pre-application meeting with the RWQCB, waits no less than 30 days, and then submits an application to the RWQCB and informs the USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. The USACE will then determine a “reasonable period

of time" for the RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. Under current regulations, once initiated, the reasonable period of time cannot be stopped or paused. When the period has elapsed, if the RWQCB has not either issued or denied the application for Section 401 Certification, the USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 *et seq*.), the policy of the State is as follows:

- The quality of all the waters of the State shall be protected
- All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

The Porter-Cologne Act established nine RWQCBs (based on watershed boundaries) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint source related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, effective May 2020, make it clear that the agency will apply the Porter-Cologne Act's requirements to discharges of dredge and fill material as well. The *Procedures* state that they are to be used in issuing CWA Section 401 Certifications and WDRs, and largely mirror the existing review requirements for CWA Section 404 Permits and Section 401 Certifications, incorporating most elements of the USEPA's *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

Non-Wetland Waters of the State

The SWRCB and RWQCBs have not established regulations for field determinations of waters of the state except for wetlands currently. In many cases the RWQCBs interpret the limits of waters of the State to

be bounded by the OHWM unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance each RWQCB may interpret jurisdictional boundaries within their region and the SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by the RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body compared to the USACE.

Wetland Waters of the State

Procedures for defining wetland waters of the State pursuant to the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* went into effect May 28, 2020. The SWRCB defines an area as wetland if, under normal circumstances:

1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;
2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB's *Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State* (2020), states that waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that the methods shall be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

California Department of Fish and Wildlife Jurisdiction

California Fish and Game Code section 1602 states that it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying the California Department of Fish and Wildlife (CDFW) of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFG determines that the activity may substantially adversely affect an existing fish or wildlife resource, the entity may be required to obtain from CDFW a Streambed Alteration Agreement (SAA), which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity described in the notification. Upon receiving a complete Notification of Lake/Streambed Alteration, CDFW has 60 days to present the entity with a Draft SAA. Upon review of the Draft SAA by the applicant, any problematic terms are negotiated with CDFW and a final SAA is executed.

The CDFW has not defined the term "stream" for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. However, four relevant sources of information offer insight as to the appropriate limits of CDFW jurisdiction as discussed below.

- **The plain language of Section 1602 of CFGC** establishes the following general concepts:
  - References "river," "stream," and "lake"
  - References "natural flow"

- References "bed," "bank," and "channel"

- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987), which interpreted Section 1602's use of "stream" to be as defined in common law. The Court indicated that a "stream" is commonly understood to:
  - Have a source and a terminus
  - Have banks and a channel
  - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
  - Represent the depression between the banks worn by the regular and usual flow of the water
  - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
  - Include the land that is covered by the water in its ordinary low stage
  - Include lands below the OHWM

- **CDFW regulations** defining "stream" for other purposes, including sport fishing (14 CCR 1.72) and streambed alterations associated with cannabis production (14 CCR 722(c)(21)), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation

- **Guidance documents**, *including A Field Guide to Lake and Streambed Alteration Agreements* (CDFG 1994) and *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically
  - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
  - Width of a stream course can reasonably be identified by physical or biological indicators
  - A stream may have one or more channels (single thread vs. compound form)
  - Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse
  - Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
  - Biologic components of a stream may include aquatic and riparian vegetation, all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
  - The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied to establish the boundaries of streambeds in various environments. Importance of each factor may be weighted based on site-specific considerations and the applicability of the indicators to the streambed at hand.

Ventura County Jurisdiction

Ventura County Watershed Protection District, which implements the Flood Plain Management Ordinance 3841 on behalf of Ventura County ensures compliance with the National Flood Insurance Program. This includes review of structures built in the floodplain affecting the bed, banks and overflow areas of District jurisdictional redline channels. The list of redline channels was adopted by the District Board of Supervisors in 1960, and then updated and confirmed by them in 1994. Ventura County defines a redline channel as follows:

- Most of the redline channels convey about 500 cubic feet per second or more in a 100-year runoff event.

Attachment C Representative Site Photographs



Photograph 1. View of Drainage 1, near the northern boundary of the study area. Facing towards the northwest (upstream). December 30, 2019



Photograph 2. View of Drainage 1, near the northern boundary of the study area. Facing towards the south (downstream). December 30, 2019.



Photograph 3. View of Drainage 1, facing to the south (downstream). December 30, 2019.



Photograph 4. View of Drainage 1, facing to the north (upstream). December 30, 2019.



Photograph 5. View of Drainage 1, near southern edge of study area where the drainage converges with Walnut Canyon Channel. Facing to the south (downstream). December 30, 2019.



Photograph 6. View of Drainage 1, near southern edge of study area where the drainage converges with Walnut Canyon Channel. Facing towards the northwest. December 30, 2019.



Photograph 7. View of Erosion Feature 1, facing to the north (upstream). December 30, 2019.



Photograph 8. View of Erosion Feature 1, facing to the west. December 30, 2019.



Photograph 9. View of culvert outfall at northern end of Erosion Feature 1, facing to the north. December 30, 2019.



Photograph 10. View of Erosion Feature 1, as the feature becomes less incised. Facing to the south. December 30, 2019.



Photograph 11. View of Walnut Canyon Drain, facing to the west from the eastern end of the study area. May 26, 2021.



Photograph 12. View of Walnut Canyon Drain, facing to the east from the western end of the study area. May 26, 2021.

Attachment D Data Summary

Table D-1 Data Summary by Waters Feature

Aquatic Resource	Area	Cowardin Class	Wetland Indicator Summary	Latitude	Longitude
Walnut Canyon Drain	1.02 acre 4,996 linear feet	Riverine intermittent streambed, seasonally flooded, excavated (R4SBCx)	▪ Hydrophytic vegetation absent ▪ No hydric soils ▪ Hydrology (A1, B1)	34.285310°	-118.885082°
Drainage 1	0.30 acre 1,789 linear feet	Riverine intermittent streambed, seasonally flooded (R4SBC)	▪ Hydrophytic vegetation absent ▪ No hydric soils ▪ Hydrology (B2, B3, B10)	34.285872°	-118.89983°

CNDDB 9-Quad Species List 407 records. Generated 08-19-21

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Anaxyrus californicus	arroyo toad	AAABB01230	Endangered	None	SSC	-	3411847	PIRU	Unprocessed	Animals - Amphibians - Bufonidae - Anaxyrus californicus
Animals - Amphibians	Anaxyrus californicus	arroyo toad	AAABB01230	Endangered	None	SSC	-	3411941	SANTA PAULA PEAK	Unprocessed	Animals - Amphibians - Bufonidae - Anaxyrus californicus
Animals - Amphibians	Anaxyrus californicus	arroyo toad	AAABB01230	Endangered	None	SSC	-	3411931	SANTA PAULA	Unprocessed	Animals - Amphibians - Bufonidae - Anaxyrus californicus
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3411941	SANTA PAULA PEAK	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3411847	PIRU	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana boylii	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3411848	FILLMORE	Mapped	Animals - Amphibians - Ranidae - Rana boylii
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3411848	FILLMORE	Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3411847	PIRU	Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3411941	SANTA PAULA PEAK	Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Amphibians	Taricha torosa	Coast Range newt	AAAAF02032	None	None	SSC	-	3411827	THOUSAND OAKS	Unprocessed	Animals - Amphibians - Salamandridae - Taricha torosa
Animals - Amphibians	Taricha torosa	Coast Range newt	AAAAF02032	None	None	SSC	-	3411828	NEWBURY PARK	Unprocessed	Animals - Amphibians - Salamandridae - Taricha torosa
Animals - Amphibians	Spea hammondii	western spadefoot	AAABF02020	None	None	SSC	-	3411838	MOORPARK	Mapped	Animals - Amphibians - Scaphiopodidae - Spea hammondii
Animals - Amphibians	Spea hammondii	western spadefoot	AAABF02020	None	None	SSC	-	3411837	SIMI	Mapped	Animals - Amphibians - Scaphiopodidae - Spea hammondii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411837	SIMI	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411847	PIRU	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411848	FILLMORE	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411838	MOORPARK	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii

Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411828	NEWBURY PARK	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3411827	THOUSAND OAKS	Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL	-	3411827	THOUSAND OAKS	Unprocessed	Animals - Birds - Accipitridae - Accipiter striatus
Animals - Birds	Accipiter striatus	sharp-shinned hawk	ABNKC12020	None	None	WL	-	3411837	SIMI	Unprocessed	Animals - Birds - Accipitridae - Accipiter striatus
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3411847	PIRU	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3411827	THOUSAND OAKS	Mapped and Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3411828	NEWBURY PARK	Mapped	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3411921	CAMARILLO	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Buteo regalis	ferruginous hawk	ABNKC19120	None	None	WL	-	3411847	PIRU	Unprocessed	Animals - Birds - Accipitridae - Buteo regalis
Animals - Birds	Buteo regalis	ferruginous hawk	ABNKC19120	None	None	WL	-	3411837	SIMI	Unprocessed	Animals - Birds - Accipitridae - Buteo regalis
Animals - Birds	Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC	-	3411837	SIMI	Unprocessed	Animals - Birds - Accipitridae - Circus hudsonius
Animals - Birds	Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Accipitridae - Circus hudsonius
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3411931	SANTA PAULA	Mapped	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3411828	NEWBURY PARK	Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3411827	THOUSAND OAKS	Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3411837	SIMI	Mapped and Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3411847	PIRU	Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3411848	FILLMORE	Mapped and Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3411921	CAMARILLO	Mapped and Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Parabuteo unicinctus	Harris' hawk	ABNKC16010	None	None	WL	-	3411838	MOORPARK	Unprocessed	Animals - Birds - Accipitridae - Parabuteo unicinctus
Animals - Birds	Eremophila alpestris actia	California horned lark	ABPAT02011	None	None	WL	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Alaudidae - Eremophila alpestris actia
Animals - Birds	Eremophila alpestris actia	California horned lark	ABPAT02011	None	None	WL	-	3411921	CAMARILLO	Mapped and Unprocessed	Animals - Birds - Alaudidae - Eremophila alpestris actia

Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3411921	CAMARILLO	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3411848	FILLMORE	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3411847	PIRU	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3411847	PIRU	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3411848	FILLMORE	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3411828	NEWBURY PARK	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3411921	CAMARILLO	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Egretta thula	snowy egret	ABNGA06030	None	None	-	-	3411921	CAMARILLO	Unprocessed	Animals - Birds - Ardeidae - Egretta thula
Animals - Birds	Egretta thula	snowy egret	ABNGA06030	None	None	-	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Ardeidae - Egretta thula
Animals - Birds	Egretta thula	snowy egret	ABNGA06030	None	None	-	-	3411837	SIMI	Unprocessed	Animals - Birds - Ardeidae - Egretta thula
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3411837	SIMI	Unprocessed	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3411848	FILLMORE	Unprocessed	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3411847	PIRU	Unprocessed	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3411921	CAMARILLO	Unprocessed	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP	-	3411921	CAMARILLO	Unprocessed	Animals - Birds - Cathartidae - Gymnogyps californianus
Animals - Birds	Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Cathartidae - Gymnogyps californianus
Animals - Birds	Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP	-	3411847	PIRU	Mapped and Unprocessed	Animals - Birds - Cathartidae - Gymnogyps californianus
Animals - Birds	Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP	-	3411848	FILLMORE	Mapped and Unprocessed	Animals - Birds - Cathartidae - Gymnogyps californianus
Animals - Birds	Gymnogyps californianus	California condor	ABNKA03010	Endangered	Endangered	FP	-	3411941	SANTA PAULA PEAK	Mapped	Animals - Birds - Cathartidae - Gymnogyps californianus

Animals - Birds	Pica nuttalli	yellow-billed magpie	ABPAV09020	None	None	-	-	3411837	SIMI	Unprocessed	Animals - Birds - Corvidae - Pica nuttalli
Animals - Birds	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	-	-	3411848	FILLMORE	Mapped	Animals - Birds - Cuculidae - Coccyzus americanus occidentalis
Animals - Birds	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	-	-	3411931	SANTA PAULA	Mapped and Unprocessed	Animals - Birds - Cuculidae - Coccyzus americanus occidentalis
Animals - Birds	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	-	-	3411838	MOORPARK	Mapped and Unprocessed	Animals - Birds - Cuculidae - Coccyzus americanus occidentalis
Animals - Birds	Falco columbarius	merlin	ABNKD06030	None	None	WL	-	3411848	FILLMORE	Unprocessed	Animals - Birds - Falconidae - Falco columbarius
Animals - Birds	Falco columbarius	merlin	ABNKD06030	None	None	WL	-	3411847	PIRU	Unprocessed	Animals - Birds - Falconidae - Falco columbarius
Animals - Birds	Falco columbarius	merlin	ABNKD06030	None	None	WL	-	3411837	SIMI	Unprocessed	Animals - Birds - Falconidae - Falco columbarius
Animals - Birds	Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL	-	3411847	PIRU	Unprocessed	Animals - Birds - Falconidae - Falco mexicanus
Animals - Birds	Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	FP	-	3411828	NEWBURY PARK	Unprocessed	Animals - Birds - Falconidae - Falco peregrinus anatum
Animals - Birds	Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	FP	-	3411921	CAMARILLO	Unprocessed	Animals - Birds - Falconidae - Falco peregrinus anatum
Animals - Birds	Spinus lawrencei	Lawrence's goldfinch	ABPBY06100	None	None	-	-	3411837	SIMI	Unprocessed	Animals - Birds - Fringillidae - Spinus lawrencei
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	3411837	SIMI	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	3411848	FILLMORE	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	3411828	NEWBURY PARK	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	3411827	THOUSAND OAKS	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	3411838	MOORPARK	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	3411931	SANTA PAULA	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC	-	3411827	THOUSAND OAKS	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC	-	3411828	NEWBURY PARK	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411921	CAMARILLO	Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411828	NEWBURY PARK	Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Icteriidae - Icteria virens

Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411838	MOORPARK	Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411848	FILLMORE	Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411847	PIRU	Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3411837	SIMI	Unprocessed	Animals - Birds - Icteriidae - Icteria virens
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3411837	SIMI	Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Hydroprogne caspia	Caspian tern	ABNNM08020	None	None	-	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Laridae - Hydroprogne caspia
Animals - Birds	Larus californicus	California gull	ABNNM03110	None	None	WL	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Laridae - Larus californicus
Animals - Birds	Larus californicus	California gull	ABNNM03110	None	None	WL	-	3411837	SIMI	Unprocessed	Animals - Birds - Laridae - Larus californicus
Animals - Birds	Sternula antillarum browni	California least tern	ABNNM08103	Endangered	Endangered	FP	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Laridae - Sternula antillarum browni
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411931	SANTA PAULA	Mapped and Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411838	MOORPARK	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411828	NEWBURY PARK	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411827	THOUSAND OAKS	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411837	SIMI	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411941	SANTA PAULA PEAK	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411847	PIRU	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411848	FILLMORE	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3411921	CAMARILLO	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411921	CAMARILLO	Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411848	FILLMORE	Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens

Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411847	PIRU	Mapped	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411837	SIMI	Mapped and Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411827	THOUSAND OAKS	Mapped and Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411828	NEWBURY PARK	Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411838	MOORPARK	Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	None	None	WL	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Passerellidae - Aimophila ruficeps canescens
Animals - Birds	Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC	-	3411837	SIMI	Unprocessed	Animals - Birds - Passerellidae - Ammodramus savannarum
Animals - Birds	Artemisiospiza belli belli	Bell's sage sparrow	ABPBX97021	None	None	WL	-	3411837	SIMI	Mapped and Unprocessed	Animals - Birds - Passerellidae - Artemisiospiza belli belli
Animals - Birds	Spizella breweri	Brewer's sparrow	ABPBX94040	None	None	-	-	3411837	SIMI	Unprocessed	Animals - Birds - Passerellidae - Spizella breweri
Animals - Birds	Pelecanus occidentalis californicus	California brown pelican	ABNFC01021	Delisted	Delisted	FP	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Pelecanidae - Pelecanus occidentalis californicus
Animals - Birds	Phalacrocorax auritus	double-crested cormorant	ABNFD01020	None	None	WL	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Phalacrocoracidae - Phalacrocorax auritus
Animals - Birds	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	Threatened	None	SSC	-	3411931	SANTA PAULA	Mapped	Animals - Birds - Polioptilidae - Polioptila californica californica
Animals - Birds	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	Threatened	None	SSC	-	3411838	MOORPARK	Mapped and Unprocessed	Animals - Birds - Polioptilidae - Polioptila californica californica
Animals - Birds	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	Threatened	None	SSC	-	3411828	NEWBURY PARK	Mapped and Unprocessed	Animals - Birds - Polioptilidae - Polioptila californica californica
Animals - Birds	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	Threatened	None	SSC	-	3411827	THOUSAND OAKS	Mapped and Unprocessed	Animals - Birds - Polioptilidae - Polioptila californica californica
Animals - Birds	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	Threatened	None	SSC	-	3411837	SIMI	Mapped and Unprocessed	Animals - Birds - Polioptilidae - Polioptila californica californica

Animals - Birds	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	Threatened	None	SSC	-	3411921	CAMARILLO	Mapped and Unprocessed	Animals - Birds - Polioptilidae - Polioptila californica californica
Animals - Birds	Numenius americanus	long-billed curlew	ABNNF07070	None	None	WL	-	3411828	NEWBURY PARK	Unprocessed	Animals - Birds - Scolopacidae - Numenius americanus
Animals - Birds	Asio otus	long-eared owl	ABNSB13010	None	None	SSC	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Strigidae - Asio otus
Animals - Birds	Asio otus	long-eared owl	ABNSB13010	None	None	SSC	-	3411941	SANTA PAULA PEAK	Unprocessed	Animals - Birds - Strigidae - Asio otus
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3411837	SIMI	Mapped	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3411848	FILLMORE	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3411931	SANTA PAULA	Mapped	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3411921	CAMARILLO	Mapped	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Strix occidentalis occidentalis	California Spotted Owl	ABNSB12013	None	None	SSC	-	3411848	FILLMORE	Mapped	Animals - Birds - Strigidae - Strix occidentalis occidentalis
Animals - Birds	Plegadis chihi	white-faced ibis	ABNGE02020	None	None	WL	-	3411837	SIMI	Unprocessed	Animals - Birds - Threskiornithidae - Plegadis chihi
Animals - Birds	Plegadis chihi	white-faced ibis	ABNGE02020	None	None	WL	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Threskiornithidae - Plegadis chihi
Animals - Birds	Selasphorus rufus	rufous hummingbird	ABNUC51020	None	None	-	-	3411837	SIMI	Unprocessed	Animals - Birds - Trochilidae - Selasphorus rufus
Animals - Birds	Contopus cooperi	olive-sided flycatcher	ABPAE32010	None	None	SSC	-	3411941	SANTA PAULA PEAK	Unprocessed	Animals - Birds - Tyrannidae - Contopus cooperi
Animals - Birds	Empidonax traillii	willow flycatcher	ABPAE33040	None	Endangered	-	-	3411848	FILLMORE	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii
Animals - Birds	Empidonax traillii	willow flycatcher	ABPAE33040	None	Endangered	-	-	3411931	SANTA PAULA	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii
Animals - Birds	Empidonax traillii	willow flycatcher	ABPAE33040	None	Endangered	-	-	3411838	MOORPARK	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii
Animals - Birds	Empidonax traillii	willow flycatcher	ABPAE33040	None	Endangered	-	-	3411828	NEWBURY PARK	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii
Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3411827	THOUSAND OAKS	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus
Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3411838	MOORPARK	Mapped and Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus

Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3411931	SANTA PAULA	Mapped and Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus
Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3411848	FILLMORE	Mapped and Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus
Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3411847	PIRU	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus
Animals - Birds	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	-	-	3411921	CAMARILLO	Unprocessed	Animals - Birds - Tyrannidae - Empidonax traillii extimus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411921	CAMARILLO	Mapped and Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411847	PIRU	Mapped and Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411848	FILLMORE	Mapped and Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411837	SIMI	Mapped and Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411931	SANTA PAULA	Mapped and Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411838	MOORPARK	Mapped and Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411827	THOUSAND OAKS	Mapped	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3411828	NEWBURY PARK	Mapped and Unprocessed	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3411941	SANTA PAULA PEAK	Mapped	Animals - Crustaceans - Chirocephalidae - Linderiella occidentalis
Animals - Crustaceans	Streptocephalus woottoni	Riverside fairy shrimp	ICBRA07010	Endangered	None	-	-	3411837	SIMI	Mapped and Unprocessed	Animals - Crustaceans - Streptocephalidae - Streptocephalus woottoni
Animals - Fish	Catostomus santaanae	Santa Ana sucker	AFCJC02190	Threatened	None	-	-	3411838	MOORPARK	Mapped	Animals - Fish - Catostomidae - Catostomus santaanae
Animals - Fish	Catostomus santaanae	Santa Ana sucker	AFCJC02190	Threatened	None	-	-	3411931	SANTA PAULA	Mapped and Unprocessed	Animals - Fish - Catostomidae - Catostomus santaanae
Animals - Fish	Catostomus santaanae	Santa Ana sucker	AFCJC02190	Threatened	None	-	-	3411941	SANTA PAULA PEAK	Mapped	Animals - Fish - Catostomidae - Catostomus santaanae
Animals - Fish	Catostomus santaanae	Santa Ana sucker	AFCJC02190	Threatened	None	-	-	3411848	FILLMORE	Mapped	Animals - Fish - Catostomidae - Catostomus santaanae
Animals - Fish	Catostomus santaanae	Santa Ana sucker	AFCJC02190	Threatened	None	-	-	3411847	PIRU	Mapped and Unprocessed	Animals - Fish - Catostomidae - Catostomus santaanae
Animals - Fish	Gila orcuttii	arroyo chub	AFCJB13120	None	None	SSC	-	3411847	PIRU	Unprocessed	Animals - Fish - Cyprinidae - Gila orcuttii

Animals - Fish	Gila orcuttii	arroyo chub	AFCJB13120	None	None	SSC	-	3411848	FILLMORE	Mapped and Unprocessed	Animals - Fish - Cyprinidae - Gila orcuttii
Animals - Fish	Gila orcuttii	arroyo chub	AFCJB13120	None	None	SSC	-	3411837	SIMI	Mapped and Unprocessed	Animals - Fish - Cyprinidae - Gila orcuttii
Animals - Fish	Gila orcuttii	arroyo chub	AFCJB13120	None	None	SSC	-	3411941	SANTA PAULA PEAK	Mapped	Animals - Fish - Cyprinidae - Gila orcuttii
Animals - Fish	Gila orcuttii	arroyo chub	AFCJB13120	None	None	SSC	-	3411931	SANTA PAULA	Unprocessed	Animals - Fish - Cyprinidae - Gila orcuttii
Animals - Fish	Gila orcuttii	arroyo chub	AFCJB13120	None	None	SSC	-	3411921	CAMARILLO	Mapped	Animals - Fish - Cyprinidae - Gila orcuttii
Animals - Fish	Gila orcuttii	arroyo chub	AFCJB13120	None	None	SSC	-	3411828	NEWBURY PARK	Mapped and Unprocessed	Animals - Fish - Cyprinidae - Gila orcuttii
Animals - Fish	Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	AFCPA03011	Endangered	Endangered	FP	-	3411931	SANTA PAULA	Mapped	Animals - Fish - Gasterosteidae - Gasterosteus aculeatus williamsoni
Animals - Fish	Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	AFCPA03011	Endangered	Endangered	FP	-	3411838	MOORPARK	Mapped	Animals - Fish - Gasterosteidae - Gasterosteus aculeatus williamsoni
Animals - Fish	Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	AFCPA03011	Endangered	Endangered	FP	-	3411848	FILLMORE	Mapped and Unprocessed	Animals - Fish - Gasterosteidae - Gasterosteus aculeatus williamsoni
Animals - Fish	Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	AFCPA03011	Endangered	Endangered	FP	-	3411847	PIRU	Mapped and Unprocessed	Animals - Fish - Gasterosteidae - Gasterosteus aculeatus williamsoni
Animals - Fish	Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC	-	3411848	FILLMORE	Unprocessed	Animals - Fish - Petromyzontidae - Entosphenus tridentatus
Animals - Fish	Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	AFCHA0209J	Endangered	None	-	-	3411848	FILLMORE	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - Fish	Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	AFCHA0209J	Endangered	None	-	-	3411847	PIRU	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - Fish	Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	AFCHA0209J	Endangered	None	-	-	3411941	SANTA PAULA PEAK	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - Fish	Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	AFCHA0209J	Endangered	None	-	-	3411931	SANTA PAULA	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - Fish	Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	AFCHA0209J	Endangered	None	-	-	3411828	NEWBURY PARK	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10
Animals - Fish	Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	AFCHA0209J	Endangered	None	-	-	3411921	CAMARILLO	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 10

Animals - Insects	Trimerotropis occidentiloides	Santa Monica grasshopper	IIORT36300	None	None	-	-	3411921	CAMARILLO	Mapped	Animals - Insects - Acrididae - Trimerotropis occidentiloides
Animals - Insects	Trimerotropis occidentiloides	Santa Monica grasshopper	IIORT36300	None	None	-	-	3411827	THOUSAND OAKS	Mapped	Animals - Insects - Acrididae - Trimerotropis occidentiloides
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411827	THOUSAND OAKS	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411921	CAMARILLO	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3411828	NEWBURY PARK	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Mammals	Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	None	None	SSC	-	3411828	NEWBURY PARK	Mapped	Animals - Mammals - Cricetidae - Neotoma lepida intermedia
Animals - Mammals	Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	None	None	SSC	-	3411838	MOORPARK	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Neotoma lepida intermedia
Animals - Mammals	Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	None	None	SSC	-	3411941	SANTA PAULA PEAK	Unprocessed	Animals - Mammals - Cricetidae - Neotoma lepida intermedia
Animals - Mammals	Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	None	None	SSC	-	3411837	SIMI	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Neotoma lepida intermedia
Animals - Mammals	Eumops perotis californicus	western mastiff bat	AMACD02011	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Mammals - Molossidae - Eumops perotis californicus
Animals - Mammals	Eumops perotis californicus	western mastiff bat	AMACD02011	None	None	SSC	-	3411827	THOUSAND OAKS	Mapped	Animals - Mammals - Molossidae - Eumops perotis californicus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411827	THOUSAND OAKS	Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411931	SANTA PAULA	Mapped and Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411838	MOORPARK	Mapped and Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411848	FILLMORE	Mapped	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411837	SIMI	Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411828	NEWBURY PARK	Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3411921	CAMARILLO	Mapped and Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3411848	FILLMORE	Mapped	Animals - Mammals - Vespertilionidae - Antrozous pallidus

Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3411931	SANTA PAULA	Mapped	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3411827	THOUSAND OAKS	Mapped	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	-	3411848	FILLMORE	Mapped	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Mammals	Myotis ciliolabrum	western small-footed myotis	AMACC01140	None	None	-	-	3411827	THOUSAND OAKS	Mapped	Animals - Mammals - Vespertilionidae - Myotis ciliolabrum
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	-	3411921	CAMARILLO	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Mollusks	Helminthoglypta traskii traskii	Trask shoulderband	IMGASC2473	None	None	-	-	3411828	NEWBURY PARK	Unprocessed	Animals - Mollusks - Helminthoglyptidae - Helminthoglypta traskii traskii
Animals - Mollusks	Anodonta californiensis	California floater	IMBIV04220	None	None	-	-	3411838	MOORPARK	Unprocessed	Animals - Mollusks - Unionidae - Anodonta californiensis
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411838	MOORPARK	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411827	THOUSAND OAKS	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411931	SANTA PAULA	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411847	PIRU	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411941	SANTA PAULA PEAK	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411837	SIMI	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411828	NEWBURY PARK	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Anniella spp.	California legless lizard	ARACC01070	None	None	SSC	-	3411921	CAMARILLO	Mapped	Animals - Reptiles - Anniellidae - Anniella spp.
Animals - Reptiles	Anniella stebbinsi	Southern California legless lizard	ARACC01060	None	None	SSC	-	3411921	CAMARILLO	Mapped	Animals - Reptiles - Anniellidae - Anniella stebbinsi
Animals - Reptiles	Anniella stebbinsi	Southern California legless lizard	ARACC01060	None	None	SSC	-	3411828	NEWBURY PARK	Mapped	Animals - Reptiles - Anniellidae - Anniella stebbinsi
Animals - Reptiles	Anniella stebbinsi	Southern California legless lizard	ARACC01060	None	None	SSC	-	3411848	FILLMORE	Mapped	Animals - Reptiles - Anniellidae - Anniella stebbinsi

Animals - Reptiles	Anniella stebbinsi	Southern California legless lizard	ARACC01060	None	None	SSC	-	3411827	THOUSAND OAKS	Mapped	Animals - Reptiles - Anniellidae - Anniella stebbinsi
Animals - Reptiles	Arizona elegans occidentalis	California glossy snake	ARADB01017	None	None	SSC	-	3411838	MOORPARK	Mapped	Animals - Reptiles - Colubridae - Arizona elegans occidentalis
Animals - Reptiles	Arizona elegans occidentalis	California glossy snake	ARADB01017	None	None	SSC	-	3411837	SIMI	Mapped and Unprocessed	Animals - Reptiles - Colubridae - Arizona elegans occidentalis
Animals - Reptiles	Diadophis punctatus modestus	San Bernardino ringneck snake	ARADB10015	None	None	-	-	3411838	MOORPARK	Mapped	Animals - Reptiles - Colubridae - Diadophis punctatus modestus
Animals - Reptiles	Diadophis punctatus modestus	San Bernardino ringneck snake	ARADB10015	None	None	-	-	3411827	THOUSAND OAKS	Unprocessed	Animals - Reptiles - Colubridae - Diadophis punctatus modestus
Animals - Reptiles	Diadophis punctatus modestus	San Bernardino ringneck snake	ARADB10015	None	None	-	-	3411828	NEWBURY PARK	Mapped	Animals - Reptiles - Colubridae - Diadophis punctatus modestus
Animals - Reptiles	Diadophis punctatus modestus	San Bernardino ringneck snake	ARADB10015	None	None	-	-	3411921	CAMARILLO	Unprocessed	Animals - Reptiles - Colubridae - Diadophis punctatus modestus
Animals - Reptiles	Salvadora hexalepis virgultea	coast patch-nosed snake	ARADB30033	None	None	SSC	-	3411847	PIRU	Mapped	Animals - Reptiles - Colubridae - Salvadora hexalepis virgultea
Animals - Reptiles	Salvadora hexalepis virgultea	coast patch-nosed snake	ARADB30033	None	None	SSC	-	3411848	FILLMORE	Unprocessed	Animals - Reptiles - Colubridae - Salvadora hexalepis virgultea
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411941	SANTA PAULA PEAK	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411837	SIMI	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411848	FILLMORE	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411827	THOUSAND OAKS	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411931	SANTA PAULA	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411838	MOORPARK	Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411921	CAMARILLO	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3411828	NEWBURY PARK	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411828	NEWBURY PARK	Mapped and Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii

Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411921	CAMARILLO	Mapped	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411838	MOORPARK	Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411837	SIMI	Mapped and Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411931	SANTA PAULA	Mapped and Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411941	SANTA PAULA PEAK	Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Thamnophis hammondii	two-striped gartersnake	ARADB36160	None	None	SSC	-	3411848	FILLMORE	Mapped and Unprocessed	Animals - Reptiles - Natricidae - Thamnophis hammondii
Animals - Reptiles	Thamnophis sirtalis pop. 1	south coast gartersnake	ARADB3613F	None	None	SSC	-	3411848	FILLMORE	Unprocessed	Animals - Reptiles - Natricidae - Thamnophis sirtalis pop. 1
Animals - Reptiles	Thamnophis sirtalis pop. 1	south coast gartersnake	ARADB3613F	None	None	SSC	-	3411931	SANTA PAULA	Mapped	Animals - Reptiles - Natricidae - Thamnophis sirtalis pop. 1
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411931	SANTA PAULA	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411827	THOUSAND OAKS	Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411838	MOORPARK	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411941	SANTA PAULA PEAK	Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411837	SIMI	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411848	FILLMORE	Mapped and Unprocessed	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii

Animals - Reptiles	Phrynosoma blainvillii	coast horned lizard	ARACF12100	None	None	SSC	-	3411828	NEWBURY PARK	Mapped	Animals - Reptiles - Phrynosomatidae - Phrynosoma blainvillii
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411921	CAMARILLO	Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411848	FILLMORE	Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411847	PIRU	Mapped and Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411837	SIMI	Mapped and Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411941	SANTA PAULA PEAK	Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411838	MOORPARK	Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411827	THOUSAND OAKS	Mapped and Unprocessed	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Animals - Reptiles	Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	None	None	SSC	-	3411931	SANTA PAULA	Mapped	Animals - Reptiles - Teiidae - Aspidoscelis tigris stejnegeri
Community - Terrestrial	California Walnut Woodland	California Walnut Woodland	CTT71210CA	None	None	-	-	3411837	SIMI	Mapped	Community - Terrestrial - California Walnut Woodland
Community - Terrestrial	California Walnut Woodland	California Walnut Woodland	CTT71210CA	None	None	-	-	3411941	SANTA PAULA PEAK	Mapped	Community - Terrestrial - California Walnut Woodland
Community - Terrestrial	California Walnut Woodland	California Walnut Woodland	CTT71210CA	None	None	-	-	3411848	FILLMORE	Mapped	Community - Terrestrial - California Walnut Woodland
Community - Terrestrial	California Walnut Woodland	California Walnut Woodland	CTT71210CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - California Walnut Woodland
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411848	FILLMORE	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411838	MOORPARK	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411837	SIMI	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411827	THOUSAND OAKS	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411921	CAMARILLO	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest

Community - Terrestrial	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	-	-	3411828	NEWBURY PARK	Mapped	Community - Terrestrial - Southern Coast Live Oak Riparian Forest
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411848	FILLMORE	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Community - Terrestrial	Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Southern Cottonwood Willow Riparian Forest
Community - Terrestrial	Southern Mixed Riparian Forest	Southern Mixed Riparian Forest	CTT61340CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Southern Mixed Riparian Forest
Community - Terrestrial	Southern Mixed Riparian Forest	Southern Mixed Riparian Forest	CTT61340CA	None	None	-	-	3411848	FILLMORE	Mapped	Community - Terrestrial - Southern Mixed Riparian Forest
Community - Terrestrial	Southern Riparian Forest	Southern Riparian Forest	CTT61300CA	None	None	-	-	3411828	NEWBURY PARK	Mapped	Community - Terrestrial - Southern Riparian Forest
Community - Terrestrial	Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	None	None	-	-	3411848	FILLMORE	Mapped	Community - Terrestrial - Southern Riparian Scrub
Community - Terrestrial	Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Southern Riparian Scrub
Community - Terrestrial	Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	None	None	-	-	3411931	SANTA PAULA	Mapped	Community - Terrestrial - Southern Riparian Scrub
Community - Terrestrial	Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	None	None	-	-	3411837	SIMI	Mapped	Community - Terrestrial - Southern Riparian Scrub
Community - Terrestrial	Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	None	None	-	-	3411838	MOORPARK	Mapped	Community - Terrestrial - Southern Riparian Scrub
Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411827	THOUSAND OAKS	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411848	FILLMORE	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411828	NEWBURY PARK	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	-	-	3411921	CAMARILLO	Mapped	Community - Terrestrial - Southern Sycamore Alder Riparian Woodland
Community - Terrestrial	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Southern Willow Scrub
Community - Terrestrial	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	None	None	-	-	3411838	MOORPARK	Mapped	Community - Terrestrial - Southern Willow Scrub
Community - Terrestrial	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	None	None	-	-	3411837	SIMI	Mapped	Community - Terrestrial - Southern Willow Scrub

Community - Terrestrial	Valley Needlegrass Grassland	Valley Needlegrass Grassland	CTT42110CA	None	None	-	-	3411828	NEWBURY PARK	Mapped	Community - Terrestrial - Valley Needlegrass Grassland
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3411828	NEWBURY PARK	Mapped	Community - Terrestrial - Valley Oak Woodland
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3411837	SIMI	Mapped	Community - Terrestrial - Valley Oak Woodland
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3411827	THOUSAND OAKS	Mapped	Community - Terrestrial - Valley Oak Woodland
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Valley Oak Woodland
Community - Terrestrial	Walnut Forest	Walnut Forest	CTT81600CA	None	None	-	-	3411847	PIRU	Mapped	Community - Terrestrial - Walnut Forest
Plants - Lichens	Texosporium sancti-jacobi	woven-spored lichen	NLTEST7980	None	None	-	3	3411921	CAMARILLO	Mapped	Plants - Lichens - Caliciaceae - Texosporium sancti-jacobi
Plants - Vascular	Asplenium vespertinum	western spleenwort	PPASP021P0	None	None	-	4.2	3411828	NEWBURY PARK	Unprocessed	Plants - Vascular - Aspleniaceae - Asplenium vespertinum
Plants - Vascular	Asplenium vespertinum	western spleenwort	PPASP021P0	None	None	-	4.2	3411827	THOUSAND OAKS	Unprocessed	Plants - Vascular - Aspleniaceae - Asplenium vespertinum
Plants - Vascular	Baccharis malibuensis	Malibu baccharis	PDAST0W0W0	None	None	-	1B.1	3411827	THOUSAND OAKS	Mapped	Plants - Vascular - Asteraceae - Baccharis malibuensis
Plants - Vascular	Centromadia parryi ssp. australis	southern tarplant	PDAST4R0P4	None	None	-	1B.1	3411828	NEWBURY PARK	Mapped	Plants - Vascular - Asteraceae - Centromadia parryi ssp. australis
Plants - Vascular	Deinandra minthornii	Santa Susana tarplant	PDAST4R0J0	None	Rare	-	1B.2	3411827	THOUSAND OAKS	Mapped	Plants - Vascular - Asteraceae - Deinandra minthornii
Plants - Vascular	Deinandra paniculata	paniculate tarplant	PDAST4R0N0	None	None	-	4.2	3411847	PIRU	Unprocessed	Plants - Vascular - Asteraceae - Deinandra paniculata
Plants - Vascular	Lessingia tenuis	spring lessingia	PDAST5S0B0	None	None	-	4.3	3411847	PIRU	Unprocessed	Plants - Vascular - Asteraceae - Lessingia tenuis
Plants - Vascular	Pentachaeta lyonii	Lyon's pentachaeta	PDAST6X060	Endangered	Endangered	-	1B.1	3411827	THOUSAND OAKS	Mapped	Plants - Vascular - Asteraceae - Pentachaeta lyonii
Plants - Vascular	Pentachaeta lyonii	Lyon's pentachaeta	PDAST6X060	Endangered	Endangered	-	1B.1	3411837	SIMI	Mapped	Plants - Vascular - Asteraceae - Pentachaeta lyonii
Plants - Vascular	Pentachaeta lyonii	Lyon's pentachaeta	PDAST6X060	Endangered	Endangered	-	1B.1	3411828	NEWBURY PARK	Mapped and Unprocessed	Plants - Vascular - Asteraceae - Pentachaeta lyonii
Plants - Vascular	Pseudognaphalium leucocephalum	white rabbit-tobacco	PDAST440C0	None	None	-	2B.2	3411921	CAMARILLO	Mapped	Plants - Vascular - Asteraceae - Pseudognaphalium leucocephalum

Plants - Vascular	Pseudognaphalium leucocephalum	white rabbit-tobacco	PDAST440C0	None	None	-	2B.2	3411931	SANTA PAULA	Mapped and Unprocessed	Plants - Vascular - Asteraceae - Pseudognaphalium leucocephalum
Plants - Vascular	Pseudognaphalium leucocephalum	white rabbit-tobacco	PDAST440C0	None	None	-	2B.2	3411847	PIRU	Mapped	Plants - Vascular - Asteraceae - Pseudognaphalium leucocephalum
Plants - Vascular	Pseudognaphalium leucocephalum	white rabbit-tobacco	PDAST440C0	None	None	-	2B.2	3411848	FILLMORE	Mapped	Plants - Vascular - Asteraceae - Pseudognaphalium leucocephalum
Plants - Vascular	Senecio aphanactis	chaparral ragwort	PDAST8H060	None	None	-	2B.2	3411827	THOUSAND OAKS	Mapped	Plants - Vascular - Asteraceae - Senecio aphanactis
Plants - Vascular	Senecio aphanactis	chaparral ragwort	PDAST8H060	None	None	-	2B.2	3411921	CAMARILLO	Mapped	Plants - Vascular - Asteraceae - Senecio aphanactis
Plants - Vascular	Senecio aphanactis	chaparral ragwort	PDAST8H060	None	None	-	2B.2	3411828	NEWBURY PARK	Mapped	Plants - Vascular - Asteraceae - Senecio aphanactis
Plants - Vascular	Symphyotrichum greatae	Greata's aster	PDASTE80U0	None	None	-	1B.3	3411848	FILLMORE	Mapped	Plants - Vascular - Asteraceae - Symphyotrichum greatae
Plants - Vascular	Symphyotrichum greatae	Greata's aster	PDASTE80U0	None	None	-	1B.3	3411847	PIRU	Mapped	Plants - Vascular - Asteraceae - Symphyotrichum greatae
Plants - Vascular	Lepidium virginicum var. robinsonii	Robinson's pepper-grass	PDBRA1M114	None	None	-	4.3	3411828	NEWBURY PARK	Unprocessed	Plants - Vascular - Brassicaceae - Lepidium virginicum var. robinsonii
Plants - Vascular	Suaeda taxifolia	woolly seablite	PDCHE0P0L0	None	None	-	4.2	3411921	CAMARILLO	Unprocessed	Plants - Vascular - Chenopodiaceae - Suaeda taxifolia
Plants - Vascular	Suaeda taxifolia	woolly seablite	PDCHE0P0L0	None	None	-	4.2	3411838	MOORPARK	Unprocessed	Plants - Vascular - Chenopodiaceae - Suaeda taxifolia
Plants - Vascular	Calystegia peirsonii	Peirson's morning-glory	PDCON040A0	None	None	-	4.2	3411931	SANTA PAULA	Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia peirsonii
Plants - Vascular	Convolvulus simulans	small-flowered morning-glory	PDCON05060	None	None	-	4.2	3411827	THOUSAND OAKS	Unprocessed	Plants - Vascular - Convolvulaceae - Convolvulus simulans
Plants - Vascular	Convolvulus simulans	small-flowered morning-glory	PDCON05060	None	None	-	4.2	3411837	SIMI	Unprocessed	Plants - Vascular - Convolvulaceae - Convolvulus simulans
Plants - Vascular	Convolvulus simulans	small-flowered morning-glory	PDCON05060	None	None	-	4.2	3411828	NEWBURY PARK	Unprocessed	Plants - Vascular - Convolvulaceae - Convolvulus simulans

Plants - Vascular	Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	PDCRA04051	None	None	-	1B.1	3411828	NEWBURY PARK	Mapped	Plants - Vascular - Crassulaceae - Dudleya blochmaniae ssp. blochmaniae
Plants - Vascular	Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	PDCRA04051	None	None	-	1B.1	3411921	CAMARILLO	Mapped	Plants - Vascular - Crassulaceae - Dudleya blochmaniae ssp. blochmaniae
Plants - Vascular	Dudleya cymosa ssp. agourensis	Agoura Hills dudleya	PDCRA040A7	Threatened	None	-	1B.2	3411827	THOUSAND OAKS	Mapped and Unprocessed	Plants - Vascular - Crassulaceae - Dudleya cymosa ssp. agourensis
Plants - Vascular	Dudleya cymosa ssp. marcescens	marcescent dudleya	PDCRA040A3	Threatened	Rare	-	1B.2	3411828	NEWBURY PARK	Mapped and Unprocessed	Plants - Vascular - Crassulaceae - Dudleya cymosa ssp. marcescens
Plants - Vascular	Dudleya cymosa ssp. ovatifolia	Santa Monica dudleya	PDCRA040A5	Threatened	None	-	1B.1	3411827	THOUSAND OAKS	Unprocessed	Plants - Vascular - Crassulaceae - Dudleya cymosa ssp. ovatifolia
Plants - Vascular	Dudleya parva	Conejo dudleya	PDCRA04016	Threatened	None	-	1B.2	3411827	THOUSAND OAKS	Mapped	Plants - Vascular - Crassulaceae - Dudleya parva
Plants - Vascular	Dudleya parva	Conejo dudleya	PDCRA04016	Threatened	None	-	1B.2	3411837	SIMI	Mapped	Plants - Vascular - Crassulaceae - Dudleya parva
Plants - Vascular	Dudleya parva	Conejo dudleya	PDCRA04016	Threatened	None	-	1B.2	3411828	NEWBURY PARK	Mapped and Unprocessed	Plants - Vascular - Crassulaceae - Dudleya parva
Plants - Vascular	Dudleya verityi	Verity's dudleya	PDCRA040U0	Threatened	None	-	1B.1	3411828	NEWBURY PARK	Mapped	Plants - Vascular - Crassulaceae - Dudleya verityi
Plants - Vascular	Dudleya verityi	Verity's dudleya	PDCRA040U0	Threatened	None	-	1B.1	3411921	CAMARILLO	Mapped	Plants - Vascular - Crassulaceae - Dudleya verityi
Plants - Vascular	Astragalus brauntonii	Braunton's milk-vetch	PDFAB0F1G0	Endangered	None	-	1B.1	3411921	CAMARILLO	Mapped	Plants - Vascular - Fabaceae - Astragalus brauntonii
Plants - Vascular	Astragalus brauntonii	Braunton's milk-vetch	PDFAB0F1G0	Endangered	None	-	1B.1	3411828	NEWBURY PARK	Mapped	Plants - Vascular - Fabaceae - Astragalus brauntonii
Plants - Vascular	Astragalus brauntonii	Braunton's milk-vetch	PDFAB0F1G0	Endangered	None	-	1B.1	3411827	THOUSAND OAKS	Mapped	Plants - Vascular - Fabaceae - Astragalus brauntonii
Plants - Vascular	Lupinus paynei	Payne's bush lupine	PDFAB2B580	None	None	-	1B.1	3411837	SIMI	Mapped	Plants - Vascular - Fabaceae - Lupinus paynei
Plants - Vascular	Lupinus paynei	Payne's bush lupine	PDFAB2B580	None	None	-	1B.1	3411838	MOORPARK	Mapped	Plants - Vascular - Fabaceae - Lupinus paynei
Plants - Vascular	Lupinus paynei	Payne's bush lupine	PDFAB2B580	None	None	-	1B.1	3411847	PIRU	Mapped	Plants - Vascular - Fabaceae - Lupinus paynei
Plants - Vascular	Quercus dumosa	Nuttall's scrub oak	PDFAG050D0	None	None	-	1B.1	3411828	NEWBURY PARK	Mapped	Plants - Vascular - Fagaceae - Quercus dumosa
Plants - Vascular	Phacelia hubbyi	Hubby's phacelia	PDHYD0C0R4	None	None	-	4.2	3411828	NEWBURY PARK	Unprocessed	Plants - Vascular - Hydrophyllaceae - Phacelia hubbyi

Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411828	NEWBURY PARK	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411921	CAMARILLO	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411847	PIRU	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411848	FILLMORE	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411941	SANTA PAULA PEAK	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411838	MOORPARK	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411837	SIMI	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411827	THOUSAND OAKS	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juglans californica	southern California black walnut	PDJUG02020	None	None	-	4.2	3411931	SANTA PAULA	Unprocessed	Plants - Vascular - Juglandaceae - Juglans californica
Plants - Vascular	Juncus acutus ssp. leopoldii	southwestern spiny rush	PMJUN01051	None	None	-	4.2	3411931	SANTA PAULA	Unprocessed	Plants - Vascular - Juncaceae - Juncus acutus ssp. leopoldii
Plants - Vascular	Juncus acutus ssp. leopoldii	southwestern spiny rush	PMJUN01051	None	None	-	4.2	3411838	MOORPARK	Unprocessed	Plants - Vascular - Juncaceae - Juncus acutus ssp. leopoldii
Plants - Vascular	Juncus acutus ssp. leopoldii	southwestern spiny rush	PMJUN01051	None	None	-	4.2	3411847	PIRU	Unprocessed	Plants - Vascular - Juncaceae - Juncus acutus ssp. leopoldii
Plants - Vascular	Juncus acutus ssp. leopoldii	southwestern spiny rush	PMJUN01051	None	None	-	4.2	3411921	CAMARILLO	Unprocessed	Plants - Vascular - Juncaceae - Juncus acutus ssp. leopoldii
Plants - Vascular	Lepechinia fragrans	fragrant pitcher sage	PDLAM0V030	None	None	-	4.2	3411828	NEWBURY PARK	Unprocessed	Plants - Vascular - Lamiaceae - Lepechinia fragrans
Plants - Vascular	Lepechinia fragrans	fragrant pitcher sage	PDLAM0V030	None	None	-	4.2	3411848	FILLMORE	Unprocessed	Plants - Vascular - Lamiaceae - Lepechinia fragrans
Plants - Vascular	Lepechinia rossii	Ross' pitcher sage	PDLAM0V060	None	None	-	1B.2	3411848	FILLMORE	Mapped and Unprocessed	Plants - Vascular - Lamiaceae - Lepechinia rossii
Plants - Vascular	Monardella hypoleuca ssp. hypoleuca	white-veined monardella	PDLAM180A5	None	None	-	1B.3	3411838	MOORPARK	Unprocessed	Plants - Vascular - Lamiaceae - Monardella hypoleuca ssp. hypoleuca
Plants - Vascular	Monardella hypoleuca ssp. hypoleuca	white-veined monardella	PDLAM180A5	None	None	-	1B.3	3411828	NEWBURY PARK	Mapped	Plants - Vascular - Lamiaceae - Monardella hypoleuca ssp. hypoleuca

Plants - Vascular	Monardella sinuata ssp. gerryi	Gerry's curly-leaved monardella	PDLAM18163	None	None	-	1B.1	3411828	NEWBURY PARK	Mapped	Plants - Vascular - Lamiaceae - Monardella sinuata ssp. gerryi
Plants - Vascular	Monardella sinuata ssp. gerryi	Gerry's curly-leaved monardella	PDLAM18163	None	None	-	1B.1	3411921	CAMARILLO	Mapped	Plants - Vascular - Lamiaceae - Monardella sinuata ssp. gerryi
Plants - Vascular	Monardella sinuata ssp. gerryi	Gerry's curly-leaved monardella	PDLAM18163	None	None	-	1B.1	3411838	MOORPARK	Mapped	Plants - Vascular - Lamiaceae - Monardella sinuata ssp. gerryi
Plants - Vascular	Monardella sinuata ssp. gerryi	Gerry's curly-leaved monardella	PDLAM18163	None	None	-	1B.1	3411931	SANTA PAULA	Mapped	Plants - Vascular - Lamiaceae - Monardella sinuata ssp. gerryi
Plants - Vascular	Calochortus catalinae	Catalina mariposa-lily	PMLIL0D080	None	None	-	4.2	3411931	SANTA PAULA	Unprocessed	Plants - Vascular - Liliaceae - Calochortus catalinae
Plants - Vascular	Calochortus catalinae	Catalina mariposa-lily	PMLIL0D080	None	None	-	4.2	3411827	THOUSAND OAKS	Unprocessed	Plants - Vascular - Liliaceae - Calochortus catalinae
Plants - Vascular	Calochortus catalinae	Catalina mariposa-lily	PMLIL0D080	None	None	-	4.2	3411837	SIMI	Unprocessed	Plants - Vascular - Liliaceae - Calochortus catalinae
Plants - Vascular	Calochortus catalinae	Catalina mariposa-lily	PMLIL0D080	None	None	-	4.2	3411848	FILLMORE	Unprocessed	Plants - Vascular - Liliaceae - Calochortus catalinae
Plants - Vascular	Calochortus catalinae	Catalina mariposa-lily	PMLIL0D080	None	None	-	4.2	3411941	SANTA PAULA PEAK	Unprocessed	Plants - Vascular - Liliaceae - Calochortus catalinae
Plants - Vascular	Calochortus catalinae	Catalina mariposa-lily	PMLIL0D080	None	None	-	4.2	3411921	CAMARILLO	Unprocessed	Plants - Vascular - Liliaceae - Calochortus catalinae
Plants - Vascular	Calochortus catalinae	Catalina mariposa-lily	PMLIL0D080	None	None	-	4.2	3411828	NEWBURY PARK	Unprocessed	Plants - Vascular - Liliaceae - Calochortus catalinae
Plants - Vascular	Calochortus clavatus var. clavatus	club-haired mariposa-lily	PMLIL0D091	None	None	-	4.3	3411828	NEWBURY PARK	Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. clavatus
Plants - Vascular	Calochortus clavatus var. clavatus	club-haired mariposa-lily	PMLIL0D091	None	None	-	4.3	3411838	MOORPARK	Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. clavatus
Plants - Vascular	Calochortus clavatus var. clavatus	club-haired mariposa-lily	PMLIL0D091	None	None	-	4.3	3411827	THOUSAND OAKS	Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. clavatus
Plants - Vascular	Calochortus clavatus var. gracilis	slender mariposa-lily	PMLIL0D096	None	None	-	1B.2	3411827	THOUSAND OAKS	Mapped	Plants - Vascular - Liliaceae - Calochortus clavatus var. gracilis
Plants - Vascular	Calochortus clavatus var. gracilis	slender mariposa-lily	PMLIL0D096	None	None	-	1B.2	3411837	SIMI	Unprocessed	Plants - Vascular - Liliaceae - Calochortus clavatus var. gracilis
Plants - Vascular	Calochortus clavatus var. gracilis	slender mariposa-lily	PMLIL0D096	None	None	-	1B.2	3411847	PIRU	Mapped	Plants - Vascular - Liliaceae - Calochortus clavatus var. gracilis
Plants - Vascular	Calochortus clavatus var. gracilis	slender mariposa-lily	PMLIL0D096	None	None	-	1B.2	3411921	CAMARILLO	Mapped	Plants - Vascular - Liliaceae - Calochortus clavatus var. gracilis

Plants - Vascular	Calochortus fimbriatus	late-flowered mariposa-lily	PMLIL0D1J2	None	None	-	1B.3	3411941	SANTA PAULA PEAK	Mapped	Plants - Vascular - Liliaceae - Calochortus fimbriatus
Plants - Vascular	Calochortus fimbriatus	late-flowered mariposa-lily	PMLIL0D1J2	None	None	-	1B.3	3411848	FILLMORE	Mapped	Plants - Vascular - Liliaceae - Calochortus fimbriatus
Plants - Vascular	Calochortus plummerae	Plummer's mariposa-lily	PMLIL0D150	None	None	-	4.2	3411837	SIMI	Mapped	Plants - Vascular - Liliaceae - Calochortus plummerae
Plants - Vascular	Calochortus plummerae	Plummer's mariposa-lily	PMLIL0D150	None	None	-	4.2	3411827	THOUSAND OAKS	Mapped and Unprocessed	Plants - Vascular - Liliaceae - Calochortus plummerae
Plants - Vascular	Calochortus plummerae	Plummer's mariposa-lily	PMLIL0D150	None	None	-	4.2	3411921	CAMARILLO	Mapped	Plants - Vascular - Liliaceae - Calochortus plummerae
Plants - Vascular	Calochortus plummerae	Plummer's mariposa-lily	PMLIL0D150	None	None	-	4.2	3411828	NEWBURY PARK	Mapped and Unprocessed	Plants - Vascular - Liliaceae - Calochortus plummerae
Plants - Vascular	Fritillaria ojaiensis	Ojai fritillary	PMLIL0V0N0	None	None	-	1B.2	3411941	SANTA PAULA PEAK	Mapped and Unprocessed	Plants - Vascular - Liliaceae - Fritillaria ojaiensis
Plants - Vascular	Lilium humboldtii ssp. ocellatum	ocellated humboldt lily	PMLIL1A072	None	None	-	4.2	3411941	SANTA PAULA PEAK	Unprocessed	Plants - Vascular - Liliaceae - Lilium humboldtii ssp. ocellatum
Plants - Vascular	Lilium humboldtii ssp. ocellatum	ocellated humboldt lily	PMLIL1A072	None	None	-	4.2	3411827	THOUSAND OAKS	Unprocessed	Plants - Vascular - Liliaceae - Lilium humboldtii ssp. ocellatum
Plants - Vascular	Calandrinia breweri	Brewer's calandrinia	PDPOR01020	None	None	-	4.2	3411827	THOUSAND OAKS	Unprocessed	Plants - Vascular - Montiaceae - Calandrinia breweri
Plants - Vascular	Cistanthe maritima	seaside cistanthe	PDPOR09020	None	None	-	4.2	3411921	CAMARILLO	Unprocessed	Plants - Vascular - Montiaceae - Cistanthe maritima
Plants - Vascular	Clarkia exilis	slender clarkia	PDONA050G0	None	None	-	4.3	3411847	PIRU	Unprocessed	Plants - Vascular - Onagraceae - Clarkia exilis
Plants - Vascular	Piperia michaelii	Michael's rein orchid	PMORC1X110	None	None	-	4.2	3411828	NEWBURY PARK	Unprocessed	Plants - Vascular - Orchidaceae - Piperia michaelii
Plants - Vascular	Hordeum intercedens	vernal barley	PMPOA380E0	None	None	-	3.2	3411828	NEWBURY PARK	Unprocessed	Plants - Vascular - Poaceae - Hordeum intercedens
Plants - Vascular	Orcuttia californica	California Orcutt grass	PMPOA4G010	Endangered	Endangered	-	1B.1	3411827	THOUSAND OAKS	Mapped	Plants - Vascular - Poaceae - Orcuttia californica
Plants - Vascular	Orcuttia californica	California Orcutt grass	PMPOA4G010	Endangered	Endangered	-	1B.1	3411837	SIMI	Mapped	Plants - Vascular - Poaceae - Orcuttia californica
Plants - Vascular	Navarretia ojaiensis	Ojai navarretia	PDPLM0C130	None	None	-	1B.1	3411827	THOUSAND OAKS	Mapped and Unprocessed	Plants - Vascular - Polemoniaceae - Navarretia ojaiensis
Plants - Vascular	Navarretia ojaiensis	Ojai navarretia	PDPLM0C130	None	None	-	1B.1	3411828	NEWBURY PARK	Mapped	Plants - Vascular - Polemoniaceae - Navarretia ojaiensis
Plants - Vascular	Polygala cornuta var. fishiae	Fish's milkwort	PDPGL020B2	None	None	-	4.3	3411941	SANTA PAULA PEAK	Unprocessed	Plants - Vascular - Polygalaceae - Polygala cornuta var. fishiae

Plants - Vascular	Eriogonum crocatum	conejo buckwheat	PDPGN081G0	None	Rare	-	1B.2	3411827	THOUSAND OAKS	Mapped and Unprocessed	Plants - Vascular - Polygonaceae - Eriogonum crocatum
Plants - Vascular	Eriogonum crocatum	conejo buckwheat	PDPGN081G0	None	Rare	-	1B.2	3411828	NEWBURY PARK	Mapped and Unprocessed	Plants - Vascular - Polygonaceae - Eriogonum crocatum
Plants - Vascular	Eriogonum crocatum	conejo buckwheat	PDPGN081G0	None	Rare	-	1B.2	3411921	CAMARILLO	Mapped and Unprocessed	Plants - Vascular - Polygonaceae - Eriogonum crocatum
Plants - Vascular	Delphinium parryi ssp. blochmaniae	dune larkspur	PDRAN0B1B1	None	None	-	1B.2	3411827	THOUSAND OAKS	Mapped	Plants - Vascular - Ranunculaceae - Delphinium parryi ssp. blochmaniae
Plants - Vascular	Delphinium parryi ssp. purpureum	Mt. Pinos larkspur	PDRAN0B1B5	None	None	-	4.3	3411827	THOUSAND OAKS	Unprocessed	Plants - Vascular - Ranunculaceae - Delphinium parryi ssp. purpureum
Plants - Vascular	Delphinium parryi ssp. purpureum	Mt. Pinos larkspur	PDRAN0B1B5	None	None	-	4.3	3411828	NEWBURY PARK	Unprocessed	Plants - Vascular - Ranunculaceae - Delphinium parryi ssp. purpureum
Plants - Vascular	Delphinium umbraculorum	umbrella larkspur	PDRAN0B1W0	None	None	-	1B.3	3411941	SANTA PAULA PEAK	Mapped	Plants - Vascular - Ranunculaceae - Delphinium umbraculorum
Plants - Vascular	Delphinium umbraculorum	umbrella larkspur	PDRAN0B1W0	None	None	-	1B.3	3411848	FILLMORE	Mapped	Plants - Vascular - Ranunculaceae - Delphinium umbraculorum
Plants - Vascular	Cercocarpus betuloides var. blancheae	island mountain-mahogany	PDROS08022	None	None	-	4.3	3411827	THOUSAND OAKS	Unprocessed	Plants - Vascular - Rosaceae - Cercocarpus betuloides var. blancheae
Plants - Vascular	Horkelia cuneata var. puberula	mesa horkelia	PDROS0W045	None	None	-	1B.1	3411837	SIMI	Mapped	Plants - Vascular - Rosaceae - Horkelia cuneata var. puberula
Plants - Vascular	Galium cliftonsmithii	Santa Barbara bedstraw	PDRUB0N0J0	None	None	-	4.3	3411828	NEWBURY PARK	Unprocessed	Plants - Vascular - Rubiaceae - Galium cliftonsmithii
Plants - Vascular	Nolina cismontana	chaparral nolina	PMAGA080E0	None	None	-	1B.2	3411827	THOUSAND OAKS	Mapped	Plants - Vascular - Ruscaceae - Nolina cismontana

APPENDIX 3.4

Cultural Resources

APPENDIX 3.6

Geology and Soils

A

2019 Geotechnical Feasibility Investigation

ALBUS-KEEFE & ASSOCIATES, INC
GEOTECHNICAL CONSULTANTS

September 20, 2019
J.N.: 2677.00

Ms. Harriet Rapista
Comstock Homes
2301 Rosecrans Avenue, Ste. 1150
El Segundo, CA 90245

Subject: **"Updated" Geotechnical Feasibility Investigation for Proposed Residential Development, Tentative Tract 5708 (Hitch Ranch Project), City of Moorpark, California.**

Dear Ms. Rapista,

Albus-Keefe & Associates, Inc. is pleased to present to you our "updated" geotechnical feasibility investigation for the subject site. This report was updated from our previous report, dated May 31, 2019, based on the most current tentative tract map for the site, dated September 20, 2019. This report presents a summary of our review of geologic literature for the site and vicinity, subsurface exploration, laboratory testing and engineering analyses. Conclusions relevant to the feasibility of the proposed development as well as preliminary recommendations for design and construction of the development are also presented herein based on the findings of our work.

While this report is comprehensive for feasibility evaluation purposes, it is not intended for final design purposes. As such, additional geotechnical studies may be warranted based on our review of future rough grading plans and foundation plans.

We appreciate this opportunity to be of service to you. If you should have any questions regarding the contents of this report, please do not hesitate to call our office.

Sincerely yours,

ALBUS-KEEFE & ASSOCIATES, INC.

David E. Albus
Principal Engineer

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1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

The purpose of our work was to evaluate the feasibility of proposed site development. The scope of our work for this investigation was focused primarily on the geotechnical issues that could have significant impacts on future site development. The scope of our work for this investigation included the following:

- Review of published geologic and seismic data for the site vicinity
- Review of historical aerial photographs for the site vicinity
- Review of previous geotechnical reports for the site by Gorian and Associates, Inc. (Gorian)
- Review of previous geotechnical reports prepared by others in the surrounding area
- Review of our previous fault report for the site
- Review of the referenced preliminary grading, drainage, and utilities plans
- Geologic field mapping
- Exploratory drilling, trenching and sampling
- Laboratory testing of selected soil samples
- Engineering analyses of data obtained from our exploration and laboratory testing
- Evaluation of site seismicity, liquefaction, settlement potential, and slope stability
- Preparation of this report

1.2 SITE LOCATION AND DESCRIPTION

The site is a 277-acre, irregular-shaped parcel located north of Poindexter Avenue and approximately 1,500 feet west of Moorpark Avenue in the city of Moorpark, California. The site is generally bordered by undeveloped hillside property on the north, a new single-family housing tract on the northeast, rural single-family residences and Walnut Canyon Elementary School on the east, undeveloped hillside property on the west, rural single-family residences on the northwest, and by Southern Pacific Railroad tracks, Walnut Canyon Channel, and Poindexter Avenue on the south. The location of the site and its relationship to the surrounding area is shown on Figure 1, Site Location Map.



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SITE LOCATION MAP

Proposed Residential Development
Tentative Tract Map No. 5708
(Hitch Ranch Project)
Moorpark, California

NOT TO SCALE

FIGURE 1

Topographically, the site consists of gentle- to steep-sloping hills dissected by south to southwest draining canyons. The southern margin of the site also represents the geomorphic transition from the hillside area of Moorpark to the valley area. Surface elevations within the site vary from 470 feet above mean sea level (MSL) within the southern, valley portion of the site to as much as 722 feet above MSL on the hilltops within the northern portion of the site. The gradients of natural slopes within the property range from nearly flat to 1.5:1 (H:V). Several manufactured slopes are also present throughout the site and range from 3:1 (H:V) to locally as steep as 1.5:1 (H:V).

Surface runoff within the site is generally by rill and sheet flow from the hillsides into the south and southwest draining swales and valleys. Offsite surface runoff is also directed onto the site via multiple through-going valleys from neighboring properties to the north. Drainage is cut off at the south property line by the west-flowing, concrete-lined Walnut Canyon Channel.

Vegetation within the site consists of a light to moderate growth of native grasses, weeds, and bushes. Scattered trees ranging in size from small to large are also present throughout the site.

1.3 PREVIOUS AND EXISTING LAND USE AND SITE IMPROVEMENTS

Based on our review of the previous geotechnical reports for the site by Gorian and historical aerial photographs from the 1930's through the early 1970's, the site was used for agricultural and ranching purposes. Only minor ranching operations from that time frame persist today while agricultural activities have been discontinued.

Existing site improvements observed on the property include a horse-stable, several small sheds, cattle pens, a medium-size water reservoir tank, and several small water tanks and troughs within the valley areas of the site. In addition, a paved street (Gabbert Road) and several high-voltage overhead power lines run north-south across the southwestern portion of the site. The perimeter of the site is also largely bounded by wire or chain-link fencing.

Remnants of former improvements associated with the former agricultural and earlier ranching operations are also scattered throughout the property. These remnants consist largely of concrete foundations on some of the hilltops within the central portion of the site, various irrigation pipelines, an abandoned above-ground steel tank in the northeastern portion of the site, and breached impoundment dams in some of the drainage areas.

Various ground modifications have been made to the property in association with the sites previous use. These modifications include terracing of select hillsides, flattening of the large drainage valleys through minor cut and fill grading, and construction of multiple dirt roads to access the majority of the site. The most significant ground modifications are present in the northwesterly portion of the site.

Based on recent discussions with the County of Ventura Watershed Protection District Groundwater Section, at least 15 water wells have also been drilled throughout the site (Dorrington, J., 2019). The approximate locations of known water wells are shown on the enclosed Geotechnical Map, Plates 1 & 2. The current status of most of these wells is unknown (e.g. active, abandoned, destroyed), but at least 3 are believed to be intact.

1.4 PROPOSED DEVELOPMENT

Based on our review of the Tentative Tract Map No. 5708, prepared by Encompass Consultant Group, dated September 20, 2019, the proposed site development will consist of six planning areas designated as single-family residential, multi-family residential and open space. Associated improvements will include public and private streets, and large detention basins located within the southern portion of the site. Some smaller detention basins are also proposed along the northerly margin of the development. The plan indicates that a main transecting street, identified as North Hills Parkway, will extend from the northeast corner of the site to Gabbert Road. The existing nearby streets Casey Road, High Street, and Meridian Hills Drive are also planned to be extended within the property and connect to proposed interior streets. Improvements are also proposed for Gabbert Road.

Rough grading of the site will consist of cuts and fills up to approximately 53 and 51 feet respectively, from the current grades. Cut and fill slopes are proposed at a maximum slope gradient of 2:1 (H:V) and maximum heights of approximately 75 feet and 61 feet, respectively. Fill-over cut slope at slope gradients of 2:1 (H:V) and 3:1 (H:V) are also proposed. The maximum height of a 2:1 (H:V) fill-over-cut slope is 80 feet. The maximum height of a 3:1 (H:V) fill-over-cut slope is 89 feet.

Details of the residential structures are not available at this time. We anticipate that future residential structures will consist of slab-on-grade, one- to three-story, wood-framed structures yielding relatively light structural loads. Other associated site improvements are anticipated to include utility services, asphalt and concrete pavements, decorative hardscape, and masonry retaining and screen walls.

With respects to onsite stormwater infiltration, discussions with the project civil engineer indicate that onsite stormwater infiltration is not proposed for the project.

2.0 INVESTIGATION

2.1 RESEARCH

2.1.1 Aerial Photographs and Geologic Publications and Maps

We reviewed aerial photographs, geologic publications and maps, and various other published geologic and groundwater studies for the site vicinity (see references). Data from these sources were utilized to develop our understanding of the general geologic conditions of the site.

2.1.2 Previous Geotechnical Investigations by Others

We reviewed previous geotechnical studies for the site, including responses, that were prepared by Gorian and Associates, Inc. (Gorian) between 1994 to 2009. See references for a complete listing of the studies that were available for our review. Their studies generally involved the excavation and logging of numerous exploration trenches and borings as well as the excavation and logging of long fault trenches to assess faulting in the southerly portion of site. These studies were utilized in developing some of the findings and conclusions presented herein. Pertinent exploratory and laboratory data presented by Gorian and Associates, Inc. are appended to this report (Appendix C). The locations of Gorian exploratory work, including fault trenches, are indicated on the enclosed Geotechnical Map, Plates 1 & 2.

We also reviewed previous geotechnical reports completed by various geotechnical consulting firms for neighboring properties. A listing of the reports we reviewed are summarized in the references.

2.1.3 Previous Fault Study by Albus-Keefe & Associates, Inc

We reviewed our fault study that was recently completed for the site under separate cover. The fault study was performed in order to evaluate the potential for future ground surface fault rupture within the project boundaries. Although the site is not located within the boundaries of an Earthquake Fault Zone (EFZ), the site is located in a seismically active area and fault studies by others in the city of Moorpark have reported active deformation (folding and faulting) outside the limits of EFZ's. Our field study was performed from January 21, 2019 through February 13, 2019 and involved the excavation and logging of two over-lapping exploratory trenches (FT-1 and FT-2) within the northeasterly margin of the site. The exploratory trenches were excavated utilizing a track-mounted excavator and had a combined length of 1540 linear feet and varied in depth from about 6 feet to up to 14 feet below the current ground surface. A summary of our findings, conclusions and recommendations relevant to our geologic assessment of surface fault rupture potential within the subject property is presented in our referenced report dated April 3, 2019. The report was later revised on June 3, 2019 in response to comments and recommendations by Mr. Jim O'Tousa (2019b), the geologic reviewer for RJR Engineering Group, representing the city of Moorpark. Our study was ultimately approved by Mr. Jim O'Tousa (2019a). Exploratory logs of our fault trenches are appended to this report (Appendix A-2). The locations of the fault trenches are indicated on the enclosed Geotechnical Map, Plates 1 & 2.

2.2 GEOLOGIC MAPPING

Geologic surface mapping of the site was performed in conjunction with our subsurface exploration in September and early October 2018. The surficial distributions of geologic conditions interpreted by this firm are presented on the enclosed Geotechnical Map, Plates 1 &2.

2.3 SUBSURFACE EXPLORATION

Subsurface exploration for this investigation was conducted in September and early October 2018 and consisted of excavating eleven (11) small-diameter borings, forty-six (46) exploratory trenches, and three (3) large-diameter borings throughout the site. The small-diameter borings and exploratory trenches were utilized to assist in evaluating the distribution and engineering characteristics of earth materials at the site. The small-diameter borings were excavated utilizing a truck-mounted, hollow-stem-auger drill rig to depths ranging from about 21.5 to 46.5 feet below the ground surface. The exploratory trenches were excavated utilizing a rubber-tired backhoe to depths ranging from about 5 feet to 14 feet below the ground surface. The large-diameter borings were utilized to evaluate slope stability in areas of proposed cut slopes. The large-diameter borings were drilled utilizing a truck-mounted, bucket-auger drill rig to depths ranging from about 44 to 80 feet below the ground surface.

Representatives of *Albus-Keefe & Associates, Inc*. logged the exploratory excavations. Visual and tactile identifications were made of the materials encountered, and their descriptions are presented on the exploration logs in Appendix A. The approximate locations of the exploratory excavations completed by this firm are shown on the enclosed Geotechnical Map, Plates 1 & 2.

Bulk, relatively undisturbed, and Standard Penetration Test (SPT) samples were obtained at selected depths within the exploratory borings for subsequent laboratory testing. Relatively undisturbed samples were obtained using a 3-inch O.D., 2.5-inch I.D., California split-spoon soil sampler lined with brass rings. SPT samples were obtained from the borings using a standard, unlined SPT soil sampler. For small-diameter borings, the sampler was driven 18 inches with successive drops of a 140-pound automatic hammer falling 30 inches. For the large-diameter borings, the sampler was driven 12 inches with successive drops of a Kelly bar. The number of blows required to advance the sampler was recorded for each six inches of advancement. The total blow count for the lower 12 inches of advancement per soil sample is recorded on the exploration logs. Samples were placed in sealed containers or plastic bags and transported to our laboratory for analyses.

Upon completion of drilling and sampling, the borings were backfilled with cuttings up to an elevation approximately matching the adjacent ground surface. While backfilling, the large-diameter borings were occasionally tamped with the Kelly bar. The exploratory trenches were backfilled with trench spoil to an elevation approximately matching the adjacent ground surface and wheel rolled at the ground surface.

2.4 LABORATORY TESTING

Selected soil samples obtained from our exploratory excavations were tested in our soil laboratory. Tests consisted of USCS classification, in-place moisture-density, maximum dry density/optimum moisture content, direct shear, consolidation/collapse potential, expansion index, soluble sulfate content, percent passing the No. 200 sieve, and Atterberg limits. All testing will be completed in accordance with current ASTM or acceptable industry standards. A description of laboratory test criteria and a summary of the test results are presented in Appendix B.

3.0 SUBSURFACE CONDITIONS

3.1 GEOLOGIC SETTING

The site is located within the south-central portion of the Ventura Basin in the western Transverse Ranges geomorphic province. The Ventura Basin is an east-west trending trough that experienced basin inversion (extensional to compressional forces) during late Miocene- to early Pliocene (Yeats, Huftile, & Stitt, 1994). The change from an extensional to compressional environment is believed to be associated with the development of the "Big Bend" of the San Andreas Fault to the north resulting in north-south crustal shortening of the region (DeVecchio et al., 2012b). Continued north-south compressional tectonics has produced an intricate system of east-west trending thrust faults, reverse faults, and large-scale folding throughout the basin.

In closer proximity, the site is located on the southern piedmont slopes of the Oak Ridge Mountains. The south margin of the site represents the geomorphic transitions to the valley floor (Little Simi Valley). The Oak Ridge Mountains have been tectonically uplifted in response to folding and reverse slip on the south-dipping Oak Ridge Fault. Across Little Simi Valley to the south, the north-dipping Simi-Santa Rosa fault system resulted in the uplift of the Las Posas Hills. Both faults underlie the Site at depth and result in crustal shortening of the vicinity. Deformation associated with the compression

between the Oak Ridge and Simi-Santa Rosa fault systems has resulted in a complex regime of folding and secondary faulting.

The Oak Ridge Mountains and surrounding vicinity are underlain by thousands of feet of sediments that rest unconformably on igneous and metamorphic basement rock. With respect to the near-surface geologic conditions, the southern piedmont slopes of the Oak Ridge Mountains are generally underlain by bedrock assigned to the Pleistocene-age Saugus Formation (Dibblee and Ehrenspeck, 1992). Other regional maps have also identified these same deposits as Pleistocene-age older alluvium. The Saugus Formation is terrestrial in origin and is believed to have largely been deposited by the ancestral Santa Clara River. Levi and Yeats (1993) utilized magneto-stratigraphy in the nearby Santa Susana Mountains to estimate the lower age of the Saugus at 2.3 million years old (Ma) and the upper age at 400 to 500 thousand years old (Ka). Locally, the discovery of a mammoth during grading for Tract 5054 (Moorpark Mammoth – see Figure 3) has provided a biostratigraphic age of 850 Ka to 780 Ka for the upper Saugus Formation in the immediate Site vicinity (Wagner et al., 2007). The Saugus Formation is generally overlain by late Pleistocene- to Holocene-age alluvial and colluvial deposits within the canyon areas and small tributary drainages. The location of the site and relation to the regional geology is shown the Regional Geologic Map, Figure 2.

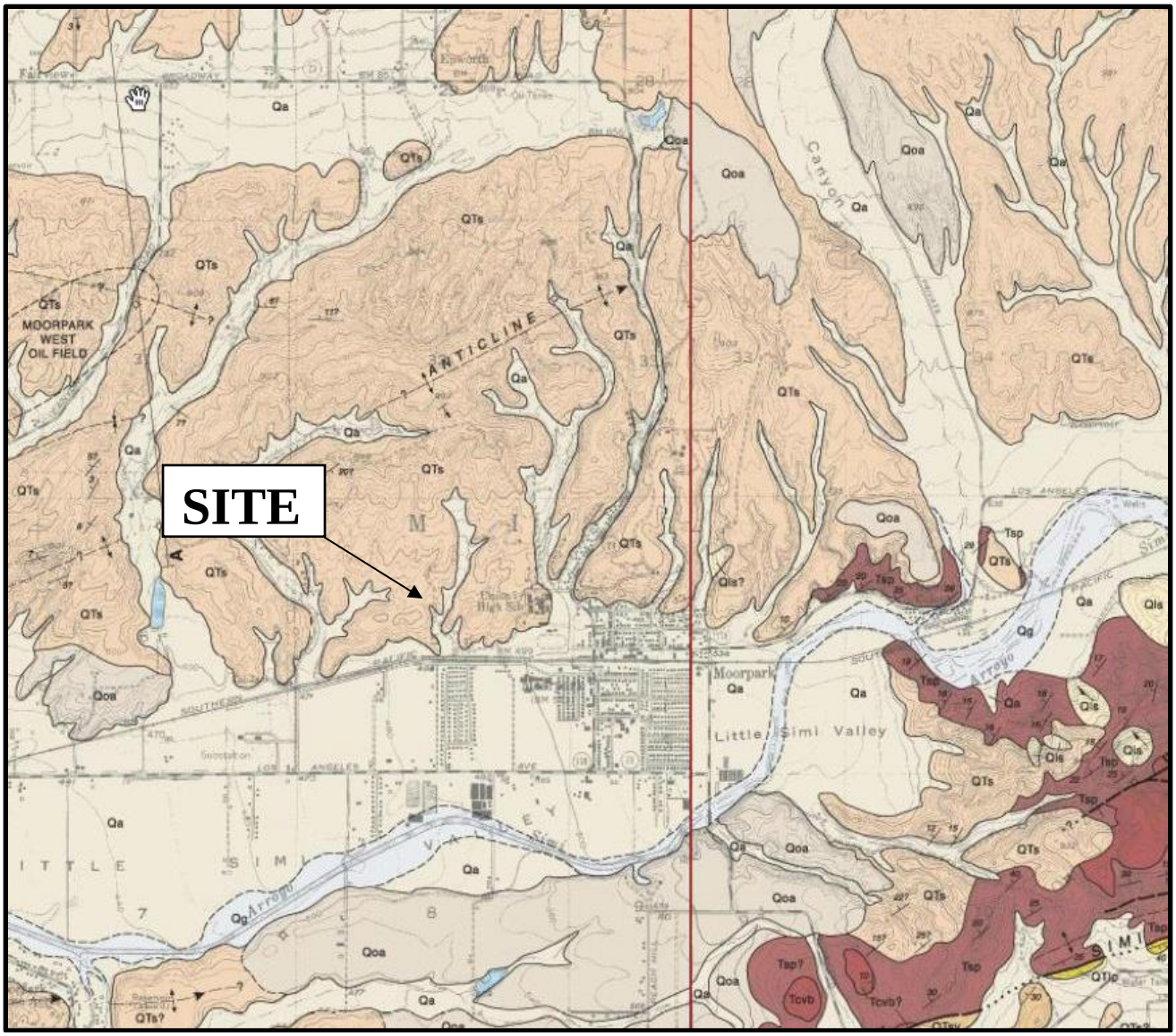
3.2 GEOLOGIC UNITS

3.2.1 General

Based on our review and field investigation work, Pleistocene-age sediments assigned to the Saugus Formation underlies the gentle- to steep-sloping hills and is exposed in various cuts within the property. Previous studies by Gorian had also refereed to this same unit as older alluvium. The Saugus Formation is generally overlain by a thin mantle of topsoil. Late-Pleistocene to Holocene-age alluvial and colluvial deposits are also present within the canyon areas and small tributary drainages. Artificial fill materials are also locally present throughout the site. Descriptions of the geologic units are provided in the following sections. The approximate distribution of the geologic units is illustrated on the enclosed Geotechnical Map, Plates 1 & 2 and on our Geologic Cross-Sections, Plates 3 and 4. Descriptions of the geologic units encountered within the site are provided in the following sections and are presented in detail on the exploration logs by this firm in Appendix A and in the exploration logs by Gorian in Appendix C.

3.2.2 Artificial Fill (Af)

Artificial fill materials were encountered in our exploratory excavations and identified during our field mapping throughout the site. These fills are generally associated with drainage berms, access roads, and various above- and below-ground modifications that were made to the property in association with the site's previous use. More recent end-dump fills were also locally encountered on the site. The fill materials encountered are generally comprised of locally-derived brown to dark brown and red brown clayey sand and sandy clay. These materials are typically damp to moist, loose to medium dense / soft to stiff, and contain scattered gravels and cobbles. The artificial fill materials encountered in our exploratory trench T-4 in a drainage area located in the northeasterly portion of the site also contained abundant construction debris and other assorted trash.



N

REGIONAL GEOLOGIC MAP

From: Dibblee, T.W., and Ehrenspeck, H.E., ed., 1992, Geologic map of the Moorpark quadrangle, Ventura County, California: Dibblee Geological Foundation, Dibblee Foundation Map DF-40, scale 1:24,000.

NOT TO SCALE

FIGURE 2

The artificial fills associated with the drainage berms and access roads that extend throughout the site are up to 5 feet thick. Fills encountered within buried drainages identified in the northwesterly portions of the site and locally in a drainage in the northeasterly portion of the site are up to as much as 13 feet thick. Only those fills of significant thickness are shown on the Geotechnical Map, Plates 1 and 2.

3.2.3 Topsoil (No Map Symbol)

A thin veneer of topsoil is generally present in the upper 3 to 5 feet of the surface within the areas trenched. The topsoil is generally formed in-place by weathering of the underlying units and has been substantially disturbed from ploughing. The topsoil is generally comprised of very dark brown to very dark gray clayey sand and sandy clay that is typically damp to moist, loose / soft to medium stiff, and contains scattered gravel and roots. The topsoil was also observed to be moderately porous and have local, poorly-developed blocky ped structures where not completely disturbed.

3.2.4 Colluvium (Qcol)

The colluvium is generally comprised of brown to dark brown and reddish-brown sandy clay, clayey sand and silty sand. The colluvial materials are typically damp to moist, soft to medium stiff / loose to medium dense, moderately porous, and have slightly- to moderately-developed blocky ped structures with clay films and carbonate on ped surfaces. A trace to some gravel is present within colluvium materials. The colluvial deposit measured up to 14 feet in thickness within the center of the drainages.

3.2.5 Alluvium (Qal)

The alluvium was encountered within both wide and narrow drainage channels across the site. The alluvium is encountered within narrow drainages generally comprised of light brown to dark brown silty sand, clayey sand, and sand within the upper 15 to 18 feet and light brown to reddish brown silty sand at depth. Alluvial material in narrow drainages is typically medium dense with an occasional layer of loose material at depth and are dry to moist. These materials generally become reddish brown in color at depth, are porous throughout the deposit, and contain pores throughout the deposit. Alluvium in narrow drainage channels also locally contains increased deposits of sandy material and varying abundance of gravel.

Alluvial material encountered within the wide drainage channels generally consists of silty sand, clayey sand, gravelly sand and sand, with occasional interbeds of sandy clay, clay with sand, and clay. The sandy material is generally of various shades of brown, dry to moist, and loose to dense. The upper portion of the alluvial material is typically darker brown in color, lower in moisture content, and less dense. The fine-grained materials are generally dark brown to brown, moist, and medium stiff to hard. Coarse-grained gravelly material is typically found at the base of the alluvial layer.

3.2.6 Bedrock: Saugus Formation (Qs)

The bedrock materials encountered onsite are assigned to the Saugus Formation. This unit, which was also identified as older alluvium in some of the previous work by Gorian, generally consists of various shades of brown interbedded sandstone and siltstone with occasional conglomerate beds and lenses. In general, the bedrock materials are dry to moist and moderately hard to locally very hard particularly within the finer-grained well-indurated stratum. The near surface bedrock materials are generally moderately to extremely weathered with scattered krotovinas and roots and no visible structure.

Depositional features observed within the Saugus Formation include cross bedding, graded bedding, channel scours and fills, and lateral facies changes typically resulting in interfingered deposits.
Soil development features observed within the near surface Saugus Formation include local blocky ped structures, carbonate development, iron and manganese oxide staining, and siliceous cemented horizons. Sub-horizontal, laterally-discontinuous, closely-spaced, clay-rich laminations or lamellae (termed "Bt lams" in this report) were also observed within the sandier units. The Bt lams are easily distinguished from the parent material by their slightly darker and more oxide stained characteristics.

3.3 BEDDING STRUCTURE

As previously discussed, the Saugus Formation is terrestrial in origin and is believed to have been largely deposited by the ancestral Santa Clara River. As such, bedding structure in the Saugus Formation appears to be largely dominated by local depositional features (i.e. cross bedding, channel scours and fills, and interfingering structures) resulting in bedding attitudes that appear to dip at shallow angles in all directions. However, from a regional perspective, the site is located on the southeast flank of the Moorpark Anticline and the bedrock exposures in some of the long fault trenches excavated by this firm and by Gorian, suggest that overall bedding structure within the site generally dips at very shallow angles (typically ~3-8 degrees) to the south. Some local warping of the bedding structure was also evident in our fault trench FT-1 in the northeasterly portion of the site where a broad east-west trending anticlinal fold was encountered. Some of the data collected from the borings by this firm and Gorian may also suggest local warping of the bedding structure in other areas of the site. However, this could not be confirmed from the limited exposures.

The bedding structure depicted on the Geologic Cross-Sections, Plates 3 and 4, represent the general orientation of the bedding structure. Local warping and depositional features are not indicated at this time.

3.4 FAULTING

Based on our site-specific fault study for the site, which included a review of the previous fault trenching by Gorian, there are no active faults within or immediately adjacent the site. The site is also not within an "Earthquake Fault Zone" as defined by the State of California in the Alquist-Priolo Earthquake Fault Zoning Act. The closet know active faults to the site are the Oak Ridge fault, located approximately 5.5 miles northwest of the site, and the Simi-Santa Rosa fault, located approximately 1.5 to 2 miles southeast of the site.

Some minor faults (also referred to as shears) were encountered within the Saugus Formation in our exploration trench FT-1 during our fault study as well in some of our exploratory borings for this investigation. These faults generally strike in a east-west direction and dip at shallow degrees to the north and south. A more detailed discussion of faulting at the site is provided in a separate report by this firm (Albus-Keefe & Associates, Inc., April 3, 2019, Revised dated June 3, 2019).

3.5 LANDSLIDES

Based on this investigation and our review of the referenced publications, no landslides have been identified within or adjacent the subject site. No evidence of mudflow or other forms of surficial failures, other than some minor erosion (rutting) on some the existing cut slopes within the site, were noted within or adjacent the subject site.

3.6 GROUNDWATER

Groundwater was encountered in our exploratory boring B-3 in the southern portion of the site at a depth of 41.7 feet. The groundwater occurred within the Saugus Formation. During our fault investigation of the site, minor groundwater seepage was also locally encountered within our fault trenches at the base of some of the sandy channel scours within the Saugus Formation at shallow depths. The groundwater encountered in our fault trenches was attributed to the recent rainstorms that occurred prior to and intermittently during our fault study. The areas where seepage was noticed is shown on our enclosed Trench Logs, from our referenced fault report. Gorian also encountered ground water in their exploratory borings in the southernly portion of the site during their previous studies. The groundwater generally occurred at depths varying from 15 feet to 45.5 feet, depending on their location.

A complete summary of the groundwater depths and elevations encountered in borings by this firm and Gorian are provided in Table 3.1. Borings B-21, B-23, B-29, and B-32 by Gorian in 2000 were also converted to monitoring wells. For these borings, Table 3.1 includes groundwater level data from one or two readings in addition to the reading obtained on the drilling date. On April 11, 2019, our office also obtained a groundwater depth reading at B-23, the only monitoring well installed by Gorian (2000) that we could locate. Our reading was very close to earlier readings at this well, going back to 2000. This similar water level was despite significant precipitation in late 2018 and early 2019. This would suggest that groundwater levels have not changed substantially in this area over the years.

As summarized in Table 3.1, groundwater occurs primarily within the southerly portion of the site. Groundwater elevations suggest that ground water within the onsite drainages in the southerly portion of the site flows toward the south and then flows westerly within the alluvial soils in the broader Simi Valley at the southern margin of the site.

In addition to our review of the groundwater data from the various exploratory borings within the site, we reviewed the California Department of Water Resources database through the referenced link to assess the historical groundwater level data in the vicinity of the site. Three wells were located in the general vicinity of the site. One well located at the southeast corner of the site (just north of the intersection of Poindexter Avenue and Gisler Avenue) had historical groundwater data available from mid-1975 to late 2010 (with a four-year gap from 1985 to 1989). From 1975 to 1985, groundwater level rose from a depth of 138 feet to 37 feet below ground surface. From 1989 to 2005, groundwater level fluctuated between the depths of 40 and 27 feet, and then stabilized at a depth of about 27 feet through the end of data collection in December 2010. A second well located southwest of the site, which had only historical groundwater data only available from approximately 1975 to 1977, recorded a groundwater depth of about 337 feet. A third well located north of the site, which also had limited historical groundwater data from 1975 to 1985 recorded a groundwater level at a depth of about 590 ft below the ground surface.

TABLE 3.1
GROUNDWATER LEVEL DEPTH AND ELEVATION

Boring Number	Date	Ground Surface Elevation[(1)] (ft, MSL)	Groundwater Depth (ft)	Groundwater Elevation (ft, MSL)	Reference
B-3	8-19-2018	506	41.7	464.5	This Report
B-21	5-18-2000	501	35	465.5	Gorian (2000b)
	6-15-2000	501	33.7	466.8	Gorian (2000b)
	12-8-2008[(2)]	501	28.5	472	Gorian (2009b)
B-22	5-19-2000	501	30	470.5	Gorian (2000b)
B-23	5-19-2000	490	25	465	Gorian (2000b)
	6-15-2000	490	23	467	Gorian (2000b)
	12-8-2008[(2)]	490	22	468	Gorian (2009b)
	4-11-2019[(3)]	490	24	466	AKA Reading
B-24	5-22-2000	524	45.5	478.5	Gorian (2000b)
B-28	5-23-2000	498	42.5	455.5	Gorian (2000b)
B-29	5-23-2000	490	35	455	Gorian (2000b)
	6-15-2000	490	29	461	Gorian (2000b)
	12-8-2008[(2)]	490	34.5	455.5	Gorian (2009b)
B-30	5-24-2000	486	30	456.4	Gorian (2000b)
B-31	5-24-2000	494	45	448.6	Gorian (2000b)
B-32[(4)]	5-24-2000	483	35	448	Gorian (2000b)
	6-15-2000	483	32	451	Gorian (2000b)
B-13	11-22-1993	481	23	458.4	Gorian (1994)
B-14	11-22-1993	479	15	464.3	Gorian (1994)

Notes:
1) Ground surface elevations reported in this table are based on the topographic data shown on Plate 1 and 2 and might be different from the header of the related Gorian boring logs.
2) The date reported here (12-8-2008) is based on the field investigation in the referenced report and can be a few days different from the actual groundwater level reading date.
3) Groundwater depth reading of 4-11-2019 at B-23 was performed by our office. The remaining three monitoring wells (B-21, B-29, and B-32) could not be located on this date.
4) The monitoring well B-32 could not be found on 12-8-2008.

According to the referenced Seismic Hazard Zone Report for the Moorpark Quadrangle, historically high groundwater depths is 15 feet along the main westerly drainage course along the southerly margin of the site and the large southerly drainage course at the westerly margin of the site.

4.0 ANALYSES

4.1 SEISMICITY

We have performed probabilistic seismic analyses utilizing the web-based U.S. Seismic Design Maps web application by the U.S. Geological Survey (USGS). We obtain a PGA of 1.055g in accordance with Figure 22-7 of ASCE 7-10. The site amplification factor, F_{PGA}, for Site Class D in this range of PGA is 1.0. Therefore, the PGA_M = 1.0 x 1.055g = 1.06g. The mean event associated with a probability of exceedance equal to 2% over 50 years has a moment magnitude of 6.9 and the mean distance to the seismic source of 5.0 miles.

4.2 SETTLEMENT

Existing topsoil, colluvial, and alluvial soils are moderately compressible and often prone to hydrocollapse (consolidation upon wetting). As such, these materials are anticipated to be removed and recompacted. Since these materials will be placed as fill at slightly over optimum, primary consolidation of fill materials due to self-weight is anticipated to occur as the material is placed and compacted. Remaining settlement will then be the result of secondary consolidation of the fill from self-weight. This assumes that secondary settlement due to reloading of the underlying Saugus formation will be negligible due to the natural over-consolidated conditions and induration.

Based on the relationship proposed in the NAVAC (1982) Design Manual 7.1, the coefficient of secondary consolidation may be estimated from the following equation:

$$H_{sec} = C_{\alpha}(H_t) log \frac{t_{sec}}{t_p}$$

Where:

Hsec = Settlement from secondary Consolidation
Cα = coefficient of secondary consolidation
Ht = Thickness of the compressible stratum
tsec = time of structure design life
tp = Time of completion of primary consolidation

The coefficient, Cα, is provided on Figure 16 of the manual. Using a typical post-compacted moisture content of 17%, we obtain a Cα equal to 0.0017. The maximum depth of fill after removal of all soil materials and filling to proposed grade is estimated to be about 85 feet. Taking the design life to be 50 years, we obtain a total secondary settlement of about 5 inches assuming a tp of 1 month.

Of more particular interest is the differential settlement. The natural slopes within the drainages of the project are typically inclined at about 3:1 (H:V). If we assume a maximum tolerable differential settlement of 0.5 inches over 30 feet, we can use the above equation to back-calculate the time required to wait until achieving this differential. Over a horizontal distance of 30 feet, the fill thickness will

change by 10 vertical feet. Using this thickness for the fill, we obtain a time of 2 months to achieve a remaining differential settlement of 0.5 inches over 30 feet.

4.3 LIQUEFACTION

Engineering research of soil liquefaction potential (Youd, et al., 2001) indicates that generally three basic factors must exist concurrently in order for liquefaction to occur. These factors include:

- A source of ground shaking, such as an earthquake, capable of generating soil mass distortions.
- A relatively loose silty and/or sandy soil.
- A relative shallow groundwater table (within approximately 50 feet below ground surface) or completely saturated soil conditions that will allow positive pore pressure generation.

The liquefaction susceptibility of the onsite soils was evaluated by analyzing the potential concurrent occurrence of the above-mentioned three basic factors. The liquefaction evaluation for the site was completed under the guidance of Special Publication 117A: Guidelines for Evaluating and Mitigating Seismic Hazards in California (CDMG, 2008).

These analyses were performed using data from three hollow stem borings that encountered groundwater. These are boring B-3 (this report), and borings B-21 and B-23 (Gorian, 2000). For borings B-3 and B-21, groundwater depths of 33 and 28.5 feet, respectively were used which correspond to an elevation 472 feet (MSL). A groundwater depth of 22 feet was used for liquefaction analysis of B-23, corresponding to an elevation of 468 feet (MSL).

Blow counts obtained from the larger California ring-lined sampler were corrected in the analyses (SCEC, 1999). Fine-grained soils that do not have a Plasticity Index (PI) less than 12 and field moisture contents greater than 85% of liquid limit (LL) or soils with corrected blow counts greater than 30 blows per foot were assumed to be not susceptible to liquefaction.

Appendix D includes a printout of the liquefaction analyses for these three borings. Based on our analyses, in Gorian borings B-21 and B-23 (Plates D-2 and D-3) all layers between groundwater and a depth of 50 (bottom depth for liquefaction analysis) have factors of safety below 1.3 and as such, are prone to liquefaction during a strong ground motion event. In boring B-3 (Plate D-1) the large penetration resistance (SPT blow count), rule out the potential for liquefaction.

4.4 SLOPE STABILITY

Stability analyses were performed using the computer program SLIDE to evaluate the gross stability of existing, proposed cut, and proposed fill slopes supporting the project. Both static and seismic stability were evaluated. Among various slope stability methods available in SLIDE, Generalized Limit Equilibrium (GLE) method was used in all these analyses. Block, non-circular, and circular sliding surfaces were utilized as deemed appropriate.

These analyses were performed for three cross sections C-C', E-E', and F-F' (Plates 3 and 4) deemed to represent the most critical conditions across the proposed development. Cross section C-C' involves a 66-foot-high cut at 1.6H:1.0V slope and is the steepest proposed cut slope. Cross section E-E'

involves approximately 75 feet of fill and is the highest fill slope. Cross section F-F' represents the most critical existing off-site slope approximately 85 feet in height.

Three different geotechnical materials are included in these cross sections. These are the proposed fill, alluvium, and Saugus formation. Data from our field investigation and laboratory tests, as well as those from various referenced reports from Gorian were reviewed to assess shear strength parameters representing these materials in SLIDE models. Shear strength parameters used in slope stability analyses are summarized in Table 4.1.

TABLE 4.1
SUMMAY OF SHEAR STRENGTH PARAMETERS
FOR SLOPE STABILITY ANALYSES

Material	Unit Weight (pcf)	Friction Angle (degrees)	Cohesion (psf)
Proposed Fill	120	29.0	100
Alluvium	120	25.0	0
Saugus (cross-bedding)	120	34.5	480
Saugus (along-bedding)	120	22.0	0

Properties of the proposed fill were assigned based on the average ultimate strength values from direct shear test results on remolded samples from our work as well as Gorian's various reports (referenced).

The alluvial soils appear only in cross section E-E', close to the toe of the proposed fill slope. Correlations provided in NAVFAC (1982) between friction angle and N_{60} (Standard Penetration Test, SPT, blow counts corrected for hammer efficiency) from Boring log B-21 (Gorian, 2000) were used to assess the friction angle of in-place alluvium.

Because of the potential for clayey layers alternating with sandy layers, the Saugus formation was modeled as an isotropic material. The clay layers were conservatively assumed to exist in relatively continuous layers dipping at 3 to 8 degrees to the south as the predominant orientation of bedding structure. The strength parameters for the orientation along bedding (clay layers) were based on the ultimate shear strength parameters estimated from results of direct shear test on undisturbed specimens from clayey constituents of Saugus formation.

The Saugus formation was assumed to consist equally of cohesive and granular constituents. As a result, the cross-bedding shear strength parameters for this formation were determined as the average of the properties of cohesive constituents and granular constituents. For cohesive materials, peak shear strength parameters from direct shear test was used. For the granular portion, correlations with N_{60} as presented in NAVFAC (1982) were used.

As discussed earlier, liquefaction analyses using boring log B-21 (Gorian, 2000) that is very close to the southern part of cross section E-E' indicate a liquefaction potential below groundwater level. Close

examination of values of clean sand normalized SPT penetration resistance indicate the liquefiable layer between the depths of 29 and 50 feet can be subdivided into two sublayers. The first sublayer extends between the depths of 29 and 41 feet and has values of $(N_1)_{60\text{-}cs}$ ranging from 5 to 17. The second sublayer is below the depth of 41 feet with $(N_1)_{60\text{-}cs}$ in the range of 18 to 28. Using Figure 9.57 of Kramer (1996) the residual shear strengths of 150 and 800 psf were assigned to these two liquefied sublayers, respectively. These values are deemed conservative, particularly for the upper sublayer (depth 29 to 41 feet). The liquified residual shear strength parameters are assumed to be applicable to the post-seismic event. As a result, the related slope stability analyses considering liquefaction are performed without a pseudo-static loading condition.

Seismic slope stability analyses were performed using a pseudo-static method with the horizontal seismic coefficient K_{eq} = 0.15, estimated by following the guidelines in SP 117A. The Maximum Horizontal Acceleration (MHA) used in this approach is estimated from Peak Ground Acceleration (PGA=1.06g, Section 4.1 of this report), by taking into account configurations of the slope. The entire soil mass in a slope or within a potential failure block does not experiences the same acceleration at the same time. The higher the slope, the smaller MHA is relative to PGA. All of the three cross sections analyzed involve high slopes that justify the use of an MHA that is smaller than PGA. Furthermore, with increasing depth of potential sliding surface below the crest, MHA decreases. Figure 9 of Makdisi and Seed (1977) was used to estimate the ratio between MHA and PGA. A ratio of 0.35 is estimated from this figure, resulting in MHA = 0.35 x 1.06g = 0.37(g).

Figure 1 in SP 117A was used with tolerable displacement of 15 centimeters (cm) to estimate f_{eq} for this site. Using the magnitude and distance reported in Section 4.1, this figure results in f_{eq} = 0.4. As a result, $K_{eq} = f_{eq}$ x MHA = 0.4 x 0.37 = 0.15.

Results of our analyses are summarized in Table 4.2. Appendix E includes printouts of slope stability analyses of the program SLIDE that show details and results of these analyses. Results for block analyses of Section F-F' include plots of all failures as well as results filtered to only show failures with a factor of safety greater than 1.5 and 1.1 for static and seismic conditions, respectively (see Plates E-16 & E-18 in Appendix E).

5.0 CONCLUSIONS

5.1 FEASIBILITY OF PROPOSED DEVELOPMENT

From a geotechnical point of view, the proposed site development is considered feasible. Furthermore, we conclude the proposed development will not adversely impact the stability of adjoining properties. The adequacy and sufficiency of the preliminary findings provided herein should be further assessed based upon a review of the final grading and structural plans/details and engineering and geologic analyses. A final geotechnical investigation report should be prepared for design, permitting and construction to include recommendations for site development and mitigation of geotechnical factors. Key geotechnical issues that could impact the proposed site development are discussed in further detail in the following sections.

TABLE 4.2
SUMMARY OF SLOPE STABILITY ANALYSES

Type of Analysis (and Condition)	Cross Section C-C'	Cross Section E-E'		Cross Section F-F'
		Ordinary	Liquefaction	
Block (Static)	1.67 (Plate E-2)(1)	Not Needed		1.39/1.50(2) (Plate E-15 & 16)
Block (Seismic)	1.17 (Plate E-3)			1.08/1.11(2) (Plate E-17 & 18)
Non-Circular (Static)	Not Needed	1.60 (Plate E-7)	---	Not Needed
Non-Circular (Seismic)		1.16 (Plate E-8)	1.37 (Plate E-12)	
Circular (Static)	2.36 (Plate E-4)	1.62 (Plate E-9)	---	1.84 (Plate E-19)
Circular (Seismic)	1.8 (Plate E-5)	1.18 (Plate E-10)	1.62 (Plate E-13)	1.52 (Plate E-20)

Notes:
1) Plate numbers in Appendix E where the details of the slope stability analyses for this case is provided.
2) Second factor of safety is related to the minimum value obtained for searches behind the structural setback where buildings will be constructed.

5.2 GEOLOGIC HAZARDS

5.2.1 Ground Rupture

Results of our fault study, dated April 3, 2019 (revised June 3, 2019), indicate there is no evidence of "active" faulting, as defined by the State under the provisions of the Alquist-Priolo Earthquake Fault Zoning Act, within and/or immediately adjacent the site. Furthermore, the site does not lie within the bounds of a State of California "Earthquake Fault Zone" (EFZ) as defined by the Alquist-Priolo Earthquake Fault Zoning. As such, the potential for ground rupture due to a fault displacement beneath the site is considered very low.

5.2.2 Ground Deformation

Although no evidence of recent ground deformation was observed within our fault study , the site is located in an active tectonic regime associated with crustal shortening between the Oak Ridge and Simi-Santa Rosa fault systems. A significant earthquake on either the Oak Ridge or Simi-Santa Rosa faults could possibly result in minor ground deformation that can manifest as small-scale shear displacements or general ground tilting, particularly in the area of existing minor faults and folds. However, considering that faults and folds observed during our investigation have not experienced any discernable amount of movement during Holocene time, the probable magnitude of displacement during the life of the proposed structures would likely be extremely small. As such, mitigation measures for potential future ground deformation is not deemed necessary. Further discussion on this issue can be found in our referenced fault study report. The potential for ground deformation due to small-scale shear displacements can be re-evaluated during site grading to confirm the conclusions

presented herein. In the event that small-scale deformation is deemed to rise to a level that could impact site development, mitigation measures could readily be incorporated in the design of foundations for habitable structures to provide increased resistance to small-scale ground movements

5.2.3 Ground Shaking

The site is situated in a seismically active area that has historically been affected by generally moderate to occasionally high levels of ground motion. The site lies in relative close proximity to several active faults; therefore, during the life of the proposed improvements, the property will probably experience similar moderate to occasionally high ground shaking from these fault zones, as well as some background shaking from other seismically active areas of the Southern California region. Design and construction in accordance with the current California Building Code (CBC) requirements is anticipated to address the issues related to potential ground shaking.

5.2.4 Landsliding and Debris Flows

No evidence of historical landsliding was identified during this study nor was it reported by others. However, some areas of very steep terrain that will be supporting the proposed development within the southerly margin of the site are located in a State of California Landslide Zone. Conclusions regarding stability of existing slopes are addressed in Section 5.7.

The ascending slopes above the site margining the proposed development are generally mantled by topsoil. However, review of historical aerial photographs dating back to 1929 and recent field mapping of these slopes did not indicate any evidence of past surficial failures or mudflow events. We attribute this condition to the relatively gentle inclination of these slopes and the gradual transition of topsoil to Saugus formation materials. The gradual transition avoids the creation of a well-defined contact upon which failures may tend to form. We conclude the site is also at a low risk to mudflow and debris failures from adjacent natural slopes.

5.2.5 Tsunami and Seiches

The portion of the site to be developed is elevated approximately 500 feet above mean sea level and is located a substantial distance from a significant body of water. As such, the potential for hazards related to tsunami is considered very low. No sizable enclosed body of water is within the site or its vicinity. As result, the potential for hazards associated with seiches is non-existent.

5.3 GROUNDWATER

As discussed above, groundwater was encountered between the depths of 15 and 46 feet below current ground surface during site investigations. All the exploratory borings that encountered groundwater were in the southern margin of the site. Historical data suggests the depth to groundwater in this area is unlikely to vary significantly from current levels under current site conditions for the short term (next several years). This condition is generally not anticipated to result in any adverse conditions for site development provided construction will not require excavations below groundwater such as deep utilities.

Groundwater conditions in the future may vary more significantly in the long term as a result of seasonal variations of rainfall, regional groundwater withdraw, and future site development. Historical

data indicates that variations in groundwater depth in the southern margin of the site have varied by at least 100 feet over the last several decades. Data over the last 30 years has suggested a more consistent groundwater level. Future site development may lead to a minor rise in the groundwater levels in this area as irrigation water infiltrates into the ground and migrates to the lower elevations to the south. We do not anticipate such changes to result in detrimental effects on proposed site development or adjacent properties.

Proposed engineered fills will be derived from onsite materials which contain both fine-grained and granular materials. Fills may create conditions that form thin, perched groundwater conditions in the future due to finer-grained soils creating aquitards below the granular materials. If surface fills are comprised of granular soils but are underlain by fine-grained soils within the upper few feet, such perched groundwater conditions could impact site development. Detrimental effects could include excessive moisture vapors in structures, seepage or excessive moisture in retaining walls, and seepage or excessive moisture in local areas of low elevation. Such adverse conditions can be mitigated by careful consideration of placing fills to avoid creating such conditions as well as providing appropriate subdrainage and waterproofing in retaining walls. Specific details of these mitigation steps can be determined during review of final grading plans and during site construction.

The Saugus formation in comprised of interlayers of fine-grained and granular materials. These layers are structurally inclined at low to moderate angles. Although the general dip of the formation is at low angles to the south, localized variations in dip angle and direction can occur. The presence of the finer-grained layers can act as aquitards that can cause the formation of thin, perched groundwater within the Saugus formation. This perched groundwater may occur in proximity to slopes, retaining walls, and other areas of grade differential. If such a condition forms due to infiltration of rainfall or irrigation, groundwater may seep out of slope faces, retaining walls, and points of low elevation. Potential adverse conditions created by such perched conditions can be mitigated during construction through installation of stability fills on cut slopes, installation of subdrains, and installation of subdrains and waterproofing on retaining walls. Specific details of these mitigation steps can be determined during review of final grading plans and during site construction.

5.4 SOIL EXPANSION

Based on our field exploration and laboratory test results, the geotechnical materials within the site are anticipated to generally possess Very Low to Medium expansion potential. One of the expansion test results in Gorian (2000b) falls in the lower range of High expansion potential (Boring B-B, depth 25 feet, EI=94) and is for a sample from the Saugus Formation. Expansive soils can cause damage to overlying structures and improvements when they undergo heave from wetting or shrinkage from drying. This condition can be mitigated through the design and construction of foundations, slabs on grade, and other elements of site development in consideration of this condition. General mitigation methods are discussed in Section 6.0 under the respective design elements.

5.5 STATIC SETTLEMENT

As indicated by our analyses in Section 4.2, engineered fills up to 85 feet in depth are anticipated and will undergo long-term settlement due to self-weight of the fill. The placement of fills will result in raising the grade by up to about 50 feet over areas underlain by Saugus formation materials. The

secondary consolidation of Saugus formation materials due to reloading by this change in grade is anticipated to be negligible due to the natural over-consolidated conditions and induration of the formation. Therefore, settlement due to consolidation of the underlying Saugus formation is anticipated to be negligible. Footings will also undergo some settlement due to loading from the superstructure weight. Much of the weight causing foundation settlement will be in place before sensitive finishes are placed on the structures. In consideration of the above factor and light loading anticipated, we have assumed the magnitude of settlement of footings due to structural loading is negligible and was not evaluated. Therefore, settlement in structures and site improvements will only be dictated by settlement of fill soils due to self-weight.

From our analyses, we have estimated the total settlement of the ground surface will be up to approximately 5 inches over a period of 50 years. The associated differential settlement is estimated to be approximately ½ inch over 30 feet after a period of 2 months following fill placement. Although the total settlement is greater than customarily considered, the differential settlement will primarily dictate project performance. The residential structures are generally considered the most sensitive to differential settlement and the estimated magnitude is within generally acceptable limits provided construction of the buildings is delayed at least 2 months following grading. Long-term settlement may result in causing elongation and associated tension in underground utilities that cross the drainages if they are constructed shortly after grading. Design and construction of underground utilities will require consideration of this effect. If certain utilities will be sensitive to this condition, mitigation could include delay in constructing such utilities across deep fills or providing sections that will accommodate the tensile force through jogs, flexible joints, and slip joints. Specific recommendations can be developed during project design.

5.6 LIQUEFACTION

As indicated by the results of our analyses in Section 4.3, portions of the site materials are prone to liquefaction during a strong ground motion event. During a liquefaction event, these materials will likely undergo seismic consolidation that could result in deformation of the ground surface supported by these soils. The deformation could be on the order of a few inches. As currently planned, no residential structures would be supported by these materials provided all colluvial and alluvial soils are removed below proposed residential structures. Therefore, potential adverse conditions related to liquefaction and related seismic settlement of habitable structures can be readily mitigated as recommended in Section 6.1.5.

Soils that undergo liquefaction also exhibit a loss in shear strength following the ground motion event. Such soils will be supporting some proposed fill slopes along the southern margin of the site. The potential for destabilization of constructed slopes due to liquefaction is addressed in Section 5.7.

5.7 SLOPE STABILITY

As discussed earlier in this report under Section 4.4, slope stability analyses were performed using the computer program SLIDE. The analyses were performed for three cross sections throughout the site that are deemed to represent the most critical conditions in terms of existing slopes, proposed fill slopes, and proposed cut slopes. These conditions are represented by cross sections C-C', E-E', and F-F' (Plates 3 and 4). Results of our analyses indicate that proposed cut and fill slopes (sections C-C'

and E-E') are expected to exhibit static and seismic factors of safety greater than 1.5 and 1.1, respectively. These factors of safety are considered adequate for the proposed site development.

Analyses of the existing slope in Section F-F' indicate factors of safety less than 1.5 and 1.1 for static and seismic conditions, respectively. These factors are below the generally accepted minimums for proposed site development. Our analyses also indicate the portions of these slopes that have substandard factors of safety are located relatively near the face of the slope. As such, this condition can be mitigated by providing a structural setback from the tops of these slopes such that appropriate factors of safety are obtained for support of the proposed development. Once more finalized site development plans are prepared, specific setbacks can be determined through additional engineering analyses. From a preliminary standpoint, our analyses indicate that a setback from the top of slope equal to approximately ⅔ of the total slope height will provide the necessary setback.

5.8 EXCAVATION AND MATERIALS CHARACTERISTICS

Based on the results of our subsurface exploration, the onsite materials should be readily excavated by conventional heavy earthmoving equipment. Excavations within some of the finer-grained, well-indurated bedrock materials may generate oversized rock materials that will require reduction in size or hauling off site. Specific recommendations are provided in Section 6.1.10.

With respects to future trenching for utilities etc., some of the finer-grained, well-indurated bedrock materials may be locally difficult to excavate with an excavator and standard backhoe. This condition can be mitigated by overexcavating bedrock materials within future streets to a depth below invert grades as discussed in Sections 6.1.6.

Significant portions of the site materials have moistures below optimum moisture content. As such, recompaction of these materials is anticipated to require the addition and blending of water to be suitable for use as compacted fill. The deeper alluvial materials in the major canyon areas, however, are locally very moist to wet and soft and may require special handling (excavator and top-loading). Dewatering may also be required if excavations will extend below groundwater levels. Recompaction of these materials is also anticipated to require drying back and/or blending with dryer materials in order to be suitable for use as compacted fill. Specific recommendations for removal and recompacting these materials should be provided based on actual conditions encountered during grading.

5.9 SHRINKAGE, BULKING AND SUBSIDENCE

Volumetric changes in earth quantities will occur when excavated onsite soil materials are replaced as properly compacted fill. The volume change of excavated materials upon recompaction is expected to vary with material types, depth of excavation, in-situ density, and compaction techniques and effort. Based on laboratory testing and our experience with similar projects, the following estimates of shrinkage and bulking are summarized in Table 5.1.

TABLE 5.1
ESTIMATES OF SHRINKAGE AND BULKING

MATERIAL	VOLUME CHANGE	SHRINKAGE/BULKING
Artificial Fill	10% to 20%	Shrinkage
Topsoil (no map symbol)/Colluvium (Qcol) /Alluvium (Qal)	5% to 11%	Shrinkage
Bedrock (Saugus Formation)	0% to 5%	Bulking

The above estimates of shrinkage and bulking are intended as an aid for project engineers in determining earthwork quantities. However, these estimates should be used with some caution since they are not absolute values. Contingencies should be made for balancing earthwork quantities based on actual shrinkage and bulking and ground subsidence that occur during grading. Processing of surfaces prior to placement of new fills is not anticipated to result in measurable subsidence and may be ignored.

6.0 RECOMMENDATIONS

6.1 EARTHWORK

6.1.1 General Earthwork and Grading Specifications

All earthwork and grading should be performed in accordance with applicable requirements of Cal/OSHA, applicable specifications of the Grading Codes of City of Moorpark, California, in addition to recommendations presented herein.

6.1.2 Pre-Grade Meeting and Geotechnical Observation

Prior to commencement of grading, we recommend a meeting be held between the developer, City inspector, grading contractor, civil engineer, and geotechnical consultant to discuss the proposed grading and logistics. We also recommend that a geotechnical consultant be retained to provide soil engineering and engineering geologic services during site grading and foundation construction. This is to observe compliance with the design specifications and recommendations, and to allow design changes in the event that subsurface conditions differ from those anticipated. If conditions are encountered that appear to be different than those indicated in this report, the project geotechnical consultant should be notified immediately. Design and construction revisions may be required.

6.1.3 Site Clearing

All existing improvements, vegetation and other deleterious materials should be removed from the areas to be developed. The project geotechnical consultant should be notified at the appropriate times to provide observation services during clearing operations to verify compliance with the above

recommendations. Voids created by clearing should be left open for observation by the geotechnical consultant. Should any unusual soil conditions or subsurface structures be encountered during site clearing or grading that are not described or anticipated herein, these conditions should be brought to the immediate attention of the project geotechnical consultant for corrective recommendations as needed.

6.1.4 Seepage Pit and Water Well Abandonment

Seepage pits and water wells encountered during future site grading should be properly destroyed or abandoned in accordance with the requirements established by the governing agencies as well as recommendations made in the field by the project geotechnical consultant. As previously discussed, there are at least 15 water wells that have been drilled throughout the site. The approximate locations of known water wells are shown on the enclosed Geotechnical Map, Plates 1 & 2. The current status of most of these wells is unknown (e.g. active, abandoned, destroyed), but at least 3 are believed to be intact.

6.1.5 Ground Preparation

In general, all existing exploratory trench backfill, artificial fill, topsoil, colluvium, alluvium, and weathered bedrock are considered unsuitable for support of proposed structural fills and site development and should be removed through excavation or benching to expose competent bedrock (Saugus formation). However, removal of alluvial materials may be limited where groundwater is encountered and beneath proposed roadways and detention basins. In general, removal of alluvial materials may be limited to a depth that is 3 feet above groundwater. Removal of alluvial materials for roadways and detention basins may be limited to 3 feet below finish grade.

Removals for the balance of the site which include areas influencing the residential building pads are anticipated to vary from as little as 3 feet to as much as 50 feet below the existing ground surface. Actual ground preparation recommendations should be determined by the geotechnical consultant based on future grading plan reviews and analyses as well as conditions exposed during site grading.

6.1.6 Building Pad Capping

Transition Pads: Future rough grading will create cut/fill transitions or shallow fill conditions within building pads following removal of unsuitable materials. In general, transition pads should be overexcavated at least 5 feet below finish pad grades and replaced with a compacted fill blanket. The overexcavation should extend across the entire pad or at least 5 feet beyond the outside edge of the proposed footings. The bedrock/fill contact should be no steeper than 2 to 1 (H:V). Where the overall gradient is steeper, the contact should be laid back to a maximum overall gradient of 2 to 1 (H:V). Where cuts for transition pads expose fine-grained materials that could create an aquitard, the undercut should either be sloped at a minimum gradient of 5% toward the street or the lot should be capped with fill similar to the underlying formational materials.

Actual transition pad capping recommendations should be determined by the geotechnical consultant based on future grading plan reviews and analyses as well as conditions exposed during site grading. A typical transition lot capping detail is provided on Plate F-1 in Appendix F.

Cut Pads: Future rough grading will create cut pads. Cut pads should be brought to near rough grade then observed by the geotechnical consultant. If significant differential bedrock materials are exposed, the pad should be generally overexcavated at least 5 feet below finish pad grades and replaced with a fill blanket. The overexcavation should extend across the entire pad or extend at least 5 feet beyond the outside edge of the proposed footings. Where cuts for overexcavation expose fine-grained materials that could create an aquitard, the undercut should either be extended out to the street and sloped at a minimum gradient of 5% toward the street or the lot should be capped with fill similar to the underlying formational materials.

Actual cut pad capping recommendations should be determined by the geotechnical consultant based on future grading plan reviews and analyses as well as conditions exposed during site grading. A typical cut lot capping detail is provided on Plate F-2 in Appendix F.

6.1.7 Street Capping

Based on our subsurface exploration, some of the bedrock materials exposed within the streets could be locally very difficult to impossible to trench with an excavator and/or conventional backhoe equipment for the installation of future underground improvements. For ease of future trenching, the cut and shallow fill portions of the future streets can be overexcavated at least 18 inches below the invert of the deepest utility line where hard bedrock conditions may be encountered. The overexcavation should also consider future utility hook-ups to residences and any utilities behind curb. Actual street capping recommendations should be determined by the geotechnical consultant based on future grading plan reviews and conditions exposed during site grading A typical street capping detail is provided on Plate F-3 in Appendix F.

6.1.8 Canyon Subdrains

Where practical, canyon subdrains are recommended within all canyon areas following removals. The subdrains should consist of a 6-inch-diameter PVC schedule 40 perforated pipe or 8-inch-diameter PVC schedule 40 perforated pipe when over 500 feet in length. The pipe should be embedded in 9 cubic feet per linear foot of 3/4-inch gravel wrapped in Mirafi 140N, or equivalent. The subdrain, where possible, should be placed on the bottom of the canyon cleanout area. Within the lower portions of the canyons, the subdrain may be placed on a bench in the sidewall of the canyon, above the cleanout bottom, to permit the subdrain to daylight. The subdrain should be set to drain generally at a minimum gradient of 1 percent. The outlets should consist of similar solid pipe and should daylight approximately 2 feet above the toe of slope or into a storm drain device. The necessity and locations of the canyons subdrains should be determined based on future grading plans reviews and actual site conditions during rough grading. A typical canyon subdrain detail is provided on Plate F-4 in Appendix F.

6.1.9 Scarification

Prior to placement of compacted fill, the exposed ground should generally be scarified to a depth of 6 inches, moisture conditioned to at least 110 percent of the optimum moisture content, then compacted to at least 90 percent of the maximum dry density determined in accordance with ASTM D 1557. The geotechnical consultant should provide final recommendations for scarification, based on actual conditions exposed during grading.

6.1.10 Fill Placement

In general, materials excavated from the site may be used as fill provided they are free of deleterious materials and rocks greater than 12 inches in maximum dimension. Within the upper 5 feet of building pads, fill materials should not contain rocks greater than 6 inches in maximum dimension. Materials greater than 12 inches in diameter that cannot be reduced should be hauled offsite or placed in deeper fill as discussed in Section 6.1.10. Fill should be placed in lifts no greater than 8 inches in loose thickness, moisture-conditioned to 110 to 125 percent of optimum moisture content, and compacted in place to at least 90 percent of the maximum dry density determined in accordance with ASTM D 1557 laboratory standard. Each lift should be treated in a similar manner. Subsequent lifts should not be placed until the project geotechnical consultant has approved the preceding lift. When placing fill on ground sloping steeper than 5:1 (H:V), vertical benches should be excavated into the adjacent slope.

To mitigate the potential for creating differential expansion potentials in the building pads, the upper 3 feet of the building pads should be capped with a uniform blanket of fill possessing similar engineering properties.

6.1.11 Over-sized Materials

Rocks over 12 inches in diameter should be reduced in size where practical and incorporated within the fill materials provided they are mixed with granular materials and spread throughout the fill to eliminate nesting. Rocks greater than 12 inches but less than 3 feet in diameter may be placed within engineered fills at least 10 feet below proposed grades as well as at least 18 inches below deepest utilities within streets, as presented on Plate D-5 in Appendix D. Rocks greater than 3 feet in diameter that cannot be reduced in size should be removed from the site.

6.1.12 Fill Slopes

Fill slopes (fill over natural slopes, fill over cut slopes) should be constructed with a keyway having a minimum width of 12 feet and a minimum embedment of 2 feet into competent earth unit. A minimum width of 10 feet of fill should be maintained throughout fill slope construction to prevent sliver fills and cut/fill transitions within finished slopes. Details for fill slope construction are presented on Plate F-6 in Appendix F.

Where practical, fill slopes should be constructed by over filling and trimming back to a compacted core. The face of slopes that are not over-built should be backrolled with a sheepsfoot roller at least every 4 vertical feet of slope construction. The process should provide compacted fill to within 12 inches of the slope face. Finished slopes should be track-walked with a small dozer or rolled with a vibratory compactor and grid roller in order to compact the slope face. The slope face materials will tend to dry out prior to final face compaction. As such, the addition of water to the slope face will likely be required prior to compaction to achieve the required compaction at the time of slope face compaction.

6.1.13 Cut Slopes

All cut slopes into bedrock should be inspected at intervals not exceeding 10 feet during grading by an engineering geologist, to evaluate the competency of the slope. Heavy ripping should be designed in a manner as to minimize disturbing the bedrock below proposed slope grades.

6.1.14 Stabilization Fills

Cut slopes exposing rock that exposes locally-adverse geologic conditions, expose sandy bedrock materials that are friable and prone to erosion, or where possible nuisance seepage issues could occur may require replacement with stabilization fill slopes. General details for stabilization fill slope construction are presented on Plate F-7 in Appendix F. However, specific recommendations should be provided by the geotechnical consultant during grading depending on the actual conditions exposed.

6.1.15 Slope Backdrains

Slope backdrains are generally recommended in all fill key excavations and stabilization fill slopes. The locations and necessity of the slope backdrains should be determined by the project geotechnical consultant in the field during rough grading. General details for slope backdrains are presented on Plate F-8 in Appendix F.

6.1.16 Import Materials

If earth materials are imported to the site in order to achieve the proposed grades, the proposed import soil should have a maximum particle size of 6 inches, have an Expansion Index less than 51 (per ASTM D4829), and have negligible soluble sulfate content. Import sources should be indicated to the geotechnical consultant prior to hauling the materials to the site so that appropriate testing and evaluation of the fill material can be performed in advance.

6.1.17 Temporary Excavations

Temporary construction slopes in site materials may be cut vertically up to a height of 4 feet provided that no adverse geologic conditions or surcharging of the excavations are present. Temporary slopes over 4 feet but less than 15 feet in height should be laid back at a maximum gradient of 1:1 (H:V) or properly shored. Excavations over 15 feet in height should be laid back at a maximum gradient of 1.5:1 (H:V) or properly shored. Excavations should not be left open for prolonged periods of time. The project geotechnical consultant should observe all temporary cuts to confirm anticipated conditions and to provide alternate recommendations if conditions dictate.

Where temporary excavations cannot accommodate proper layback or where surcharging occurs, slot cutting, shoring, underpinning, or other methods should be used. Specific recommendations for these options should be provided by the geotechnical consultant after specific design plans have been developed.

6.1.18 Settlement Monitoring

The site is anticipated to have fills up to as much as approximately 85 feet in thickness following removals. Fills over 50 feet in depth will generally require settlement monitoring. Settlement monument details are provided in Appendix F, Plate F-9. Location of settlement monuments will be based on future analyses as well as the as-built geologic conditions following future rough grading.

6.2 SEISMIC DESIGN PARAMETERS

For design of the project in accordance with Chapter 16 of the 2016 CBC, Table 6.1 below presents the seismic design factors.

TABLE 6.1
CBC 2016 SEISMIC DESIGN PARAMETERS

Parameter	Value
Site Class	D
Mapped MCE Spectral Response Acceleration, short periods, S_S	2.747
Mapped MCE Spectral Response Acceleration, at 1-sec. period, S_1	0.949
Site Coefficient, Fa	1.0
Site Coefficient, Fv	1.5
Adjusted MCE Spectral Response Acceleration, short periods, S_{MS}	2.747
Adjusted MCE Spectral Response Acceleration, at 1-sec. period, S_{M1}	1.424
Design Spectral Response Acceleration, short periods, S_{DS}	1.831
Design Spectral Response Acceleration, at 1-sec. period, S_{D1}	0.949

MCE = Maximum Considered Earthquake

6.3 PRELIMINARY FOUNDATION DESIGN RECOMMENDATIONS

6.3.1 General

The following recommendations are provided for preliminary design purposes. These recommendations have been based on the site materials exposed during our investigation, our understanding of the proposed development, and the assumption that the recommendations presented herein are incorporated into the design and construction of the project. Final recommendations should be provided by the project geotechnical consultant following review of final foundation plans as well as observation and testing of site materials during grading. Depending upon the design plans and actual site conditions, the recommendations provided herein may require modification.

6.3.1 Soil Expansion

Expansion potential of existing site materials is expected to vary from **Very Low** to **Medium**. As such, we are providing design values for foundation soils in three expansion potential categories. For very low expansion potential (Expansion Index, EI $\leq$ 20), recommendations on conventional footings and slabs on grade are provided. For low expansion potential (20 < EI $\leq$ 50) and medium expansion potential (50 < EI $\leq$ 75) foundation soils, recommendations on post-tensioned slabs on grade are given. Additional testing of site soils should be performed by the project geotechnical consultant to confirm the basis of these recommendations during site grading. At that time, additional testing may allow for alternate foundation designs for less expansive conditions if they are present for portions of the project.

6.3.2 Static Settlement

Provided rough grading is performed in accordance with the recommendations provided herein and based on the anticipated relatively light foundation loads, total and differential static settlements are anticipated to be less than 1 inch and ½-inch over 30 feet, respectively, for the proposed residential structures. The estimated magnitudes of static settlements are considered within tolerable limits for the proposed structures. As previously indicated in Section 5.5, areas of deep fill will require a waiting period of at least 2 months to achieve the tolerable settlement.

6.3.3 Allowable Bearing Value

Provided site grading is performed in accordance with the recommendations presented in this report, a bearing value of 1,800 pounds per square foot (psf) may be used for continuous footings and pad footings/beams having a minimum width of 12 inches and founded at a minimum depth of 12 inches below the lowest adjacent grade. This value may be increased by 200 psf and 550 psf for each additional foot in width and depth, respectively, up to a maximum value of 3,000 psf. Recommended allowable bearing values include both dead and live loads, and may be increased by one-third for wind and seismic forces.

6.3.4 Lateral Resistance

Provided site grading is performed in accordance with the recommendations presented in this report, a passive earth pressure of 260 pounds per square foot per foot of depth (psf/ft) up to a maximum value of 780 pounds per square foot (psf) may be used to determine lateral bearing for footings. This value may be increased by one-third when designing for wind and seismic forces. For footings facing descending slopes, this value should be reduced by 50%. A coefficient of friction of 0.31 times the dead load forces may also be used between concrete and the supporting soils to determine lateral sliding resistance. No increase in the coefficient of friction should be used when designing for wind and seismic forces.

The above values are based on footings placed directly against compacted fill or competent native soils. In the case where footing sides are formed, all backfill against the footings should be compacted to at least 90 percent of the laboratory standard.

6.3.5 Conventional Footings and Slabs on Grade (EI ≤ 20)

The recommendations in this section are applicable only where the expansion potential of the foundation soil expansion is classified as Very Low (EI ≤ 20). Exterior and interior building footings should be founded at a minimum depth of 12 inches below the lowest adjacent grade. All continuous footings should be reinforced with a minimum of two No. 4 bars, one top and one bottom. The structural engineer may require different reinforcement and should dictate if greater than the recommendations provided herein.

Interior isolated pad footings should be a minimum of 24 inches square and founded at minimum depths of 12 inches below the lowest adjacent final grade. Exterior isolated pad footings intended for support of patio covers or similar construction should be a minimum of 24 inches square and founded at a minimum depth of 12 inches below the lowest adjacent final grade.

Interior concrete slabs constructed on grade should be a minimum 4 inches thick and should be reinforced with 6-inch by 6-inch, W2 X W2 reinforcing wire mesh or No. 3 bars spaced 30 inches on center, each way. Care should be taken to ensure the placement of reinforcement at mid-slab height. The structural engineer may recommend a greater slab thickness and reinforcement based on proposed use and loading conditions and such recommendations should govern if greater than the recommendations presented herein.

Concrete floor slabs in areas to receive carpet, tile, or other moisture sensitive coverings should be underlain with a minimum of 10-mil moisture vapor retarder conforming to ASTM E 1745-11, Class A. The membrane should be properly lapped, sealed, and underlain with at least 2 inches of sand having a SE no less than 30. One inch of sand should be placed over the membrane to aid in the curing of the concrete. This vapor retarder system is anticipated to be suitable for most flooring finishes that can accommodate some vapor emissions. However, this system may emit more than 4 pounds of water per 1000 sq. ft. and therefore, may not be suitable for all flooring finishes. Additional steps should be taken if such vapor emission levels are too high for anticipated flooring finishes.

Special consideration should be given to slabs in areas to receive ceramic tile or other rigid, crack-sensitive floor coverings. Design and construction of such areas should mitigate hairline cracking as recommended by the structural engineer.

Garage floor slabs should have a minimum thickness of 4 inches and should be reinforced in a similar manner as living floor slabs. Garage floor slabs should also be poured separately from adjacent wall footings with a positive separation maintained with 3/8-inch minimum felt expansion joint materials, and provided with saw cuts or cold joints at a maximum spacing of 12 feet in each direction. Consideration should be given to providing a vapor retarder below the garage slab to mitigate the potential for effervescence on the slab surface.

Block-outs should be provided around interior columns to permit relative movement and mitigate distress to the floor slabs due to differential settlement that will occur between column footings and adjacent floor subgrade soils as loads are applied.

Prior to placing concrete, subgrade soils below slab-on-grade areas should be thoroughly moistened to provide a moisture content that is equal to or greater than 100% of the optimum moisture content to a depth of 12 inches.

6.3.6 Post-Tensioned Slabs on Grade (EI > 20)

Recommendations provided in this section on post-tensioned slab should be utilized where foundation soil exhibits an Expansion Index greater than 20.

Perimeter edge beams for the post-tensioned slab should have a minimum effective width of 12 inches and be founded at a minimum depth of 15 inches below the lowest adjacent final ground surface. Interior beams may be founded at a minimum depth of 12 inches below the tops of the finish floor slabs. If a post-tensioned mat is used, the outer 12 inches should be thickened to provide a minimum embedment of 8 inches below lowest grade, or to the depth of the underlying sand, whichever is deeper. The thickness of the floor slab/mat should be determined by the project structural engineer; however, we recommend a minimum slab thickness of 4 inches.

Concrete floor slabs in areas to receive carpet, tile, or other moisture sensitive coverings should be underlain with a minimum of 10-mil moisture vapor retarder conforming to ASTM E 1745-11, Class A. The membrane should be properly lapped, sealed, and underlain with at least 2 inches of sand having a SE no less than 30. One inch of sand should be placed over the membrane to aid in the curing of the concrete. This vapor retarder system is anticipated to be suitable for most flooring finishes that can accommodate some vapor emissions. However, this system may emit more than 4 pounds of

water per 1000 sq. ft. and therefore, may not be suitable for all flooring finishes. Additional steps should be taken if such vapor emission levels are too high for anticipated flooring finishes. Where a mat having a thickness of at least 8 inches is utilized, the sand may be reduced to 1 inch.

Prior to placing concrete, subgrade soils below slab-on-grade/mat areas should be thoroughly moistened to provide moisture contents that are at least 110 percent of the optimum moisture content to a depth of 12 inches.

Based on the guidelines provided in the "Design of Post-Tensioned Slabs-on-Ground" 3rd Edition by Post-Tensioning Institute, the e_m and y_m values for two expansive soil conditions are summarized in the table below:

TABLE 6.2
PTI Design Parameters

	Expansion Potential	
Parameter	**Low (20 < EI ≤ 50)**	**Medium (50 < EI ≤75)**
Edge Lift Moisture Variation Distance, e_m	4.6 feet	4.4 feet
Edge Lift, y_m	1.18 inches	1.78 inches
Center Lift Moisture Variation Distance, e_m	9.0 feet	8.5 feet
Center Lift, y_m	0.75 inches	1.19 inches

6.3.7 Foundation Setback

The bottom outer edge of foundations located adjacent a top of manufactured slope should be setback from the slope face a horizontal distance of at least ⅓ the height of the slope. The horizontal distance should not be less than 7 feet but need not exceed 40 feet. The above setback may be accomplished using deepened footings or caissons below the foundation if needed. If caissons are required, this office should provide specific recommendations.

Buildings adjacent the toe of a manufactured slope should be set back a horizontal distance equal to one-half the vertical height of the slope. The minimum and maximum clearances are 5 feet and 15 feet, respectively.

The bottom outer edge of foundations located adjacent a top of an existing slope should be setback from the slope face a horizontal distance of at least ⅔ the height of the slope. The horizontal distance should not be less than 7 feet.

6.3.8 Foundation Observations

Foundation excavation should be observed by the project geotechnical consultant to verify that they have been excavated into competent bearing soils and to the minimum embedment recommended above. These observations should be performed prior to placement of forms or reinforcement. The excavations should be trimmed neat, level and square. Loose, sloughed or moisture-softened materials and debris should be removed prior to placing concrete.

6.4 RETAINING AND SCREENING WALLS

6.4.1 General

The following recommendations are provided for preliminary design purpose. Final retaining wall designs specific to the site development should be provided to us for review once completed. The structural engineer and architect should provide recommendations for sealing at all joints and applying moisture-proofing material on the back of the walls.

6.4.2 Allowable Bearing Value and Lateral Resistance

Retaining and freestanding walls may utilize a bearing value of 1,800 pounds per square foot (psf) for continuous and isolated footings founded at a minimum depth of 12 inches below the lowest adjacent grade and having a minimum width of 12 inches and 24 inches, respectively. This minimum bearing may also apply to continuous footings having a minimum width of 8 inches and minimum depth of 18 inches below lowest adjacent grade. The above bearing value may be increased by 200 psf and 550 psf for each additional foot in width and depth, respectively, up to a maximum value of 4,000 psf. Recommended allowable bearing values include both dead and live loads, and may be increased by one-third for wind and seismic forces.

A passive earth pressure of 210 pounds per square foot per foot of depth up to a maximum value of 1,050 pounds per square foot may be used to determine lateral bearing for footings. This value may be increased by one-third when designing for wind and seismic forces and should be reduced by 50 percent for walls that have a descending slope in front of the walls. A coefficient of friction of 0.31 times the dead load forces may also be used between concrete and the supporting soils to determine lateral sliding resistance. No increase in the coefficient of friction should be used when designing for wind and seismic forces. The coefficient of friction should not be applied to portions of the footing in front of keyways used for passive resistance.

The above values are based on footings placed directly against properly compacted fill. In the case where footing sides are formed, all backfill against the footings should be compacted to at least 90 percent of the laboratory standard.

6.4.3 Earth Pressures

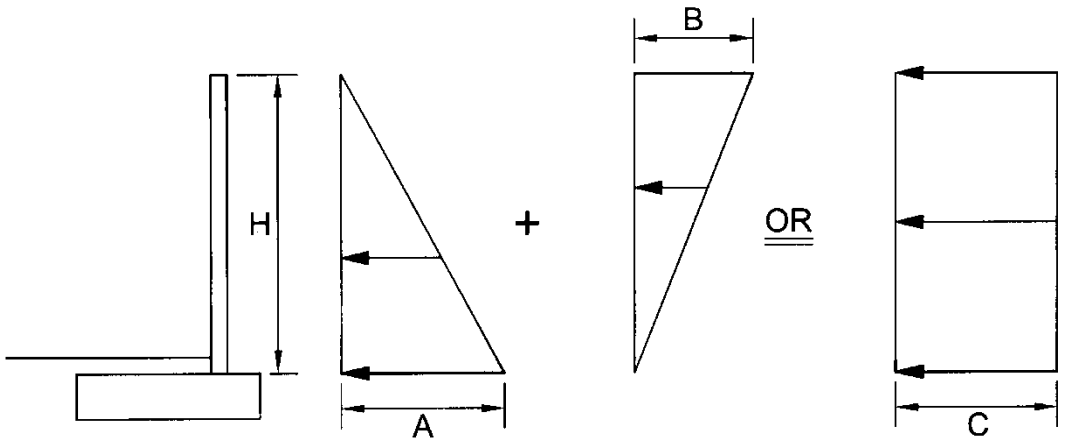
Static and seismic earth pressures for active (unrestrained) and at-rest (restrained) conditions are provided in Table 6.3. The active values are given for both level and 2:1 (H:V) backfill conditions, whereas the at-rest values are only for level backfill condition. The seismic earth pressures provided herein are based on the method provided by Seed & Whitman (1970) for active state, and Wood (1973) for at-rest condition. Both these approaches were employed using peak ground acceleration of 0.55g for a 10% probability of exceedance in 50 years. As indicated in Section 1803.5.12 of the 2016 CBC, retaining walls supporting 6 feet of backfill or less are not required to be designed for seismic earth pressures.

The values provided in the following table are based on using backfill consisting of onsite materials having an Expansion Index of 50 or less. If import soil is used for retaining wall backfill, the earth pressures should be re-evaluated by the geotechnical consultant based on the properties of the import material. Import source(s) should be indicated to the geotechnical consultant prior to hauling the materials to the site so that appropriate testing and evaluation of the fill material can be performed in advance. Backfill should be placed within a 1:1 plane projected up from the base of the wall stem. In

addition, the values are based on drained backfill conditions and do not consider hydrostatic pressure. Furthermore, retaining walls should be designed to support adjacent surcharge loads imposed by other nearby footings or traffic loads in addition to the earth pressure.

TABLE 6.3
EARTH PRESSURES

Pressure Diagram



Pressure Values
Walls Up to 10 Feet in Height

Value	Active (Unrestrained)		At-rest (Restrained)
	Level	2H:1V Slope	Level
A	43H	78H	70H
B	17H	17H	30H
C	30H	48H	50H

Note: H is in feet and resulting pressure is in psf. Design may utilize either the sum of the static component and the seismic component force diagrams or the total force diagram above. SEAOSC has suggested using a load factor of 1.7 for the static component and 1.0 for the seismic component. The actual load factors should be determined by the structural engineer.

6.4.4 Drainage and Moisture-Proofing

Retaining walls should be constructed with a perforated pipe and gravel subdrain to prevent entrapment of water in the backfill. The perforated pipe should consist of 4-inch-diameter, ABS SDR-35 or PVC Schedule 40 with the perforations laid down. The pipe should be embedded in ¾- to 1½-inch open-graded gravel wrapped in filter fabric. The gravel should be at least one foot wide and

extend at least one foot up the wall above the footing and drainage outlet. Drainage gravel and piping should not be placed below outlets and weepholes. Filter fabric should consist of Mirafi 140N, or equal. Outlet pipes should be directed to positive drainage devices.

The use of weepholes may be considered in locations where aesthetic issues from potential nuisance water are not a concern. Weepholes should be 2 inches in diameter and provided at least every 6 feet on center. Where weepholes are used, perforated pipe may be omitted from the gravel subdrain.

Retaining walls supporting backfill should also be coated with a moisture-proofing compound or covered with such material to inhibit infiltration of moisture through the walls. Moisture-proofing material should cover any portion of the back of wall that will be in contact with soil and should lap over and onto the top of footing. A drainage panel should be provided between the soil backfill and water proofing. The panel should extend from the top of the backdrain gravel up to within 12 inches of finish grade. The top of footing should be finished smooth with a trowel to inhibit the infiltration of water through the wall. The project structural engineer should provide specific recommendations for moisture-proofing, water stops, and joint details.

6.4.5 Foundation Setback

Retaining wall foundations constructed adjacent descending slopes should be deepened such that the outer bottom face of the footing is positioned at least 7 feet horizontally from the slope face.

6.4.6 Footing Reinforcement and Jointing

All continuous footings should be reinforced with a minimum of four No. 4 bars, two top and two bottom. The structural engineer may require different reinforcement and should dictate if greater than the recommendations provided herein. Where recommended removals are limited due to space restrictions, greater reinforcement may be recommended. Specific recommendations should be provided by the geotechnical consultant during grading based on as-built conditions exposed in the field.

Masonry walls should be provided with cold joints spaced about 20 feet along the wall. The joint should penetrate the full thickness of the wall but should not continue through the footing.

6.4.7 Footing Observations

Footing excavations should be observed by the project geotechnical consultant to verify that they have been excavated into competent bearing soils and to the minimum embedment recommended herein. These observations should be performed prior to placement of forms or reinforcement. The excavations should be trimmed neat, level and square. Loose, sloughed or moisture-softened materials and debris should be removed prior to placing concrete.

6.4.8 Retaining Wall Backfill

Most site soils in the project area are considered suitable as compacted backfill. Onsite soils used for wall backfill should consist of material with an Expansion Index (EI) not exceeding 50. The material should be placed behind the wall and extend laterally to a 1 to 1 plane projected up from the base of the wall footing. Beyond the 1 to 1 plane, the backfill may consist of general onsite soils or imported soils. The project geotechnical consultant should approve the backfill used for retaining walls. Wall

backfill should be thoroughly moistened to provide moisture contents slightly over optimum moisture content; placed in lifts no greater than 12 inches in thickness, and then mechanically compacted with appropriate equipment to at least 90 percent of the laboratory standard. Hand-operated compaction equipment should be used to compact the backfill placed immediately adjacent the wall to avoid damage to the wall. Flooding or jetting of backfill material is not recommended.

6.5 CONCRETE MIX DESIGN

Laboratory testing of on-site soils indicates negligible soluble sulfate content. We recommend following the procedures provided in ACI 318, Section 4.3, Table 4.3.1 for **negligible** sulfate exposure. Upon completion of rough grading, an evaluation of as-graded conditions and further laboratory testing should be completed for the site to confirm or modify the recommendations provided in this section.

6.6 EXTERIOR FLATWORK

Portions of the existing site soils are generally expansive and will tend to cause heave in exterior flatwork. To help mitigate adverse effects of expansive soils, we are providing the following minimum recommendations. Even with implementation of these recommendations, flatwork may tend to move and crack.

Exterior flatwork should be a minimum 4 inches thick. Cold joints or saw cuts should be provided at least every 7 feet in each direction. Flatwork more than 7 feet in width across the minimum dimension should be reinforced with 6" by 6", W2.9xW2.9 welded wire mesh or No 3 bars spaced 24 inches center to center in both directions. Cold joints should be keyed or provided with dowels spaced 24 inches on center. Flatwork that meets the structure at points of entry should be doweled into the footing or grade beam of the structure. Special jointing detail should be provided in areas of block-outs, notches, or other irregularities to avoid cracking at points of high stress. Subgrade soils below flatwork should be thoroughly moistened to at least 120 percent of optimum moisture content to a depth of 12 inches. Moistening should be accomplished by lightly spraying the area over a period of a few days just prior to pouring concrete.

Drainage from flatwork areas should be directed to local area drains or other appropriate collection devices designed to carry runoff water to the street or other approved drainage structures. The concrete flatwork should also be sloped away from building foundations and masonry walls at a minimum gradient of 1%.

The geotechnical consultant should observe and verify the density and moisture content of subgrade soils prior to pouring concrete to verify the recommended pre-moistening recommendations have been met.

6.7 POST GRADING CONSIDERATIONS

6.7.1 Site Drainage and Irrigation

Positive drainage devices, such as sloping concrete flatwork, graded swales or area drains, should be provided around the new construction to collect and direct all surface water to suitable discharge areas. No rain or excess water should be directed toward or allowed to pond against structures such as walls, foundations, flatwork, etc. The ground immediately adjacent to foundations should be provided with positive drainage away from the structures in accordance with 2016 CBC, Section 1804.4. Based on soil and climatic factors, the ground slope adjacent structures may be reduced to 2%.

Excessive irrigation water can be detrimental to the performance of the proposed site development. Water applied in excess of the needs of vegetation will tend to percolate into the ground. Such percolation can lead to nuisance seepage and shallow perched groundwater. Seepage can form on slope faces, on the faces of retaining walls, in streets, or other low-lying areas. These conditions could lead to adverse effects such as the formation of stagnant water that breeds insects, distress or damage of trees, surface erosion, slope instability, discoloration and salt buildup on wall faces, and premature failure of pavement. Excessive watering can also lead to elevated vapor emissions within structures that can damage flooring finishes or lead to mold growth inside the home.

Key factors that can help mitigate the potential for adverse effects of overwatering include the judicious use of water for irrigation, use of irrigation systems that are appropriate for the type of vegetation and geometric configuration of the planted area, the use of soil amendments to enhance moisture retention, use of low-water demand vegetation, regular use of appropriate fertilizers, and seasonal adjustments of irrigation systems to match the water requirements of vegetation. Specific recommendations should be provided by a landscape architect or other knowledgeable professional.

6.7.2 Utility Trenches

Trench excavations should be constructed in accordance with the recommendations contained in Section 6.1.17 of this report. Trench excavations must also conform to the requirements of Cal/ OSHA.

Trench backfill materials and compaction criteria should conform to the requirements of the local municipalities. As a minimum, utility trench backfill should be compacted to at least 90 percent of the laboratory standard. Trench backfill should be moistened to slightly over the optimum moisture content, placed in lifts no greater than 12 inches in thickness, and then mechanically compacted with appropriate equipment to at least 90 percent of the laboratory standard. The project geotechnical consultant should perform density testing, along with probing, to test compaction. Site conditions are generally not suitable for jetting of trench backfill and jetting should not be completed without prior approval from the project geotechnical consultant.

Within shallow trenches (less than 18 inches deep) where pipes may be damaged by heavy compaction equipment, imported clean sand having a SE of 30 or greater may be utilized. The sand should be placed in the trench, thoroughly moistened, and then compacted with a vibratory compactor. For utility trenches located below a 1:1 (H:V) plane projecting downward from the outside edge of the adjacent footing base or crossing footing trenches, concrete or slurry should be used as trench backfill.

Clayey soils present at the site will tend to cause water to collect in trench shading. This water could migrate along the trenches and below homes where excessive moisture conditions could be created. To mitigate this condition, we recommend the sand bedding and shading be omitted for a trench length of 2 feet just outside the house where the trench enters below the home. The bedding and shading should consist of soils similar to the general trench backfill soils. As an alternate, the trench may be backfilled with 2-sack slurry for a trench length of 2 feet just outside the house provide the slurry fully encapsulates the utility.

As previously discussed in Section 5.5, portions of the site will be subject to significant long-term settlement. Such settlement may impact underground utilities where they cross drainages with fills greater than 50 feet by placing them in tension as the ground settles. If proposed underground improvements can be compromised by this effect, mitigating steps will be required to accommodate this long-term settlement. Such steps may include jogs in the alignment, flexible joints, or slip joints.

6.8 SLOPE MAINTENANCE

The long-term performance and stability of slopes can be greatly affected by maintenance. Initially, slopes should be provided with erosion resistance in the form of an herbaceous plant material, jute matting, polymer coating, or other suitable method as recommended by the landscape architect. Slopes should also be planted with deep-rooting, drought-tolerant, woody vegetation material as recommended by the landscape architect. The initial protection should be maintained until the woody material has become fully mature. Areas of slopes where vegetation becomes particularly distressed or dies should be replaced promptly. Watering of slopes should make judicious use of water by providing only that amount required to support the vegetation and adjusting the watering seasonally. Over watering must be avoided. Excessive drying of the soils is also detrimental to long-term slope performance and stability. The moisture content of soils should be maintained at a relatively uniform level. Rodent activity should be monitored and kept to a minimum. Excessive rodent burrowing can be detrimental to long-term slope performance and stability and should be repaired promptly. Drainage devices, such as V-ditches and backdrain outlet pipes installed on the slope face, should be periodically inspected to confirm they are clear and functional. Any accumulated debris should be removed promptly.

6.9 PRELIMINARY PAVEMENT DESIGN

6.9.1 Preliminary Pavement Structural Sections

Based on the soil conditions present at the site and estimated traffic indices, preliminary pavement sections are provided in the tables below. Based on a preliminary estimate, an "R-value" of 20 was used for this preliminary pavement design. The sections provided below are for planning purposes only and should be re-evaluated subsequent to site grading. Final pavement sections should be based on actual R-value testing of in-place soils and analysis of anticipated traffic.

TABLE 6.4
Preliminary Pavement Structural Sections

Location	Traffic Index	Asphalt Concrete (inches)	Aggregate Base (inches)
Primary Access Road	7.0	4.0	13.0
		5.0	11.0
Secondary Road	6.0	4.0	10.0
Secondary Road	5.0	4.0	7.0

6.9.1 Subgrade Preparation

Prior to placement of paving elements, subgrade soils should be moisture-conditioned to at least 110 percent of the optimum moisture content then compacted to at least 90 percent of the laboratory determined maximum dry density. Areas observed to pump or yield under vehicle traffic should be removed and replaced with firm and unyielding compacted soil or aggregate base materials.

6.9.2 Aggregate Base

Aggregate base should be moisture conditioned to slightly over the optimum moisture content, placed in lifts no greater than 6 inches in thickness, then compacted to at least 95 percent of the laboratory standard (ASTM D 1557). Aggregate base materials should be Class 2 Aggregate Base conforming to Section 26-1 of the 2010 Edition of the Caltrans Standard Specifications, Crushed Aggregate Base conforming to Section 200-2.2 of the 2015 Edition of the Standard Specifications for Public Works Construction (Greenbook) or Crushed Miscellaneous Base conforming to Section 200-2.4 of the Greenbook.

6.9.3 Asphaltic Concrete

Paving asphalt should be PG 64-10. Asphaltic concrete materials should conform to Section 203-6 of the Greenbook and construction should conform to Section 302 of the Greenbook.

6.10 PLAN REVIEW AND CONSTRUCTION SERVICES

We recommend ***Albus-Keefe & Associates, Inc*.** be engaged to review any future development plans, including grading plans, structural plans (foundation plans), and retaining wall plans, prior to construction. This is to verify that the assumptions of this report are valid and that the preliminary conclusions and recommendations contained in this report have been properly interpreted and are incorporated into the project plans and specifications. If we are not provided the opportunity to review these documents, we take no responsibility for misinterpretation of our preliminary conclusions and recommendations.

We recommend that a geotechnical consultant be retained to provide soil engineering services during construction of the project. These services are to observe compliance with the design, specifications or recommendations, and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

If the project plans change significantly from the assumed development described herein, the project geotechnical consultant should review our preliminary design recommendations and their applicability to the revised construction. If conditions are encountered during construction that appear to be different than those indicated in this report or subsequent design reports, the project geotechnical consultant should be notified immediately. Design and construction revisions may be required.

7.0 LIMITATIONS

This report is based on the proposed development and geotechnical data as described herein. The materials described herein and in other literature are believed representative of the total project area, and the conclusions contained in this report are presented on that basis. However, soil materials can vary in characteristics between points of exploration, both laterally and vertically, and those variations could affect the conclusions and recommendations contained herein. As such, observation and testing by a geotechnical consultant prior to and during the grading and construction phases of the project are essential to confirming the basis of this report.

This report summarizes several geotechnical topics that should be beneficial for project planning and budgetary evaluations. The information presented herein is intended only for a preliminary feasibility evaluation and is not intended to satisfy the requirements of a site specific and detailed geotechnical investigation required for further planning, design and permitting.

This report has been prepared consistent with that level of care being provided by other professionals providing similar services at the same locale and time period. The contents of this report are professional opinions and as such, are not to be considered a guaranty or warranty.

This report should be reviewed and updated after a period of one year or if the site ownership or project concept changes from that described herein.

This report has been prepared for the exclusive use of the **Comstock Homes** to assist the project consultants in the planning and design of the proposed development. This report has not been prepared for use by parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes.

Respectfully submitted,

ALBUS-KEEFE & ASSOCIATES, INC.



Michael O. Spira
Principal Engineering Geologist
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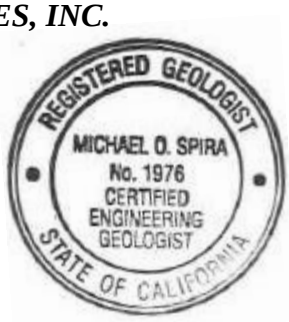

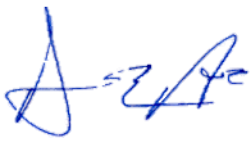

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GE 2455



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Plans

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Dorrington, J., 2019, Hitch Ranch Water Wells, Message to Michael Spira, dated May 6, E-mail.

Aerial Photographs

Source	Date Flown	Flight No.	Photo No.
Fairchild	10-31-29	C-688	65
Fairchild	12-16-35	C_3797	74
Fairchild	5-8-38	AXI_1938	19-77
Fairchild	10-23-45	C_9800	8-710
Fairchild	12-31-46	GS_EM	5-111
Fairchild	12-29-61	HA_LS	21
Continental	4-20-72	107-10	9 & 10
Continental	3-2-77	1 VEN-4	13, 14, & 15
Continental	4-3-79	2 VEN -24	11 & 12
Continental	3-80	VEN-4	17 & 19
Continental	1-8-88	NAC-VEN-5	11 & 12
Continental	6-7-90	C82-5	20, 21, & 22
Continental	10-93	C88	26, 27, 28
Continental	6-19-95	C113-20	3, 4, & 5
Continental	12-7-98	C130-192	93 & 94

SHEET PLATE 2

B-13	
@ 10.2'	⊕
@ 13'	6
@ 13.2'	75
@ 22.7'	6
@ 26.5'	5-6
@ 38.3'	8
@ 38.9'	7
@ 42.2'	5
@ 46.6'	8
@ 51.4'	5
@ 57.5'	5
@ 69.6'	7

B-A	
@ 14'	14
@ 19'	6
@ 28'	5
@ 40'	⊕
@ 50'	13
@ 54'	8
@ 58'	3
@ 66'	7

B-B	
@ 11.5'	21
@ 19.5'	3
@ 25'	18
@ 26'	⊕
@ 36'	7

EXPLANATION
(LOCATIONS APPROXIMATE)

- Exploratory Hollow-Stem Auger Boring (Albus-Keefe, this report)
- Exploratory Bucket Auger Boring (Albus-Keefe, this report)
- Exploratory Bucket Auger Boring (Gorian, 2004)
- Exploratory Hollow-Stem Auger Boring (* indicates monitoring well) (Gorian, 2000)
- Exploratory Bucket Auger Boring (Gorian, 2000)
- Cone Penetration Test (Gorian, 2000)
- Exploratory Bucket Auger Boring (Gorian, 1994)
- Exploratory Test Pit (Albus-Keefe, this report)
- FT-2 - Exploratory Fault Trench (Albus-Keefe, this report)
- Exploratory Test Pit (Gorian 2009)
- 5 — 5' - Exploratory Fault Trench (Gorian 1994,1999)
- D — D' - Geologic Cross-Section
- 43 - Estimated Depth of Unsuitable Materials (in feet)
- 20 - Bedding Attitude, Indicating Dip
- ⊕ - Bedding Attitude, Horizontal
- 52 - Joint Attitude, Indicating Dip
- Joint Attitude, Horizontal
- 75 - Fault Attitude, Indicating Dip
- Geologic Contact
- Af - Artificial Fill, Non-Engineered
- Afc - Artificial Fill, Compacted/Engineered
- Qcol - Colluvium
- Qal - Alluvium
- Qs - Bedrock: Saugus Formation
- 02N19W05E01S - Existing Water Well and Well Number

N
W E
S
SCALE: 1"=100'
0 100 200 300

ECG Encompass Consultant Group
333 N. LANTANA ST, SUITE 287, CAMARILLO, CA 93010
PHONE: 805.322.4443 WEBSITE: WWW.ECGCIVIL.COM

GLEN H. PACE, PROJECT ENGINEER, R.C.E. 61468 DATE: 09/20/2019

HITCH RANCH
TENTATIVE TRACT MAP NO. 5708
PRELIMINARY GRADING, DRAINAGE, & UTILITIES
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE: HORIZ. AS NOTED VERT. N/A
WORK ORDER 0047
DRAWN BY: GJM
CHECKED BY: GHP
SHEET NO. A OF 6

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

GEOTECHNICAL MAP

Job No.: 2677.00	Date: 09/20/19	Plate: 1

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EXPLANATION
(LOCATIONS APPROXIMATE)

- Exploratory Hollow-Stem Auger Boring (Albus-Keefe, this report)
- Exploratory Bucket Auger Boring (Albus-Keefe, this report)
- Exploratory Bucket Auger Boring (Gorian, 2004)
- Exploratory Hollow-Stem Auger Boring (* indicates monitoring well) (Gorian, 2000)
- Exploratory Bucket Auger Boring (Gorian, 2000)
- Cone Penetration Test (Gorian, 2000)
- Exploratory Bucket Auger Boring (Gorian, 1994)
- Exploratory Test Pit (Albus-Keefe, this report)
- FT-2 Exploratory Fault Trench (Albus-Keefe, this report)
- Exploratory Test Pit (Gorian 2009)
- 5 5' Exploratory Fault Trench (Gorian 1994,1999)
- D D' Geologic Cross-Section
- 43 Estimated Depth of Unsuitable Materials (in feet)
- 20 Bedding Attitude, Indicating Dip
- Bedding Attitude, Horizontal
- 52 Joint Attitude, Indicating Dip
- Joint Attitude, Horizontal
- 75 Fault Attitude, Indicating Dip
- Geologic Contact
- Af Artificial Fill, Non-Engineered
- Afc Artificial Fill, Compacted/Engineered
- Qcol Colluvium
- Qal Alluvium
- Qs Bedrock: Saugus Formation
- 02N19W05E01S Existing Water Well and Well Number

N

W E

S

SCALE: 1"=100'

0 100 200 300

ECG Encompass Consultant Group
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GLEN H. PACE
PROJECT ENGINEER
R.C.E. 61468
DATE: 09/20/2019

HITCH RANCH
TENTATIVE TRACT MAP NO. 5708
PRELIMINARY GRADING, DRAINAGE, & UTILITIES
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE: HORIZ. AS NOTED VERT. N/A
WORK ORDER 0047
DRAWN BY: GJM
CHECKED BY: GHP
SHEET NO. B OF 6

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

GEOTECHNICAL MAP

Job No.: 2677.00 | Date: 09/20/19 | Plate: 2

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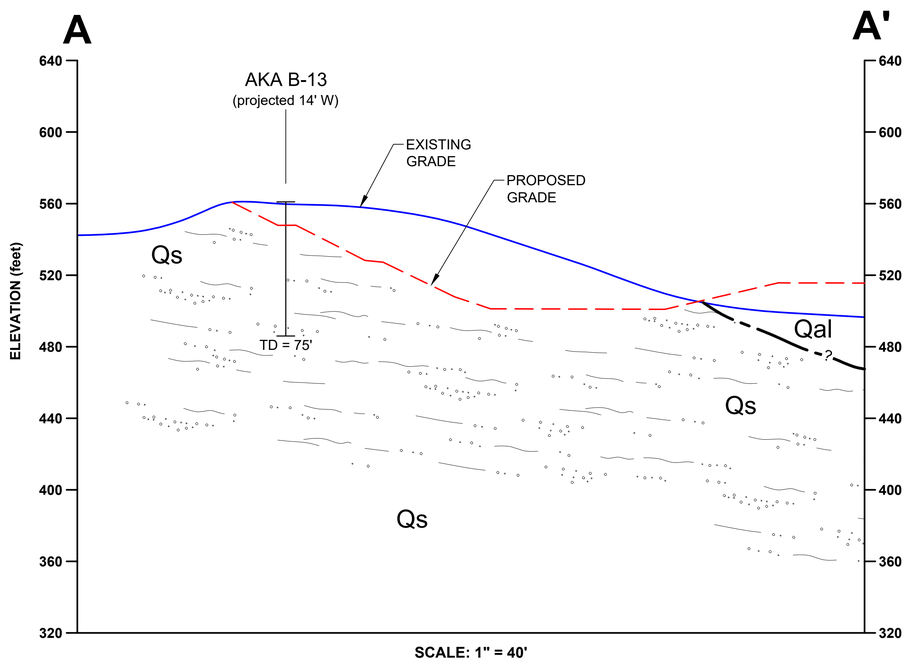
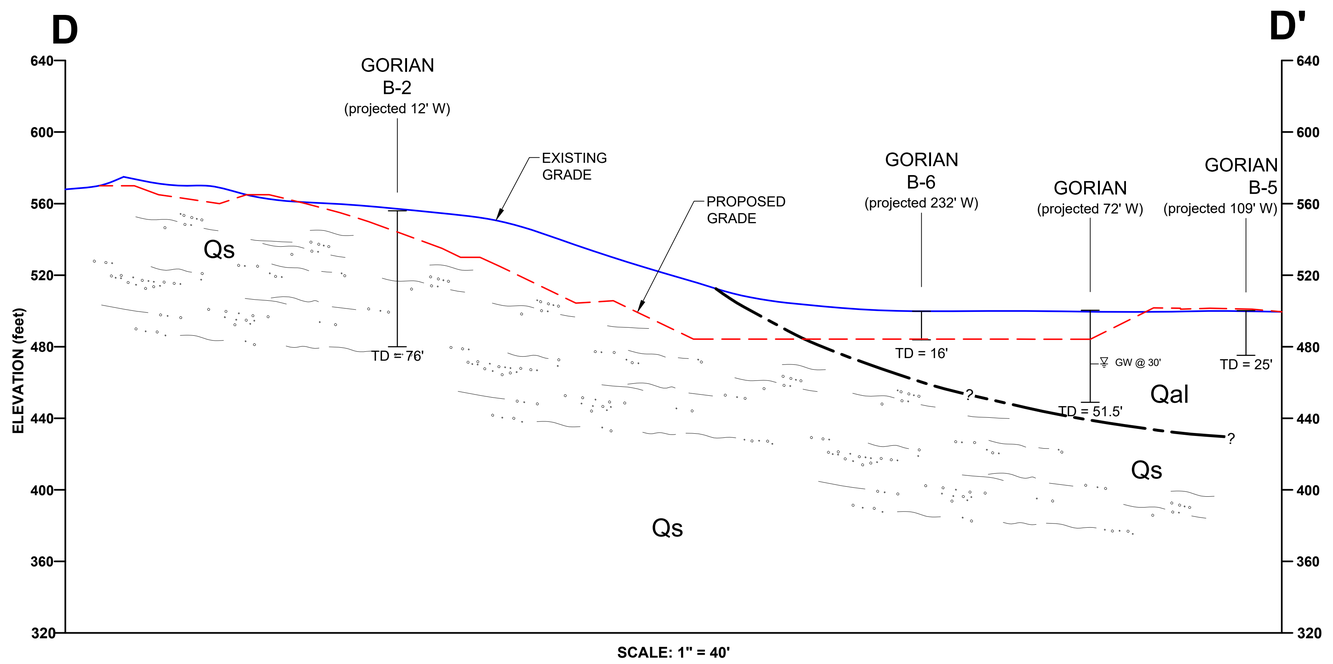
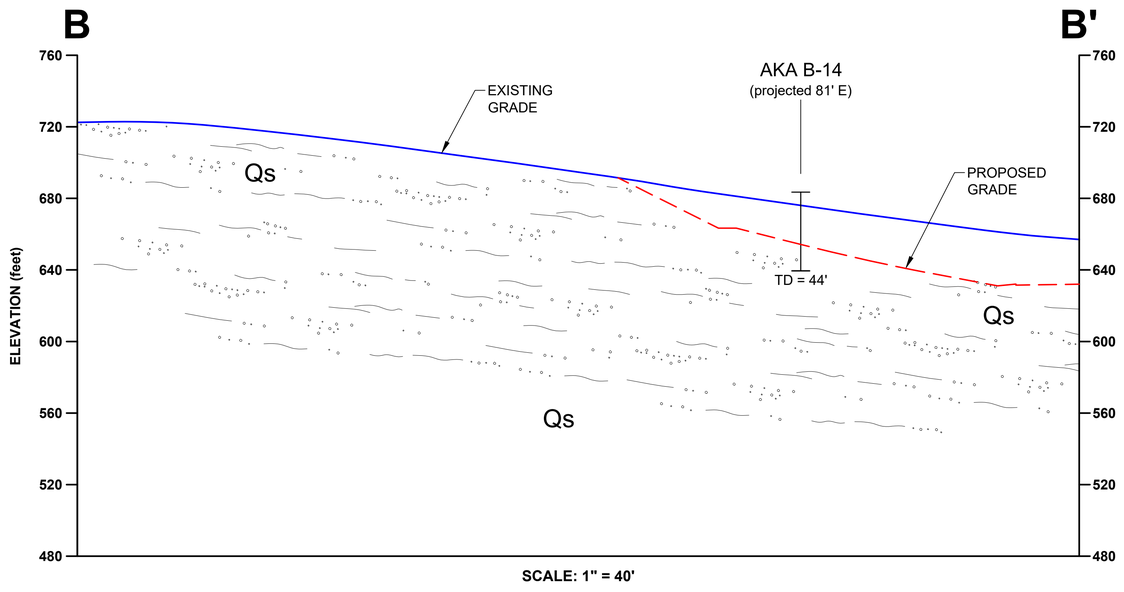
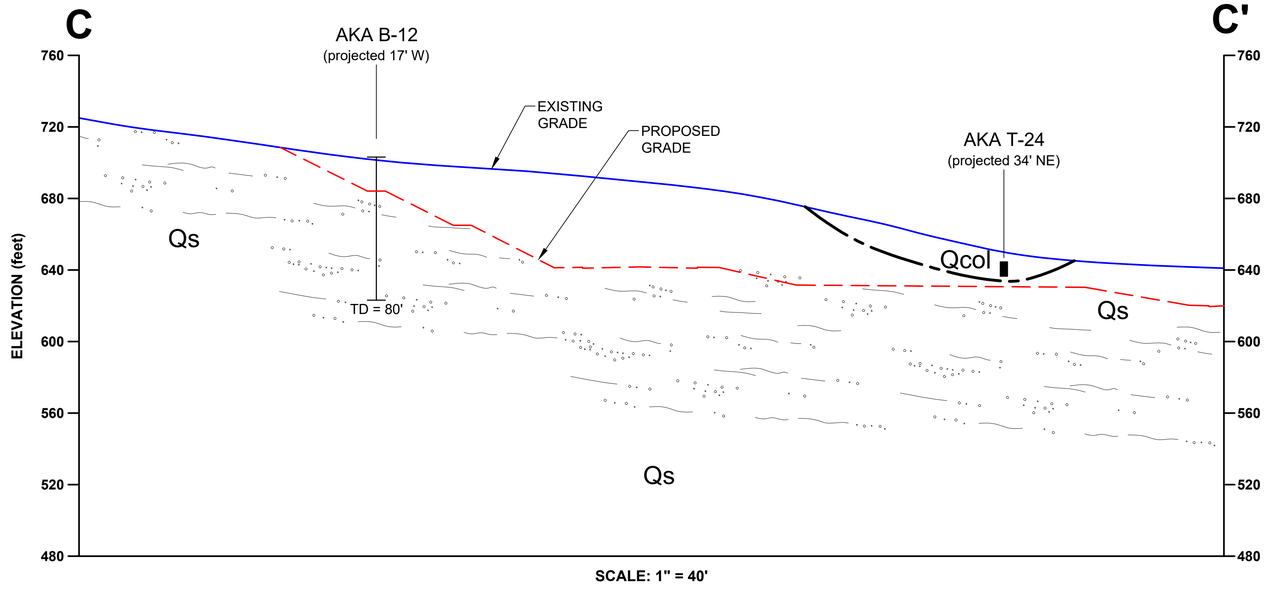






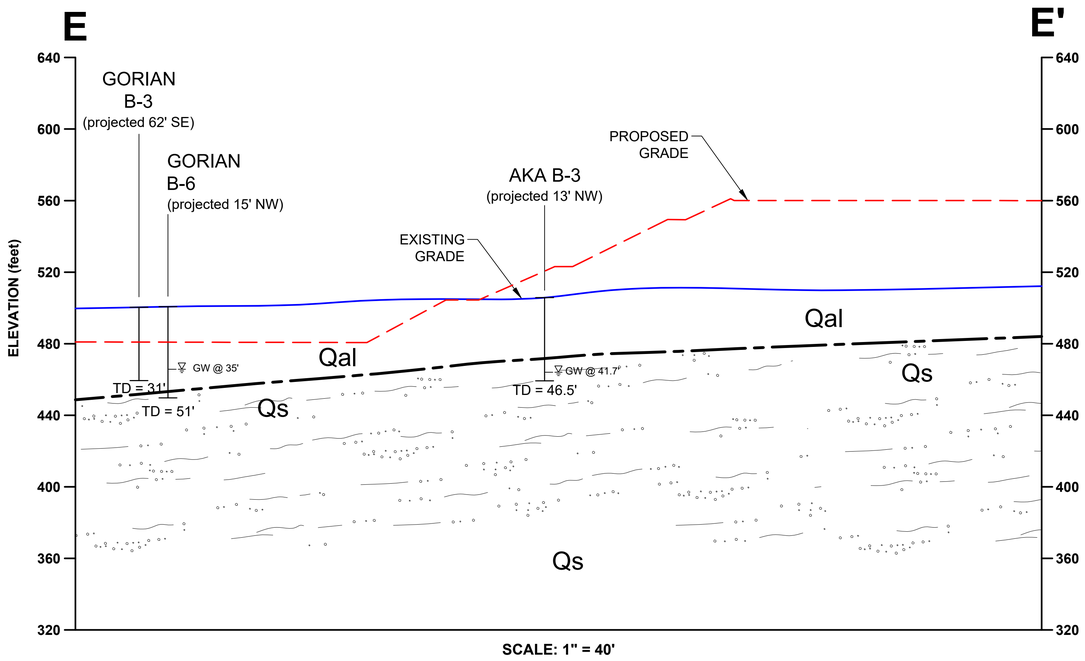


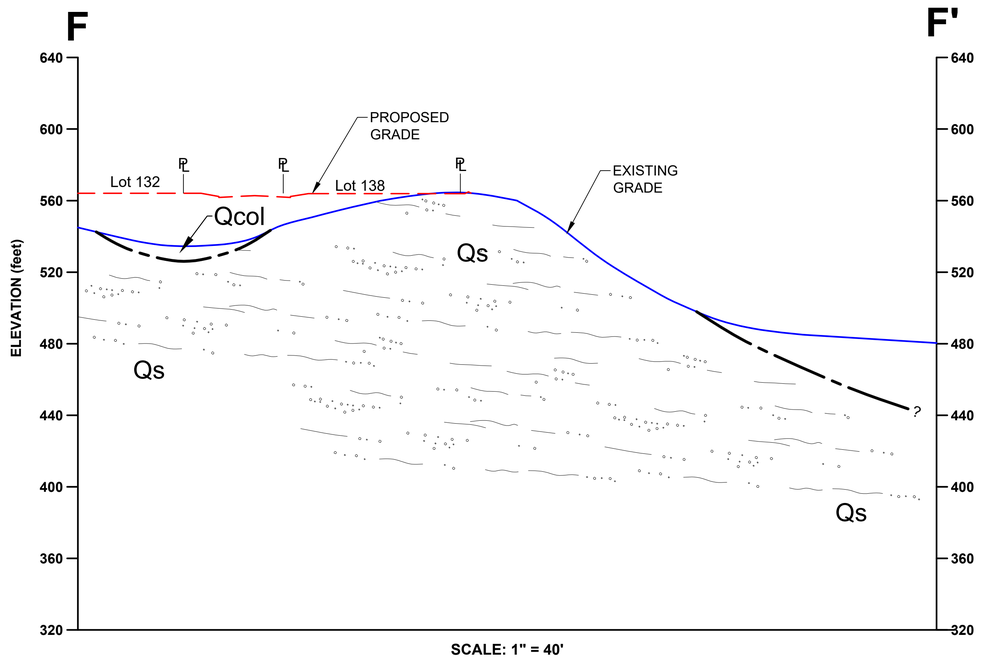
Cross-Sections Based on: *Hitch Ranch, Tentative Tract Map No. 5708, Preliminary Grading, Drainage, & Utilities*, by Encompass Consultant Group, Dated 09/20/2019.

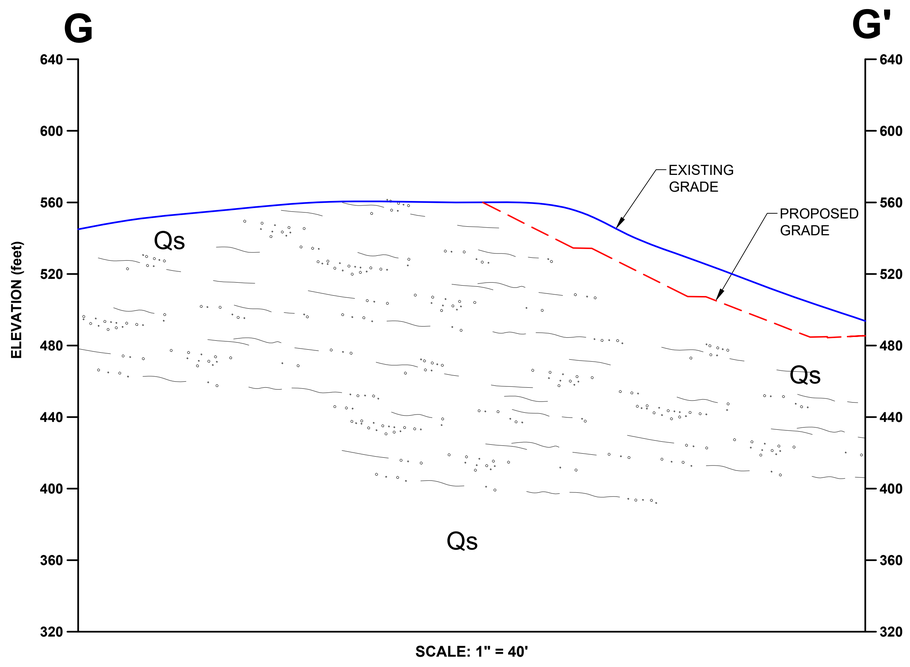
ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

GEOLOGIC CROSS-SECTIONS A - D

Job No.: 2677.00	Date: 09/20/19	Plate: 3







Cross-Sections Based on: *Hitch Ranch, Tentative Tract Map No. 5708, Preliminary Grading, Drainage, & Utilities*, by Encompass Consultant Group, Dated 09/20/2019.

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

GEOLOGIC CROSS-SECTIONS E - G

Job No.: 2677.00	Date: 09/20/19	Plate: 4

APPENDIX A

EXPLORATION LOGS
by Albus-Keefe & Associates Inc.

APPENDIX A-1

CURRENT INVESTIGATION

EXPLORATION LOG

Project:		Location:
Address:		Elevation:
Job Number:	Client:	Date:
Drill Method:	Driving Weight:	Logged By:

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		EXPLANATION							
		Solid lines separate geologic units and/or material types.							
		Dashed lines indicate unknown depth of geologic unit change or material type change.							
5		**Solid black rectangle** in Core column represents California Split Spoon sampler (2.5in ID, 3in OD).							
		Double triangle in core column represents SPT sampler.							
10		**Vertical Lines** in core column represents Shelby sampler.							
		Solid black rectangle in Bulk column respresents large bag sample.							
		Other Laboratory Tests:							
15		Max = Maximum Dry Density/Optimum Moisture Content							
		EI = Expansion Index							
		SO4 = Soluble Sulfate Content							
		DSR = Direct Shear, Remolded							
		DS = Direct Shear, Undisturbed							
		SA = Sieve Analysis (1" through #200 sieve)							
		Hydro = Particle Size Analysis (SA with Hydrometer)							
20		200 = Percent Passing #200 Sieve							
		Consol = Consolidation							
		SE = Sand Equivalent							
		Rval = R-Value							
		ATT = Atterberg Limits							

EXPLORATION LOG

Project:		Location: B-1
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 513.3
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/18/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		COLLUVIUM (Qcol) Silty Sand / Sandy Silt (SM/ML): Dark brown to brown, dry, fine to medium grained sand							
		Silty Sand / Clayey Sand (SM/SC): Dark brown, dry to damp, medium dense, fine grained sand, trace gravel, porous, rootlets present, trace medium and coarse grained sand		17	■	■	4.6	93.5	
5		@ 5 ft, disturbed, rings damaged, blow counts affected, slightly less pores		37	■		5.8	116.5	
10		@ 10 ft, brown to reddish brown, damp, root hairs present		16	■		6.1	103.2	
15		@ 15 ft, brown to dark brown, trace pores		16	■		7.5	114.9	
		Clayey Sand (SC): Yellowish brown, damp to moist, medium dense, fine grained sand, trace gravel, porous, slightly blocky							
20				16	■		11.4	107.5	Consol

EXPLORATION LOG

Project:		Location: B-1
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 513.3
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/18/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Saugus Formation (Qs) Silty Sandstone : Light gray to grayish brown, damp, medium dense, fine grained sand, some sandy silt layers		31	■		6.5	104.1	
		Clayey Sandstone / Sandy Claystone : Reddish brown to brown, moist, dense / hard, fine grained sand, locally very moist, trace pores, trace manganese oxide staining, trace coarse grained sand							
30				49	■		13.9	117.7	
		@ 33 ft, difficult drilling							
		Sandy Siltstone / Silty Sandstone : Reddish brown, moist, dense / hard, fine grained sand, manganese oxide staining present, locally very moist							
35				25	▼		16.8		ATT
		Total Depth 36.5 feet. No groundwater was encountered. Backfilled with cuttings.							

EXPLORATION LOG

Project:		Location: B-2
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 555.1
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/18/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		ALLUVIUM (Qal) Clayey Sand (SC): Light brown, dry, fine grained sand, trace coarse grained sand							
		@ 2 ft, dark brown, dry to damp, medium dense, fine to coarse grained sand, trace gravel, trace root hairs, porous, slightly desiccated		36	■		6.2	115	
5		@ 5 ft, brown to dark brown, damp, some blocky ped development		33	■		6.4	116	
10		@ 10 ft, brown		27	■	■	6.1	110	Consol
		Silty Sand (SM): Light brown, dry to damp, medium dense, fine grained sand, porous, trace gravel				■			
15				31	■		6.4	117.2	
20				27	■		6.7	104.4	

EXPLORATION LOG

Project:		Location: B-2
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 555.1
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/18/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples			Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		@ 25 ft, dense, no recovery, cobble in sampler shoe, rig chattering, water added		50/ 2"			N.R.		
		Total Depth (refusal) at 25.5 feet. No groundwater encountered. Backfilled with cuttings.							

EXPLORATION LOG

Project:		Location: B-3
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 506.2
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/18/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		ALLUVIUM (Qal) Silty Sand (SM): Brown to dark brown, dry, fine to medium grained sand, trace gravel							
		Sand (SP): Tan to grayish brown, dry, medium dense, fine to coarse grained sand, trace gravel		24	■		4.4	102.9	
5		Sand with Silt (SP-SM): Tan to grayish brown, dry to damp, medium dense, fine to coarse grained sand, trace gravel		36	■		1.9	113.5	
10		Silty Sand / Clayey Sand (SM/SC): Dark brown, damp, medium dense, fine to medium grained sand, trace gravel, pores present		19	■		5.1	107.7	
15				28	■		6	110.4	
20		Silty Sand (SM): Reddish brown to brown, damp to moist, medium dense, fine grained sand, trace gravel, trace clay		21	■		3.6	110.7	
25		@ 25 ft, reddish brown, loose, porous		9	■		7.1	104.9	

EXPLORATION LOG

Project:		Location: B-3
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 506.2
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/18/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
30		@ 30 ft, dark brown, moist, medium dense		27	■		7.5	124.5	
		Saugus Formation (Qs)							
35		Clayey Sandstone : Dark brown, moist, dense, fine grained sand, trace pores, trace gravel, difficult drilling		21	⧗				200 ATT
		Claystone with Sand : Mottled brown and grayish brown, moist, hard, fine grained sand, moderately plastic							
		Silty Sandstone : Dark yellowish brown, very moist to wet, dense, fine grained sand							
40		Clayey Sandstone / Sandy Claystone : Reddish brown, moist, dense / hard, fine grained sand		30	⧗		14.5		ATT
		Claystone : Reddish brown to gray, moist, hard	▽		⧗		16.5		
45		Sandy Siltstone : Reddish brown, very moist to wet, hard, fine grained sand, manganese oxide staining present		56	⧗		12.9		
		Silty Sandstone : Reddish brown to light brown, very moist to wet, very dense, fine to medium grained sand, trace coarse grained sand							
		Total Depth 46.5 feet. Ground water measured at 41.7 feet. Backfilled with cuttings.							

Albus-Keefe & Associates, Inc.

Plate A-7

EXPLORATION LOG

Project:		Location: B-4
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 580.5
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/18/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		ALLUVIUM (Qal) Sandy Clay (CL): Dark brown, dry, stiff, fine grained sand, trace gravel							
		@ 2 ft, mottled dark brown and brown, very porous, rootlets present		19	■		8.4	100.2	
5		Sand (SP): Gray with orange oxidaton staining, damp, loose, fine grained sand, trace gravel		11	■		2.9	97.7	
10		@ 10 ft, dense, fine to coarse grained sand		45	■		4.5	103.5	
15		Gravelly Sand / Sandy Gravel (SP/GP): Off white to grayish brown, dry to damp, very dense, fine to coarse grained sand, fine gravel present, sample distrurbed and put into small bag		78/ 8"	■		N.R.		
20		**Saugus Formation** Sandy Claystone / Sandy Siltstone : Reddish brown, moist, hard, fine grained sand, trace pores		32	⧗				
		Total Depth 21.5 feet. No groundwater was encountered. Backfilled with cuttings.							

EXPLORATION LOG

Project:		Location: B-5
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 553.3
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/18/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		ALLUVIUM (Qal) Sandy Clay (CL): Dark brown to grayish brown, dry, stiff, fine grained sand, trace gravel							
		Clayey Sand (SC): Dark brown to grayish brown, dry, loose, fine grained sand, trace medium grained sand, porous, trace rootlets, trace gravel		13	■		4.7	92.6	
5		@ 5 ft, brown, medium dense, root hairs present		26	■		7.2	110.2	
		Silty Sand (SM): Light brown, dry, medium dense, fine grained sand, trace gravel, porous, root hairs present, trace medium grained sand							
10				20	■		5.4	100.6	
15		@ 15 ft, fine to medium grained sand, carbonate present		14	■		7	111.7	
		Sand with Silt (SP-SM): Tan to off-white, damp, dense, fine to coarse grained sand, trace fine gravel							
20				57	■		2.2	115.5	

EXPLORATION LOG

Project:		Location: B-5
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 553.3
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/18/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Clayey Sand / Sandy Clay (SC/CL): Reddish brown, moist, medium dense / stiff, fine grained sand, interlayered with Sand wtih Silt (SP-SM) off-white to tan, damp, fine to medium grained sand		9			7.4		
		Clayey Sand (SC): Brown, moist, medium dense, fine to medium grained sand, trace gravel							
30				9					
		Sandy Clay (CL): Dark reddish brown, moist, stiff, fine grained sand, trace pores					12.8		
		Silty Sand / Clayey Sand (SM/SC): Brown, damp to moist, medium dense, fine grained sand, trace medium grained sand							
35				14			6.6		
		@ 39.5 ft, sampler bouncing, no sample							
40		Total Depth (refusal) 40 feet. No groundwater encountered. Backfilled with cuttings.		50/ 0"					

EXPLORATION LOG

Project:		Location: B-6
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 577.6
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/18/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		ALLUVIUM (Qal) Sandy Clay (CL): Brown, damp, medium stiff, fine grained sand, trace gravel							
		Clayey Sand (SC): Dark brown, damp to moist, loose, fine grained sand, trace medium grained sand, porous, rootlets present		11	■		8	93.8	
5		@ 5 ft, brown, damp, medium dense		17	■		10.2	111.2	
		Silty Sand (SM): Light brown to tan, damp, medium dense, fine grained sand, trace medium grained sand, porous, rootlets present, trace fine gravel, trace clay							
10				17	■		5.5	100.9	
15		@ 15 ft, carbonate present		25	■		4.9	115.9	
		Clayey Sand (SC): reddish brown to brown, damp, loose, reduced pores, no rootlets							
20				11	■		7.6	101.8	Consol

EXPLORATION LOG

Project:		Location: B-6
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 577.6
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/18/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		@ 25 ft, medium dense		19	■		11.3	116.4	Consol
30		@ 30 ft, dense, no recovery, rock in sampler shoe		23	⧗				
35		**Saugus Formation** Sandy Claystone : Dark reddish brown, moist, very stiff, fine grained sand, carbonate present		13	⧗		12.7		
40		Claystone : Olive gray to grayish brown, moist, hard, trace fine grained sand, iron oxide staining present		28	⧗		24.4		
		Total Depth 41.5 feet. No groundwater encountered. Backfilled with cuttings.							

EXPLORATION LOG

Project:		Location: B-7
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 532.5
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/19/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		ALLUVIUM (Qal) Silty Sand / Sandy Silt (SM/ML): Brown, dry, fine grained sand, trace gravel							
		Silty Sand (SM): Brown to dark brown, dry to damp, medium dense, fine grained sand, trace medium grained sand, porous, root hairs present		19	■		7.6	105.5	
5		Sandy Clay / Clayey Sand (CL/SC): Dark brown to brown, moist, loose / stiff, fine grained sand, trace coarse grained sand, porous, root hairs present		15	■		9.7	112.2	
10		@ 10 ft, light brown to brown, medium dense / stiff, blocky ped development		20	■		7.7	96.4	
15		@ 15 ft, yellow brown, medium dense / very stiff, caliche present		25	■		9	115.5	
		Silty Sand / Clayey Sand (SM/SC): Yellow brown, damp to moist, loose, fine grained sand, trace pores, interlayered Silty Sand and Clayey Sand layers							
20				11	■	■	9.1	102	Consol

EXPLORATION LOG

Project:		Location: B-7
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 532.5
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/19/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Clayey Sand (SC): Yellow brown, damp to moist, medium dense, fine to medium grained sand, trace coarse grained sand, pores present, root hairs present		16			11.7	115.3	Consol
		Sand (SP): Tan to light brown, damp, dense, fine to coarse grained sand							
30				21			15.2	108.5	
		Sand with Silt (SP-SM): Reddish brown to brown, damp, dense, fine to medium grained sand, trace coarse grained sand							
		Sandy Clay (CL): Reddish brown to brown, damp to moist, hard, fine grained sand							
35		Silty Sand / Clayey Sand (SM/SC): Brown, moist, medium dense, fine to medium grained sand, trace fine gravel, small red dry clay pieces		13			10.7		
		Sandy Clay (CL): Brown, moist, very stiff, fine grained sand							
40				17			19.3		
		Clay (CL): Brown, very moist, very stiff					24.2		
		Clayey Sand (SC): Brown to light brown, moist, medium dense, fine to medium grained sand, trace coarse grained sand					14.3		
		Total Depth (refusal) at 42 feet. No groundwater was encountered. Backfilled with cuttings.							

EXPLORATION LOG

Project:		Location: B-8
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 561.5
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/19/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		ALLUVIUM (Qal) Silty Sand (SM): Dark brown, dry, loose, fine grained sand, trace fine gravel							
		@ 2 ft, brown, fine to medium grained sand, pores present, root hairs present		9	■		4.2	98.2	
5		Sandy Clay / Clayey Sand (CL/SC): Dark brown, damp, medium dense / stiff, fine grained sand, porous, slightly blocky, trace silt, root hairs present		16	■		8.1	97.8	
10		Clay with Sand (CL): Dark brown, moist, hard, medium grained sand, trace pores		64	■		12.1	116.9	
15		Silty Sand (SM): Reddish brown to brown, damp, medium dense, fine to medium grained sand, trace clay, trace pores present		14	■		5.7	98.1	
20		@ 20 ft, loose		12	■		8	110.5	Consol

EXPLORATION LOG

Project:		Location: B-8
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 561.5
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/19/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Sand with Silt (SP-SM): Reddish brown, damp, dense, fine to coarse grained sand, trace fine gravel, trace gravel		43	■		4	106.5	
		Saugus Formation (Qs)							
30		Clayey Sandstone : Light brown brown, damp to moist, very dense, fine grained sand, trace silt, manganese oxide staining, trace fine gravel, iron oxide staining		60	⧗		10.2		
35		@ 35 ft, no gravel		51	⧗		15.8		
		Silty Sandstone : Light brown to reddish brown, damp to moist, very dense, fine grained sand, magnesium oxide staining							
		Total Depth 36.5 feet. No groundwater was encountered. Backfilled with cuttings.							

EXPLORATION LOG

Project:		Location: B-9
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 573.1
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/19/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		ALLUVIUM (Qal) Silty Sand (SM): Dark brown, dry, medium dense, fine grained sand, trace gravel							
		@ 2 ft, porous, root hairs present, trace clay, desiccated		23	■		4.6	105.1	
5		Sandy Clay / Clayey Sand (CL/SC): Brown, dry to damp, very stiff / medium dense, fine grained sand, trace medium grained sand, abundant pores, root hairs present, trace fine gravel		23	■		6.1	102.8	
10		@ 10 ft, light brown		20	■		5.9	105.4	
		Silty Sand (SM): Light brown to tan, dry to damp, medium dense, fine grained sand, trace medium grained sand, trace fine gravel, pores present, carbonate present along root channels							
15				19	■		5.4	104.7	Consol
20		@ 20 ft, fine to medium grained sand, reduced pores, no carbonate, trace coarse grained sand		17	■		8.2	109.7	Consol

EXPLORATION LOG

Project:		Location: B-9
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 573.1
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/19/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Saugus Formation (Qs) Claystone : Reddish brown to light brown, moist, very stiff, trace fine grained sand, blocky ped development		35			22.6	100.6	
30		Sandy Claystone : Reddish brown, moist, hard, fine grained sand, trace manganese oxide staining		56			9.6		
		Total Depth 31.5 feet. No groundwater encountered. Backfilled with cuttings.							

EXPLORATION LOG

Project:		Location: B-10
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 552.8
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/19/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		ALLUVIUM (Qal)							
		Silty Sand / Sandy Silt (SM/ML): Dark brown, dry, loose / stiff, fine grained sand, trace gravel							
		Clayey Sand / Sandy Clay (SC/CL): Dark brown, dry to damp, loose / stiff, fine grained sand, trace medium grained sand, porous, root hairs present, desiccated, trace silt		14	■		6.1	103.2	
5		Clayey Sand (SC): Dark brown, damp, loose, fine grained sand, trace medium grained sand, pores present, desiccation, root hairs present		11	■		5	100.2	
10		@ 10 ft, medium dense, reduced pores, trace silt, trace gravel		15	■		8.1	115.1	
		Silty Sand (SM): Brown, moist, loose, fine to medium grained sand, trace pores, trace clay							
15				11	■		6.5	114	
20				18	■				
		@ 22 ft, drill rig chattering							

EXPLORATION LOG

Project:		Location: B-10
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 552.8
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/19/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples			Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		Gravelly Sand with Clay (GP-GC): Off-white to brown, damp, very dense, fine to coarse grained sand, crushed rock and gravel in sampler, refusal at 27 feet		55					
		@ 26 ft, drill rig chattering							
		Total Depth (refusal) 27 feet. No groundwater encountered. Backfilled with cuttings.							

EXPLORATION LOG

Project:		Location: B-11
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 537.6
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/19/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		ALLUVIUM (Qal) Silty Sand (SM): Dark brown, dry, loose, fine grained sand, trace clay							
		Clayey Sand / Silty Sand (SC/SM): Dark brown, damp, loose, fine grained sand, porous, root hairs present		7	■		6.5	101.4	
5		@ 5 ft, desiccated		10	■		6.7	108.4	
10		@ 10 ft, moist, medium dense, sand in-filled desiccation cracks		14	■		9.3	113.6	
15		@ 15 ft, brown, loose, decreased pores		10	■		10.6	114.3	
20		@ 20 ft, very moist to wet, medium dense, fine to medium grained sand, trace coarse grained sand		19	■		13.7	117.9	

EXPLORATION LOG

Project:		Location: B-11
Address: 787 Poindexter Ave, Moorpark, CA 93021		Elevation: 537.6
Job Number: 2677.00	Client: Comstock, Crosser & Assoc.	Date: 9/19/2018
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SB

Depth (feet)	Lith-ology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
		Saugus Formation (Qs)		21			11.8		
		Clayey Sandstone : Reddish brown, moist, dense, fine to medium grained sand					18.5		
		Sandy Claystone : Olive gray, moist, hard, fine grained sand, orange oxidation staining							
		Claystone with Sand : Reddish brown, moist, hard, fine grained sand							
30				62			13.3		
		Silty Sandstone : Light brown to reddish brown, wet, very dense, fine to medium grained sand, layered horizontally							
		Sandstone with Silt : Light brown, damp, very dense, fine to medium grained sand, reddish brown oxidation staining							
35				58					
		Total Depth 36.5 feet. No groundwater was encountered. Pizometer set in hole. Backfilled with cuttings.							

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-1			
	0-3.0	CL	**Top Soil (No Map Symbol):** Clay with Sand: Dark brown, dry to damp, stiff, fine grained sand, blocky ped development with clay films on ped surfaces, porous, some roots, carbonate filaments along base.
	3.0-7.0		**Saugus Formation (Qs):** Sandy Claystone: Light reddish brown, dry to damp, stiff, fine grained sand, some near horizontal sand layers, slightly friable. Upper 3 feet is very weathered with abundant krotovinas.
			Total Depth: 7.0 feet No groundwater Backfilled with spoils

LOG OF EXPLORATORY TRENCH

Project Name: Hitch Ranch
Logged By: BJP

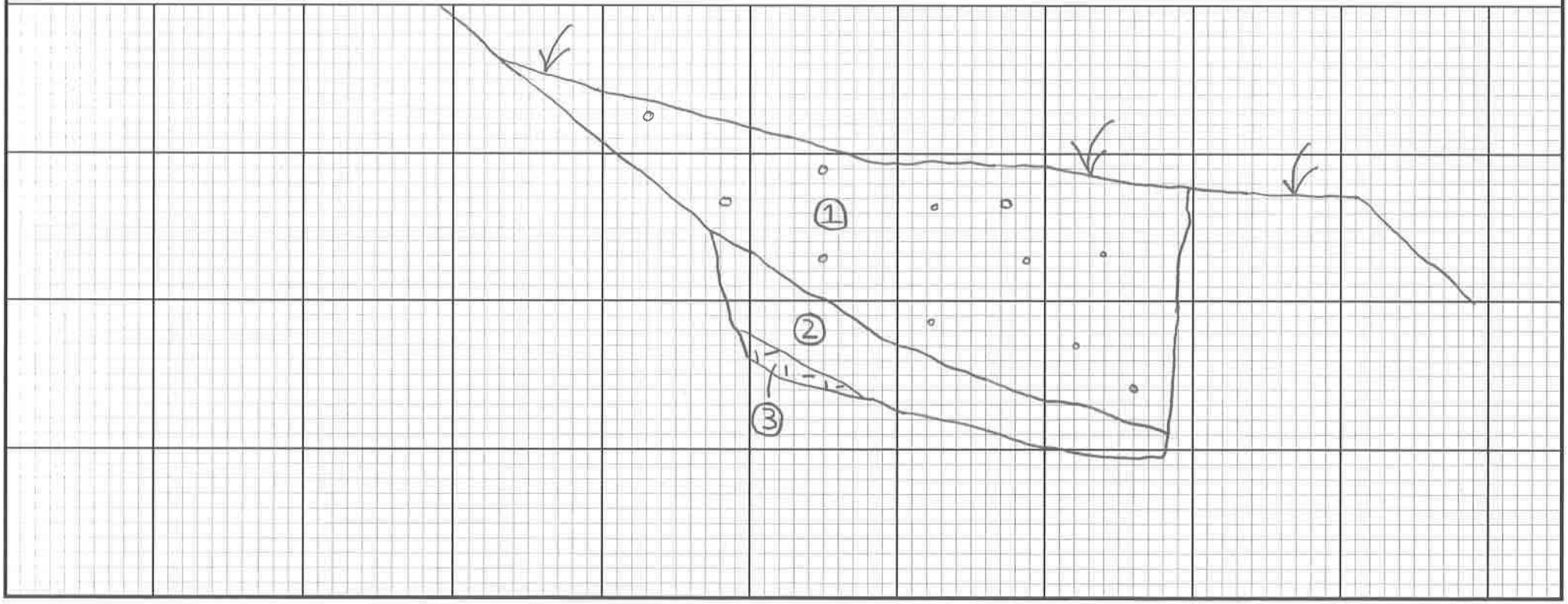
TRENCH NO. 2

J.N.: 2677.00
Date: 9/13/2018

Geologic Unit	Description	Attitudes / Misc Info
1	**COLLUVIUM (Qcol)**: Sandy Clay (CL), Brown, damp, soft, fine grained sand, trace gravel, porous, some roots.	
2	Sandy Clay (CL), Light reddish brown, damp to moist, medium stiff to stiff, fine grained sand, trace gravel, abundant carbonate filaments, some pores.	
3	**SAUGUS FORMATION (Qs)**: Sandy Siltstone, Light brown, damp, stiff, fine grained sand, slight blocky ped development with clay films on ped surfaces, trace pores.	

Scale: 1" = 5'

View to / Trend:



DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-3			
			Top Soil (No Map Symbol):
	0-2.0	CL	Clay with Sand: Dark brown, damp, stiff, fine grained sand, blocky ped development with clay films on ped surfaces, porous, some roots.
			Saugus Formation (Qs):
	2.0-5.5		Clayey Sandstone with Gravel and Gravelly Sandstone: Reddish brown, damp, dense, fine to coarse grained, trace krotovinas, carbonate along base, weathered.
	5.5-6.0		Claystone with Sand: Light brown, moist, very stiff to hard, fine grained sand, blocky ped development with clay films on ped surfaces.
			Total Depth: 6.0 feet No groundwater Backfilled with spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-4			
	0-13.0	SC	**Artificial Fill (Af):** Clayey Sand: Brown, damp to moist, loose, fine grained sand, abundant debris including car parts, plaster, brick, and concrete up to 18 inches in size.
	13.0-14.0	SC/CL	**Colluvium (Qcol):** Clayey Sand / Sandy Clay: Grayish brown, moist, loose/ soft to medium stiff, fine to medium grained sand, porous.
			Total Depth: 14.0 feet No groundwater Backfilled with spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-5			
			Colluvium (Qcol):
	0-2.5	CL	Clay with Sand: Dark brown, damp, soft to medium stiff, fine grained sand, porous, trace roots.
	2.5-7.0	CL	Sandy Clay: Dark brown, damp, stiff, fine grained sand, trace gravel, trace pores, carbonate along base.
			Saugus Formation (Qs):
	7.0-8.5		Clayey Sandstone: Yellowish brown, damp to moist, dense, fine to coarse grained sand, trace pores.
			Total Depth: 8.5 feet No groundwater Backfilled with spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-6			
			Colluvium (Qcol):
	0-2.5	CL	Clay with Sand: Dark brown, damp, medium stiff, fine grained sand, blocky ped development with clay films on ped surfaces, porous, trace roots.
	2.5-6.5	CL	Sandy Clay: Dark brown, damp, stiff, fine grained sand, trace gravel, trace pores, carbonate along base. @ 6.5 ft, Contact dipping 25-30 degrees to southeast.
			Saugus Formation (Qs):
	6.5-8.0		Sandy Claystone to Sandy Siltstone: Yellowish brown, damp to moist, very stiff, fine grained sand, blocky ped development with clay films and carbonate along ped surfaces, trace pores.
			Total Depth: 8.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-7			
			Colluvium (Qcol):
	0-10.0	SC	Clayey Sand: Brown, moist, loose to medium dense, fine to medium grained sand, trace gravel, porous. Gradually becomes reddish brown in color with depth.
			@ 9.0 ft, increased gravel and some small cobbles.
			Saugus Formation (Qs):
	10.0-12.0		Sandy Claystone: Reddish brown, damp to moist, stiff to very stiff, fine grained sand. Upper 2 feet is moist and porous.
			Total Depth: 12.0 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-8			
			Top Soil (No Map Symbol):
	0-3.0	SC	Clayey Sand: Brown, damp, loose, fine grained sand, porous.
			Saugus Formation (Qs):
	3.0-5.0		Clayey Sandstone: Light reddish brown, damp, medium dense, fine grained sand, trace pores.
	5.0-6.5		Sandstone: Tan, damp to moist, medium dense to dense, fine to medium grained sand, friable, occasional clay rich "Bt" lams measuring up to 1 inch in thickness.
			Total Depth: 6.5 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-9			
	0-10.5	SC	**Colluvium (Qcol):** Clayey Sand: Brown, moist, loose to medium dense, fine to medium grained sand, trace gravel, porous. Gradually becomes reddish brown in color with depth. @ 9.0 ft, increased gravel and some small cobbles.
	10.5-12.0		**Saugus Formation (Qs):** Gravelly Sandstone: Light reddish brown, damp, medium dense to dense, fine to coarse grained sand. Total Depth: 12.0 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-10			
	0-4.5	CL	**Top Soil (No Map Symbol):** Sandy Clay: Brown, moist, soft to medium stiff, fine grained sand, trace gravel, porous.
	4.5-6.0		**Saugus Formation (Qs):** Sandy Claystone: Reddish brown, damp to moist, stiff to very stiff, fine grained sand. Upper 1 to 2 feet is weathered and porous. Total Depth: 6.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-11			
	0-5.5	CL	**Top Soil (No Map Symbol):** Sandy Clay: Brown, damp, medium stiff, fine grained sand, blocky ped development with clay films on ped surfaces, porous.
	5.5-8.0		**Saugus Formation (Qs):** Sandy Siltstone: Yellowish brown, damp to moist, stiff to very stiff, fine grained sand. Upper 2 feet is weathered and porous.
			Total Depth: 8.0 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-12			
	0-10.0	SC	**Alluvium (Qal):** Clayey Sand: Brown, moist, loose to medium dense, fine to medium grained sand, trace gravel, porous. Gradually becomes reddish brown in color with depth.
	10.0-13.5	SM	Silty Sand with Gravel: Reddish brown to brown, moist, medium dense, fine to coarse grained sand, trace clay, some layers with slight blocky ped development and clay films on ped surfaces, some pores.
			Total Depth: 13.5 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-13			
			Artificial Fill (Af):
	0-3.5	CL	Sandy Clay: Dark brown, damp to moist, soft to medium stiff, fine grained sand.
			@ 2.5 ft, 12 inch diameter metal pipe.
			Colluvium (Qcol):
	3.5-4.0	CL	Sandy Clay: Dark brown, damp, medium stiff, fine grained sand, porous.
			Total Depth: 4.0 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-14			
			Colluvium (Qcol):
	0-11.0	CL	Sandy Clay: Dark brown, damp, soft to medium stiff, fine grained sand, trace gravel, porous. Gradually becomes sandier with depth.
	11.0-13.0	SM	Silty Sand with Gravel: Dark brown, damp, medium dense, fine grained sand, some pores.
			Total Depth: 13.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-15			
			Top Soil (No Map Symbol):
	0-3.5	CL	Sandy Clay: Brown, damp, soft to stiff, fine grained sand, blocky ped development with clay films on ped surfaces, porous. Upper 2 feet disturbed.
			Saugus Formation (Qs):
	3.5-6.0		Sandy Claystone: Mottled brown and grayish brown, damp, stiff, fine grained sand, blocky ped development with clay films on ped surfaces, some pores, weathered.
	6.0-7.0		Silty Sandstone with Gravel: Brown, damp, medium dense to dense, fine grained sand, trace clay.
			Total Depth: 7.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-16			
			Colluvium (Qcol):
	0-7.0	CL	Sandy Clay: Dark brown, damp to moist, medium stiff to stiff, fine grained sand, some gravel, porous. Upper 2 feet is dry.
	7.0-12.5	SC/CL	Clayey Sand / Sandy Clay: Strong brown to brown, moist, medium dense / stiff, fine to medium grained sand, trace gravel, slight blocky ped development with clay films on ped surface, porous. Gradually becomes sandier with depth.
			@ 10 ft, decreased pores.
			Possible Saugus Formation (Qs)?:
	12.5-13.0		Silty Sandstone with Gravel: Dark brown, moist, medium dense, fine to coarse grained sand, some cobbles.
			Total Depth: 13.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-17			
			Colluvium (Qcol):
	0-11.0	CL	Sandy Clay: Dark brown, damp to moist, medium stiff to stiff, fine grained sand, some gravel, porous.
			@ 8 ft, still porous.
	11.0-14.0	SM-SC	Silty Sand with Clay: Brown, moist, medium dense, fine grained sand, trace pores.
			@ 14 ft, some gravel.
			Total Depth: 14.0 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-18			
			Top Soil (No Map Symbol):
	0-3.0/4.0	CL	Sandy Clay: Brown, damp, soft to medium stiff, fine grained sand, blocky ped development with clay films on ped surfaces, porous. Upper 2 feet disturbed.
			Saugus Formation (Qs):
	3.0/4.0-8.5		Sandy Claystone: Reddish brown to brown, damp, medium stiff, fine grained sand, blocky ped development, porous, weathered with abundant krotovinas.
	8.5-9.0		Gravelly Sandstone: Brown, damp, medium dense to dense, fine grained sand, trace clay.
			Total Depth: 9.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-19			
			Colluvium (Qcol):
	0-14.0	CL/SC	Sandy Clay / Clayey Sand: Dark brown, damp to moist, soft to medium stiff, fine grained sand, some gravel, porous. Gradually becomes reddish brown with depth.
			@ 9 ft, still porous.
			@ 14 ft, decreased pores.
			Total Depth: 14.0 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-20			
			Top Soil (No Map Symbol):
	0-1.5	CL/SC	Sandy Clay / Clayey Sand: Gray to dark brown, dry, soft to medium stiff / loose, fine grained sand, blocky ped development with clay films on ped surfaces, porous.
			Saugus Formation (Qs):
	1.5-4.0		Clayey Sandstone: Reddish brown, moist, medium dense, fine to coarse grained sand, some gravel and cobbles up to 7 inches in size, trace pores, weathered.
	4.0-6.0		Sandstone: Reddish brown to light brown, moist, medium dense to dense, fine to medium grained sand, trace coarse grained sand, some clay rich "Bt" lams measuring up to 1 inch in thickness.
			Total Depth: 6.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-21			
			Top Soil (No Map Symbol):
	0-1.0	CL	Sandy Clay: Dark brown, dry, soft, fine grained sand, trace gravel, blocky ped development with clay films on ped surfaces, porous.
	1.0-3.0	CL	Sandy Clay with Gravel: Dark brown, damp, medium stiff, fine grained sand, trace medium and coarse grained sand, some pores.
			Saugus Formation (Qs):
	3.0-7.0		Sandy Claystone: Reddish brown, damp to moist, stiff, fine grained sand. Upper 1 to 2 feet is porous and weathered.
			Total Depth: 7.0 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-22			
			Colluvium (Qcol):
	0-10.5	CL	Sandy Clay: Dark brown, damp to moist, medium stiff, fine grained sand, some gravel, porous. Upper 2 feet is dry. @ 8.5 ft, increased gravel, trace cobbles up to 8 inches in size.
			Saugus Formation (Qs):
	10.5-11.0		Sandy Claystone: Reddish brown, damp to moist, stiff, fine grained sand, trace pores.
			Total Depth: 11.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-23			
			Top Soil (No Map Symbol):
	0-3.0	SC	Clayey Sand with Gravel: Brown to reddish brown, damp, loose, fine to coarse grained sand, trace cobbles, some pores.
			Saugus Formation (Qs):
	3.0-4.0		Clayey Sandstone: Reddish brown, damp, medium dense, fine to medium grained sand, trace pores, weathered.
	4.0-6.5		Silty Sandstone with Gravel: Reddish brown to yellowish brown, damp, medium dense to dense, fine to medium grained sand.
			Total Depth: 6.5 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-24			
			Colluvium (Qcol):
	0-13.5	CL	Sandy Clay: Dark brown, damp, soft to medium stiff, fine grained sand, some gravel, porous. Gradually becomes reddish brown and sandier with depth.
			@ 8 ft, becomes moist, still porous.
			Total Depth: 13.5 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-25			
	0-5.0	SC/CL	**Top Soil (No Map Symbol):** Clayey Sand / Sandy Clay: Dark brown, damp, loose / soft to medium stiff, fine grained sand, some pores. Upper 2 feet is dry and porous.
	5.0-7.0		**Saugus Formation (Qs):** Clayey Sandstone: Reddish brown, moist, medium dense, fine to medium grained sand, occasional gravel lenses, trace pores, weathered.
	7.0-8.5		Silty Sandstone: Tan, damp, medium dense to dense, fine to medium grained sand, trace coarse grained sand, friable.
			Total Depth: 8.5 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-26			
	0-2.5	CL	**Colluvium (Qcol):** Sandy Clay: Dark brown, damp, medium stiff, fine grained sand, some gravel and cobbles up to 6 inches in size, porous.
	2.5-4.0		**Saugus Formation (Qs):** Sandy Claystone: Mottled reddish brown, moist, stiff, fine grained sand, some gravel and cobbles up to 6 inches in size, some pores.
	4.0-5.5		Sandy Claystone: Olive, moist, very stiff, fine grained sand, trace gravel.
			Total Depth: 5.5 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-27			
			Colluvium (Qcol):
	0-6.5	CL	Sandy Clay: Dark brown, damp, soft to medium stiff, fine grained sand, some gravel, porous.
			Saugus Formation (Qs):
	6.5-9.5		Sandy Claystone: Yellowish brown, moist, stiff, fine grained sand, blocky ped development with clay films on ped surfaces, trace pores.
			@ 9ft, becomes sandier.
			Total Depth: 9.5 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-28			
			Colluvium (Qcol):
	0-4.0	SC	Clayey Sand: Dark brown, damp to moist, loose, fine grained sand, trace gravel, porous. Upper 2 feet is dry.
	4.0-6.5	SC	Clayey Sand: Strong brown, damp to moist, loose to medium dense, fine grained sand, some pores, scattered krotovinas.
			Saugus Formation (Qs):
	6.5-9.0		Silty Sandstone with Clay: Yellowish brown, damp to moist, stiff, fine grained sand, blocky ped development with clay films on ped surfaces, some pores. Upper 2 feet is weathered.
			@ 8.5 ft, trace pores.
			Total Depth: 9.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-29			
			Colluvium (Qcol):
	0-7.0	CL	Sandy Clay: Dark brown, damp to moist, soft to medium stiff, fine grained sand, trace gravel, porous.
	7.0-13.5	CL/SC	Sandy Clay / Clayey Sand: Yellowish brown, damp to moist, soft to medium stiff / loose, fine grained sand, some pores. Gradually becomes sandier with depth.
			Possible Saugus Formation (Qs)?:
	13.5-14.0		Claystone with Sand: Olive gray, moist to very moist, stiff, fine grained sand, slight blocky ped development with clay films on ped surfaces, trace pores.
			Total Depth: 14.0 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-30			
			Colluvium (Qcol):
	0-6.0	CL	Sandy Clay: Dark brown, damp to moist, soft to medium stiff, fine grained sand, trace gravel, porous.
	6.0-13.0	CL/SC	Sandy Clay & Clayey Sand: Mottled brown and gray, damp, soft to medium stiff / loose, fine grained sand, porous. @ 9 ft, becomes dark brown, medium stiff / medium dense, blocky ped development with clay films on ped surfaces, still porous.
			Saugus Formation (Qs):
	13.0-14.5		Clayey Sandstone: Mottled brown and grayish brown, moist to very moist, medium dense, fine grained sand, trace pores.
			Total Depth: 14.5 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-31			
			Colluvium (Qcol):
	0-4.0	CL	Sandy Clay: Dark brown, damp, soft to medium stiff, fine grained sand, some gravel, porous.
	4.0-8.0	CL	Sandy Clay: Strong brown, damp to moist, soft to medium stiff, fine grained sand, some gravel, blocky ped development with clay films on ped surfaces.
			@ 7.0 ft, increased gravel, trace cobbles up to 6 inches in size.
			Possible Saugus Formation (Qs)?:
	8.0-12.0		Clayey Sandstone: Yellowish brown, moist, medium dense, fine to medium grained sand, some pores and rootlets.
			Total Depth: 12.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-32			
			Colluvium (Qcol):
	0-3.0	CL	Sandy Clay: Dark brown, dry to damp, soft to medium stiff, fine grained sand, porous.
			Possible Saugus Formation (Qs)?:
	4.0-8.0		Sandy Claystone: Reddish brown, damp, medium stiff, fine grained sand, blocky ped development with clay films on ped surfaces, porous.
	8.0-12.0		Clayey Sandstone: Light reddish brown, damp, loose to medium dense, fine to medium grained sand, some pores. Gradually becomes sandier with depth. Occasional thin silt layers with abundant old root channels and manganese oxide staining.
			Total Depth: 12.0 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-33			
			Colluvium (Qcol):
	0-6.5	CL	Sandy Clay: Dark brown, damp, soft to medium stiff, fine grained sand, some gravel, porous. @ 6.0 ft, increased gravel, trace cobbles up to 6 inches in size.
			Saugus Formation (Qs):
	6.5-8.0		Clayey Sandstone: Mottled reddish brown and gray, moist, medium dense, fine to medium grained sand, some pores. Upper 1 to 2 feet is weathered and porous.
			Total Depth: 8.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-34			
			Top Soil (No Map Symbol):
	0-2.5	CL	Sandy Clay: Dark brown, dry to damp, soft to medium stiff, fine grained sand, trace gravel, blocky ped development with clay films on ped surfaces, porous.
			Saugus Formation (Qs):
	2.5-4.0		Sandy Claystone: Light reddish brown, moist, medium stiff to stiff, fine grained sand, abundant carbonate filaments, some pores, weathered.
	4.0-7.0		Silty Sandstone: Light reddish brown, damp to moist, medium dense to dense, fine to medium grained sand, trace clay, some krotovinas in upper 12 inches.
			@ 5ft, increased silt.
			Total Depth: 7.0 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-35			
			Top Soil (No Map Symbol):
	0-2.5	CL	Sandy Clay: Dark brown, dry to damp, soft to medium stiff, fine grained sand, trace gravel, blocky ped development with clay films on ped surfaces, porous, carbonate filaments along base.
			Saugus Formation (Qs):
	2.5-5.0		Silty Sandstone with Clay: Reddish brown, moist, medium dense, fine grained sand, some pores and krotovinas, weathered.
	5.0-6.0		Silty Sandstone / Sandy Siltstone: Light reddish brown, moist, medium dense / stiff, fine grained sand, trace pores.
			Total Depth: 6.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-36			
			Top Soil (No Map Symbol):
	0-3.0	CL	Sandy Clay: Dark brown, damp, soft to medium stiff, fine grained sand, some imbricated gravel and cobbles, blocky ped development with clay films on ped surfaces, porous.
			Saugus Formation (Qs):
	3.0-5.0		Sandy Claystone: Reddish brown, moist, medium stiff, fine grained sand, some gravel and cobbles, blocky ped development with clay films on ped surfaces, some pores, weathered.
	5.0-6.5		Silty Sandstone: Light reddish brown, damp to moist, medium dense, fine to medium grained sand, some clay rich "Bt" lams measuring up to 1 inch in thickness, friable.
			Total Depth: 6.5 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-37			
			Colluvium (Qcol):
	0-5.0	CL	Sandy Clay: Dark brown, damp, soft to medium stiff, fine grained sand, some gravel, porous.
			Saugus Formation (Qs):
	5.0-8.0		Sandy Claystone: Reddish brown, damp to moist, medium stiff, fine grained sand, abundant carbonate filaments, some pores and krotovinas, weathered.
	8.0-10.0		Sandy Siltstone: Light brown, damp, medium stiff, fine grained sand, some carbonate filaments, some pores and rootlets.
			@ 10ft, decreased pores, slightly sandier.
			Total Depth: 10.0 feet No groundwater Backfilled w/spoils

LOG OF EXPLORATORY TRENCH

Project Name: Hitch Ranch
Logged By: BJP

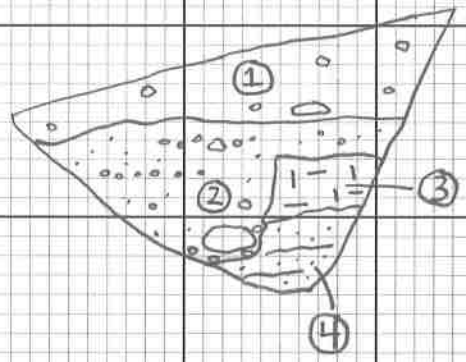
TRENCH NO. 38

J.N.: 2677.00
Date: 9/21/2018

Geologic Unit	Description	Attitudes / Misc Info
1	**COLLUVIUM (Qcol):** Silty Sand with Gravel (SM), Light brown, damp, loose, fine to coarse grained sand, some cobbles up to 8 inches in size, porous, some roots, local sand pockets.	
2	**ALLUVIUM (Qal):** Sandy Clay with Gravel (CL), Brown, damp, medium stiff, fine grained sand, some cobbles up to 12 inches in size, some pores.	
3	**SAUGUS FORMATION (Qs):** Sandy Claystone, Reddish brown, damp, stiff, fine grained sand, blocky ped development with clay films on ped surfaces, trace pores.	
4	Silty Sandstone: Light reddish brown, damp to moist, medium dense, fine to medium grained sand, some clay rich "Bt" lams measuring up to 1 inch in thickness.	

Scale: 1" = 5'

View to / Trend:



DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-39			
			Colluvium (Qcol):
	0-4.0	SM/ML	Silty Sand / Sandy Silt: Light brown, dry, loose / soft, fine grained sand, some gravel and cobbles, porous.
	4.0-8.5	SC/SM	Clayey Sand / Silty Sand: Brown, moist, loose / soft to medium stiff, fine grained sand, porous.
	8.5-10.0	SP-SM	Gravelly Sand with Silt: Light brown, damp, loose, fine to medium grained sand.
	10.0-11.5	SC	Clayey Sand: Brown, damp, loose to medium dense, fine to medium grained, some gravel, cobbles, and siliceous siltstone fragments.
			Saugus Formation (Qs):
	11.5-12.0		Sandy Claystone: Reddish brown, moist, medium stiff to stiff, fine grained sand, blocky ped development with clay films on ped surfaces, some carbonate filaments, trace pores.
			Total Depth: 12.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-40			
	0-4.5	CL	**Artificial Fill (Af):** Sandy Clay: Light reddish brown, damp, medium stiff, fine grained sand, trace gravel.
	4.5-10.0	SC	**Alluvium (Qal):** Clayey Sand: Brown, moist, loose, fine grained sand, porous.
	10.0-11.5		**Saugus Formation (Qs):** Sandy Claystone: Reddish brown, moist, medium stiff to stiff, fine grained sand, some gravel and small cobbles, blocky ped development with clay films on ped surfaces, trace pores.
	11.5-12.0		Gravelly Sandstone: Light reddish brown, damp, medium dense, fine to coarse grained sand.
			Total Depth: 12.0 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-41			
	0-10.0	CL/SC	**Artificial Fill (Af):** Sandy Clay / Clayey Sand: Light reddish brown, damp, medium stiff / medium dense, fine grained sand, trace gravel.
	10.0-11.0	SC/SM	**Alluvium (Qal):** Clayey Sand / Silty Sand: Brown, damp, loose, fine grained sand, trace gravel, porous.
			Total Depth: 11.0 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-42			
			Saugus Formation (Qs):
	0-3.0		Sandy Claystone: Light reddish brown, damp, stiff, fine grained sand, blocky ped development with clay films and manganese oxide staining on ped surfaces, trace pores. Upper 2 feet is weathered.
	3.0-4.0		Silty Sandstone with Gravel: Light reddish brown, damp, medium dense to dense, fine grained sand, trace medium grained sand, occasional clay rich "Bt" lams measuring up to 1 inch in thickness.
			Total Depth: 4.0 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-43			
			Artificial Fill (Af):
	0-1.5	CL	Sandy Clay: Light reddish brown, dry to damp, medium stiff, fine grained sand, trace gravel.
	1.5-5.5	SC	Clayey Sand: Brown, damp, medium dense, fine grained, some gravel.
			Alluvium (Qal):
	5.5-6.3	SP	Sand: Light brown, dry, loose, fine to medium grained sand, friable.
	6.3-7.5	SC	Clayey Sand: Dark brown, damp, loose, fine grained sand, porous.
			Total Depth: 7.5 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-44			
			Colluvium (Qcol):
	0-6.0	SM-SC/ML	Silty Sand with Clay / Sandy Silt: Grayish brown, damp, loose / soft to medium stiff, fine grained sand, some gravel, porous, some roots.
			@ 5 ft, increased gravel, trace cobbles up to 6 inches in size.
			Saugus Formation (Qs):
	6.0-7.5		Sandy Claystone: Olive brown, moist, stiff, fine grained sand, blocky ped development with clay films on ped surfaces, abundant carbonate nodules and filaments, trace pores.
			Total Depth: 7.5 feet No groundwater Backfilled w/spoils

DESCRIPTIVE LOG OF TRENCH EXCAVATION

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-45			
			Colluvium (Qcol):
	0-6.0	CL	Sandy Clay: Dark brown, damp to moist, medium stiff, fine grained sand, trace gravel, blocky ped development with clay films, porous, some roots. Upper 2 feet is dry.
	6.0-8.5		Sandy Clay: Reddish brown, damp to moist, medium stiff, fine grained sand, some gravel, blocky ped development with clay films, porous.
	8.5-13.0	SM	Silty Sand: Reddish brown, damp, loose to medium dense, fine to coarse grained sand, trace clay and gravel, porous, some rootlets.
			Saugus Formation (Qs):
	13.0-14.0		Clayey Sandstone / Sandy Claystone: Olive brown, moist, dense / stiff, fine grained sand, trace pores.
			Total Depth: 14.0 feet No groundwater Backfilled w/spoils

Trench Number	Depth (Feet)	U.S.C.S. Symbol	Field Description
T-46			
			Top Soil (No Map Symbol):
	0-5.0	CL	Sandy Clay / Clayey Sand: Dark brown, damp, medium stiff, fine grained sand, blocky ped development with clay films on ped surfaces, porous.
			Saugus Formation (Qs):
	5.0-7.0		Silty Sandstone / Sandy Siltstone: Light reddish brown, damp, medium dense / medium stiff to stiff, fine grained sand. Upper 2 feet is weathered with some pores.
			Total Depth: 7.0 feet No groundwater Backfilled w/spoils

BORING LOG

Project: Hitch Ranch			**Boring No.:** B-12
Location: Moorpark			**Elevation:** 703.0
J.N.: 2677.00	**Client:** Comstock Homes		**Date:** 10/1/18
Drill Method: 24" Bucket Auger	**Driving Weight: 0'-25' =2500 lbs, 25'-40' =1500 lbs** **Drop Height: Approx. 12" -18"**		**Logged by:** BJP/MOS

Depth (Feet)	Lithology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
0		**Top Soil (No Map Symbol):** Sandy Clay (CL), brown, damp, medium stiff, fine grained sand, blocky ped development with clay films on ped surfaces, porous, some roots, trace gravel at base of unit.							
5		**Saugus Formation (Qs):** Sandy Claystone, light reddish brown, damp, medium stiff, fine grained, blocky ped development with clay films on ped surfaces, highly bioturbated with abundant light brown silty sand infilled krotovinas, trace roots. @ 5.3 ft, Thinly interbedded yellow Sandy Siltstone and brown Sandy Claystone, damp, stiff, fine grained, trace pores. Bedding is poorly defined. @ 8 ft, Carbonate nodules up to 2 inches in size within sandy claystone beds.							
10		@ 10 ft, Sandy Claystone, brown, damp to moist, very stiff, fine grained, some carbonate nodules and manganese oxide staining. Bedding attitude: N65W, 7SW.		3 3			16.1	110.7	DS
15		@ 13.8 ft, Thinly interbedded yellow Sandy Siltstone and yellowish brown Silty Sandstone, moist, very stiff / dense, fine grained, some carbonate nodules and manganese oxide staining, faint iron oxide staining. Bedding is pooly defined.							
20		@ 19 ft, Well defined, 8 inch thick silty sandstone bed. Bedding is near horizontal and slightly undulating.							

BORING LOG

Project: Hitch Ranch			**Boring No.:** B-12
Location: Moorpark			**Elevation:** 703.0
J.N.: 2677.00	**Client:** Comstock Homes		**Date:** 10/1/18
Drill Method: 24" Bucket Auger	**Driving Weight: 0'-25' =2500 lbs, 25'-40' =1500 lbs** **Drop Height: Approx. 12" -18"**		**Logged by:** BJP/MOS

Depth (Feet)	Lithology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
20				3 5			6.4	103.2	DS
		@ 22 ft, Well defined, 1.2 feet thick sandy claystone bed. Bedding attitude: N45W, 5SW.							
		@ 23.9 ft, Sandy Claystone, olive, moist, very stiff, fine grained, some carbonate nodules up to 1 inch in size, iron oxide staining.							
25									
		@ 27 ft, Sandy Siltstone, gray, moist, stiff, fine grained, iron oxide staining, some small carbonate nodules, occasional 2 inch to 3 inch thick sandy clay beds.							
30				4 8			7.8	115.7	
		@ 31 ft, Sandy Claystone, olive gray, moist, stiff, fine grained, iron oxide staining, some carbonate nodules up to 1/2 inch in size. Bedding attitude: N35W, 4SW.							
		@ 33 ft, Increased plasticity, decreased sand.							
35									
		@ 38 ft, Zone of multiple, closely spaced, irregular shears. Shears are clay infilled, 1/16 inch to 1/8 inch wide, generally pinch and swell . Ductile deformation with no descernable offset. Shear zone attitude: N80E, 27NW.							ATT
40									

BORING LOG

Project: Hitch Ranch			**Boring No.:** B-12
Location: Moorpark			**Elevation:** 703.0
J.N.: 2677.00	**Client:** Comstock Homes		**Date:** 10/1/18
Drill Method: 24" Bucket Auger	**Driving Weight: 0'-25' =2500 lbs, 25'-40' =1500 lbs** **Drop Height: Approx. 12" -18"**		**Logged by:** BJP/MOS

Depth (Feet)	Lithology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
40				5 8			12.6	111.7	
		@ 42 ft, 2nd zone of multiple, closely spaced, irregular shears. Shears are clay infilled, 1/16 inch to 1/8 inch wide, generally pinch and well . Ductile deformation with no descernable offset. Shear zone attitude: N80E, 27NW.							
45		@ 45.5 ft, Grades to Silty Sandstone / Sandy Siltstone, light yellow, moist, dense / stiff, fine grained, iron oxide staining.							
		@ 47 ft, Occasional well defined, 1/2 inch to 1 inch thick sandy claystone beds. Beds are olive gray, moist and very stiff.							
50		@ 47.8 ft, Bedding attitude: N25E, 6NW.							
		@ 52.1 ft, Sandy Claystone to Silty Claystone with Sand, olive brown, moist, very stiff, fine grained, iron oxide staining.							
55		@ 52.4 ft, Well defined, 2 inch thick silty sandstone bed. Bedding attitude: N23E, 8NW.							
		@ 56.7 ft, Bedding attitude: N18W, 4SW.							
		@ 57.7 ft, Grades to Sandy Siltstone, gray, moist, fine grained, stiff.							
60		@ 58.5 ft, Well defined, 3 inch thick sandy claystone bed.							

BORING LOG

Project: Hitch Ranch			**Boring No.:** B-12
Location: Moorpark			**Elevation:** 703.0
J.N.: 2677.00	**Client:** Comstock Homes		**Date:** 10/1/18
Drill Method: 24" Bucket Auger	**Driving Weight: 0'-25' =2500 lbs, 25'-40' =1500 lbs** **Drop Height: Approx. 12" -18"**		**Logged by:** BJP/MOS

Depth (Feet)	Lithology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
60		@ 60 ft, Sandy Claystone to Silty Claystone with Sand, gray, moist, very stiff, fine grained, iron oxide staining, some carbonate nodules up to 4" in size. Carbonate nodules increase in size with depth. @ 61 ft, irregular, clayey infilled fracture measuring up to 1/4 inch to 1/2 inch wide. Fracture does not appear to continue upward past 61 feet. Fracture attitude: N49W, near vertical. @ 63.7 ft, Well defined, 4 inch thick silty sandstone bed. Bed is near horizontal and not offset by fracture. @ 64 ft, Fracture attitude: N57W, 52SW. @ 65.6 ft, Silty Sandstone, light gray, moist, dense, fine grained, trace granitic cobbles up to 6 inch in size. Erosional at base. @ 67.9 ft, Sandy Claystone, gray, moist, very stiff, fine grained, abundant carbonate cementation, faint iron oxide staining. @ 72.5 ft, Interbedded Sandy Siltstone and Silty Sandstone, gray, moist, stiff / dense, fine grained, bedding is poorly defined and gradational. Occasional thin clayey beds. @ 73.3 ft, Fracture mentioned above thins to 1/8 inch wide and exits boring. No offset noted. Fracture attitude: N45W, 80-85SW. @ 73.5 ft, Silty Claystone, brown, moist, very stiff, massive. Bedding attitude: N25W, 10SW. @ 77 ft, Silty Sandstone / Sandy Siltstone, light reddish brown, moist, fine grained, some iron oxide staining.							
65									
70									
75									
80									

BORING LOG

Project: Hitch Ranch			**Boring No.:** B-12
Location: Moorpark			**Elevation:** 703.0
J.N.: 2677.00	**Client:** Comstock Homes		**Date:** 10/1/18
Drill Method: 24" Bucket Auger	**Driving Weight: 0'-25' =2500 lbs, 25'-40' =1500 lbs** **Drop Height: Approx. 12" -18"**		**Logged by:** BJP/MOS

Depth (Feet)	Lithology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
80		Boring not down-hole logged below 76 feet Total depth drilled: 80 feet No caving No groundwater Backfilled with cuttings and tamped							
85									
90									
95									
100									

BORING LOG

Project: Hitch Ranch			**Boring No.:** B-13
Location: Moorpark			**Elevation:** 561.0
J.N.: 2677.00	**Client:** Comstock Homes		**Date:** 10/1/18
Drill Method: 24" Bucket	**Driving Weight: 0'-25' =2500 lbs, 25'-40' =1500 lbs** **Drop Height: Approx. 12" -18"**		**Logged by:** BJP/MOS

Depth (Feet)	Lithology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
0		**Top Soil (No Map Symbol):** Clayey Sand (SC), brown, damp, loose, fine to coarse grained sand, some gravel and siltstone fragments up to 3 inches in size. @ 2.6 ft, Sandy Clay(CL), brown, damp, medium stiff, fine grained sand, blocky ped development with clay films on ped surfaces, porous, trace roots.							
5		**Saugus Formation (Qs):** Sandy Siltstone, yellowish brown, damp, stiff, fine grained, some gravel, trace clay, highly bioturbated with scattered krotovinas, porous. @5.6 ft, Interbedded yellow Sandy Siltstone and yellowish brown Silty Sandstone, moist, stiff / medium dense to dense, fine and fine to medium grained, thin- to medium-bedded, locally cross-bedded, some carbonate nodules and carbonate development along old root channels, faint iron oxidation staining.							
10		@ 10.2 ft, very irregular carbonate filled fractures measuring up to 1/8 inch to 1/2 inch wide. No offset noted. Bedding appears near horizontal.							
15		@ 13 ft, Well defined, 4 inch thick sandstone bed. Bedding attitude: N47E, 6NW. @ 13.3 ft, Fracture mentioned above appears to die out below. Fracture attitude: N86W, 75S.							
20									

BORING LOG

Project: Hitch Ranch			**Boring No.:** B-13
Location: Moorpark			**Elevation:** 561.0
J.N.: 2677.00	**Client:** Comstock Homes		**Date:** 10/1/18
Drill Method: 24" Bucket	**Driving Weight: 0'-25' =2500 lbs, 25'-40' =1500 lbs** **Drop Height: Approx. 12" -18"**		**Logged by:** BJP/MOS

Depth (Feet)	Lithology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
20		@ 22.7 ft, Well defined, 1.5 feet thick sandy siltstone bed. Bedding attitude: N47E, 6NW.							
25		@ 26.5 ft, Interbedded Siltstone (slightly sandy) and Sandy Siltstone, yellow-brown, gray, and light reddish brown, damp, stiff, fine grained, thin to medium bedded, carbonate development along old root channels. Bedding attitude: N40W, 5-6NE.							
30									
35		@ 37.3 ft, 12 inch thick sandy siltstone to sandy claystone bed. Bed is yellowish brown, damp to moist, very stiff, and fine grained. @ 38.3 ft, Sandstone, light yellow, damp to moist, medium dense, fine grained, some siltstone fragments present up to 4 inches in size. Bedding Attitude: N55W, 7NE.							
40									

BORING LOG

Project: Hitch Ranch			**Boring No.:** B-13
Location: Moorpark			**Elevation:** 561.0
J.N.: 2677.00	**Client:** Comstock Homes		**Date:** 10/1/18
Drill Method: 24" Bucket	**Driving Weight: 0'-25' =2500 lbs, 25'-40' =1500 lbs** **Drop Height: Approx. 12" -18"**		**Logged by:** BJP/MOS

Depth (Feet)	Lithology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
40		@ 40.4 ft, Sandy Siltstone, light yellow, damp to moist, very stiff, fine grained sand.							
		@ 42.2 ft, Silty Claystone, brown, moist, very stiff, some carbonate nodules. Carbonate nodules increase with depth. Bedding attitude: N45W, 5NE.							
45		@ 44.8 ft, Siltstone (slightly sandy), yellow moist, very stiff, fine grained sand, local discontinuous laminations, carbonate development along old root channels, occcasional thin sandy siltstone beds.							
		@ 46.6 ft, Well defined, 3 inch thick light brown sandy siltstone bed. Bedding attitude: N70W, 8NE.							
		@ 47.9 ft, Sandstone (slightly silty), tan, dry, fine grained sand, friable, locally fine to medium grained and cross-bedded.							
50		@ 50.9 ft, Thinly interbedded Silty Sandstone and Sandy Siltstone, light yellow, damp, dense / very stiff, fine grained, local 1 to 2.5 inch thick stiff clayey siltstone beds.							
		@ 51.4 ft, Bedding attitude: N75W, 5NE.							
		@ 52 ft, Interbedded Siltstone and Silty Claystone, light brown, damp, very stiff, laminated to thinly bedded, well defined bedding continuous around boring.							
55		@ 54.2 ft, Silty Sandstone, light brown to yellowish brown, damp, medium dense, fine grained sand, massive.							
		@ 56 ft, 6 to 7 inch thick Silty Sandstone / Sandy Siltstone bed with thin silty claystone interbeds. Bedding appears near horizontal to slightly dipping to the northeast.							
		@ 57.5 ft, Bedding attitude: N63E, 5NW.							
		@ 58. 8 ft, Becomes fine to medium grained, trace gravel and cobbles up to 6 inches in size.							
60									

BORING LOG

Project: Hitch Ranch			**Boring No.:** B-13
Location: Moorpark			**Elevation:** 561.0
J.N.: 2677.00	**Client:** Comstock Homes		**Date:** 10/1/18
Drill Method: 24" Bucket	**Driving Weight: 0'-25' =2500 lbs, 25'-40' =1500 lbs** **Drop Height: Approx. 12" -18"**		**Logged by:** BJP/MOS

Depth (Feet)	Lithology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
60									
		@ 62 ft, Sandstone (slightly silty), reddish brown and tan, damp, dense, fine to medium grained, massive, friable.							
65		@ 65 ft, Cross-bedded with some silty sand and fine to coarse grained lenses.							
		@ 68 ft, Bedding becomes more clearly defined.							
70		@ 69.6 ft, Well defined, 1/2 inch thick medium to coarse grained sand lense. Bedding attitude: N70W, 7NE.							
		@ 71.1 ft, Channelized deposit with abundant gravel and cobbles. Below: Silty Sandstone, light reddish brown, damp, dense, fine grained.							
		@ 73 ft, slightly irregular, 1 foot thick Sandy Claystone / Clayey Sandstone. Bed is brown, moist, very stiff / dense, fine grained sand.							
75		Boring not down-hole logged below 73 feet Total depth drilled: 75 feet No caving No groundwater Backfilled with cuttings and tamped							
80									

BORING LOG

Project: Hitch Ranch			**Boring No.:** B-14
Location: Moorpark			**Elevation:** 683.0
J.N.: 2677.00	**Client:** Comstock Homes		**Date:** 10/2/18
Drill Method: 24" Bucket	**Driving Weight: 0'-25' =2500 lbs, 25'-40' =1500 lbs** **Drop Height: Approx. 12" -18"**		**Logged by:** BJP/MOS

Depth (Feet)	Lithology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
0		**<u>Saugus Formation (Qs):</u>** Sandy Claystone with Gravel, reddish brown to brown, damp, stiff, fine grained.							
		@ 2.9 ft, Sandy Siltstone, light brown, damp, very stiff, fine grained, some desiccation cracks, highly bioturbated with red clayey sand infilled krotovinas.							
5		@ 5 ft, Clayey Siltstone (slightly sandy), brown, dry to damp, fine grained, very stiff, near horizontal contact, slightly blocky ped development with clay films and iron oxide staining on ped surfaces. Bedding is poorly defined.							
		@ 8 ft, Carbonate nodules up to 2 inches in size, damp to moist.							
		@ 9 ft, Siltstone with sand, light yellow, damp to moist, stiff, fine grained, some carbonate nodules. Bedding attitude: N75W, 8S.							
10		@ 11.7 ft, Silty Sandstone, light brown, damp, medium dense, fine grained, some manganese oxide staining. Bedding is poorly defined and undulating. Bedding attitude: N82W, 10S.							
		@ 13.2 ft, Clayey Siltstone, gray, moist, very stiff, some small carbonate concretions, bedding is near horizontal to slightly dipping south.							
15		@ 16.8 ft, Silty Sandstone, light brown, damp, medium dense, fine grained, some manganese oxide staining.							
		@ 17.6 ft, 6 inch thick thinly laminated to cross-bedded silty sandstone bed with very irregular, 1/8 inch to 1 inch thick clay shears along top and bottom of the bed. Clay shears pinch and swell with some carbonate development and iron oxide staining. Possible liquefaction or soft sediment deformation feature. Shear Attitude: N40W, 20SW.							
20									

BORING LOG

Project: Hitch Ranch			**Boring No.:** B-14
Location: Moorpark			**Elevation:** 683.0
J.N.: 2677.00	**Client:** Comstock Homes		**Date:** 10/2/18
Drill Method: 24" Bucket	**Driving Weight: 0'-25' =2500 lbs, 25'-40' =1500 lbs** **Drop Height: Approx. 12" -18"**		**Logged by:** BJP/MOS

Depth (Feet)	Lithology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Other Lab Tests
20		@ 17.7 ft, Interbedded light gray Silty Sandstone and light yellow Sandy Siltstone, moist, dense / very stiff, fine grained, iron oxide staining, occasional 1/2 inch thick stiff clay beds with carbonate development. @ 20.5 ft, Siltstone, Gray to reddish brown, moist, stiff, trace clay. Bedding attitude: N85W, 8SW.							
25		@ 25 ft, Grades to Sandy Claystone/Sandy Siltstone, reddish brown, moist, stiff, fine grained. Bedding is poorly defined, appears to slightly dip to the south. @ 26 ft, Grades to Silty Claystone, brown, moist, very stiff, some pores abundant small carbonate concretions.							ATT
30		@ 28.2 ft, Clayey Sandstone, Mottled gray and brown, moist, dense, fine grained, iron oxidation staining, massive, decreased clay with depth. @ 30 ft, Becomes gray in color.							
35		@ 32 ft, Grades to Sandstone, yellow, moist, dense, fine to medium grained, friable, 1/4 inch to 3/4 inch thick reddish brown BT lams. @ 34 ft, Significant caving on north and south sides of boring.							
40									

BORING LOG

Project: Hitch Ranch			**Boring No.:** B-14
Location: Moorpark			**Elevation:** 683.0
J.N.: 2677.00	**Client:** Comstock Homes		**Date:** 10/2/18
Drill Method: 24" Bucket	**Driving Weight: 0'-25' =2500 lbs, 25'-40' =1500 lbs** **Drop Height: Approx. 12" -18"**		**Logged by:** BJP/MOS

Depth (Feet)	Lithology	Material Description	Water	Samples: Blows Per Foot	Samples: Core	Samples: Bulk	Laboratory Tests: Moisture Content (%)	Laboratory Tests: Dry Density (pcf)	Laboratory Tests: Other Lab Tests
40		@ 40 ft, Becomes light yellow, dry to damp, very friable.							
45		Boring not down-hole logged below 34 feet Total depth drilled 44 feet Caving from 34 feet to 44 feet No groundwater Backfilled with cuttings and tamped							
50									
55									
60									

APPENDIX A-2

FAULT INVESTIGATION
DATED APRIL 3, 2019 (Revise dated June 3, 2019)

FAULT TRENCH LOG EXPLANATION

FT-1

Artificial Fill (Af)

①

Clayey Sand and Sandy Clay (SC/CL), fine- to coarse-grained, very dark grayish brown (10YR 3/2), damp to moist, trace gravel and cobbles, some roots and intermixed clods of Saugus Formation.

Top Soil (No Map Symbol)

②

Silty Sand and Clayey Sand (SM/SC), fine-grained, very dark brown (10YR 2/2) to dark brown (10YR 3/3), damp to moist, trace gravel and small cobbles, moderately porous, some roots and rootlets, scattered krotovinas. Locally very dark gray (5YR 3/1) sandy clay with poorly developed blocky ped structure and clay films on ped surfaces. Contact at base is gradational in nature.

Colluvium (Qcol)

③

Sandy Clay (CL), fine-grained, very dark brown (10YR 2/2), moist, trace gravel, moderately porous, local poorly developed blocky ped structure, trace roots and krotovinas.

④

Sandy Clay (CL), fine-grained, strong brown (7.5YR 5/6), damp to moist, trace gravel, moderately porous, local moderately developed blocky ped structure with clay films, carbonate development, and manganese oxide staining on ped surfaces, trace roots and krotovinas.

Saugus Formation (Qs)

⑤

Clayey Sand and Sandy Clay (SC/CL), fine-grained, dark yellowish brown (10YR 3/6), yellowish brown (10YR 5/8), and strong brown (7.5YR 4/6), damp to moist, trace gravel moderately porous, local moderately developed blocky ped structure with clay films, carbonate filaments, and manganese oxide staining on ped surfaces, some roots and rootlets. Between stations 0 and 2+80, unit is olive brown (2.5YR 4/3) to dark brown (10YR 3/3) in color. Unit is moderately to extremely weathered throughout with scattered krotovinas and no visible bedrock structure. Contact at base is gradational in nature.

⑥

Clayey Sandstone to Sandstone, fine- to coarse-grained, strong brown (7.5YR 4/6 to 5/6), damp to moist, scattered granitic gravels, slightly friable, brown (7.5YR 4/4) 1/4- to 1-inch thick clay rich “BT lams”. Local channel fills with increased gravels and minor seepage.

⑦

Silty Sandstone to Sandstone, fine- to medium-grained, yellowish brown (10YR 5/4 to 5/6) and dark yellowish brown (10YR 4/4), damp to moist, well indurated, strong brown (7.5YR 4/6) 1/2- to 1-inch thick clay rich “BT lams”, faint iron oxidation staining. Upper 2- to 3-feet is silica-cemented, dark yellowish brown (10YR 3/4 and 3/6), and very hard with pinhole pores and manganese oxide staining. Between stations 12+00 and 12+58, unit becomes very well indurated and very difficult to excavate.

⑧

Silty Sandstone and Sandstone, fine-grained and fine- to medium-grained, yellowish brown (10YR 5/4 5/6), dry to damp, scattered granitic gravels, trace shale fragments, locally friable, some very irregular and discontinuous silt beds, abundant channel fills with increased gravel and cobbles up to 6 inches. Upper 3 to 5 feet of unit appears re-worked and is predominately a sandy claystone, fine-grained, dark yellowish brown (10YR 4/6), damp, trace coarse grained sand and gravel, moderately porous, local carbonate filaments and manganese oxide staining.

⑨

Siltstone to Sandy Siltstone, fine-grained, dark yellowish brown (10YR 4/6 to 3/6) to yellowish brown (10YR 5/4), dry to damp, slightly to moderately porous, very irregular desiccation cracks with carbonate development (particularly between Stations 0 and 2+10), occasional thin silty sand lenses, local faint laminations, trace roots. Local blocky ped structures with clay films and manganese oxide staining on ped surfaces. Between Stations 9+48 and 10+73 the upper 2 to 3 feet is silica-cemented and very hard.

⑩

Silty Sandstone to Sandstone, fine-grained and fine- to medium-grained, yellowish brown (10YR 5/4 to 5/6), brown (10YR 5/3) and pale brown (10YR 6/3), dry to damp, slightly friable to friable, some sand and magnetite layering, manganese specs, interbedded 2- to 3-inch thick olive brown (2.5Y 4/4) silt beds with abundant decomposed rootlets and carbonate development. Unit generally coarsens downward to light olive brown (2.5Y 5/3), fine-coarse grained sandstone with strong brown (7.5 YR 4/6), dark yellowish brown (10YR 4/6) and yellowish brown (10YR 5/8) 1/4- to 2 1/2 -inch thick clay rich “BT lams”, cross-bedding, gravel layering, and channel fills with increased granitic gravels and cobbles up to 10 inches in size. Contact at base is erosional in nature and sharp.

⑪

Clayey Siltstone to Siltstone, brownish yellow (10YR 6/6), damp to moist, well indurated, slightly porous, massive, thin discontinuous internal shears (very dark grayish brown 2.5Y 3/2), trace decomposed rootlets, some iron oxidation staining. Local moderately developed blocky ped structure with clay films, carbonate filaments, and manganese oxide staining on ped surfaces. At Station 7+95, unit gradually grades to the south into yellowish brown (10YR 5/6) Sandy Siltstone with some fine-grained silty sand lenses.

⑫

Sandstone and Gravelly Sandstone, fine- to medium-grained and fine- to coarse-grained, yellowish brown (10YR 5/4) to light olive brown (2.5Y 5/3), dry, trace shale fragments, friable, local sand and gravel layering, scattered granitic cobbles, dark yellowish brown (10YR 4/4) 1/4- to 2 1/2 -inch thick clay rich “BT lams”.

FT-2

Top Soil (No Map Symbol)

Ⓐ

Silty Sand (SM), fine-grained, dark brown (10YR 3/3), damp to moist, trace gravel, moderately porous, some roots and rootlets, scattered krotovinas.

Saugus Formation (Qs)

Ⓑ

Clayey Sand (SC), fine-grained, yellowish brown (10YR 5/6), damp to moist, trace gravel moderately porous, local moderately developed blocky ped structure with clay films, carbonate filaments, and manganese oxide staining on ped surfaces, some roots and rootlets. Unit is moderately to extremely weathered throughout with scattered krotovinas and no visible bedrock structure. Contact at base is gradational.

Ⓒ

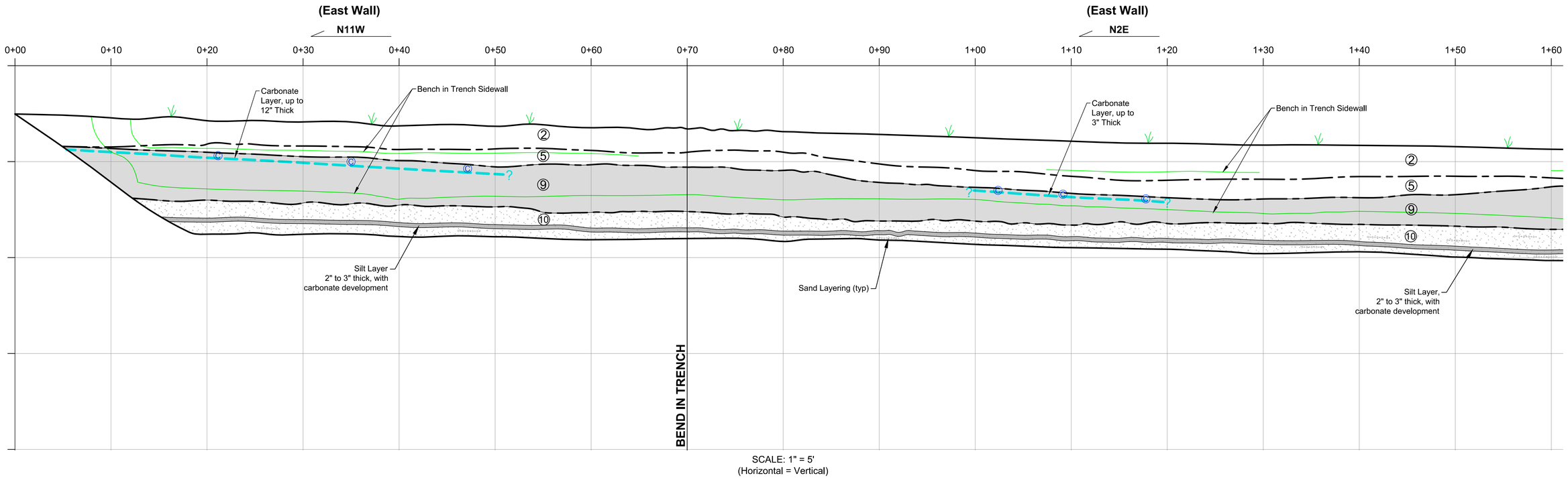
Sandstone, fine- to medium-grained, light yellowish brown (10YR 6/4), damp to moist, trace gravel, locally well indurated, strong brown (7.5YR 4/6) 1/2- to 1-inch thick clay rich “BT lams”, some sand and gravel layering, local fine- to coarse-grained channel fills with increased granitic gravels. Interbedded Silty Sandstone, fine-grained, dark yellowish brown (3/6), damp, well indurated, local moderately developed blocky ped structure with clay films and manganese oxide staining,. Silty Sandstone beds are typically very irregular and silica-cemented with pinhole pores and faint iron oxidation staining.

Note: Color of geologic units described when moist.

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

FAULT TRENCH LOG EXPLANATION

Job No.: 2677.00 | Date: 04/03/19 | Plate: 4



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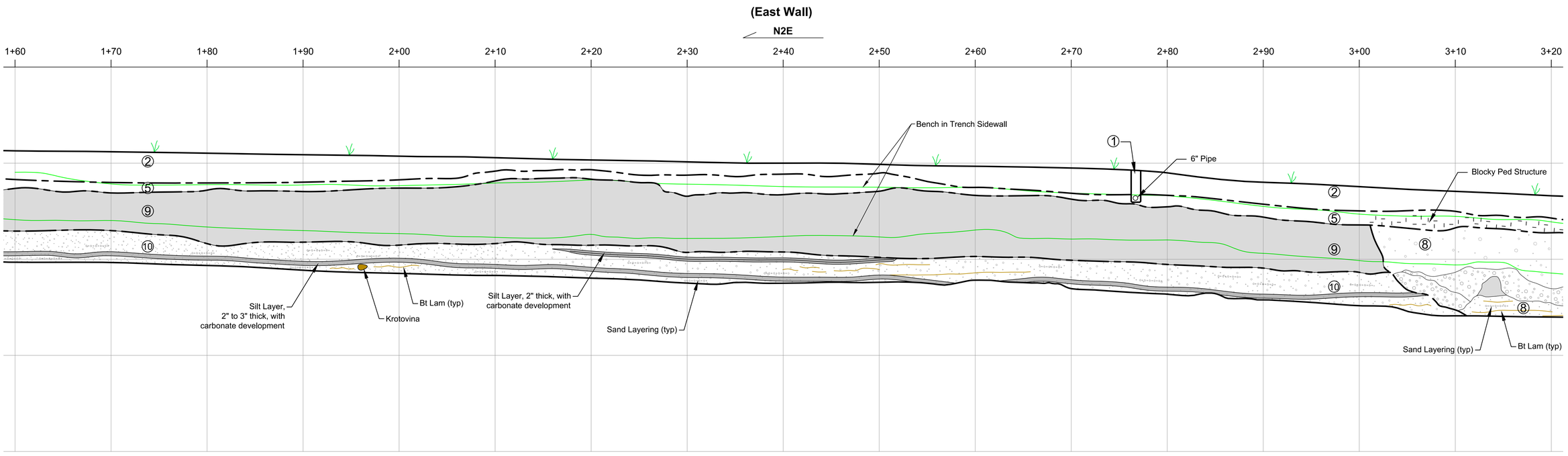

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(Horizontal = Vertical)

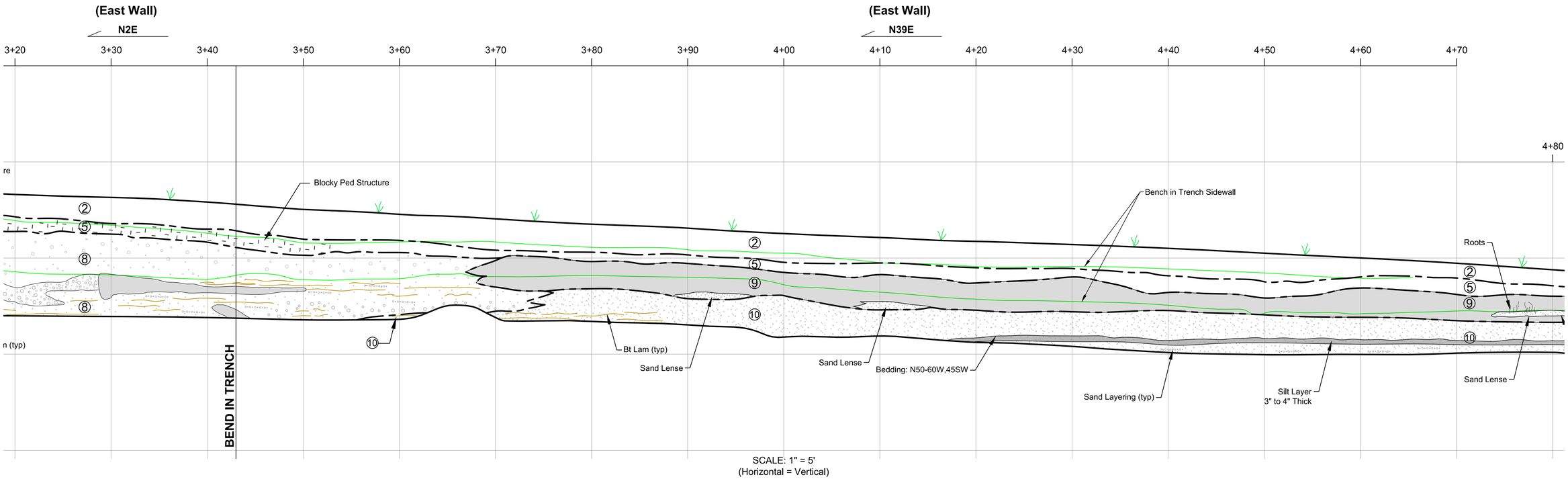
(see Plate 4 for Legend of Geologic Units)

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

FAULT TRENCH LOG: FT-1

Job No.: 2677.00	Date: 04/03/19	Plate: 5

Revised 06/03/19



(see Plate 4 for Legend of Geologic Units)

ALBUS-KEEFE & ASSOCIATES, INC.
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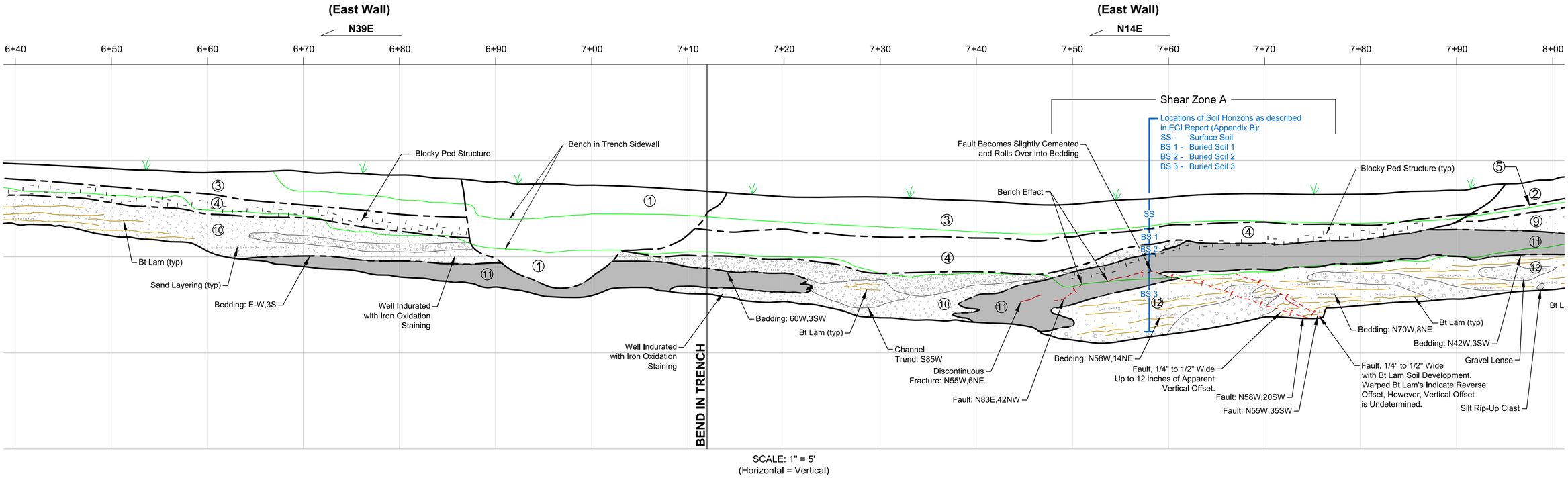
FAULT TRENCH LOG: FT-1

Job No.: 2677.00	Date: 04/03/19	Plate: 6

Revised 06/03/19



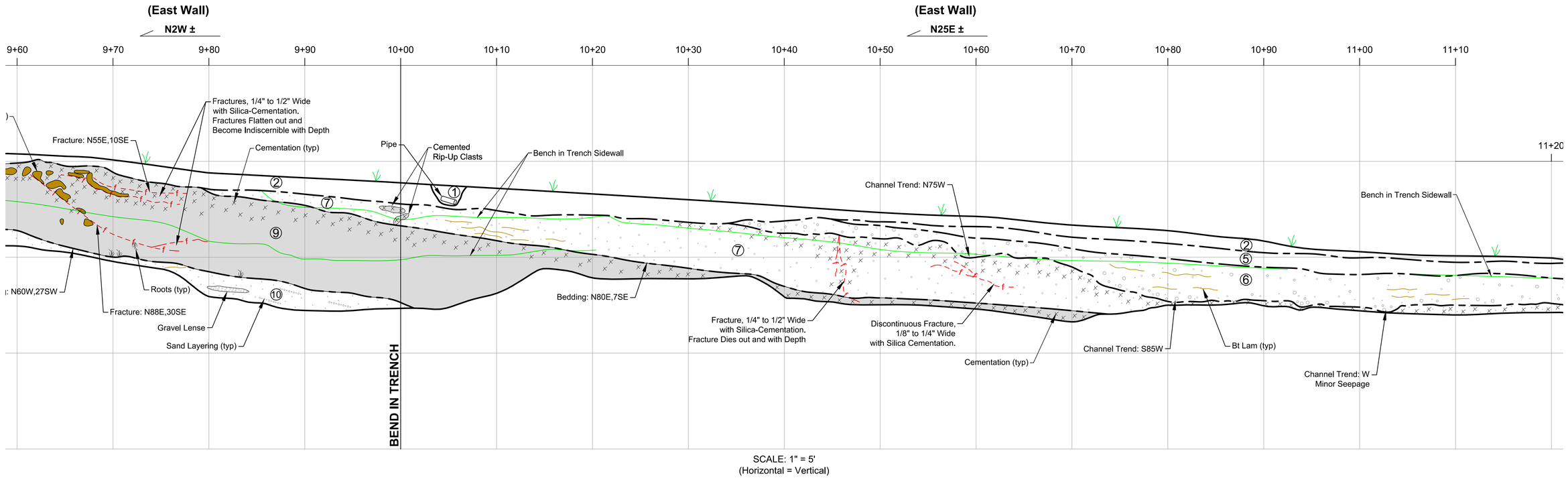
(see Plate 4 for Legend of Geologic Units)

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

FAULT TRENCH LOG: FT-1

Job No.: 2677.00 | Date: 04/03/19 | Plate: 7

Revised 06/03/19



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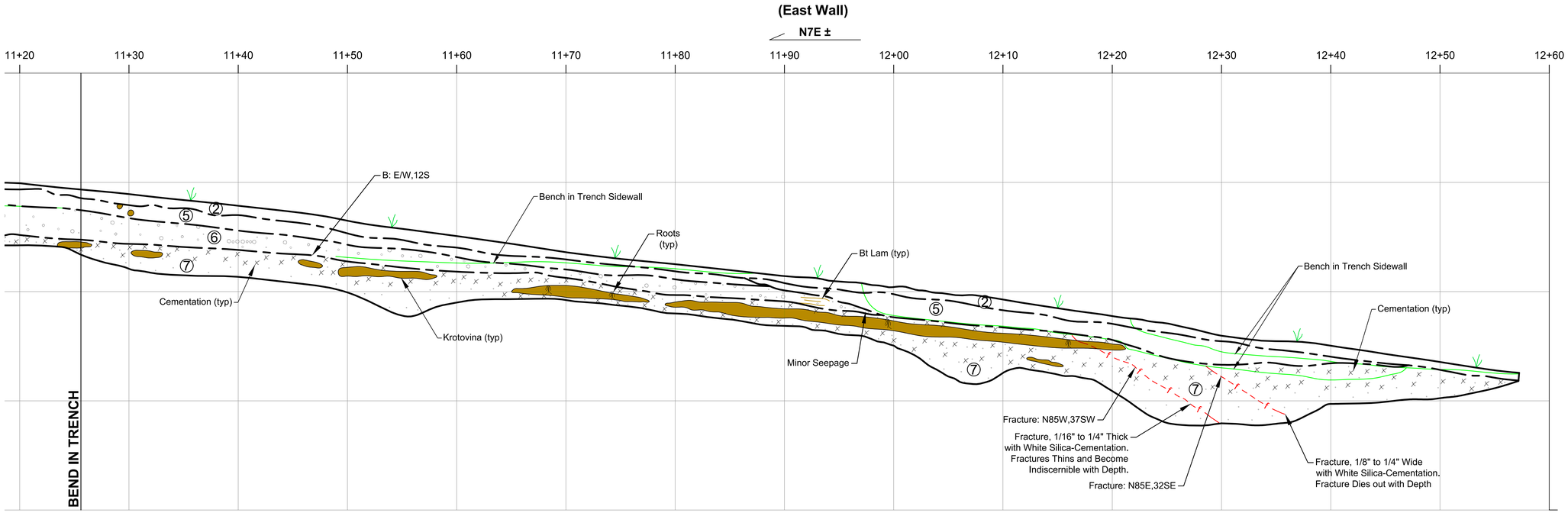

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(Horizontal = Vertical)

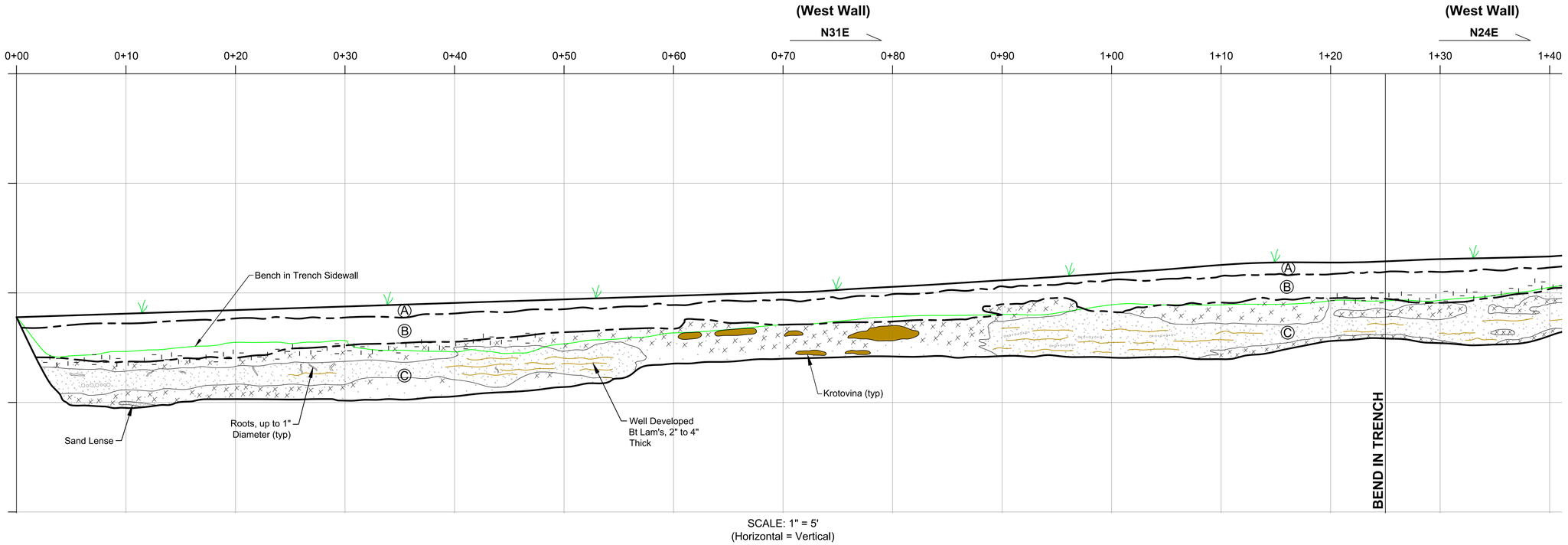
(see Plate 4 for Legend of Geologic Units)

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

FAULT TRENCH LOG: FT-1

Job No.: 2677.00	Date: 04/03/19	Plate: 8

Revised 06/03/19



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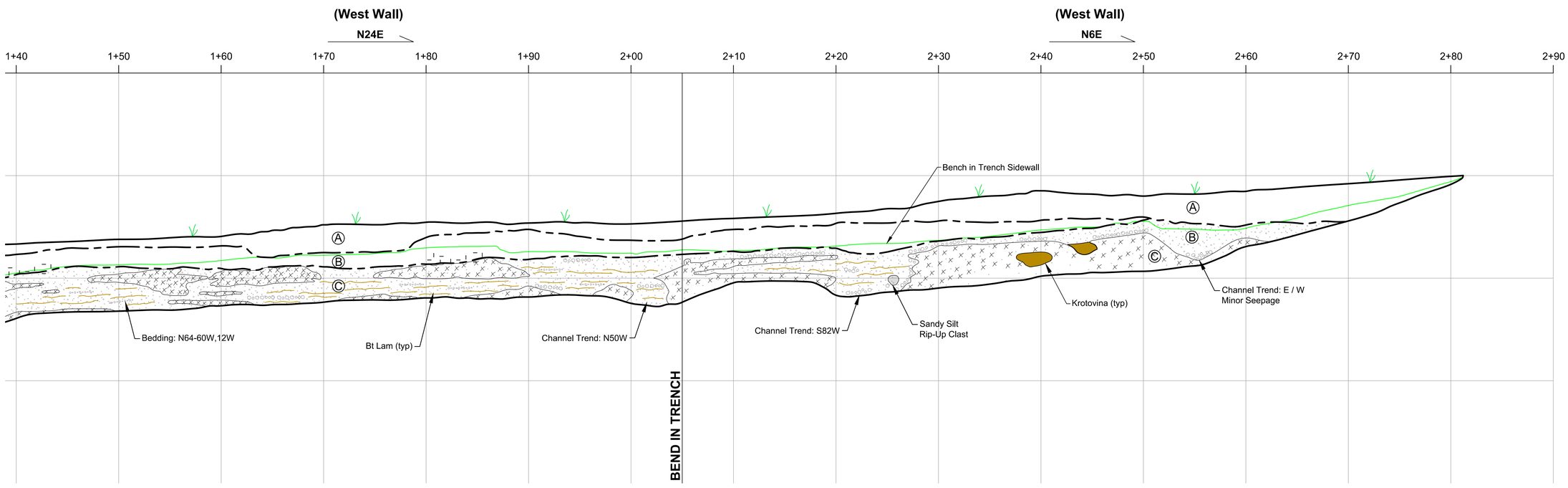

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(Horizontal = Vertical)

(see Plate 4 for Legend of Geologic Units)

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

FAULT TRENCH LOG: FT-2

Job No.: 2677.00	Date: 04/03/19	Plate: 9

Revised 06/03/19

APPENDIX B

LABORATORY TEST PROGRAM

LABORATORY TESTING PROGRAM

Soil Classification

Soils encountered within the exploratory borings and trenches were initially classified in the field in general accordance with the visual-manual procedures of the Unified Soil Classification System (ASTM D 2488). The samples were re-examined in the laboratory and classifications reviewed and then revised where appropriate. The assigned group symbols are presented in the Exploration Logs provided in Appendix A.

In-Situ Moisture Content and Dry Density

Moisture content and dry density tests of in-place soil materials were determined in representative strata. Test data for samples collected from our exploratory borings are summarized in the Exploration Boring Logs provided in Appendix A.

Maximum Dry Density and Optimum Moisture Content

Maximum dry density and optimum moisture content were performed on a representative sample of the site materials obtained from our field explorations. The test was performed in accordance with Method C of ASTM D 1557. Pertinent test values are given in Table B-1.

Percent Passing the No. 200 Sieve

Percent of material passing the No. 200 sieve was determined on selected samples to verify visual classifications performed in the field. These tests were performed in accordance with ASTM D1140-00. Test results are presented on Table B-1.

Consolidation

Consolidation tests were performed for selected soil samples in general conformance with ASTM D 2435. Axial loads were applied in several increments to a laterally restrained 1-inch-high sample. Loads were applied in geometric progression by doubling the previous load, and the resulting deformations were recorded at selected time intervals. The test samples were inundated at a selected load to evaluate the effects of a sudden increase in moisture content (hydro-consolidation potential). Results of the tests are graphically presented on Plates B-1 through B-9.

Direct Shear

The Coulomb shear strength parameters, angle of internal friction and cohesion, were determined for undisturbed samples, as well as for samples remolded to 90 percent of maximum dry density. The test was performed in general accordance with ASTM D 3080. Three specimens were prepared for each test. The test specimens were artificially saturated, and then sheared under varied normal loads at a maximum constant rate of strain of 0.005 or 0.01 inches per minute. Results are graphically presented on Plates B-10 through B-15.

Expansion Potential

Expansion Index tests were performed on selected samples in accordance with ASTM D 4829. The test results and corresponding expansion potentials are presented on Table B-1.

Atterberg Limits

Atterberg limit tests (Liquid Limit, Plastic Limit and Plasticity Index) were performed on selected samples to verify visual classifications. The test was performed in general conformance with ASTM D 4318. Test results are presented on Table B-1.

Soluble Sulfate Content

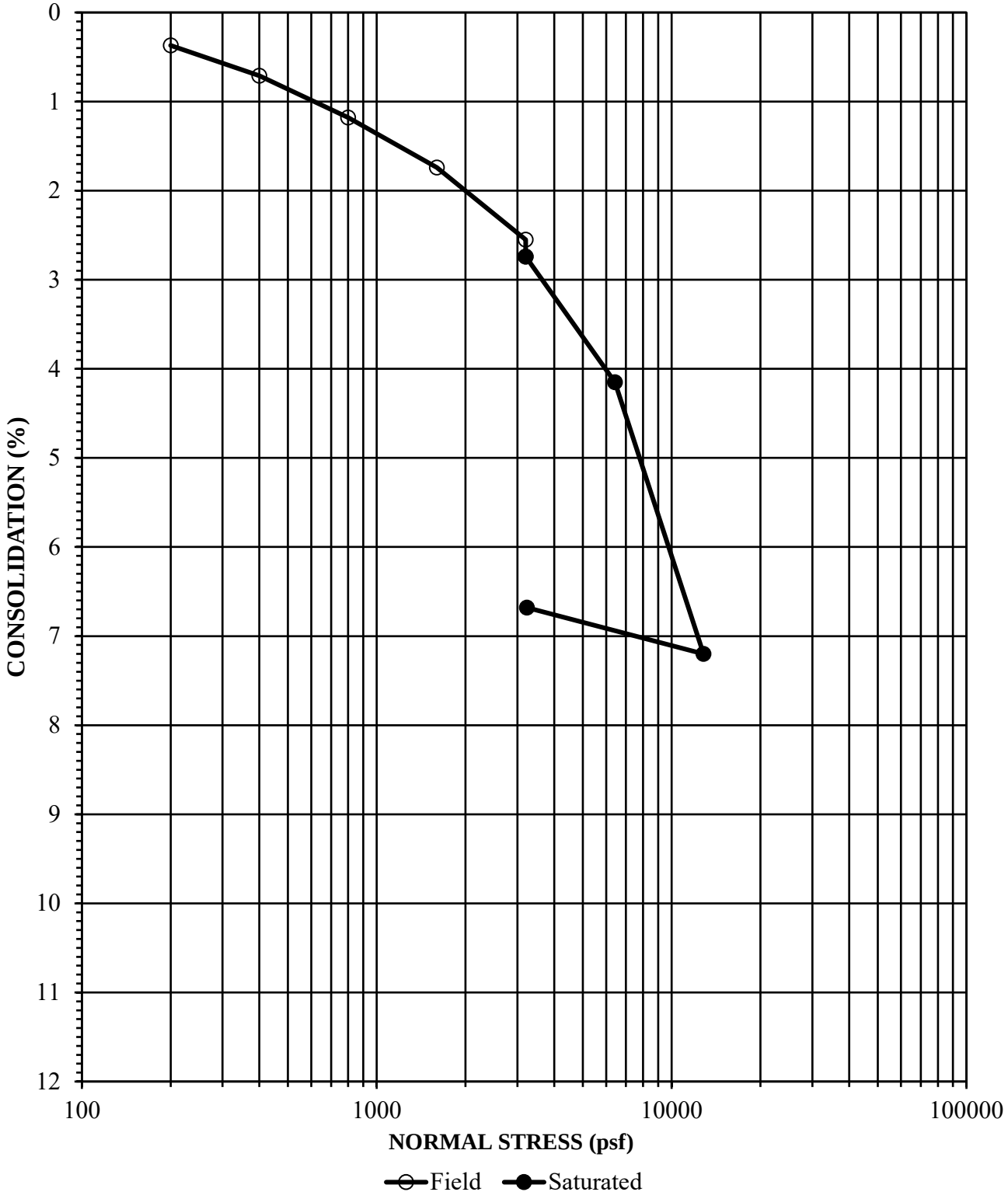
A chemical analysis was performed on a selected sample to determine soluble sulfate content. This test was performed in accordance with California Test Method No. 417. The test result is included on Table B-1.

TABLE B-1
SUMMARY OF LABORATORY TEST RESULTS

Boring No.	Sample Depth (ft.)	Soil Description	Test Results	
B-1	35	Sandy Silt (ML)	Liquid Limit: Plasticity Index:	Non-Plastic Non-Plastic
B-3	35	Sandy Lean Clay (CL)	Liquid Limit: Plasticity Index: Passing No. 200:	30.5 15.5 38.6%
B-3	40	Sandy Lean Clay (CL)	Liquid Limit: Plasticity Index:	23.1 8.7
B-12	37.5	Fat Clay (CH)	Liquid Limit: Plasticity Index:	83.2 50.5
B-14	26-28	Sandy Fat Clay (CH)	Liquid Limit: Plasticity Index:	50.1 30.9
T-1	0-3	Sandy Clay (CL)	Maximum Dry Density: Optimum Moisture Content: Expansion Index: Expansion Potential: Soluble Sulfate: Sulfate Exposure: Liquid Limit: Plasticity Index:	120.0 pcf 12.5% 60 Medium 0.001% Negligible 37.7 21.2

Boring No.	Sample Depth (ft.)	Soil Description	Test Results	
T-2	8	Sandy Silty Clay (CL)	Maximum Dry Density: Optimum Moisture Content: Expansion Index: Expansion Potential: Soluble Sulfate: Sulfate Exposure: Liquid Limit: Plasticity Index:	107.0 pcf 19.0% 58 Medium 0 Negligible 41.4 19.0
T-4	0-2	Silty Sand (SM)	Maximum Dry Density: Optimum Moisture Content:	131.0 pcf 8.0%
T-8	5-7	Sand (SP)	Maximum Dry Density: Optimum Moisture Content:	114.5 pcf 15.0%
T-12	0-3	Sandy Clay (CL)	Maximum Dry Density: Optimum Moisture Content: Expansion Index: Expansion Potential: Soluble Sulfate: Sulfate Exposure:	127.5 pcf 8.5% 4 Very Low 0.001% Negligible

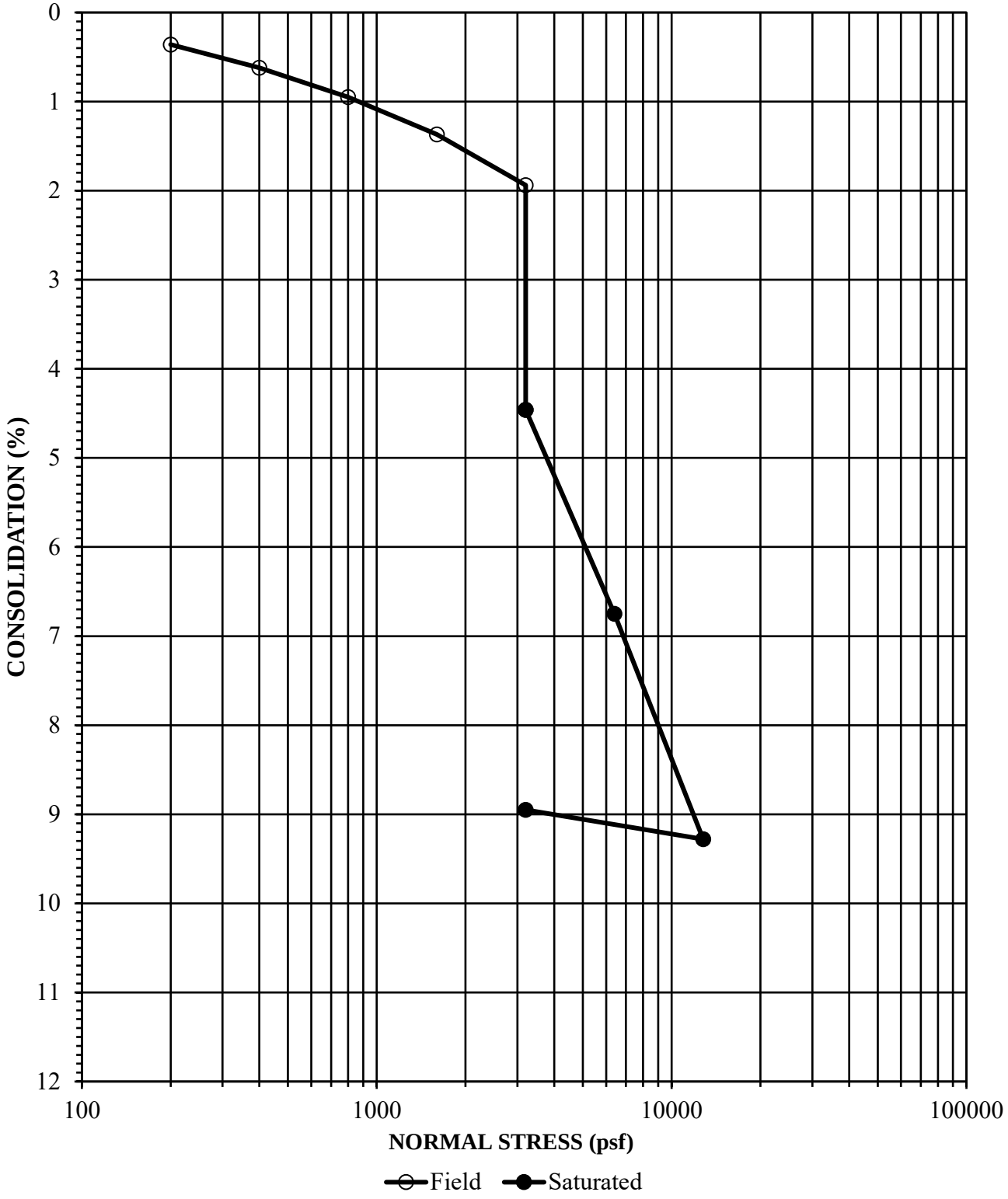
CONSOLIDATION



Job Number	Location	Depth	Description
2677.00	B-1	20	Clayey Sand (SC)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
105.1	14.6	18.1

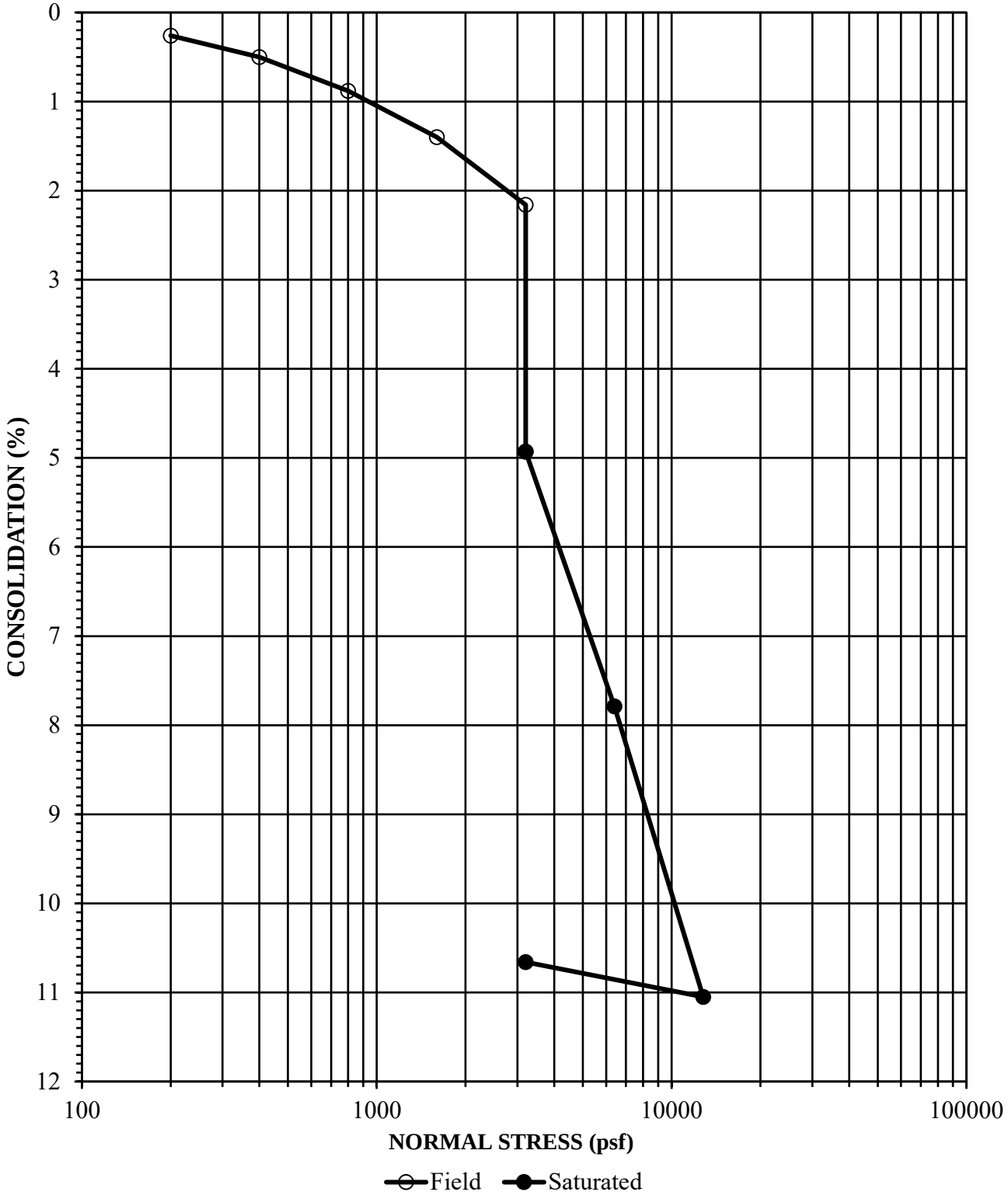
CONSOLIDATION



Job Number	Location	Depth	Description
2677.00	B-2	10	Clayey Sand (SC)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
109	7.1	13.6

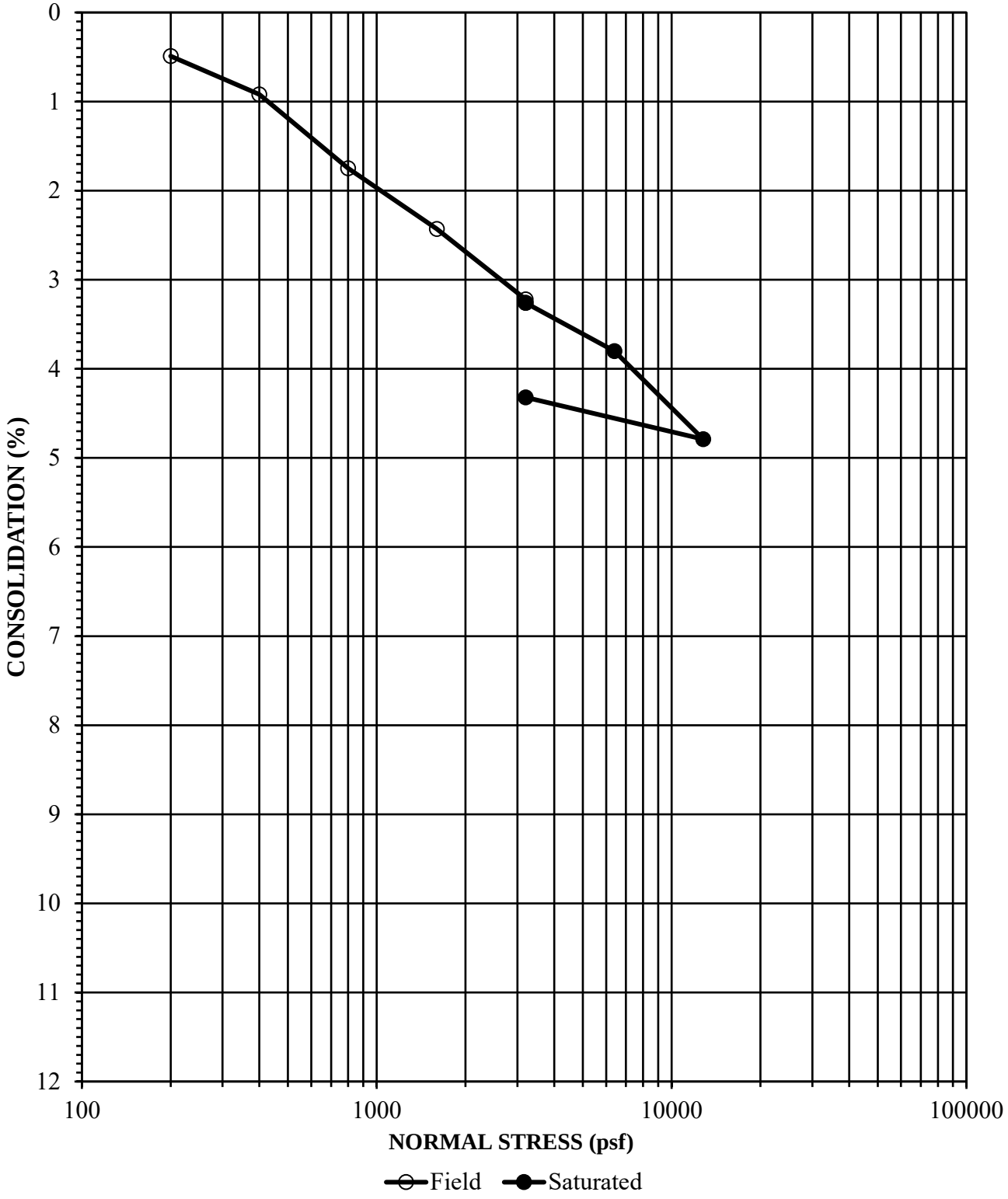
CONSOLIDATION



Job Number	Location	Depth	Description
2677.00	B-6	20	Clayey Sand (SC)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
103.1	9.5	16.1

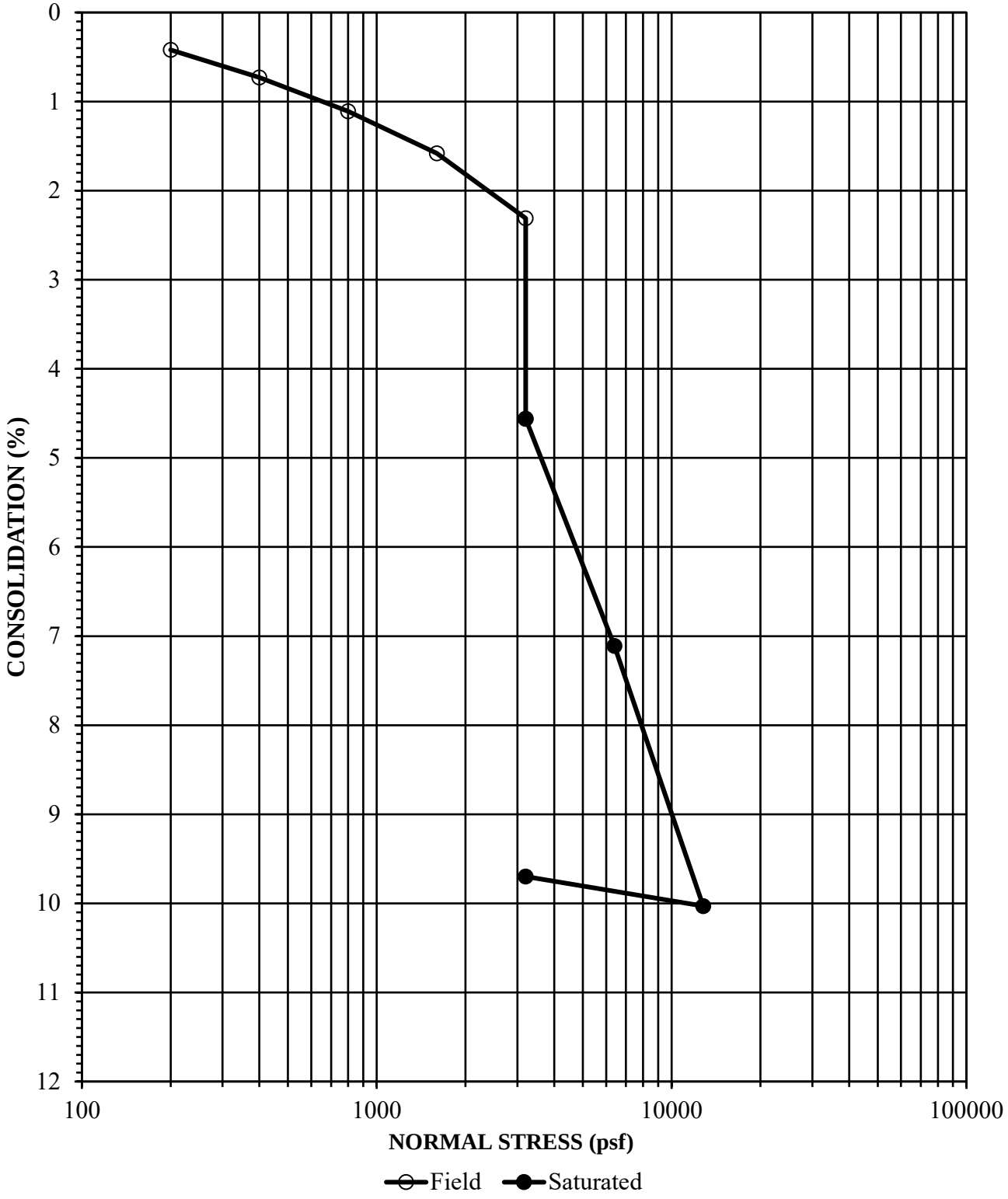
CONSOLIDATION



Job Number	Location	Depth	Description
2677.00	B-6	25	Clayey Sand (SC)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
114.8	13	15.2

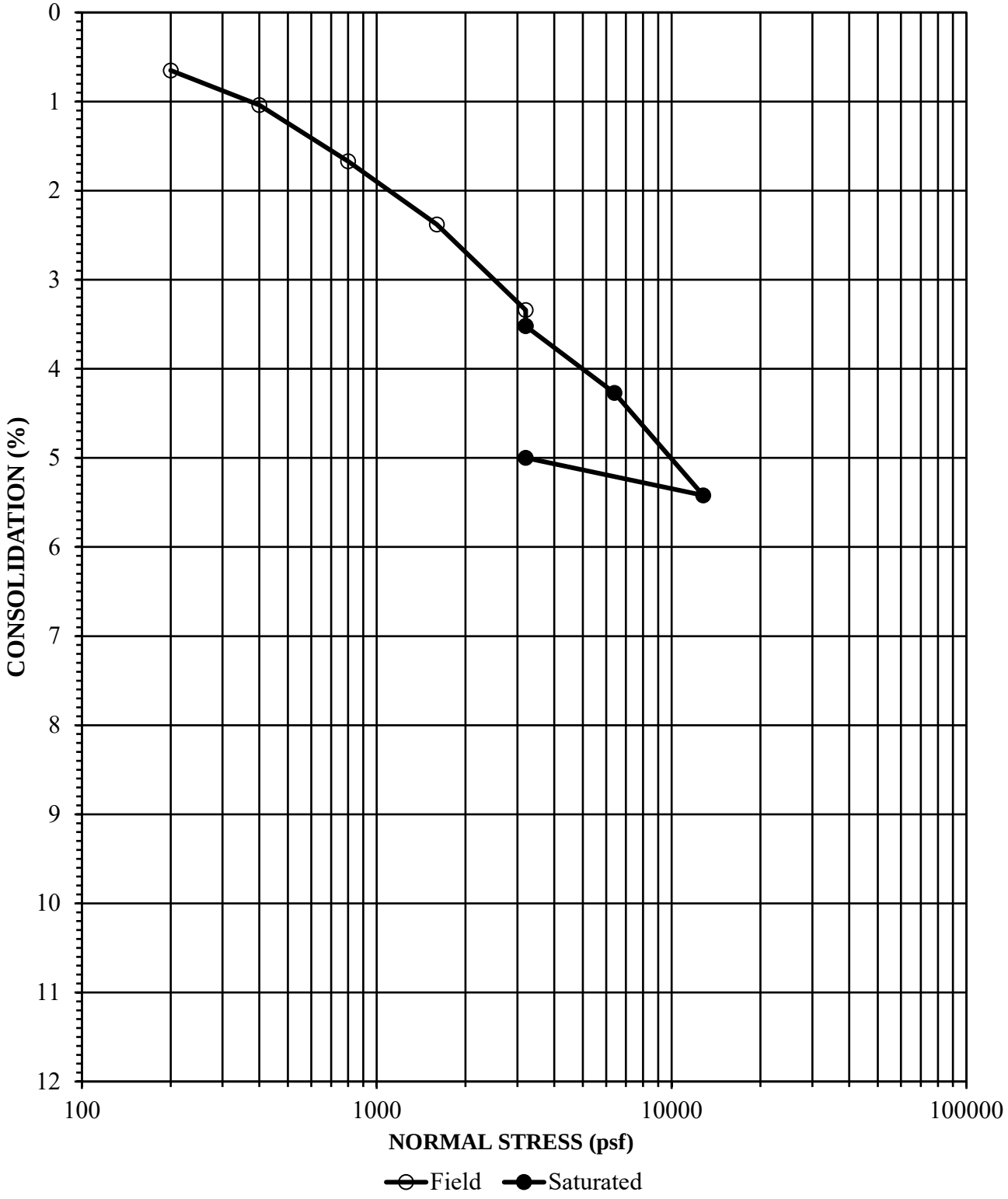
CONSOLIDATION



Job Number	Location	Depth	Description
2677.00	B-7	20	Silty Sand/Clayey Sand (SM/SC)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
104.4	7.9	14.8

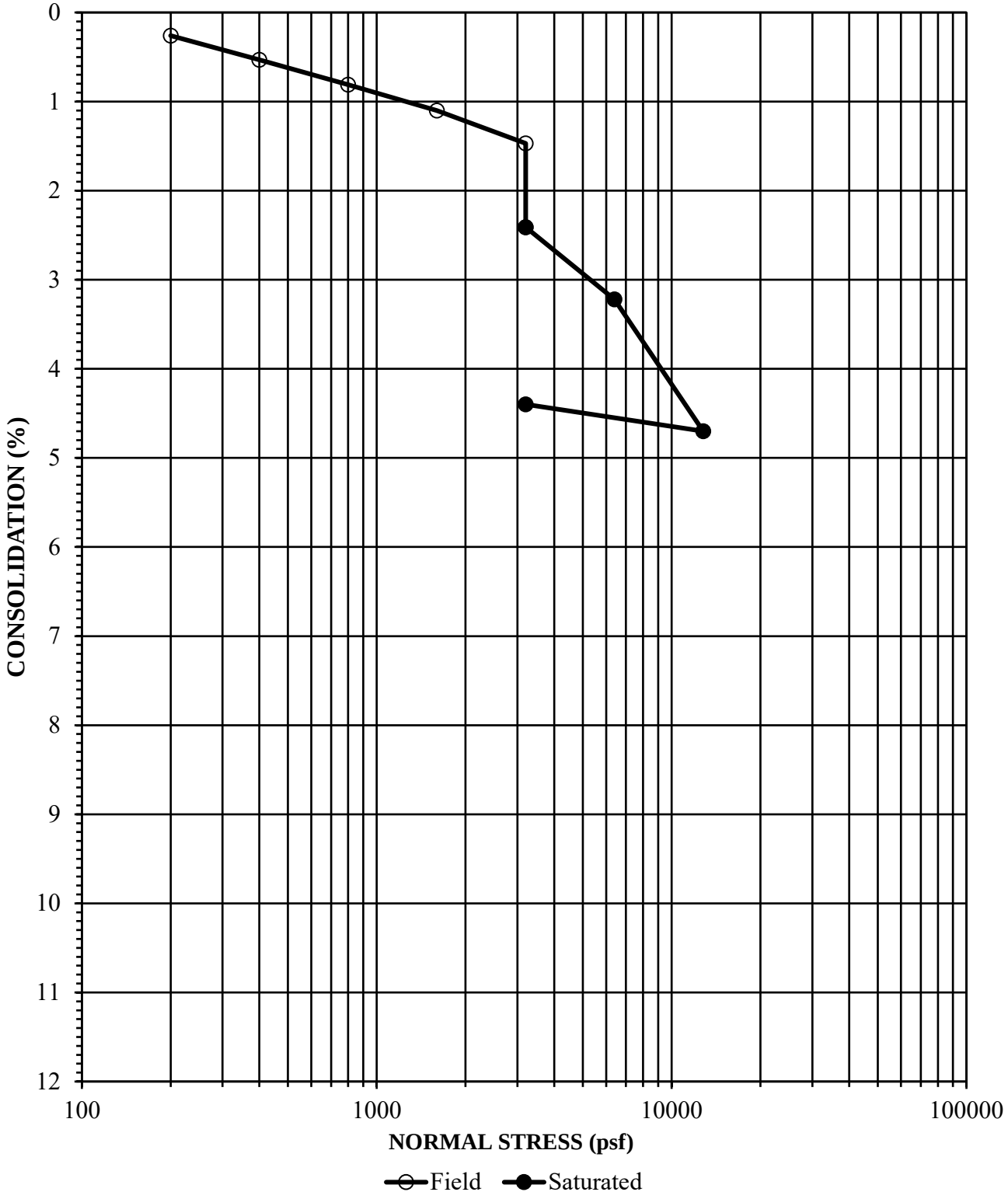
CONSOLIDATION



Job Number	Location	Depth	Description
2677.00	B-7	25	Clayey Sand (SC)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
110.8	14.3	13.5

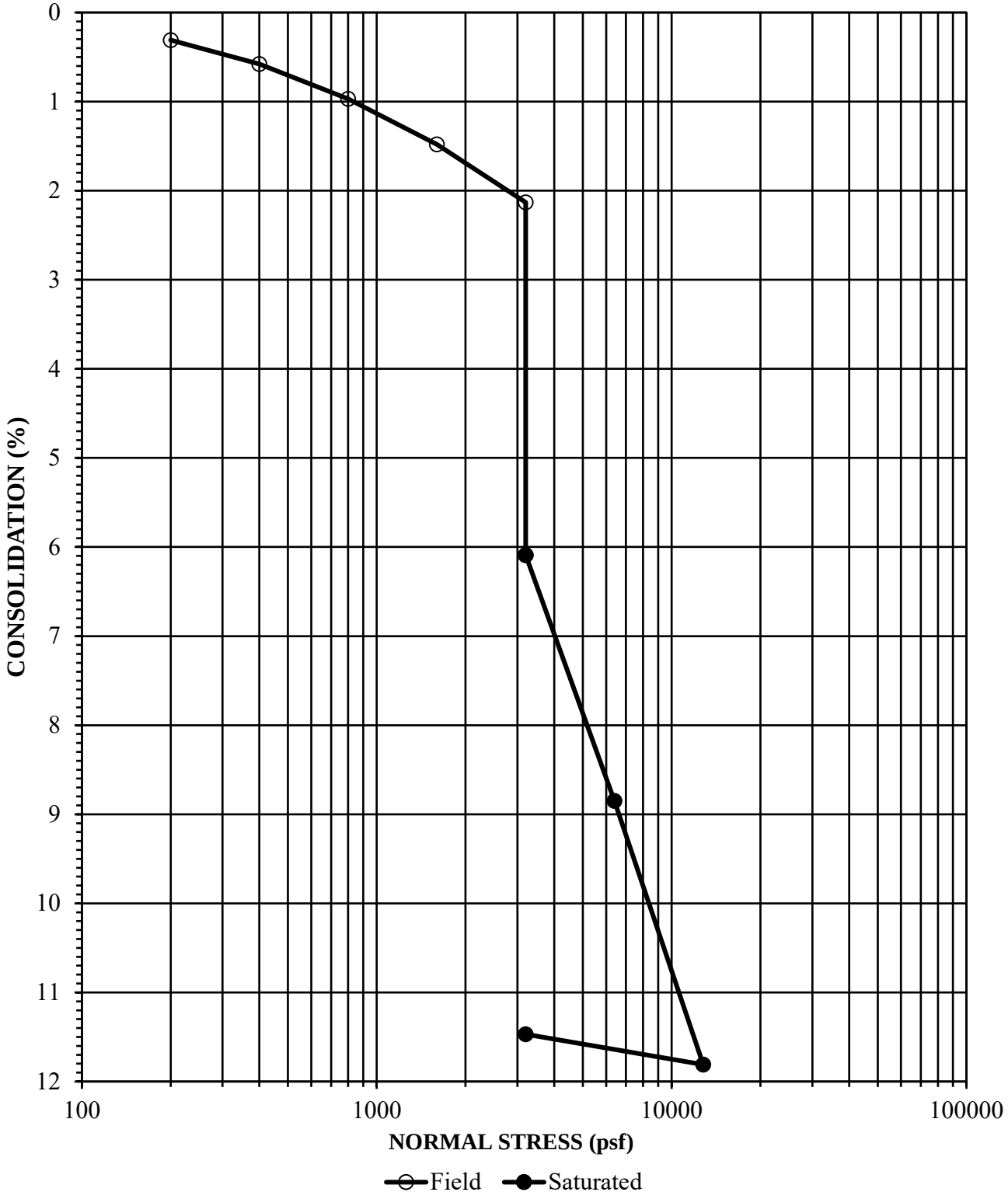
CONSOLIDATION



Job Number	Location	Depth	Description
2677.00	B-8	20	Silty Sand (SM)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
112.7	6.5	15.6

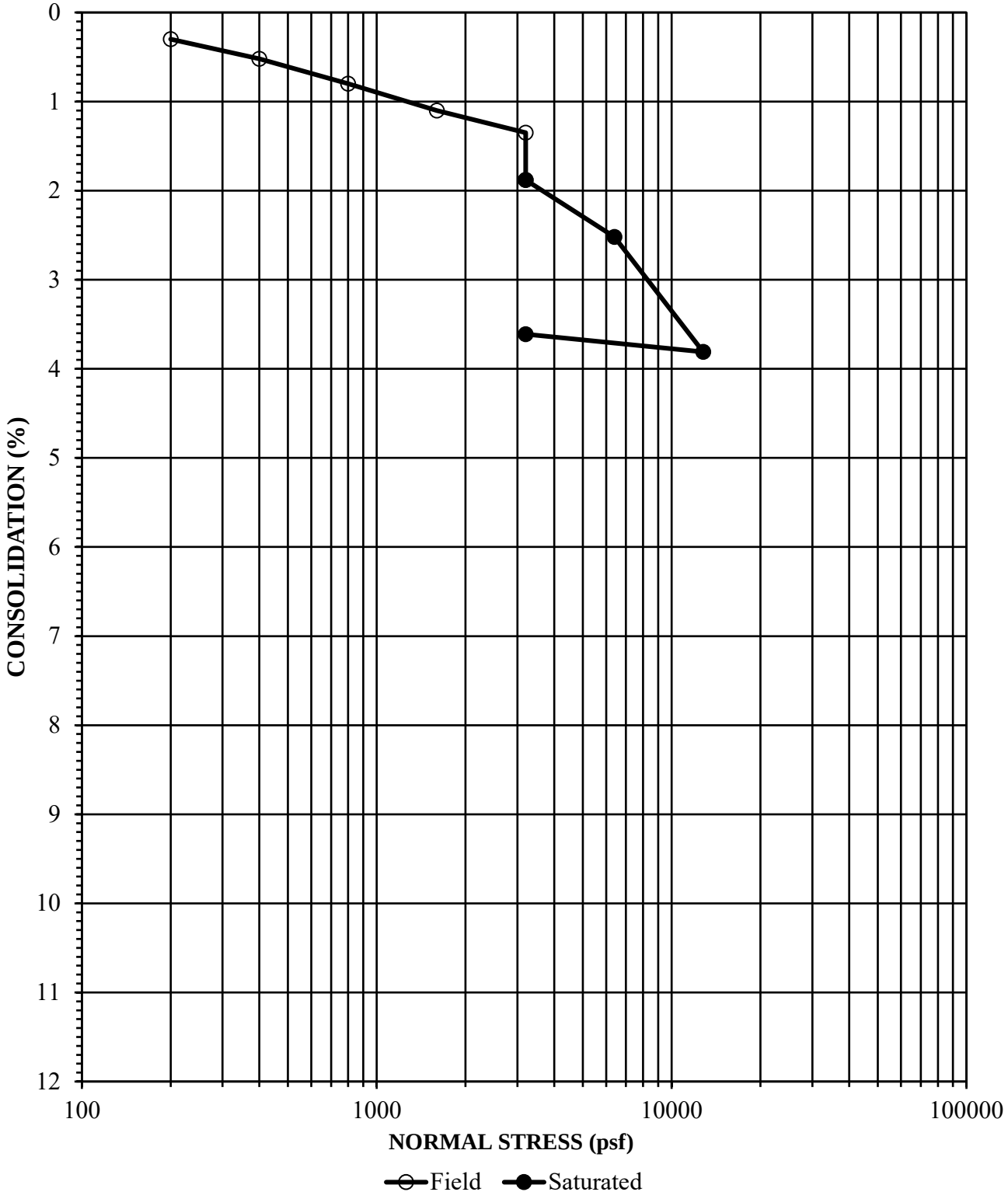
CONSOLIDATION



Job Number	Location	Depth	Description
2677.00	B-9	15	Silty Sand (SM)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
102.2	5.6	15.4

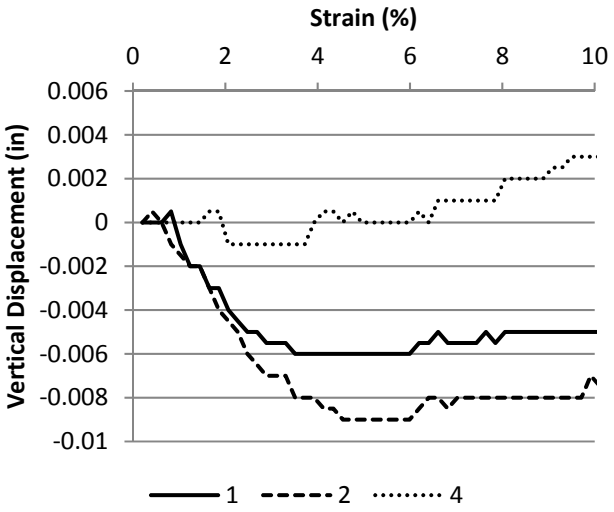
CONSOLIDATION

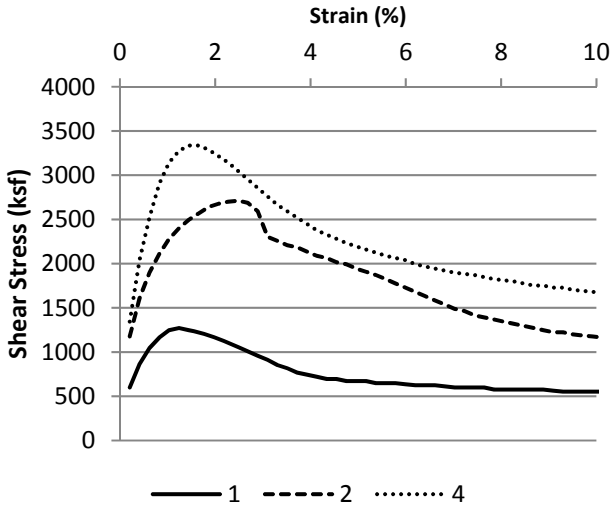


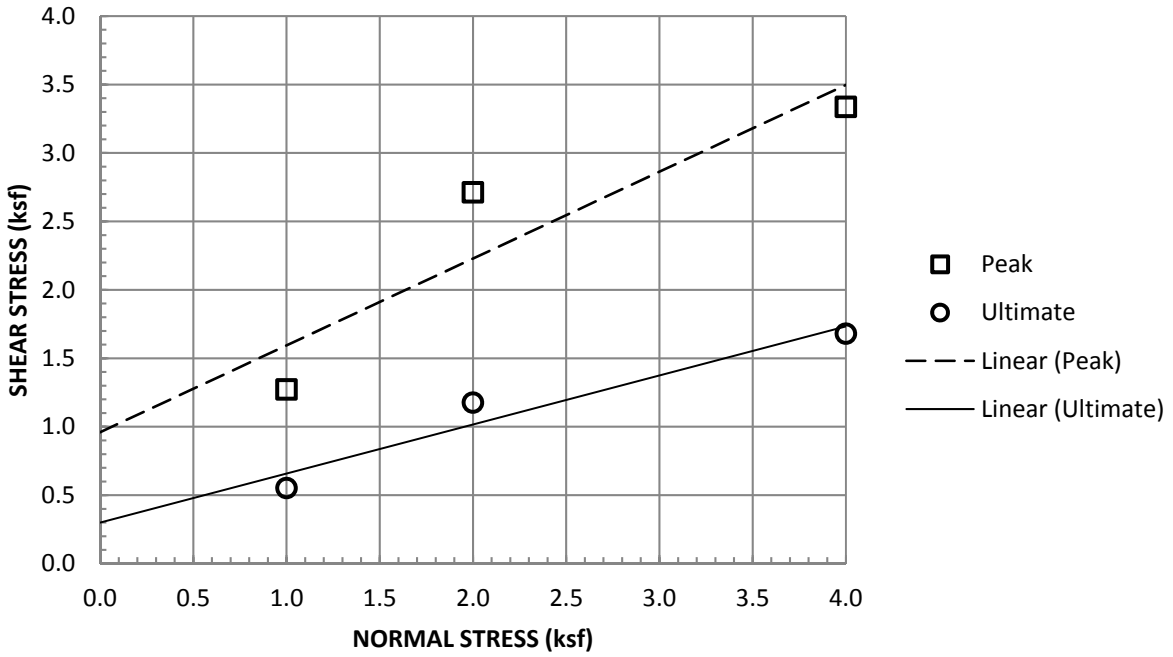
Job Number	Location	Depth	Description
2677.00	B-9	20	Silty Sand (SM)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Concent (%)
111.7	7	15.2

DIRECT SHEAR



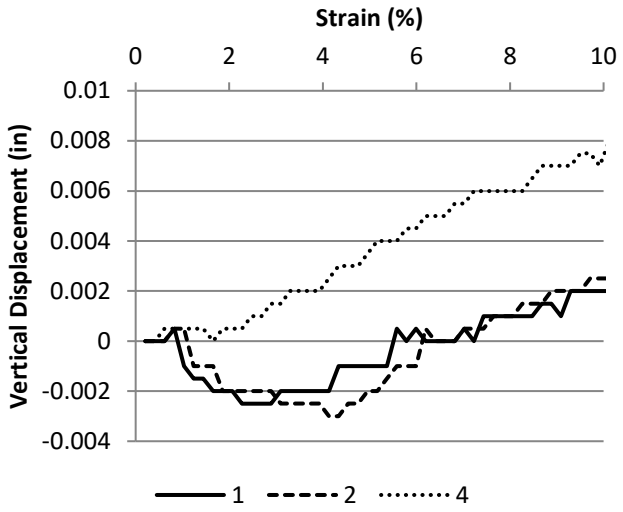


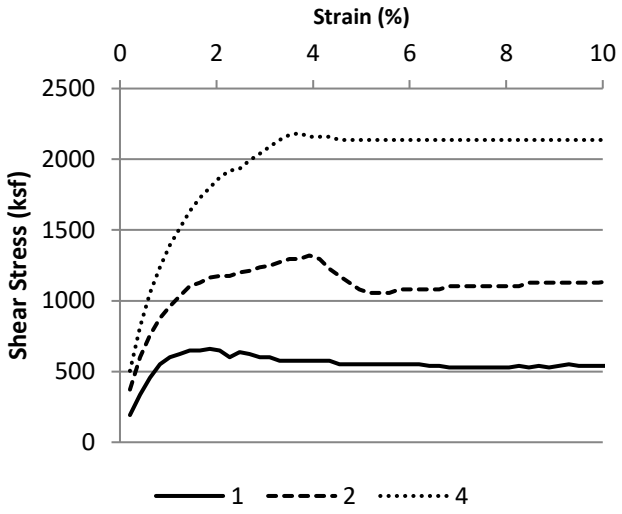


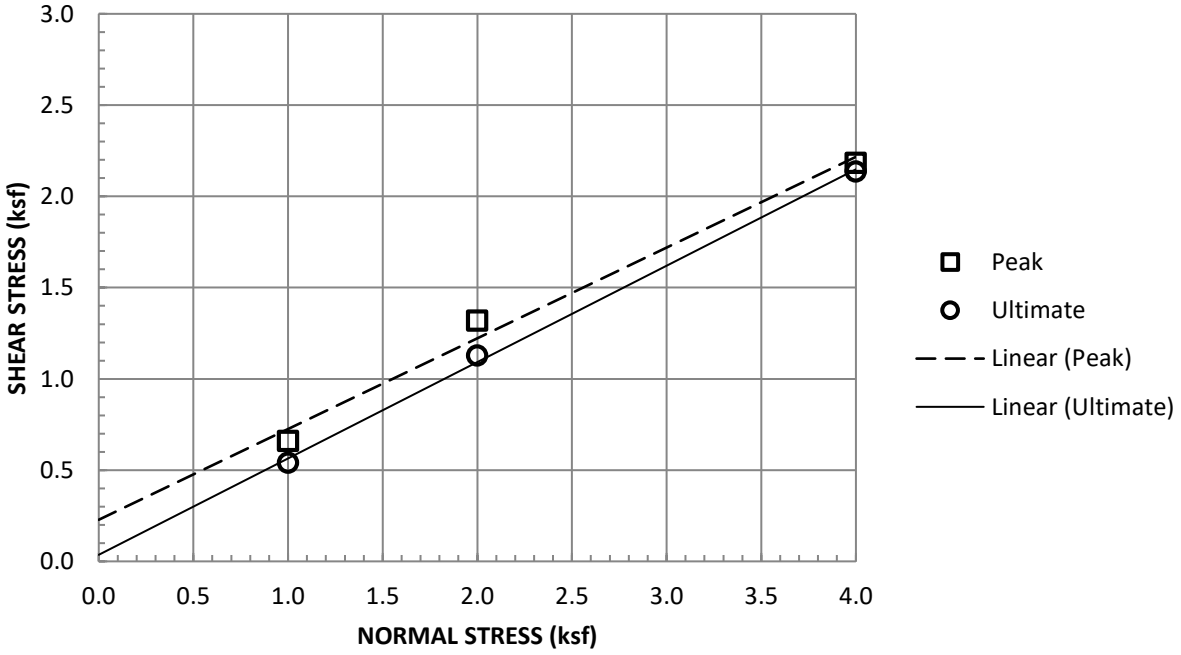
Sample Type:	Undisturbed, Saturated		
Normal Stress (ksf)	1	2	4
Peak Shear Stress (ksf)	1.272	2.712	3.336
Peak Displacement (in)	0.006	0.009	0.004
Ultimate Shear Stress (ksf)	0.552	1.176	1.68
Ultimate Displacement (in)	0.25	0.25	0.25
Initial Dry Density (pcf)	108.4	111.4	110.4
Initial Moisture Content (%)	16.1	16.1	16.1
Final Moisture Content (%)	19.7	18.7	18.9
Strain Rate (in/min)	.005		

Job Number	Location	Depth	Description
2677.00	B-12	10	Sandy Clay (CL)

DIRECT SHEAR



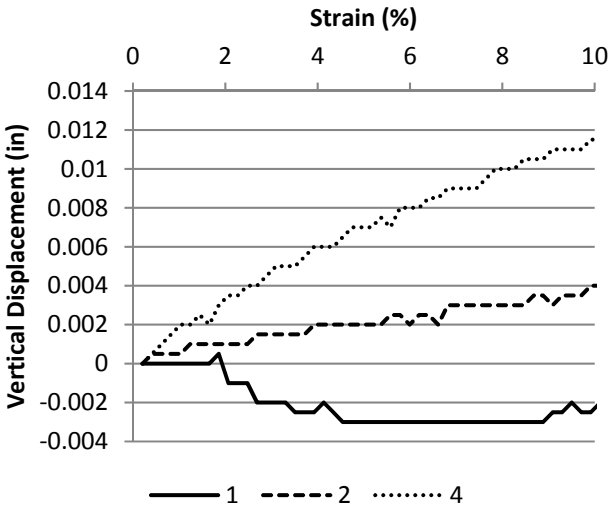


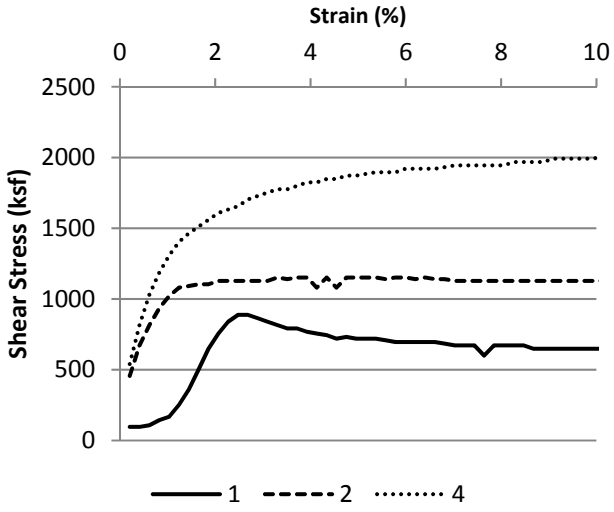


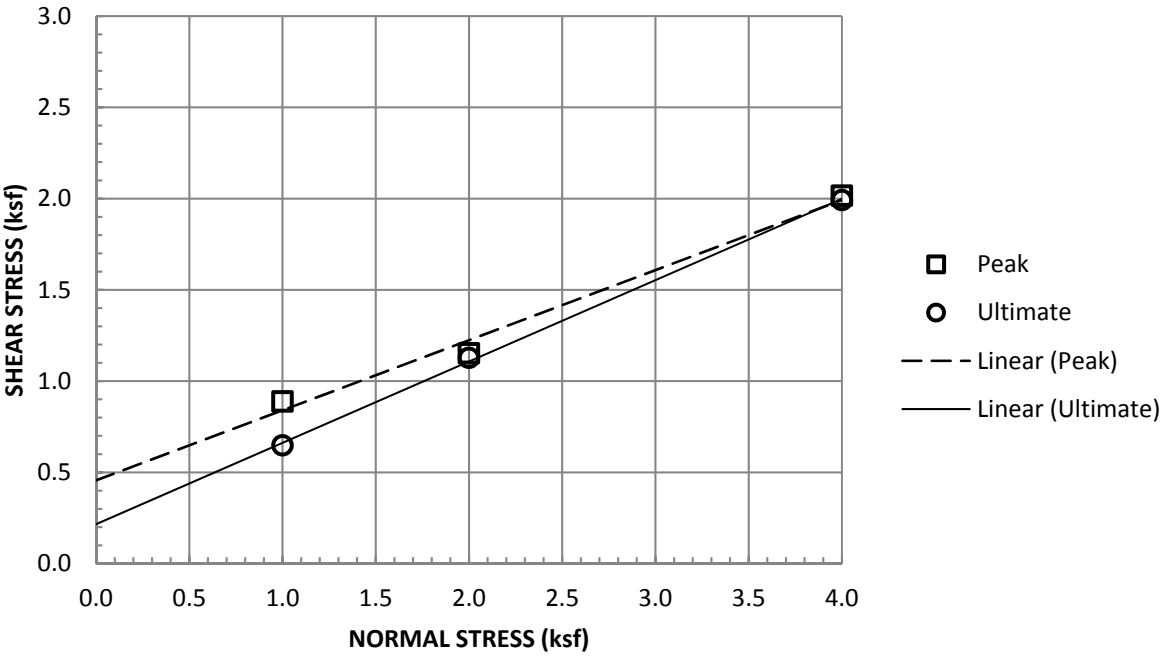
Sample Type:	Undisturbed, Saturated		
Normal Stress (ksf)	1	2	4
Peak Shear Stress (ksf)	0.66	1.32	2.184
Peak Displacement (in)	0.003	0.003	0.008
Ultimate Shear Stress (ksf)	0.54	1.128	2.136
Ultimate Displacement (in)	0.25	0.25	0.25
Initial Dry Density (pcf)	110.2	104	103.3
Initial Moisture Content (%)	6.4	6.4	6.4
Final Moisture Content (%)	18	19.7	19.7
Strain Rate (in/min)	.01		

Job Number	Location	Depth	Description
2677.00	B-12	20	Sandy Silt (ML)

DIRECT SHEAR



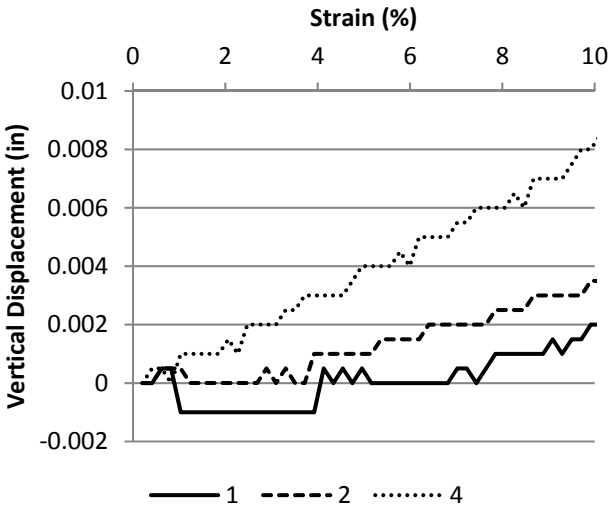


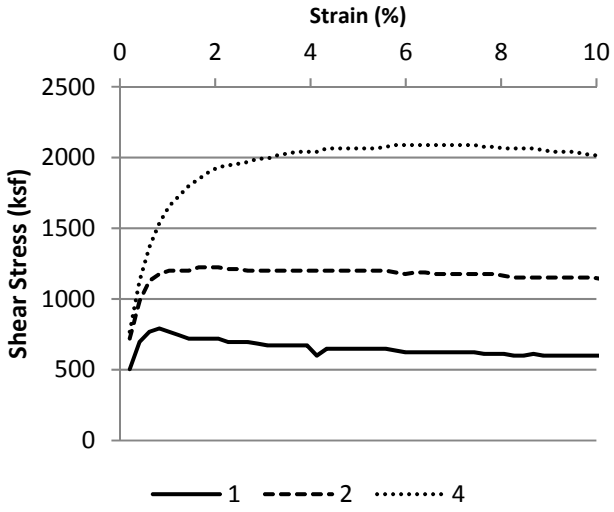


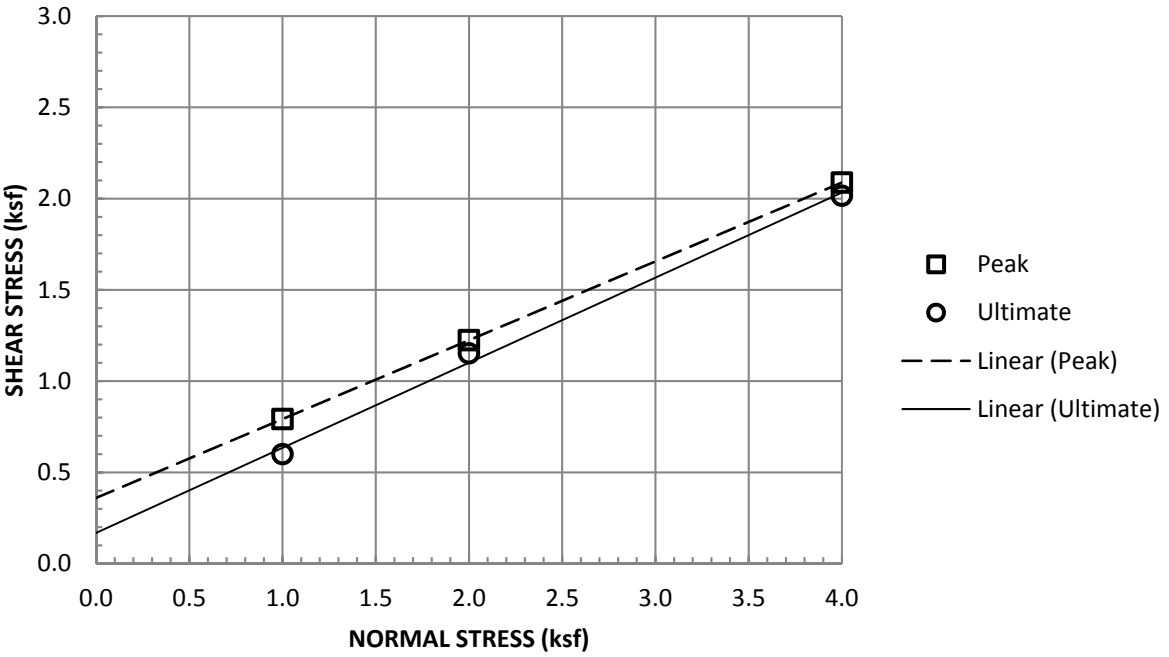
Sample Type:	Remolded 90% of 120 @ 12.5%, Saturated		
Normal Stress (ksf)	1	2	4
Peak Shear Stress (ksf)	0.888	1.152	2.016
Peak Displacement (in)	0.003	0.004	0.012
Ultimate Shear Stress (ksf)	0.648	1.128	1.992
Ultimate Displacement (in)	0.25	0.25	0.25
Initial Dry Density (pcf)	108	108	108
Initial Moisture Content (%)	12.5	12.5	12.5
Final Moisture Content (%)	17.8	18.1	18.1
Strain Rate (in/min)	0.01		

Job Number	Location	Depth	Description
2677.00	T-1	0-3	Clay with Sand (CL)

DIRECT SHEAR



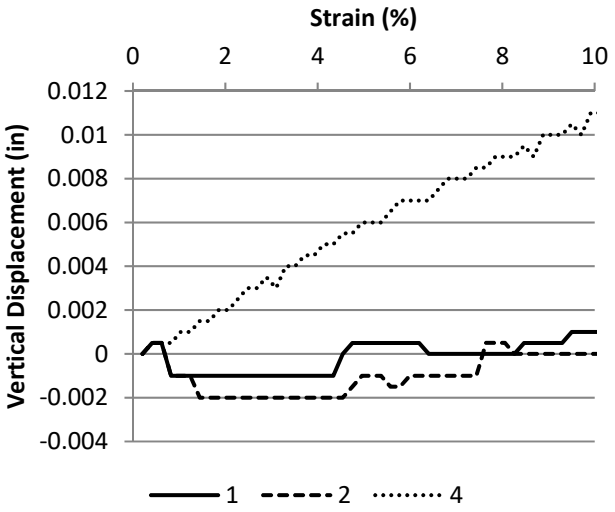


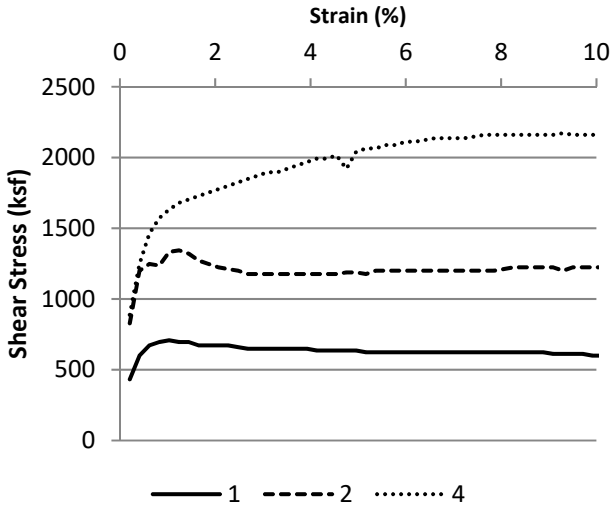


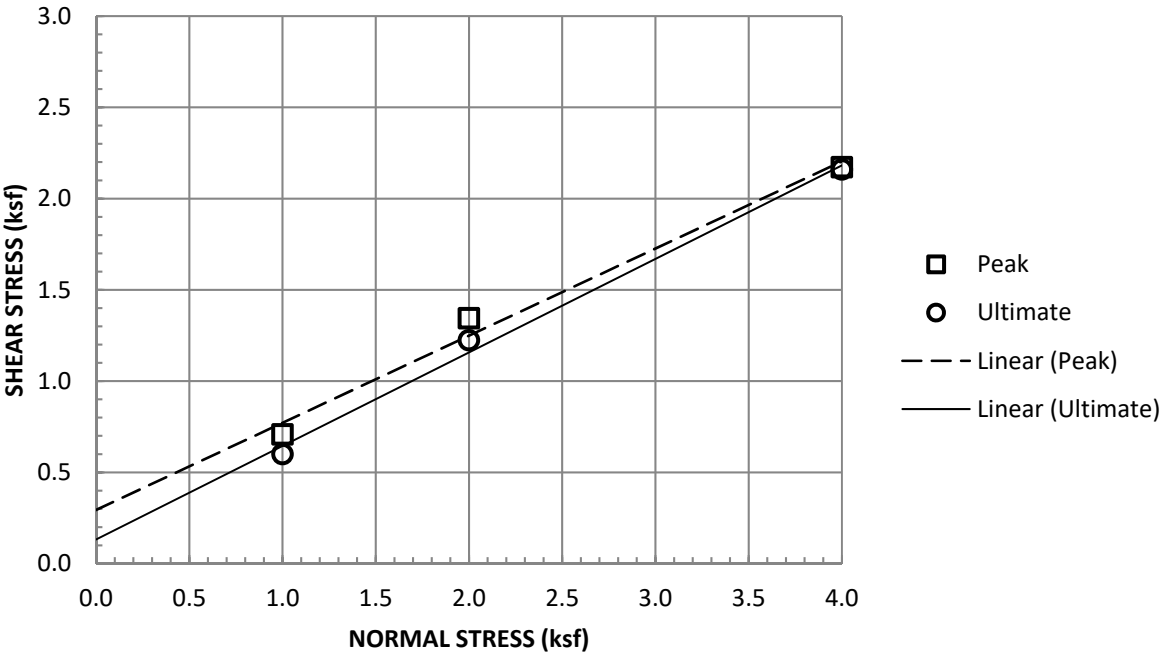
Sample Type:	Remolded 90% of 107 @ 19%, Saturated		
Normal Stress (ksf)	1	2	4
Peak Shear Stress (ksf)	0.792	1.224	2.088
Peak Displacement (in)	0.002	0.004	0.009
Ultimate Shear Stress (ksf)	0.6	1.152	2.016
Ultimate Displacement (in)	0.25	0.25	0.25
Initial Dry Density (pcf)	96.3	96.3	96.3
Initial Moisture Content (%)	19	19	19
Final Moisture Content (%)	25.4	26	26.2
Strain Rate (in/min)	0.01		

Job Number	Location	Depth	Description
2677.00	T-2	8	Sandy Silt (ML)

DIRECT SHEAR



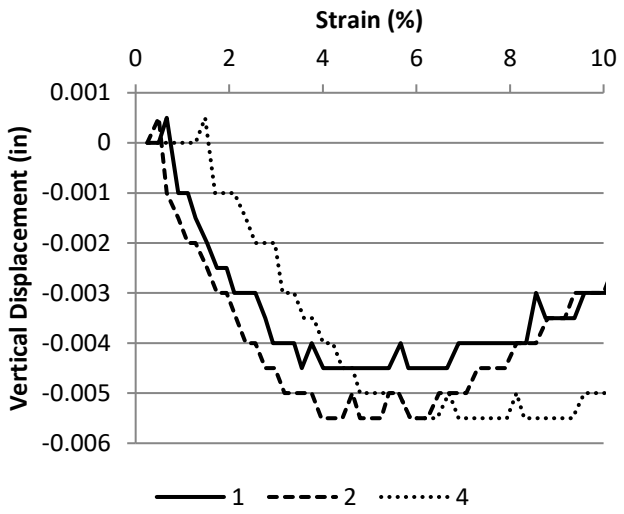


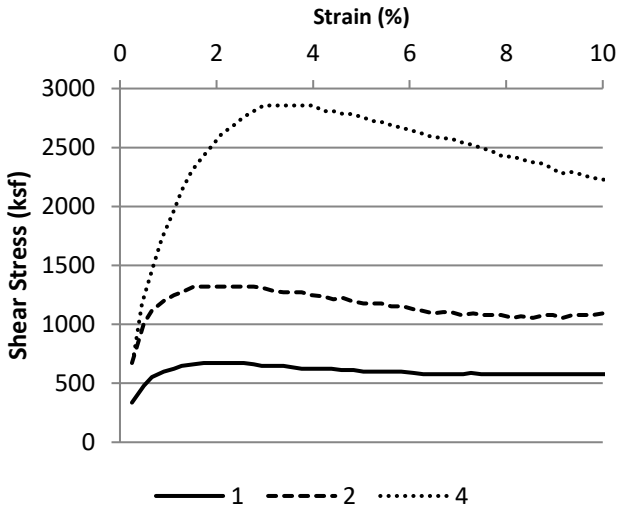


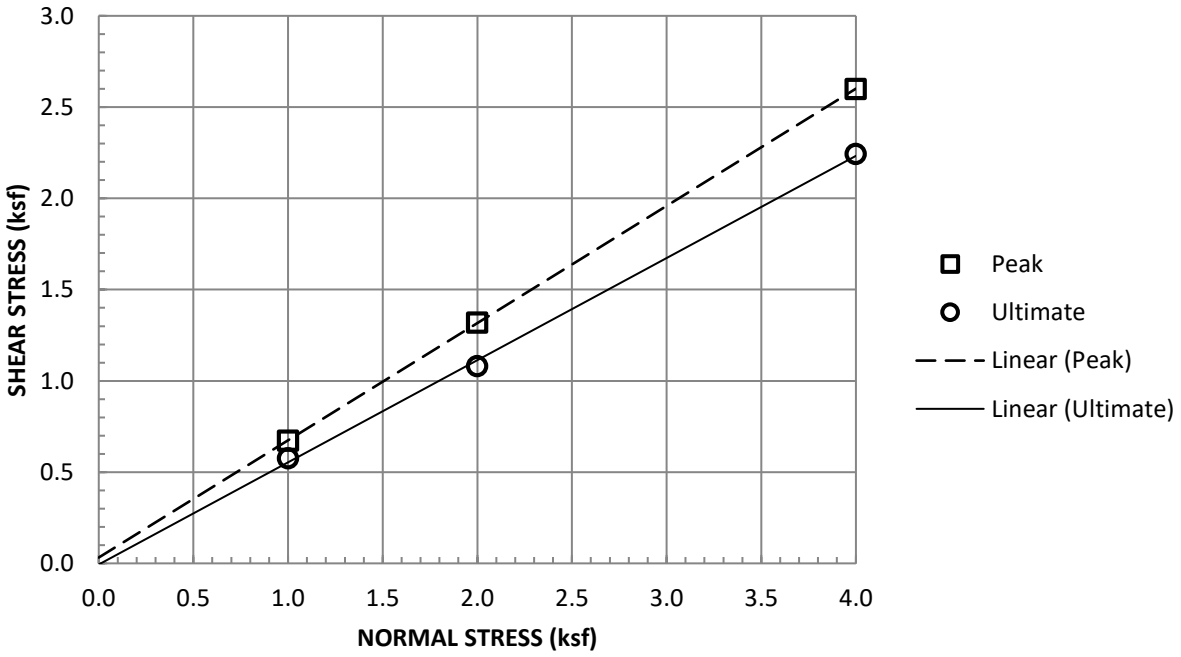
Sample Type:	Remolded 90% of 131 @ 8%, Saturated		
Normal Stress (ksf)	1	2	4
Peak Shear Stress (ksf)	0.708	1.344	2.172
Peak Displacement (in)	0.001	0.002	0.011
Ultimate Shear Stress (ksf)	0.6	1.224	2.16
Ultimate Displacement (in)	0.25	0.25	0.25
Initial Dry Density (pcf)	117.9	117.9	117.9
Initial Moisture Content (%)	8	8	8
Final Moisture Content (%)	12.6	11.9	12.5
Strain Rate (in/min)	0.01		

Job Number	Location	Depth	Description
2677.00	T-4	0-2	Silty Sand (SM)

DIRECT SHEAR







Sample Type:	Remolded 90% of 114.5 @ 15%, Saturated		
Normal Stress (ksf)	1	2	4
Peak Shear Stress (ksf)	0.672	1.32	2.6
Peak Displacement (in)	0.005	0.006	0.006
Ultimate Shear Stress (ksf)	0.576	1.08	2.244
Ultimate Displacement (in)	0.25	0.25	0.25
Initial Dry Density (pcf)	103	103	103
Initial Moisture Content (%)	15	15	15
Final Moisture Content (%)	17.6	17.4	16.2
Strain Rate (in/min)	0.01		

Job Number	Location	Depth	Description
2677.00	T-8	5-7	Sand (SP)

APPENDIX C

EXPLORATORY AND LABORATORY DATA BY OTHERS

APPENDIX C-1

GORIAN AND ASSOCIATES, INC., REPORT DATED JANUARY 31, 1994

SUB-SURFACE DATA

Project: Levy - Moorpark — EXCAVATION NUMBER: B-1 (Revised)

Method of Excavation: 24" Bucket Auger — Work Order: 1974-1-10

Ground Elevation: 647± — Location: See map. — Date Observed: 10/20/93

D	USC	SYM	U	B	S	MC	DD	DESCRIPTION	REMARKS
1	SM		■			21.4	92	Topsoil: Medium brown clayey silty fine sand (dry, medium dense to dense); slightly porous, minor carbonate.	Pp 3.2 tsf
2				■					
3			■						
4				■		4.9	97	Older Alluvium: Tan to light brown silty fine sand (moist, dense); friable, some ravelling.	Pp > 4.5
5	SM		■			6.2	104		
6									
7									
8	ML							At 7 ft. becoming slightly clayey fine sandy silt (moist, stiff); appears to be graded bedding with interbeds of silt to coarse sand (dense with depth).	Pp > 4.5
9									
10			■			25.2	93		
11									
12									Pp = 3.0
13	SM/ SP							Silty fine to medium sand (dry dense); some clay.	
14									
15			■			3.5	103		
16									
17									
18									Attitude @ 18' N71E/5°-7°NW
19				■				At 19 ft. gravels and cobbles becoming subangular in medium brown clayey fine to coarse sand matrix.	
20			■			10.0	112		Pp > 4.5
21									
22									
23									
24									
25			■			8.8	109		Pp > 4.5
26									
27								Total depth 26 feet No groundwater Slight caving 5' to 7'	
28									

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark EXCAVATION NUMBER: B-2 (Revised)

Method of Excavation: 24" Bucket Auger Work Order: 1974-1-10

Ground Elevation: 615± Location: See map. Date Observed: 10/20/93

D	USC	SYM	U	B	S	MC	DD	DESCRIPTION	REMARKS
1	SM		■	■		7.6	103	Fill: Tan-buff very silty fine sand (dry, damp) with scattered pebbles and cobbles, subround to subangular.	
2									
3									Pp > 4.5
4	SC		■			4.3	110	Becoming mottled with dark grey slightly silty clayey sand (desiccated, dense) with roots.	
5	SM		■	■		9.1	102	Alluvium: Dark grey brown clayey silty fine to medium sand (moist, dense).	Pp > 4.5
6									
7									
8									
9									Pp > 4.5
10			■			5.9	106		
11								At 10 feet becoming mottled with tan to light brown fine sand (moist, dense).	Pp > 4.5
12	SM/ SC								
13									
14									
15			■			10.6	101		
16									
17								Total depth 16 feet	
18								No caving	
19								No groundwater	
20									
21									
22									
23									
24									
25									
26									
27									
28									

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

Logs/16870

SUB-SURFACE DATA

Project: Levy - Moorpark — EXCAVATION NUMBER: B-3 (Revised)

Method of Excavation: 24" Bucket Auger — Work Order: 1974-1-10

Ground Elevation: 600± — Location: See map. — Date Observed: 10/20/93

D	USC	SYM	U	B	S	MC	DD	DESCRIPTION	REMARKS
1	ML		■			8.3	122	Older Alluvium: Grey brown mottled with rust argillaceous silt (damp, hard) with veinlets of carbonate; blockly fractured.	Pp > 4.5
2				■					Pp > 4.5
3									Pp > 4.5
4	SM		■			7.2	118	As above, but with increasing fine to coarse sand in clayey matrix.	Pp > 4.5
5									
6			■			7.1	113	Light red brown-tan argillaceous silty sand, hard, locally porous with pores to 1/8" diameter. Blockly fractured with localized manganese staining.	
7									Pp > 4.5
8	SM								
9					■				Attitude 13' N58E/4° SE
10			■			7.0	113		
11									Pp > 4.5
12									
13									
14				■		5.4	115	Light grey-tan fine to medium sand with localized gravel at 13' to 14'. Locally mottled with carbonate; hard.	Pp > 4.5
15	SW		■						
16									
17									
18									
19								Grey brown argillaceous silty sand with localized carbonate veinlets grading to light brown silty fine to medium sand with depth (dense).	
20	SM		■			6.5	109		Pp > 4.5
21									
22									
23									
24									
25	ML		■			20.6	88	Becoming very silty at 24 to 26 ft.	
26									
27								Grey brown sandy clay with localized carbonate veinlets.	Attitude @ 25' N73W/10 SW
28									
								See page 2.	

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LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark — EXCAVATION NUMBER: B-3 (Continued)

Method of Excavation: 24" Bucket Auger — Work Order: 1974-1-10

Ground Elevation: 600± — Location: See map. — Date Observed: 10/20/93

D	USC	SYM	U	B	S	MC	DD		DESCRIPTION	REMARKS
28	SM								Grading to light brown silty fine to medium sand with depth (dense).	
29										
30			▮			2.0	103			
31										
32									Total depth 31 feet No caving No groundwater	
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										
51										
52										
53										
55										
56										
57										

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark EXCAVATION NUMBER: B-4 (Revised)

Method of Excavation: 24" Bucket Auger Work Order: 1974-1-10

Ground Elevation: 650± Location: See map. Date Observed: 10/20/93

D	USC	SYM	U	B	S	MC	DD		DESCRIPTION	REMARKS
1	SM		■			5.9	89		Topsoil: Grey brown silty sand with some clay (desiccated, medium dense), locally porous.	Pp > 4.5
2				■						
3	SM		■			4.2	108		Alluvium: Grey brown silty fine grading to coarse sand (damp, dense) slightly porous.	Pp > 4.5
4										
5			■			4.3	109		At 5 ft. mottled with carbonate drills as fine sand.	Pp > 4.5
6										
7										Pp > 4.5
8										
9										
10			■			7.6	104			
11										
12				■						
13										
14										
15			■			6.0	108			
16										
17										
18									Total depth 16 feet No caving No groundwater	
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark — EXCAVATION NUMBER: B-5 (Revised)

Method of Excavation: 24" Bucket Auger — Work Order: 1974-1-10

Ground Elevation: 632± — Location: See map. — Date Observed: 10/21/93

D	USC	SYM	U	B	S	MC	DD	DESCRIPTION	REMARKS
1	SP/SW							Older Alluvium: Tan-light brown fine to coarse sand with scattered gravel (dry - upper 2' becoming damp, dense). Sand ravelling upper 2'.	
2									
3				▮				Appears to be graded bedding.	
4									
5									
6									
7			▮			3.4	100		
8									
9									
10									
11	SM								
12			▮			9.1	125		
13								At 13' to 15' silty fine to coarse sand (moist, dense).	Pp > 4.5
14								Increase of gravel with subround-angular cobbles (pred. quartzite with some granitics)	
15									
16	SM							Light brown silty fine sand (moist, dense).	Pp = 3.0
17			▮			6.7	112		
18									
19	SM							Silty fine to medium sand. Sand below 18' - locally silty; graded sequence as above (moist, dense).	Pp > 4.5
20									
21									
22			▮			15.9	114		
23									
24									
25			▮			18.5	107	Becoming slightly clayey fine to medium sand below 25'.	Pp > 4.5
26									
27				▮					
28									

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LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

Logs/16870

SUB-SURFACE DATA

Project: Levy - Moorpark EXCAVATION NUMBER: B-5 (Continued)

Method of Excavation: 24" Bucket Auger Work Order: 1974-1-10

Ground Elevation: 632± Location: See map. Date Observed: 10/21/93

D	USC	SYM	U	B	S	MC	DD		DESCRIPTION	REMARKS
28									Tan-light brown silty fine to medium sand.	
29										
30			▌			10.7	119			Pp > 4.5
31										
32										
33									Total depth 31 feet Caving - surface - 5', 13'-15' Ravelling througout No groundwater	
34										
35									(No down hole)	
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										
51										
52										
53										
55										
56										
57										

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

Logs/16870

SUB-SURFACE DATA

Project: Levy - Moorpark EXCAVATION NUMBER: B-6 (Revised)

Method of Excavation: 24" Bucket Auger Work Order: 1974-1-10

Ground Elevation: 605± Location: See map. Date Observed: 10/21/93

D	USC	SYM	U	B	S	MC	DD	DESCRIPTION	REMARKS
1	SM/ ML		■			8.2	105	Fill: Dark grey-brown clayey fine to medium sandy silty clay (moist, medium stiff). Porous with 1/8" diameter pores, scattered pebbles.	Pp = 3.5
2				■					Pp = 3.5
3									Pp = 4.0
4			■			8.6	110	Older Alluvium: Light grey brown sandy silty clay (moist, hard) with scattered pebbles.	
5									
6			■			12.5	122		Pp > 4.5
7	CL								
8									
9									
10	SC		■			13.0	110	Medium grey brown mottled with rust clayey fine to coarse sand (moist, dense). Interbedded and mottled with light grey clayey sand.	Pp > 4.5
11				■					
12									
13									Attitude @ 14' N80E/3°SE
14									
15			■			14.2	119	Wet at 15 feet.	Pp = 3.5
16									
17									
18									
19	SC							Light brown clayey fine to medium sand (very moist, dense).	
20			■			13.1	112		Pp = 3.75
21									
22								Total depth 21 feet No groundwater No caving	
23									
24									
25									
26									
27									
28									

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LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
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FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark — EXCAVATION NUMBER: B-7 (Revised)

Method of Excavation: 24" Bucket Auger — Work Order: 1974-1-10

Ground Elevation: 565± — Location: See map. — Date Observed: 10/21/93

D	USC	SYM	U	B	S	MC	DD	DESCRIPTION	REMARKS
1	CL		■			5.7	107	Topsoil: Light grey sandy silty clay (dry becomes moist, medium stiff).	Pp > 4.5
2				■					
3									Pp > 4.5
4			■			7.5	117	Older Alluvium: Light brown sandy silt (dry, hard), porous. Mottled with light grey clay, carbonate; gravel lense at 8-8½ feet.	
5	SM/ ML		■			7.2	107		Pp > 4.5
6									
7									
8									
9									Pp > 4.5
10	SM		■			4.3	107	Medium brown - light brown fine to coarse sandstone, with mangunese staining; slightly cemented with scattered gravel (dry, hard). Locally cross bedded.	Attitude @ 12' N5/3°-6°E
11									
12									
13									
14									
15			■			8.8	100		
16									Pp > 4.5
17									
18									
19									
20	SM/ SP		■			5.0	100	Grading to buff to tan silty fine to coarse sand - graded sequence (damp, very dense). Less silt, dry fine to coarse sand with depth.	Attitude @ 20' N36W/3°SW
21									
22									
23									
24									
25			■			1.7	109		Attitude @ 25' N83W/7°NE
26									
27									
28									

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LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

Logs/16870

SUB-SURFACE DATA

Project: Levy - Moorpark — EXCAVATION NUMBER: B-7 (Continued)

Method of Excavation: 24" Bucket Auger — Work Order: 1974-1-10

Ground Elevation: 565± — Location: See map. — Date Observed: 10/21/93

D	USC	SYM	U	B	S	MC	DD		DESCRIPTION	REMARKS
28									See page 1.	
29										
30										
31										Attitude @ 31' NS/3°-7°E
32	SM								At 32 to 33 feet, buff silt.	
33									Grey brown argillaceous silty sand (damp, dense).	
34	SM									
35			▌			10.0	117			Pp > 4.5
36										
37									Total depth 36 feet No groundwater No caving - minor ravelling	
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										
51										
52										
53										
55										
56										
57										

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark EXCAVATION NUMBER: B-8 (Revised)

Method of Excavation: 24" Bucket Auger Work Order: 1974-1-10

Ground Elevation: 572± Location: See map. Date Observed: 10/22/93

D	USC	SYM	U	B	S	MC	DD	DESCRIPTION	REMARKS
1	CL		■			14.5	102	Topsoil: Grey brown sandy silty clay (damp to medium stiff), porous.	
2									Pp > 4.5
3	SM		■			2.9	101	Older Alluvium: Light red brown silty fine to coarse sand friable.	
4									
5									Attitude @ 5' N43E/4°NW
6	ML		■			12.0	95	Tan to buff fine sandy silt with carbonate. Becoming interbedded bedded with fine to coarse sand. Damp, dense.	
7									Pp > 3.0
8									
9									
10			■			4.8	99	Tan - light brown graded fine to coarse sand, very friable; locally silty (dry, dense).	
11	SM								
12									Attitude @ 12' N43E/7°NW
13									
14									
15	SM		■	■		7.3	117	At 14 feet reddish brown argillacesou silty sand with carbonate veinlets (damp, hard).	
16									Pp > 4.5
17									
18									
19								Light brown fine to medium sand with locally interbedded silt, graded as above.	
20	SM/ ML		■			3.2	118		Pp > 4.5
21									
22									
23									
24									
25			■			7.4	99		Attitude @ 25' N5°W/4°SW
26									
27									
28									

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LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark — EXCAVATION NUMBER: B-8 (Continued)

Method of Excavation: 24" Bucket Auger — Work Order: 1974-1-10

Ground Elevation: 572± — Location: See map. — Date Observed: 10/22/93

D	USC	SYM	U	B	S	MC	DD		DESCRIPTION	REMARKS
28									See page 1.	
29										
30			■							Pp > 4.5
31									Total depth 31 feet	
32									No groundwater	
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										
51										
52										
53										
55										
56										
57										

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark EXCAVATION NUMBER: B-9 (Revised)

Method of Excavation: 24" Bucket Auger Work Order: 1974-1-10

Ground Elevation: 534± Location: See map. Date Observed: 10/22/93

D	USC	SYM	U	B	S	MC	DD	DESCRIPTION	REMARKS
1			▮					Alluvium: Brown silty fine to coarse sand (damp; medium dense). Some clay. Numerous rootlets within the upper 12". Some visible porosity throughout. Becomes somewhat lighter brown with depth.	
2						6.5	106		Pp > 4.5
3	SM/ SW		▮	▮		10.3	100		Pp 2.75
4									
5			▮						
6						11.2	107		Pp 2.0
7									Pp 4.5
8									
9									
10			▮					Less silty.	Pp ≈ 2.0
11						6.3	110		
12				▮					
13									
14									
15			▮					More silty. Some $CaCO_2$ coating observed on pores at 15 feet.	
16						7.2	111		Pp = 3.0
17									
18				▮					
19									
20			▮						Pp 2.75
21						11.1	108		
22								Total depth 21 feet	
23								No groundwater	
24								No caving	
25									
26									
27									
28									

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark EXCAVATION NUMBER: B-10 (Revised)

Method of Excavation: 24" Bucket Auger Work Order: 1974-1-10

Ground Elevation: 495± Location: See map. Date Observed: 10/22/93

D	USC	SYM	U	B	S	MC	DD	DESCRIPTION	REMARKS
1	SC/ SM		▮			7.0	94	Alluvium: Medium to dark brown silty fine to coarse sand to clayey silty fine to coarse sand (damp; dense). Very porous and numerous rootlets within the upper 18". Scattered $CaCO_3$ stringers throughout.	Pp > 4.5
2				▮					
3			▮			12.2	109		Pp > 4.5
4									
5			▮			13.9	113		Pp > 4.5
6									
7									
8	SM/ SW							Light brown silty fine to coarse sand (moist, dense). Some clay. Some visible porosity with $CaCO_3$ coating.	Pp = 4.0
9			▮			14.7	102		
10									
11				▮					
12									
13			▮			4.2	108		
14									
15									
16								Total depth 16 feet No groundwater Minor caving	
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark EXCAVATION NUMBER: B-11 (Revised)

Method of Excavation: 24" Bucket Auger Work Order: 1974-1-10

Ground Elevation: 508± Location: See map. Date Observed: 10/22/93

D	USC	SYM	U	B	S	MC	DD		DESCRIPTION	REMARKS
1	SM		■			5.7	107		Alluvium: Dark brown-brown silty fine to coarse sand with some clay (dry to moist, medium dense). Very porous and numerous rootlets within the upper 24". Becomes moist below 3 feet. Visible pinhole porosity throughout.	Pp > 4.5
2										
3										
4			■	■		10.3	102			Pp > 3.25
5										Pp = 4.25
6	CL		■			13.8	107		Dark brown fine sandy clay (moist, very stiff).	Pp = 4.25
7										
8										
9	ML								Dark brown fine sandy silt; porous (moist, stiff).	
10			■			11.1	108			Pp = 4.0
11										Pp = 4.5
12										
13										
14	SM/ SP								Brown silty fine to coarse sand (moist, dense). Some pinhole porosity.	
15			■			8.2	104			Pp = 3.0
16										
17									Total depth 16 feet Minor caving within upper 24" No groundwater	
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark — EXCAVATION NUMBER: B-12 (Revised)

Method of Excavation: 24" Bucket Auger — Work Order: 1974-1-10

Ground Elevation: 481± — Location: See map. — Date Observed: 10/22/93

D	USC	SYM	U	B	S	MC	DD	DESCRIPTION	REMARKS
1								Alluvium: Dark to medium brown slightly clayey, silty fine to coarse sand (damp, dense). Very porous and numerous rootlets within upper 18".	
2	SM/ ML		■			13.8	87		Pp 2.75
3									Pp 4.5
4			■			6.6	90		
5									
6			■	■		15.2	90		
7									
8									
9									
10			■			7.2	101		Pp 2.0
11									
12									
13									
14									
15								Hole caved heavily after 11.5 feet.	
16								Total depth 16 feet; caved to 13 feet Heavy caving below 11.5 feet No groundwater	
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
N - SPT Blows From 6" to 18"
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
SYM - Graphic Symbol
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark — EXCAVATION NUMBER: B-13 (Revised)

Method of Excavation: 8" Hollow Stem Auger — Work Order: 1974-1-10

Ground Elevation: 479'± — Location: See map. — Date Observed: 11/22/93

D	USC	N(60)	U	S	B	MC	DD	DESCRIPTION	REMARKS
1								Alluvium: Brown silty fine to medium sand with common coarse size sand (moist, loose to medium dense).	
2					■				
3									
4									
5	SP/SM	10		■				At 5': Brown silty sand. Lenses of clean fine to medium sand.	
6									
7	CL							At 6½': Dark brown very sandy silty clay.	
8									
9									
10								At 10': Dark brown sandy silty clay in the last 15". Upper 3"	
11	CL	12		■				are brown silty sand.	
12									
13	CL		■			11.0	103	At 12½': Dark brown to brown sandy silty clay (moist; stiff).	
14									
15								At 15': Brown to tan brown sandy silty clay. Common caliche	
16	CL	23		■				(moist, stiff).	
17									
18	CL		■			10.6	116	At 17½': Brown sandy silty clay (moist, stiff).	
19									
20	SC/CL	20		■				At 20': Tan brown sandy silty clay. Sandier in the bottom 9". Tip of sample is fine to medium sand.	
21									
22									
23	SP		■			21.4	102	At 23 feet: Fine to medium sand. Free water (saturated in the bottom 9". Tip of sample is fine to medium sand.	
24									
25								At 25': Silty fine to medium sand. Sandy silty clay with coarse	
26	SM	15		■				size sand in the upper 4".	
27									
28			■					At 27½': No sample recovered.	

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
PP - Pocket Penetrometer Values (TSF)
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
N(60) - Corrected Blow Count Per Linear Foot
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark — EXCAVATION NUMBER: B-13 (continued)

Method of Excavation: 8" Hollow Stem Auger — Work Order: 1974-1-10

Ground Elevation: 479'± — Location: See map. — Date Observed: 11/22/93

D	USC	N(60)	U	S	B	MC	DD		DESCRIPTION	REMARKS
28										
29										
30	SP/ SM	8		■					At 30': Fine to medium sand. A lense of silty sand.	
31										
32										
33										
34										
35	SP	9		■					At 35': Fine to medium sand. Some rootlets with sample.	
36										
37										
38										
39										
40	SP	8		■					Fine to medium sand; some silt.	
41										
42									Total depth 41.5 feet	
43									Groundwater at 23 feet	
44										
45										
46										
47										
48										
49										
50										
51										
52										
53										
55										
56										
57										
58										

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
PP - Pocket penetrometer Values (TSF)
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
N(60) - Corrected Blow Count Per Linear Foot
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark EXCAVATION NUMBER: B-14 (Revised)

Method of Excavation: 8" Hollow Stem Auger Work Order: 1974-1-10

Ground Elevation: 476'± Location: See map. Date Observed: 11/22/93

D	USC	N(60)	U	S	B	MC	DD	DESCRIPTION	REMARKS
1								Alluvium: Brown sandy silt to silty fine sand; Porous (moist, loose to medium dense). Becoming sandier below 3.5 feet. A lense of dark very sandy clay at 5½ to 6 feet.	
2									
3	SP/ SM		■		■	13.8	81		
4									
5		16		■					
6									
7									
8	CL		■			10.3	102	At 7½': Brown very sandy silty clay. Veinlets of caliche. Minor rootlets.	
9									
10	SM/ CL	8		■				At 10': Sandy silty clay to clayey silty sand.	
11									
12									
13	CL		■			10.4	107	At 12½': Brown sandy silty clay; abundant caliche.	
14									
15	SM/ ML	11		■				At 15': Silty sand to sandy silt; saturated (free water at approximately 15 feet. Sandy layers reported at approximately 13.5 feet.	
16									
17									
18	SP/ SM		■			14.9	104	At 17½': Silty sand to sandy silt. End of sample is medium sand.	
19									
20	SP	33		■				At 20': Medium sand.	
21									
22									
23									
24									
25	SP	56		■				At 25': Medium clean sand; some coarse.	
26									
27									
28									

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
PP - Pocket Penetrometer Values (TSF)
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
N(60) - Corrected Blow Count Per Linear Foot
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark — EXCAVATION NUMBER: B-14 (continued)

Method of Excavation: 8" Hollow Stem Auger — Work Order: 1974-1-10

Ground Elevation: 476'± — Location: See map. — Date Observed: 11/22/93

D	USC	N(60)	U	S	B	MC	DD		DESCRIPTION	REMARKS
28										
29										
30	SW	23		■					At 30': Fine to coarse sand with gravel.	
31										
32										
33										
34										
35	SW	40		■					At 35': Medium to coarse sand with gravel.	
36										
37										
38										
39										
40	SW	47		■					At 40': Medium to coarse sand with gravel.	
41										
42									Total depth 41½ feet. Groundwater: approximately 15 feet.	
43										
44										
45										
46										
47										
48										
49										
50										
51										
52										
53										
55										
56										
57										
58										

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
PP - Pocket Penetrometer Values (TSF)
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
N(60) - Corrected Blow Count Per Linear Foot
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

SUB-SURFACE DATA

Project: Levy - Moorpark EXCAVATION NUMBER: B-15 (Revised)

Method of Excavation: 8" Hollow Stem Auger Work Order: 1974-1-10

Ground Elevation: 558'± Location: See map. Date Observed: 11/22/93

D	USC	N(60)	U	S	B	MC	DD	DESCRIPTION	REMARKS
1								Alluvium: Brown silty fine to medium sand with some coarse size sand.	
2									
3	SC/ CL		■			5.2	98	At 2½': Brown very sandy silty clay to clayey sand; Porous.	
4									
5	SC/ CL	16		■				At 5': Light brown to brown sandy silty clay to clayey sand. Porous in the upper 8" to less porous below.	
6									
7									
8	CL		■			9.2	108	At 7½': Brown sandy silty clay.	
9									
10	CL/ SP	17		■				At 10': Light brown gradational very sandy silty clay to fine to medium sand.	
11									
12									
13	SP		■			8.6	104	At 12½': Light brown slightly silty fine to medium sand; moist, some porosity.	
14									
15	SM/ SP	15		■				At 15': Light brown slightly silty fine to medium sand. A 2" lense of clayey sand. Minor porosity.	
16									
17									
18	SC		■			14.0	116	At 17½': Brown clayey sand. No porosity.	
19									
20	SC	14		■				At 20': Brown silty clayey sand. A lense (2" to 3") of sandy clay with caliche veinlets.	
21									
22									
23	SC/ CL		■			12.2	107	At 22½': Brown clayey sand to sandy silty clay. Abundant caliche veinlets.	
24									
25	SC	16		■				At 25': Brown clayey sand.	
26									
27									
28									

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
PP - Pocket Penetrometer Values (TSF)
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
N(60) - Corrected Blow Count Per Lineal Foot
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE

Logs/16870

SUB-SURFACE DATA

Project: Levy - Moorpark — EXCAVATION NUMBER: B-15 (continued)

Method of Excavation: 8" Hollow Stem Auger — Work Order: 1974-1-10

Ground Elevation: 558'± — Location: See map. — Date Observed: 11/22/93

D	USC	N(60)	U	S	B	MC	DD		DESCRIPTION	REMARKS
28										
29										
30	CL/SC	44		■					At 30': Upper half is sandy silty clay below clayey sand. Tip of sample contains fine to coarse sand with gravel.	
31										
32										
33										
34										
35	SW	>50		■					Fine to coarse sand with gravel. Gravel at tip of sample.	
36										
37										
38										
39										
40		>50		■					Yellow to red-brown fine to medium sand.	
41									Total depth 40.5 feet	
42									No groundwater	
43										
44										
45										
46										
47										
48										
49										
50										
51										
52										
53										
55										
56										
57										
58										

This log applies only at the location of this excavation and at the time of excavating. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

LEGEND:

B - Bulk Sample
D - Depth Below Ground Elevation (ft)
DD - In Place Dry Density (pcf)
MC - Moisture Content (%)
PP - Pocket Penetrometer Values (TSF)
SMC - %Sand-%Silt-%Clay
S/SPT - Standard Penetration Test
N(60) - Corrected Blow Count Per Linear Foot
U - Relatively Undisturbed Drive Sample
USC - Unified Soil Classification System

FIGURE



① ALLUVIUM: DARK GREY, CLAYEY-SILTY SAND (MOIST-V/MOIST-MED-DENSE) POROUS-LOCALLY DISTURBED.

② ALLUVIUM: MEDIUM BROWN-SANDY SILTY CLAY (DAMP-V/MOIST-STIFF) BLOCKLY FRACTURED-V/POROUS. LOCALIZED RODENT BURROWS-LOCALLY DISTURBED.

③ ALLUVIUM: GREY BROWN-CLAYEY F/SAND MOTTLED W/BLACK SANDY-SILTY CLAY-LOCALIZED CARBONATE VEINLETS, POROUS.

④ SAUGUS FORMATION: GREY-LT. BROWN, V/SANDY MUDSTONE W/F/COARSE GRAIN SAND; SCATTERED PEBBLES (ANG & SUB-ANG); LOCALLY POROUS (MOIST, V/STIFF), ABUNDANT CARBONATE IN UPPER 9', WITH ROOTLETS AND VEINLETS THROUGHOUT. LOWER 3' BECOMING V/SANDY W/LOCALIZED GRAVEL LINNEATIONS. GRADES TO UNIT 5.

④a ALLUVIUM: MEDIUM BROWN-GREY BROWN-SLIGHTLY CLAYEY-SILTY F/MED SAND -VERY DENSE W/SCATTERED GRAVEL, APPEARS TO BE BURIED CHANNEL DEPOSIT.

⑤ SAUGUS FM: TAN-LIGHT BROWN V/SILTY-F/MED SANDSTONE, SLIGHTLY TO MODERATELY FRIABLE W/SCATTERED GRAVEL, LENSES.

⑤a SAUGUS FM: TAN-F/CSE SANDSTONE W/GRAVEL CLASTS (SUB-ANGULAR) FRIABLE-LOCALLY EXHIBITS CROSS BEDDING.

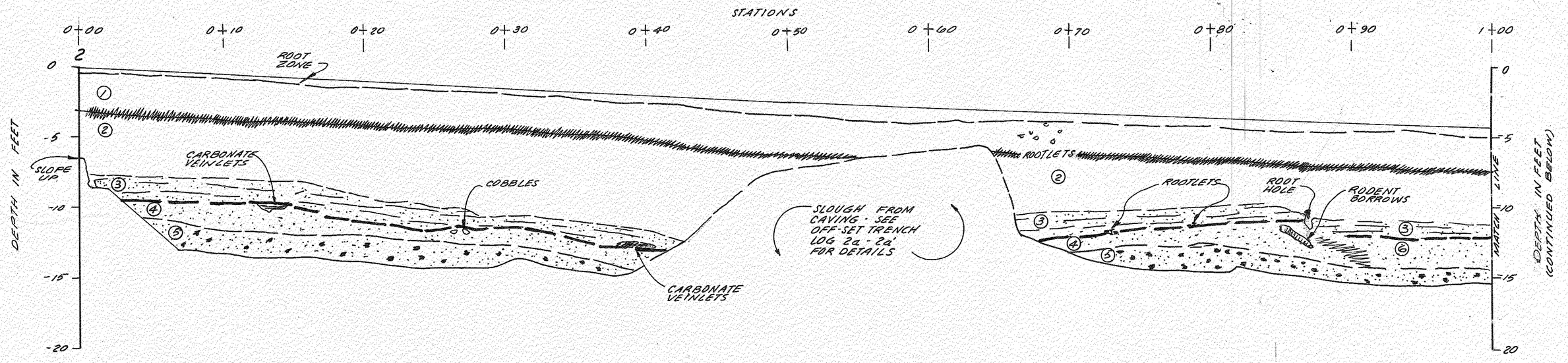
TRENCH LOG 1-1'

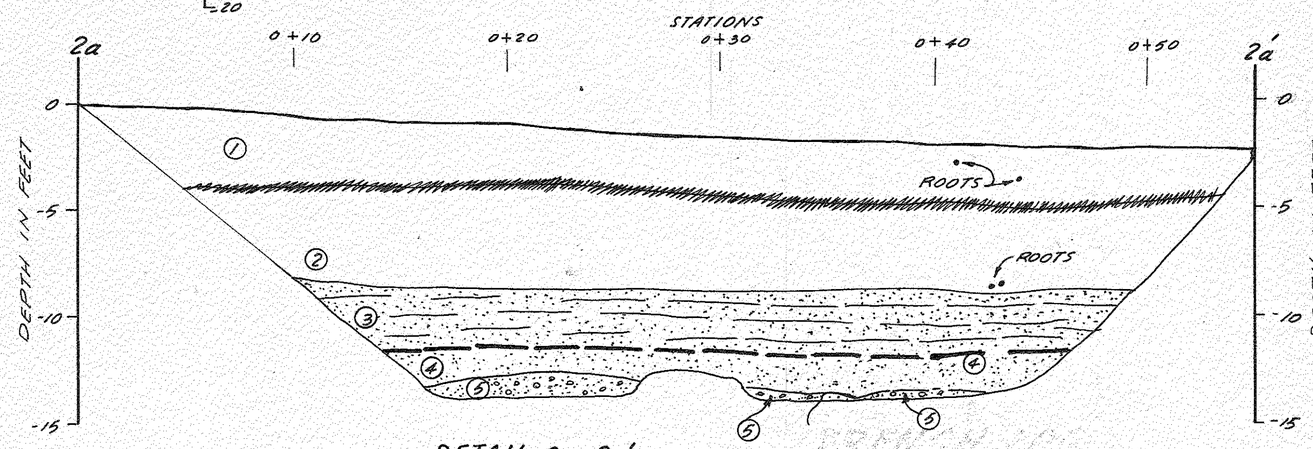
EAST WALL

LEVY RANCH

MOORPARK - CALIFORNIA

GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 2
Job No.: 1974-1-12		Date: 4-20-94
Scale: 1"=5'	Drawn by: JGR Approved by:	Log No.:





DETAIL 2a-2a'

LEVY RANCH

MOORPARK - CALIFORNIA

1. ALLUVIUM: DARK GREY SANDY CLAYEY SILT (WET, MED. STIFF.) W/ ABUNDANT ROOTLETS UPPER 6"; SCATTERED PEBBLES.
2. YOUNGER ALLUVIUM: GREY BROWN CLAYEY SILTY SAND; SANDY CLAY; POROUS W/ PIN POINT POROSITY (MOIST, DENSE)
3. OLDER ALLUVIUM: TAN-LIGHT BROWN VERY SILTY FINE SAND - SLIGHTLY FRIABLE, LOCALLY POROUS - W/ SCATTERED CARBONATE NODULES & ABUNDANT CARBONATE VEINLETS - SCATTERED PEBBLES - COBBLES, (QUARTZITE) ANGULAR/SUBANGULAR.
4. OLDER ALLUVIUM: TAN FINE/MEDIUM SAND FRIABLE W/ SCATTERED GRAVEL - WELL SORTED, W/ LOCALLY ABUNDANT CARBONATE VEINLETS SOUTH OF STA 0+60 GRADED BEDDING OBSERVIBLE FROM START OF STA 1+26.
5. OLDER ALLUVIUM: TAN FINE/CSE SAND LOCALIZED GRAVEL TO 1" DIA. (ANGULAR/SUB-ANGULAR, VERY FRIABLE, W/ SOME CAVING - LOWER 1: HORIZONTAL - SUB-HORIZONTIAL GRAVEL LINEATIONS.
6. OLDER ALLUVIUM: GREY BROWN - VERY SILTY - FINE SAND (DAMP) FRIABLE WITH ABUNDANT CARBONATE VEINLETS DISSEMINATED THROUGHOUT. ROOTLETS GENERALLY FOLLOWING CONTACT WITH UNIT 3.

TRENCH LOG 2-2'

EAST WALL

GORIAN & ASSOCIATES, INC. Applied-Earth Sciences		PLATE 3
Job No.: 1974-1-12		Date: 4-20-94
Scale: 1" = 5'	Drawn by: JGR Approved by:	Log No.:

APPENDIX C

LABORATORY TESTING

General

A program of soil testing was performed on the obtained soil samples to evaluate their geotechnical properties. Tests consisted of evaluations of in situ moisture content and density, optimum moisture-maximum dry density relationships, consolidation/collapse tests, direct shear tests, and expansion potential. Test procedures and results are presented below.

Field Density and Moisture Content

The relatively undisturbed soil samples were used to evaluate the field density and moisture content. Test results are indicated on the attached boring logs, Figures A1-A15.

Maximum Density-Optimum Moisture

Maximum dry density and optimum moisture content tests (compaction characteristics) were performed on selected bulk samples of the earth materials encountered. The tests were performed in accordance with ASTM D 1557. The results are as follows:

Boring Number	Depth(ft)	Visual Soil Classification	Maximum Dry Density(pcf)	Optimum Moisture Content %
B-9	3	Brown silty fine to coarse sand	130	8.5
B-9	11	Brown silty sand	128	8.5
B-9	18	Brown silty sand	131	8.0
B-10	3	Dark brown slightly clayey silty sand	120	11.5
B-10	13	Light brown silty fine to coarse sand with some gravel	132	8.5
B-11	4	Brown silty fine to coarse sand.	129	9.5
B-11	14	Brown silty fine to coarse sand.	132	7.5
B-12	6	Brown clayey silty sand	121	11.0

GORIAN & ASSOCIATES INC

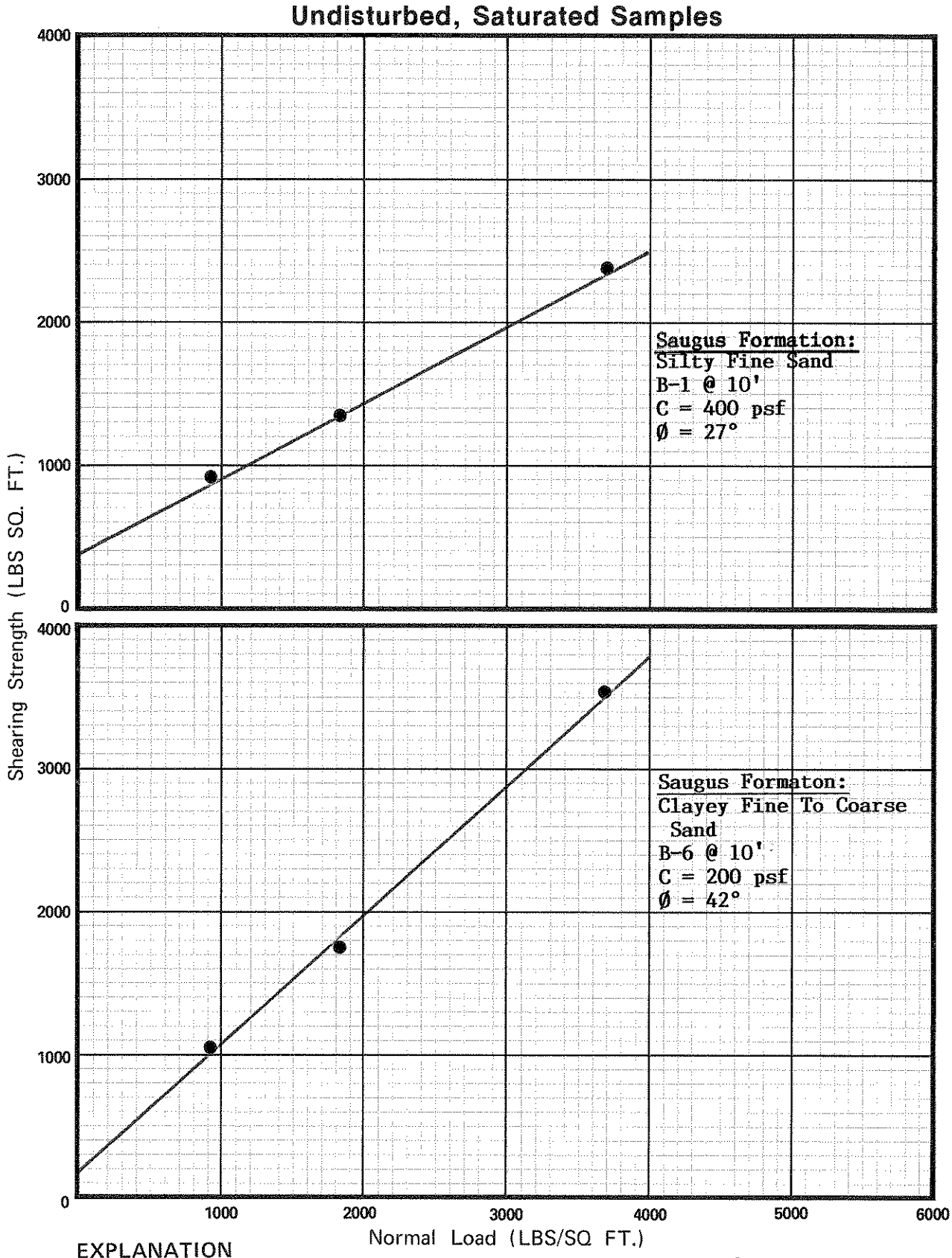
Direct Shear Tests

Direct shear tests were performed on selected relatively undisturbed samples obtained at various depths of the underlying bedrock. The sample sets were saturated prior to being sheared under normal pressure ranging from 920 to 3680 psf at a rate of 0.05 inches per minute. The ultimate shearing strength results are attached as graphic summaries in Figure C-1.

Consolidation Tests

Load consolidation tests were conducted on ten relatively undisturbed samples obtained at depths ranging between 4 to 20 feet below the ground surface. Test loads were added in increments with water added at normal pressures of 1000 and 2000 psf, to study the effects of moisture infiltration on potential foundation behavior. The results are presented as graphic summaries, Figures C-2 through C-11.

RESULTS OF SHEARING STRENGTH TESTS



EXPLANATION

B-9 @ 12' = Sample taken from Boring 9 at 12 Feet in Depth.

GORIAN AND ASSOCIATES, Inc.

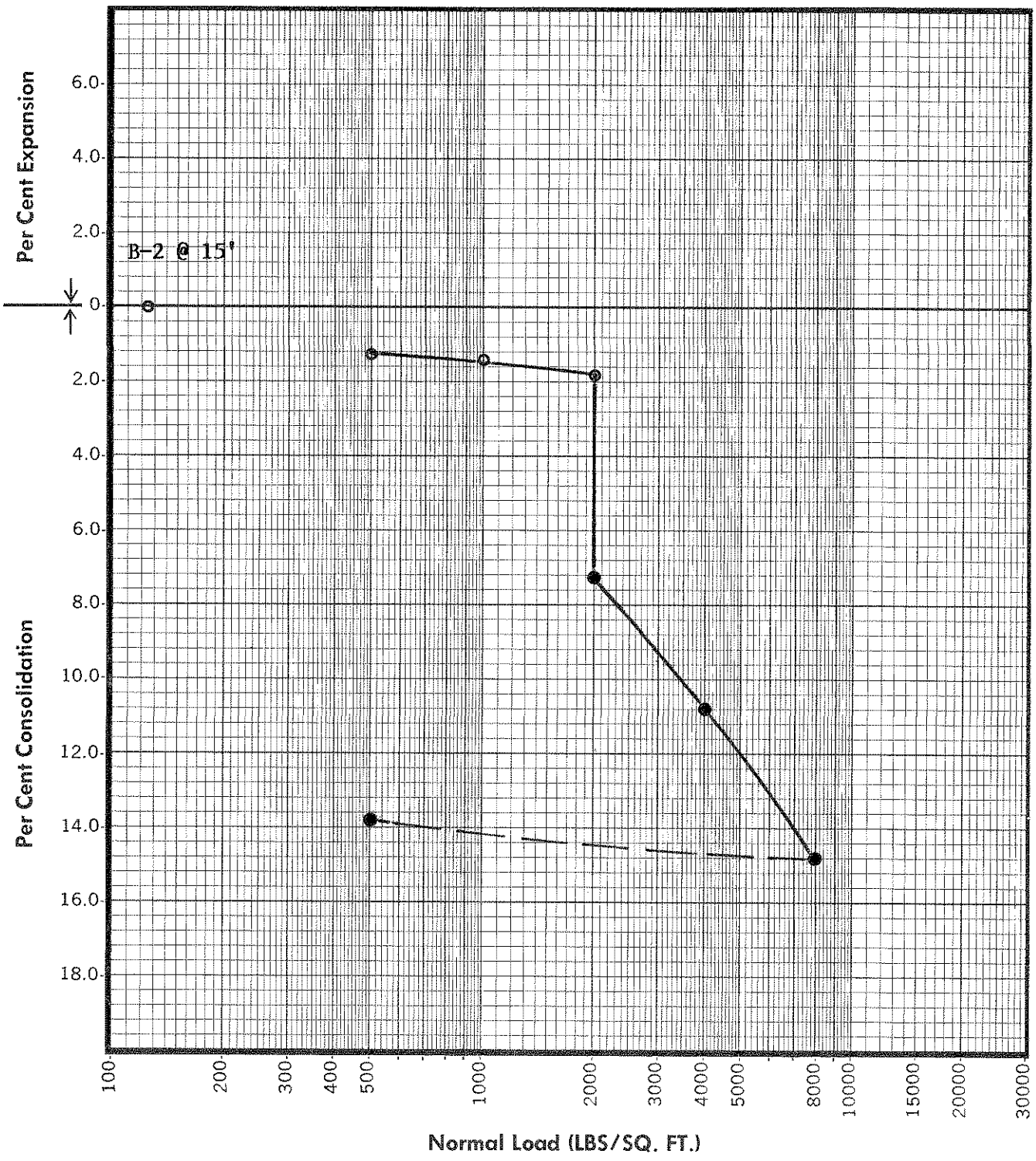
W.o. # 1974-1-10

FIGURE C1

REORDER NO. A43393

LOAD CONSOLIDATION TESTS

W.O. 1974-1-10



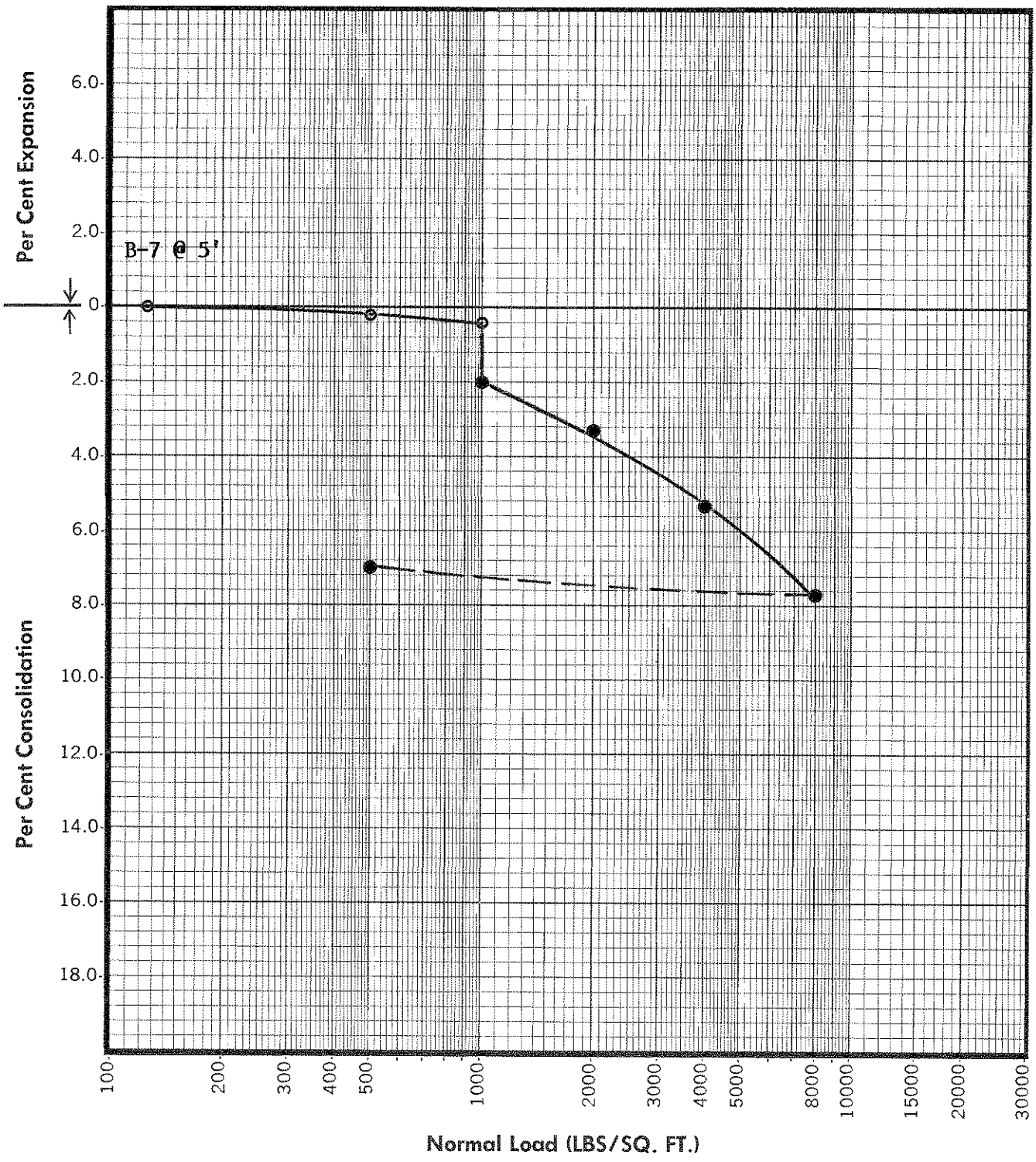
GORIAN AND ASSOCIATES

FIGURE C2

REORDER NO. A-7308

LOAD CONSOLIDATION TESTS

W.O. 1974-1-10



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REORDER NO. A-7308

FIGURE C3

LOAD CONSOLIDATION TESTS

W.O. 1974-1-10

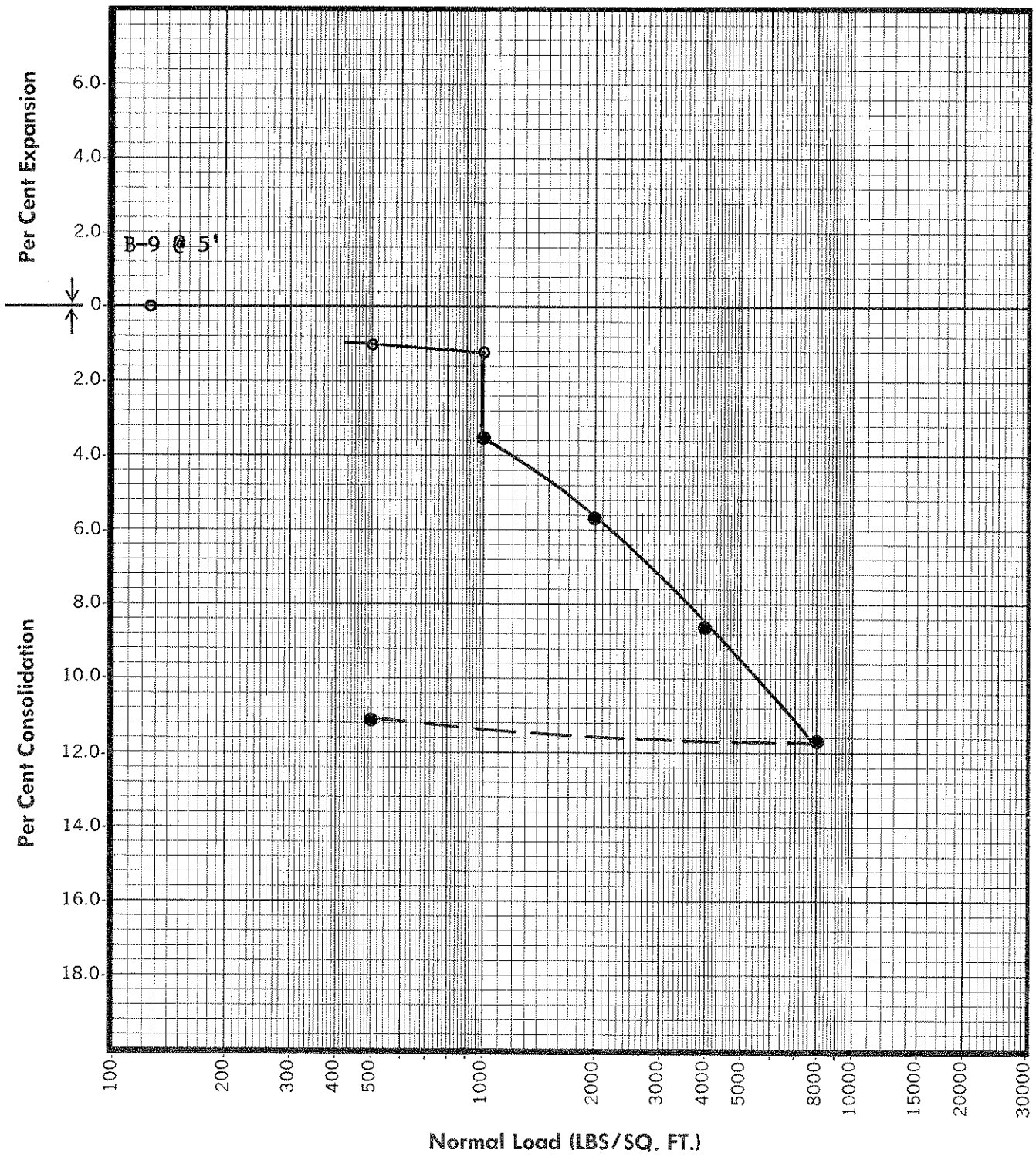

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FIGURE C4

LOAD CONSOLIDATION TESTS

W.O. 1974-1-10

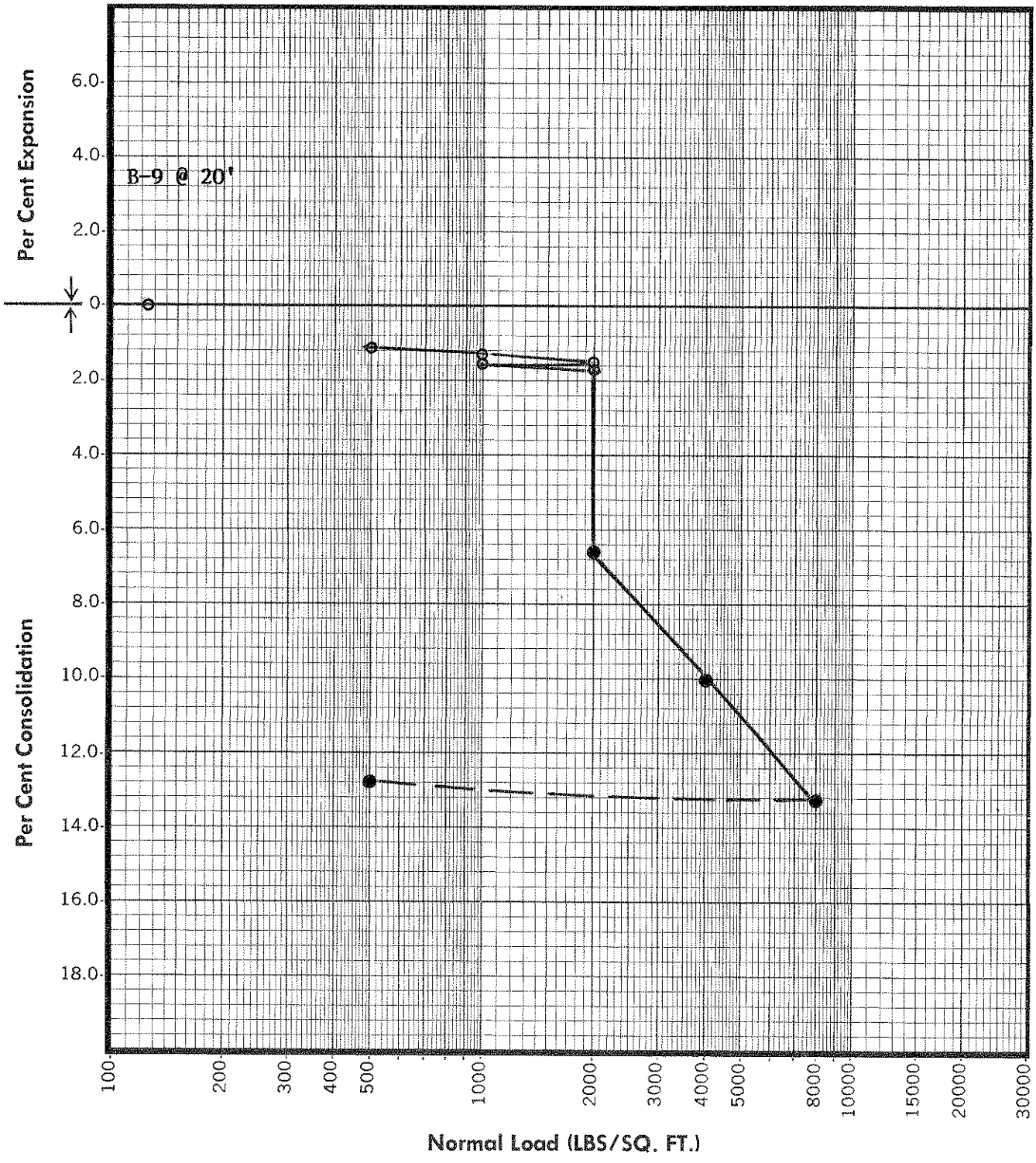

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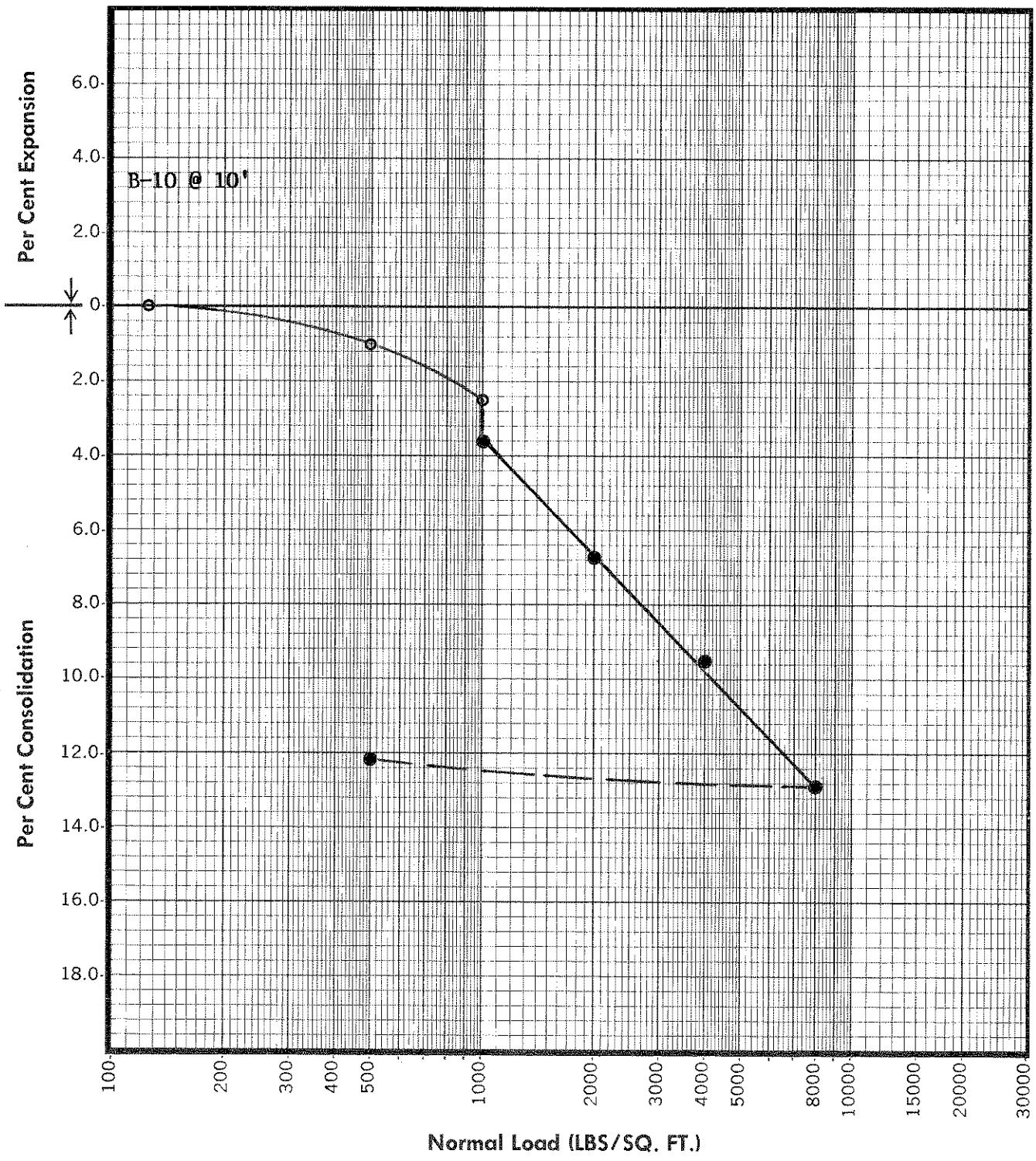
FIGURE C5

REORDER NO. A-7308

LOAD CONSOLIDATION TESTS

W.O. 1974-1-10



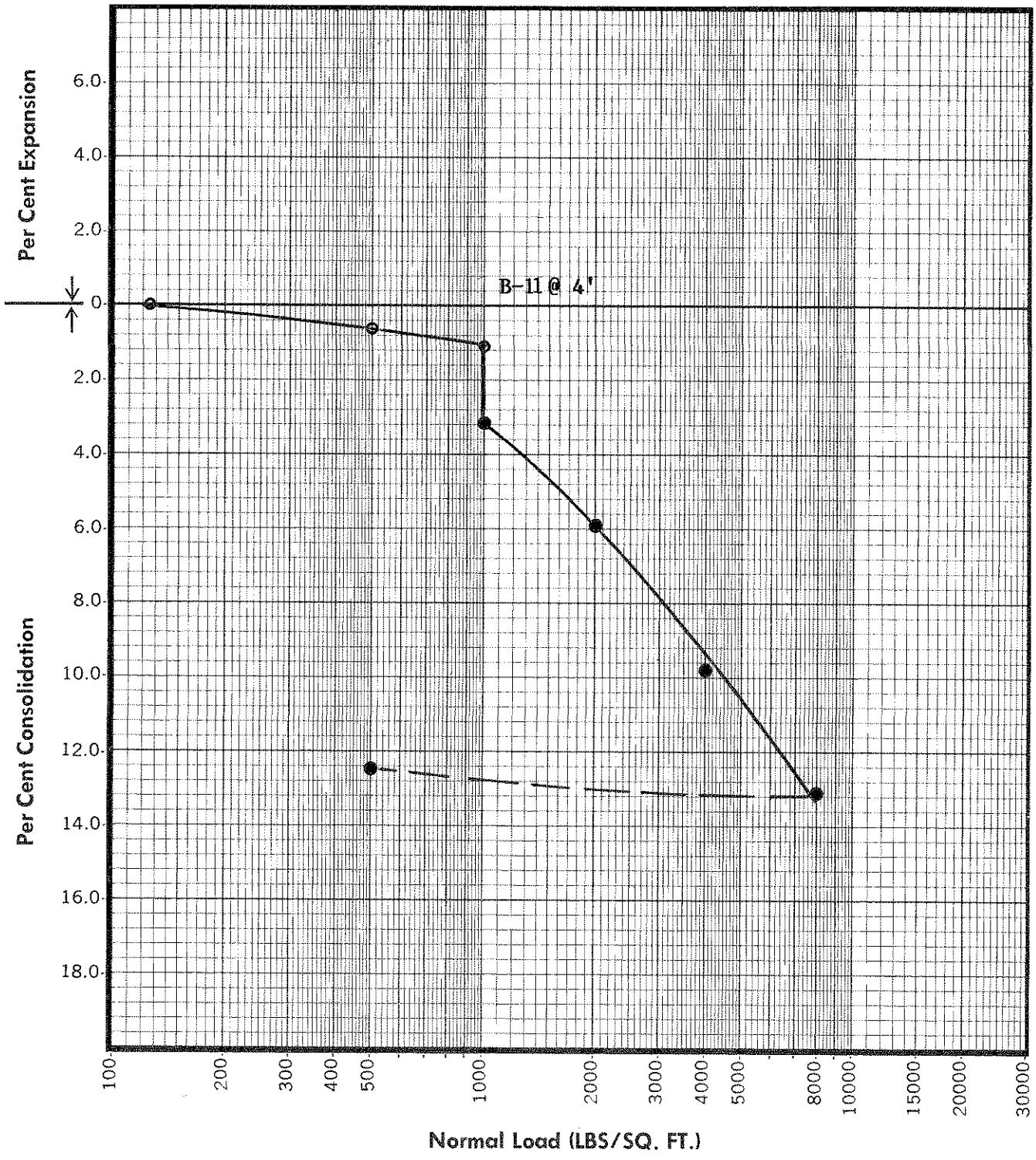
GORIAN AND ASSOCIATES

REORDER NO. A-7308

FIGURE C6

LOAD CONSOLIDATION TESTS

W.O. 1974-1-10



GORIAN AND ASSOCIATES

REORDER NO. A-7308

FIGURE C7

LOAD CONSOLIDATION TESTS

W.O. 1974-1-10

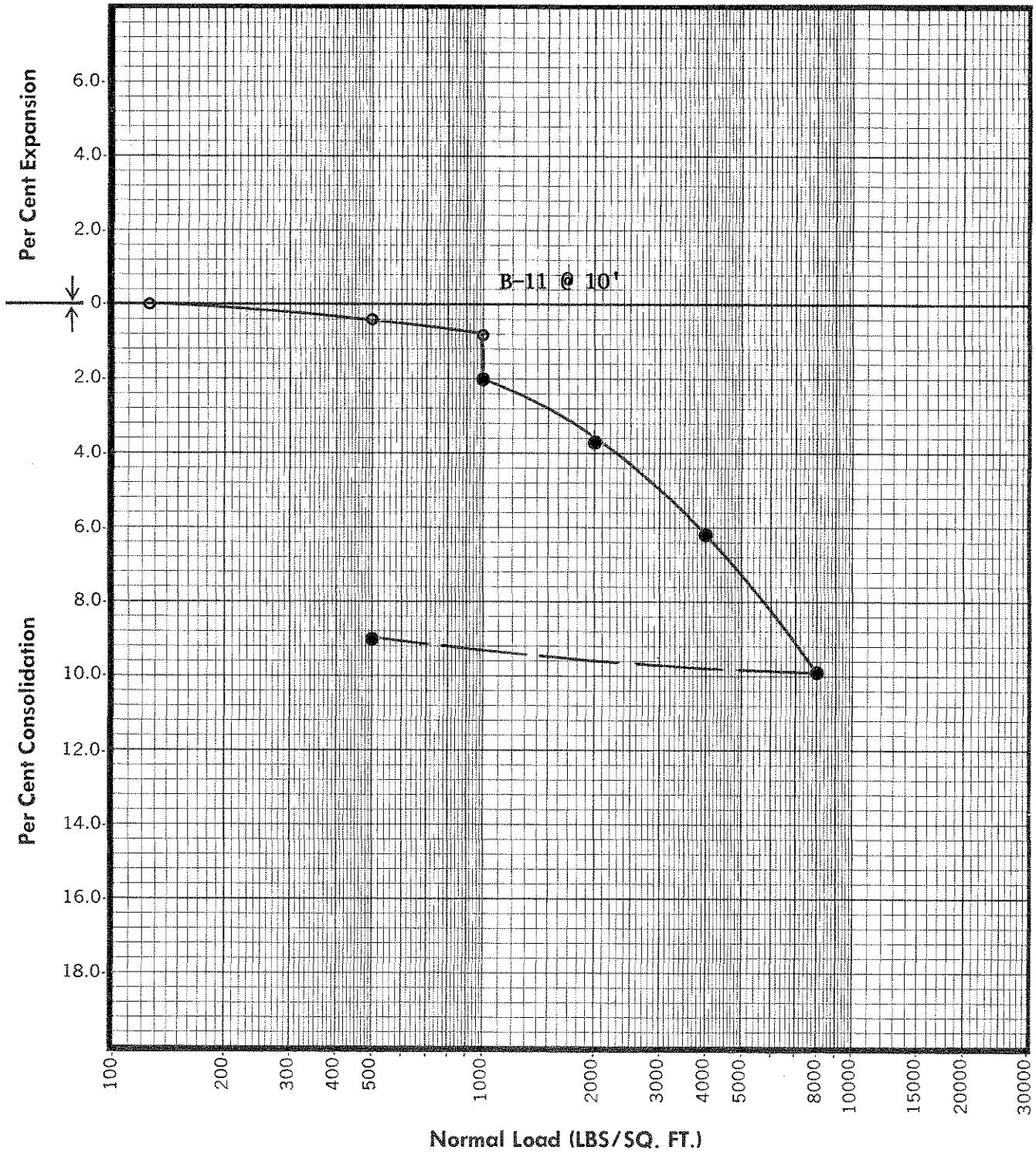


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FIGURE C8

REORDER NO. A-7308

LOAD CONSOLIDATION TESTS

W.O. 1974-1-10

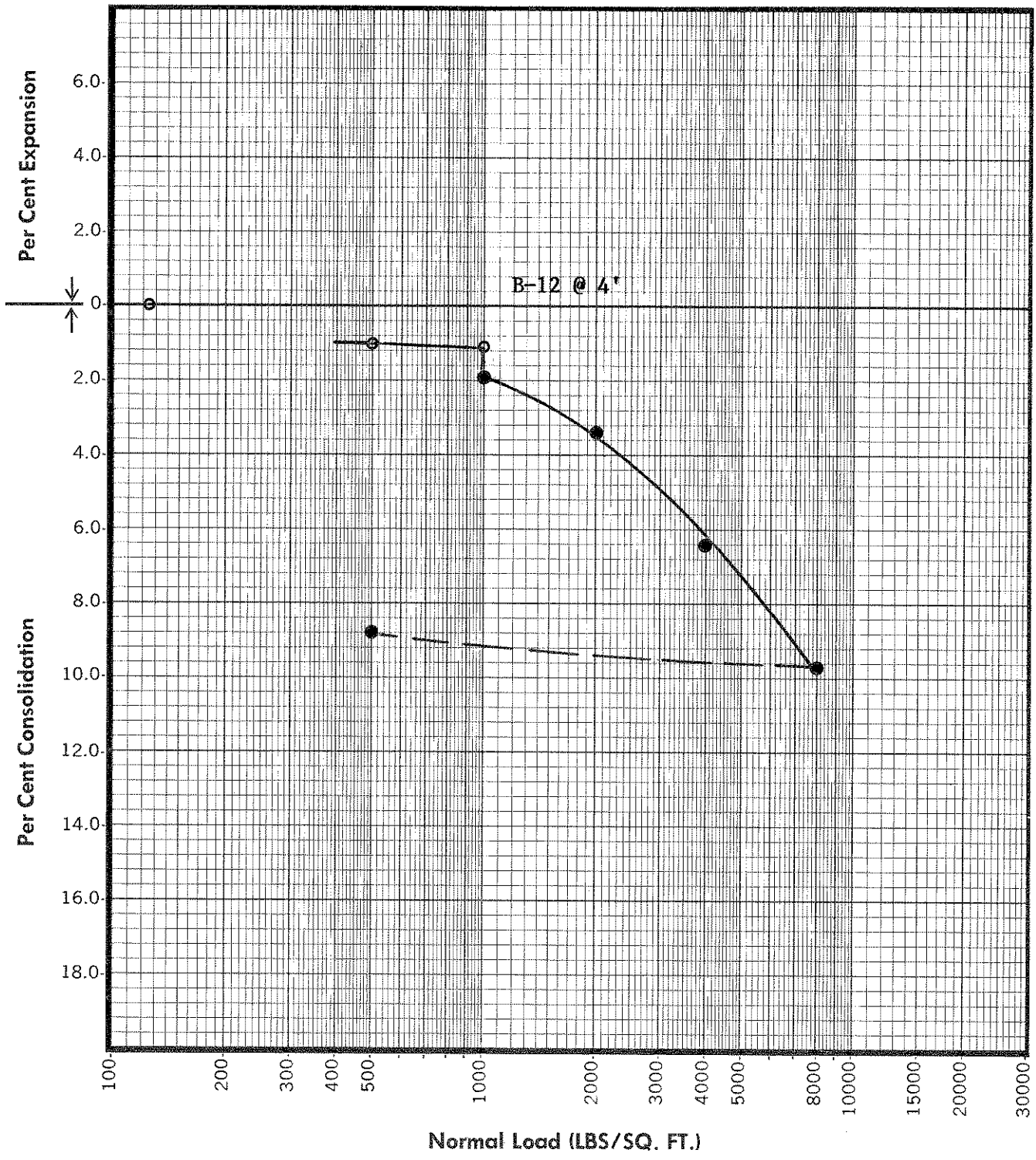

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FIGURE C9

REORDER NO. A-7308

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W.O. 1974-1-10

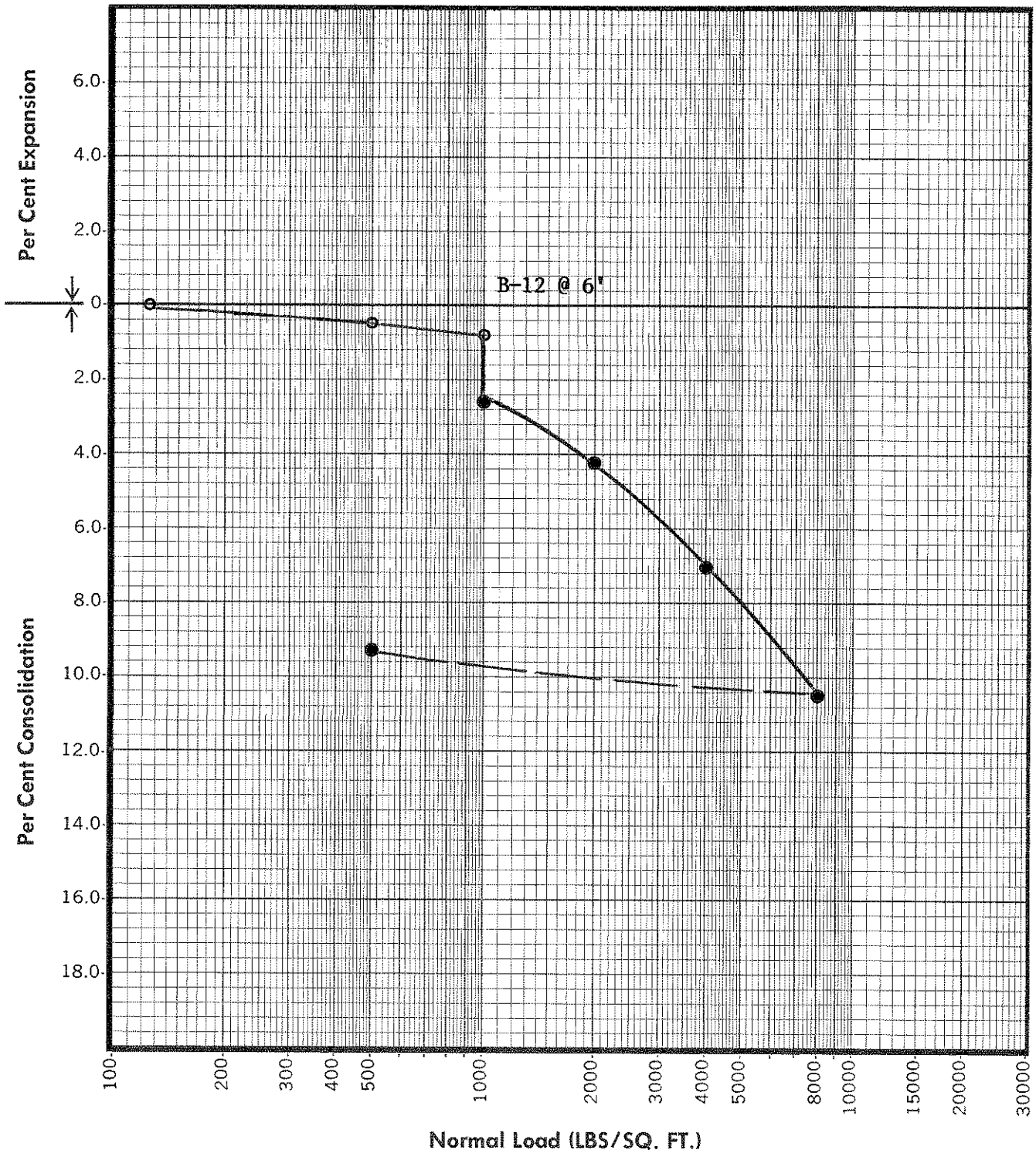

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FIGURE C 10

REORDER NO. A-7308

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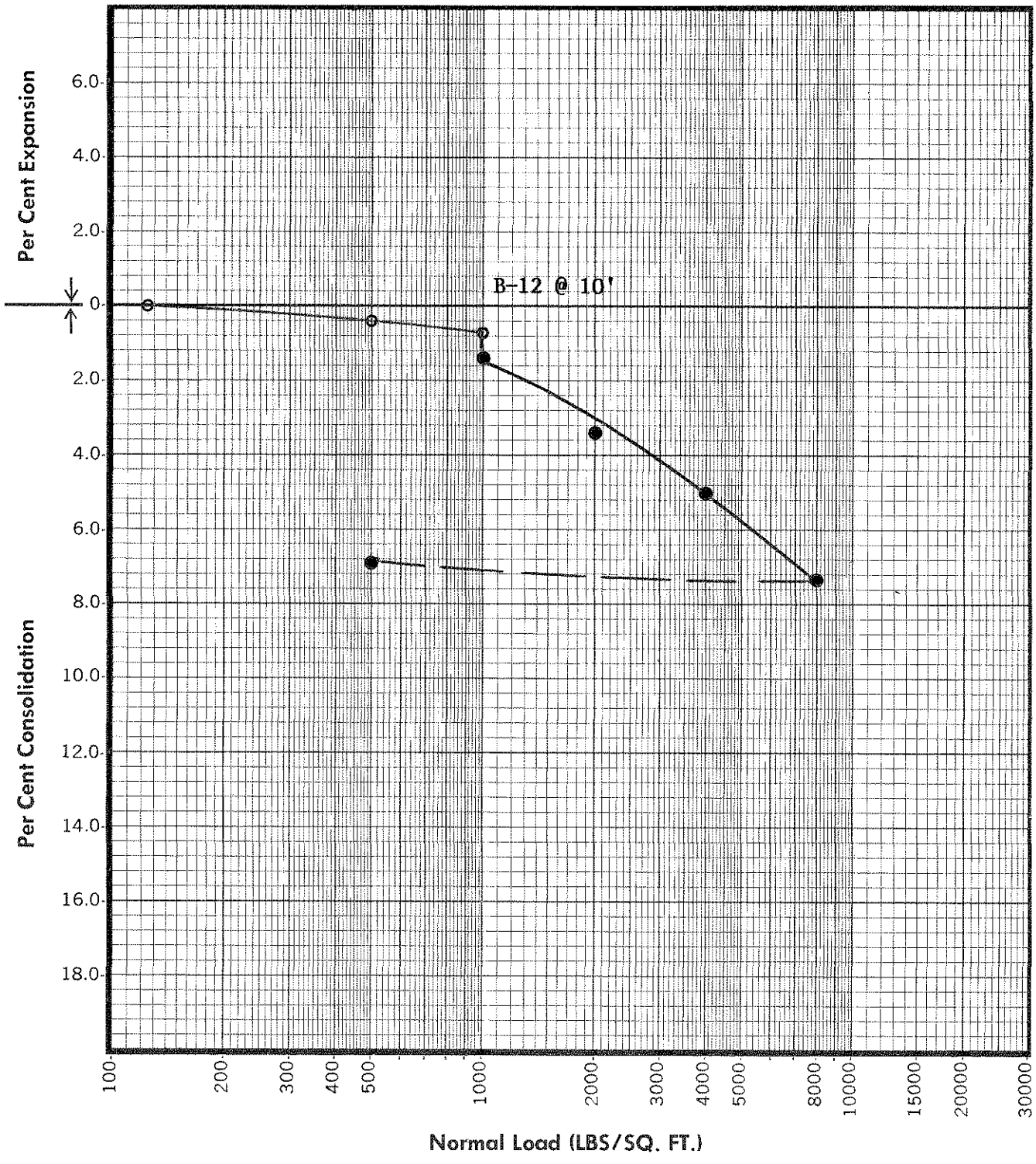
W.O. 1974-1-10



GORIAN AND ASSOCIATES

FIGURE C11

APPENDIX C-2

GORIAN AND ASSOCIATES, INC., REPORT DATED AUGUST 28, 2000

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:638'± Date: 5/17/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								SM		TOPSOIL Dark grayish brown (10YR 4/2) silty fine to coarse sand (damp).
								SM		ALLUVIUM Yellowish brown (10YR 5/4) silty fine to coarse sand (damp, loose).
				3/ 3/ 2						
5				3/ 2/ 3						
				3/ 2/ 4						At 7½'; trace clay, becoming moist.
10				3/ 2/ 3				SM/: SC		At 9½'; yellowish brown (10YR 5/4) slightly clayey silty fine to coarse sand (moist, loose). Scattered carbonate veinlets.
				1/ 5/ 6				SM		At 13'; yellowish brown (10YR 5/4) silty fine to coarse sand (moist, medium dense).
15				3/ 2/ 2						At 15'; becoming loose, trace clay.
				3/ 3/ 5						At 17½'; scattered carbonate veinlets. At 18½' chatter per driller.
20				5/ 4/ 9						SAUGUS FORMATION Very pale brown (10YR 8/3) slightly silty fine- to coarse-grained sandstone. Some gravel. (Moist, medium dense).
				10/ 23/ 28						Below 22½'; becoming very dense, damp.
25				14/ 27/ 34						
30				18/ 35/ 15+						

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:638'± Date: 5/17/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
35				26/ 51+						
40				20/ 46/ 4+						
45				25/ 40/ 10+						
										At 48½; light gray (2.5Y 7/2) slightly silty fine sand (damp, very dense).
50				20/ 32/ 18+						
										Total depth 51½' No caving, No groundwater.
55										

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:613'± Date: 5/17/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								SC		TOPSOIL Very dark grayish brown (10YR 3/2) clayey fine to coarse sand (damp). Some gravel. At 2½'; becoming moist, very loose.
				1/ 1/ 1						
5				1/ 2/ 2				SM		ALLUVIUM Dark grayish brown (10YR 4/2) silty fine to coarse sand (moist, loose). Trace clay, some gravel. Below 7½' becoming medium dense.
				2/ 5/ 8						
10				2/ 7/ 9				ML		OLDER ALLUVIUM Yellow (10YR 7/6) silt, trace clay (moist, very stiff).
				3/ 12/ 15				SM		At 13½'; brownish yellow (10YR 6/6) silty fine to coarse sand (moist, medium dense). At 14'; chatter.
15				7/ 15/ 18						SAUGUS FORMATION Very pale brown (10YR 8/3) to yellow (10YR 7/6) slightly silty fine- to coarse-grained sandstone (damp, dense). Common gravel below 17½'. Some cobbles. Heavy chatter. At 17½'; becoming very dense.
				12/ 28/ 35						
20				6/ 16/ 25						At 20'; becoming dense, damp.
25				11/ 25/ 28						Below 25' becoming very dense, damp.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:613'± Date: 5/17/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
30				20/ 30/ 20+						
35				27/ 50+						
40				38/ 50+						
45				29/ 50+						
50				29/ 40/ 10+						Total depth 51½' No caving, No groundwater.
55										

GORIAN & ASSOCIATES, INC
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation: 576'± Date: 5/17/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								SM		TOPSOIL Very dark grayish brown (10YR 3/2) silty fine to coarse sand (damp).
				17/ 12"	6.3	104		SM: SC		ALLUVIUM Dark grayish brown (10YR 4/2) silty fine sand (damp) to clayey fine sand.
5				1/ 2/ 2				SM		At 5½'; brown (10YR 4/3) silty fine to coarse sand (damp, loose).
				10/ 12"	6.8	112				
10				2/ 2/ 5				SC		At 10½'; brown (10YR 4/3) clayey fine to coarse sand (moist, loose).
								CL		At 11½'; brown (10YR 4/3) sandy clay (moist).
				13/ 12"	11.5	115		SM		OLDER ALLUVIUM Light yellowish brown (10YR 6/4) silty fine to coarse sand, some gravel (moist). Trace clay.
								SC		At 14'; light yellowish brown (10YR 6/4) clayey silty fine to coarse sand (moist, loose).
15				4/ 2/ 3				SM/: SC		At 16'; light yellowish brown (10YR 6/4) silty fine to coarse sand (moist, loose). Interbedded with clayey fine to coarse sand. Common gravel.
				10/ 12"	11.2	114				At 18'; chatter.

GORIAN & ASSOCIATES, INC
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:576'± Date: 5/17/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
20				2/ 2/ 1				CL		At 19½'; light yellowish brown (10YR 6/4) silty clay (moist, soft). Trace sand.
				20/ 12"						
	NR									
								CL		At 24'; yellowish brown (10YR 5/4) silty clay (moist, stiff). Scattered carbonate veinlets and nodules. Manganese staining.
25				5/ 5/ 8						
				17/ 12"	24.8	95				At 27½'; iron oxide staining common.
30				8/ 11/ 15						At 30'; becoming very stiff, wet.
				43/ 12"	17.9	108				At 32½'; becoming interbedded with gray (10YR 6/1) clayey silt and silt.
										SAUGUS FORMATION
35				8/ 11/ 13						Gray (10YR 6/1) claystone (moist, wet). Polished ped faces common.
										At 37': becoming hard

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:576'± Date: 5/17/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
										At 37'; becoming hard.
				49/ 12"	17.9	111				At 38'; carbonate common.
										At 39'; light gray (5Y 7/2) silty claystone (wet, hard). Carbonate nodules common.
40				14/ 26/ 25+						
										At 42'; light gray (5Y 7/2) sandy siltstone to silty fine-grained sandstone (wet, hard to very dense).
				60/ 9"	14.5	113				
45				16/ 35/ 15+						At 45½'; pale yellow (5Y 8/2) silty fine-grained sandstone (wet, very dense). Some iron oxide staining.
				50/ 9"	10.9	100				
										At 49½'; light gray (5Y 7/2) siltstone to silty claystone (wet, hard).
50				11/ 22 25						
										Total depth 51½'
										No caving, No groundwater.
55										

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation: UNK Date: 5/18/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								SM		TOPSOIL Very dark grayish brown (10YR 3/2) silty fine to coarse sand (damp).
				15/ 12"	5.5	107		SM		ALLUVIUM Brown (10YR 4/3) silty fine to coarse sand (damp).
5				3/ 2/ 3				SC		At 4½'; brown (10YR 4/3) clayey fine to coarse sand (moist, loose).
				21/ 12"	7.3	114				At 7½'; scattered carbonate veinlets, becoming damp.
10				6/ 4/ 5				SM		At 10½'; light yellowish brown (10YR 6/4) silty fine to coarse sand (damp, loose). Trace clay. Scattered carbonate veinlets.
				21/ 12"	7.8	114				
										At 14'; common gravel.
15				4/ 4/ 4						
				17/ 12"	6.7	116				
20				5/ 5/ 6						At 20'; becoming medium dense, damp.
				26/ 12"	10.0	115		SM/: GM		At 22'; Brown (10YR 4/3) silty fine to coarse sand (moist, medium dense). Some gravel.
25				3/ 5/ 4						At 25'; becoming loose.
				26/ 12"	8.8	116				At 27½'; slightly porous.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:UNK Date: 5/18/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
30				5/ 9/ 7						At 30'; becoming medium dense, moist.
				30/ 12"	10.7	120				At 32½'; trace clay.
										At 34'; chatter.
35				13/ 45/ 5+				SC/: GC		OLDER ALLUVIUM Yellowish brown (10YR 5/4) clayey fine to coarse sand. Common gravel (moist, very dense). Chatter below 36'.
				18/ 3"						At 38'; heavy chatter. Total depth 38' (Refusal on cobbles) No caving, No groundwater.
40										

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:612'± Date: 5/18/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								SM		TOPSOIL Very dark grayish brown (10YR 3/2) silty fine to coarse sand (damp). Porous.
				18/ 12"	7.2	98				
								SM		ALLUVIUM Brown (10YR 4/3) silty fine to coarse sand (damp, loose). Porous.
5				11/ 12"	6.5	106				
								SM		At 5½'; yellowish brown (10YR 5/4) silty fine to coarse sand (damp, loose). Porous. Some gravel.
				2/ 3/ 3						At 8'; becoming moist, scattered carbonate veinlets.
10				11/ 12"	9.6	112				
								SM		At 10½'; pale yellow (2.5Y 7/4) slightly silty fine to coarse sand (moist, loose).
								SM		At 11½'; yellowish brown (10YR 5/4) silty fine to coarse sand (moist, loose). Some gravel.
				2 2/ 4						
15				8/ 12"	9.6	110				
				2 1/ 1						At 17'; becoming very loose.
20				12/ 12"	8.2	119				Below 20'; trace clay.
				3 2/ 2						At 22½'; minor interbed of slightly silty fine to coarse sand.
25				12/ 12"	7.0	111				
				2/ 2/ 2						

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:612'± Date: 5/18/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
30	■			13/ 12"	14.4	108		SM		At 29½'; brown (10YR 4/3) silty fine sand (moist, loose).
		■		3/ 3/ 4				SM		At 33'; brown (10YR 4/3) silty fine to coarse sand (moist, loose). Trace clay.
35	■			14/ 12"	6.6	109				At 35; interbedded with yellowish brown (10YR 5/4) silty fine to coarse sand.
		■		8/ 9/ 10						SAUGUS FORMATION Pale brown silty fine- to coarse-grained sandstone (damp, medium dense).
40	■			26/ 12"	4.7	110				At 39½'; pale yellow (2.5Y 7/4) silty fine- to coarse-grained sandstone (damp, medium dense).
		■		10/ 15/ 18						At 42'; becoming dense, damp.
45	■			43/ 12"	8	111				At 45½'; pale yellow (5Y 7/3) silty to clayey fine-grained sandstone (damp, very dense).
		■		15/ 32/ 18+						At 48'; pale yellow (5Y 8/2) silty fine- to medium-grained sandstone (damp, very dense). Some iron oxide staining.
50	■			55/ 12"	15.2	108				At 50'; becoming moist.
55										Total depth 51' No caving, No groundwater.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:497± Date: 5/18/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								SM		TOPSOIL Dark grayish brown (10YR 4/2) silty fine to coarse sand (damp). Porous.
								SM		ALLUVIUM Brown (10YR 5/4) silty fine to medium sand (damp to moist, loose).
				2/ 2/ 4						
5				6/ 12"	2.8	103				At 5'; interbedded with pale brown (10YR 6/3) fine to coarse sand.
								CL		At 6'; thin interbeds of dark grayish brown (10YR 4/2) silt to silty clay (wet).
				1/ 1/ 1				SM		
								SM		At 7½'; very dark gray (10YR 3/1) silty fine to coarse sand (saturated, very loose). Trace clay.
10				4/ 12"	18.2	109		SM/: ML		At 9½'; dark grayish brown (10YR 4/2) silty fine to coarse sand (wet, very loose). Interbedded with brown (10YR 4/3) clayey silt (soft).
								SM		At 11½'; brown (10YR 4/3) silty fine to coarse sand (moist to very moist, very loose).
				2 1/ 2						
15				5/ 12"	10.6	117				Below 15', trace clay.
				2 4/ 5						At 17'; becoming loose, moist.
20				7/ 12"	10.9	117				
				3 2/ 2				SM		At 23'; yellowish brown (10YR 5/4) silty fine to coarse sand (moist, loose to very loose).
								SM		At 24'; brown (10YR 4/3) silty fine to coarse sand (moist, loose). Trace clay.
25				7/ 12"	8.1	108				
				4/ 6/ 7						At 27'; becoming moist, medium dense.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:497± Date: 5/18/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
30				12/ 12"	11.9	113		SM		At 30'; dark grayish brown (10YR 4/2) silty fine to coarse sand (moist to very moist, medium dense to loose).
				6/ 6/ 3				SM		At 32½'; yellowish brown (10YR 5/4) silty fine to coarse sand (very moist, loose). Trace clay. At 33½'; becoming wet.
35				8/ 12"	18.1	109				At 35'; trace clay. Groundwater at 35'.
40				6/ 12"	21.8	106				
				2/ 3/ 15						At 42'; becoming medium dense, some grave.
45				19/ 12"	16.4	111				
				7/ 16/ 10				SM/: SC		At 47'; becoming clayey fine to coarse sand with gravel. Chatter. OLDER ALLUVIUM Yellowish brown (10YR 5/6) mottled with light brownish gray (10YR 6/2) clayey silty fine sand (wet, very stif).
50				50+ 12"	12.2	124		SM		At 49'; yellowish brown (10YR 5/4) silty fine to coarse sand (wet, dense). Total 51' Groundwater at 35', No caving.
55										

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:497'± Date: 5/19/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								ML		TOPSOIL Very dark grayish brown (10YR 3/2) silt (damp).
				2/ 2/ 1				ML		ALLUVIUM Grayish brown (10YR 5/2) silt (moist, soft).
5				4/ 12"	16.0	100		SM		At 5½'; dark grayish brown (10YR 4/2) silty fine sand (moist).
				1/ 2/ 1				SM		At 7½'; pale yellow (2.5Y 7/3) silty fine sand (damp, very loose).
10				5/ 12"	4.5	101		SM		At 9½'; pale brown (10YR 6/3) silty fine sand to fine to coarse sand (damp, very loose).
				1 2/ 8						At 12'; gravel in tip.
15				5/ 12"	14.9	102		SM		At 15½'; yellowish brown (10YR 5/4) silty fine to coarse sand, trace clay (moist).
				1 2/ 3				SM		At 16½'; pale brown (10YR 6/3) silty fine sand (moist, loose).
20				11/ 12"	2.8	98		SW/ GW		At 19'; pale yellow (10YR 8/2) fine to coarse sand (damp, loose).
				3 10/ 14						At 22'; becoming medium dense, damp.
25				20/ 12"	3.1	114				
				9/ 12/ 14						Below 28½' gravel common.
30				25/ 11"	13.8	116				Groundwater at 30'.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:497'± Date: 5/19/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
				1/ 1/ 2				SM		At 31½'; yellowish brown (10YR 5/4) silty fine to coarse sand (saturated, very loose). Some gravel.
35				0/ 0/ 1						
				0/ 0/ 1				SM		At 37½'; brown (10YR 4/3) silty fine to coarse sand (saturated, very loose). Trace clay.
40				2/ 3/ 7						At 40'; becoming loose.
				7/ 3/ 2						At 42'; some gravel.
45				1/ 1/ 3						At 45'; becoming very loose.
				1/ 2/ 6						At 47'; becoming loose.
50				2/ 6/ 6						At 50'; becoming medium dense.
										Total depth 51½' Groundwater at 30', No caving.
55										

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:486'± Date: 5/19/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								ML		TOPSOIL Very dark grayish brown (10YR 3/2) sandy silt (damp).
								SM		ALLUVIUM Grayish brown (10YR 5/2) silty fine sand (damp, loose).
				5/ 4/ 3						
5				5/ 12"	17.8	95		SM/: ML		At 5½'; very dark grayish brown (10YR 3/2) sandy silt to silty fine sand (moist, very loose).
								SM		At 6½'; pale brown (10YR 6/3) silty fine sand (moist, very loose).
				0/ 1/ 2						
10				11/ 12"	3.5	100		SW		At 10½'; pale yellow (2.5Y 7/3) fine sand (damp, very loose).
								ML		At 11½'; brown (10YR 4/3) sandy silt (moist, soft).
				0 1/ 2						
								SM		At 13'; pale brown (10YR 6/3) silty fine sand (moist, very loose).
								SM		At 14½'; brown (10YR 4/3) silty fine sand.
15				4/ 12"	14.5	106				
								SM		At 16½'; light yellowish brown (10YR 6/4) silty fine sand (moist, loose).
				2 4/ 4						
20				15/ 12"	22.4	90				At 20'; minor interbed of pale brown (10YR 6/3) silt.
				1 3/ 3				SM		At 22½'; pale brown (10YR 6/3) silty very fine sand (very moist, loose.)

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:486'± Date: 5/19/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
25				1/ 12"	20.0	107		SM		At 24½'; brown (10YR 4/3) silty fine to coarse sand (saturated, very loose). Porous.
				0/ 0/ 1						
30				2/ 12"	23.8	102		ML		At 30½'; brown (10YR 4/3) clayey silt (saturated, soft).
				0/ 0/ 1				SM		At 31½'; brown (10YR 4/3) silty fine to coarse sand, trace clay (saturated, very loose).
35				1/ 1/ 1						
				0/				SC		At 36½'; yellowish brown (10YR 5/4) clayey fine to coarse sand (saturated, loose).
				2/ 7				CL		At 37½'; yellowish brown (10YR 5/4) sandy clay (very moist, soft).
								SM		At 38½'; yellowish brown (10YR 5/4) silty fine to coarse sand (saturated, very loose).
40				0/ 1/ 1				SM/: ML		At 41'; yellowish brown (10YR 5/4) sandy silt to silty very fine sand (saturated, loose).
				0/ 2/ 3				SM		At 42'; yellowish brown (10YR 5/4) silty fine sand with some fine to coarse sand interbeds (saturated, loose).
45				0/ 3/ 10				ML		At 44'; yellowish brown (10YR 5/4) clayey silty interbedded with silty fine sand (saturated, stiff to medium stiff). Some carbonate nodules.
				0/ 2/ 9				SM		At 46½'; pale brown (10YR 6/3) silty fine sand (saturated, medium dense). Interbedded with silt.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:486'± Date: 5/19/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
50				0/ 4/ 6				SC		At 51'; brown (10YR 4/3) clayey fine to coarse sand (saturated, medium dense). Total depth 51½' Groundwater at 25', No caving.
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GORIAN & ASSOCIATES, INC
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation: 518'± Date: 5/22/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								SM		TOPSOIL Very dark grayish brown (10YR 3/2) silty fine to coarse sand (damp).
	■		■	10/ 12"	6.7	108				At 2'; becoming moist.
5	■			8/ 12"	8.8	104				At 5'; porous.
		■		2/ 2/ 3				SM		ALLUVIUM Brown (10YR 4/3) silty fine to coarse sand (damp, loose). Porous.
10	■		■	13/ 12"	7.8	111				
								SM		At 10½'; yellowish brown (10YR 5/4) silty fine to coarse sand (damp, medium dense).
		■	■	5 8/ 12						
15	■			20/ 12"	11.9	118		SC		At 15½'; brown (10YR 4/3) sandy clay (moist to wet, very stiff).
		■	■	7 11/ 17				ML		At 17½'; brown (10YR 4/3) sandy silt (moist to wet, very stiff). Little clay.
20	■			43/ 12"	13.0	117				At 20'; manganese staining common. At 21'; some gravel.
		■		3 11/ 21				SM/: GM		OLDER ALLUVIUM Brown silty fine to coarse sand, some gravel (moist to wet, very dense).
25		■		23/ 50+						At 25'; common gravel. Heavy chatter.

GORIAN & ASSOCIATES, INC
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation: 518'± Date: 5/22/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
30		■		18/ 18/ 17				SM		At 29'; yellowish brown (10YR 5/4) silty fine to coarse sand with minor interbeds of silt (moist, dense). Some gravel.
										SAUGUS FORMATION Very pale brown (10YR 7/3) fine- to coarse-grained sandstone (damp, very dense). Common gravel.
35		■		16/ 31/ 20+						At 36'; heavy chatter.
40		■		27/ 50+						
45		■		20/ 22/ 25/						At 45'; becoming dense. Groundwater at 45½'.
50		■		17/ 29/ 21						At 51'; brown (7.5YR 5/4) silty very fine sand (moist). Trace clay. Total depth 51½' Groundwater at 45½', No caving.
55										

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:630± Date: 5/22/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								ML		TOPSOIL Very dark grayish brown (10YR 3/2) sandy silt (damp).
				19/ 12"	9.1	105		CL		Very dark grayish brown (10YR 3/2) sandy clay to clayey sand (damp, stiff).
5				13/ 12"	8.0	109		SM		ALLUVIUM Brown (10YR 4/3) silty fine to coarse sand, trace clay (damp, loose).
				2/ 3/ 2						
10				10/ 12"	8.3	110		SM		OLDER ALLUVIUM Pale brown (10YR 6/3) silty fine to coarse sand (damp, loose).
				4 4/ 4						
15				12/ 12"	5.2	113				At 15'; some gravel.
				2 2/ 3						
20				9/ 12"	10.0	108				At 20'; trace clay.
				4 4/ 8						At 22'; becoming medium dense.
25				3/ 3/ 5						At 25'; becoming loose.
				4/ 5/ 10						At 27'; becoming medium dense.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:630± Date: 5/22/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
30				16/ 25/ 25+						SAUGUS FORMATION Very pale brown (10YR 7/3) fine- to coarse-grained sandstone (moist, very dense).
										At 33'; light gray (5Y 7/2) fine-grained sandstone. Micaceous. Some iron oxide staining. (Damp, very dense).
35				16/ 26/ 24+						
40				14/ 26/ 30+						
										At 43'; light gray (2.5Y 7/2) fine- to coarse-grained sandstone (damp, very dense).
45				13/ 42/ 8+						
50				27/ 50+						Total depth 51' No groundwater, No caving.
55										

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:589'± Date: 5/22/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								SM		FILL Very dark grayish brown (10YR 3/2) silty fine to coarse sand (damp).
								SM		At 1½'; brown (10YR 4/3) silty fine to coarse sand.
				18/ 12"	8.0	110		ML		At 2½'; light yellowish brown (10YR 6/4) sandy silt. Some clay.
5				16/ 12"	5.5	104		SM		TOPSOIL Very dark grayish brown (10YR 3/2) silty fine to coarse sand, trace clay (damp, medium dense). Porous.
				7/ 9/ 11						
								SC		ALLUVIUM Brown (10YR 4/3) clayey fine to coarse sand (moist, loose).
10				18/ 12"	8.2	120				
				4/ 4/ 4						
15				21/ 12"	14.2	113				At 15'; gravel.
								CL		OLDER ALLUVIUM Yellowish brown (10YR 5/4) sandy silty clay (moist, very stiff). Manganese staining. Minor interbed of fine to coarse sand.
				3/ 50+						At 18'; heavy chatter.
20				46/ 12"	9.2	118		SW		At 19½'; yellowish brown (10YR 5/4) fine to coarse sand (moist, dense).
				11/ 20/ 22						At 22'; becoming pale brown (10YR 6/3).
25				10/ 7/ 12				ML		At 25'; light yellowish brown (10YR 6/4) clayey silt (moist, very stiff). Few gravel. Manganese staining common. Trace fine sand.
				4/ 12/ 29				SW		At 28'; light yellowish brown (10YR 6/4) fine to coarse sand (moist, dense).
30				20/ 22/ 27						At 30'; gravel. SAUGUS FORMATION Pale brown (10YR 6/3) clayey fine- to coarse-grained sandstone and gravel (moist, dense).

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:589'± Date: 5/22/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
35				14/ 13/ 23						At 33½'; very pale brown (10YR 8/2) fine-grained sandstone (damp, dense). At 35½'; light yellowish brown (2.5Y 6/4) siltstone. At 36'; pale yellow (2.5Y 8/3) silty very fine-grained sandstone (damp, dense). At 37½'; light yellowish brown (2.5Y 6/4) silty claystone (moist, hard). Manganese staining common.
40				7/ 12/ 19						
45				17/ 18/ 26						At 43½'; light yellowish brown (2.5Y 6/4) silty fine-grained sandstone (moist, dense).
50				16/ 23/ 31						At 50½'; light gray (5Y 7/1) fine-grained sandstone (damp, very dense). Total depth 51½' No groundwater, No caving.
55										

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation: 584'± Date: 5/22&23/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								SC		OLDER ALLUVIM Brown (10YR 4/3) clayey fine to coarse sand (damp). Some cobbles.
				26				SM		At 1½'; brown (10YR 4/3) silty fine to coarse sand (damp). Some gravel, cobbles.
	NR			12"						
5				8/	4.9	113				
				12"				SM/: GM		At 5½'; light yellowish brown (10YR 6/4) fine to coarse sand. At 6'; heavy chatter on cobbles. (Damp, very dense). Some gravel, cobbles.
				10/						
				29/						
				26						
								SM		At 9'; brown (7.5YR 5/4) silty fine to coarse sand (damp, medium dense).
10				25/	5.8	111				
				12"						
				10/						
				17/				SW		At 12½'; yellow (10YR 7/6) fine to coarse sand (damp, dense).
				21						
15				30/	6.4	102				
				12"						

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:584'± Date: 5/22&23/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
				9/						
				14/						
				18						
20				31/	5.3	105				
				12"						
				12/						
				17/						
				24				SM		At 23'; light yellowish brown (10YR 6/4) silty fine to coarse sand (damp, dense).
								SW		At 24'; yellow (10YR 7/6) fine to coarse sand (damp, dense).
25				42/	9.8	107				
				12"						
				16/						At 27'; some gravel.
				20/						
				27						
								SC-GC		At 29'; reddish yellow (7.5YR 6/6) clayey fine to coarse sand and gravel (moist, very dense).
30				60/	8.3	114				
				12"						
				15/						At 32'; gravel in tip.
				37/						
				50+						

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:584'± Date: 5/22&23/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
				50+						
35				30/ 6"	8.6	114				At 36'; chatter on gravel.
				22/						
				24/						
				23				SC		At 38'; brownish yellow (10YR 6/6) clayey fine sand (moist, dense).
40				56/ 12"	10.9	117		SM/: GM		At 40½'; light yellowish brown (10YR 6/4) silty fine to coarse sand and gravel (moist).
				22/						
				15/						SAUGUS FORMATION
				15						Light yellowish brown (2.5Y 6/3 to 6/4) silty claystone (moist, very stiff).
45				50/ 12"	26.4	97				At 45½'; pale yellow (5Y 7/3) siltstone, trace very fine sand (wet, hard).
				21/						
				34/						
				16+						At 49'; pale yellow (2.5Y 7/3) claystone.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:584'± Date: 5/22&23/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
50	■			50/ 6"	30.2	94				At 50'; pale yellow (5Y 7/3) silty fine-grained sandstone. Total depth 50½' No goundwater, No caving.
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GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:498'± Date: 5/23/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								SM		TOPSOIL Very dark grayish brown (10YR 3/2) silty fine to coarse sand (moist).
				3/ 4/ 7				CL		At 1½'; very dark grayish brown (10YR 3/2) sand clay (moist, stiff).
5				19/ 12"	11.2	107		CL		ALLUVIUM Brown (10YR 4/3) sandy clay (moist, stiff).
				3/ 5/ 4				CL/: SC		At 8'; pale yellow (2.5Y 7/4) sandy clay to clayey fine sand.
10				13/ 12"	8.7	106				At 10'; scattered carbonate veinlets.
				8/ 11/ 16				SM		At 12½'; very pale brown (10YR 8/2) silty fine to coarse sand (damp, medium dense).
15				16/ 12"	5.6	106				
				6/ 8/ 7				SM		At 17'; minor interbed of silt. At 18'; pale yellow (2.5Y 7/3) silty fine sand (damp, medium dense).
20				15/ 12"	6.8	104				At 20'; minor interbed of fine to coarse sand. Slightly porous, few carbonate veinlets.
				6/ 6/ 5						
25				24/ 12"	4.5	111		SW		At 25½'; pale yellow (2.5Y 8/3) fine to coarse sand (damp, medium dense).
				6/ 7/				SM		At 26½'; pale yellow (2.5Y 7/4) silty fine sand.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:498'± Date: 5/23/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
				6				ML		At 28'; pale yellow (2.5Y 7/4) clayey silt, trace fine sand (damp, stiff).
30				21/ 12"	11.6	114				At 30'; interbedded with silt, yellowish brown (10YR 5/4) sandy clay and clayey fine to coarse sand. Becoming moist.
				4/ 6/ 9				SC		OLDER ALLUVIUM Brown (10YR 4/3) clayey silty fine to coarse sand (moist, medium dense).
35				24/ 12"	16.0	110		CL		At 34½'; brown (10YR 4/3) sandy clay, few gravel (moist, very stiff).
				4/ 11/ 21				SC		At 37½'; yellowish brown (10YR 5/4) clayey fine to coarse sand with minor interbeds of pale yellow (2.5Y 7/4) silt.
40				38/ 12"	11.0	114		SM		At 39½'; pale yellow (2.5Y 7/4) silty fine to coarse sand (moist, dense).
				11/ 16/ 23				SM		At 42½'; light yellowish brown (2.5Y 6/4) silty very fine sand (saturated).
								SW		At 43½'; pale yellow (2.5Y 7/3) fine to coarse sand (wet, medium dense).
45	NR			26/ 12"						
				11/ 22/ 25				SM		At 48'; light yellowish brown (2.5Y 6/4) silty very fine sand (wet, dense).
								SW		At 49'; pale yellow (2.5Y 7/3) fine to coarse sand (saturated).
50				34/ 12"	19.8	109		ML		At 50½'; grayish brown (10YR 5/2) silt (saturated, very stiff).
										Total depth 51' Groundwater at 42½', No caving.
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GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:490'± Date: 5/23/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								ML		TOPSOIL Very dark grayish brown (10YR 3/2) sandy silt (damp).
								CL		ALLUVIUM Brown (10YR 4/3) sandy clay (moist, medium stiff).
				2/ 2/ 4						
5				4/ 8/ 10						At 5'; scattered carbonate veinlets, becoming very stiff.
				6/ 8/ 8				SC		At 7½'; light yellowish brown (10YR 6/4) clayey silty sand (moist, very stiff).
10				3/ 5/ 5						At 10'; minor interbed of fine to coarse sand. Becoming damp, stiff. Scattered carbonate veinlets.
				5/ 10/ 10				SM		At 12½'; very pale brown (10YR 7/3) silty fine to medium sand (damp, medium dense).
15				4/ 6/ 6						At 15'; becoming silty fine to coarse sand.
				5/ 5/ 4						At 17'; becoming fine to medium sand (loose).
								CL		At 18'; pale brown (10YR 6/3) sandy clay (moist, medium stiff). Scattered carbonate veinlets.
20				2/ 3/ 5& -22				SM		At 19½'; light yellowish brown (10YR 6/4) silty fine sand (damp to moist, loose).
				2/ 3/ 4						
25				7/ 7/ 8						At 25'; becoming damp, medium dense.
				10/ 11/ 8				SM		At 26'; pale yellow (2.5Y 7/3) silty fine sand (damp, medium dense). At 27'; some fine to coarse sand.
								SM		At 28'; very pale brown (2.5Y 7/4) silty fine sand (damp, medium dense).
30				3/ 3/ 4				SM/: ML		At 30½'; pale brown (10YR 6/3) silty fine sand to silt (moist to wet, loose).
				1/ 4/						

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:490'± Date: 5/23/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
				6				SM		At 33'; light yellowish brown (10YR 6/4) silty fine to coarse sand, few gravel (damp, loose).
35				3/ - 35. 4/				SM		At 34½'; yellowish brown (10YR 5/4) silty fine sand (saturated, loose). Ground water at 35'.
				2/ 3/ 4						
40				1/ 1/ 1						
				3/ 8/ 13				SM		At 41½'; pale brown (10YR 6/3) silty fine sand, some coarse sand (saturated, medium dense). At 42' to 42½ clayey fine sand.
45				1/ 2/ 3						At 45'; becoming loose.
				0/ 2/ 8						
50				4/ 12/ 24				SM		At 50½'; pale brown (10YR 6/3) silty fine to coarse sand (saturated, dense). Total depth 51' Groundwater at 35', No caving.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:485'± Date: 5/24/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0								SM		TOPSOIL
								SM		Very dark grayish brown (10YR 3/2) silty fine to coarse sand (damp).
										ALLUVIUM (At 0.5')
				3/						Brown (10YR 5/3) silty fine to coarse sand (damp, very
				1/						loose). Some small gravel.
				2						At 3'; becoming moist.
5				6/	14.0	100				
				12"				SM		At 6'; dark grayish brown (10YR 4/2) silty fine to coarse
										sand (moist to wet).
				1/						
				4/				CL		At 7½'; very dark grayish brown (10YR 3/2) silty clay, trace
				5						sand (moist, stiff).
10				12/	16.1	110				
				12"				ML		At 10½'; brown (10YR 4/3) clayey silt (moist to wet, stiff).
										Little sand.
				3/						
				6/						
				6				ML		At 13'; yellowish brown (10YR 5/4) silty clay, trace sand
										(moist, stiff). Scattered carbonate veinlets.
15				9/	16.1	105				
				12"				CL		At 15½'; light yellowish brown (2.5Y 6/4) silty clay, trace
										fine sand (moist, stiff).
				3/						
				5/				SM		At 17½'; light yellowish brown (2.5Y 6/4) silty fine to coarse
				8						sand (damp, medium dense).
20				9/	7.8	100				
				12"						
				3/						
				5/						
				6				SW		At 23'; pale yellow (2.5Y 7/4) fine to coarse sand (damp,
										medium dense).

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:485'± Date: 5/24/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
25	■			23/ 12"	3.8	111				
		■		3/ 1/ 6				SM		At 28'; light yellowish brown (2.5Y 6/4) silty fine to coarse sand (wet, loose).
30	■			8/ 12"	20.6	101		SM		At 30'; light yellowish brown (2.5Y 6/4) very silty fine sand (saturated, very loose). Ground water at 30'.
		■		0/ 1/ 3						At 32'; some fine to coarse sand.
35	■			3/ 12"	24.2	98		ML		At 35½'; light yellowish brown (2.5Y 6/4) sandy silt (saturated, very soft). Some clay.
		■		1/ 2/ 1				SM		At 38'; light yellowish brown (2.5Y 6/4) very silty fine sand (saturated, very loose). Some coarse sand.
40	■			23/ 12"	19.6	111		SM		OLDER ALLUVIUM Light yellowish brown (2.5Y 6/4) slightly silty fine to coarse sand, some gravel (saturated, medium dense).
		■		3/ 10/ 18						
45	■			13/ 12"	19.6	109				At 45'; interbedded with sandy silt to very silty fine sand.
		■		6/ 10/ 17						

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:485'± Date: 5/24/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
50	■			17/ 12"	14.7	116		SM		At 50'; light yellowish brown (2.5Y 6/4) very silty fine sand (saturated, medium dense).
										Total depth 51'
										Groundwater at 30', No caving.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:492'± Date: 5/24/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0				3/ 4/ 4				ML/: SM		FILL Yellowish brown (10YR 5/4) sandy silt mottled with silty fine to coarse sand. Scattered debris. (Damp, very loose.)
								SM		At 2½'; dark grayish brown (10YR 4/2) silty fine to coarse sand (moist, loose).
5				5/ 12"				SM		At 4½'; pale brown (10YR 6/3) slightly sifty fine to coarse sand (moist, loose).
				1/ 1/ 1				SM		TOPSOIL Very dark grayish brown (10YR 3/2) very silty fine to coarse sand (wet, very loose).
10				5/ 12"	12.9	118				At 11'; trace clay.
				2/ 4/ 4						At 12'; becoming loose.
								SM		ALLUVIUM Brown (10YR 4/3) silty fine to coarse sand (damp to moist, medium dense). Trace clay.
15				15/ 12"	7.4	117				
				5/ 6/ 5						
20				10/ 12"	10.3	117				
								SM		At 20½'; light yellowish brown (10YR 6/6) silty fine to coarse sand (moist).
				5/ 5/ 9				SM		At 22'; light yellowish brown (10YR 6/6) very silty fine sand (moist, medium dense).
25				17/ 12"	3.5	112				At 25'; some fine to coarse sand and gravel.
				4/ 7/ 9						
								SM		At 28'; light yellowish brown (10YR 6/4) slightly silty fine to coarse sand (damp, medium dense).
30				13/ 12"	14.3	110		SM		At 30'; light yellowish brown (10YR 6/4) very silty fine sand (moist to wet, medium dense). Few gravel.
				4/ 11/						

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:492'± Date: 5/24/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
				13				SM		At 33'; light yellowish brown (10YR 6/4) slightly silty fine to coarse sand (damp, medium dense).
35				8/ 11/ 14				SM		At 36'; light yellowish brown (10YR 6/4) silty fine to coarse sand, some gravel (moist, medium dense).
				4/ 7/ 13				SM		At 38'; very pale brown (10YR 7/3) silty fine sand (moist, medium dense).
40				6/ 5/ 7						
				3/ 9/ 9						At 42'; some coarse sand and gravel.
45				4/ 8/ 9						Groundwater at 45'.
				4/ 9/ 12						
50				4/ 5/ 20				SM		At 51'; light brownish gray (10YR 6/2) silty fine to coarse sand (very moist, medium dense).
										Total depth 51½' No caving, Groundwater at 45'.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:482'± Date: 5/24/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
0				3/ 3/ 3				SM		FILL Brown (10YR 4/3) silty fine to coarse sand (damp, loose).
										At 3'; becoming moist.
5				4/ 12"	9.8	105				
				1/ 2/ 1				SM		TOPSOIL Very dark grayish brown (10YR 3/2) very silty fine to coarse sand (moist, very loose).
10				4/ 12"	9.3	107				
				2/ 3/ 4				SM		ALLUVIUM Brown (10YR 4/3) very silty fine to coarse sand (moist, loose).
15				18/ 12"	8.7	123				At 15'; becoming medium dense.
				4/ 10/ 11				SM		At 16½'; brown (10YR 5/3) very silty fine to coarse sand (moist, medium dense).
								SM		At 19'; light yellowish brown (10YR 6/4) slightly silty fine to coarse sand (damp, medium dense).
20				15/ 12"	3.4	101				
				11/ 14/ 17				SM		At 21½'; very pale brown (10YR 7/3) slightly silty fine to coarse sand (damp, medium dense).
25				19/ 12"	3.8	113				At 25'; becoming interbedded with very silty fine to coarse sand.
				3/ 4/ 7				SM		At 27'; pale brown (10YR 6/3) very silty fine sand (damp, medium dense).
								SM		At 29'; pale brown (10YR 6/3) slightly silty fine to coarse sand (damp, medium dense).
30				36/ 12"	4.7	109				At 31': some gravel.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch - Moorpark
Drill Co. and Rig Type: A&R Drilling,H.S. Auger,CME 85 Work Order: 1974-1-0-13
Hammer: 140 lbs., 30" Drop Logged by: CHD Report Log No.: 20360
Boring Diameter: 8" Surface Elevation:482'± Date: 5/24/00

Depth (ft)	Undisturbed	SPT	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description
				11/ 20/ 11						At 32'; some gravel.
								SM		At 34'; pale brown (10YR 6/3) very silty fine sand, some clay (wet, loose).
35				9/ 12"	17.4	111				At 36'; saturated.
				2/ 1/ 2						
40				11/ 12"	19.2	109		SM		At 40½'; pale brown (10YR 6/3) silty fine to coarse sand.
				5/ 5/ 5				SM		At 43'; pale brown (10YR 6/3) to brown (10YR 5/3) very silty fine sand (saturated, loose). Trace clay.
45				8/ 12"	21.4	110				
				1/ 3/ 5						At 47'; interbedded with clayey fine sand.
50				23 12"	14.0	122		SM		At 49½'; brown (10YR 5/3) slightly silty fine to coarse sand and gravel (saturated, medium dense).
										Total depth 51' Groundwater at 35', No caving.

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

BORING: B-A

Project: Hitch Ranch
Drill Co. and Rig Type: TriValley, 24" Bucket
Hammer:
Boring Diameter: 24" Surface Elevation: 570± Logged by: STS Date: 05/18/2000

Work Order: 1974-1-0-13
Report Log No.: 20360

Depth (ft)	Undisturbed	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description	Remarks
0							SW/ SC		TOPSOIL: Light gray slightly clayey silty fine sand (dry to damp, dense) with scattered carbonate veinlets.	
							CL		: At 1½'; grading to red brown clayey fine sand.	
							SM		OLDER ALLUVIUM: Tan silty fine sand (damp, dense) with scattered carbonates, with scattered pebbles of quartzite.	
5			12/ 12"	4.4	121					
							SW		: At 6½'; light to medium brown fine sand (moist, dense). Scattered pebbles. Becoming slightly clayey fine to medium sand below 8' (very moist, dense).	
10			9/ 12"	3.2	113					
							SW		: At 13½'; light brown fine to coarse sand (moist, dense) with scattered gravel.	ATTITUDE ON BEDDING AT 14' N75°W/12°SW
15			10/ 12"	5.0	124		SC		: At 15'; medium brown clayey fine to medium sand (moist, dense).	
							SC		: At 18½'; medium to light brown fine to coarse sand (very moist, dense). Interbedded with clay sand as above. Clay decreasing with depth.	AT 19' N15°E/6°SE
20			11/ 12"	15.1	112					
25			16/ 20"	6.3	112		SW		: At 26'; medium brown fine to medium sand below 26'.	
							CL		: At 27½'; medium brown very sandy silty clay (very moist, stiff).	AT 28' N3°E/5°NW
30			8/ 12"	8.9	120		SM/ ML		: At 29'; grading to medium brown sandy silt to very silty fine sand (very moist, stiff to dense).	
							ML/ CL		: At 33'; medium brown sandy silt (wet, stiff). Interbedded with sandy silty clay (very moist, stiff).	
35			7/ 12"	11.6	123					

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

BORING: B-A

Project: Hitch Ranch
Drill Co. and Rig Type: TriValley, 24" Bucket
Hammer:
Boring Diameter: 24" Surface Elevation: 570± Logged by: STS Date: 05/18/2000

Work Order: 1974-1-0-13
Report Log No.: 20360

Depth (ft)	Undisturbed	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description	Remarks
40	■		6/ 12"	11.0	107		ML/ SM		: At 40'; tan to light brown silt (moist, stiff) interbedded with silty fine sand (moist, dense).	At 40' HORIZONTAL CONTACT
	■		6/ 12"	11.4	111		CL		: At 41½'; light brown sandy silty clay (moist, stiff).	
							SM/ SC		: At 42½'; tan silty fine sand interbedded with sandy silt and silty clay.	
45	■		5/ 12"	21.1	104					
							SM		: At 48½'; tan fine sand (moist, dense). Locally interbedded with light brown silt. At 52'-54'; becoming predominantly silty.	ATTITUDE ON BEDDING AT 50' N47°E/13°SE
50	■		7/ 12"	21.5	94					
55									SAUGUS FORMATION: Light brown to buff silty fine-grained sandstone (moist, dense). Interbedded with siltstone.	AT 54' N83°W/8°NE
										At 58' N63°E/3°NW
60	■		16/ 12"	11.0	106					
65										AT 66' N85°W/7°SW
									: At 67'; tan silty fine sandstone.	
70	■		14/ 12"	3.6	102				: At 70'; light to medium brown silty fine to coarse sandstone interbedded with siltstone. Appears to be gradational sequence.	

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

BORING: B-A
Page 3 of 3

Project: Hitch Ranch
Drill Co. and Rig Type: TriValley, 24" Bucket
Hammer:
Boring Diameter: 24" Surface Elevation: 570± Logged by: STS Date: 05/18/2000

Work Order: 1974-1-0-13
Report Log No.: 20360

Depth (ft)	Undisturbed	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description	Remarks
75									: At 77'; light to brown siltstone.	
80	■		11/ 12"	14.7	108				Total depth 81': No caving, No groundwater.	
85										

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

BORING: B-B

Project: Hitch Ranch
Drill Co. and Rig Type: TriValley, 24" Bucket
Hammer:
Boring Diameter: 24" Surface Elevation: 528± Logged by: STS Date: 05/19/2000

Work Order: 1974-1-0-13
Report Log No.: 20360

Depth (ft)	Undisturbed	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description	Remarks
0							SM		TOPSOIL: Grey brown mottled with light brown slightly clayey silty fine sand (damp, dense).	
							SM		OLDER ALLUVIUM: Gray brown silty fine to coarse sand with minor interbeds of silt (moist, dense).	
			4/ 12"	6.0	122					
5			5/ 12"	11.4	112				: At 5'; medium brown silty sand with minor interbeds of silt (moist).	
							ML		: At 7'; medium brown silt (moist, stiff). Randomly oriented discontinuous shears.	
10			3/ 12"	25.0	98					ATTITUDE ON BEDDING AT 11½' N87°E/21°NW
							SM		: At 12½'; light brown silty fine sand (moist, dense) grading to fine sand grading to slightly clayey silt (moist, stiff).	
15			3/ 12"	25.8	99				: At 15.5'; silt becoming slightly sandy.	
							SM		: At 17'; light brown silty fine sand (moist, dense). Gradational sequence into silt.	
20			3/ 12"	38.5	83				SAUGUS FORMATION: Buff-gray brown interbedded siltstone and fine sandstone (moist, dense).	AT 19½' NS/3°W
25			8/ 12"	4.6	87					AT 25' N38°W/18°SW
										HORIZONTAL CONTACT AT 26'
30			9/ 12"	4.1	102				: At 29'; predominantly buff silty fine sandstone (moist, dense). Grading to occasional coarse sandstone. At 36.5', medium brown siltstoe alminae within sand matrix as above.	
35			10/ 12"	1.0	110					ATTITUDE ON BEDDING AT 36' EW/7°N

GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

Project: Hitch Ranch
Drill Co. and Rig Type: TriValley, 24" Bucket
Hammer:
Boring Diameter: 24" Surface Elevation: 528± Logged by: STS Date: 05/19/2000

Work Order: 1974-1-0-13
Report Log No.: 20360

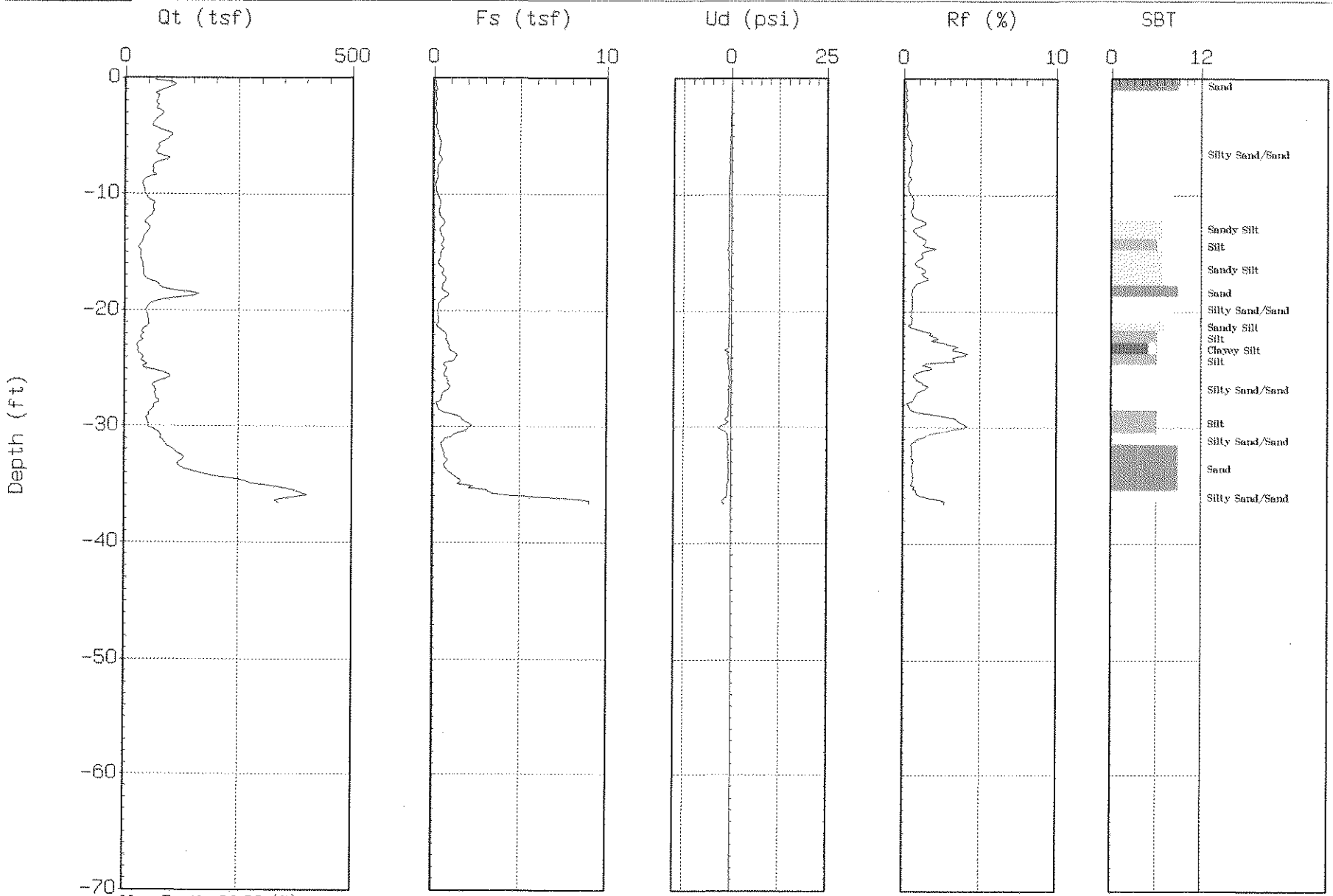
Depth (ft)	Undisturbed	Bulk	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	Penetrometer (tsf)	USCS	Soil/ Lithology	Description	Remarks
40	■		9/ 12"	1.2	106				Total depth 41': No caving, No groundwater.	
45										

GREGG

GORIAN & ASSOCIATES

Site : HITCH RANCH
Location : CPT-1

Engineer : C. LEWIS
Date : 05:18:00 08:33



Max. Depth: 36.58 (ft)

Depth Inc.: 0.164 (ft)

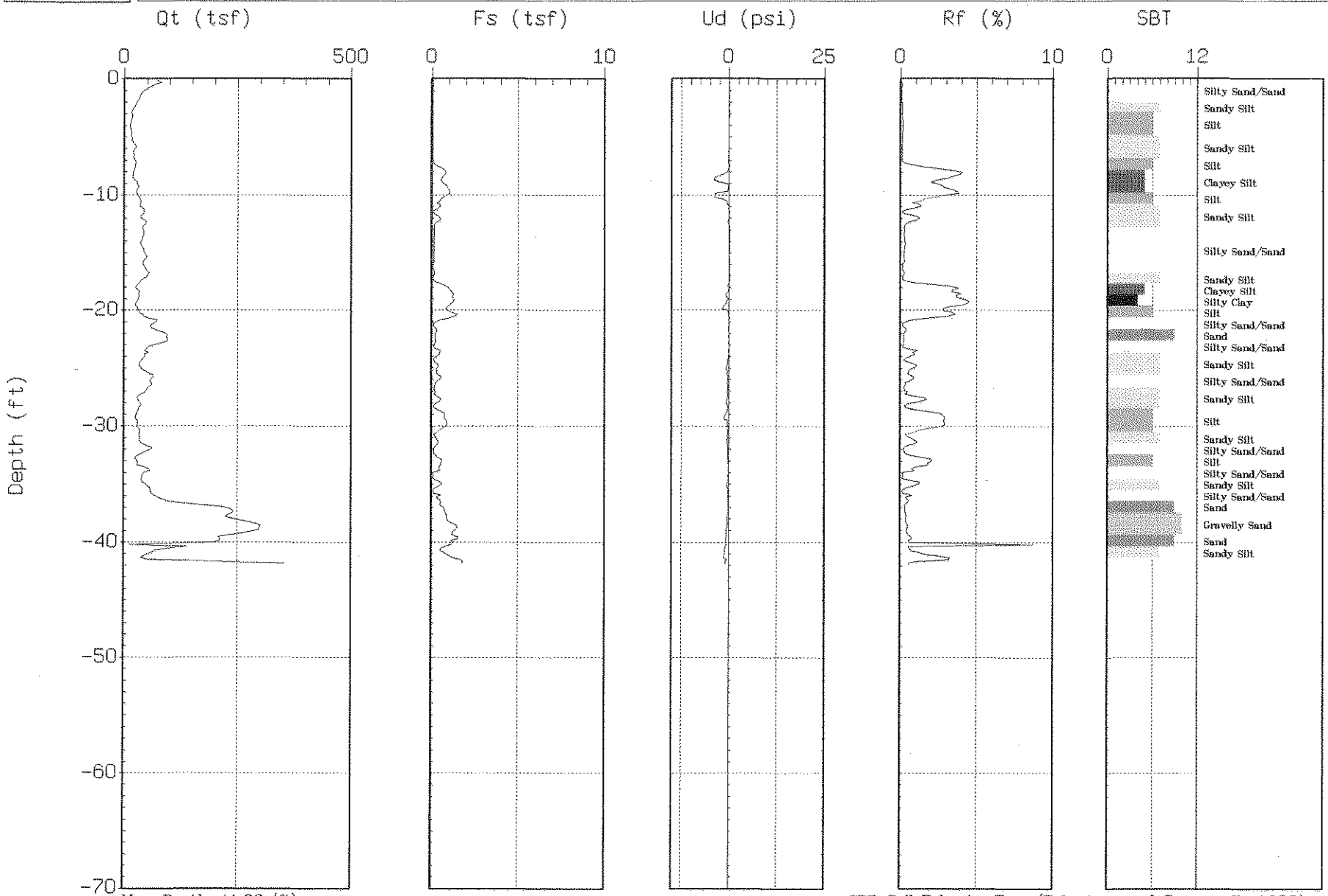
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

GORIAN & ASSOCIATES

Site : HITCH RANCH
Location : CPT-2

Engineer : C. LEWIS
Date : 05:18:00 08:58



Max. Depth: 41.83 (ft)

Depth Inc.: 0.164 (ft)

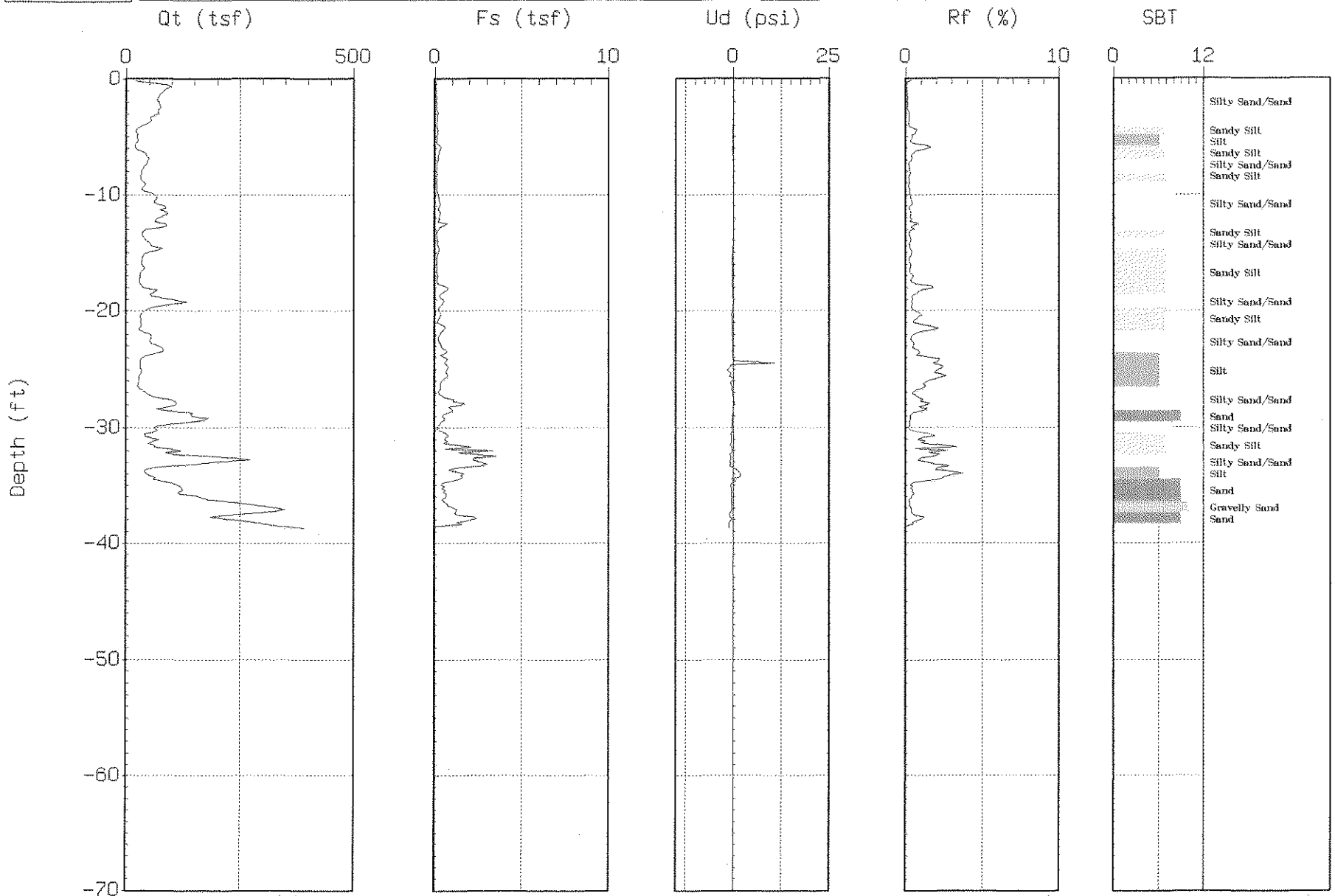
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

GORIAN & ASSOCIATES

Site : HITCH RANCH
Location : CPT-3

Engineer : C. LEWIS
Date : 05:18:00 09:36



Max. Depth: 38.71 (ft)

Depth Inc.: 0.164 (ft)

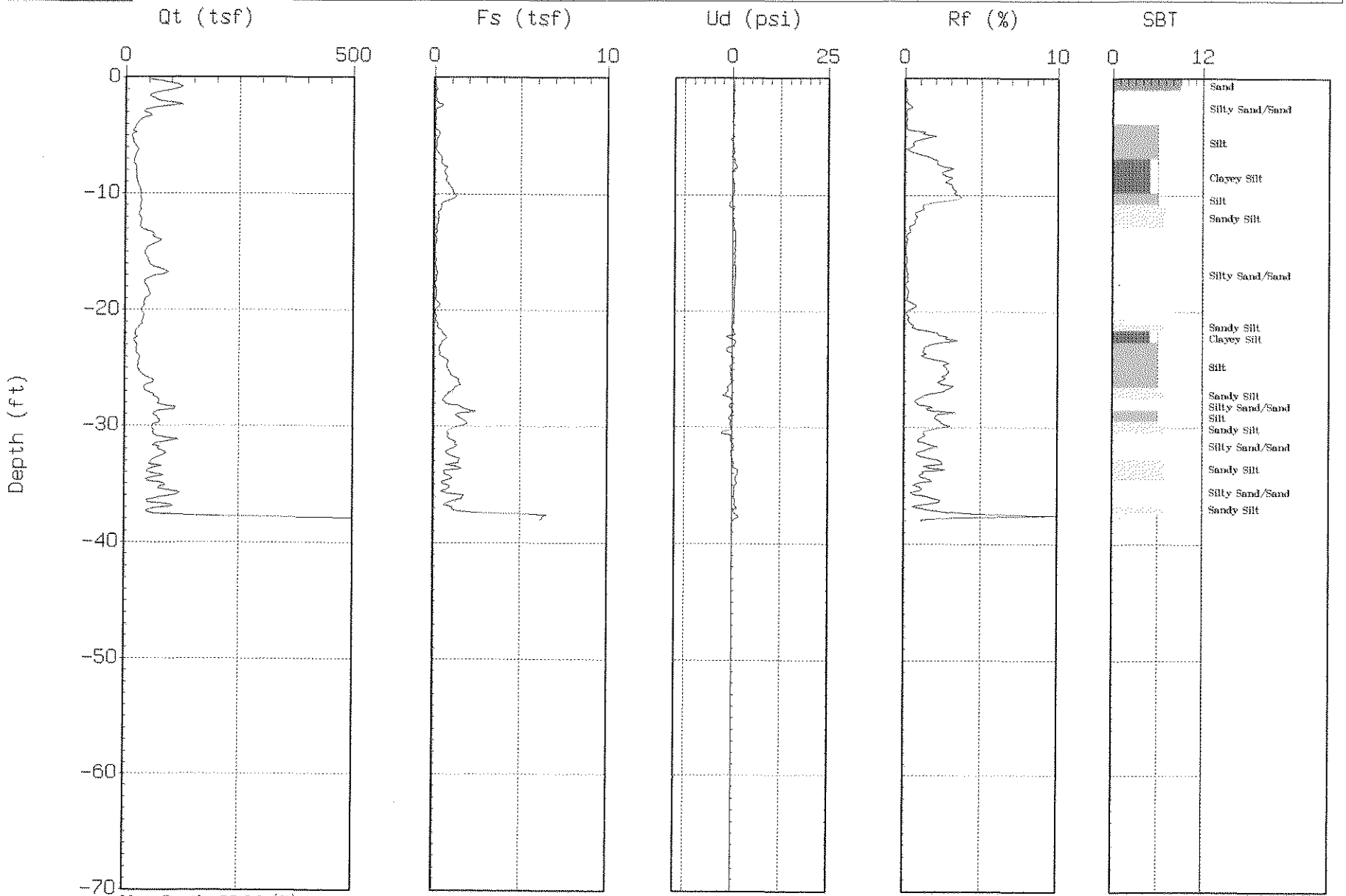
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

GORIAN & ASSOCIATES

Site : HITCH RANCH
Location : CPT-4

Engineer : C. LEWIS
Date : 05:18:00 10:03



Max. Depth: 38.06 (ft)

Depth Inc.: 0.164 (ft)

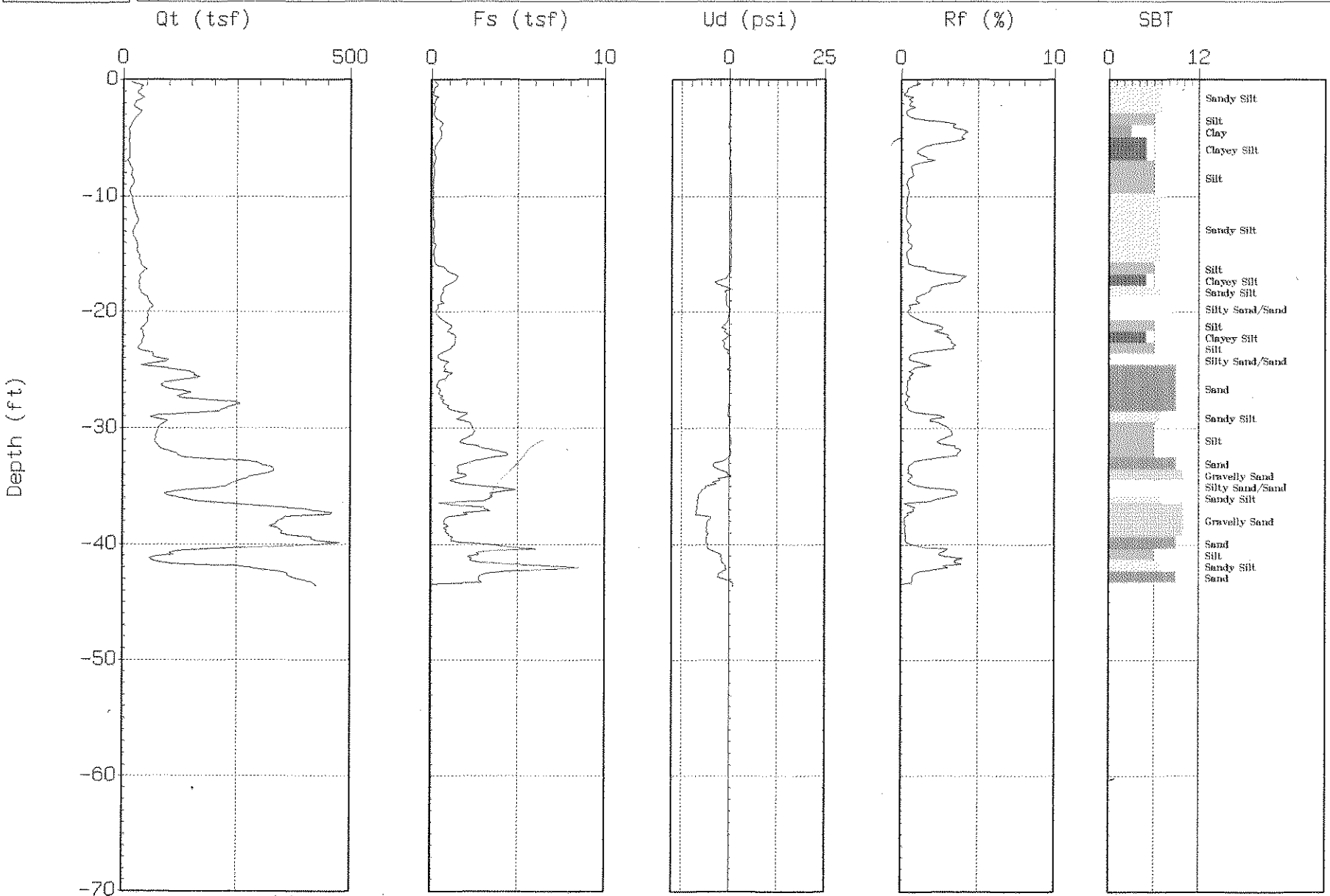
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

GORIAN & ASSOCIATES

Site : HITCH RANCH
Location : CPT-5

Engineer : C. LEWIS
Date : 05:18:00 10:27



Max. Depth: 43.63 (ft)

Depth Inc.: 0.164 (ft)

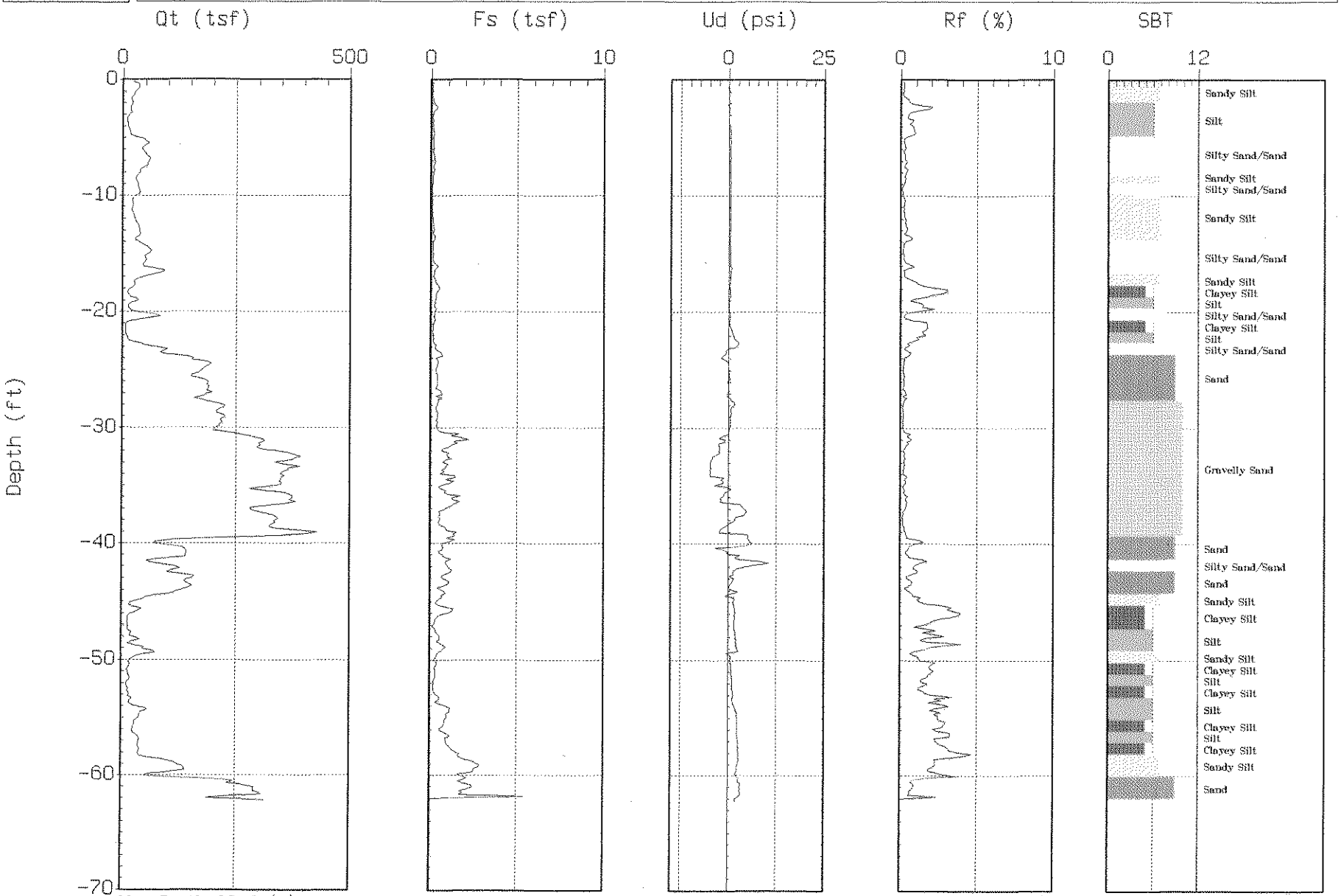
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

GORIAN & ASSOCIATES

Site : HITCH RANCH
Location : CPT-6

Engineer : C. LEWIS
Date : 05:18:00 10:56



Max. Depth: 62.17 (ft)

Depth Inc.: 0.164 (ft)

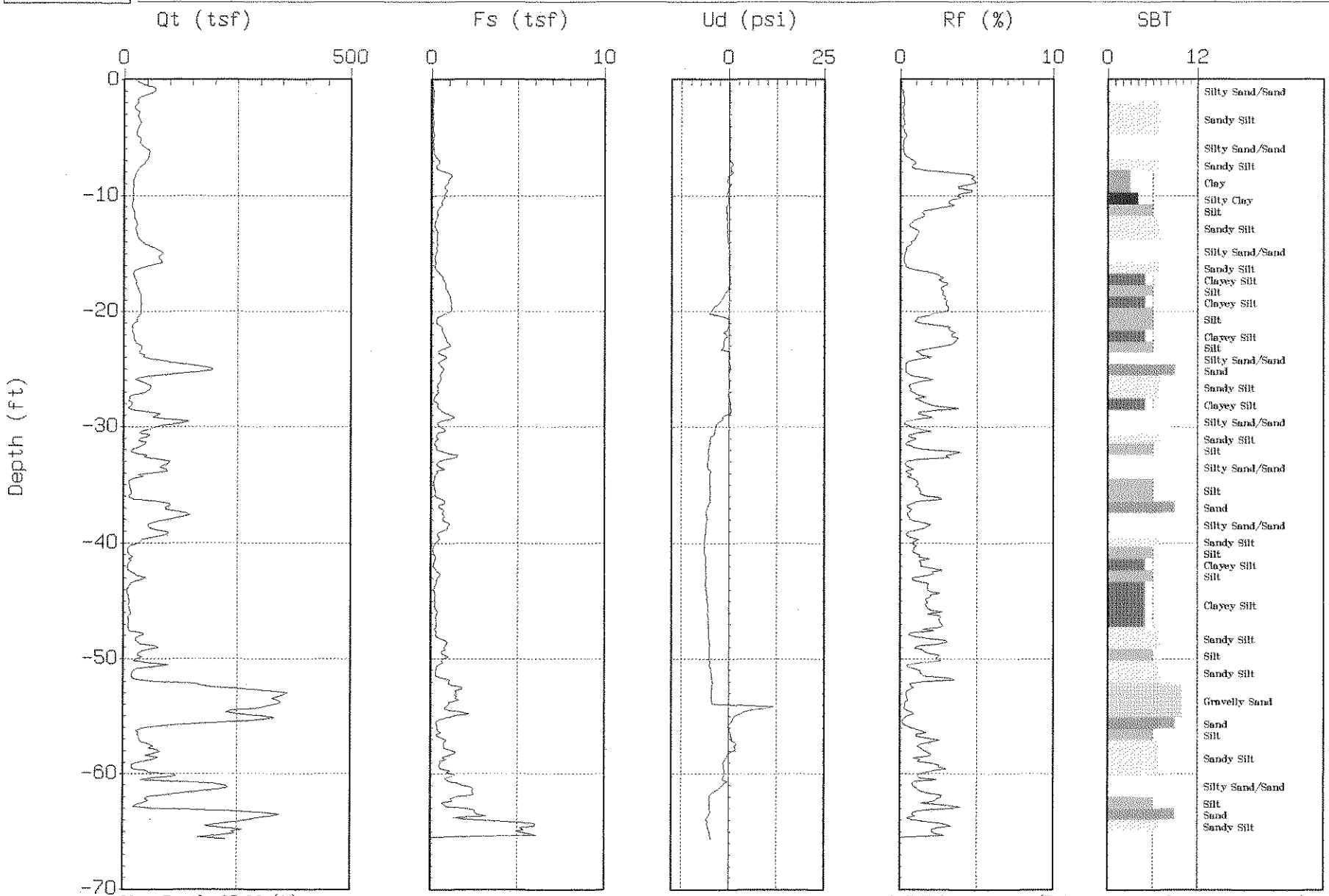
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

GORIAN & ASSOCIATES

Site : HITCH RANCH
Location : CPT-7

Engineer : C. LEWIS
Date : 05:18:00 11:33



Max. Depth: 65.62 (ft)

Depth Inc.: 0.164 (ft)

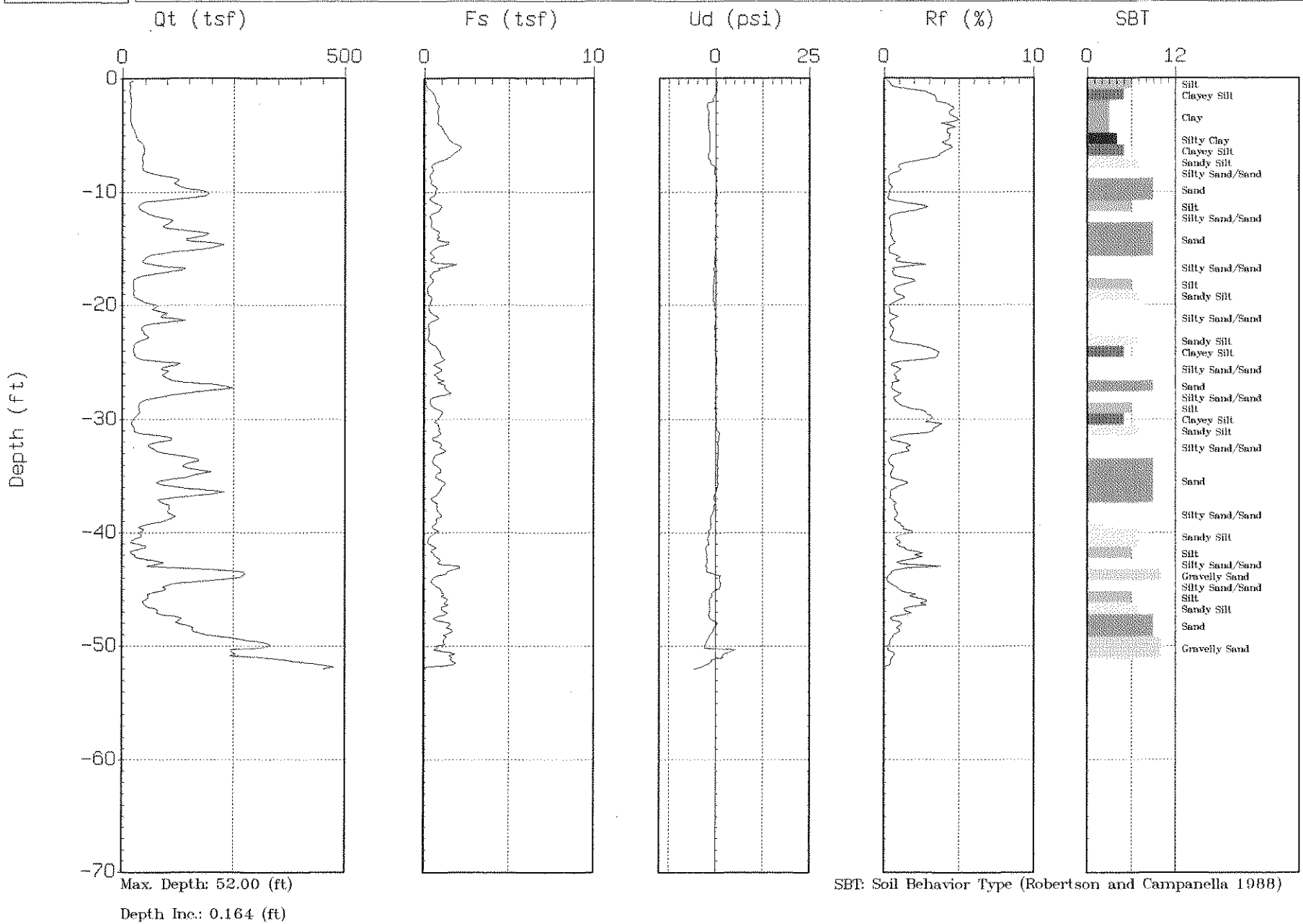
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

GORIAN & ASSOCIATES

Site : HITCH RANCH
Location : CPT-8

Engineer : C. LEWIS
Date : 05:18:00 12:20



Max. Depth: 52.00 (ft)

Depth Inc.: 0.164 (ft)

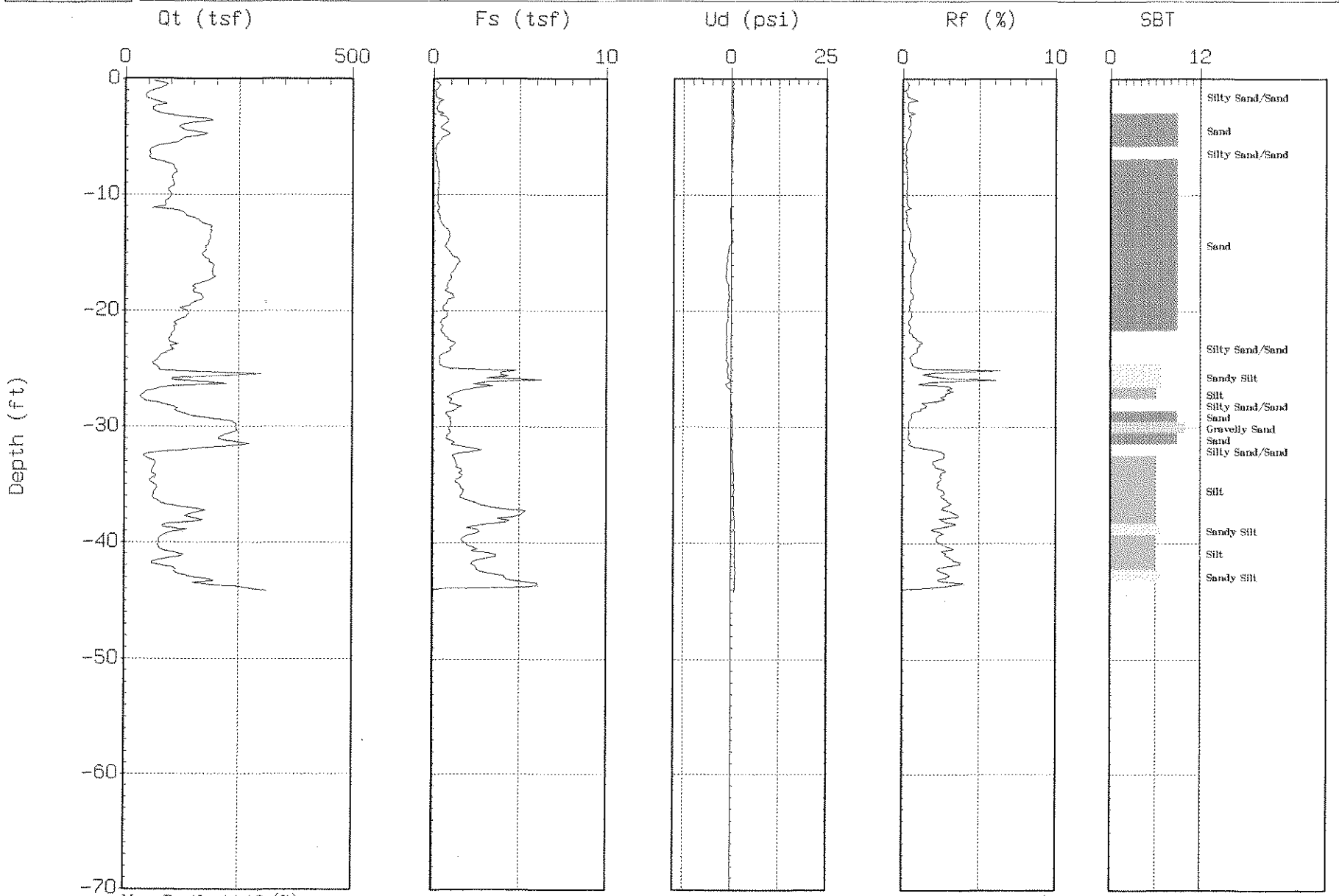
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

GORIAN & ASSOCIATES

Site : HITCH RANCH
Location : CPT-9

Engineer : C. LEWIS
Date : 05:18:00 12:59



Max. Depth: 44.13 (ft)

Depth Inc.: 0.164 (ft)

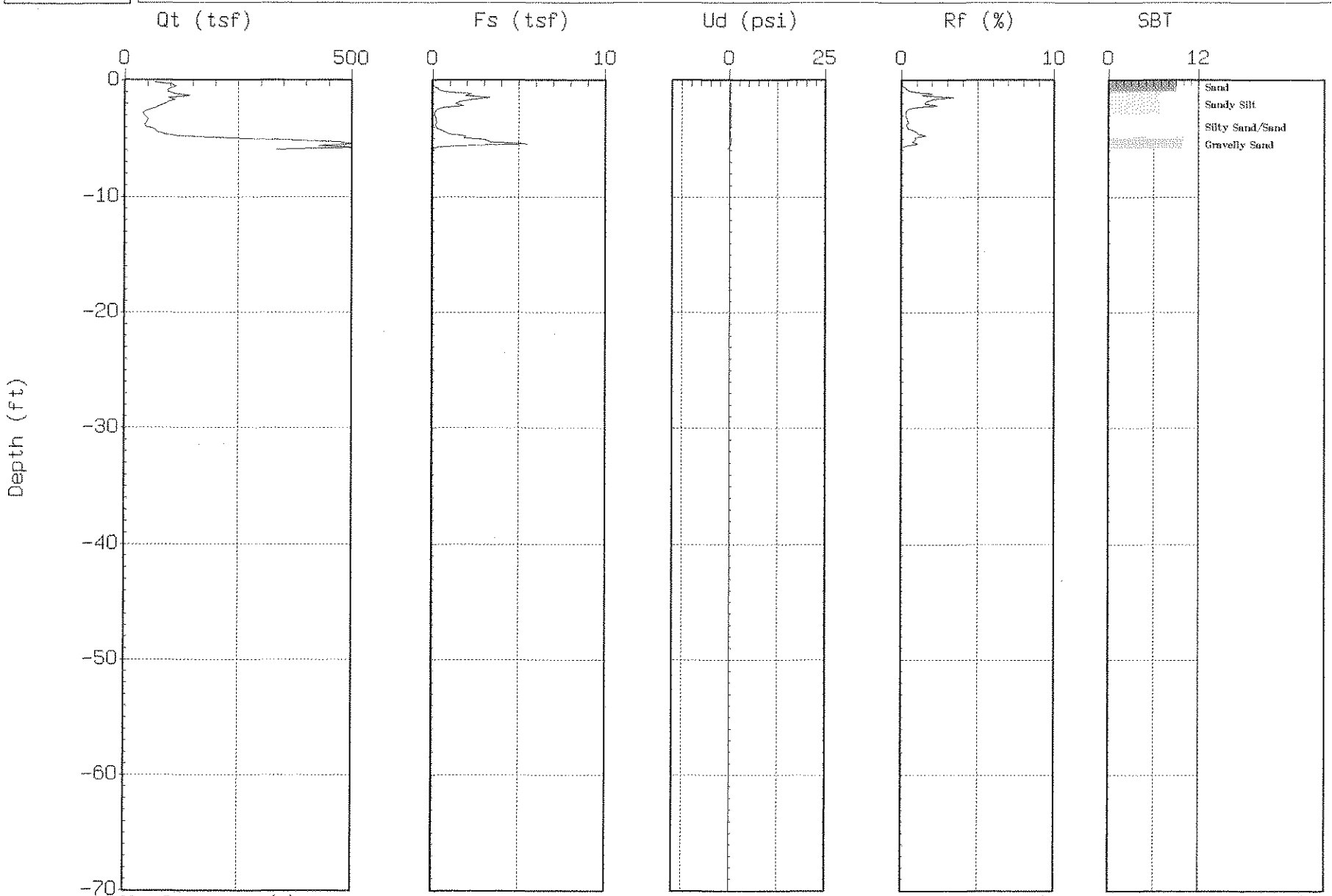
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

GORIAN & ASSOCIATES

Site : HITCH RANCH
Location : CPT-10

Engineer : C. LEWIS
Date : 05:18:00 13:22



Max. Depth: 5.91 (ft)

Depth Inc.: 0.164 (ft)

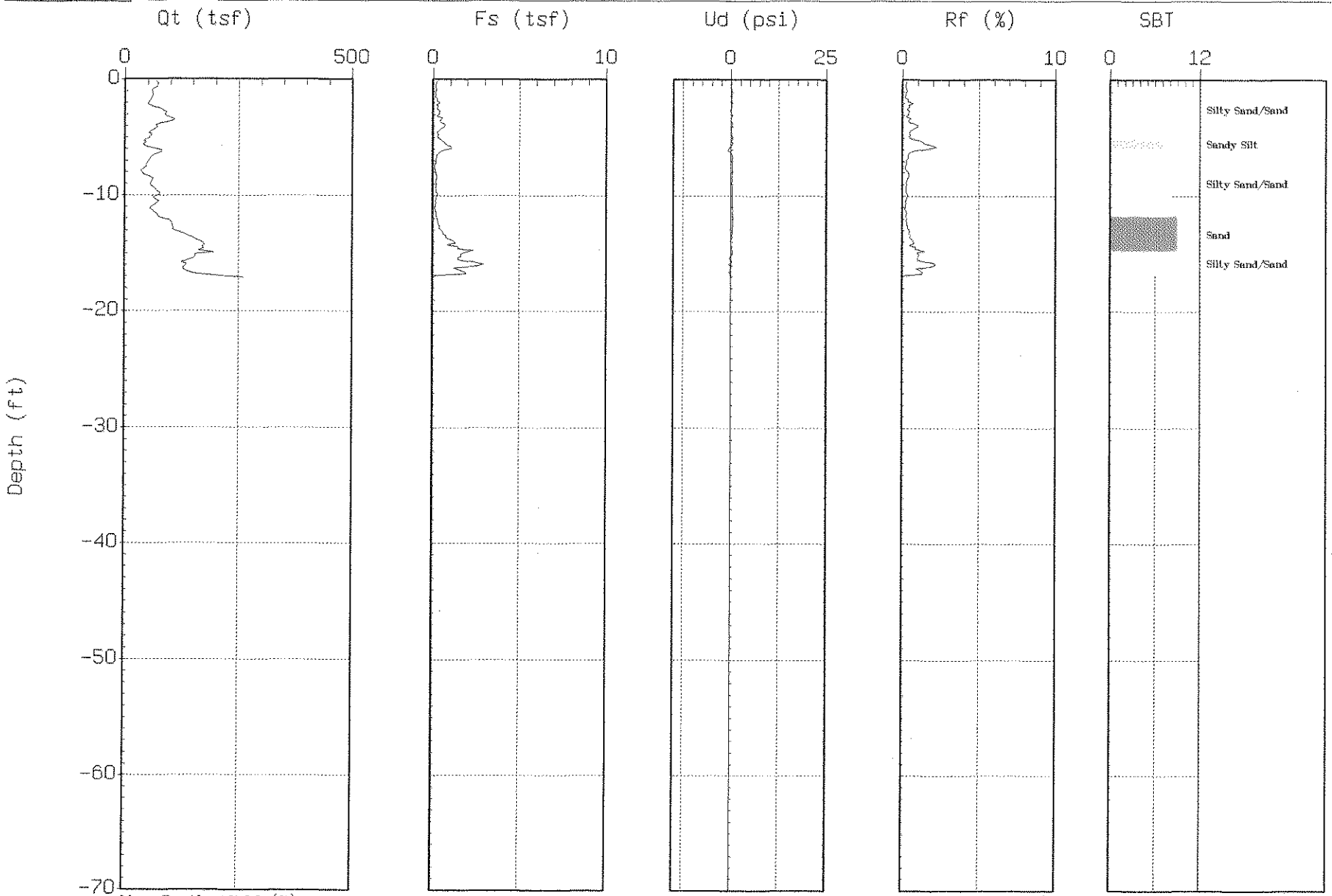
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

GORIAN & ASSOCIATES

Site : HITCH RANCH
Location : CPT-11

Engineer : C. LEWIS
Date : 05:18:00 13:40



Max. Depth: 17.06 (ft)

Depth Inc.: 0.164 (ft)

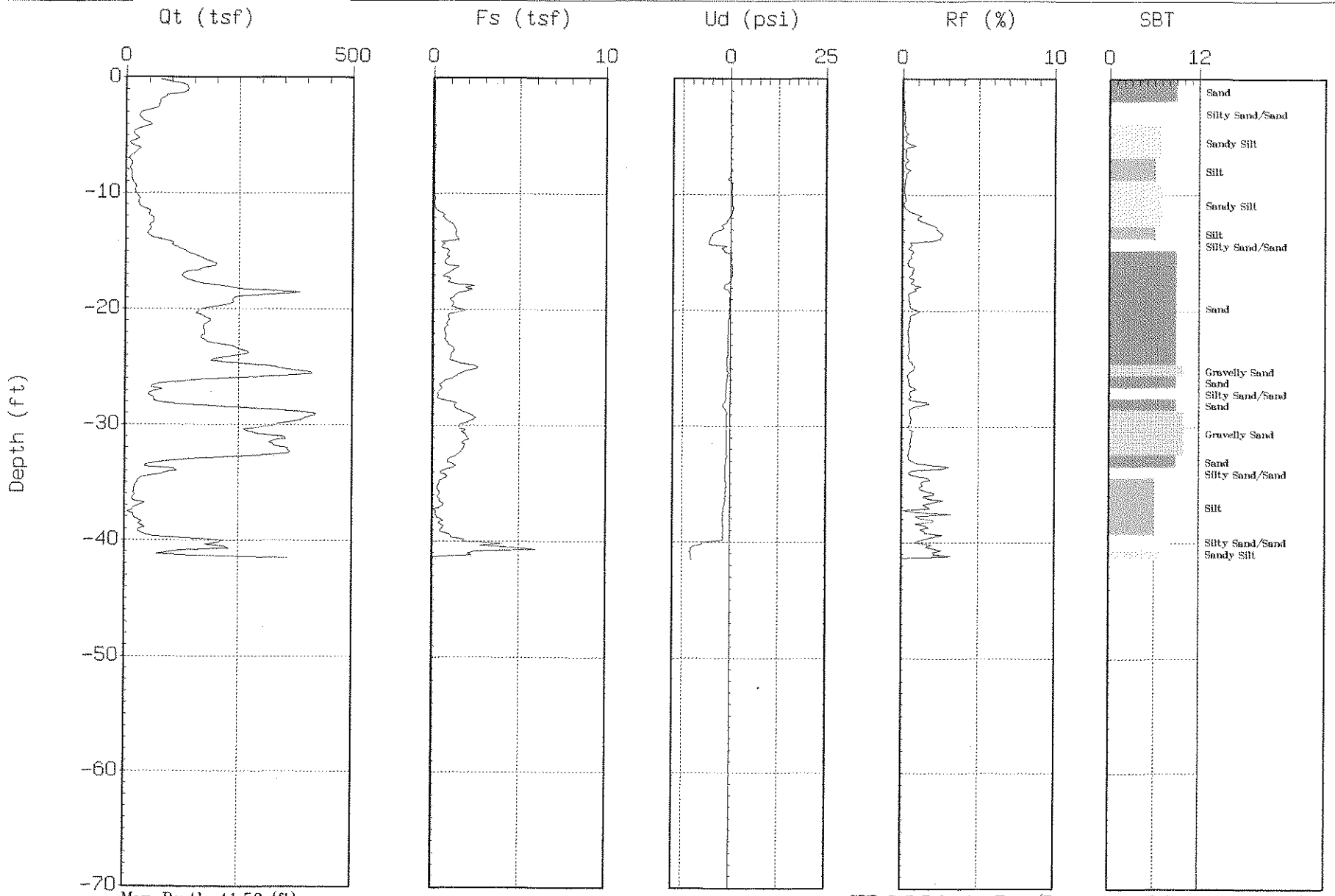
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

GORIAN & ASSOCIATES

Site : HITCH RANCH
Location : CPT-12

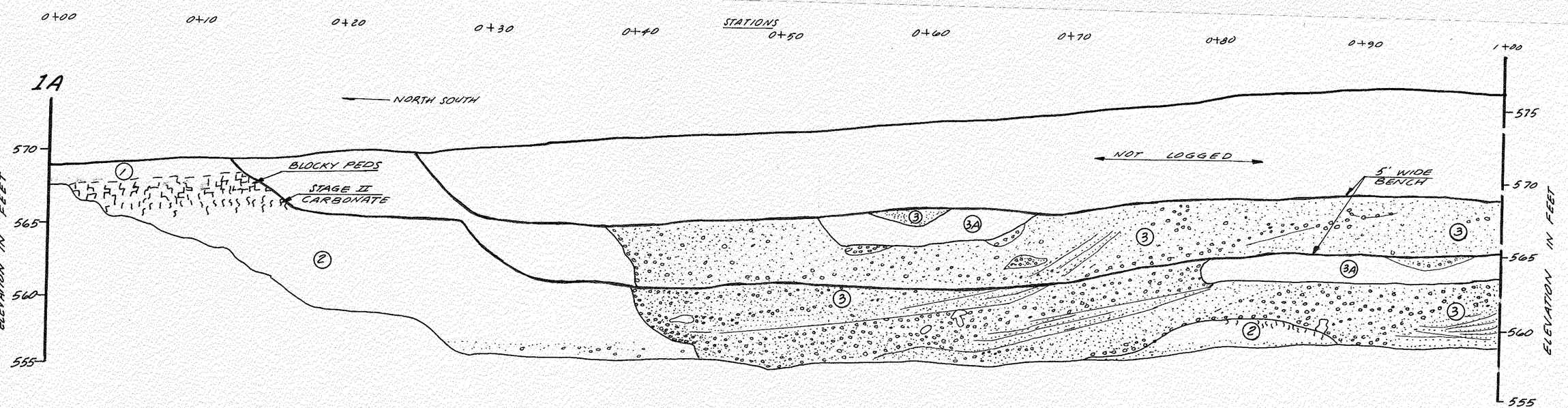
Engineer : C. LEWIS
Date : 05:18:00 14:16

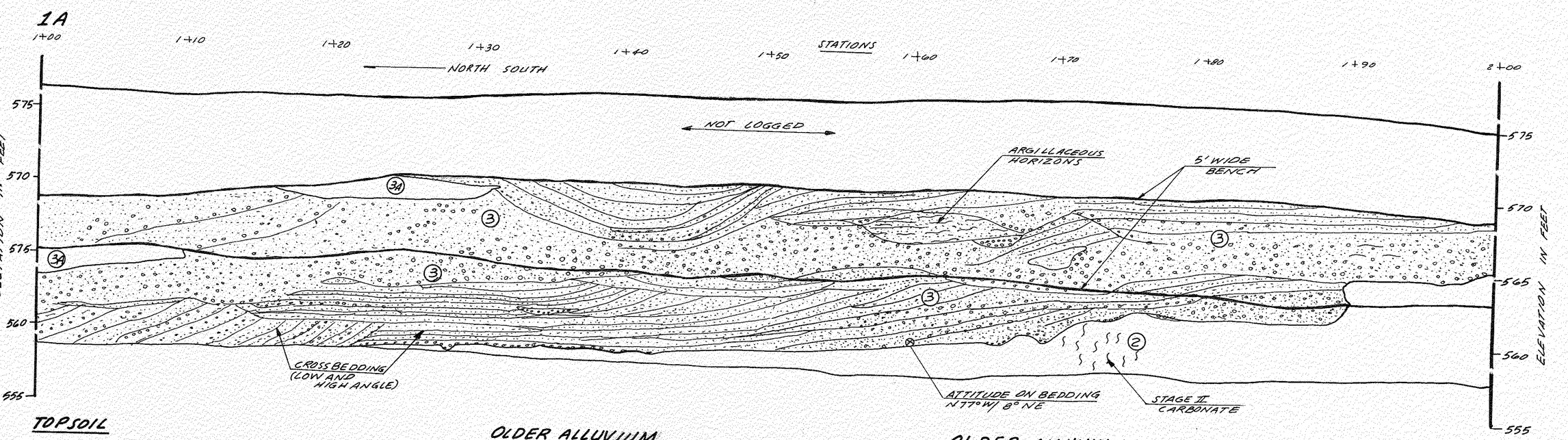


Max. Depth: 41.50 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)





TOPSOIL

(1) DARK GRAYISH BROWN (10YR 4/2) SANDY CLAY (HARD, DRY TO DAMP). DESSICATED. SCATTERED ROOTS TO ROOTHAIRS. FEW GRAVEL. GRADATIONAL CONTACT OVER 6" WITH UNIT (2). HACKLY FRACTURES.

OLDER ALLUVIUM

(2) YELLOWISH BROWN (10 YR 5/4) SILTY CLAY, TRACE FINE SAND (HARD, DAMP TO MOIST). BLOCKY PEDS TYPICAL (STATION 4+15 TO 4+29 AND 0+00 TO 0+15), EXTENDING 2 FEET BELOW CONTACT WITH UNIT (1). BELOW BLOCKY PEDS, SCATTERED STAGE II CARBONATE, THEN UNIT GRADES TO YELLOWISH BROWN (10 YR 5/4) SANDY SILTY CLAY (HARD, MOIST) MOTTLED WITH LIGHT BROWNISH GRAY (10 YR 6/2) SANDY CLAY. FEW GRAVEL. SCATTERED MANGANESE STAINING. SLIGHTLY POROUS. STATION 0+35, UNIT GRADES DOWNWARD TO LIGHT YELLOWISH BROWN (10YR 6/4) SILTY FINE TO COARSE SAND WITH SOME GRAVEL (DENSE, DAMP). GRADATIONAL CONTACT WITH SANDY CLAY ABOVE OVER 18." UNIT (2), SHARP EROSIONAL CONTACT WITH UNIT (3); STATION 0+80 TO 0+85, UNIT YELLOWISH BROWN (10 YR 5/4) SILTY CLAY, TRACE FINE SAND (HARD, DAMP). SCATTERED STAGE II CARBONATE JUST BELOW SHARP CONTACT WITH UNIT (3). GRADES DOWNWARD OVER 12" TO LIGHT YELOWISH BROWN (10 YR 6/4) SILTY FINE TO MEDIUM SAND, SOME COARSE SAND, FEW GRAVEL. STATION 0+70 TO 0+76, SCATTERED STAGE II CARBONATE WITHIN YELLOWISH BROWN (10 YR 5/4) SILTY CLAY, TRACE FINE SAND. STATION 1+90 TO SOUTH, UPPER PORTION OF UNIT MOTTLED WITH LIGHT BROWNISH GRAY (10 YR 6/2) SANDY CLAY. STATION 3+05 TO 3+28 UPPER PORTION OF UNIT NEAR CONTACT WITH UNIT (3) BLOCKY PEDS.

(2A) STATION 3+90 TO 4+20, LOWEST PORTION OF UNIT BECOMES LIGHT YELLOWISH BROWN (2.5 Y 6/4) SILTY FINE TO COARSE SAND.

OLDER ALLUVIUM

(3) NEAR EDGE OF CONTACT WITH UNIT (2), LIGHT YELLOWISH BROWN (10 YR 6/4) CLAYEY FINE TO COARSE SAND WITH GRAVEL (MEDIUM DENSE, DAMP). UNIT INTERBEDDED WITH BROWNISH YELLOW (10YR 6/6) FINE TO MEDIUM SAND, FEW GRAVEL. STATION 0+44, 0+60, 0+63, 0+88 AND 1+70, CONTAINS RIP-UP CLASTS OF LIGHT YELLOWISH BROWN (2.5 Y 6/4) SANDY SILT. UNIT GRADES HORIZONTALLY TO PALE YELLOW (2.5 Y 7/4) FINE TO COARSE SAND AND GRAVEL, SOME COBBLES. TYPICALLY, FRIABLE WITH HIGH AND LOW ANGLE CROSS-BEDDING. CLASTS INCLUDE MODELO FORMATION CHERT AND SILTSTONE, GRANODIORITE, QUARTZITE, ANORTHOSITE AND SANDSTONE. WELL-ROUNDED TO SUBANGULAR. UNIT LOCALLY CONTAINS ARGILLACEOUS HORIZONS. STATION 1+80 TO 1+90, LIGHT YELLOWISH BROWN (10 YR 6/4) CLAYEY FINE TO COARSE SAND WITH GRAVEL JUST ABOVE SHARP EROSIONAL CONTACT WITH UNIT (2) AND AGAIN AT STATION 2+15. STATION 3+28 TO 3+82, LIGHTLY YELLOWISH BROWN (10 YR 6/4) SLIGHTLY CLAYEY FINE TO COARSE SAND WITH GRAVEL, FEW COBBLES. SHARP EROSIONAL CONTACT WITH UNIT (2). GRADES UPWARD TO YELLOWISH BROWN (10 YR 5/4) SILTY FINE SAND (VERY DENSE, DAMP) MOTTLED WITH PALE YELLOW (5Y 7/3) SILTY FINE SAND.

(3A) YELLOWISH BROWN (10 YR 5/4) CLAYEY SILT (HARD, DAMP) SLIGHTLY POROUS. TYPICALLY LENSES, GRADATIONAL CONTACT WITH UNIT (3) OVER 3" AT BASE OF UNIT (2A), SHARP CONTACT AT TOP OF UNIT (3A)

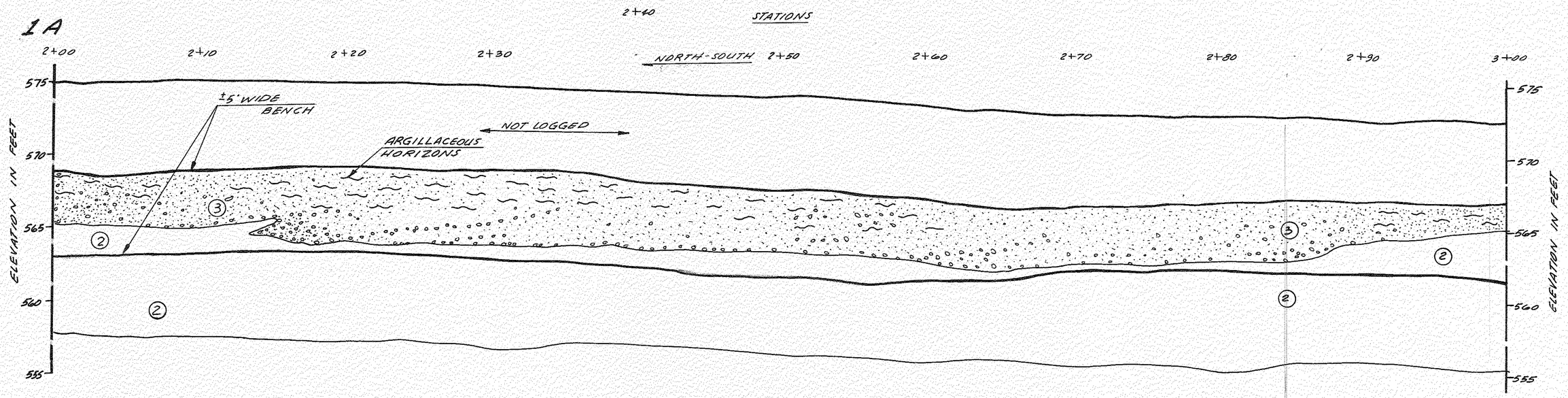
FAULT TRENCH 1A-1A'

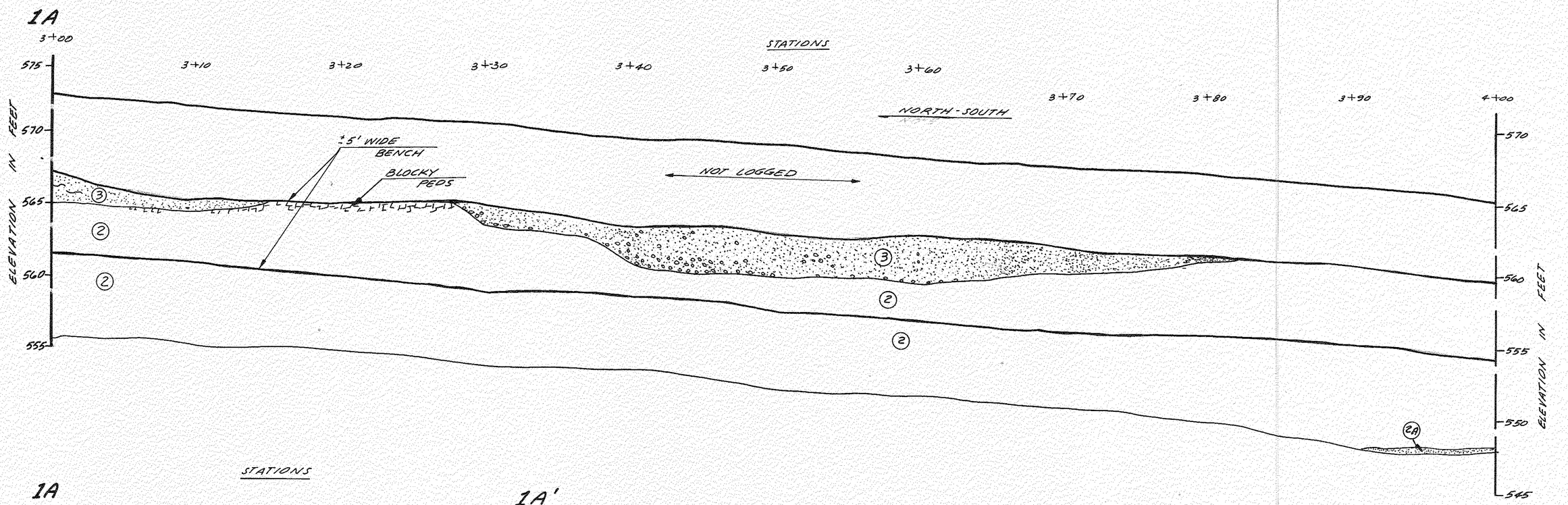
FOR HITCH RANCH · SPECIFIC PLAN #1
CITY OF MOORPARK · CALIFORNIA

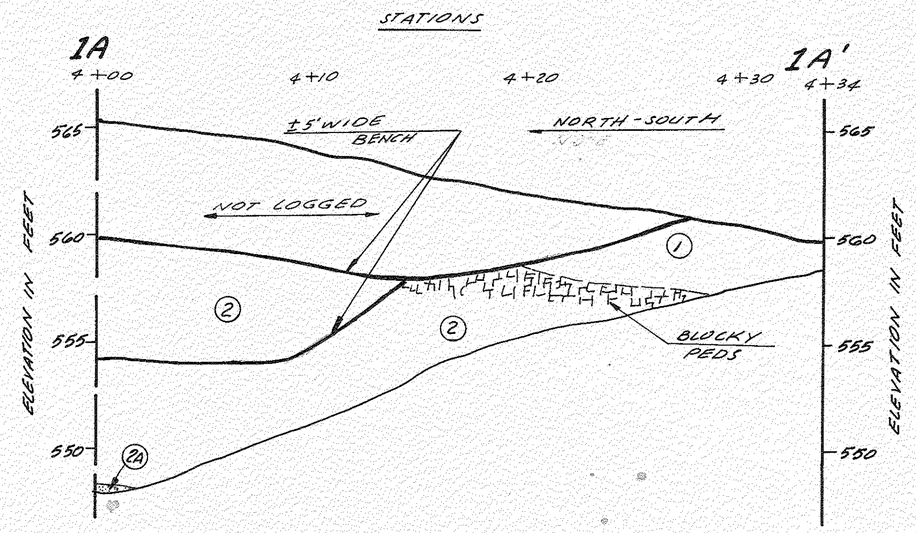
GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

PLATE 2

Job No.: 1974-1-0-12		Date: 1·19·2000
Scale: 1" = 5'	Drawn by: JGR	Log No.: 19875
	Approved by:	



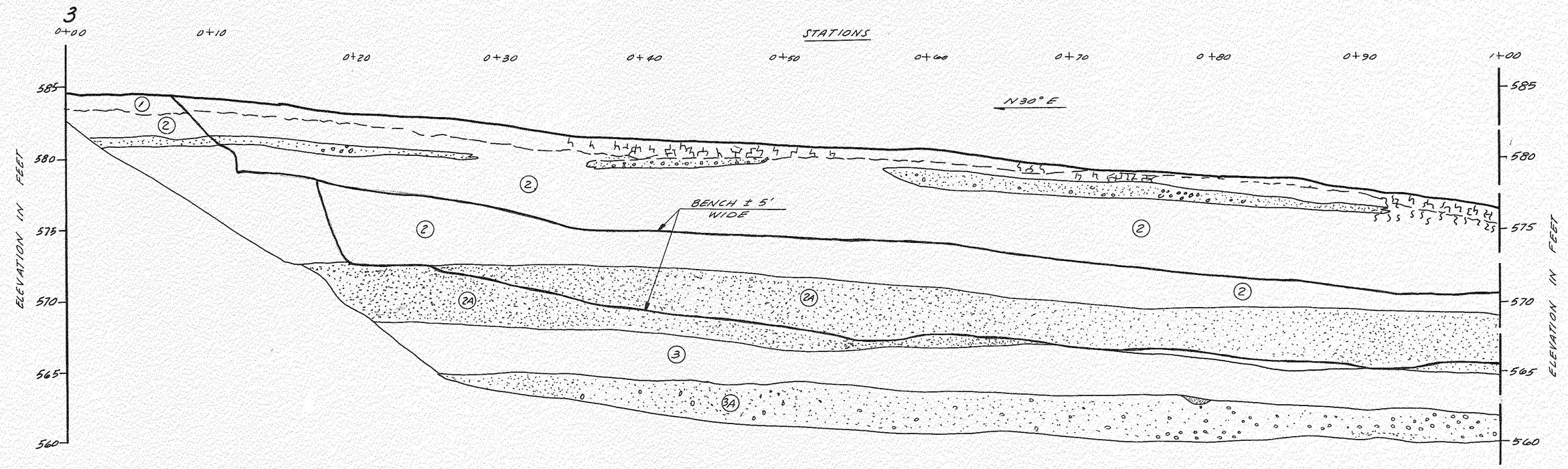


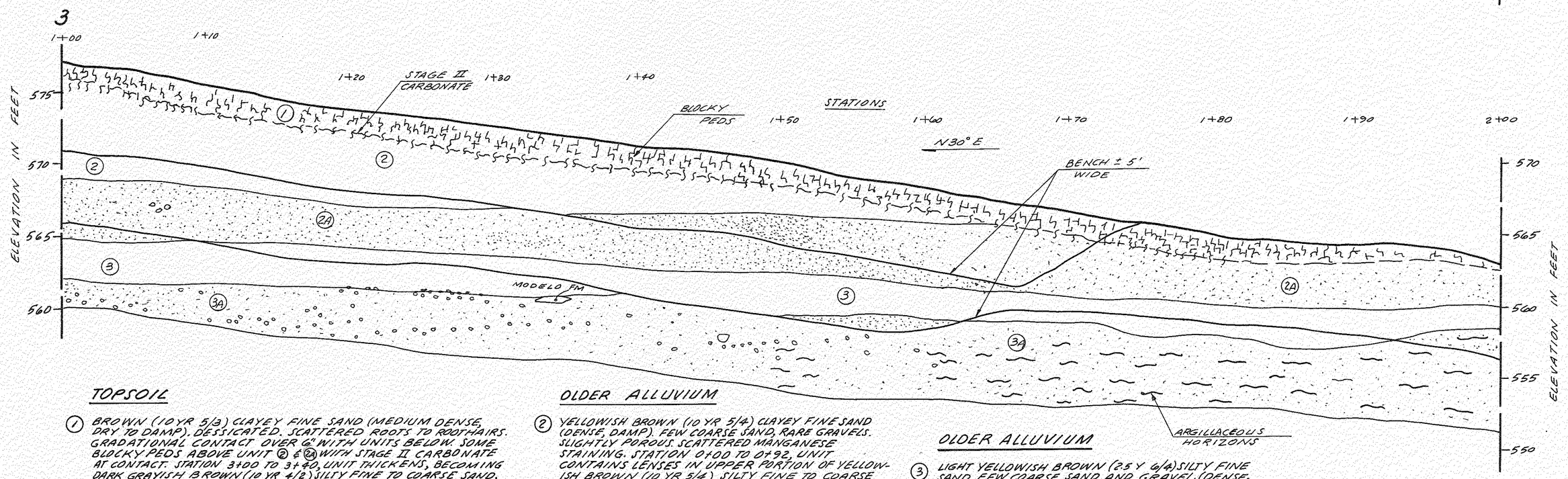


FAULT TRENCH 1A-1A'

FOR HITCH RANCH. SPECIFIC PLAN # 1
CITY OF MOORPARK · CALIFORNIA

GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 3
Job No.: 1974-1-0-12		Date: 1·19·2000
Scale: 1"= 5'	Drawn by: JGR Approved by:	Log No.: 19875





TOPSOIL

(1) BROWN (10YR 5/3) CLAYEY FINE SAND (MEDIUM DENSE, DRY TO DAMP). DESSICATED. SCATTERED ROOTS TO ROOTHAIRS. GRADATIONAL CONTACT OVER 6" WITH UNITS BELOW. SOME BLOCKY PEDS ABOVE UNIT (2) & (2A) WITH STAGE II CARBONATE AT CONTACT. STATION 3+00 TO 3+40, UNIT THICKENS, BECOMING DARK GRAYISH BROWN (10 YR 4/2) SILTY FINE TO COARSE SAND, TRACE CLAY (DENSE, DRY TO DAMP) GRADATIONAL CONTACT OVER 12" WITH UNITS (3A) & (4A). LOCALLY POROUS. SOME GRAVEL, FEW COBBLES.

OLDER ALLUVIUM

(2) YELLOWISH BROWN (10 YR 5/4) CLAYEY FINE SAND (DENSE, DAMP). FEW COARSE SAND, RARE GRAVELS. SLIGHTLY POROUS. SCATTERED MANGANESE STAINING. STATION 0+00 TO 0+92, UNIT CONTAINS LENSES IN UPPER PORTION OF YELLOWISH BROWN (10 YR 5/4) SILTY FINE TO COARSE SAND WITH SOME GRAVEL (MEDIUM DENSE, DRY TO DAMP). SLIGHTLY POROUS. FEW COBBLES. UPPER PORTION OF UNIT LOCALLY EXHIBITS BLOCKY PEDS WITH STAGE II CARBONATE.

(2A) GRADATIONAL CONTACT OVER 12" WITH UNIT (2). BROWNISH YELLOW (10 YR 6/6) SILTY FINE TO COARSE SAND. FEW GRAVEL. RARE COBBLES, (DENSE, DRY TO DAMP). MINOR CROSSBEDDING FROM STATION 1+30 TO 1+35. GRADITIONAL CONTACT OVER 6" WITH UNIT (3).

OLDER ALLUVIUM

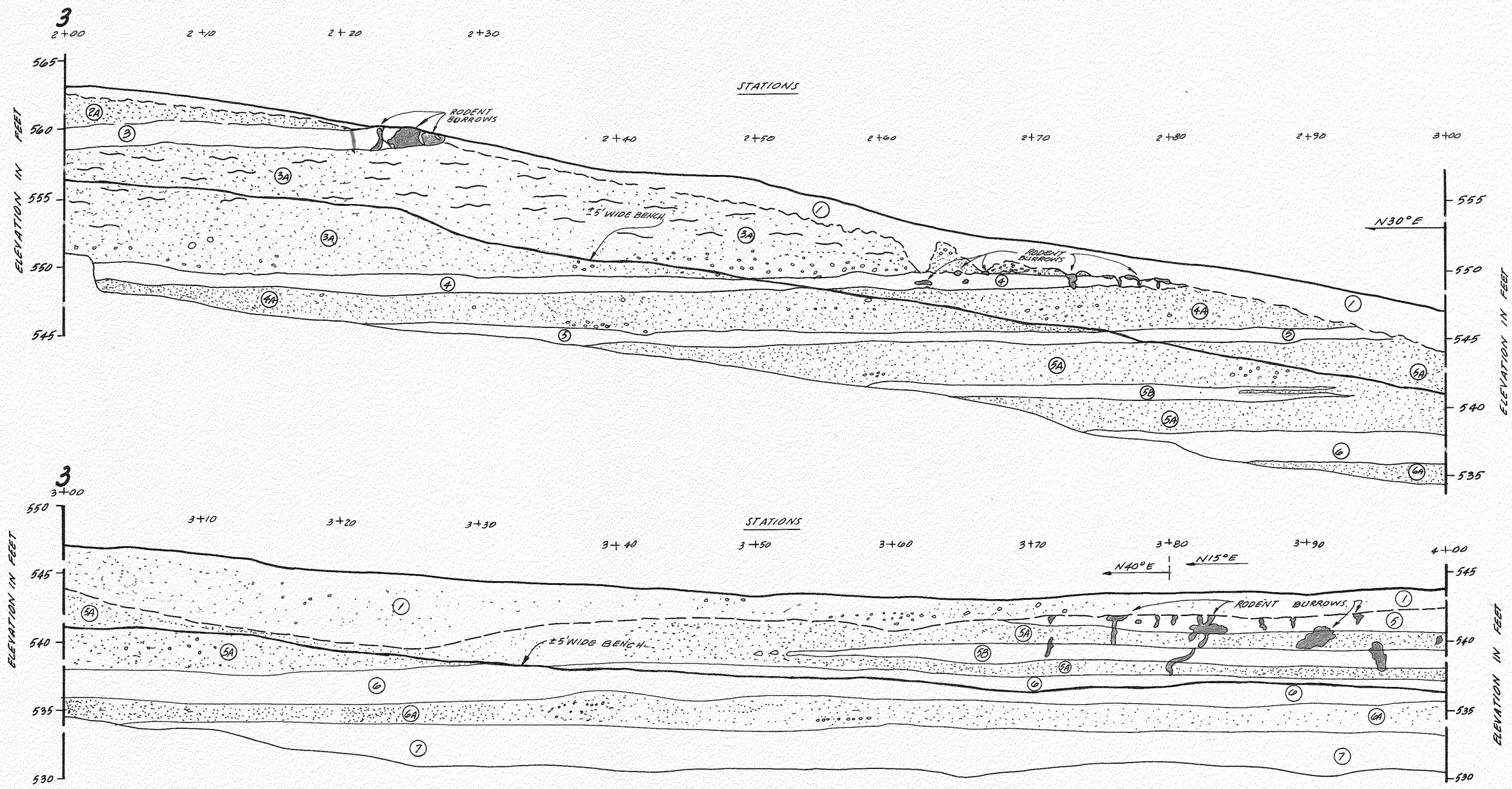
(3) LIGHT YELLOWISH BROWN (2.5 Y 6/4) SILTY FINE SAND, FEW COARSE SAND AND GRAVEL. (DENSE, DAMP) SLIGHTLY POROUS. GRADING DOWNWARD OVER 3" TO LIGHT YELLOWISH BROWN (2.5Y 6/4) VERY SILTY, VERY FINE SAND (DENSE, MOIST TO WET). RARE GRAVEL. GRADATIONAL CONTACT OVER 3" WITH UNIT (3A).

(3A) PALE YELLOW (2.5Y 7/3 TO 7/4) SLIGHTLY SILTY FINE TO COARSE SAND WITH SOME GRAVEL AND COBBLES. (DENSE, DRY) FRIABLE. NEARLY HORIZONTALLY STRATIFIED. GRADATIONAL CONTACT OVER 3" WITH UNIT (3). CONTAINS CLASTS FROM MODELO FORMATION (CHERT AND SILTSTONE), QUARTZITE AND GRANITE. CLASTS ARE SUB ANGULAR TO WELL ROUNDED. LOCALLY EXHIBITS ARGILLACEOUS HORIZONS. SHARP CONTACT WITH UNIT (4). STATION 2+10 CONTAINS WELL ROUNDED RIP UP CLASTS OF LIGHT YELLOWISH BROWN (10YR 6/4) CLAYEY FINE SAND.

FAULT TRENCH 3-3'

FOR HITCH RANCH SPECIFIC PLAN #1
CITY OF MOORPARK · CALIFORNIA

GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 4
Job No.: 1974-1-0-12		Date: 1·19·2000
Scale: 1"=5'	Drawn by: JGR Approved by:	Log No.: 19875



OLDER ALLUVIUM

(4) PALE OLIVE (5Y 6/4) CLAYEY SILT MOTTLED WITH RUST (VERY STIFF, MOIST TO WET) GRADING DOWNWARD TO PALE OLIVE (5Y 6/3) SILTY FINE SAND (MEDIUM DENSE, MOIST). SHARP CONTACT WITH UNIT (3A), GRADATIONAL CONTACT OVER 3" WITH UNIT (4A).

(4A) LIGHT YELLOWISH BROWN (2.5Y 6/4) SLIGHTLY SILTY FINE TO COARSE SAND WITH SOME GRAVEL, FEW COBBLES (DENSE, DRY TO DAMP) NEARLY HORIZONTALLY STRATIFIED. SHARP EROSIONAL CONTACT WITH UNIT (5).

(5) LIGHT OLIVE BROWN (2.5Y 5/4) VERY SILTY FINE SAND (DENSE, MOIST) SHARP EROSIONAL CONTACT WITH UNIT (4A). GRADATIONAL CONTACT OVER 3" WITH UNIT (5A).

(5A) LIGHT YELLOWISH BROWN (2.5Y 6/4) SILTY FINE TO MEDIUM SAND WITH POCKETS OF COARSE SAND AND GRAVEL (DENSE, DAMP). SHARP CONTACT WITH UNIT (5B), GRADATIONAL CONTACT OVER 3" WITH UNIT (5B), LOWER PORTION OF (5A) BELOW (5B) GENERALLY SILTY FINE SAND.

(5B) LIGHT YELLOWISH BROWN (2.5Y 6/4) SILT TO VERY SILTY, VERY FINE SAND. (VERY STIFF TO DENSE, MOIST TO WET). INTER FINGERS WITH UNIT (5A) AT STATION 2+85 TO 2+93.5 AND AT STATION 3+50. SHARP CONTACT WITH UNIT (5A).

(6) YELLOWISH BROWN (10YR 5/4) SILT TO VERY VERY SILTY, VERY FINE SAND (VERY STIFF TO DENSE, MOIST TO VERY MOIST). GRADING DOWNWARD TO LIGHT OLIVE BROWN (2.5Y 5/4) SILTY, VERY FINE SAND (DENSE, DRY). LOCALLY CROSSBEDDED. GRADATIONAL CONTACT OVER 3" WITH UNIT (5A) AND (6A).

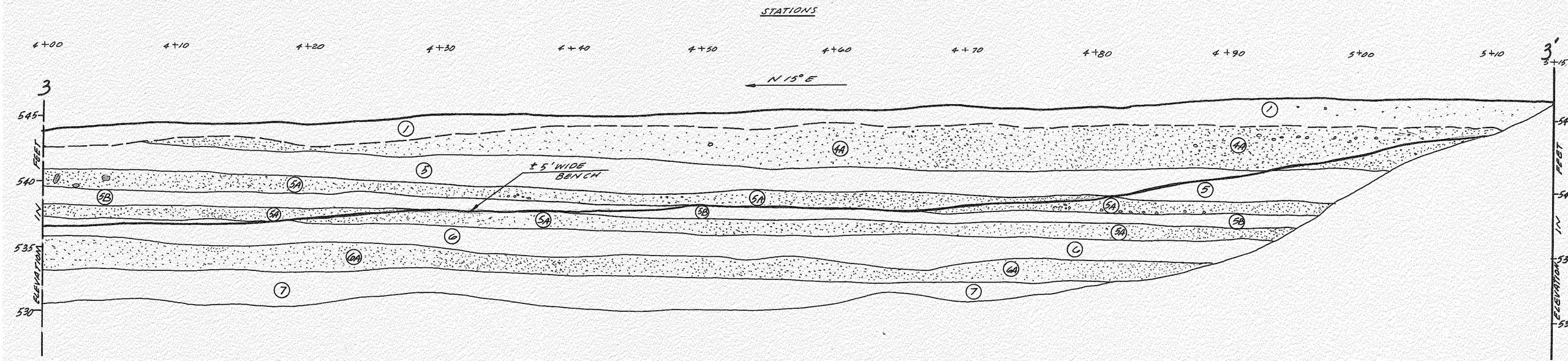
(6A) LIGHT OLIVE BROWN (2.5Y 5/4) SILTY VERY FINE SAND (DENSE, DRY) WITH OCCASSIONAL LENSES OF COARSE SAND AND GRAVEL. GRADING DOWNWARD TO LIGHT YELLOWISH BROWN (2.5Y 6/4) SILT (VERY STIFF, DAMP). SOME CARBONATE (STAGE II) ALONG CONTACT WITH UNIT (7). SHARP CONTACT WITH UNIT (7).

(7) YELLOWISH BROWN (10YR 5/6) SILTY FINE SAND (UPPER 6") (DENSE, DRY) GRADING DOWNWARD TO LIGHT YELLOWISH BROWN (2.5Y 6/4) CLAYEY SILT (VERY STIFF, DAMP TO MOIST). SCATTERED MANGANESE OXIDE STAINING. SHARP CONTACT WITH UNIT (6A).

FAULT TRENCH 3-3'

FOR HITCH RANCH · SPECIFIC PLAN #1
CITY OF MOORPARK · CALIFORNIA

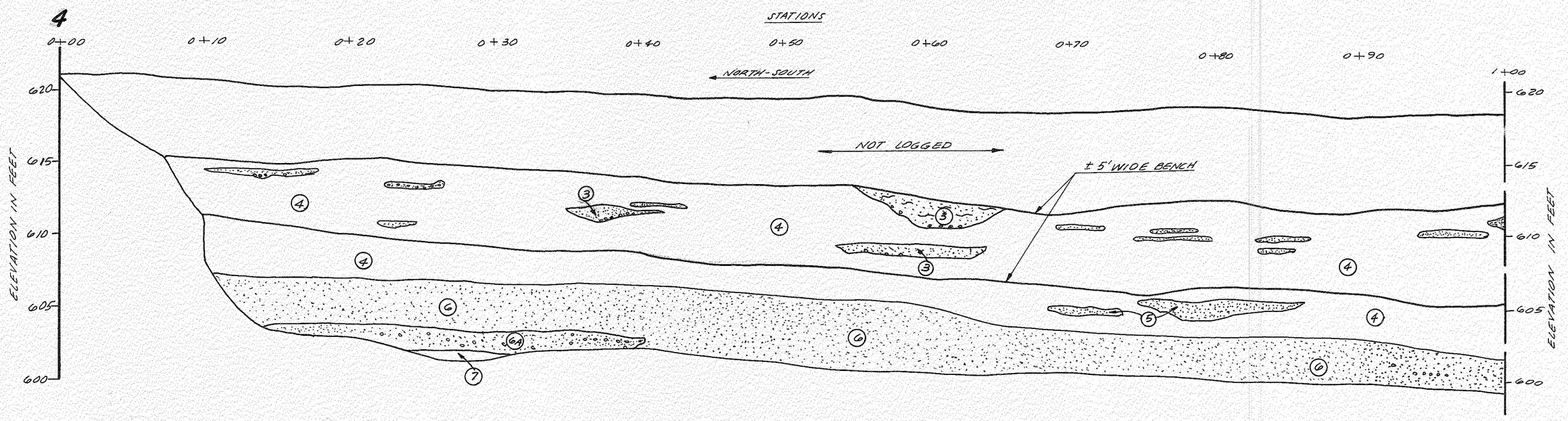
GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 5
Job No.: 1974-1-0-12		Date: 1.19.2000
Scale: 1"=5'	Drawn by: JGR Approved by:	Log No.: 19875

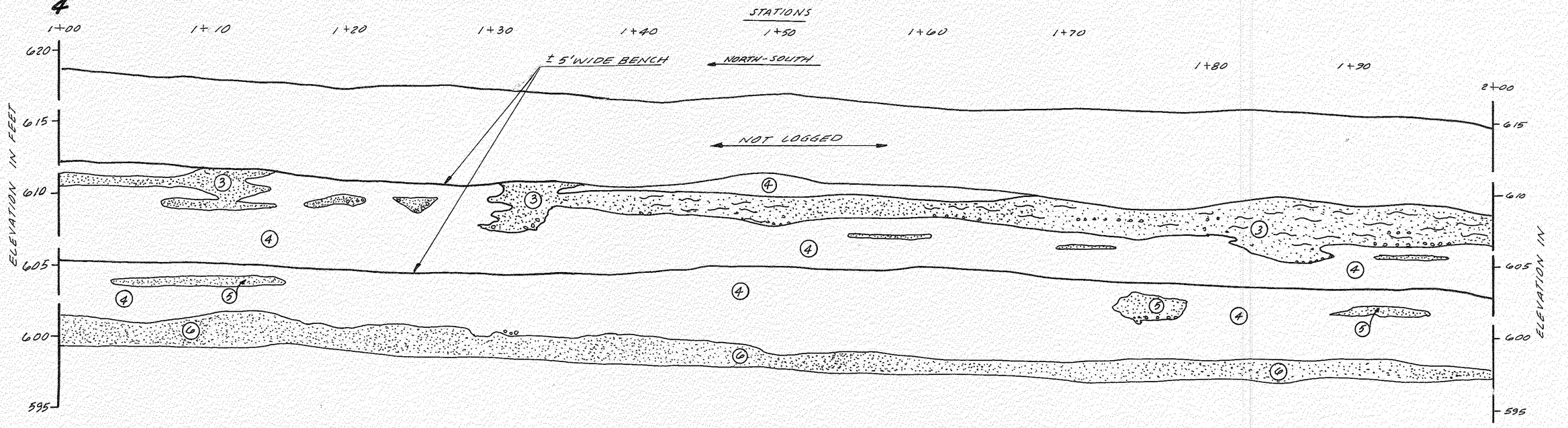


FAULT TRENCH 3-3'

FOR HITCH RANCH · SPECIFIC PLAN #1
CITY OF MOORPARK · CALIFORNIA

GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 6
Job No.: 1974-1-0-12		Date: 1·19·2000
Scale: 1"=5'	Drawn by: JGR Approved by:	Log No.: 19875

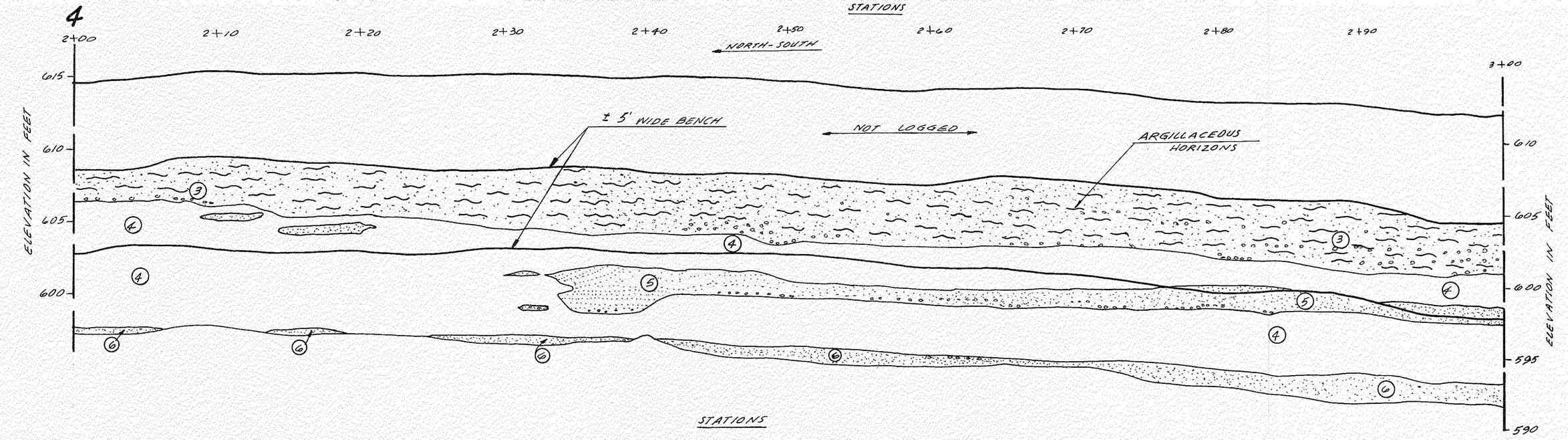




FAULT TRENCH 4-4'

FOR HITCH RANCH · SPECIFIC PLAN #1
CITY OF MOORPARK · CALIFORNIA

GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 7
Job No.: 1974-0-12		Date: 1·19·2000
Scale: 1" = 5'	Drawn by: JGR Approved by:	Log No.: 19875



ARTIFICIAL FILL

(1) DARK GRAYISH BROWN (10 YR 4/2) SILTY FINE SAND (DENSE, DRY). POROUS, MOTTLED WITH CHARCOAL, BRICK, GLASS AND DEBRIS. SHARP CONTACT WITH UNIT (2).

OLDER ALLUVIUM

(2) YELLOWISH BROWN (10YR 5/4) CLAYEY FINE TO COARSE SAND, SOME GRAVEL. (DENSE, DAMP) POROUS. SOME BLOCKY TO COLUMNAR PED DEVELOPMENT NEAR TOP OF UNIT. SCATTERED MANGANESE OXIDE STAINING. SHARP CONTACT WITH UNIT (1), GRADATIONAL CONTACT OVER 6" WITH UNIT (3).

(3) BROWNISH YELLOW (10YR 6/6) SLIGHTLY SILTY FINE TO COARSE SAND WITH GRAVEL. (MEDIUM DENSE, DRY TO DAMP). ARGILLACEOUS HORIZONS TYPICAL AS YELLOWISH BROWN (10YR 5/4) SILTY FINE TO COARSE SAND. STATION 0+00 TO 1+70, APPEARS AS LENSES WITHIN UNIT (2). SHARP EROSIONAL CONTACT (GRAVEL AT BASE) WITH UNIT (4). GRADATIONAL CONTACT OVER 3" WITH UNIT (4) AT THE TOP OF UNIT (3). OCCASSIONAL THIN MAGNETITE LAMINATIONS, LOCALLY CROSS BEDDED AT LOW ANGLES. GENERALLY WELL DEFINED BEDDING.

(4) YELLOWISH BROWN (10YR 5/4) CLAYEY FINE TO COARSE SAND, FEW GRAVEL. (DENSE, DAMP), SLIGHTLY POROUS. SHARP EROSIONAL CONTACT WITH UNIT (3). GRADATIONAL CONTACT OVER 3" WITH UNIT (5) (LENSE). THEN SHARP EROSIONAL CONTACT AT BASE OF UNIT (5). GRADATIONAL CONTACT OVER 6" WITH UNIT (6), SOME MAGANESE OXIDE STAINING WITHIN CLAYEY PORTIONS OF UNIT. LOCALLY MOTTLED WITH GRAY CLAYEY SAND WHERE ROOTS ARE PRESENT (STATION 1+50).

(5) YELLOWISH BROWN (10YR 5/6) SILTY FINE TO COARSE SAND, SOME GRAVEL (DENSE, DAMP), APPEARS AS A CONTINUOUS LENSE FROM STATION 2+35 TO 3+76, ISOLATED LENSES WITHIN UNIT (4) ELSEWHERE IN TRENCH. SHARP CONTACT WITH UNIT (4) AT BASE OF LENSES, GRADATIONAL CONTACT OVER 3" AT TOP OF UNIT. STATION 3+34 TO 3+40, THIN MAGNETITE LAMINATIONS. SEEPAGE AT BASE OF TROUGH. OCCASSIONAL LOW ANGLE CROSS BEDDING. GENERALLY, POORLY DEFINED BEDDING.

(6) YELLOWISH BROWN (10 YR 5/4) SILTY FINE TO MEDIUM SAND, SOME COARSE SAND AND GRAVEL. (DENSE, DAMP TO MOIST). GRADATIONAL CONTACT OVER 6" WITH UNIT (4). MASSIVE BEDDING.

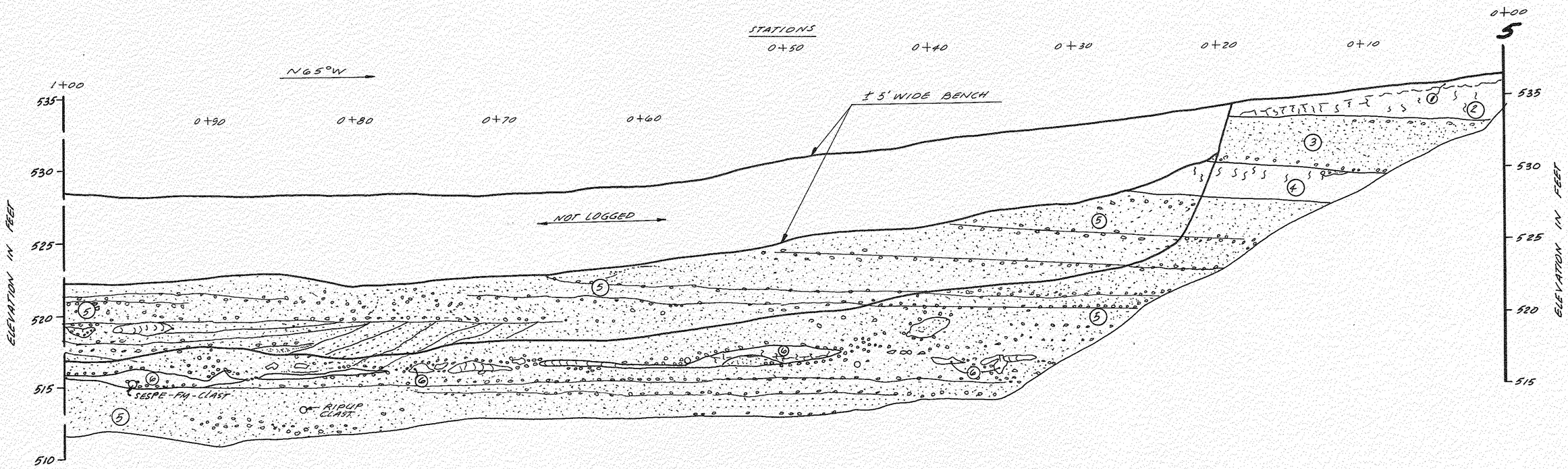
(6a) STATION 0+15 TO 0+40. LIGHT YELLOWISH BROWN (10YR 6/4) FINE TO COARSE SAND. (MEDIUM DENSE, DRY TO DAMP). FEW GRAVEL. GRADATIONAL CONTACT OVER 3" WITH UNIT (6), SHARP EROSIONAL CONTACT (GRAVEL AT BASE) WITH UNIT (7).

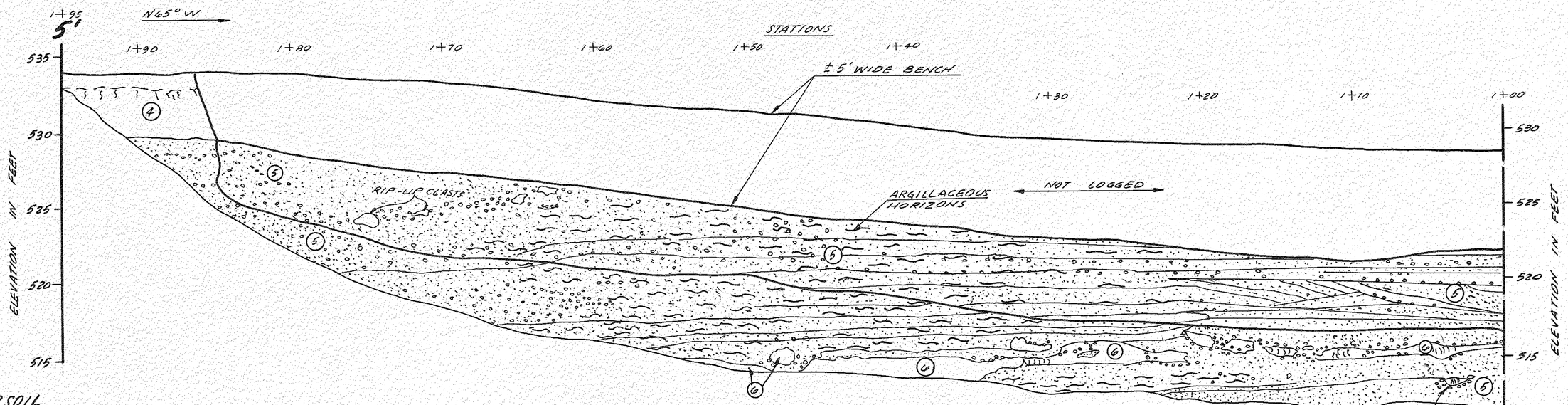
(7) STATION 0+25 TO 0+31. YELLOWISH BROWN (10YR 5/4) VERY SILTY FINE TO COARSE SAND (DENSE, MOIST). SHARP EROSIONAL CONTACT WITH UNIT .

FAULT TRENCH 4-4'

HITCH RANCH · SPECIFIC PLAN #1
CITY OF MOORPARK · CALIFORNIA

GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 8
Job No.: 1974-1-0-12		Date: 1-19-2000
Scale: 1"=5'	Drawn by: JGR Approved by:	Log No.: 19875





TOPSOIL

(1) GRAYISH BROWN (10YR 5/2) SLIGHTLY SANDY SILT (STIFF, DRY). POROUS. SCATTERED ROOTS AND RODENT BURROWS. GRADATIONAL CONTACT OVER 6" WITH UNDERLYING UNITS.

OLDER ALLUVIUM

(2) YELLOWISH BROWN (10YR 5/4) SILT, WITH A TRACE OF FINE SAND (HARD, DRY). POROUS. SCATTERED STAGE II CARBONATE. GRADATIONAL CONTACT OVER 6" WITH UNIT (1) AND 3" WITH UNIT (3).

(3) PALE YELLOW (2.5 Y 7/3) FINE TO COARSE SAND, SOME GRAVEL. (MEDIUM DENSE, DRY). FRIABLE. GENERALLY HORIZONTALLY BEDDED, SOME LOW ANGLE CROSS BEDDING. GRADATIONAL CONTACT OVER 3" WITH UNIT (2). SHARP EROSIONAL CONTACT WITH UNIT (4).

(4) YELLOWISH BROWN (10YR 5/4). CLAYEY FINE SAND (VERY DENSE, DAMP). SCATTERED STAGE II CARBONATE IN UPPER PORTION OF UNIT. GRADATIONAL CONTACT OVER 6" WITH UNIT (3), SHARP EROSIONAL CONTACT WITH UNIT (3).

(5) PALE YELLOW (2.5 Y 7/3) FINE TO COARSE SAND AND GRAVEL (MEDIUM DENSE, DAMP). FRIABLE. GENERALLY HORIZONTALLY BEDDED, LOCALLY LOW ANGLE CROSS BEDDING. ARGILLACEOUS HORIZONS COMMON STATION 1+25 TO 1+65. COMMONLY CONTAINS RIP-UP-CLASTS FROM UNIT (6). THIN SILTY FINE SAND LENSE STATION 1+05 TO 1+17. COMMONLY CUTS THROUGH UNIT (6) WHERE SURROUNDED BY GRAVEL. GRADATIONAL CONTACT OVER 3" ON BOTTOM OF UNIT (6). SHARP EROSIONAL CONTACT ON THE TOP OF UNIT (6). ARGILLACEOUS HORIZONS TYPICALLY YELLOWISH BROWN (10YR 5/4) SLIGHTLY SILTY FINE TO COARSE SAND AND GRAVEL. CLASTS ARE SUB-ROUNDED TO WELL ROUNDED. MODELO FORMATION CHERT AND SILTSTONE, QUARTZITE AND GRANITE.

(6) YELLOWISH BROWN (10YR 5/4) CLAYEY FINE SAND (DENSE, DAMP) TO YELLOWISH BROWN (10 YR 5/4) SILTY CLAY WITH A TRACE OF FINE SAND (VERY STIFF, DAMP TO MOIST). SCATTERED II CARBONATE SOME MANGANESE STAINING. LOCALLY, SLIGHTLY POROUS. STATION 0+70, BECOMING LIGHT YELLOWISH BROWN (10YR 6/4) CLAYEY SILT (VERY STIFF, MOIST). SCATTERED STAGE II CARBONATE. STATION 0+85, BECOMING MOTTLED WITH LIGHT YELLOWISH BROWN (10YR 6/4) CLAY (VERY STIFF, MOIST). ALSO CONTAINS A CLAST OF LIGHT GREENISH GRAY (7/1 5GY) COARSE GRAINED MICACEOUS SILTSTONE (SESPE FORMATION) STATION 1+10, MOTTLED WITH BROWN (7.5 YR 5/3) CLAY. POLISHED PED FACES COMMON. SOME CARBONATE. UNIT IS HIGHLY IRREGULAR AND NON-CONTINUOUS DUE TO HIGH VELOCITY EROSION DURING DEPOSITION OF UNIT (5). STATION 1+68, WELL ROUNDED CLAST OF LIGHT YELLOWISH BROWN (10YR 6/4) CLAYEY SILT. UNIT (6) ENDS AT STATION 1+66.5 IN BOTTOM OF TRENCH.

FAULT TRENCH 5-5'

FOR HITCH RANCH · SPECIFIC PLAN #1
CITY OF MOORPARK · CALIFORNIA

GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 9
Job No.: 1974-1-0-12		Date: 1-19-2000
Scale: 1" = 5'	Drawn by: JGR Approved by:	Log No.: 19875

APPENDIX C

RESULTS OF LABORATORY TESTING

General

Recent laboratory test results on selected relatively undisturbed and bulk samples are presented below. Tests were performed to evaluate the physical and engineering properties of the encountered earth materials, including field moisture and density, compaction characteristics, expansion/consolidation potential, shear strength, hydroconsolidation potential, and grain size distribution.

Field Density and Moisture Tests

In-situ dry density and moisture content were determined for relative undisturbed samples obtained from the exploratory excavations. The test results and a detailed description of the soils encountered are shown on the attached logs.

Optimum Moisture-Maximum Density Curve

Maximum density/optimum moisture tests (compaction characteristics) were performed on selected samples of the encountered materials. The tests were performed per ASTM D 1557 test method. The results are as follows:

BORING	Depth – feet	Visual Soil Classification	Maximum Dry Density – pcf	Optimum Moisture Content - %
B-19	5	Brown clayey fine to coarse sand	119.5	11.5
B-20	15	Yellowish brown silty fine to coarse sand	129.5	8.5
B-22	11	Pale brown silty fine sand	121.0	10.5
B-23	2	Grayish brown silty fine sand	117.0	14.0
B-26	10	Brown clayey fine to coarse sand	130.0	7.0
B-26	18	Yellowish brown sandy silty clay	125.0	11.0
B-27	3	Brown silty fine to coarse sand	132.5	8.5
B-28	9	Pale yellow sandy clay	131.0	7.5
B-30	5	Brown silty fine to coarse sand	123.5	9
B-31	17	Brown silty fine to coarse sand	131.5	7.0
B-A	7	Light brown fine sand	125.0	9.5
B-A	23	Medium brown fine to coarse sand	129.5	7.0
B-B	4	Gray brown silty fine to coarse sand	127.5	9.0

Expansion Test

Selected samples of the encountered soil was tested for expansiveness using the Expansion Index Test method (UBC 29-2). The results are as follows:

Sample	Depth – feet	Expansion Index	Expansion Index Range
B-19	5	32	21-50
B-26	10	21	21-50
B-28	6	88	51-90
B-31	17	0	0-20
B-B	25	94	91-130

Additional expansion tests were performed in previous investigations of this and the adjacent site. Test results indicate that the area is predominantly underlain by materials in the low expansion range.

Direct Shear Tests

Direct shear testing was performed on relatively undisturbed samples and remolded samples of the earth materials encountered during our exploratory program. The sample sets were saturated prior to shearing under axial loads ranging from 920 to 3,680 psf at a rate of 0.05 inches per minute. The shear strength results are attached as a graphic summaries.

Load Consolidation/Hydroconsolidation Tests

Load consolidation tests were conducted on seventeen (17) relatively undisturbed soil samples. Test loads were added in increments to a maximum of 8,000 or 9,400 psf. Water was added to the sample when loaded to the approximate existing overburden pressure to study the effect of moisture infiltration on potential consolidation behavior. The results are attached as graphic summaries.

Grain-Size Distribution

Grain size distribution analyses were performed on several bulk samples. The analyses were performed using the procedures set forth in ASTM-422. The results are presented below.

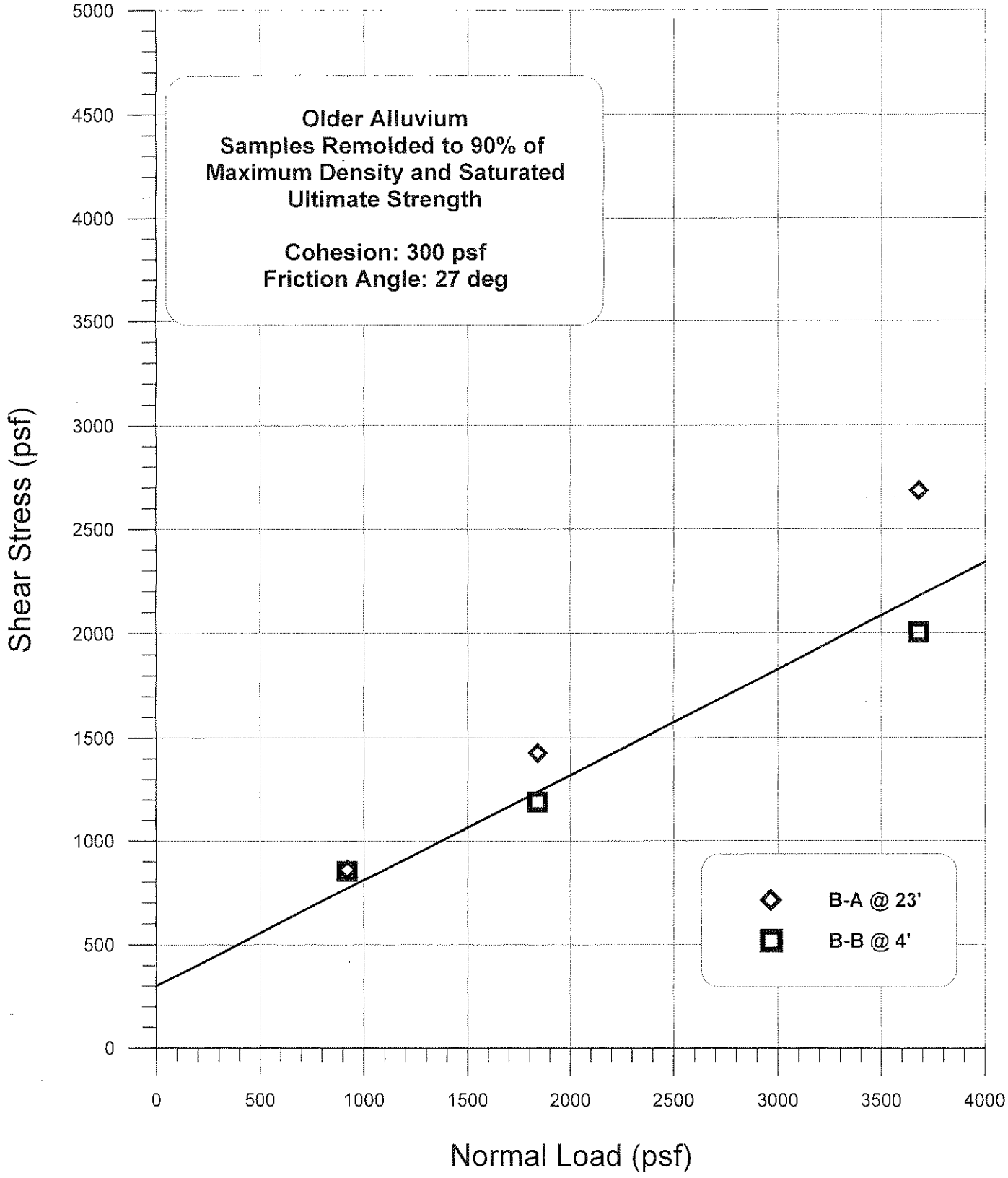
Boring	Depth (ft)	% Sand	% Silt	% Clay
17	12.5	59	23	18
18	15	65	21	14
18	20	10	40	50
18	25	23	32	65
18	35	2	37	61
21	47	54	23	23
23	37	31	39	30
23	45	35	51	14
24	17	40	37	23
26	10	63	19	18
26	17	24	32	44
26	25	24	42	34
26	40	13	52	35
27	42	13	50	37
28	7	29	36	35
28	32	45	30	25
29	7	42	31	27
30	12	28	43	29

In addition, several additional samples were tested to evaluate the percentage of soil retained on the #200 sieve screen (0.075 mm). The results of these tests are presented below:

Boring	Depth (ft)	% Retained on #200 Screen (sand)	% Passing the #200 Screen (silt and clay)
16	10	63	37
16	15	65	35
16	17.5	63	37
17	7.5	57	43
18	17.5	69	31
19	5	50	50
19	10	30	70
19	20	50	50
19	25	60	40
19	30	73	27
20	17	61	39
20	22	78	22
20	27	69	31
20	32	59	41
20	37	76	24
21	7	63	37
21	12	67	33
21	22	67	33
21	27	68	32
21	32	76	24
21	42	70	30
22	7	53	47
22	12	75	25
22	17	69	31
22	32	72	28
22	35	70	30
22	37	68	32
22	42	64	36
22	45	66	34
22	50	69	31
23	7	61	39
23	12	45	55
23	17	85	15
23	22	28	72
23	27	63	37
23	32	60	40
23	40	49	51
23	42	53	47
23	47	49	51
24	7	61	39
24	12	74	26
25	7	55	45
25	12	74	26
25	17	51	49
25	25	71	29
26	12	67	33
28	17	31	69
28	22	75	25
28	27	54	46
29	10	43	57

Boring	Depth (ft)	% Retained on #200 Screen (sand)	% Passing the #200 Screen (silt and clay)
29	17	77	23
29	20	57	43
29	25	66	34
29	30	60	40
29	32	34	66
29	37	59	41
29	42	62	38
29	47	67	33
30	17	41	59
30	22	66	34
30	27	66	34
30	32	72	28
30	37	47	53
31	17	69	31
31	22	67	33
31	32	67	33
31	35	64	36
31	37	69	31
31	42	64	36
31	47	74	26
32	12	65	35
32	27	57	43
32	37	62	38
32	42	81	19
32	47	74	26

RESULTS OF SHEARING STRENGTH TESTS



Work Order: 2245-1-0-10

GORIAN AND ASSOCIATES, INC.

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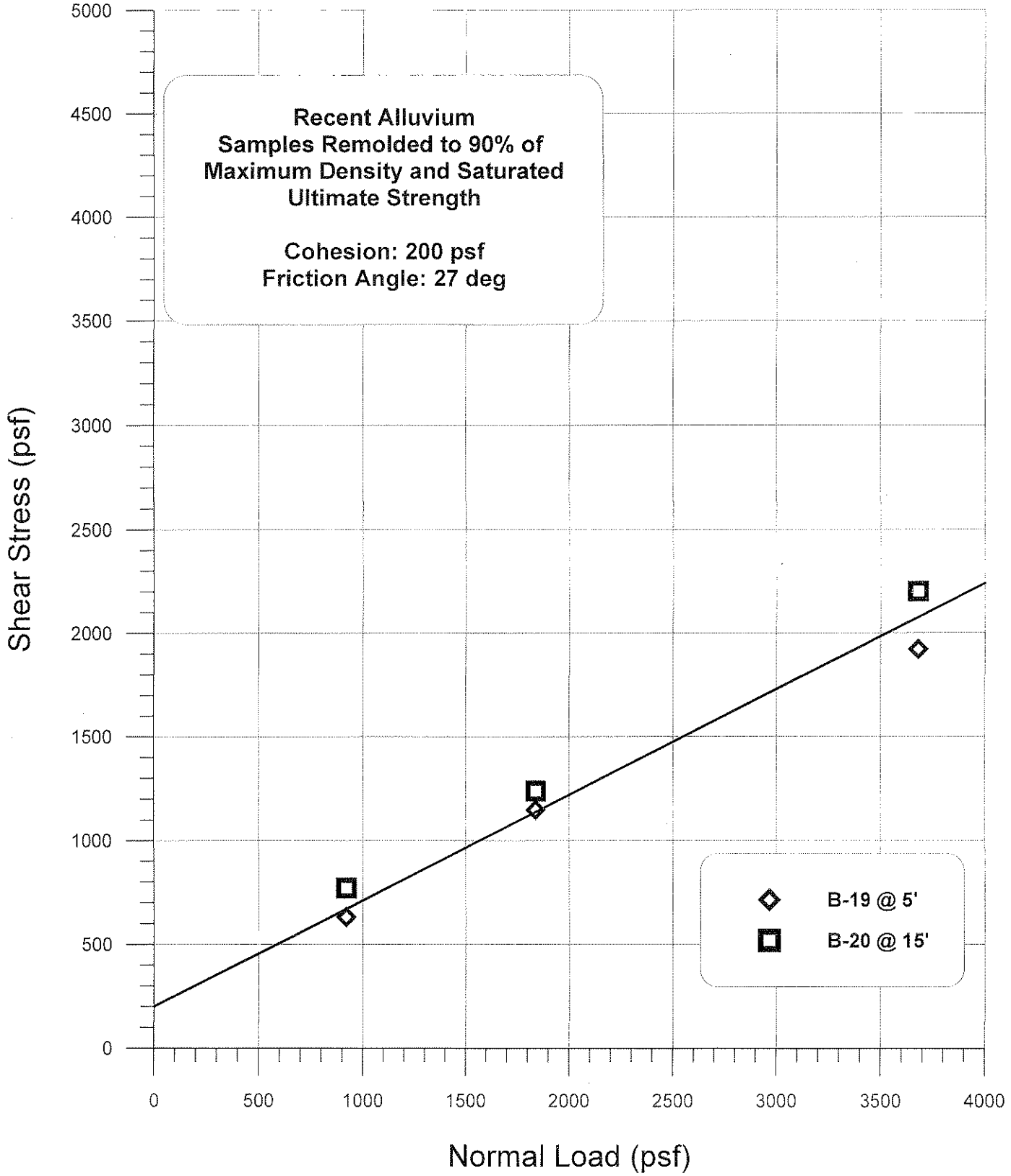

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GORIAN AND ASSOCIATES, INC.

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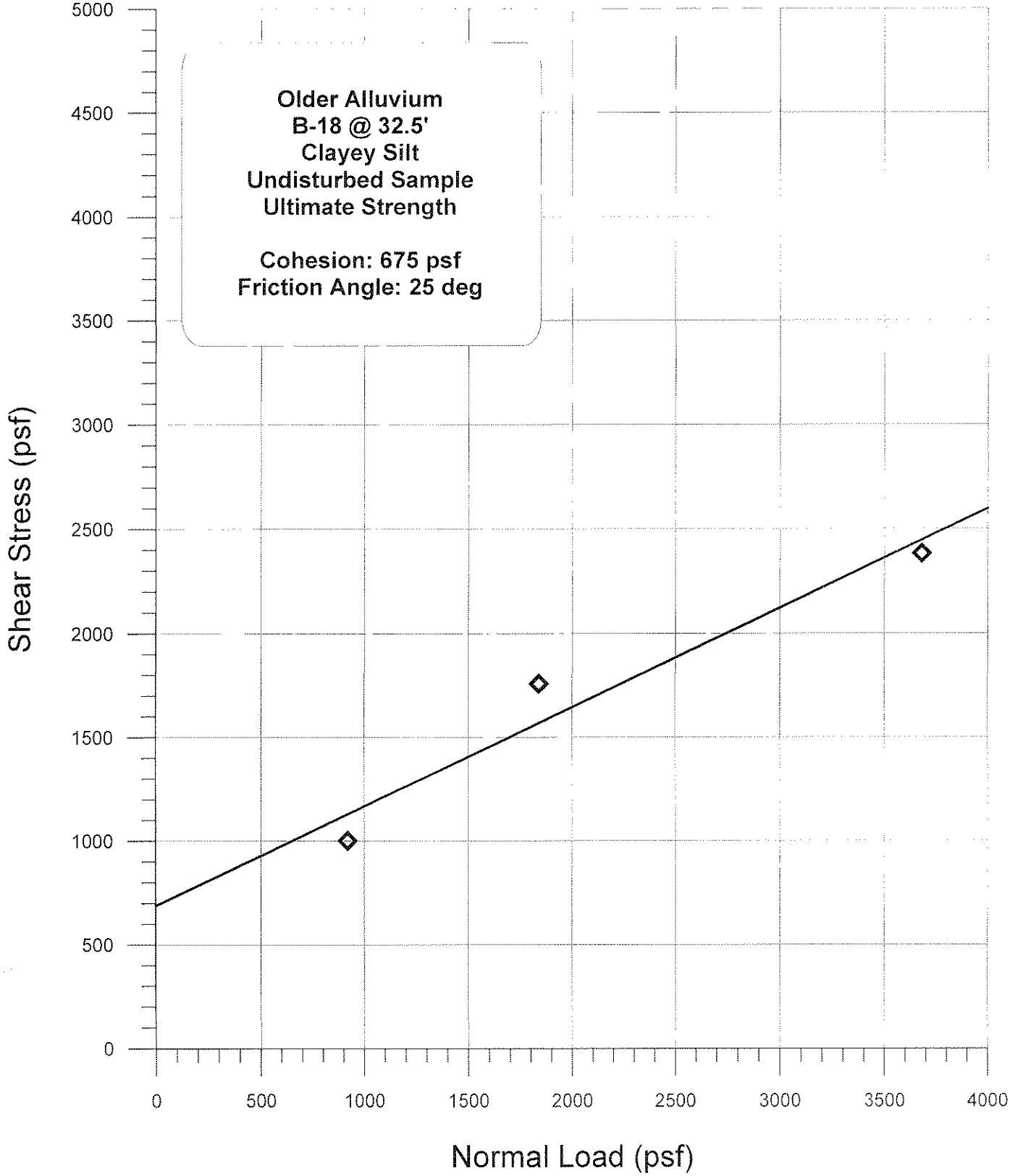

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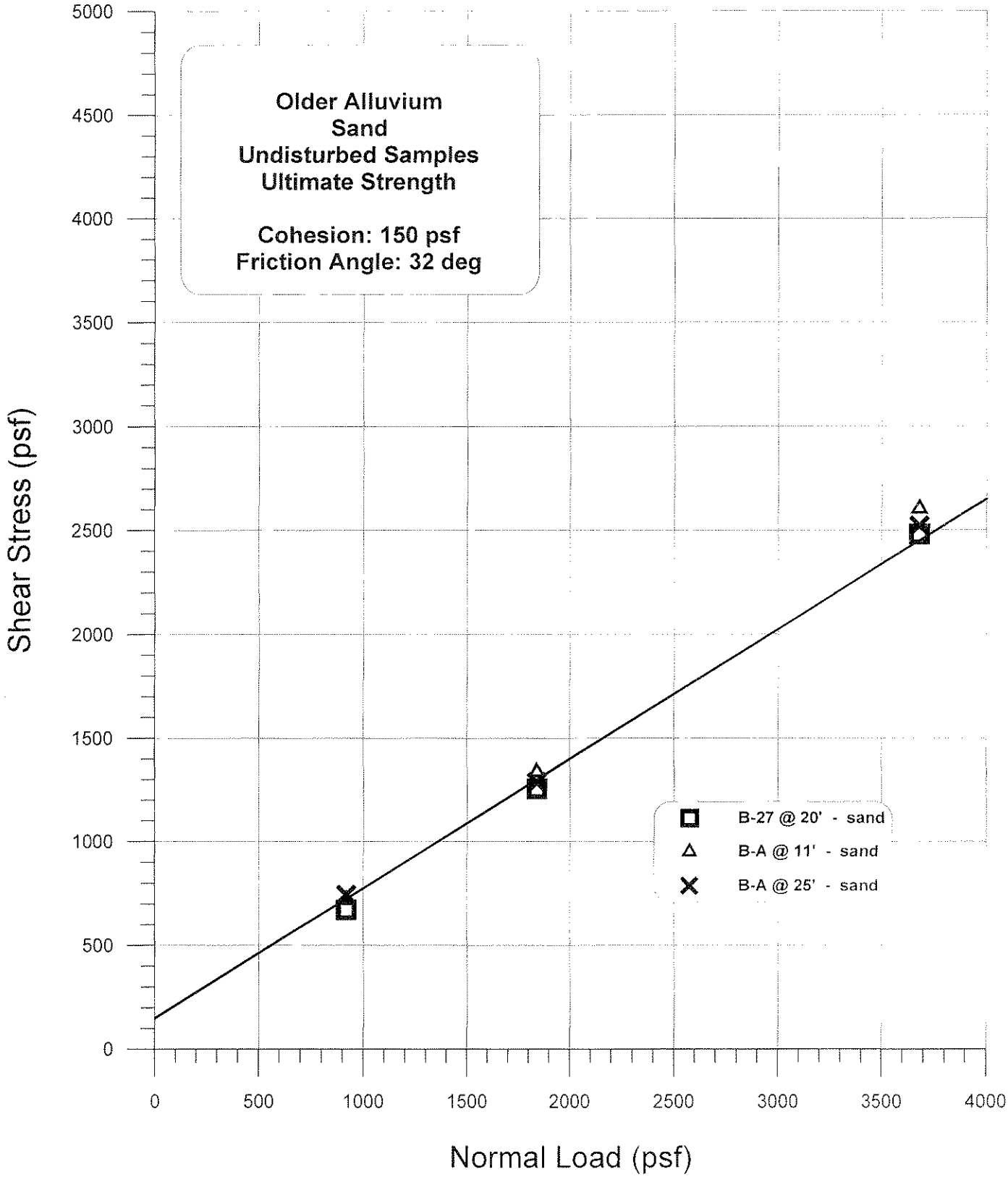

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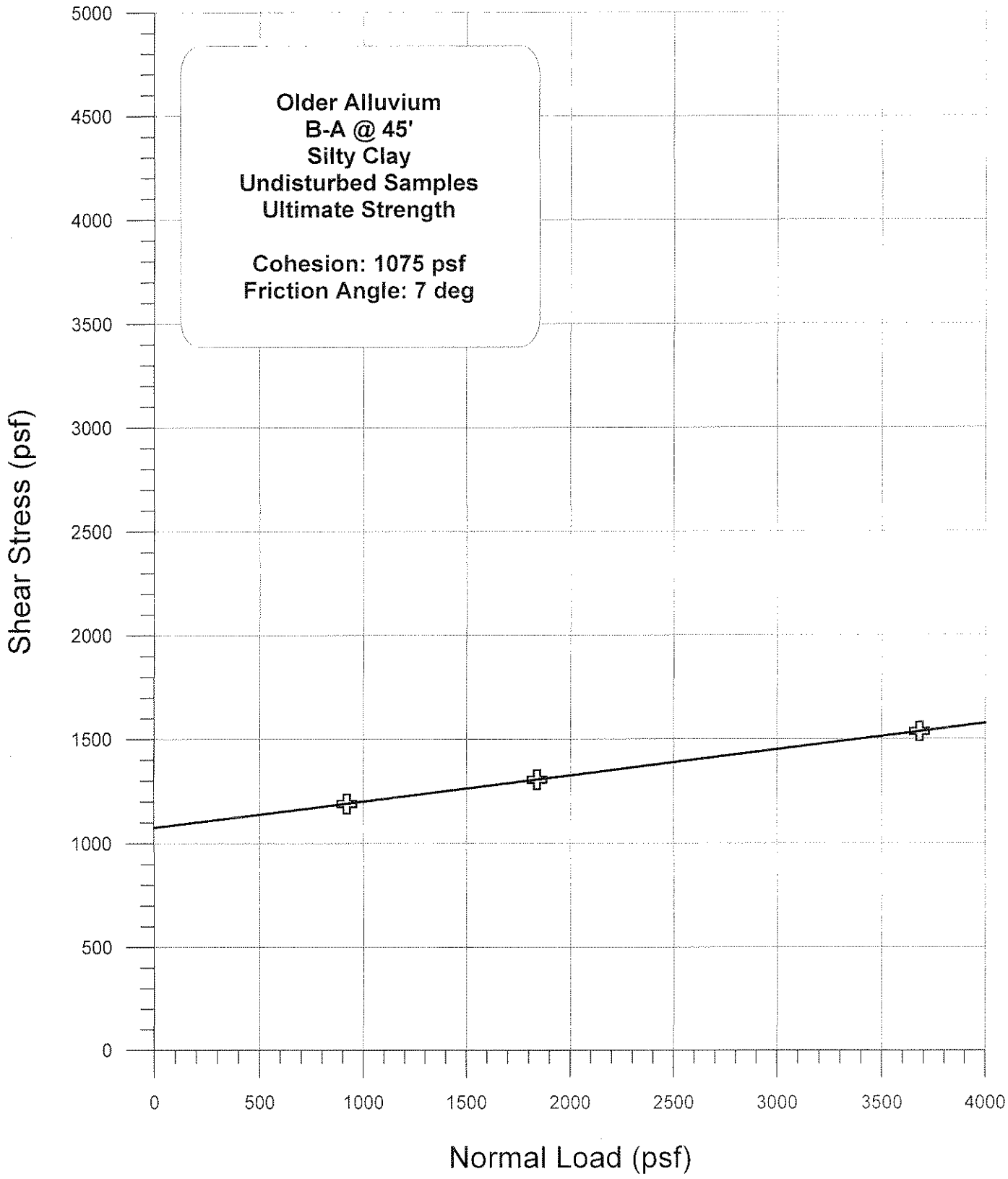

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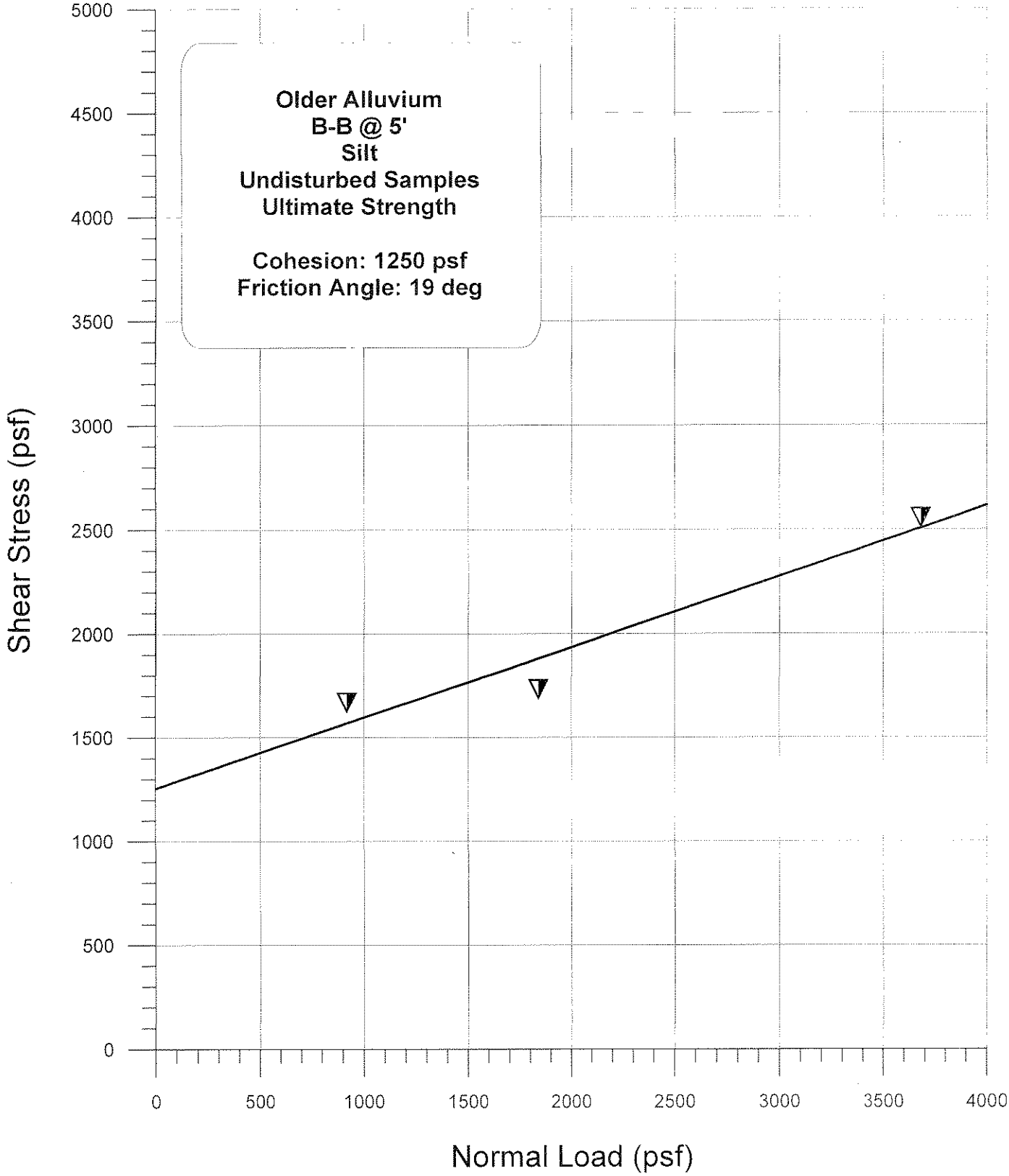

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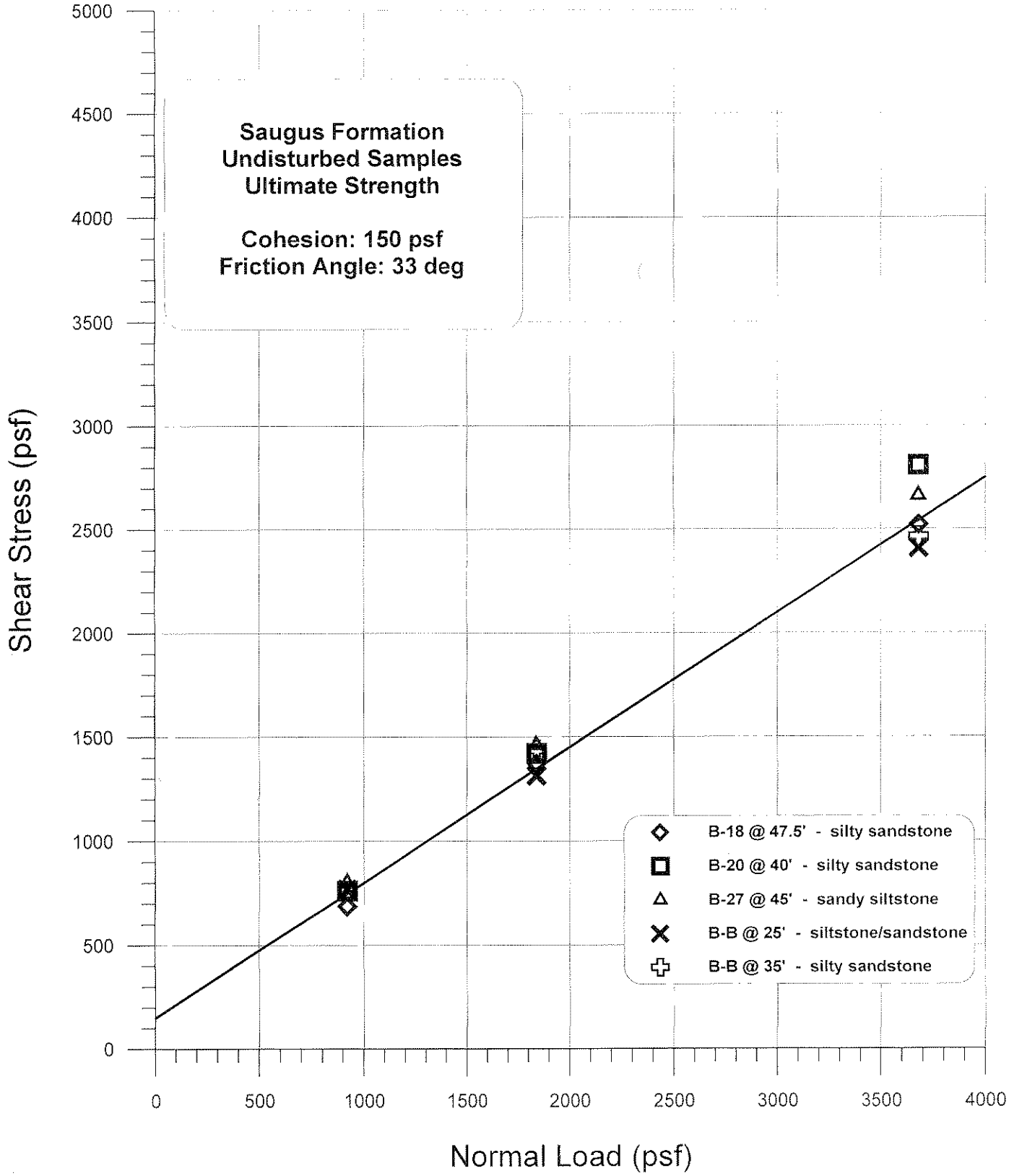

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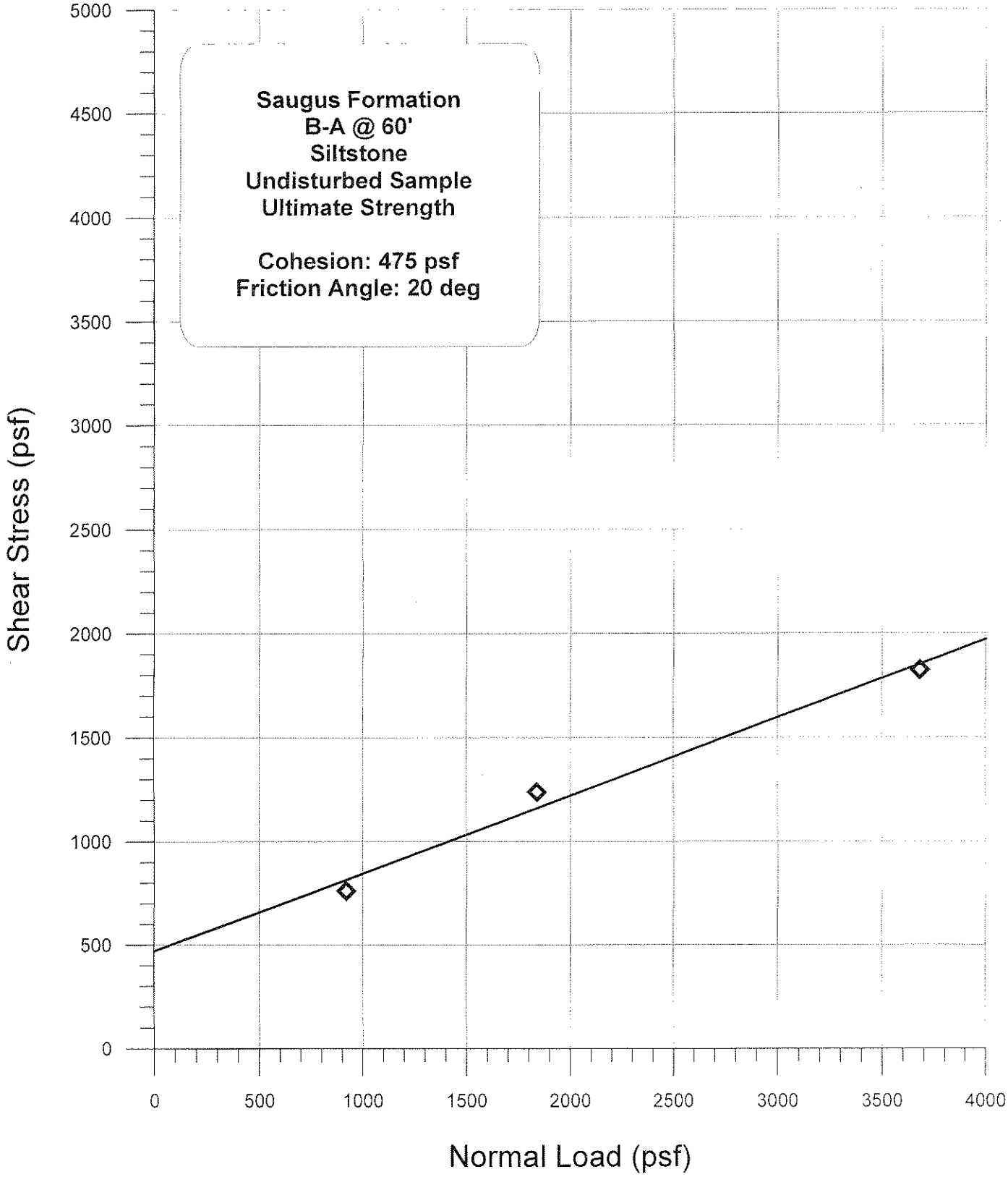

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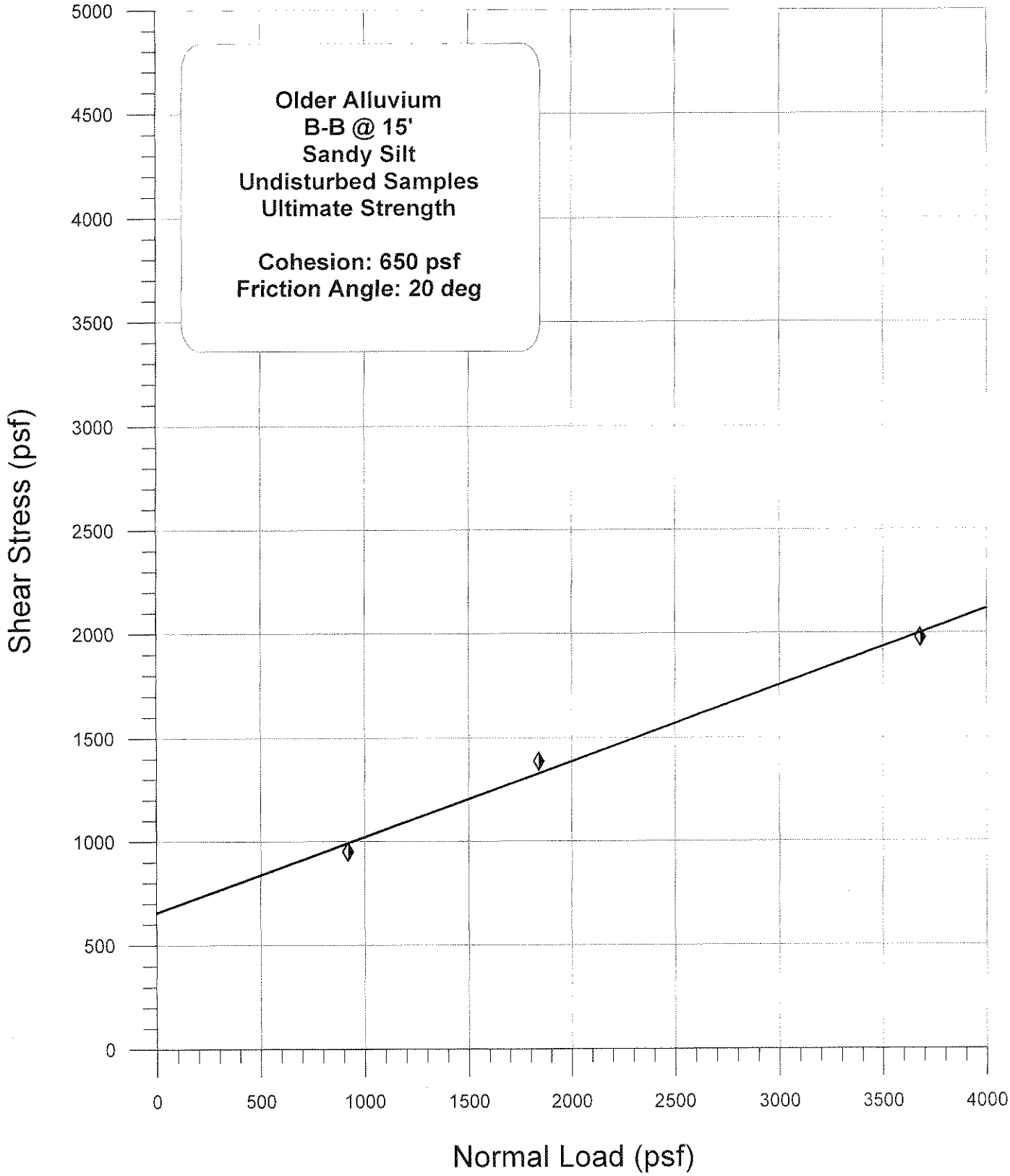

Work Order: 2245-1-0-10

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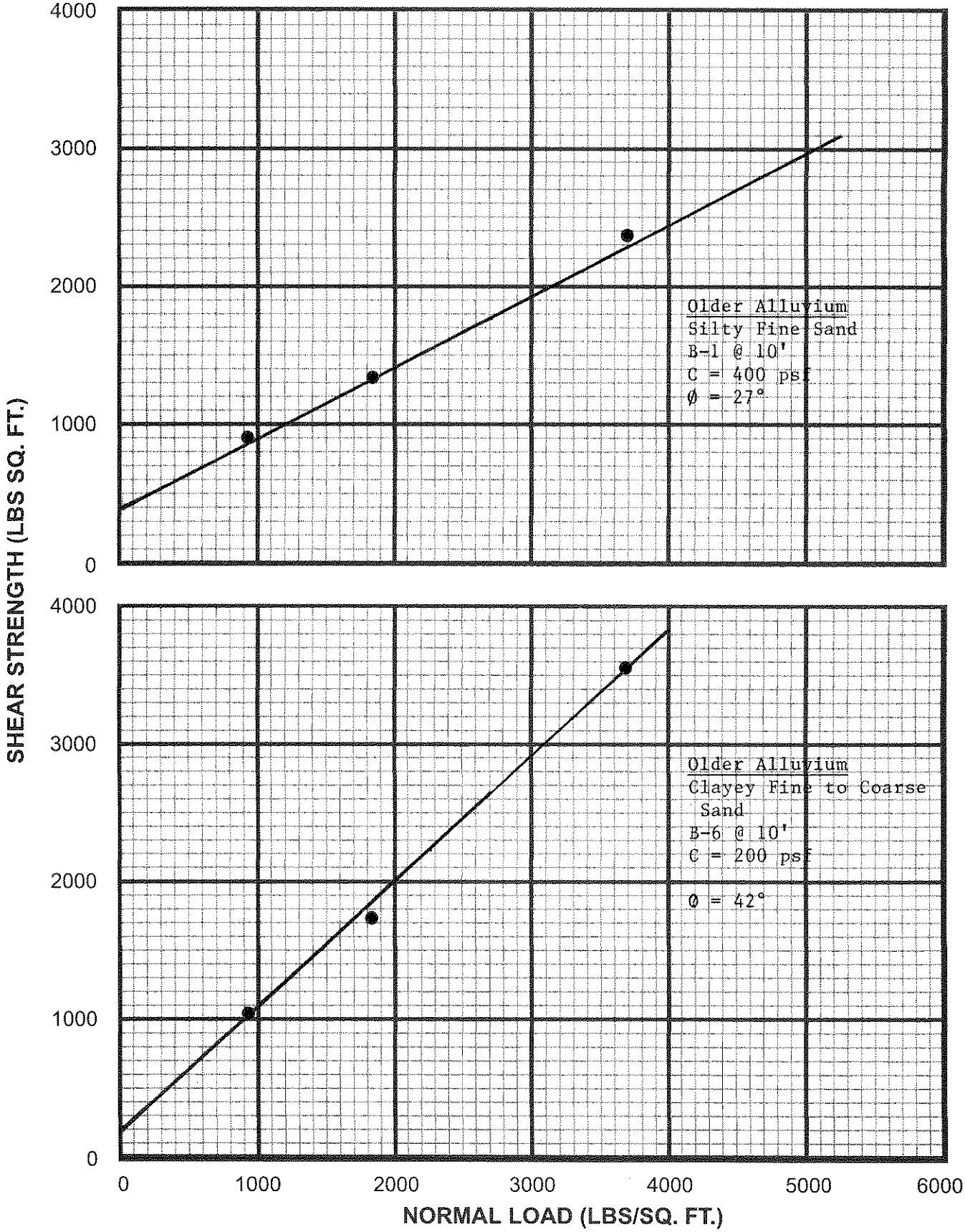
Work Order No.: 1974-1-10

Figure C1

Results of Shearing Strength Test

Undisturbed, Saturated Samples



Explanation: B-9 @ 12' = Sample taken from boring 9 at 12 feet in depth.

SHEARFORM #1003

Work Order No: 1974-1-0-13

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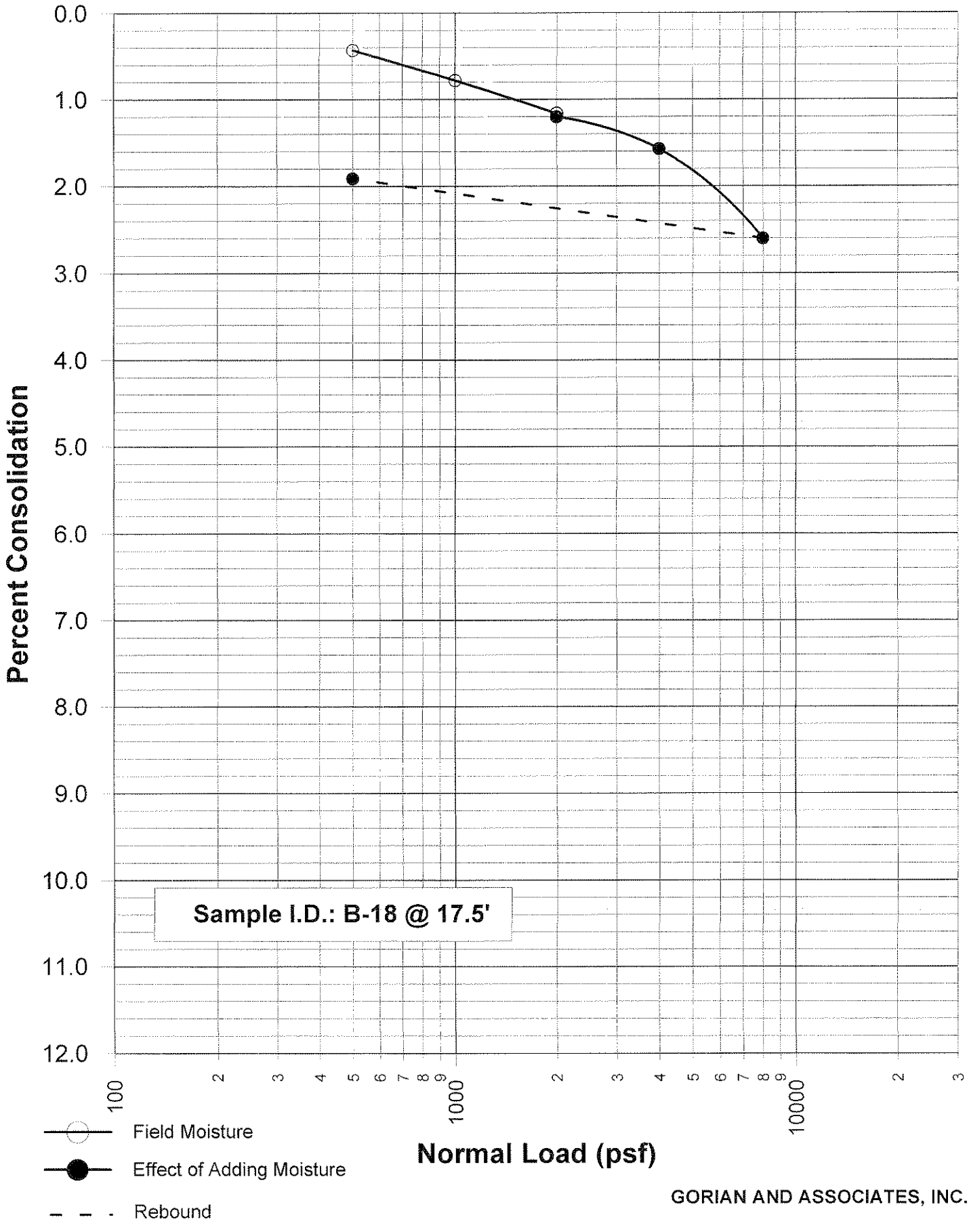

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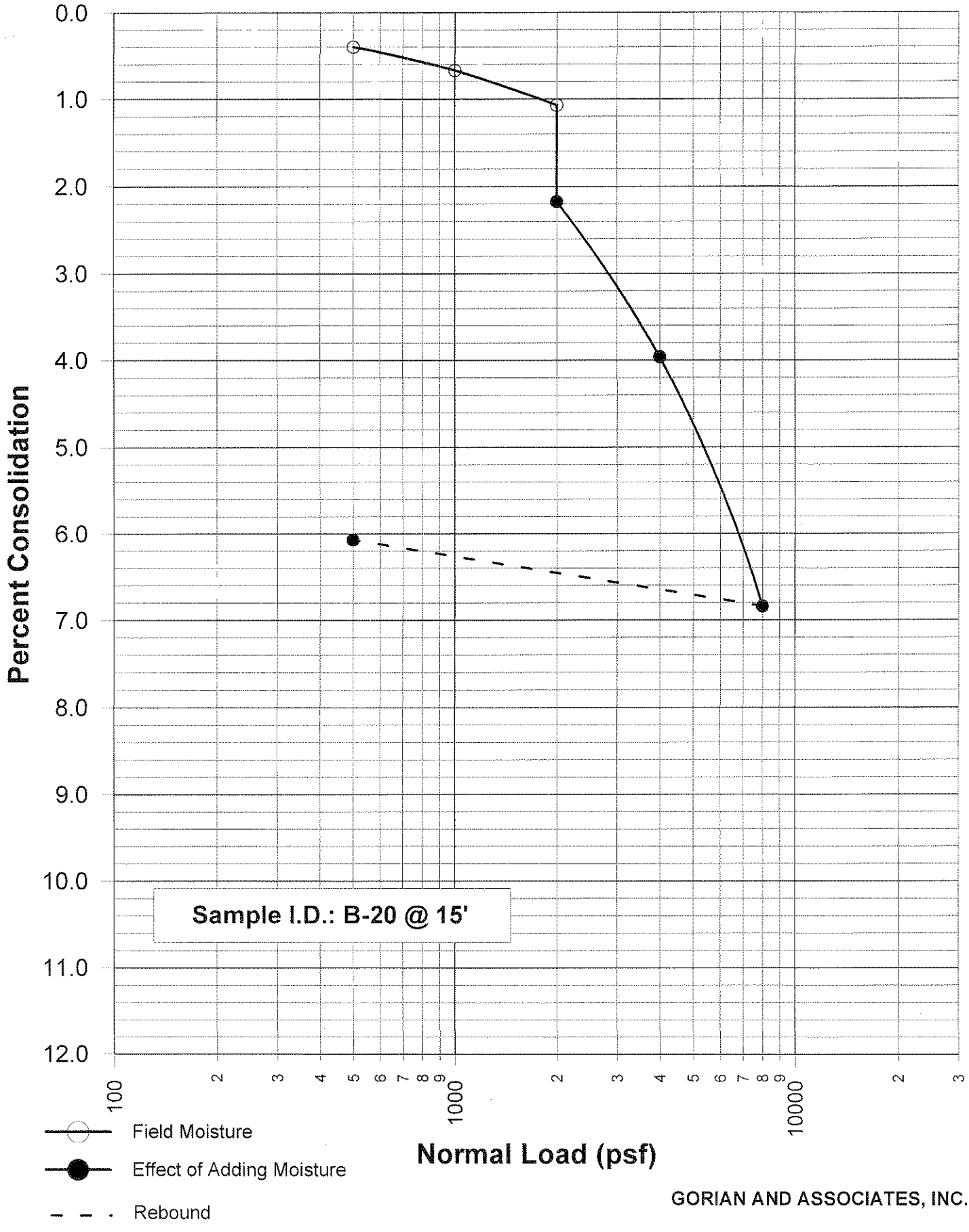

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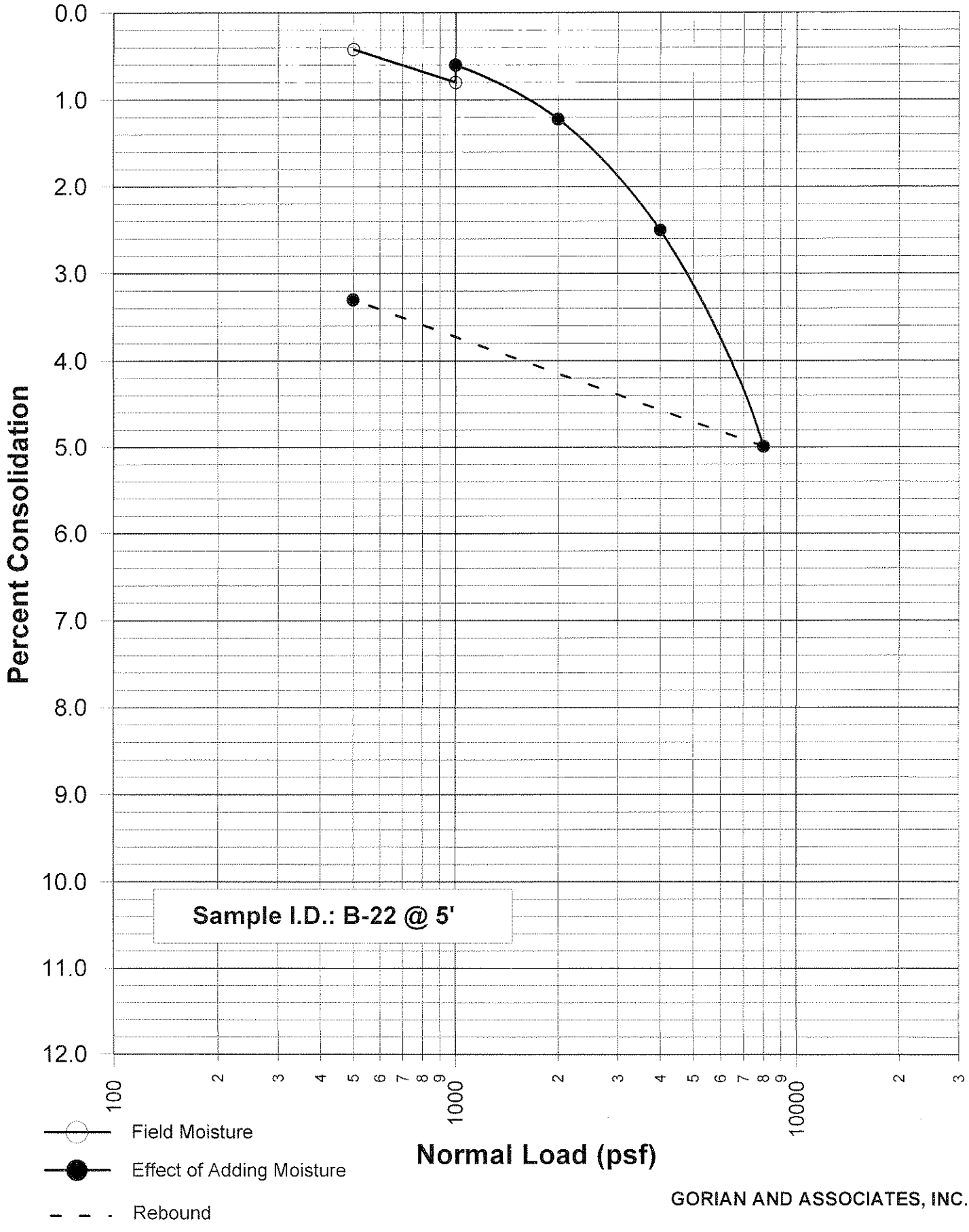

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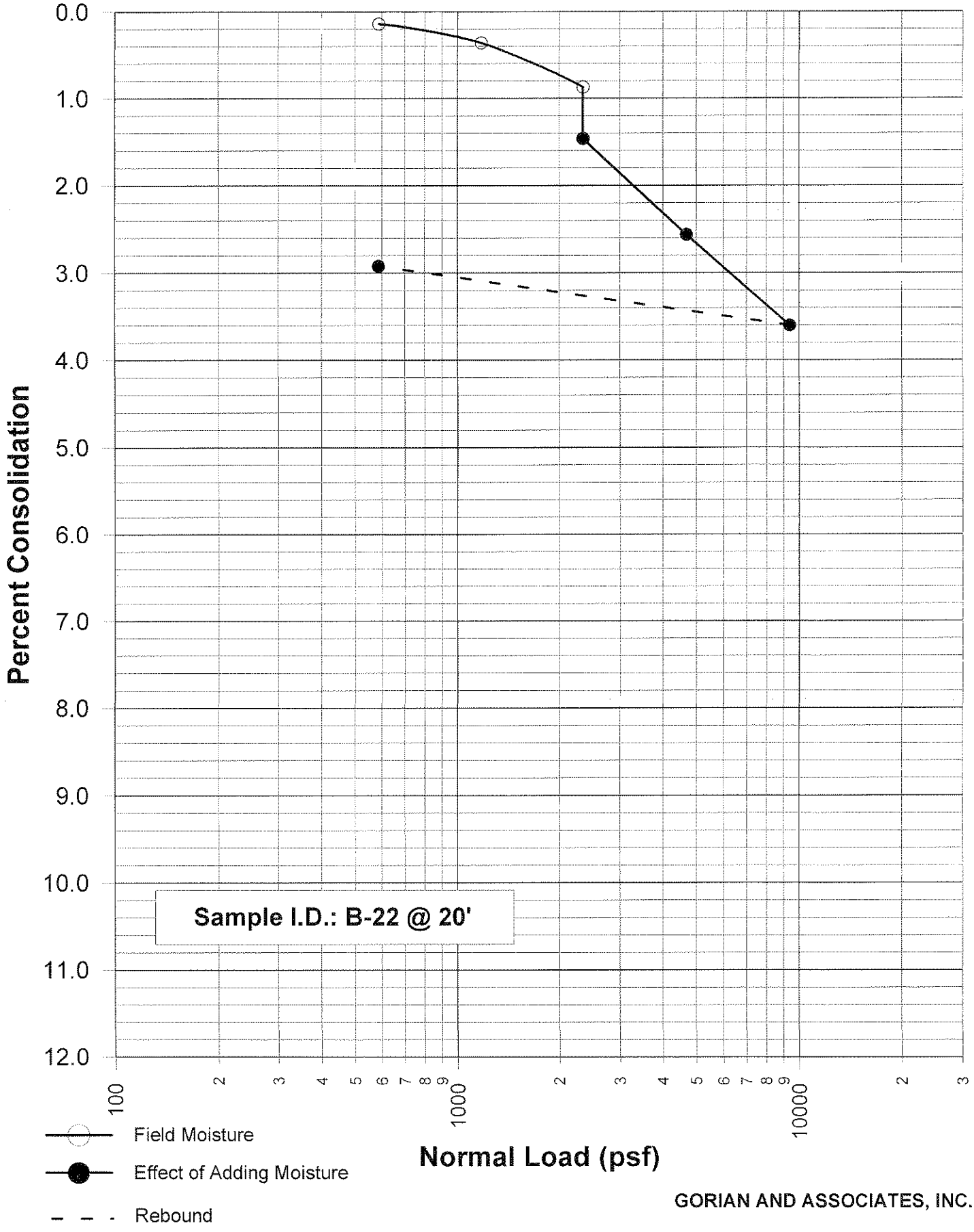

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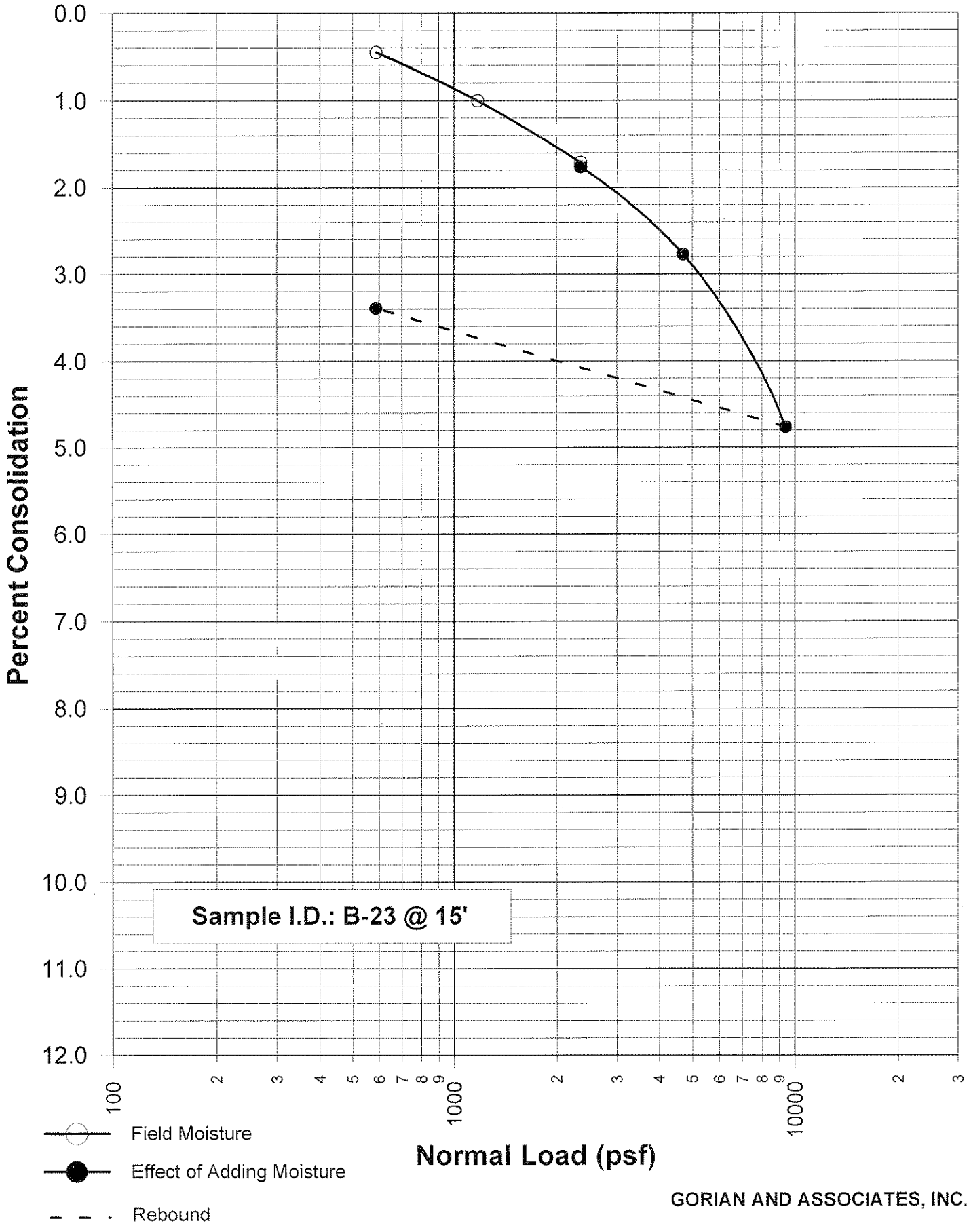

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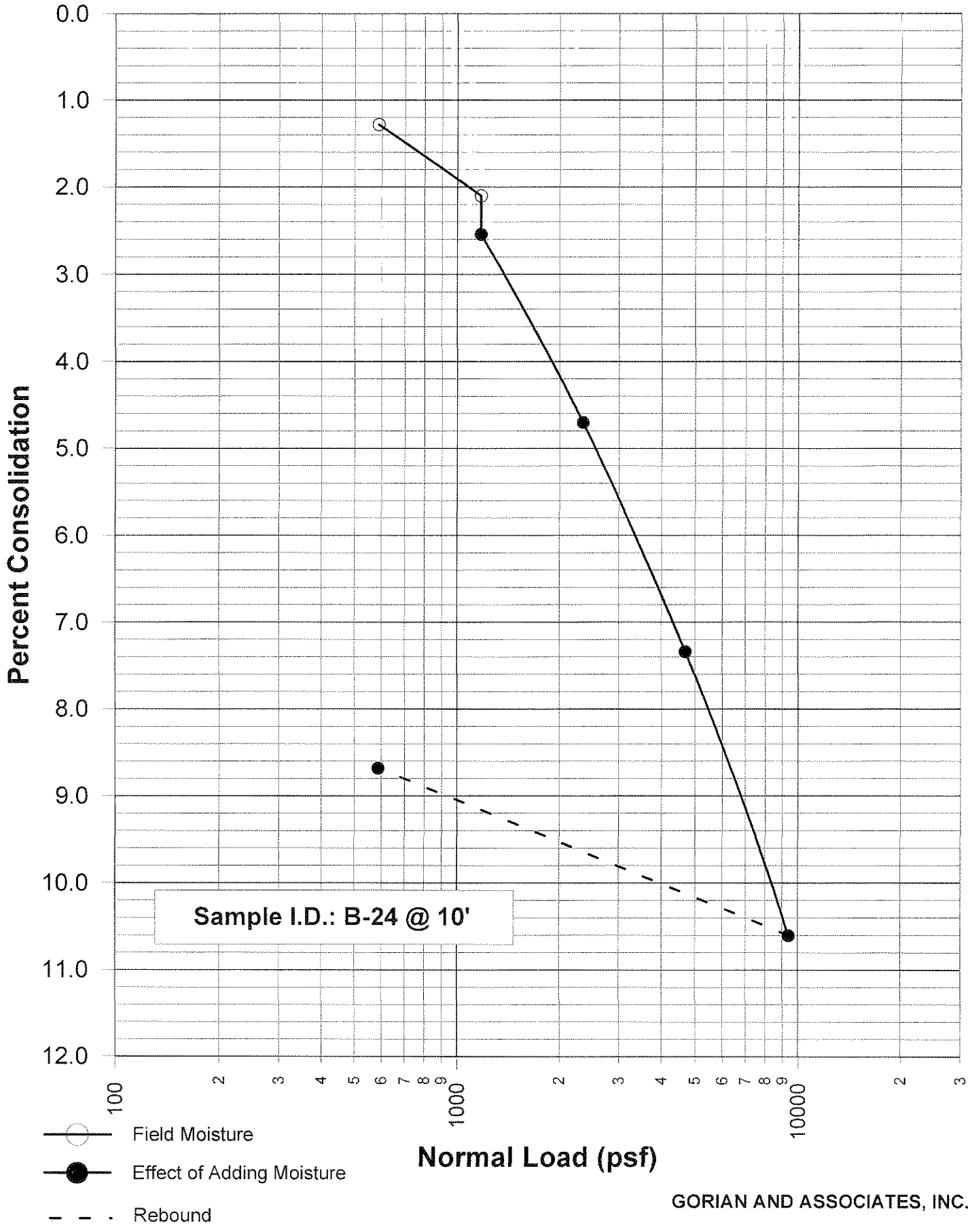

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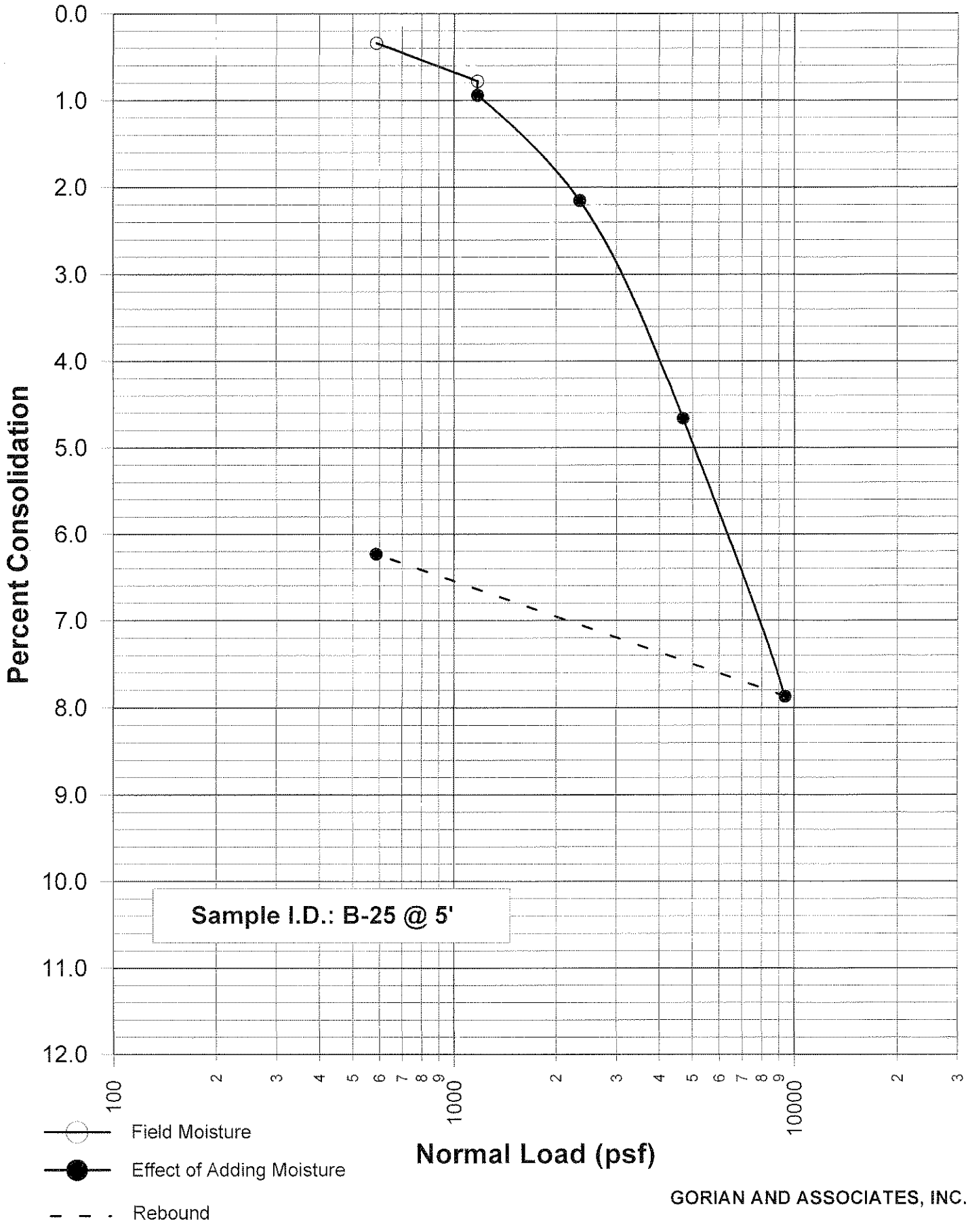

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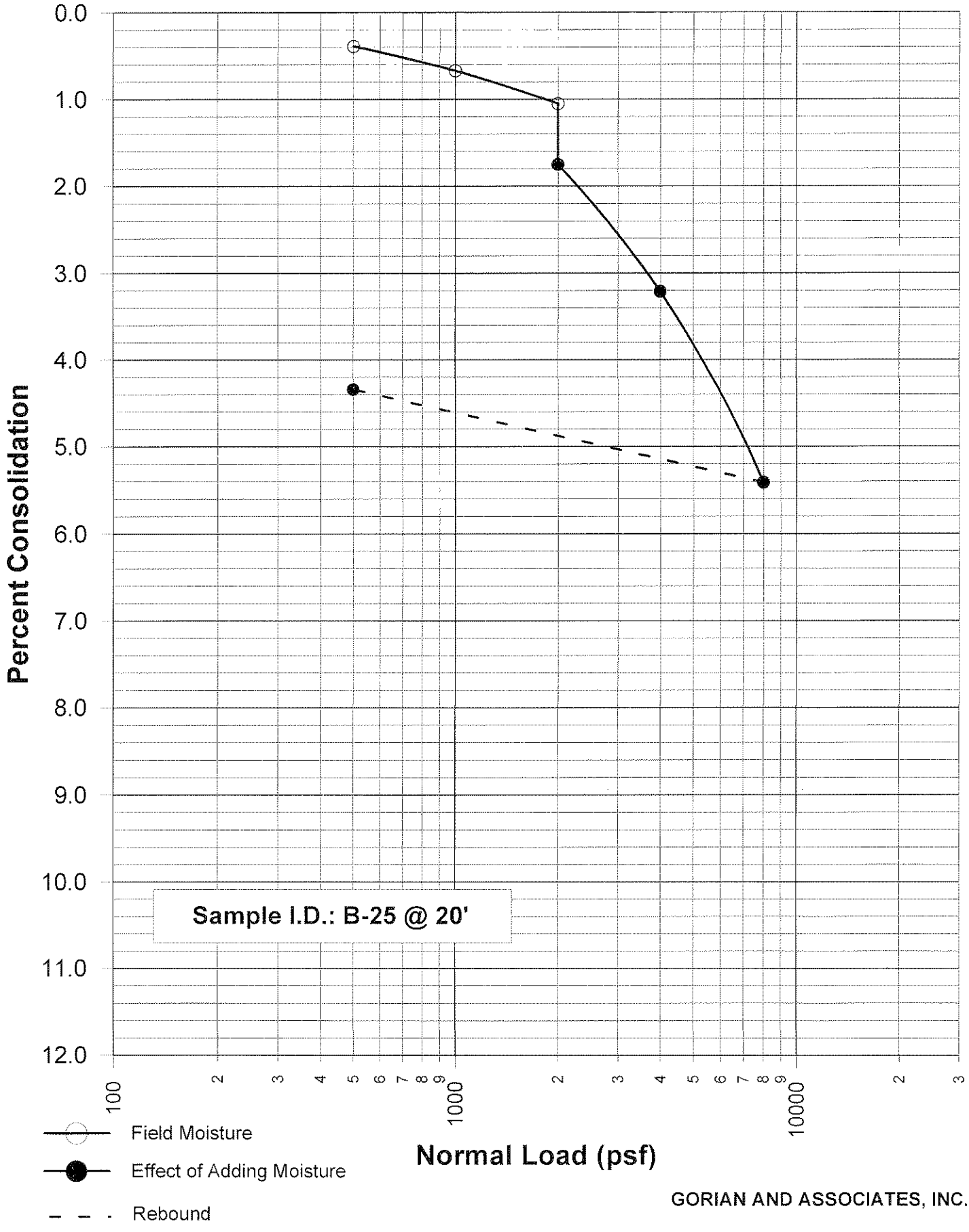

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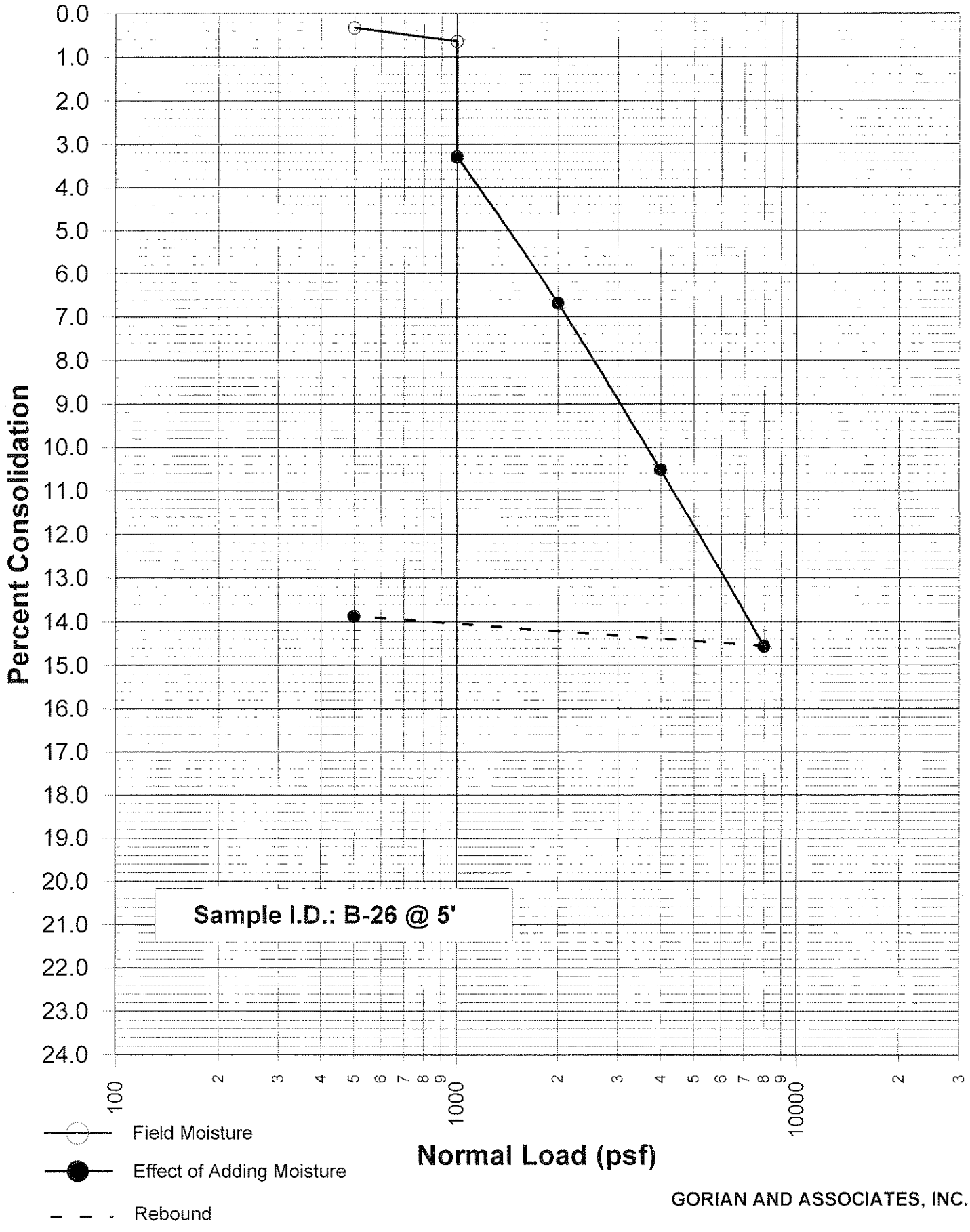

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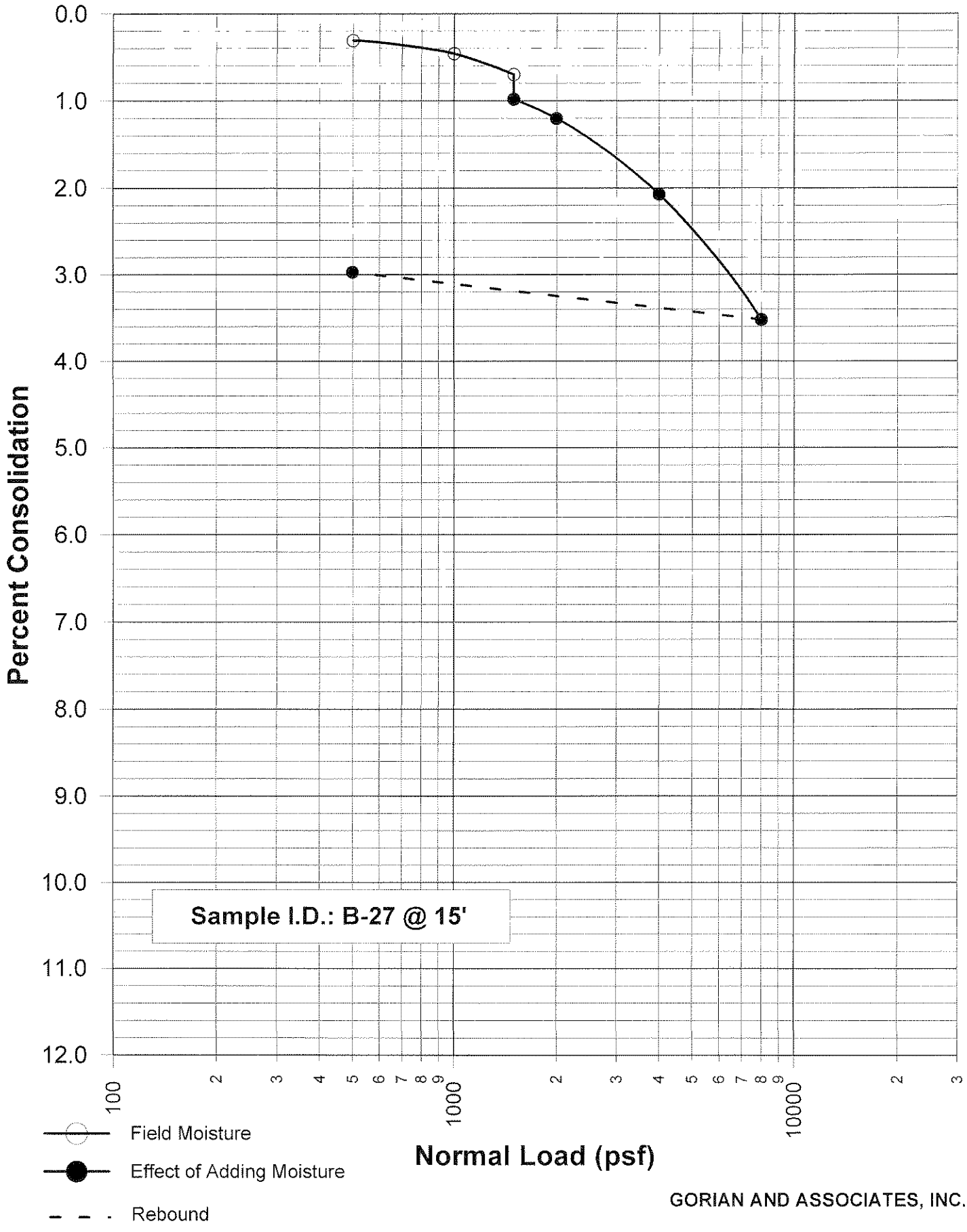

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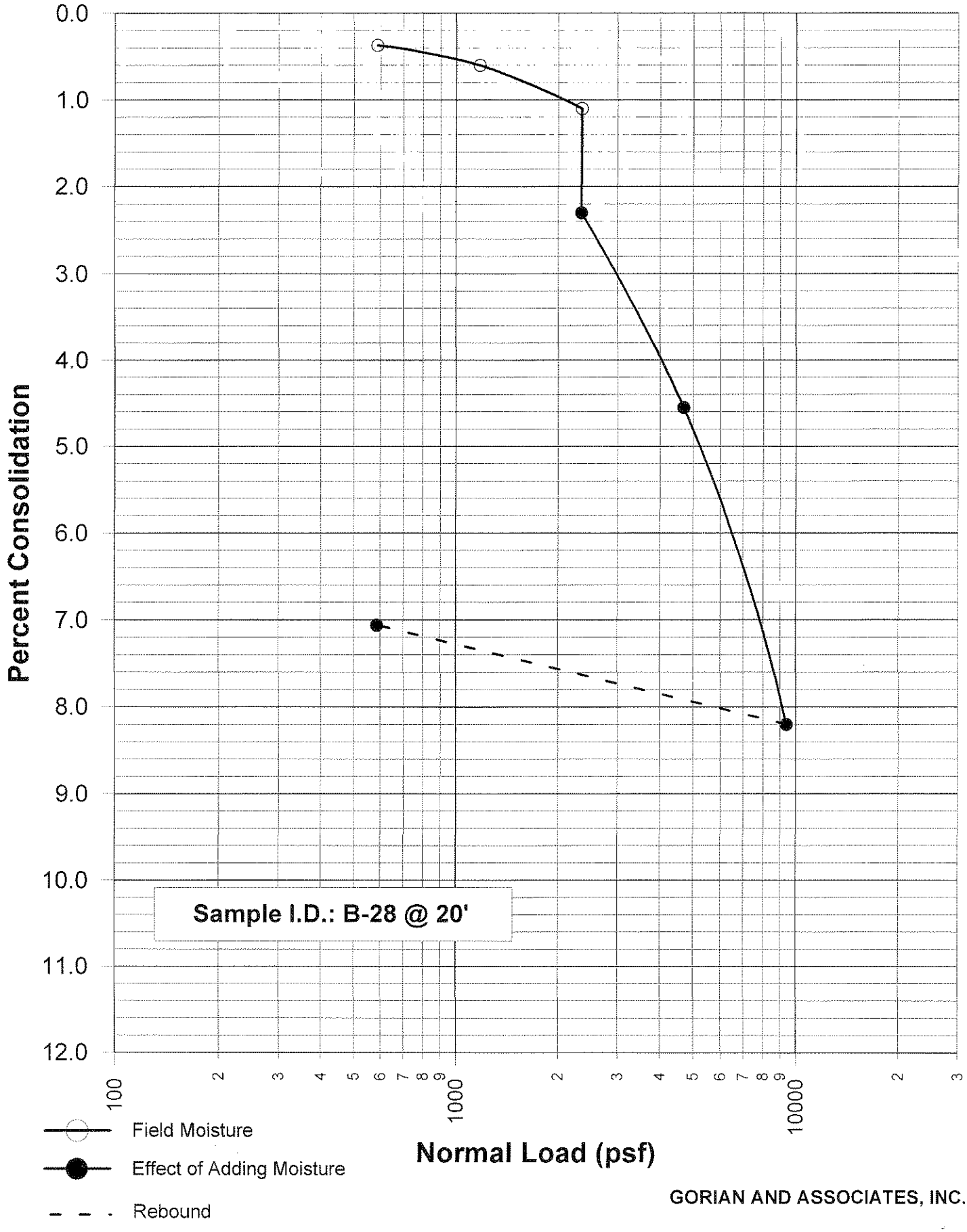

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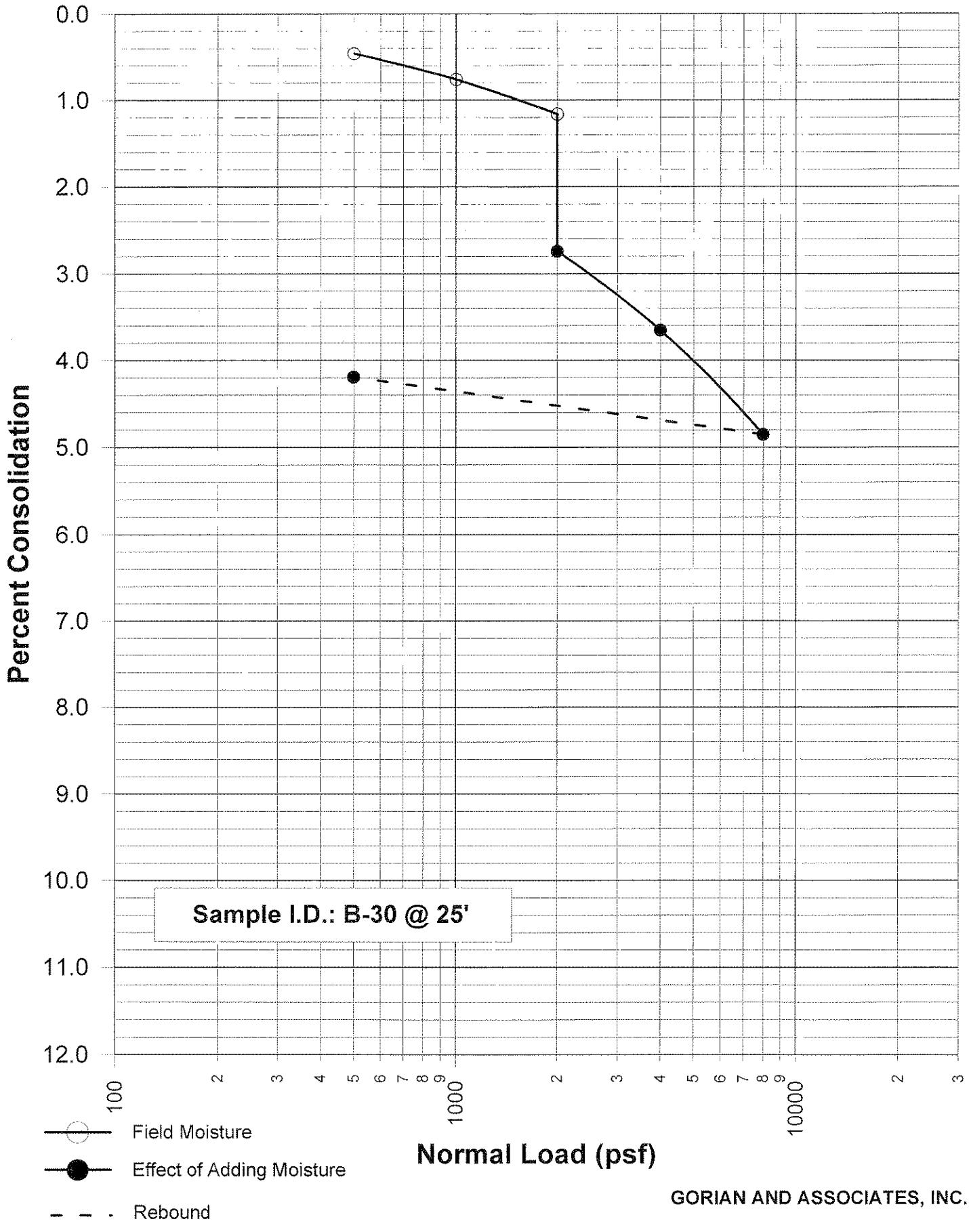

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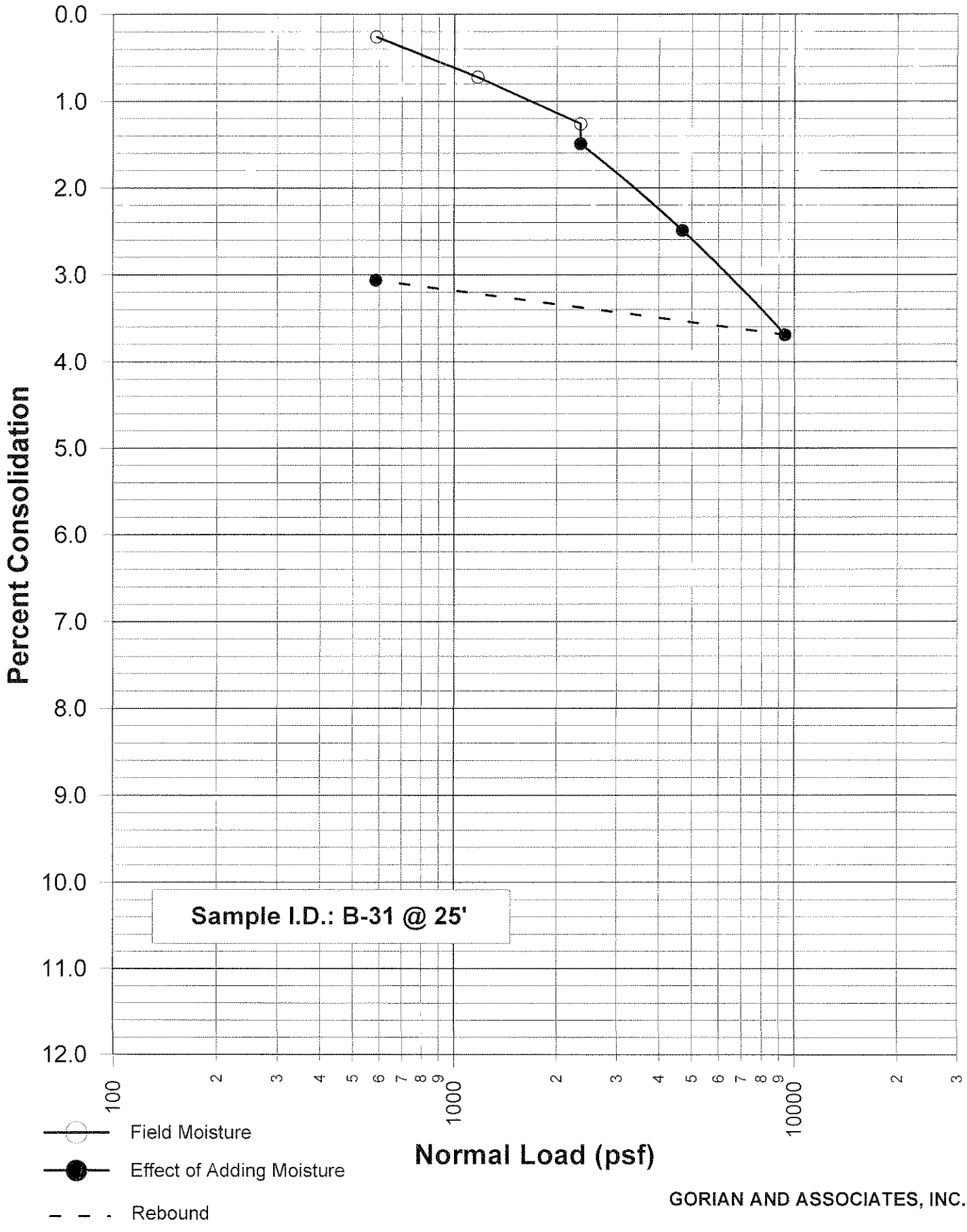

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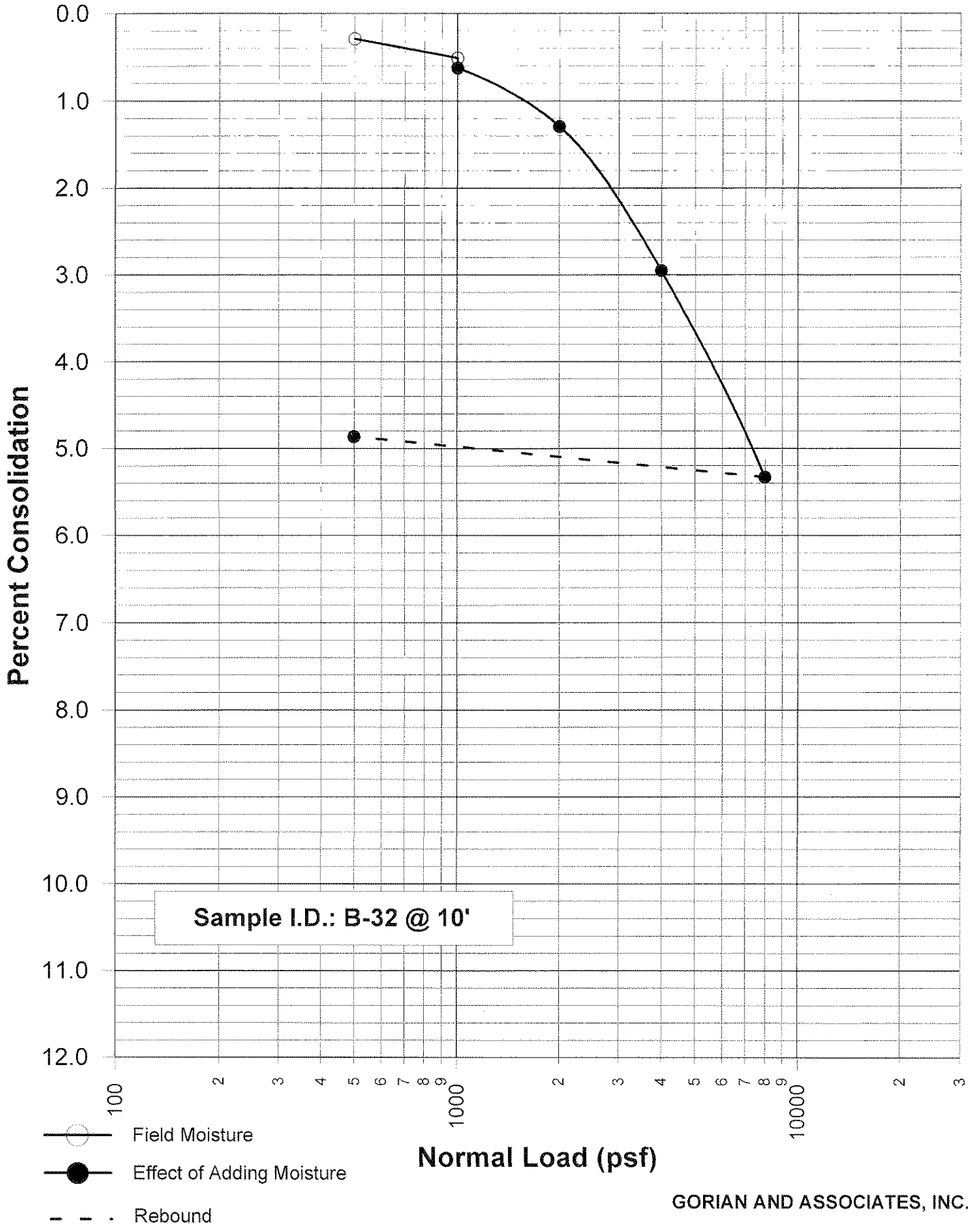

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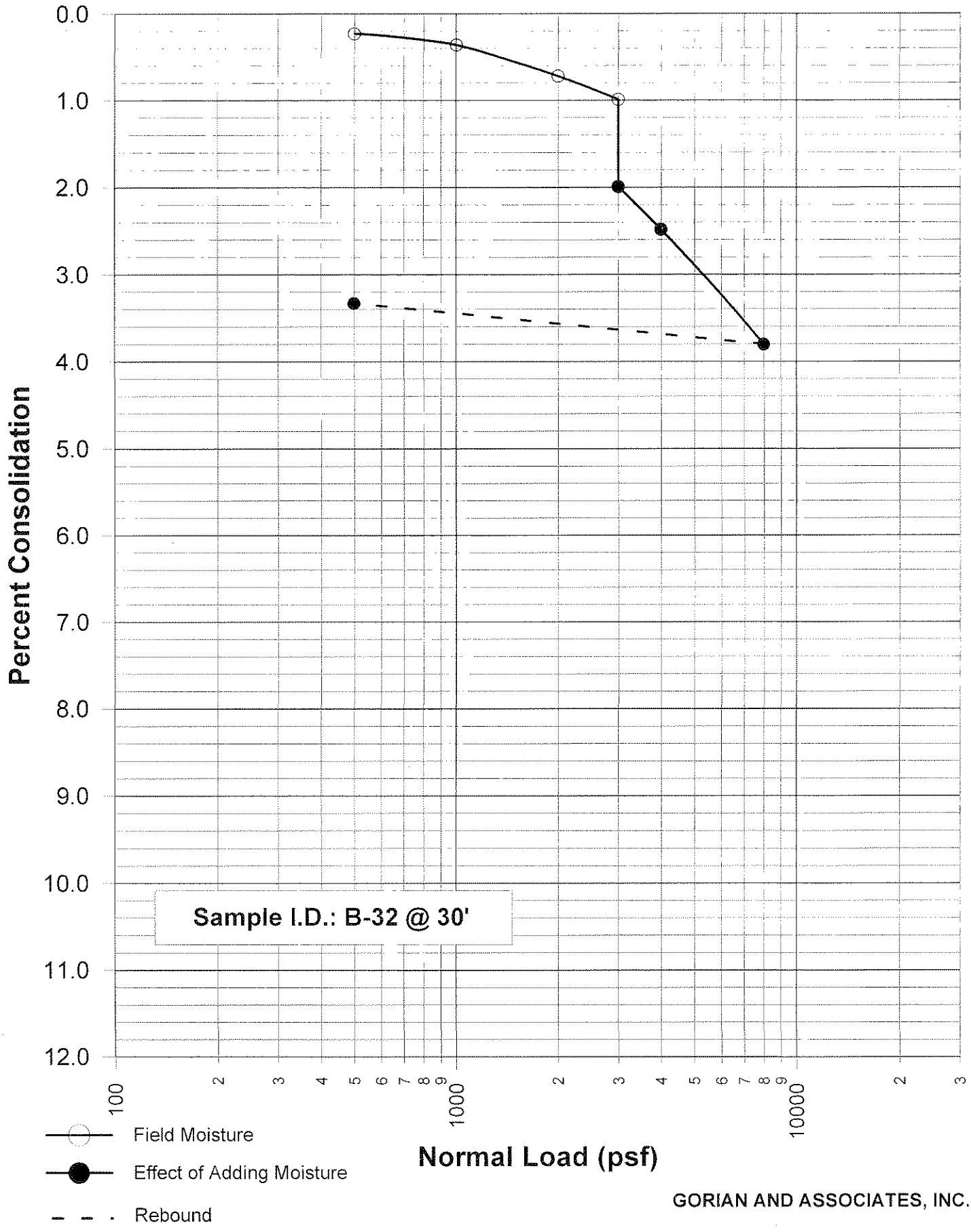

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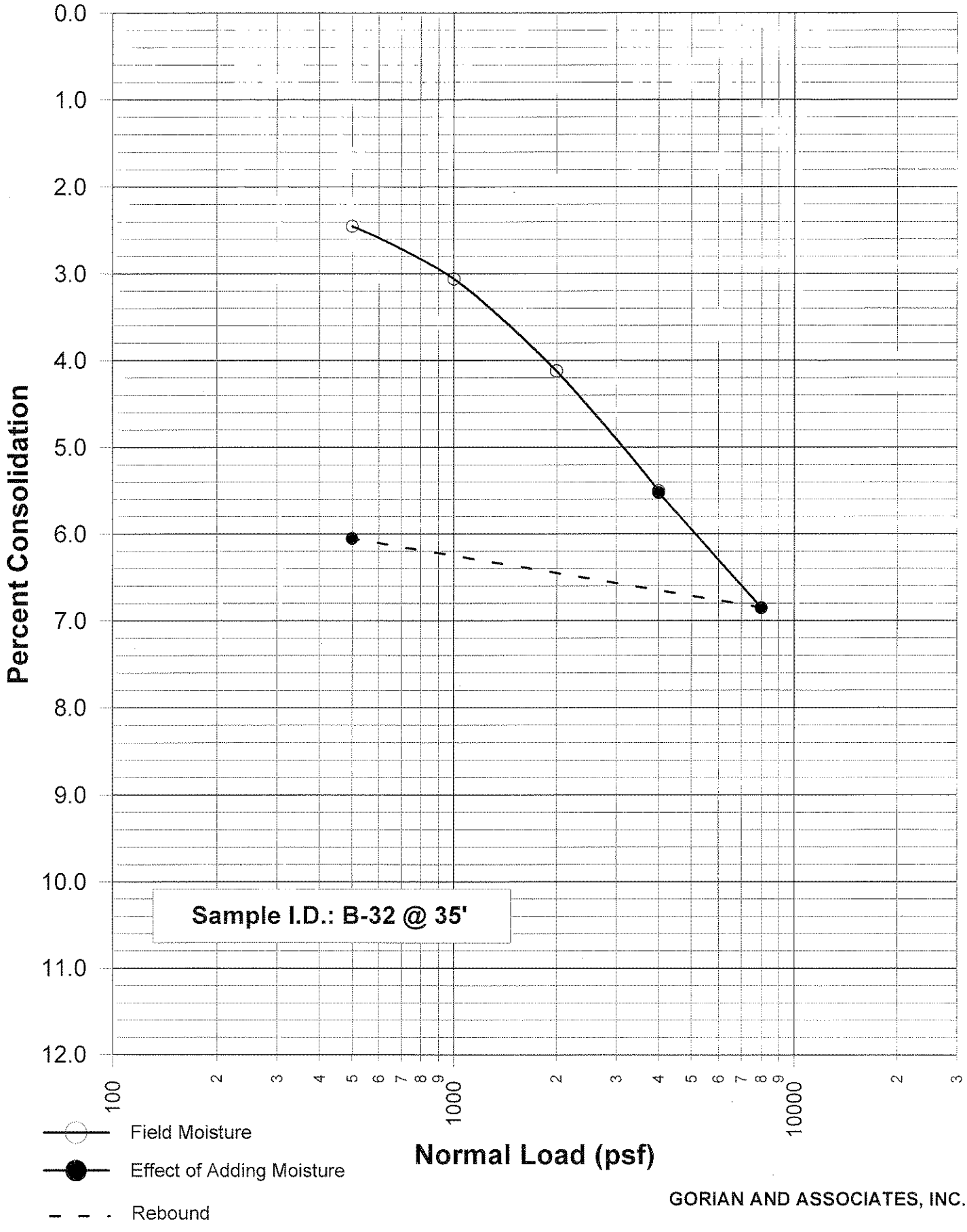

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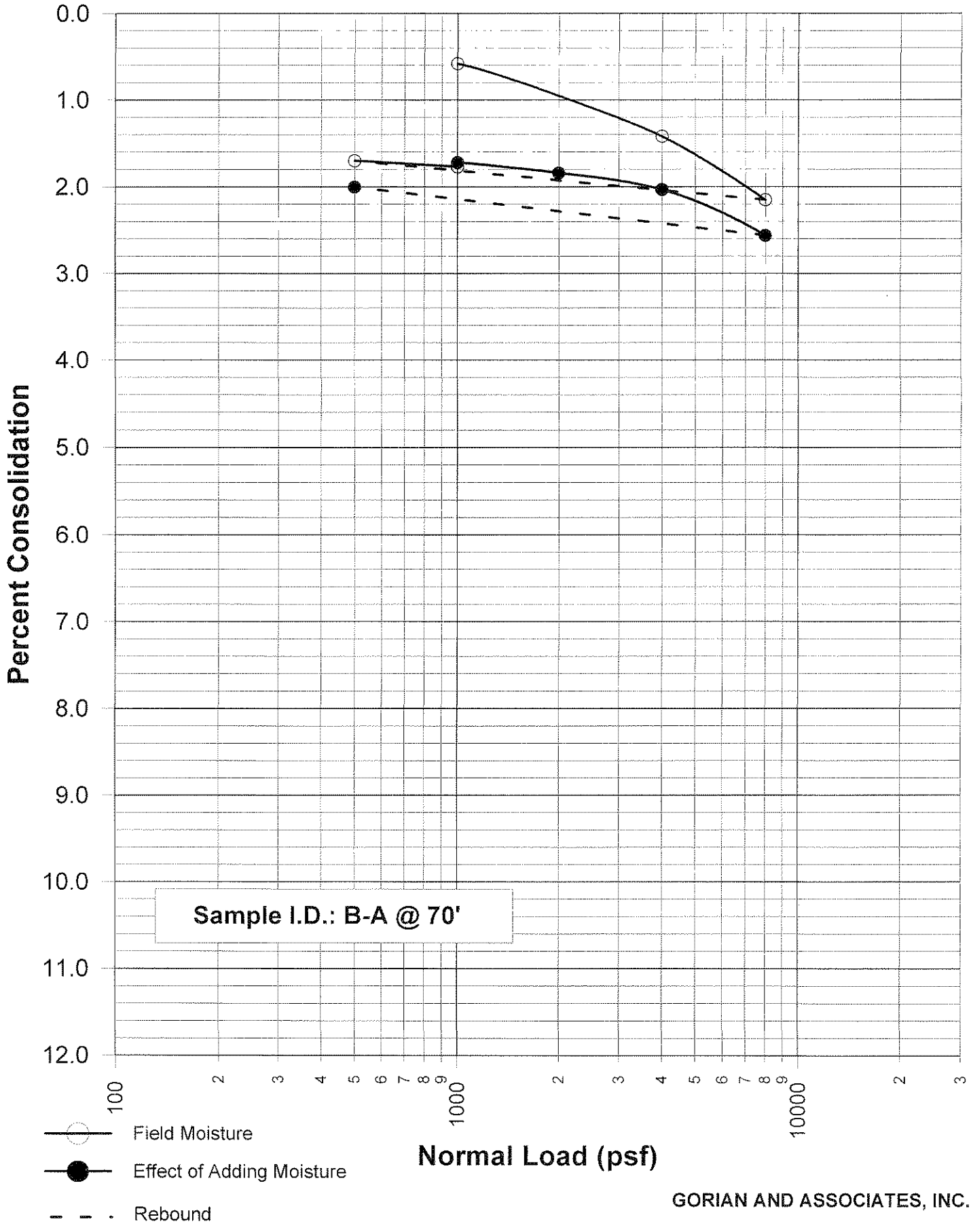


GORIAN AND ASSOCIATES, INC.

APPENDIX C-3

GORIAN AND ASSOCIATES, INC., REPORT DATED JANUARY 16, 2009

GORIAN & ASSOCIATES, INC

Project: Triliad Development, Basins 2 and 3, Moorpark

SUBSURFACE LOG

Work Order: 2556-0-0-100
Report Log:

Excavation Number: T-1

Date(s) Excavated 12-8-08	Logged By CHD	Excavation Location See Geotechnical Map	Approximate Surface Elevation 497'±
Excavation Dimension 24"	Equipment Contractor Buzza	Equipment Type Backhoe	Hammer Data Hand Sampler

Elevation / Depth (ft.)	Bulk / Undisturbed	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
0 / 497					ML		ALLUVIUM: Brown sandy SILT to SILT (damp, medium dense). Porous. Some rodent borrows. Roothairs.	
2 / 495	Undisturbed	20	10.4	100				
4 / 493	Undisturbed	13	8.3	90	SC		Brown clayey fine SAND (damp, loose). Porous. Roothairs.	
6 / 491	Undisturbed	13	6.2	96	SM		Yellowish brown silty fine SAND (damp, medium dense). Locally slightly porous. Few roothairs.	
8 / 489					SP		Pale yellow slightly silty fine SAND (damp, medium dense). Friable.	
							Total Depth 8' No caving, No groundwater	

GORIAN & ASSOCIATES, INC

Project: Triliad Development, Basins 2 and 3, Moorpark

Work Order: 2556-0-0-100
Report Log:

SUBSURFACE LOG

Excavation
Number: T-2

Page Number: 1

Date(s) Excavated 12-8-08	Logged By CHD	Excavation Location See Geotechnical Map	Approximate Surface Elevation 510'±
Excavation Dimension 24"	Equipment Contractor Buzza	Equipment Type Backhoe	Hammer Data Hand Sampler

Elevation / Depth (ft.)	Bulk / Undisturbed	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
510 / 0					SC		TOPSOIL: Brown clayey fine to coarse SAND, few coarse gravels (damp, medium dense). Porous. Roothairs. Rodent borrows.	
508 / 2	Undisturbed	10	6.4	96				
506 / 4					SC		OLDER ALLUVIUM: Yellowish brown clayey fine to coarse SAND, some fine to coarse gravel (damp, medium dense).	
504 / 6	Undisturbed	10	6.3	98				
502 / 8					SM		Yellowish brown silty fine SAND (damp, medium dense). Friable.	
500 / 10							Total Depth 9' No caving, No groundwater	
498 / 12								
496 / 14								

GORIAN & ASSOCIATES, INC.

Project: Triliad Development, Basins 2 and 3, Moorpark

Work Order: 2556-0-0-100
Report Log:

SUBSURFACE LOG

Excavation
Number: T-3

Date(s) Excavated 12-8-08	Logged By CHD	Excavation Location See Geotechnical Map	Approximate Surface Elevation 536'±
Excavation Dimension 24"	Equipment Contractor Buzza	Equipment Type Backhoe	Hammer Data Hand Sampler

Elevation / Depth (ft.)	Bulk Undisturbed	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
536 0					ML		OLDER ALLUVIUM: Yellowish brown SILT (damp, stiff to very stiff). Upper 18" to 2'; porous, some roots. Slightly porous below with common calcium carbonate veinlets.	
534 2	■							
532 4								
					SP		Yellowish brown slightly silty fine to medium SAND (damp, medium dense). Friable. Few gravels.	
530 6								
							Total Depth 6½' No caving, No groundwater	
528 8								
526 10								
524 12								
522 14								

GORIAN & ASSOCIATES, INC

Project: Triliad Development, Basins 2 and 3, Moorpark

Work Order: 2556-0-0-100
Report Log:

SUBSURFACE LOG

Excavation
Number: T-4

Page Number: 1

Date(s) Excavated 12-8-08	Logged By CHD	Excavation Location See Geotechnical Map	Approximate Surface Elevation 493'±
Excavation Dimension 24"	Equipment Contractor Buzza	Equipment Type Backhoe	Hammer Data Hand Sampler

Elevation / Depth (ft.)	Bulk / Undisturbed	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
0 / 492	Undisturbed	16	5.3	99	SC		TOPSOIL: Dark brown clayey fine to coarse SAND (damp, medium dense). Porous. Roothairs. Few cobbles. Some fine gravel.	
4 / 488					SC		OLDER ALLUVIUM: Brown clayey fine to coarse SAND (damp, medium dense).	
6 / 486	Undisturbed	40	8.2	95	SC		Yellowish brown clayey fine SAND (damp, medium dense to dense).	
							Total Depth 7' No caving, No groundwater	

2 / 490 · 8 / 484 · 10 / 482 · 12 / 480 · 14 / 478

GORIAN & ASSOCIATES, INC.

Project: Triliad Development, Basins 2 and 3, Moorpark

SUBSURFACE LOG

Work Order: 2556-0-0-100
Report Log:

Excavation Number: T-5

Date(s) Excavated 12-8-08	Logged By CHD	Excavation Location See Geotechnical Map	Approximate Surface Elevation 510'±
Excavation Dimension 24"	Equipment Contractor Buzza	Equipment Type Backhoe	Hammer Data Hand Sampler

Elevation / Depth (ft.)	Bulk / Undisturbed	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
510 / 0					ML		TOPSOIL: Grayish brown clayey SILT (damp, stiff). Roots.	
508 / 2					SP		OLDER ALLUVIUM: Light yellowish brown slightly silty fine to coarse SAND with fine to coarse gravel (damp, medium dense). Friable. Horizontally stratified.	
506 / 4	Undisturbed	10	1.9	100				
504 / 6								
							Total Depth 6.5' No caving, No groundwater	
502 / 8								
500 / 10								
498 / 12								
496 / 14								

Project: Triliad Development, Basins 2 and 3, Moorpark

SUBSURFACE LOG

Work Order: 2556-0-0-100
Report Log:

Excavation Number: T-6

Page Number: 1

Date(s) Excavated 12-8-08	Logged By CHD	Excavation Location See Geotechnical Map	Approximate Surface Elevation 477'±
Excavation Dimension 24"	Equipment Contractor Buzza	Equipment Type Backhoe	Hammer Data Hand Sampler

Elevation / Depth (ft.)	Bulk	Undisturbed	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
0 / 476						SM		ALLUVIUM: Brown silty fine SAND (damp, loose). Roots. Porous.	
						SM		Brown very silty fine to coarse SAND (damp, medium dense). Porous. Roothairs. Locally interstratified with yellowish brown silty fine to coarse sand. (Friable).	
2						CL		Dark brown silty CLAY, trace sand (damp, very stiff). Porous. Roothairs.	
474			47	8.6	98	SC		Dark brown clayey fine SAND (damp, medium dense). Some porosity.	
4			18	6.6	91				
472									
6			15	8.7	95				
470									
8						SC		OLDER ALLUVIUM: Yellowish brown clayey fine SAND (damp, medium dense). Locally slightly porous. Few roothairs.	
468								Total Depth 9' No caving, No groundwater	
10									
466									
12									
464									
14									
462									

Project: Triliad Development, Basins 2 and 3, Moorpark

SUBSURFACE LOG

Work Order: 2556-0-0-100
Report Log:

Excavation Number: T-7

Date(s) Excavated 12-8-08	Logged By CHD	Excavation Location See Geotechnical Map	Approximate Surface Elevation 480'±
Excavation Dimension 24"	Equipment Contractor Buzza	Equipment Type Backhoe	Hammer Data Hand Sampler

Elevation / Depth (ft.)	Bulk / Undisturbed	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
480 / 0					ML		ALLUVIUM: Brown sandy SILT (damp, medium dense). Porous. Roots.	
					SM		Light brown silty fine to coarse SAND (damp, medium dense). Hoizontally stratified.	
478 / 2								
					SC		Dark brown clayey fine SAND (damp, medium dense). Porous.	
476 / 4								
					SC		Brown clayey fine to coarse SAND, some fine to coarse gravel (damp, medium dense). Slightly porous.	
474 / 6								
					SC		Dark brown clayey fine SAND (damp, medium dense). Porous.	
472 / 8								
							Total Depth 8½' No caving, No groundwater	
470 / 10								
468 / 12								
466 / 14								

GORIAN & ASSOCIATES, INC.

Project: Triliad Development, Basins 2 and 3, Moorpark

SUBSURFACE LOG

Work Order: 2556-0-0-100
Report Log:

Excavation Number: T-8

Date(s) Excavated 12-8-08	Logged By CHD	Excavation Location See Geotechnical Map	Approximate Surface Elevation 483'±
Excavation Dimension 24"	Equipment Contractor Buzza	Equipment Type Backhoe	Hammer Data Hand Sampler

Elevation / Depth (ft.)	Bulk	Undisturbed	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
0 / 482						CL		TOPSOIL: Dark brown silty CLAY (damp, very stiff). Porous. Roots.	
2 / 480						CL		OLDER ALLUVIUM: Yellowish brown sandy silty CLAY (damp, very stiff). Porous.	
4 / 478						SC		Yellowish brown clayey fine SAND (damp, medium dense).	
6 / 476								Total Depth 6½' No caving, No groundwater	
8 / 474									
10 / 472									
12 / 470									
14 / 468									

GORIAN & ASSOCIATES, INC

Project: Triliad Development, Basins 2 and 3, Moorpark

Work Order: 2556-0-0-100
Report Log:

SUBSURFACE LOG

Excavation Number: T-9

Date(s) Excavated 12-8-08	Logged By CHD	Excavation Location See Geotechnical Map	Approximate Surface Elevation 490'±
Excavation Dimension 24"	Equipment Contractor Buzza	Equipment Type Backhoe	Hammer Data Hand Sampler

Elevation / Depth (ft.)	Bulk / Undisturbed	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
490 / 0					CL		TOPSOIL: Dark brown silty CLAY (damp, very stiff). Porous. Roots.	
488 / 2					CL		OLDER ALLUVIUM: Yellowish brown silty CLAY (damp, very stiff). Porous to slightly porous.	
486 / 4					CL		Yellowish brown sandy silty CLAY (damp, very stiff). Locally slightly porous. Few calcium carbonate veinlets.	
484 / 6							Total Depth 7' No caving, No groundwater	
482 / 8								
480 / 10								
478 / 12								
476 / 14								

GORIAN & ASSOCIATES, INC

Project: Triliad Development, Basins 2 and 3, Moorpark

Work Order: 2556-0-0-100
Report Log:

SUBSURFACE LOG

Excavation Number: T-10

Date(s) Excavated 12-8-08	Logged By CHD	Excavation Location See Geotechnical Map	Approximate Surface Elevation 492'±
Excavation Dimension 24"	Equipment Contractor Buzza	Equipment Type Backhoe	Hammer Data Hand Sampler

Elevation / Depth (ft.)	Bulk	Undisturbed	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
492 0						CL		TOPSOIL: Dark brown silty CLAY (damp, very stiff). Porous. Roots.	
490 2						CL		COLLUVIUM: Dark grayish brown silty CLAY (damp, stiff). Porous. Roothairs.	
		■	6	10.9	80				
488 4									
						CL		OLDER ALLUVIUM: Pale brown silty CLAY (damp, very stiff). Slightly porous. Common calcium carbonate veinlets.	
486 6		■	13	11.7	94				
								Total Depth 7' No caving, No groundwater	
484 8									
482 10									
480 12									
478 14									

GORIAN & ASSOCIATES, INC.

Project: Triliad Development, Basins 2 and 3, Moorpark

SUBSURFACE LOG

Work Order: 2556-0-0-100
Report Log:

Excavation Number: T-11

Page Number: 1

Date(s) Excavated 12-8-08	Logged By CHD	Excavation Location See Geotechnical Map	Approximate Surface Elevation 492'±
Excavation Dimension 24"	Equipment Contractor Buzza	Equipment Type Backhoe	Hammer Data Hand Sampler

Elevation / Depth (ft.)	Bulk	Undisturbed	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
492 / 0						SM		ALLUVIUM: Yellowish brown silty fine SAND (damp, loose). Roots.	
						SM		Brown silty fine to coarse SAND (damp, medium dense).	
490 / 2			30	6.6	98	SC		Dark brown clayey fine to coarse SAND (damp, medium dense). Porous. Few roots.	
488 / 4			27	7.6	99			At 4'; slightly porous.	
486 / 6			45	5.3	107	SM		OLDER ALLUVUIM: Yellowish brown very silty fine SAND (damp, medium dense to dense).	
484 / 8								Total Depth 7' No caving, No groundwater	
482 / 10									
480 / 12									
478 / 14									

APPENDIX B

LABORATORY TESTING

General
Laboratory test results on selected relatively undisturbed and bulk samples are presented below. Test were performed to evaluate the physical and engineering properties of the encountered earth materials, including in-situ moisture and density, maximum dry density/optimum moisture content relationships, expansion potential, consolidation characteristics, and shear strength parameters.

Field Density and Moisture Content Tests
In-situ dry density and moisture content were evaluated from the relatively undisturbed samples obtained during exploratory operations. The results and a detailed description of the soils encountered are shown on the attached Logs of Subsurface data (Appendix A).

Classification
Soils were classified in general accordance with the Unified Soil Classification System.

Maximum Density-Optimum Moisture
Maximum Dry Density/Optimum Moisture Content relationships (compaction Characteristics) were performed on selected samples of the encountered materials. The tests were performed per ASTM D1557 test method. The results are as follows:

Sample	Visual Soil Classification	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
B-1 @ 3'	Brown clayey sand	124.5	9.0
B-3 @ 14'	Yellowish brown sandy silt	128.5	9.0
B-4 @ 11'	Brown silty fine sand	120.0	11.5
T-11 @ 2'	Dark brown clayey sand	128.5	8.5

Soil Expansion Tests
An Expansion Index test was performed on a selected bulk sample of the encountered materials. The results are as follows:

Sample	Expansion Index	Expansion Index Range	Expansion Potential
B-4 @ 14'	19	0 - 20	Very Low

Direct Shear Test
Strain controlled direct shear testing was performed on twenty relatively undisturbed samples and three remolded samples. The sample sets were saturated prior to shearing under axial loads ranging from 920 to 3680 psf. The shear strength results are presented on Plates B-1 through B-21, B-26 and B-27 as graphic summaries.

Load Consolidation Tests
Load consolidation tests were performed on four relatively undisturbed samples. Test loads were added in increments to a maximum of 8,000 or 9,400 psf. Water was added at a load approximating existing overburden stresses to study the effect of moisture infiltration on potential consolidation behavior. The results are presented on Plates B-22 through B-25 as graphic summaries.

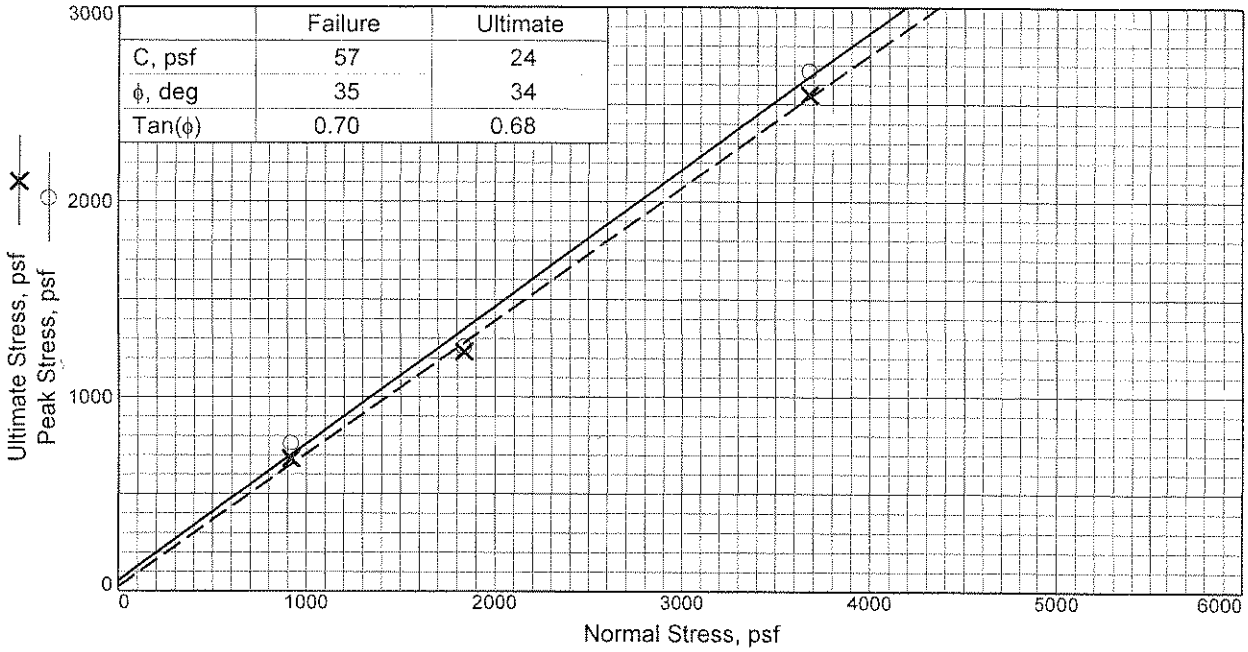
Particle Size Analyses

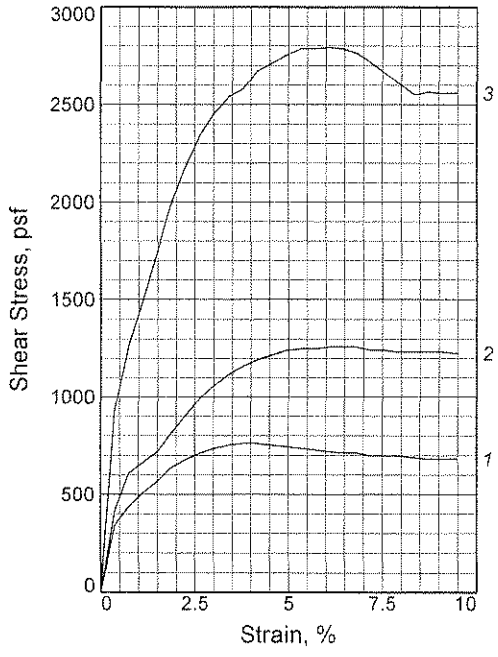
Particle size analyses were performed on several bulk samples. The grain size was evaluated by drying out each sample and passing it through the #200 sieve with an apparent opening size of 0.075 mm. Results of the sieve analyses are limited to evaluating the percentage of sand only. The remaining percentage is referred to as the "percent fines". A table summarizing the results is presented below.

Sample	% Sand	% Fines (silt and clay)	Classification
B -1 @ 3'	79	21	Clayey sand
B -1 @ 20'	36	64	Silty Sandy Clay
B -2 @ 60'	18	82	Silt

Corrosion Testing

Representative soil samples were sent out under separate contract to be tested for corrosive properties. The test results are attached.





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		763	1259	2672
Strain, %		3.8	6.1	4.2
Ultimate Stress, psf		682	1234	2550
Strain, %		9.5	9.1	8.4
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Silt

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

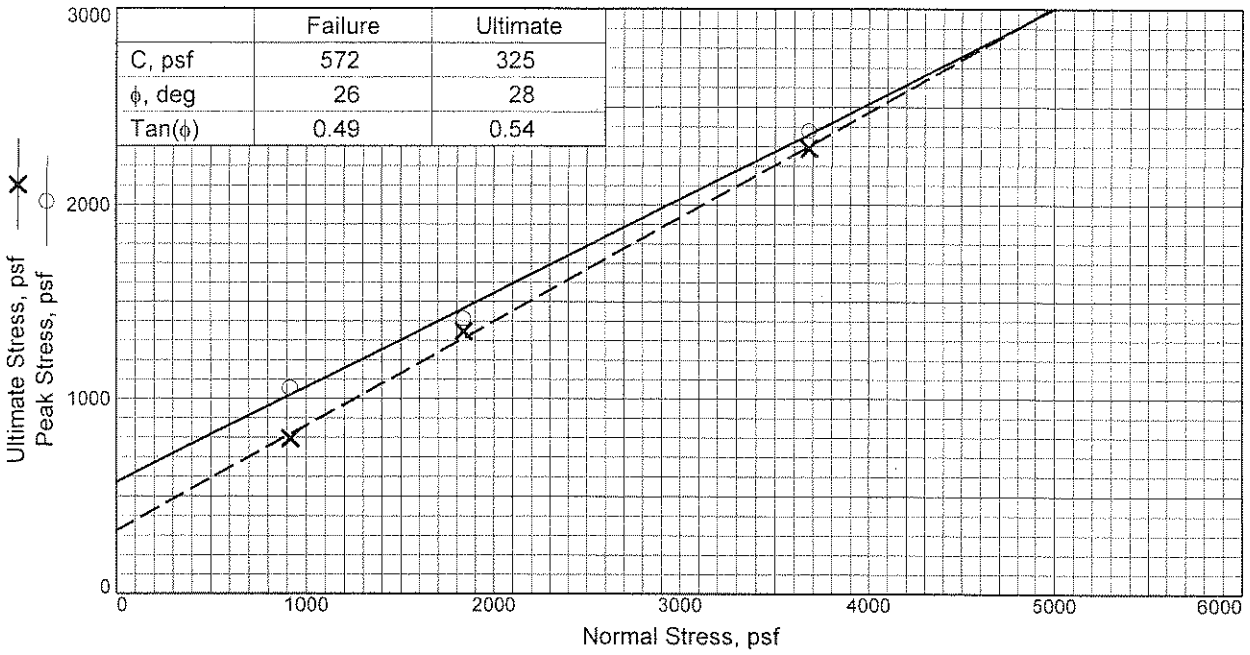
Source of Sample: B-1 **Depth:** 10

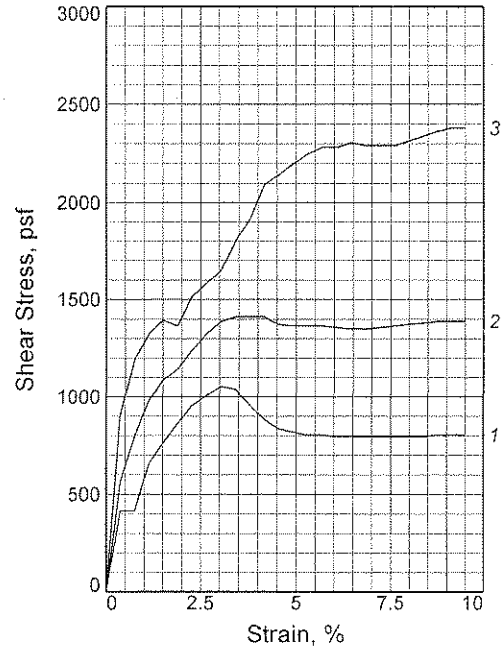
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-1





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		1056	1413	2379
Strain, %		3.0	3.8	9.1
Ultimate Stress, psf		796	1348	2290
Strain, %		8.0	6.5	7.2
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Silty Sandy Clay

LL= **PL=** **PI=**
Assumed Specific Gravity= 2.67
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

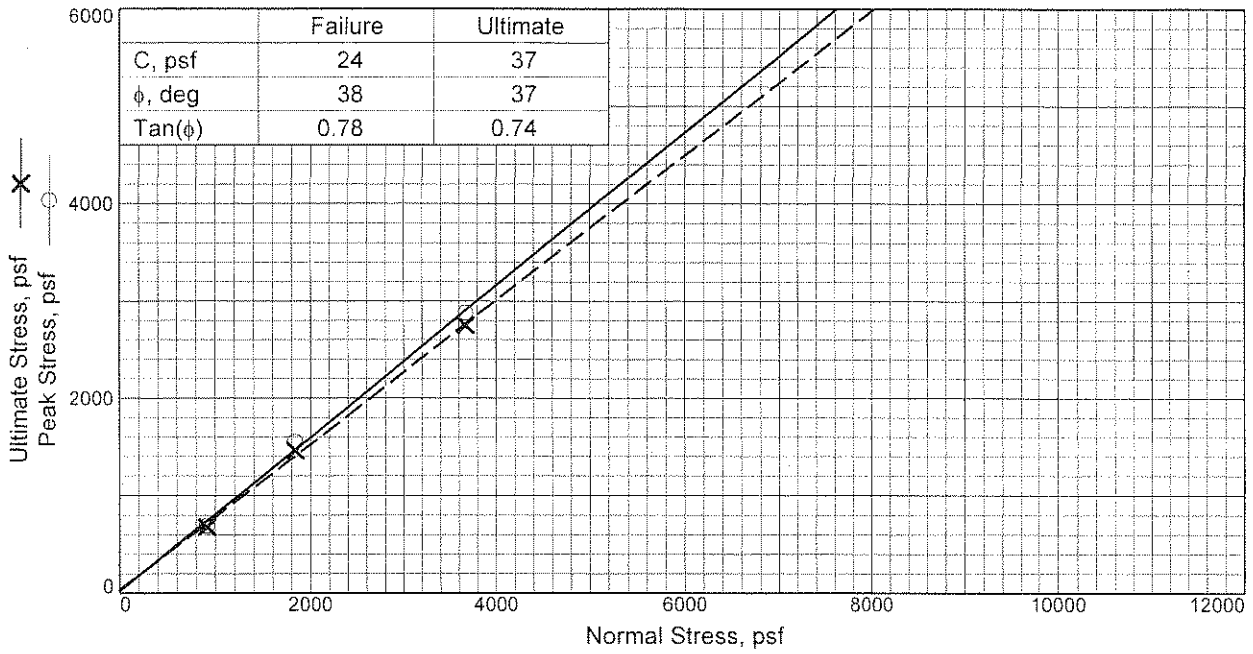
Source of Sample: B-1 **Depth:** 20

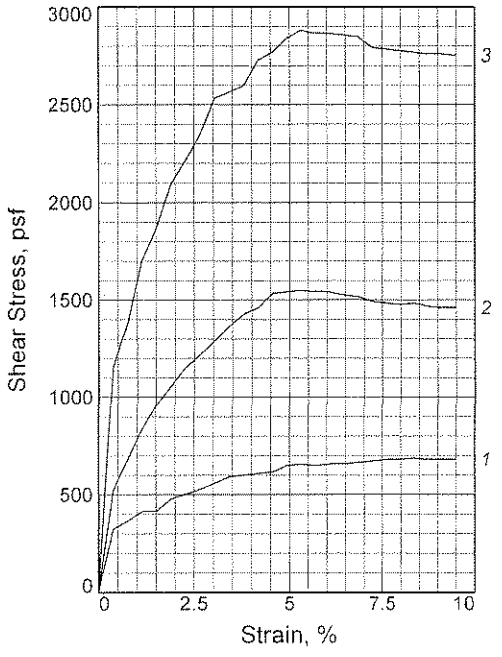
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-2





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		690	1551	2883
Strain, %		8.4	5.3	5.3
Ultimate Stress, psf		682	1462	2753
Strain, %		9.5	9.1	9.5
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Fine sand

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

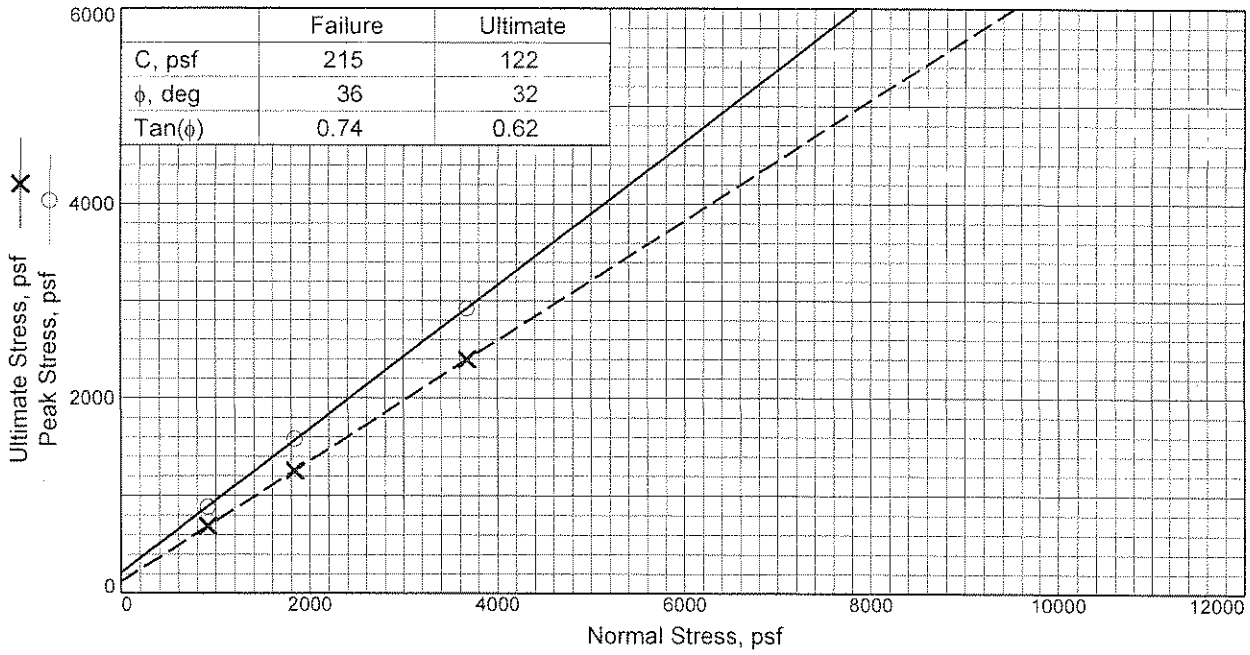
Source of Sample: B-1 **Depth:** 35

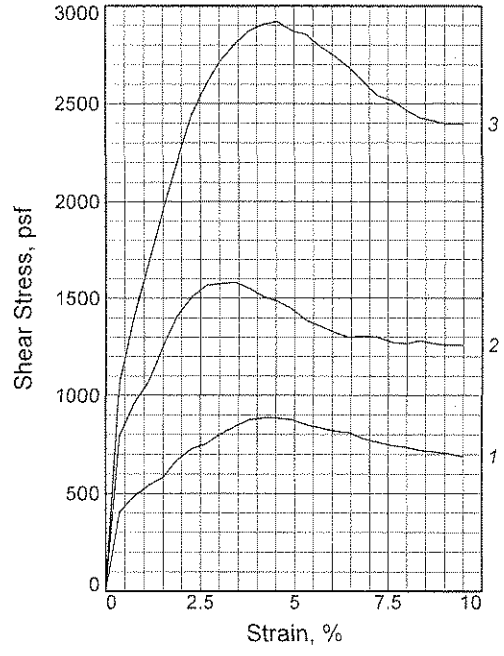
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-3





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		885	1583	2923
Strain, %		4.2	3.4	4.6
Ultimate Stress, psf		690	1259	2395
Strain, %		9.5	9.1	9.5
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Sand

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

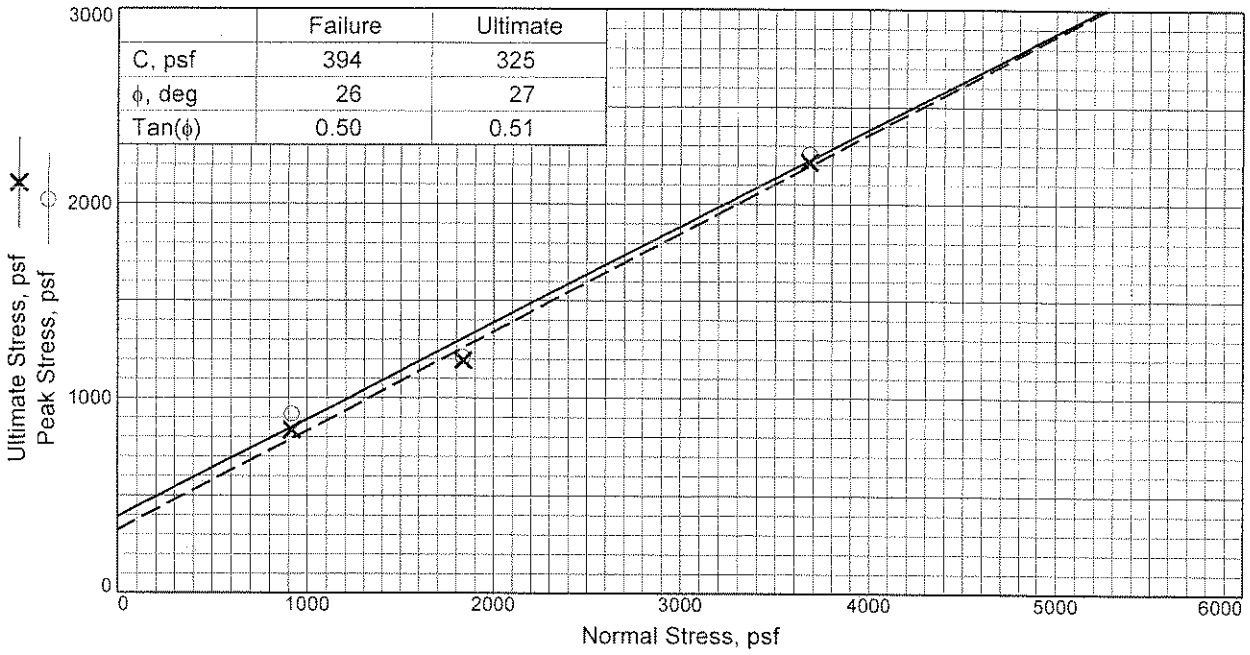
Source of Sample: B-1 **Depth:** 50

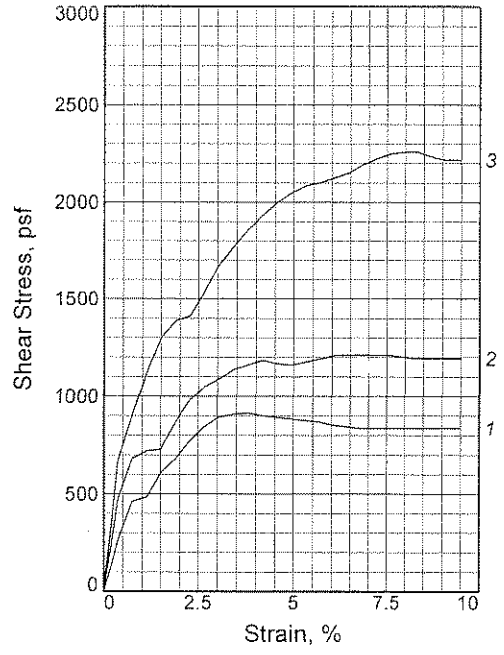
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-4





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	27.7	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		918	1210	2257
Strain, %		3.8	6.1	8.0
Ultimate Stress, psf		836	1194	2217
Strain, %		6.8	8.4	9.1
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Sandy clay

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

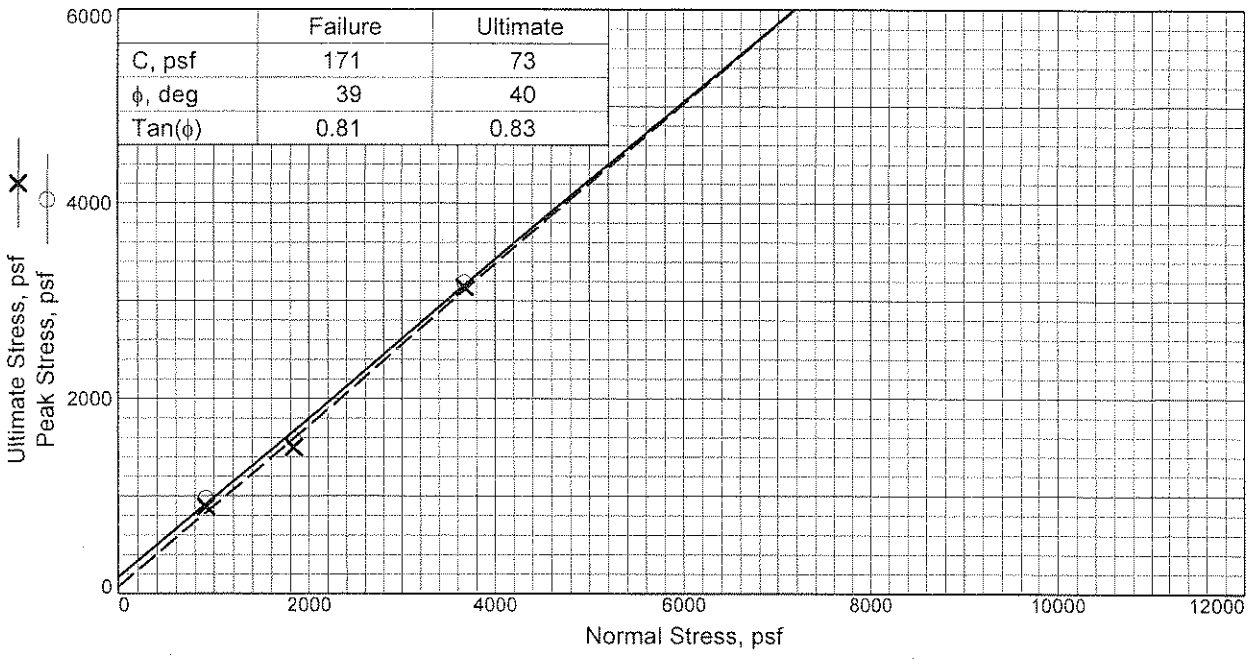
Source of Sample: B-1 **Depth:** 55

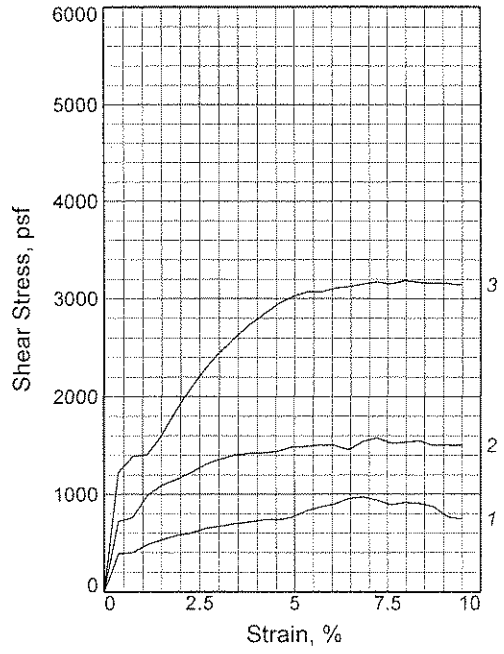
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-5





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		974	1583	3191
Strain, %		6.8	7.2	8.0
Ultimate Stress, psf		893	1502	3143
Strain, %		7.6	8.7	9.5
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Sand

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

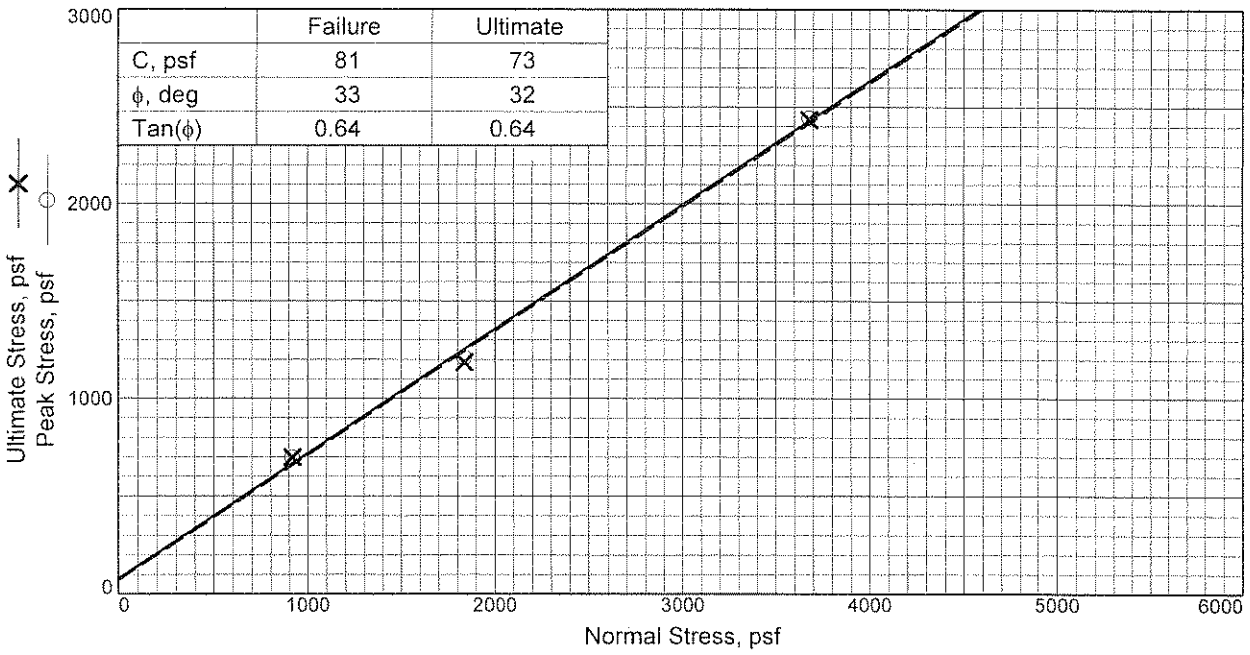
Source of Sample: B-2 **Depth:** 30

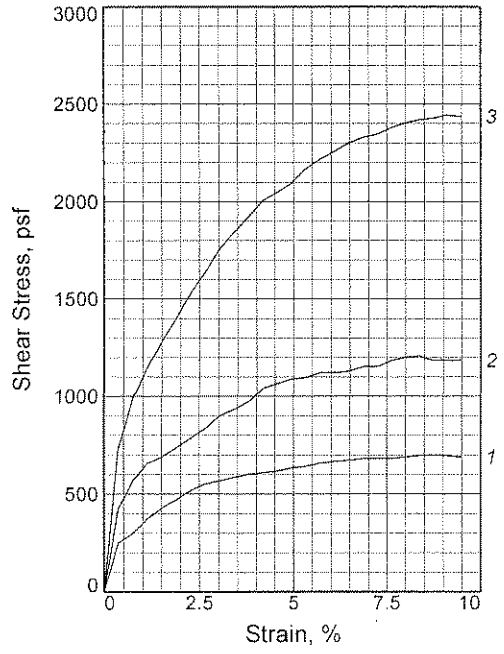
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-6





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		698	1210	2444
Strain, %		8.4	8.4	9.1
Ultimate Stress, psf		698	1186	2436
Strain, %		9.1	9.1	9.5
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Sand

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

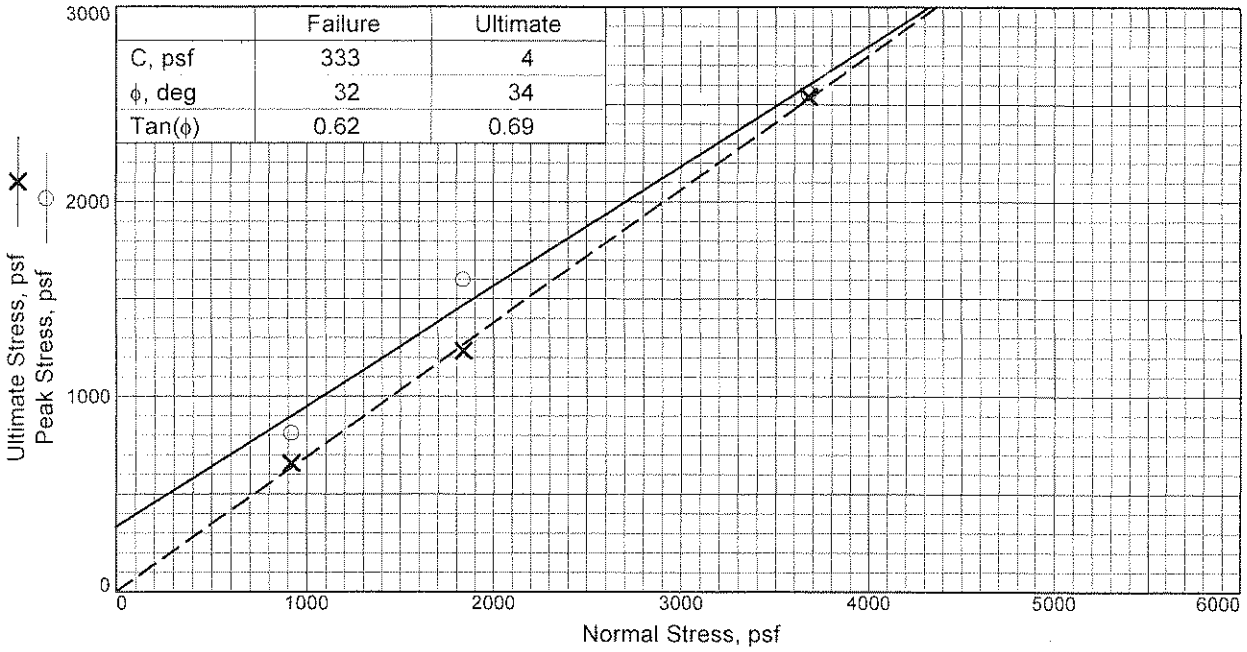
Source of Sample: B-2 **Depth:** 40

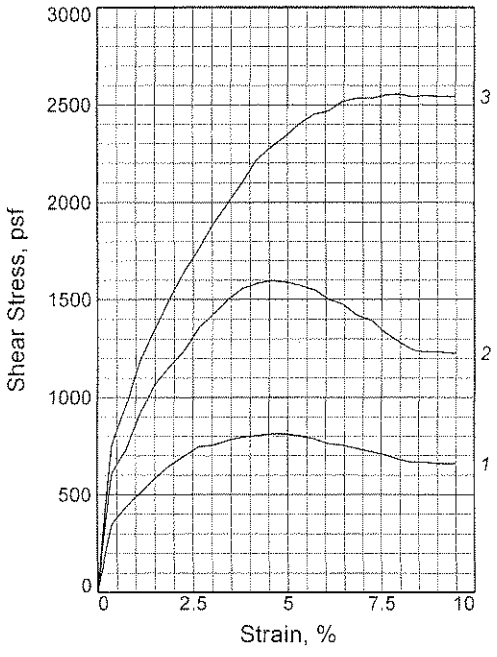
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-7





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		812	1600	2558
Strain, %		4.6	4.6	8.0
Ultimate Stress, psf		658	1234	2542
Strain, %		9.1	9.1	9.5
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Fine to coarse sand

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

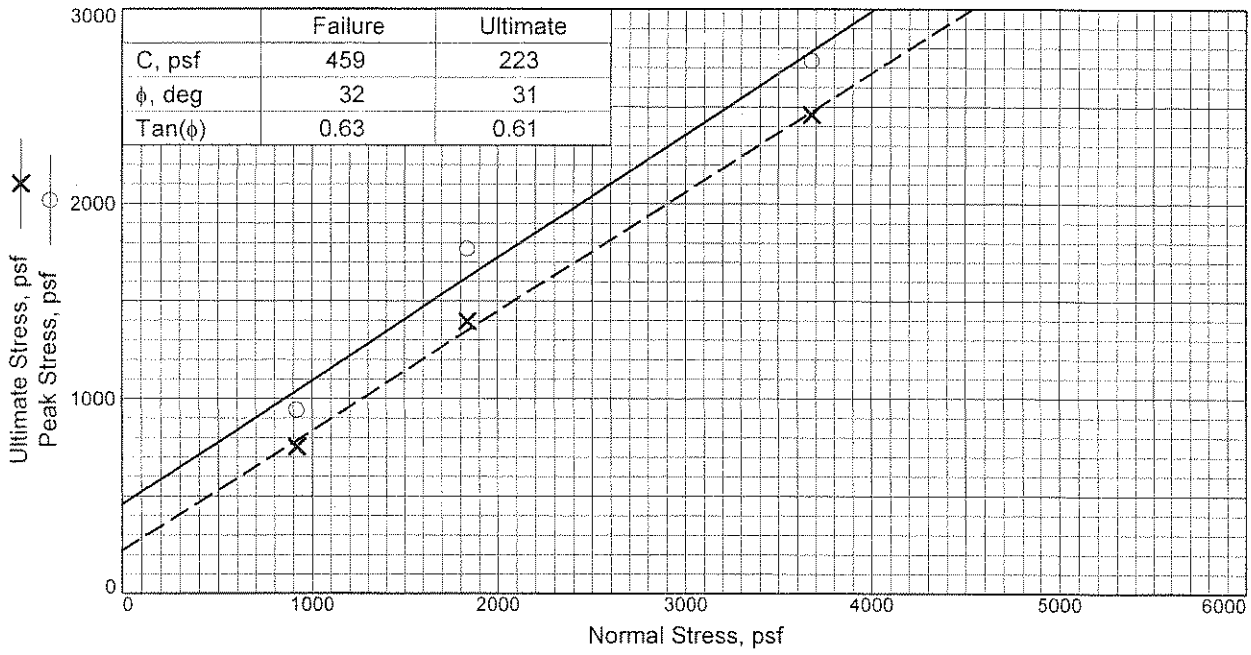
Source of Sample: B-2 **Depth:** 45

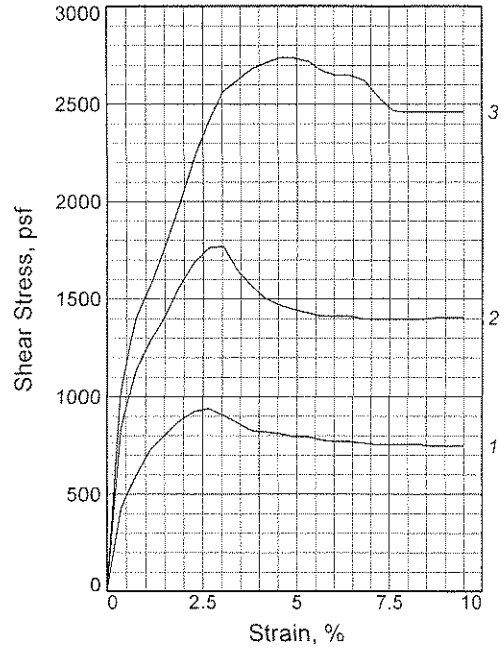
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-8





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		942	1770	2737
Strain, %		2.7	3.0	4.6
Ultimate Stress, psf		755	1397	2460
Strain, %		8.0	7.6	8.4
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Silt

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

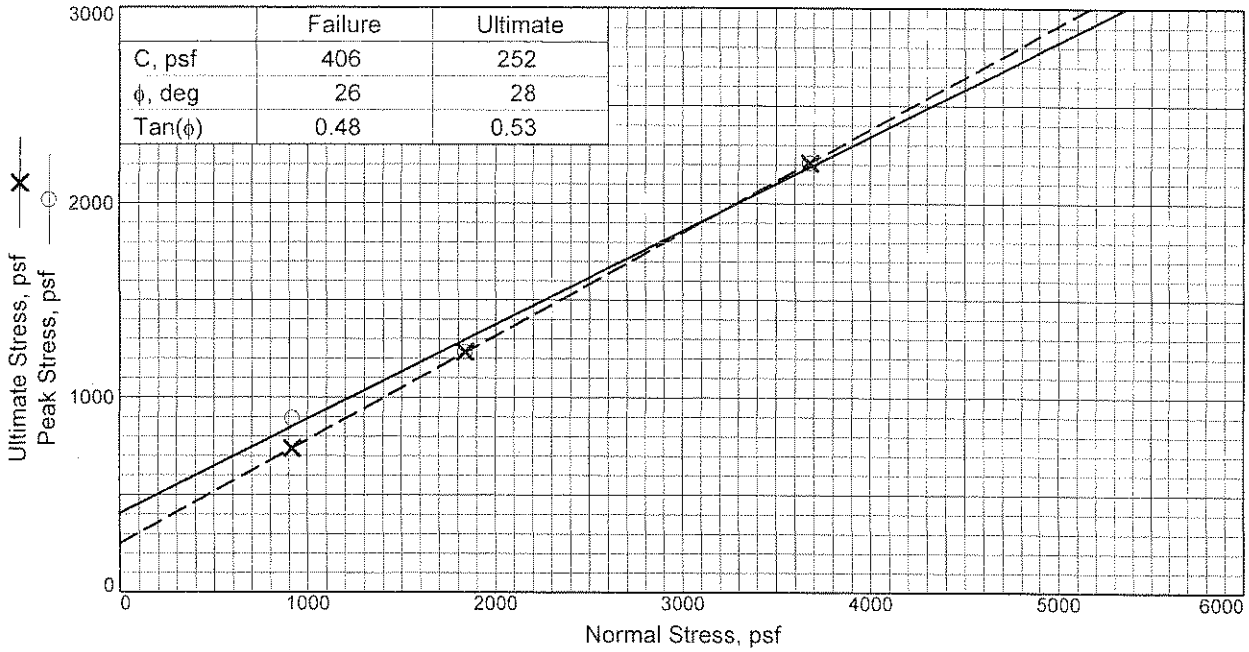
Source of Sample: B-2 **Depth:** 60

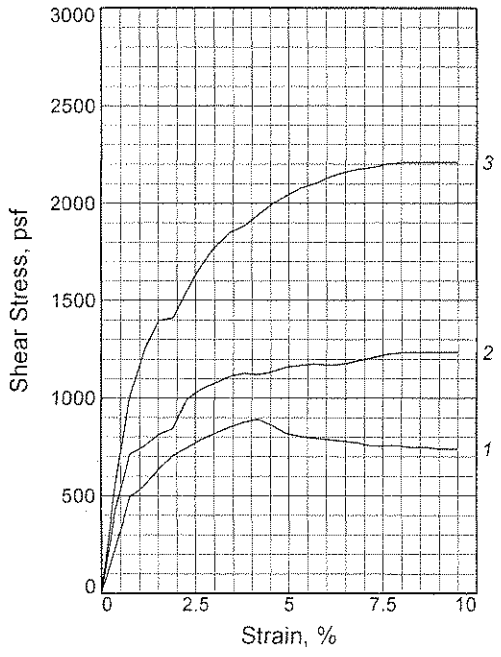
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-9





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		893	1234	2209
Strain, %		4.2	8.0	8.0
Ultimate Stress, psf		739	1234	2209
Strain, %		9.5	9.5	9.5
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Silty Clay

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

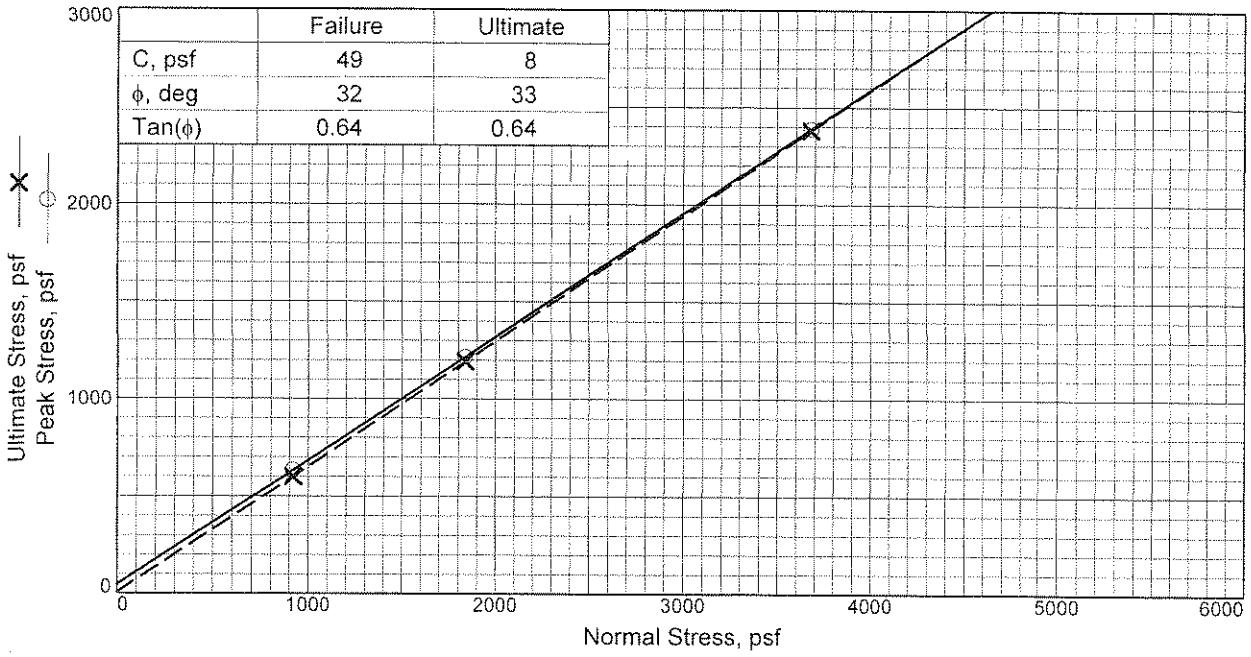
Source of Sample: B-2 **Depth:** 70

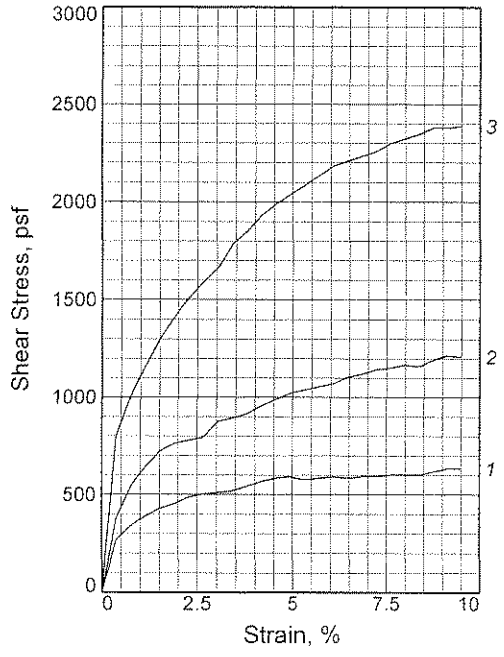
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-10





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		633	1218	2387
Strain, %		9.1	9.1	9.5
Ultimate Stress, psf		601	1194	2379
Strain, %		7.6	8.7	9.1
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Silty sand

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

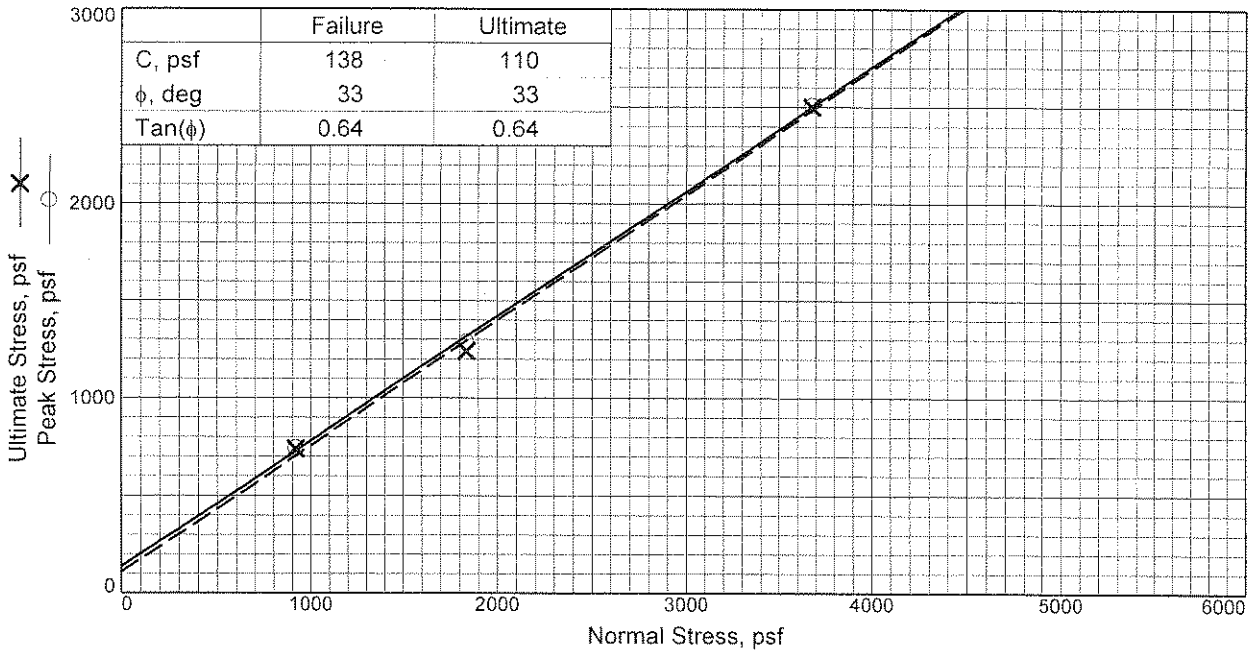
Source of Sample: B-3 **Depth:** 5

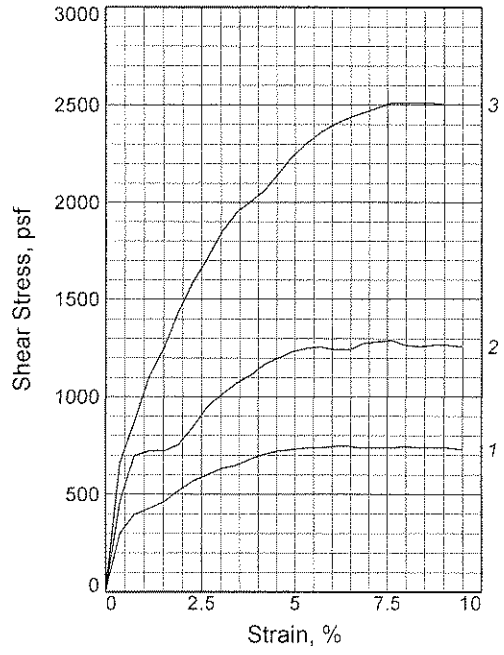
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-11





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		747	1291	2509
Strain, %		6.1	7.6	7.6
Ultimate Stress, psf		739	1242	2501
Strain, %		9.1	6.1	9.5
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Silty Sand

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

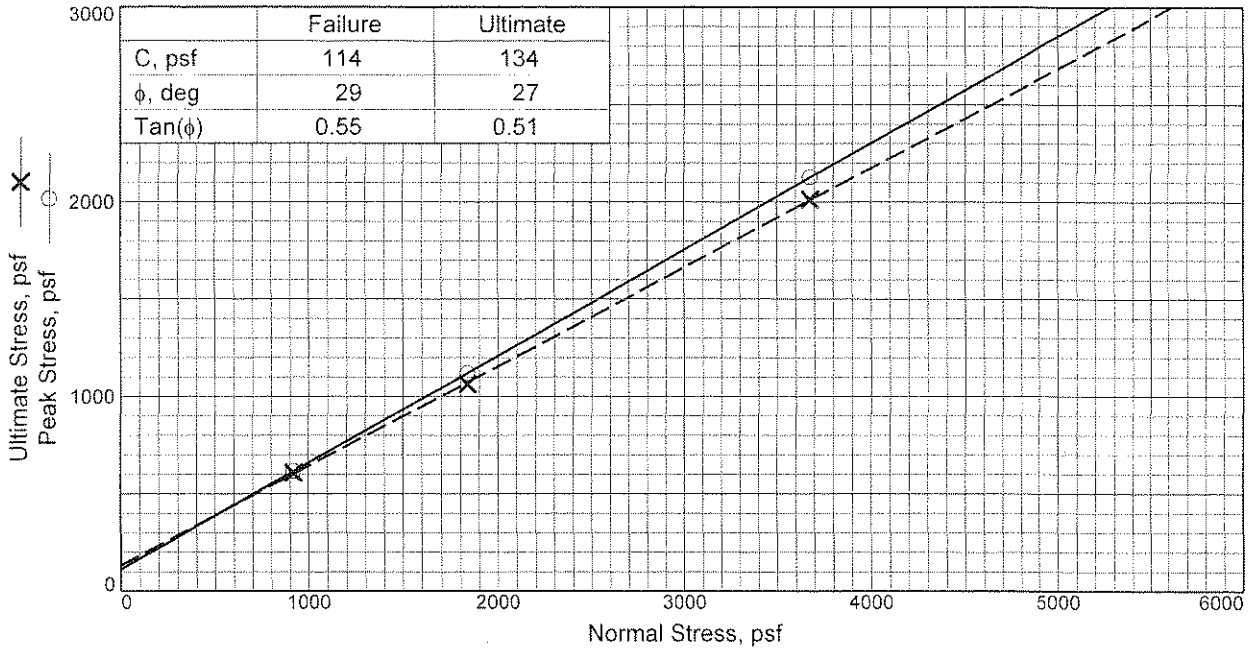
Source of Sample: B-3 **Depth:** 10

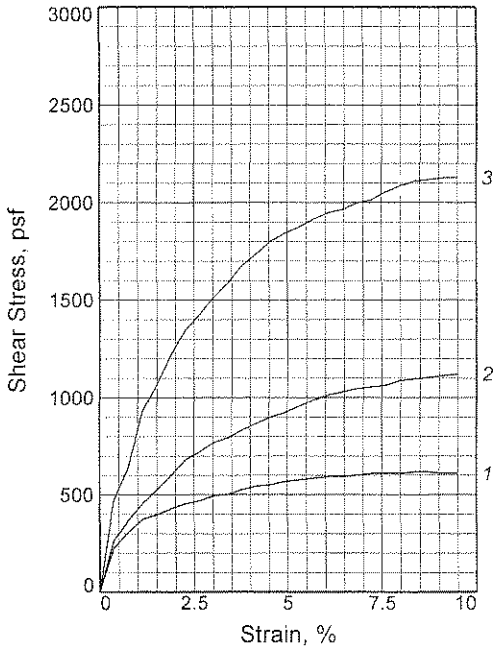
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-12





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		617	1121	2128
Strain, %		8.4	9.5	9.1
Ultimate Stress, psf		609	1064	2014
Strain, %		9.5	7.6	7.2
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Silt

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Figure B-13

Client: Los Angeles Avenue, LLC

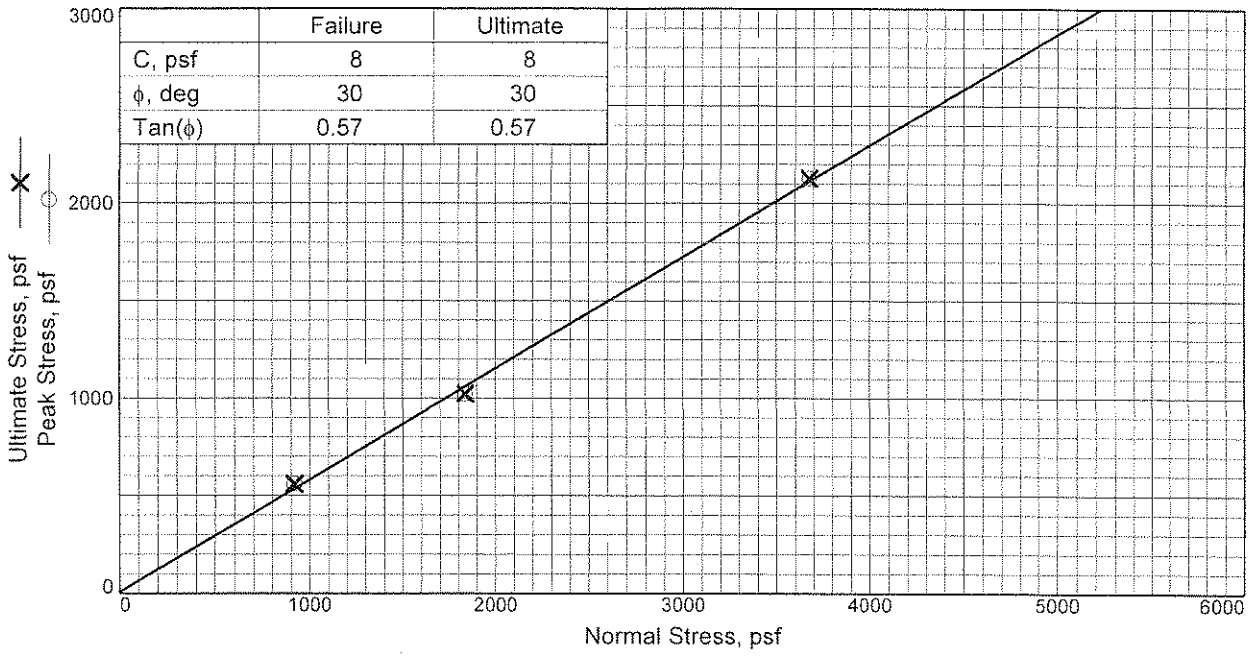
Project: Los Angeles Avenue, LLC

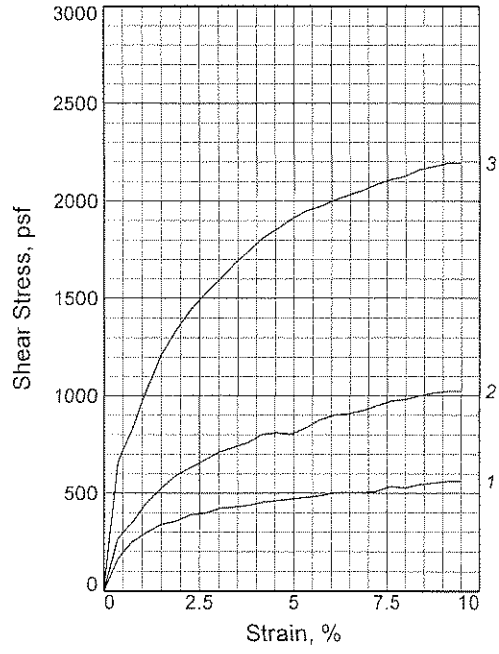
Source of Sample: B-4 **Depth:** 3

Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		560	1023	2128
Strain, %		9.1	9.1	8.0
Ultimate Stress, psf		560	1023	2128
Strain, %		9.5	9.5	8.0
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Silt

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

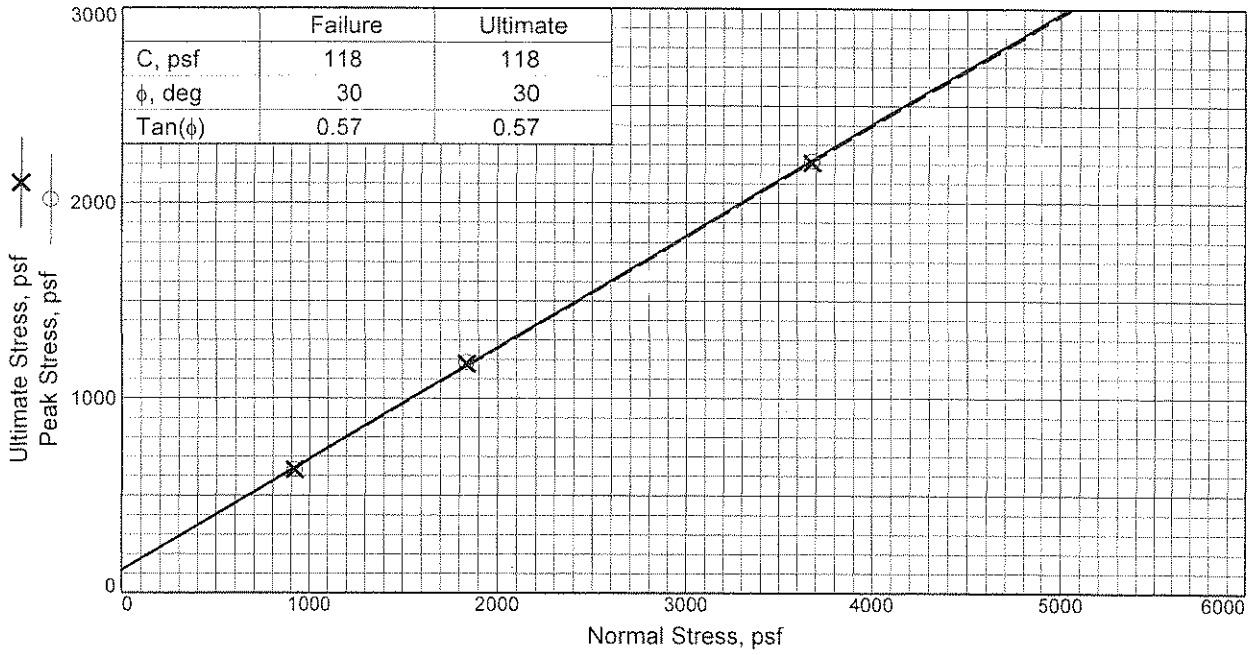
Source of Sample: B-4 **Depth:** 5

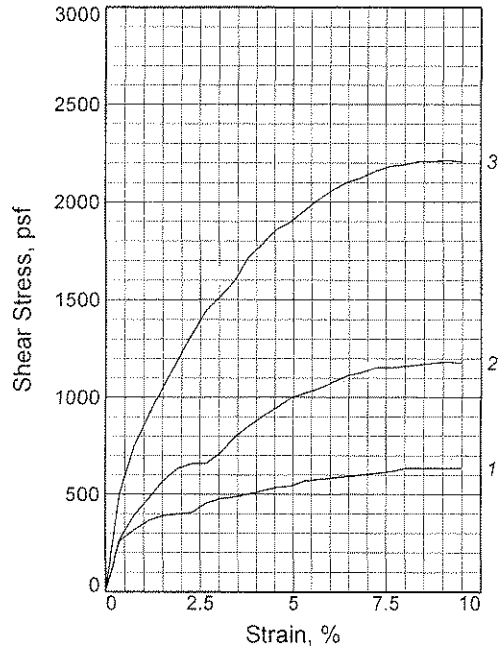
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-14





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		633	1186	2217
Strain, %		8.0	9.1	9.1
Ultimate Stress, psf		633	1177	2209
Strain, %		9.5	9.5	9.5
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Sandy Silt

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

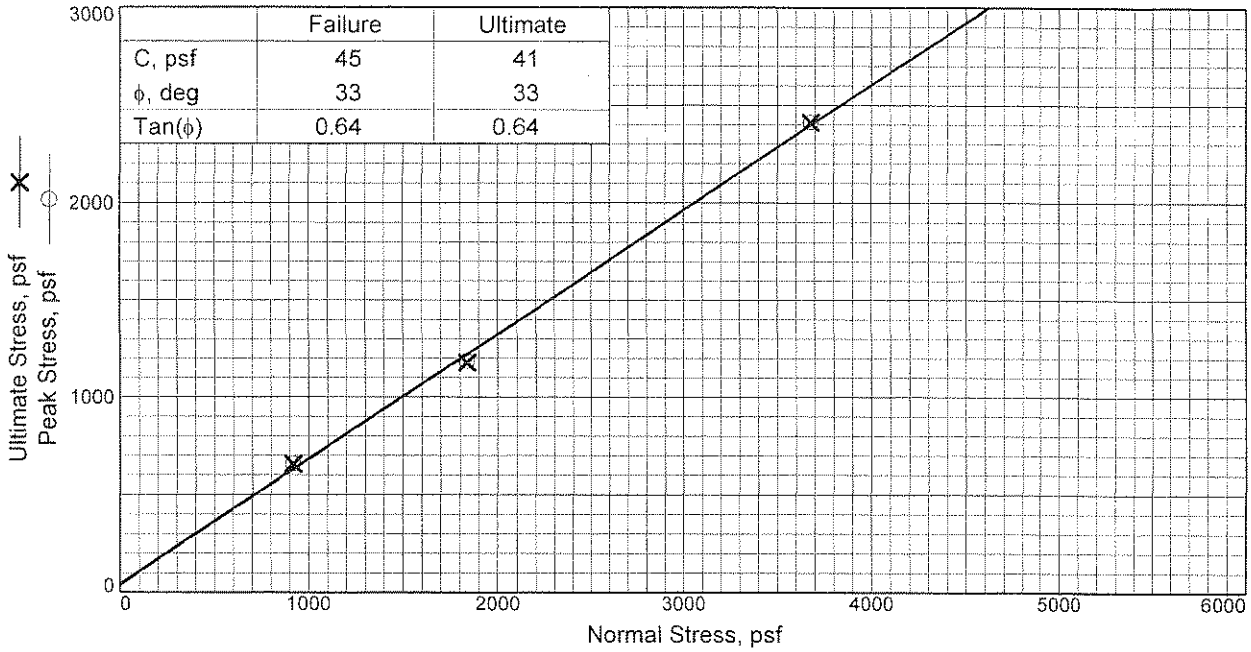
Source of Sample: B-5 **Depth:** 4

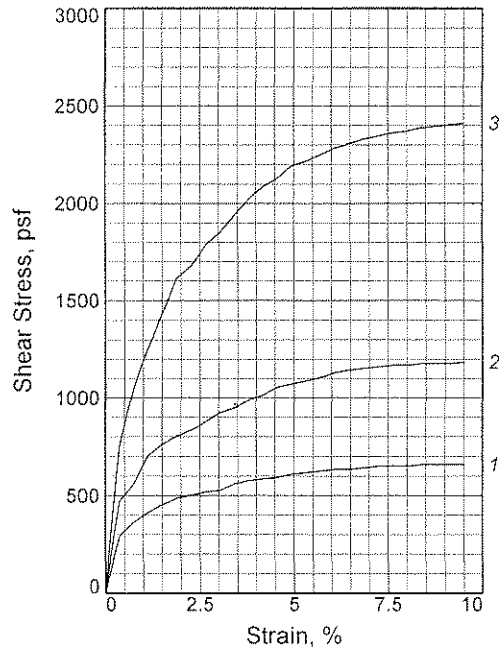
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-15





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		658	1186	2412
Strain, %		8.4	9.5	9.5
Ultimate Stress, psf		658	1177	2412
Strain, %		9.5	9.1	9.5
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Silty Clay

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

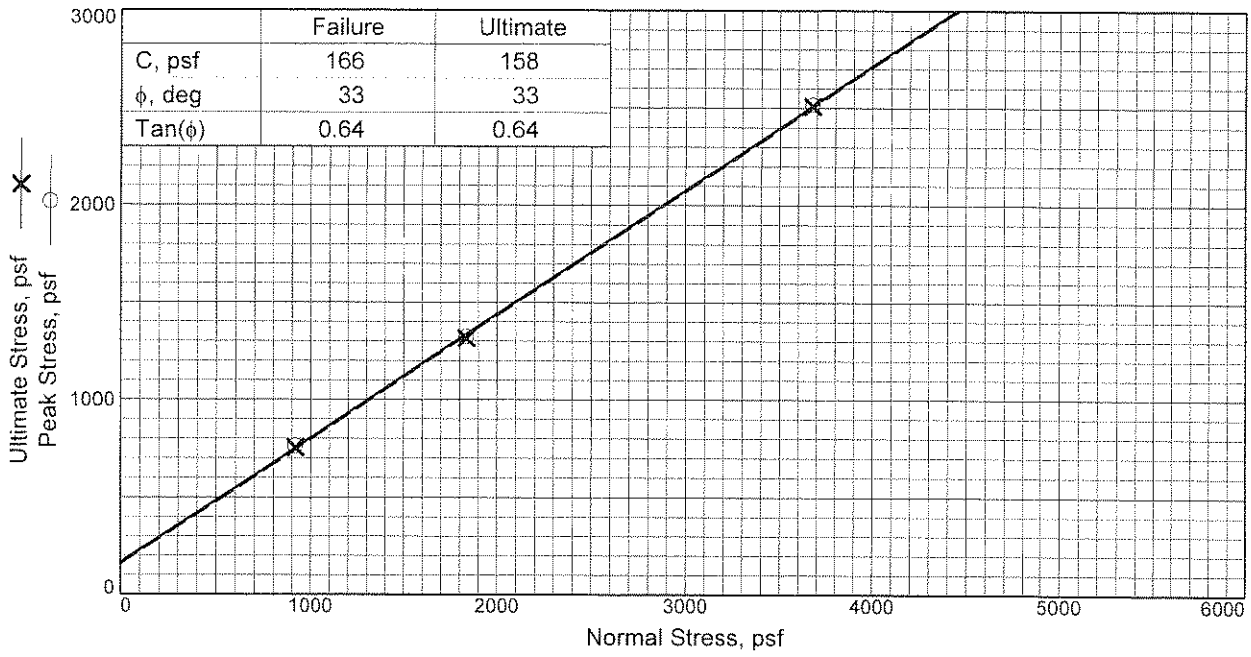
Source of Sample: B-5 **Depth:** 9

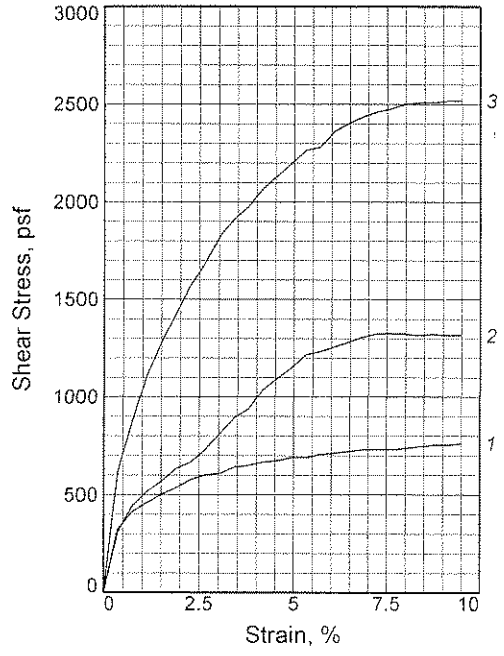
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-16





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		763	1324	2517
Strain, %		9.5	7.2	9.1
Ultimate Stress, psf		755	1315	2509
Strain, %		9.1	9.5	8.4
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Silty Sand

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

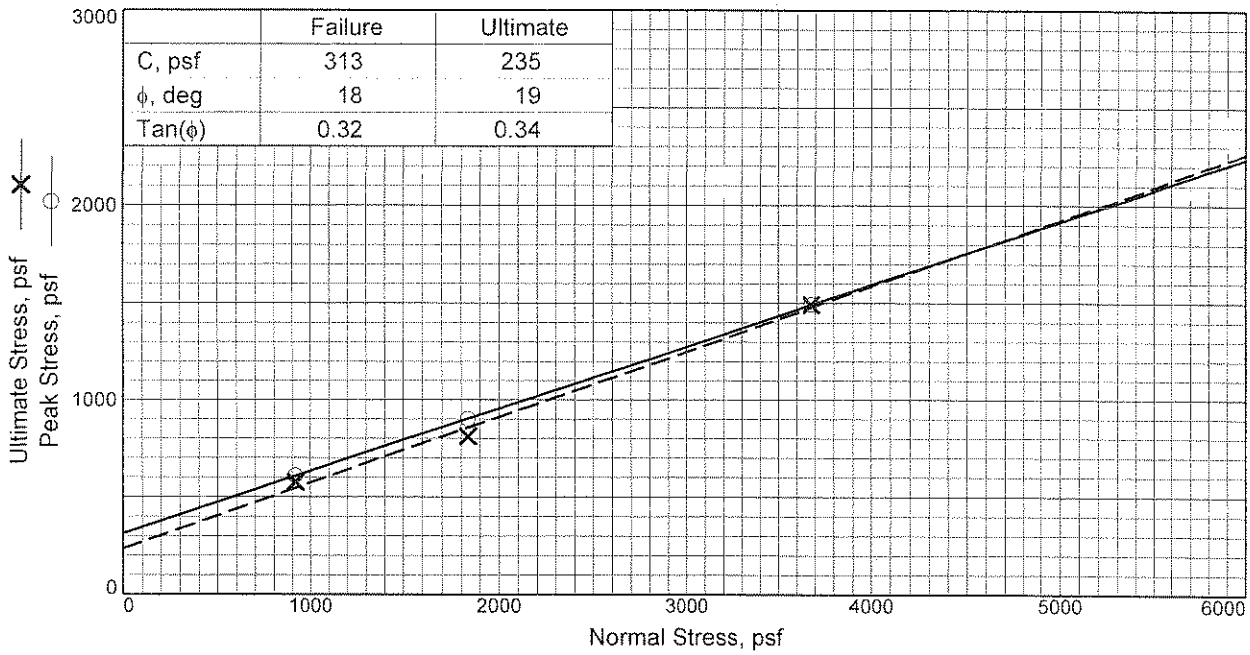
Source of Sample: B-5 **Depth:** 19

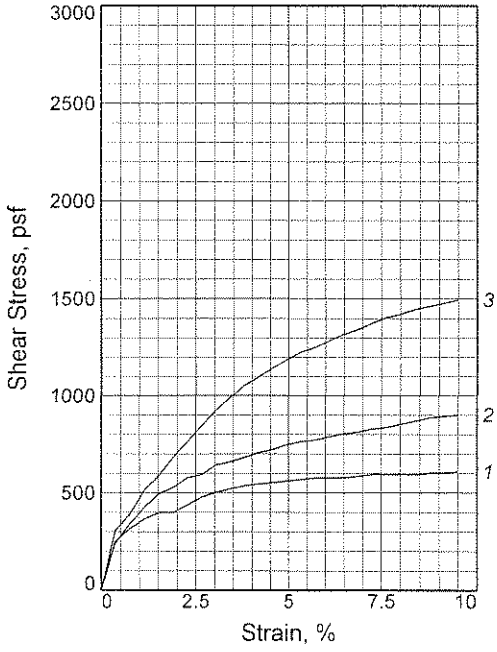
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-17





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		609	901	1494
Strain, %		9.5	9.5	9.5
Ultimate Stress, psf		577	812	1494
Strain, %		6.5	6.8	9.5
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Sandy Silt

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

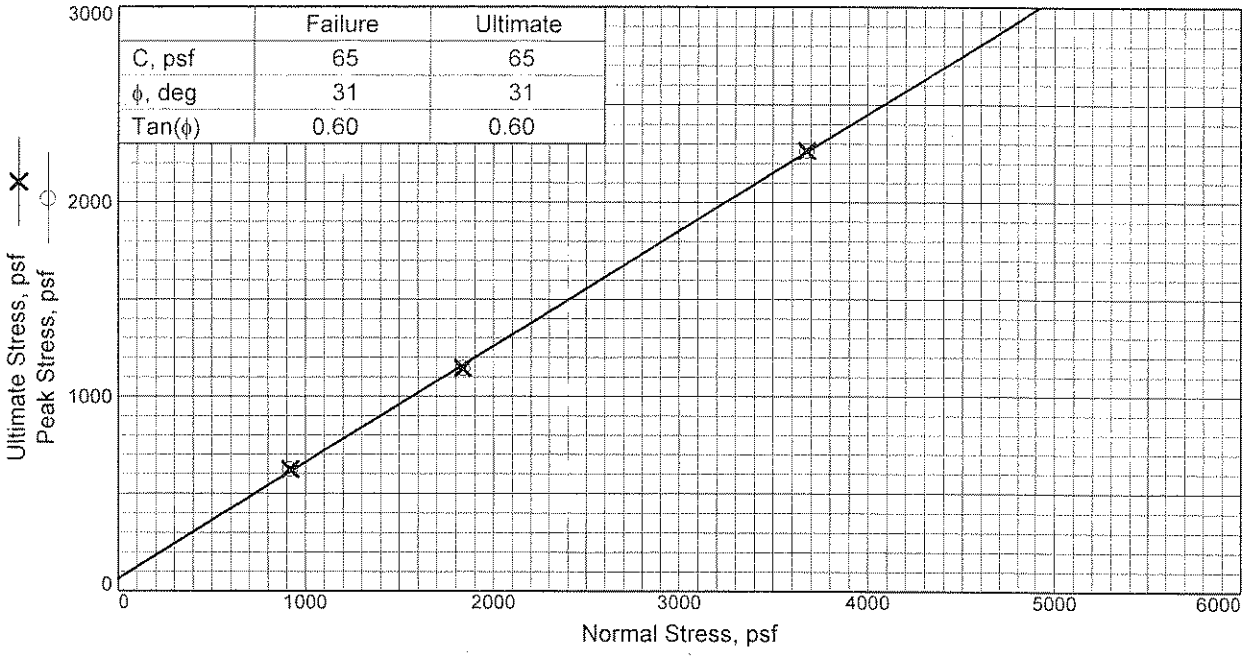
Source of Sample: B-6 **Depth:** 5

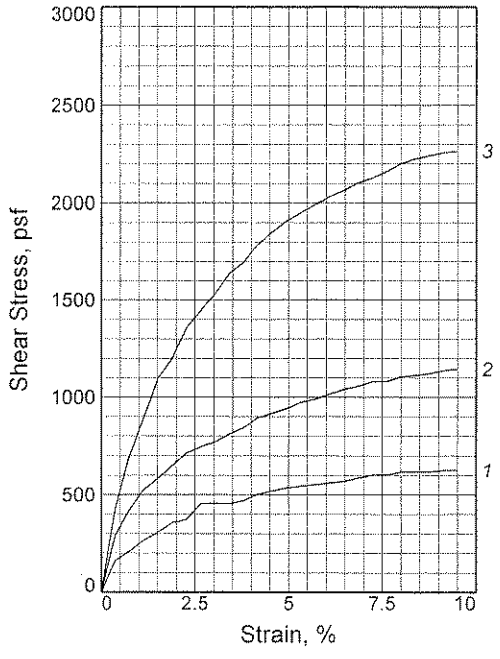
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-18





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		625	1145	2266
Strain, %		9.1	9.5	9.5
Ultimate Stress, psf		625	1145	2266
Strain, %		9.5	9.5	9.5
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Sand

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

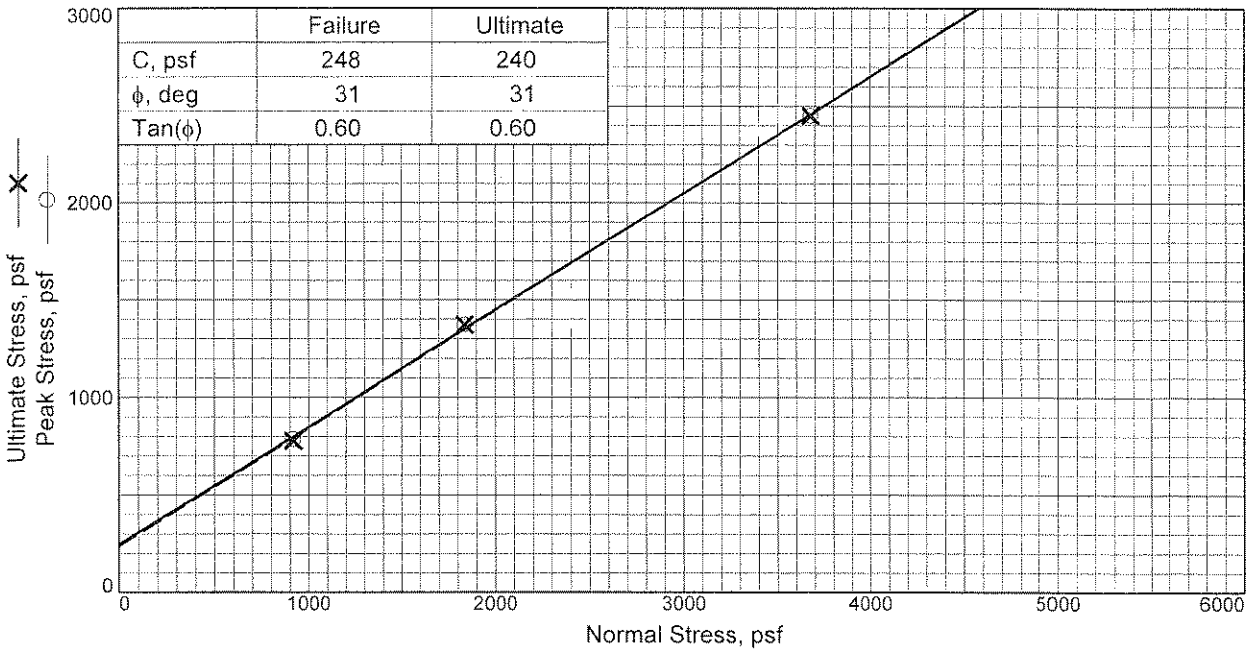
Source of Sample: B-6 **Depth:** 10

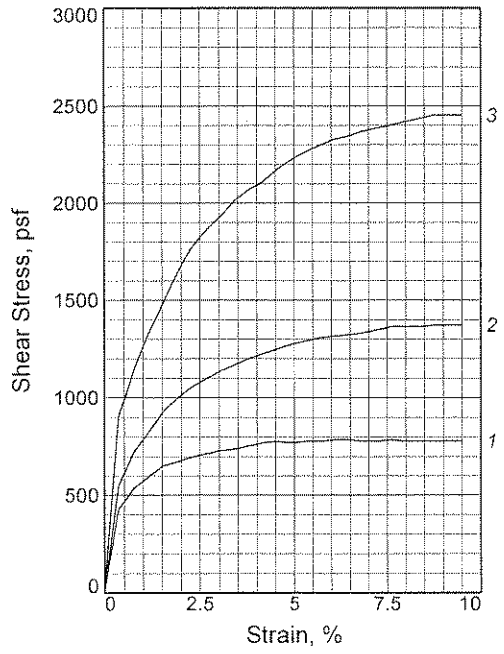
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-19





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		788	1372	2452
Strain, %		6.1	8.7	8.7
Ultimate Stress, psf		780	1372	2452
Strain, %		9.5	9.5	9.5
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Remolded, Saturated
Description: Sandy Silt

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Figure B-20

Client: Los Angeles Avenue, LLC

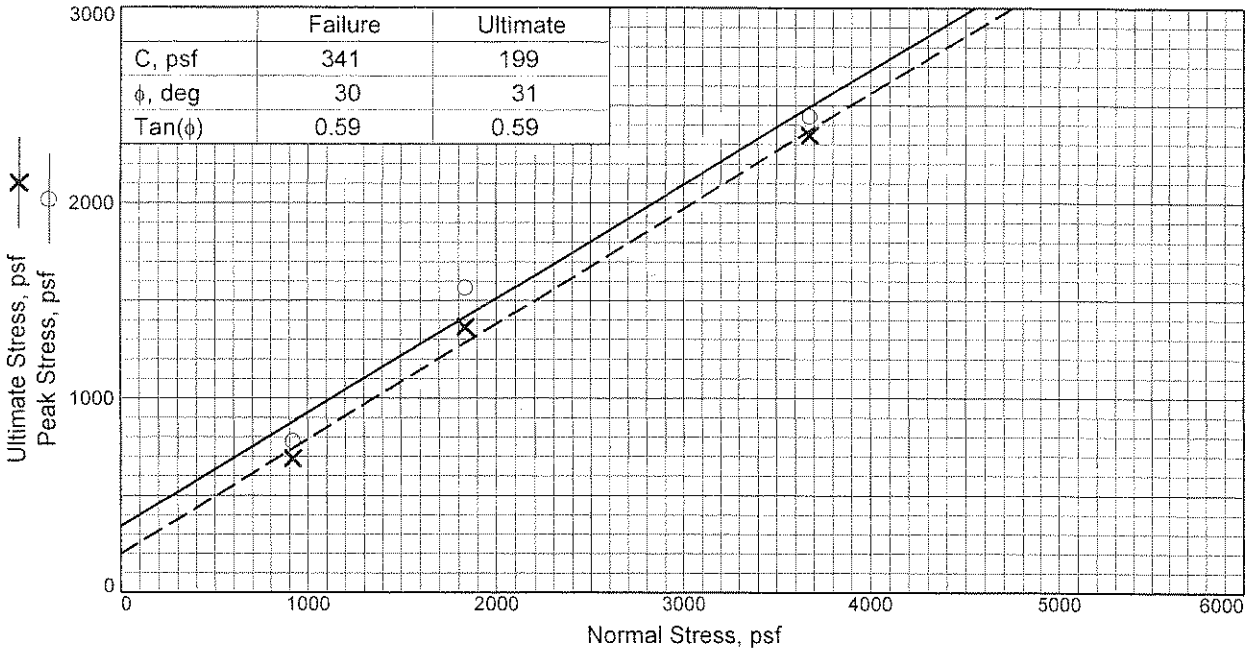
Project: Los Angeles Avenue, LLC

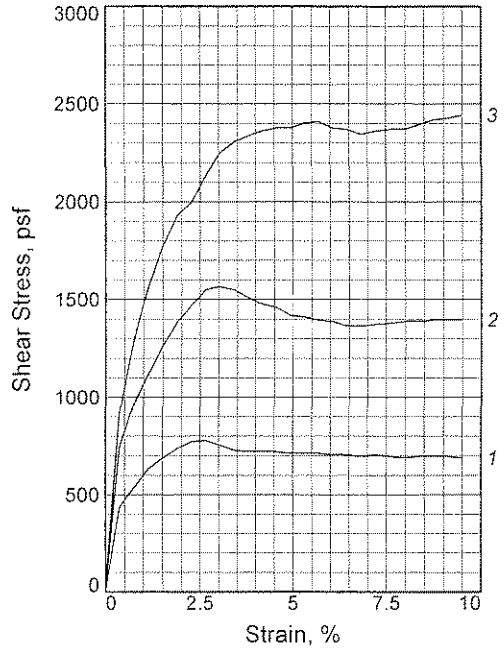
Source of Sample: B-3 **Depth:** 14

Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.





Sample No.		1	2	3
Initial	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf	N/A	N/A	N/A
	Saturation, %	N/A	N/A	N/A
	Void Ratio	N/A	N/A	N/A
	Diameter, in.	2.63	2.63	2.63
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	N/A	N/A	N/A
	Dry Density, pcf			
	Saturation, %			
	Void Ratio			
	Diameter, in.			
	Height, in.			
Normal Stress, psf		920	1840	3680
Peak Stress, psf		780	1567	2444
Strain, %		2.7	3.0	9.5
Ultimate Stress, psf		690	1364	2347
Strain, %		9.5	6.8	6.8
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Remolded, Saturated
Description: Silty Sand

LL= **PL=** **PI=**
Assumed Specific Gravity=
Remarks:

Client: Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

Source of Sample: B-4 **Depth:** 11

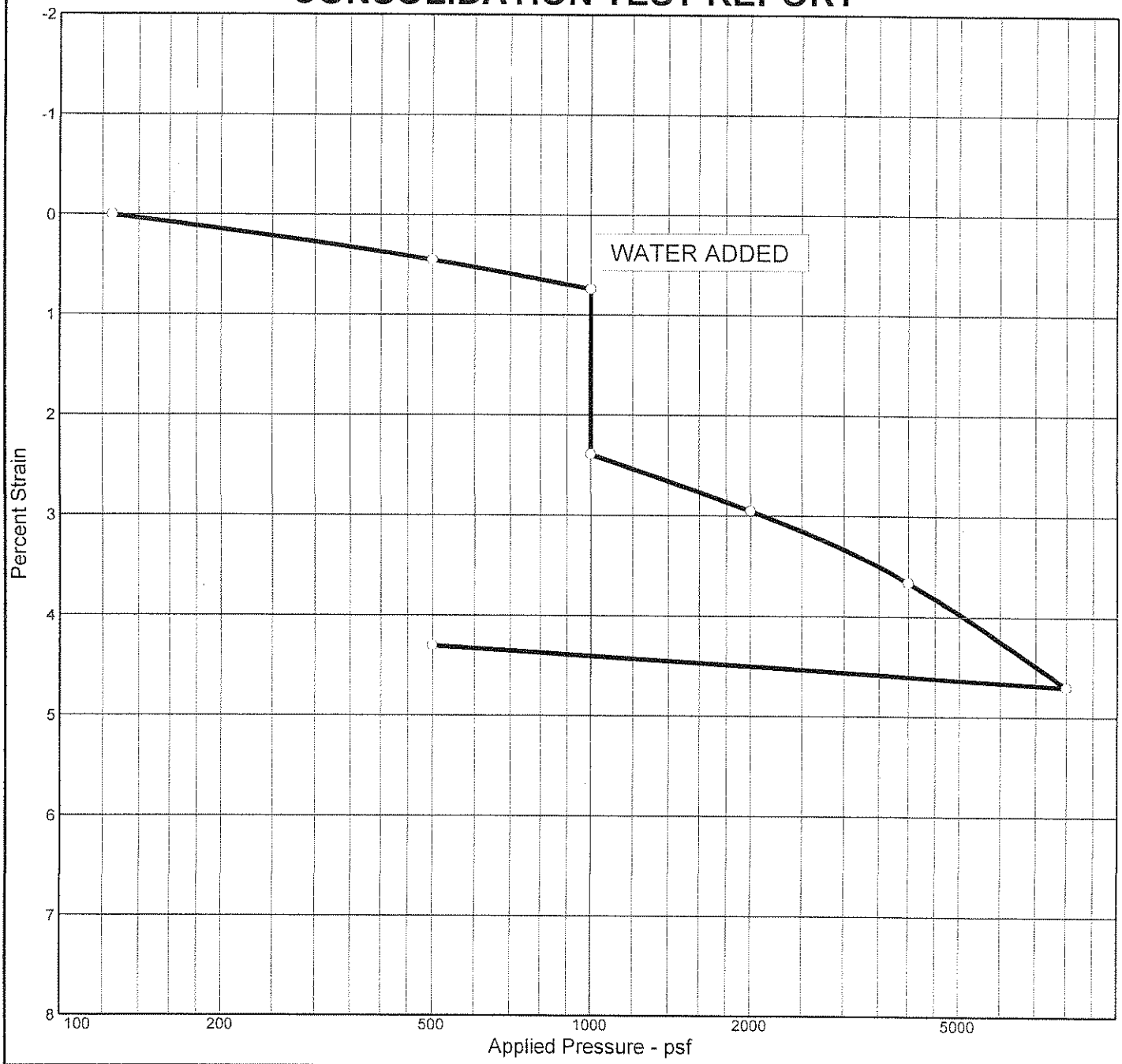
Proj. No.: 2556-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-21

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	USCS	AASHTO	Initial Void Ratio
Saturation	Moisture							

MATERIAL DESCRIPTION

At 10'; pinpoint porosity.

Project No. 2556-0-0-10 **Client:** Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

Source: B-3 **Elev./Depth:** 10

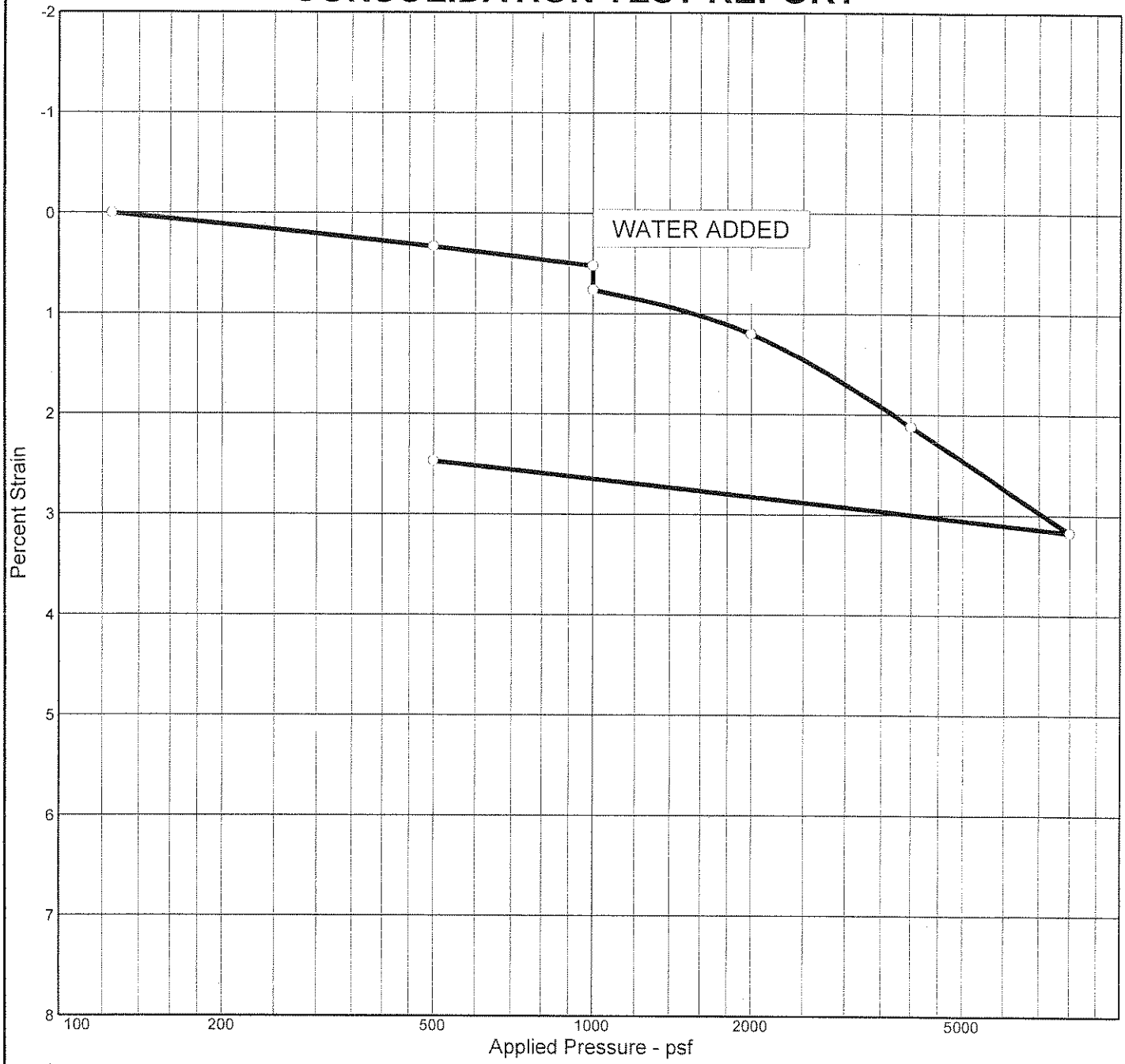
Remarks:

CONSOLIDATION TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-22

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	USCS	AASHTO	Initial Void Ratio
Saturation	Moisture							
						SM		

MATERIAL DESCRIPTION

At 20'; becoming silty fine to coarse sand (moist, medium dense) with coarse rounded gravel, caliche stained, nonporous, easily friable.

Project No. 2556-0-0-10 **Client:** Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

Source: B-3 **Elev./Depth:** 20

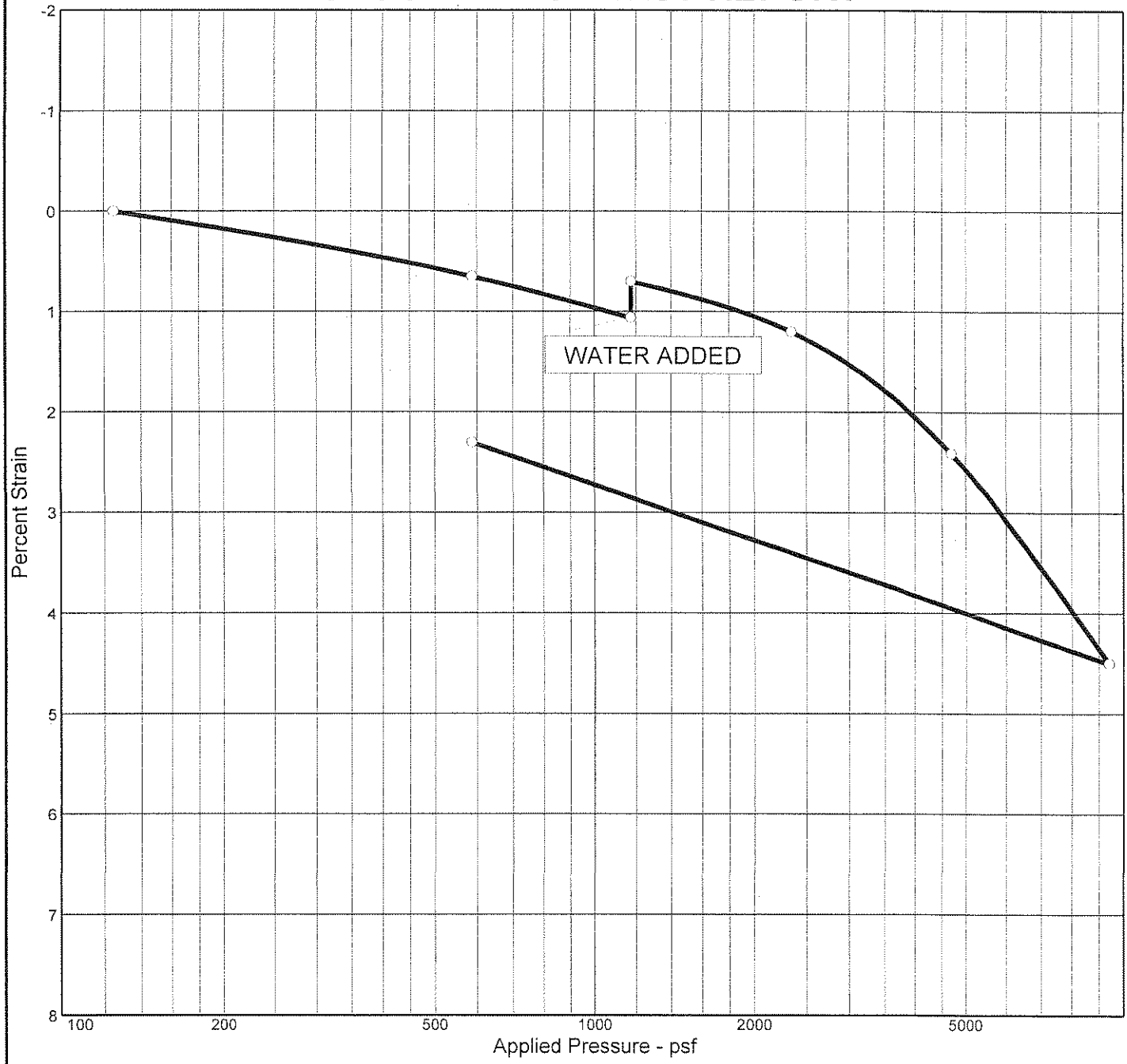
Remarks:

CONSOLIDATION TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-23

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	USCS	AASHTO	Initial Void Ratio
Saturation	Moisture							

MATERIAL DESCRIPTION

At 14'; coarse sandy gravel interbeds, rounded, poorly graded.

Project No. 2556-0-0-10 **Client:** Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

Source: B-5 **Elev./Depth:** 14

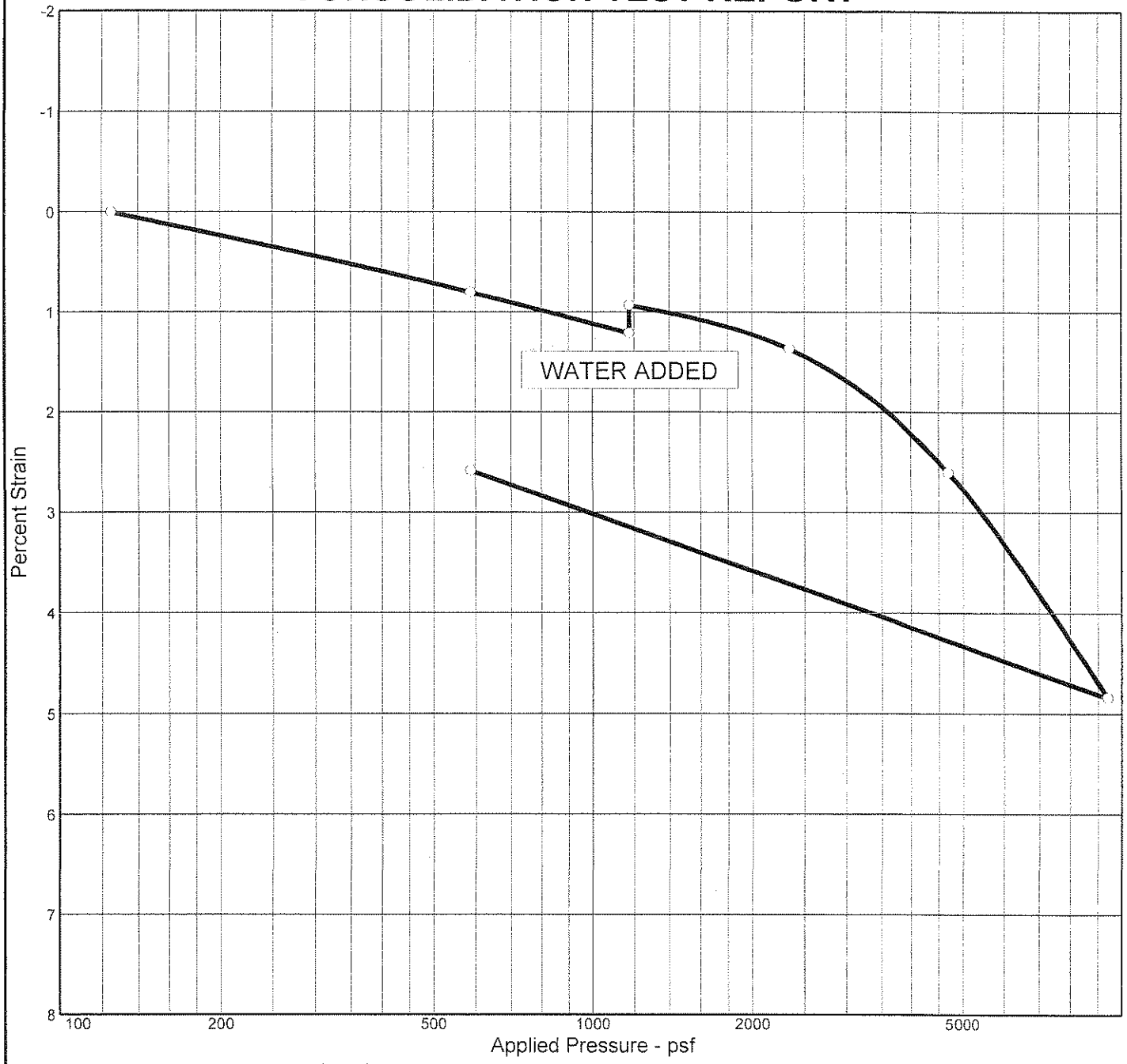
Remarks:

CONSOLIDATION TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-24

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	USCS	AASHTO	Initial Void Ratio
Saturation	Moisture							

MATERIAL DESCRIPTION

Project No. 2556-0-0-10 **Client:** Los Angeles Avenue, LLC

Project: Los Angeles Avenue, LLC

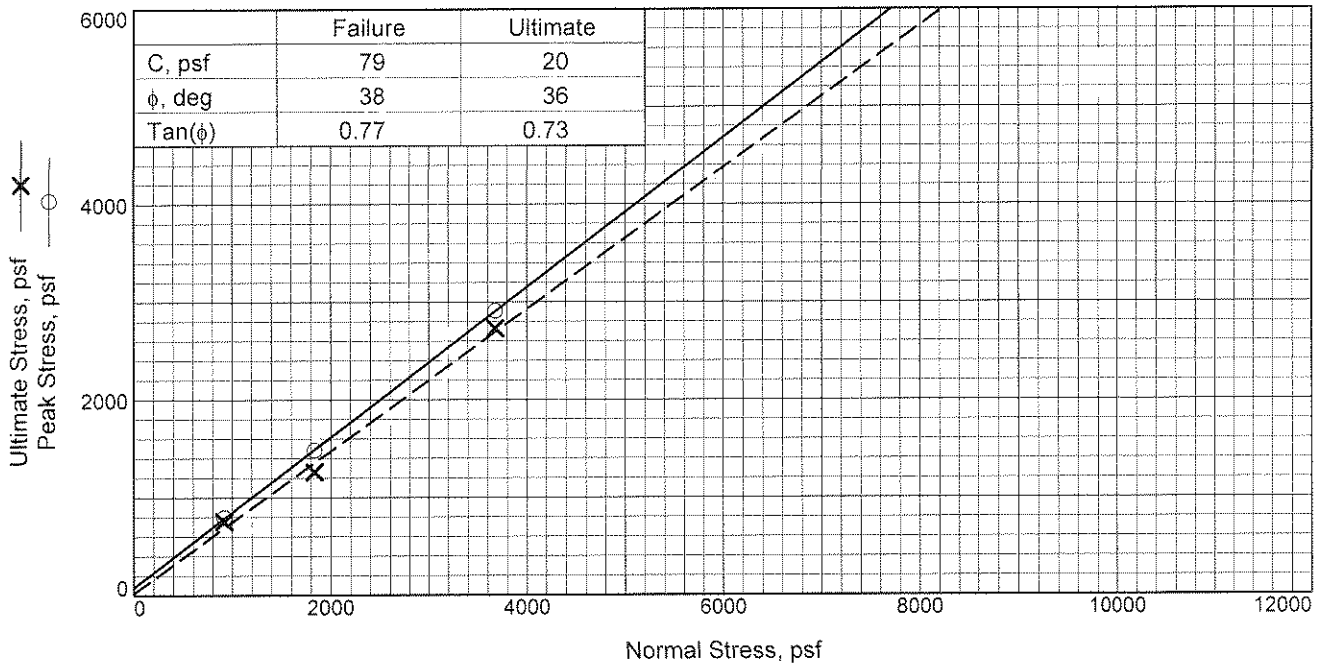
Source: B-6 **Elev./Depth:** 15

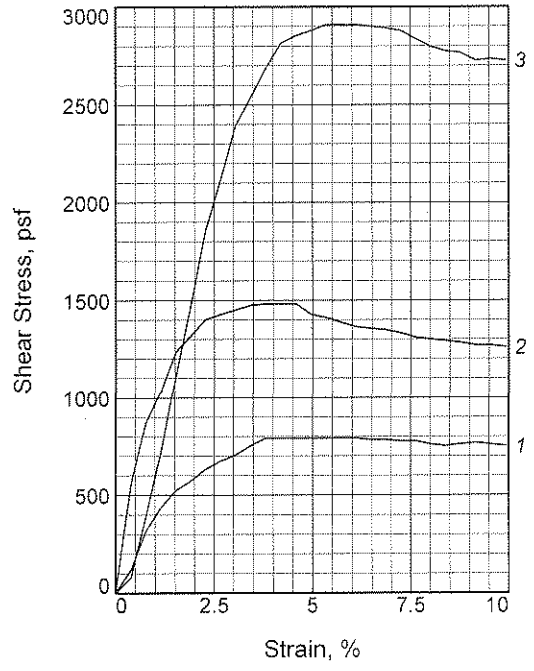
Remarks:

CONSOLIDATION TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B-25





Sample No.		1	2	3
Initial	Water Content, %	1.9	1.9	1.9
	Dry Density, pcf	103.0	103.0	103.0
	Saturation, %	8.3	8.3	8.3
	Void Ratio	0.6054	0.6054	0.6054
	Diameter, in.	2.62	2.62	2.62
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	18.5	17.3	18.6
	Dry Density, pcf	103.0	103.0	103.0
	Saturation, %	81.0	75.7	81.5
	Void Ratio	0.6054	0.6054	0.6054
	Diameter, in.	2.62	2.62	2.62
	Height, in.	1.00	1.00	1.00
Normal Stress, psf		920	1840	3680
Peak Stress, psf		793	1482	2909
Strain, %		4.6	4.2	6.1
Ultimate Stress, psf		753	1260	2726
Strain, %		9.9	9.9	9.9
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: Older Alluvium: Yellowish brown fine to coarse SAND
LL= **PL=** **PI=**
Assumed Specific Gravity= 2.65
Remarks: Soiltest Machine

Client: Triliad Development

Project: Triliad Development, Basins 2 and 3, Moorpark

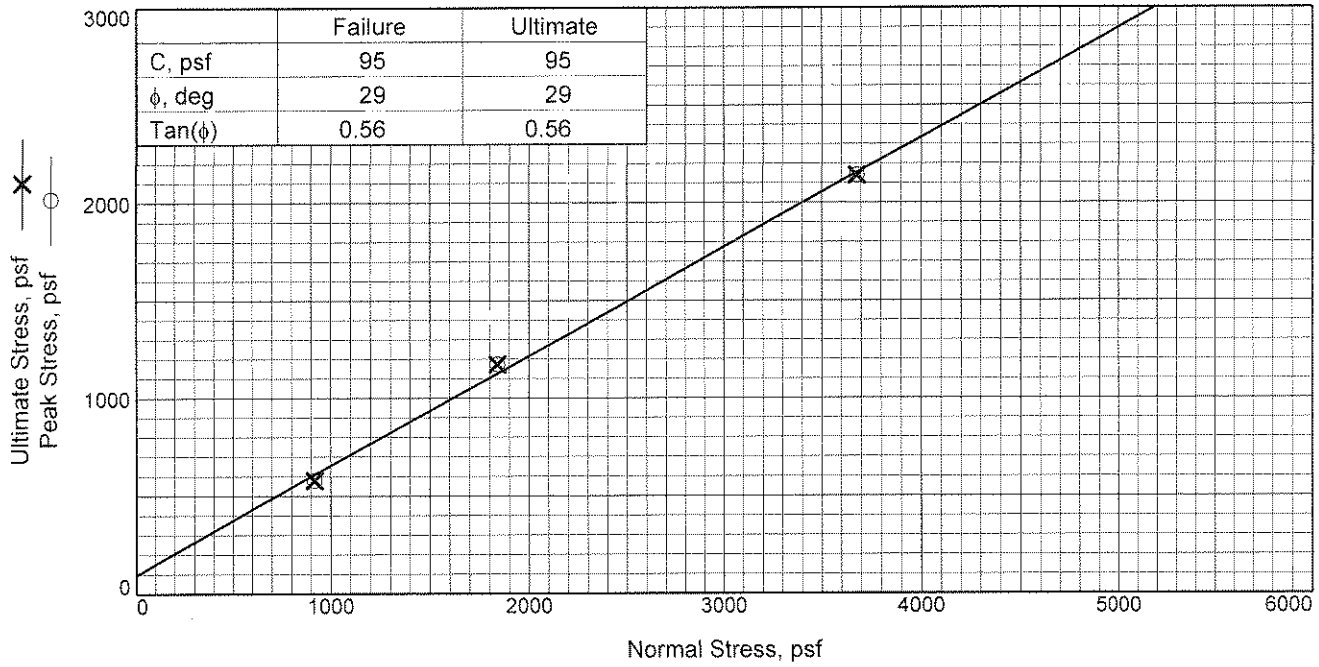
Sample Number: T-5 @ 4'

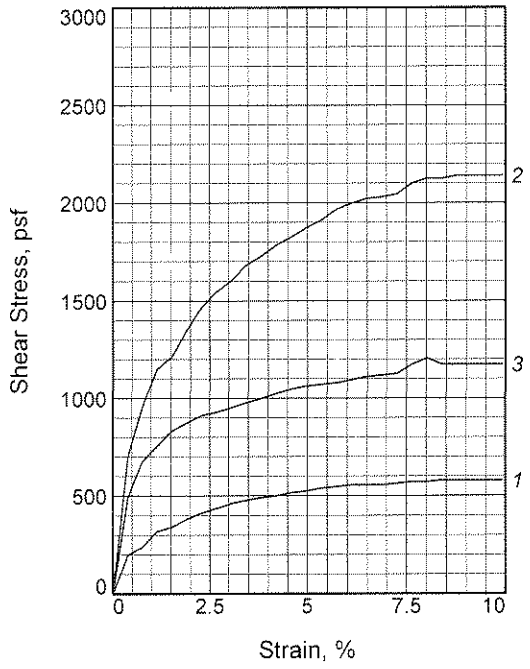
Proj. No.: 2556-0-0-100 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B.26





Sample No.		1	2	3
Initial	Water Content, %	6.4	6.4	6.4
	Dry Density, pcf	116.6	116.2	116.9
	Saturation, %	40.5	40.1	40.8
	Void Ratio	0.4186	0.4235	0.4154
	Diameter, in.	2.62	2.62	2.62
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	17.0	16.3	16.2
	Dry Density, pcf	116.6	116.2	116.9
	Saturation, %	107.6	102.2	103.2
	Void Ratio	0.4186	0.4235	0.4154
	Diameter, in.	2.62	2.62	2.62
	Height, in.	1.00	1.00	1.00
Normal Stress, psf		920	3680	1840
Peak Stress, psf		579	2140	1173
Strain, %		9.9	9.9	9.9
Ultimate Stress, psf		579	2140	1173
Strain, %		9.9	9.9	9.9
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Remolded, Saturated
Description: Alluvium: Brown silty SAND

LL= **PL=** **PI=**
Assumed Specific Gravity= 2.65
Remarks: Soiltest Machine
R.C. 90%

Figure B.27

Client: Triliad Development

Project: Triliad Development, Basins 2 and 3, Moorpark

Sample Number: T-11 @ 2'

Proj. No.: 2556-0-0-100 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

May 3, 2004

Gorian and Associates, Inc.
Attention: Sheryl Shatz
3595 Old Conejo Road
Thousand Oaks, CA 91320

MAY - 5 2004

CME Job No.: 1S04127

Subject: Soil Chemistry Analysis for Gorian Job # 2556-0-0-10
(LA Ave, LLC – Lot 59, Tract 3318-Hitch Ranch Area, Moorpark)

Sample Number	As Rec'd Resistivity (ohm-cm)	[1]Minimum Resistivity (ohm-cm)	[2]pH	[3]Sulfate %	[3]Chloride %	[4]Ammonia %	[5] Keldahl Nitrogen %	(As Rec'd) Description
B-4	1,080	400	6.78	0.0014	0.0074	0.0032	0.0620	Medium brown - moist

NOTE: SAMPLES WERE ANALYZED IN ACCORDANCE WITH THE FOLLOWING METHODS.
1. MINIMUM RESISTIVITY DETERMINED BY SOIL BOX METHOD, (PER ASTM G-57)
2. PH MEASURED BY POTENTIOMETRIC METHOD USING STANDARD ELECTRODES. (PER CAL TRANS. #643)
3. CHLORIDE AND SULFATE WERE ANALYZED IN ACCORDANCE WITH EPA METHODS FOR CHEMICAL ANALYSIS FOR WATER AND WASTE, NO. 300 EPA-600/4-79-020. CONCENTRATION BY WEIGHT OF DRY SOIL.
4. AMMONIA WAS ANALYZED IN ACCORDANCE WITH EPA METHOD 350.2
5. KELDAHL NITROGEN WAS ANALYZED IN ACCORDANCE WITH EPA METHOD 351.2

CONCLUSIONS:

Material	Corrosion Class
Concrete	Negligible for Sulfate and Chloride exposure (UBC Table 19-A-4)
Steel Cast/Ductile Iron Mortar Coated Steel	Very Corrosive
Copper Piping	Corrosive due to the presence of nitrogen and ammonia in soils.

The test results and corrosion classifications are based on the sample submitted, which may not be representative of overall site conditions. Additional sampling may be required to more fully characterize soil conditions. If recommendations, based upon the results of the testing are required, please feel free to contact our office.

Sincerely,

CONCECO/MATCOR Engineering, Inc.

Kerri M. Howell, P.E.
Vice President
KMH/ch

Atlantic Consultants

112 Bunker Court
Folsom, CA 95630
(ph) 916.849.6420 (fax) 916.983.1838
Kerri@AtlanticCorrosionEngineers.com
corrprincess@ardennet.com
www.AtlanticCorrosionEngineers.com

December 29, 2008

Gorian and Associates, Inc.
Attention: Charles DeVault
3595 Old Conejo Road
Thousand Oaks, CA 91320

Atlantic Job No.: 2008-074

Subject: Soil Chemistry Analysis for Gorian Job # 2556-0-0-10
1 Sample: Trilian, Moorpark Detention Basin (T-11 @2')

Sample Number	As Rec'd Resistivity (ohm-cm)	[1]Minimum Resistivity (ohm-cm)	[2]pH	[3]Sulfate %	[3]Chloride %	[4]Ammonia %	[5]Keldahl Nitrogen %	(As Rec'd) Description
T-11	11,600	3,600	6.68	0.0015	0.0017	0.0014	0.0620	Dark Brown, moist

NOTE: SAMPLES WERE ANALYZED IN ACCORDANCE WITH THE FOLLOWING METHODS.
1. MINIMUM RESISTIVITY DETERMINED BY SOIL BOX METHOD, (PER ASTM G-57)
2. PH MEASURED BY POTENTIOMETRIC METHOD USING STANDARD ELECTRODES. (PER CAL TRANS. #643)
3. CHLORIDE AND SULFATE WERE ANALYZED IN ACCORDANCE WITH EPA METHODS FOR CHEMICAL ANALYSIS FOR WATER AND WASTE, NO. 300 EPA-600/4-79-020. CONCENTRATION BY WEIGHT OF DRY SOIL.
4. AMMONIA WAS ANALYZED IN ACCORDANCE WITH EPA METHOD 350.2
5. KELDAHL NITROGEN WAS ANALYZED IN ACCORDANCE WITH EPA METHOD 351.2

CONCLUSIONS:

Material	Corrosion Class	Recommendation
Concrete	Negligible for sulfate and chloride exposure. pH is neutral to slightly acidic. (UBC Table 19-A-4)	- Type II Portland cement concrete, with a maximum water/cement ratio of 0.50 and a minimum of 3 inches of cover over steel reinforcement. - To reduce penetration of moisture through concrete slabs, it is recommended that a 6 mil polyethylene barrier be placed between concrete slabs and soil.
Steel Cast/Ductile Iron Mortar Coated Steel	Mildly Corrosive	- Install corrosion monitoring and consider cathodic protection for buried ferrous metal piping. - Electrically isolate underground metal piping from above grade piping and other metallic structures. - Provide bonding of non-welded joints and apply dielectric coating to steel and ductile iron pipe and appurtenances to facilitate corrosion monitoring and installation of cathodic protection. - Use separate groundrods for grounding interior piping.
Copper Piping	Corrosive due to the presence of nitrogen and ammonia.	- Overhead plumbing is the most effective method of corrosion control. - Where copper pipe will be installed in soils which contain ammonia, the copper piping should be cathodically protected. - Apply dielectric coating or sleeve and cathodic protection for buried copper piping. - Electrical isolation between hot and cold water lines and between structural steel or ferrous metal piping should be maintained.

Atlantic Consultants

112 Bunker Court
Folsom, CA 95630
(ph) 916.849.6420 (fax) 916.983.1838
Kerri@AtlanticCorrosionEngineers.com
corrprincess@ardennet.com
www.AtlanticCorrosionEngineers.com

The test results and recommendations are based on the sample submitted, which may not be representative of overall site conditions. Additional sampling may be required to more fully characterize soil conditions.

Sincerely,

Kerri M. Howell, P.E.
President

APPENDIX D

LIQUEFACTION ANALYSES

TABLE D-1

ANALYSIS OF LIQUEFACTION POTENTIAL
BORING: B-3 (AKA) (2%PE in 50 yrs; FS=1.3)

Client: Comstock
J.N. 2677.00
Site: Hitch Ranch, Moorpark

Hammer Type (D,S,A)	**A**	[Ce= D 0.75, S 0.95, A Hammer Efficiency]			
Boring Diameter, ID (in)	**4**				
Site Acceleration (g)	**1.055**	PGAm w/o MSF			
for a Magnitude (Mw) of	**6.95**	Corresponding to 2%PE in 50 yrs			
and MSF of	**1.25**		Analysis Type:	General	
Depth to High GW	**34.0**	ft.	FS for Liquefaction:	**1.3**	
Depth to GW during invest.	**41.0**	ft.	FS for Liqu. Settlement:	**1.3**	
Hammer Efficiency	**80.4**	%	PI Threshold for Liquefaction:	**12**	
Sublayer Thickness	**1.0**	ft.	Min. Moisture Cnt for Liqu. (%LL)	**85**	
Depth of Analysis	**50.0**	ft.	Max FS for Plotting:	**5.0**	

Layer Label (Auto)	Depth Interval (ft)		Layer Mid-Depth (ft)	Soil Type (USCS)	Fines <#200 Sieve (%)	LL (%)	PI	M (%)	Field Nf (bls/ft)	Sample Type SPT/CA	Soil Wet Density (pcf)
	Top	Bottom									
1	0.0	**4.0**	2.0	**SP**	**3**				**24**	**CA**	**107**
2	4.0	**8.0**	6.0	**SP-SM**	**5**				**36**	**CA**	**116**
3	8.0	**14.0**	11.0	**SM-SC**	**20**				**19**	**CA**	**113**
4	14.0	**19.0**	16.5	**SM-SC**	**20**				**28**	**CA**	**117**
5	19.0	**23.0**	21.0	**SM**	**10**				**21**	**CA**	**115**
6	23.0	**29.0**	26.0	**SM**	**10**				**9**	**CA**	**112**
7	29.0	**33.0**	31.0	**SM**	**10**				**27**	**CA**	**134**
8	33.0	**39.0**	36.0	**CL**	**60**				**21**	**SPT**	**120**
9	39.0	**44.0**	41.5	**CL**	**60**				**30**	**SPT**	**120**
10	44.0	**50.0**	47.0	**CL**	**60**				**56**	**SPT**	**120**
11	50.0	**50.0**	50.0	**CL**	**60**				**56**	**SPT**	**120**
12	50.0	**50.0**	50.0	**CL**	**60**				**56**	**SPT**	**120**
13	50.0	**50.0**	50.0	**CL**	**60**				**56**	**SPT**	**120**
14	50.0										
15	50.1										

TABLE D-1-b
ANALYSIS OF LIQUEFACTION POTENTIAL
BORING: B-3 (AKA) (2%PE in 50 yrs; FS=1.3)

SP

Client: Comstock

J.N. 2677.00

Site: Hitch Ranch, Moorpark

Hammer Type (D,S,A)	A			
Boring Diameter, ID (in)	4			
Site Acceleration (g)	1.055			
for a Magnitude (Mw) of	6.95			
and MSF of	1.25			
Depth to High GW	34	ft.	FS for Liquefaction:	1.3
Depth to GW during invest.	41	ft.	FS for Liqu. Settlement:	1.3
Hammer Efficiency	80.4	%	PI Threshold for Liquefaction:	12
Sublayer Thickness	1	ft.	Moisture Cnt Threshold for Liqu. (%LL)	85
Depth of Boring	50	ft.		

Notes: Underlined numbers are estimated values.

(1) Based on current groundwater conditions at the time of investigation.

(2) Based on assumed/proposed high groundwater conditions.

(3) Kσ=1.0

(4) A Layer is located above historically high groundwater
B Factor of Saftey is greater than the specified value of FS=1.3
C The $(N_1)_{60\text{-}cs}$ is greater than 30 blows per foot
D PI > 12 or the in situ moisture content (M%) < 85% LL

Reference: Youd, T.L., et.al., (2001), "Liquefaction Resistance of Soils: Summary Report From The 1996 NCEER and 1998 NCEER/NSF Workshops on Evaluation of Liquefaction Resistance of Soils", ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol.127, No.10, pp.817-833, October, 2001.

Layer Label	Depth Interval (ft) Top	Depth Interval (ft) Bottom	Layer Mid-Depth (ft)	Soil Type (USCS)	Fines <#200 Sieve (%)	LL (%)	PI	M (%)	Field Nf (bls/ft)	Sample Type SPT/CA	Soil Wet Density (pcf)	Total Stress (psf)(1)	Effec. Stress (psf)(1)	C_n	C_e	C_b	C_r	C_L	$(N_1)_{60}$ (lbs/ft)	α	β	$(N_1)_{60\text{-}cs}$ (lbs/ft)	Effec. Stress (psf)(2)	R_d	CRR (M=7.5)	Kσ	CSR	FS (3)	To Liquefy Y/N?	Reason(4) not Liquifiable
																											1.30		
1	0.0	1.0	0.5	SP	3				24	CA	107	54	54	1.7	1.34	1.00	0.75	1.0	23.0	0.0	1.00	23.0	54	1.00	NA	1.00	0.68	NA	N	A
1	1.0	2.0	1.5	SP	3				24	CA	107	161	161	1.7	1.34	1.00	0.75	1.0	23.0	0.0	1.00	23.0	161	1.00	NA	1.00	0.68	NA	N	A
1	2.0	3.0	2.5	SP	3				24	CA	107	268	268	1.7	1.34	1.00	0.75	1.0	22.4	0.0	1.00	22.4	268	0.99	NA	1.00	0.68	NA	N	A
1	3.0	4.0	3.5	SP	3				24	CA	107	375	375	1.6	1.34	1.00	0.75	1.0	21.5	0.0	1.00	21.5	375	0.99	NA	1.00	0.68	NA	N	A
2	4.0	5.0	4.5	SP-SM	5				36	CA	116	522	522	1.5	1.34	1.00	0.75	1.0	30.7	0.0	1.00	30.7	522	0.99	NA	1.00	0.68	NA	N	A
2	5.0	6.0	5.5	SP-SM	5				36	CA	116	638	638	1.5	1.34	1.00	0.75	1.0	29.6	0.0	1.00	29.6	638	0.99	NA	1.00	0.68	NA	N	A
2	6.0	7.0	6.5	SP-SM	5				36	CA	116	754	754	1.4	1.34	1.00	0.80	1.0	30.5	0.0	1.00	30.5	754	0.99	NA	1.00	0.68	NA	N	A
2	7.0	8.0	7.5	SP-SM	5				36	CA	116	870	870	1.4	1.34	1.00	0.80	1.0	29.4	0.0	1.00	29.4	870	0.98	NA	1.00	0.68	NA	N	A
3	8.0	9.0	8.5	SM-SC	20				19	CA	113	961	961	1.3	1.34	1.00	0.80	1.0	15.1	3.6	1.08	19.9	961	0.98	NA	1.00	0.68	NA	N	A
3	9.0	10.0	9.5	SM-SC	20				19	CA	113	1074	1074	1.3	1.34	1.00	0.85	1.0	15.6	3.6	1.08	20.4	1074	0.98	NA	1.00	0.68	NA	N	A
3	10.0	11.0	10.5	SM-SC	20				19	CA	113	1187	1187	1.2	1.34	1.00	0.85	1.0	15.1	3.6	1.08	19.9	1187	0.98	NA	1.00	0.66	NA	N	A
3	11.0	12.0	11.5	SM-SC	20				19	CA	113	1300	1300	1.2	1.34	1.00	0.85	1.0	14.6	3.6	1.08	19.4	1300	0.97	NA	1.00	0.66	NA	N	A
3	12.0	13.0	12.5	SM-SC	20				19	CA	113	1413	1413	1.2	1.34	1.00	0.85	1.0	14.2	3.6	1.08	19.0	1413	0.97	NA	1.00	0.66	NA	N	A
3	13.0	14.0	13.5	SM-SC	20				19	CA	113	1526	1526	1.1	1.34	1.00	0.85	1.0	13.8	3.6	1.08	18.5	1526	0.97	NA	1.00	0.66	NA	N	A
4	14.0	15.0	14.5	SM-SC	20				28	CA	117	1697	1697	1.1	1.34	1.00	0.85	1.0	19.5	3.6	1.08	24.7	1697	0.97	NA	1.00	0.66	NA	N	A
4	15.0	16.0	15.5	SM-SC	20				28	CA	117	1814	1814	1.1	1.34	1.00	0.85	1.0	19.0	3.6	1.08	24.1	1814	0.96	NA	1.00	0.66	NA	N	A
4	16.0	17.0	16.5	SM-SC	20				28	CA	117	1931	1931	1.0	1.34	1.00	0.90	1.0	19.6	3.6	1.08	24.8	1931	0.96	NA	1.00	0.66	NA	N	A
4	17.0	18.0	17.5	SM-SC	20				28	CA	117	2048	2048	1.0	1.34	1.00	0.90	1.0	19.1	3.6	1.08	24.2	2048	0.96	NA	1.01	0.66	NA	N	A
4	18.0	19.0	18.5	SM-SC	20				28	CA	117	2165	2165	1.0	1.34	1.00	0.90	1.0	18.6	3.6	1.08	23.7	2165	0.96	NA	1.00	0.66	NA	N	A
5	19.0	20.0	19.5	SM	10				21	CA	115	2243	2243	1.0	1.34	1.00	0.90	1.0	13.7	0.9	1.02	14.9	2243	0.96	NA	0.99	0.66	NA	N	A
5	20.0	21.0	20.5	SM	10				21	CA	115	2358	2358	0.9	1.34	1.00	0.90	1.0	13.4	0.9	1.02	14.6	2358	0.95	NA	0.99	0.66	NA	N	A
5	21.0	22.0	21.5	SM	10				21	CA	115	2473	2473	0.9	1.34	1.00	0.90	1.0	13.1	0.9	1.02	14.2	2473	0.95	NA	0.98	0.66	NA	N	A
5	22.0	23.0	22.5	SM	10				21	CA	115	2588	2588	0.9	1.34	1.00	0.95	1.0	13.5	0.9	1.02	14.7	2588	0.95	NA	0.97	0.66	NA	N	A
6	23.0	24.0	23.5	SM	10				9	CA	112	2632	2632	0.9	1.34	1.00	0.95	1.0	5.7	0.9	1.02	6.7	2632	0.95	NA	0.97	0.64	NA	N	A
6	24.0	25.0	24.5	SM	10				9	CA	112	2744	2744	0.9	1.34	1.00	0.95	1.0	5.6	0.9	1.02	6.6	2744	0.94	NA	0.96	0.64	NA	N	A
6	25.0	26.0	25.5	SM	10				9	CA	112	2856	2856	0.9	1.34	1.00	0.95	1.0	5.5	0.9	1.02	6.5	2856	0.94	NA	0.95	0.64	NA	N	A
6	26.0	27.0	26.5	SM	10				9	CA	112	2968	2968	0.8	1.34	1.00	0.95	1.0	5.4	0.9	1.02	6.4	2968	0.94	NA	0.94	0.64	NA	N	A
6	27.0	28.0	27.5	SM	10				9	CA	112	3080	3080	0.8	1.34	1.00	0.95	1.0	5.3	0.9	1.02	6.3	3080	0.94	NA	0.94	0.64	NA	N	A
6	28.0	29.0	28.5	SM	10				9	CA	112	3192	3192	0.8	1.34	1.00	0.95	1.0	5.2	0.9	1.02	6.2	3192	0.93	NA	0.93	0.64	NA	N	A
7	29.0	30.0	29.5	SM	10				27	CA	134	3953	3953	0.7	1.34	1.00	1.00	1.0	14.4	0.9	1.02	15.6	3953	0.93	NA	0.89	0.64	NA	N	A
7	30.0	31.0	30.5	SM	10				27	CA	134	4087	4087	0.7	1.34	1.00	1.00	1.0	14.1	0.9	1.02	15.3	4087	0.93	NA	0.88	0.64	NA	N	A
7	31.0	32.0	31.5	SM	10				27	CA	134	4221	4221	0.7	1.34	1.00	1.00	1.0	13.8	0.9	1.02	15.0	4221	0.92	NA	0.87	0.64	NA	N	A
7	32.0	33.0	32.5	SM	10				27	CA	134	4355	4355	0.7	1.34	1.00	1.00	1.0	13.6	0.9	1.02	14.7	4355	0.91	NA	0.86	0.62	NA	N	A
8	33.0	34.0	33.5	CL	60				21	SPT	120	4020	4020	0.7	1.34	1.00	1.00	1.2	23.8	5.0	1.20	33.5	4020	0.90	NA	0.88	0.62	NA	N	A
8	34.0	35.0	34.5	CL	60				21	SPT	120	4140	4140	0.7	1.34	1.00	1.00	1.2	23.3	5.0	1.20	33.0	4109	0.89	NA	0.88	0.62	NA	N	C
8	35.0	36.0	35.5	CL	60				21	SPT	120	4260	4260	0.7	1.34	1.00	1.00	1.2	22.9	5.0	1.20	32.5	4166	0.89	NA	0.87	0.62	NA	N	C
8	36.0	37.0	36.5	CL	60				21	SPT	120	4380	4380	0.7	1.34	1.00	1.00	1.2	22.5	5.0	1.20	32.0	4224	0.88	NA	0.86	0.62	NA	N	C
8	37.0	38.0	37.5	CL	60				21	SPT	120	4500	4500	0.7	1.34	1.00	1.00	1.2	22.1	5.0	1.20	31.6	4282	0.87	NA	0.86	0.62	NA	N	C
8	38.0	39.0	38.5	CL	60				21	SPT	120	4620	4620	0.6	1.34	1.00	1.00	1.2	21.8	5.0	1.20	31.1	4339	0.86	NA	0.85	0.62	NA	N	C
9	39.0	40.0	39.5	CL	60				30	SPT	120	4740	4740	0.6	1.34	1.00	1.00	1.2	30.6	5.0	1.20	41.7	4397	0.85	NA	0.85	0.64	NA	N	C
9	40.0	41.0	40.5	CL	60				30	SPT	120	4860	4860	0.6	1.34	1.00	1.00	1.2	30.1	5.0	1.20	41.1	4454	0.85	NA	0.84	0.64	NA	N	C
9	41.0	42.0	41.5	CL	60				30	SPT	120	4980	4949	0.6	1.34	1.00	1.00	1.2	29.7	5.0	1.20	40.7	4512	0.84	NA	0.84	0.64	NA	N	C
9	42.0	43.0	42.5	CL	60				30	SPT	120	5100	5006	0.6	1.34	1.00	1.00	1.2	29.5	5.0	1.20	40.4	4570	0.83	NA	0.83	0.64	NA	N	C
9	43.0	44.0	43.5	CL	60				30	SPT	120	5220	5064	0.6	1.34	1.00	1.00	1.2	29.3	5.0	1.20	40.1	4627	0.82	NA	0.83	0.64	NA	N	C
10	44.0	45.0	44.5	CL	60				56	SPT	120	5340	5122	0.6	1.34	1.00	1.00	1.2	54.2	5.0	1.20	70.1	4685	0.81	NA	0.83	0.64	NA	N	C
10	45.0	46.0	45.5	CL	60				56	SPT	120	5460	5179	0.6	1.34	1.00	1.00	1.2	53.8	5.0	1.20	69.6	4742	0.81	NA	0.83	0.64	NA	N	C
10	46.0	47.0	46.5	CL	60				56	SPT	120	5580	5237	0.6	1.34	1.00	1.00	1.2	53.4	5.0	1.20	69.1	4800	0.80	NA	0.82	0.64	NA	N	C
10	47.0	48.0	47.5	CL	60				56	SPT	120	5700	5294	0.6	1.34	1.00	1.00	1.2	53.0	5.0	1.20	68.6	4858	0.79	NA	0.82	0.64	NA	N	C
10	48.0	49.0	48.5	CL	60				56	SPT	120	5820	5352	0.6	1.34	1.00	1.00	1.2	52.7	5.0	1.20	68.2	4915	0.78	NA	0.82	0.64	NA	N	C
10	49.0	50.0	49.5	CL	60				56	SPT	120	5940	5410	0.6	1.34	1.00	1.00	1.2	52.3	5.0	1.20	67.7	4973	0.77	NA	0.82	0.64	NA	N	C

TABLE D-2-a

ANALYSIS OF LIQUEFACTION POTENTIAL
BORING: B-21 (Gorian) (2%PE in 50 yrs; FS=1.3)

Client: Comstock
J.N. 2677.00
Site: Hitch Ranch, Moorpark

Hammer Type (D,S,A)	**A**	[Ce= D 0.75, S 0.95, A Hammer Efficiency]			
Boring Diameter, ID (in)	**4**				
Site Acceleration (g)	**1.055**	PGAm w/o MSF			
for a Magnitude (Mw) of	**6.95**	Corresponding to 2%PE in 50 yrs			
and MSF of	**1.25**		Analysis Type:	General	
Depth to High GW	**28.5**	ft.	FS for Liquefaction:	**1.3**	
Depth to GW during invest.	**41.0**	ft.	FS for Liqu. Settlement:	**1.3**	
Hammer Efficiency	**72.0**	%	PI Threshold for Liquefaction:	**12**	
Sublayer Thickness	**1.0**	ft.	Min. Moisture Cnt for Liqu. (%LL)	**85**	
Depth of Analysis	**51.0**	ft.	Max FS for Plotting:	**5.0**	

Layer Label (Auto)	Depth Interval (ft)		Layer Mid-Depth (ft)	Soil Type (USCS)	Fines <#200 Sieve (%)	LL (%)	PI	M (%)	Field Nf (bls/ft)	Sample Type SPT/CA	Soil Wet Density (pcf)
	Top	Bottom									
1	0.0	**6.0**	3.0	**SM**	**15**				**6**	**SPT**	**106**
2	6.0	**12.0**	9.0	**SM**	**15**				**2**	**SPT**	**129**
3	12.0	**16.0**	14.0	**SM**	**15**				**3**	**SPT**	**129**
4	16.0	**21.0**	18.5	**SM**	**15**				**9**	**SPT**	**129**
5	21.0	**24.0**	22.5	**SM**	**15**				**4**	**SPT**	**129**
6	24.0	**31.0**	27.5	**SM**	**15**				**13**	**SPT**	**126**
7	31.0	**35.0**	33.0	**SM**	**15**				**9**	**SPT**	**129**
8	35.0	**38.0**	36.5	**SM**	**15**				**8**	**CA**	**129**
9	38.0	**42.0**	40.0	**SM**	**15**				**6**	**CA**	**129**
10	42.0	**44.0**	43.0	**SM**	**15**				**18**	**SPT**	**129**
11	44.0	**47.0**	45.5	**SM**	**15**				**19**	**SPT**	**129**
12	47.0	**50.0**	48.5	**SM-SC**	**30**				**26**	**SPT**	**130**
13	50.0	**51.0**	50.5	**SM**	**15**				**100**	**CA**	**139**
14	51.0	**51.0**	51.0	**SM**	**15**				**100**	**CA**	**139**
15	51.0										

TABLE D-2-b
ANALYSIS OF LIQUEFACTION POTENTIAL
BORING: B-21 (Gorian) (2%PE in 50 yrs; FS=1.3)

SM

Client: Comstock

J.N. 2677.00

Site: Hitch Ranch, Moorpark

Hammer Type (D,S,A)	A				
Boring Diameter, ID (in)	4				
Site Acceleration (g)	1.055				
for a Magnitude (Mw) of	6.95				
and MSF of	1.25				
Depth to High GW	28.5	ft.	FS for Liquefaction:	1.3	
Depth to GW during invest.	41	ft.	FS for Liqu. Settlement:	1.3	
Hammer Efficiency	72	%	PI Threshold for Liquefaction:	12	
Sublayer Thickness	1	ft.	Moisture Cnt Threshold for Liqu. (%LL)	85	
Depth of Boring	51	ft.			

Notes: Underlined numbers are estimated values.

(1) Based on current groundwater conditions at the time of investigation.

(2) Based on assumed/proposed high groundwater conditions.

(3) Kσ=1.0

(4) A Layer is located above historically high groundwater
B Factor of Saftey is greater than the specified value of FS=1.3
C The $(N_1)_{60\text{-}cs}$ is greater than 30 blows per foot
D PI > 12 or the in situ moisture content (M%) < 85% LL

Reference: Youd, T.L., et.al., (2001), "Liquefaction Resistance of Soils: Summary Report From The 1996 NCEER and 1998 NCEER/NSF Workshops on Evaluation of Liquefaction Resistance of Soils", ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol.127, No.10, pp.817-833, October, 2001.

Layer Label	Depth Interval (ft) Top	Depth Interval (ft) Bottom	Layer Mid-Depth (ft)	Soil Type (USCS)	Fines <#200 Sieve (%)	LL (%)	PI	M (%)	Field Nf (bls/ft)	Sample Type SPT/CA	Soil Wet Density (pcf)	Total Stress (psf)(1)	Effec. Stress (psf)(1)	C_n	C_e	C_b	C_r	C_L	$(N_1)_{60}$ (lbs/ft)	α	β	$(N_1)_{60\text{-}cs}$ (lbs/ft)	Effec. Stress (psf)(2)	R_d	CRR (M=7.5)	Kσ	CSR	FS (3)	To Liquefy Y/N?	Reason(4) not Liquifiable
																											1.30		
1	0.0	1.0	0.5	SM	15				6	SPT	106	53	53	1.7	1.20	1.00	0.75	1.2	11.0	2.5	1.05	14.0	53	1.00	NA	1.00	0.68	NA	N	A
1	1.0	2.0	1.5	SM	15				6	SPT	106	159	159	1.7	1.20	1.00	0.75	1.2	11.0	2.5	1.05	14.0	159	1.00	NA	1.00	0.68	NA	N	A
1	2.0	3.0	2.5	SM	15				6	SPT	106	265	265	1.7	1.20	1.00	0.75	1.2	10.7	2.5	1.05	13.8	265	0.99	NA	1.00	0.68	NA	N	A
1	3.0	4.0	3.5	SM	15				6	SPT	106	371	371	1.6	1.20	1.00	0.75	1.2	10.3	2.5	1.05	13.3	371	0.99	NA	1.00	0.68	NA	N	A
1	4.0	5.0	4.5	SM	15				6	SPT	106	477	477	1.5	1.20	1.00	0.75	1.2	10.0	2.5	1.05	13.0	477	0.99	NA	1.00	0.68	NA	N	A
1	5.0	6.0	5.5	SM	15				6	SPT	106	583	583	1.5	1.20	1.00	0.75	1.2	9.6	2.5	1.05	12.6	583	0.99	NA	1.00	0.68	NA	N	A
2	6.0	7.0	6.5	SM	15				2	SPT	129	839	839	1.4	1.20	1.00	0.80	1.2	3.2	2.5	1.05	5.8	839	0.99	NA	1.00	0.68	NA	N	A
2	7.0	8.0	7.5	SM	15				2	SPT	129	968	968	1.3	1.20	1.00	0.80	1.2	3.0	2.5	1.05	5.7	968	0.98	NA	1.00	0.68	NA	N	A
2	8.0	9.0	8.5	SM	15				2	SPT	129	1097	1097	1.3	1.20	1.00	0.80	1.2	2.9	2.5	1.05	5.6	1097	0.98	NA	1.00	0.68	NA	N	A
2	9.0	10.0	9.5	SM	15				2	SPT	129	1226	1226	1.2	1.20	1.00	0.85	1.2	3.0	2.5	1.05	5.7	1226	0.98	NA	1.00	0.68	NA	N	A
2	10.0	11.0	10.5	SM	15				2	SPT	129	1355	1355	1.2	1.20	1.00	0.85	1.2	2.9	2.5	1.05	5.6	1355	0.98	NA	1.00	0.66	NA	N	A
2	11.0	12.0	11.5	SM	15				2	SPT	129	1484	1484	1.2	1.20	1.00	0.85	1.2	2.8	2.5	1.05	5.5	1484	0.97	NA	1.00	0.66	NA	N	A
3	12.0	13.0	12.5	SM	15				3	SPT	129	1613	1613	1.1	1.20	1.00	0.85	1.2	4.1	2.5	1.05	6.8	1613	0.97	NA	1.00	0.66	NA	N	A
3	13.0	14.0	13.5	SM	15				3	SPT	129	1742	1742	1.1	1.20	1.00	0.85	1.2	4.0	2.5	1.05	6.7	1742	0.97	NA	1.00	0.66	NA	N	A
3	14.0	15.0	14.5	SM	15				3	SPT	129	1871	1871	1.0	1.20	1.00	0.85	1.2	3.9	2.5	1.05	6.5	1871	0.97	NA	1.00	0.66	NA	N	A
3	15.0	16.0	15.5	SM	15				3	SPT	129	2000	2000	1.0	1.20	1.00	0.85	1.2	3.7	2.5	1.05	6.4	2000	0.96	NA	1.00	0.66	NA	N	A
4	16.0	17.0	16.5	SM	15				9	SPT	129	2129	2129	1.0	1.20	1.00	0.90	1.2	11.6	2.5	1.05	14.6	2129	0.96	NA	1.00	0.66	NA	N	A
4	17.0	18.0	17.5	SM	15				9	SPT	129	2258	2258	1.0	1.20	1.00	0.90	1.2	11.3	2.5	1.05	14.3	2258	0.96	NA	0.99	0.66	NA	N	A
4	18.0	19.0	18.5	SM	15				9	SPT	129	2387	2387	0.9	1.20	1.00	0.90	1.2	11.0	2.5	1.05	14.0	2387	0.96	NA	0.98	0.66	NA	N	A
4	19.0	20.0	19.5	SM	15				9	SPT	129	2516	2516	0.9	1.20	1.00	0.90	1.2	10.7	2.5	1.05	13.7	2516	0.96	NA	0.97	0.66	NA	N	A
4	20.0	21.0	20.5	SM	15				9	SPT	129	2645	2645	0.9	1.20	1.00	0.90	1.2	10.4	2.5	1.05	13.4	2645	0.95	NA	0.97	0.66	NA	N	A
5	21.0	22.0	21.5	SM	15				4	SPT	129	2774	2774	0.9	1.20	1.00	0.90	1.2	4.5	2.5	1.05	7.2	2774	0.95	NA	0.96	0.66	NA	N	A
5	22.0	23.0	22.5	SM	15				4	SPT	129	2903	2903	0.8	1.20	1.00	0.95	1.2	4.6	2.5	1.05	7.4	2903	0.95	NA	0.95	0.66	NA	N	A
5	23.0	24.0	23.5	SM	15				4	SPT	129	3032	3032	0.8	1.20	1.00	0.95	1.2	4.5	2.5	1.05	7.3	3032	0.95	NA	0.94	0.64	NA	N	A
6	24.0	25.0	24.5	SM	15				13	SPT	126	3087	3087	0.8	1.20	1.00	0.95	1.2	14.6	2.5	1.05	17.8	3087	0.94	NA	0.94	0.64	NA	N	A
6	25.0	26.0	25.5	SM	15				13	SPT	126	3213	3213	0.8	1.20	1.00	0.95	1.2	14.3	2.5	1.05	17.5	3213	0.94	NA	0.93	0.64	NA	N	A
6	26.0	27.0	26.5	SM	15				13	SPT	126	3339	3339	0.8	1.20	1.00	0.95	1.2	14.0	2.5	1.05	17.1	3339	0.94	NA	0.92	0.64	NA	N	A
6	27.0	28.0	27.5	SM	15				13	SPT	126	3465	3465	0.8	1.20	1.00	0.95	1.2	13.7	2.5	1.05	16.8	3465	0.94	NA	0.91	0.64	NA	N	A
6	28.0	29.0	28.5	SM	15				13	SPT	126	3591	3591	0.8	1.20	1.00	0.95	1.2	13.4	2.5	1.05	16.5	3591	0.93	NA	0.91	0.64	NA	N	A
6	29.0	30.0	29.5	SM	15				13	SPT	126	3717	3717	0.7	1.20	1.00	1.00	1.2	13.8	2.5	1.05	17.0	3655	0.93	0.18	0.90	0.66	0.31	Y	
6	30.0	31.0	30.5	SM	15				13	SPT	126	3843	3843	0.7	1.20	1.00	1.00	1.2	13.5	2.5	1.05	16.7	3718	0.93	0.18	0.89	0.66	0.30	Y	
7	31.0	32.0	31.5	SM	15				9	SPT	129	4064	4064	0.7	1.20	1.00	1.00	1.2	9.1	2.5	1.05	12.0	3876	0.92	0.13	0.88	0.66	0.22	Y	
7	32.0	33.0	32.5	SM	15				9	SPT	129	4193	4193	0.7	1.20	1.00	1.00	1.2	8.9	2.5	1.05	11.8	3943	0.91	0.13	0.87	0.66	0.21	Y	
7	33.0	34.0	33.5	SM	15				9	SPT	129	4322	4322	0.7	1.20	1.00	1.00	1.2	8.7	2.5	1.05	11.6	4010	0.90	0.13	0.87	0.66	0.21	Y	
7	34.0	35.0	34.5	SM	15				9	SPT	129	4451	4451	0.7	1.20	1.00	1.00	1.2	8.6	2.5	1.05	11.5	4076	0.89	0.13	0.86	0.66	0.21	Y	
8	35.0	36.0	35.5	SM	15				8	CA	129	4580	4580	0.6	1.20	1.00	1.00	1.0	3.5	2.5	1.05	6.2	4143	0.89	0.08	0.85	0.68	0.13	Y	
8	36.0	37.0	36.5	SM	15				8	CA	129	4709	4709	0.6	1.20	1.00	1.00	1.0	3.4	2.5	1.05	6.1	4209	0.88	0.08	0.85	0.68	0.13	Y	
8	37.0	38.0	37.5	SM	15				8	CA	129	4838	4838	0.6	1.20	1.00	1.00	1.0	3.4	2.5	1.05	6.0	4276	0.87	0.08	0.84	0.68	0.12	Y	
9	38.0	39.0	38.5	SM	15				6	CA	129	4967	4967	0.6	1.20	1.00	1.00	1.0	2.5	2.5	1.05	5.1	4343	0.86	0.07	0.84	0.68	0.11	Y	
9	39.0	40.0	39.5	SM	15				6	CA	129	5096	5096	0.6	1.20	1.00	1.00	1.0	2.4	2.5	1.05	5.1	4409	0.85	0.07	0.83	0.68	0.11	Y	
9	40.0	41.0	40.5	SM	15				6	CA	129	5225	5225	0.6	1.20	1.00	1.00	1.0	2.4	2.5	1.05	5.0	4476	0.85	0.07	0.82	0.68	0.11	Y	
9	41.0	42.0	41.5	SM	15				6	CA	129	5354	5322	0.6	1.20	1.00	1.00	1.0	2.4	2.5	1.05	5.0	4542	0.84	0.07	0.82	0.68	0.11	Y	
10	42.0	43.0	42.5	SM	15				18	SPT	129	5483	5389	0.6	1.20	1.00	1.00	1.2	15.1	2.5	1.05	18.3	4609	0.83	0.20	0.82	0.68	0.29	Y	
10	43.0	44.0	43.5	SM	15				18	SPT	129	5612	5456	0.6	1.20	1.00	1.00	1.2	15.0	2.5	1.05	18.2	4676	0.82	0.19	0.81	0.68	0.29	Y	
11	44.0	45.0	44.5	SM	15				19	SPT	129	5741	5522	0.6	1.20	1.00	1.00	1.2	15.7	2.5	1.05	18.9	4742	0.81	0.20	0.81	0.68	0.30	Y	
11	45.0	46.0	45.5	SM	15				19	SPT	129	5870	5589	0.6	1.20	1.00	1.00	1.2	15.5	2.5	1.05	18.8	4809	0.81	0.20	0.81	0.68	0.30	Y	
11	46.0	47.0	46.5	SM	15				19	SPT	129	5999	5655	0.6	1.20	1.00	1.00	1.2	15.4	2.5	1.05	18.6	4875	0.80	0.20	0.81	0.68	0.30	Y	
12	47.0	48.0	47.5	SM-SC	30				26	SPT	130	6175	5769	0.6	1.20	1.00	1.00	1.2	20.8	4.7	1.15	28.7	4989	0.79	0.40	0.80	0.66	0.60	Y	
12	48.0	49.0	48.5	SM-SC	30				26	SPT	130	6305	5837	0.6	1.20	1.00	1.00	1.2	20.6	4.7	1.15	28.5	5057	0.78	0.39	0.80	0.66	0.59	Y	
12	49.0	50.0	49.5	SM-SC	30				26	SPT	130	6435	5905	0.5	1.20	1.00	1.00	1.2	20.5	4.7	1.15	28.3	5125	0.77	0.38	0.80	0.66	0.58	Y	
13	50.0	51.0	50.5	SM	15				100	CA	139	7020	6427	0.5	1.20	1.00	1.00	1.0	34.6	2.5	1.05	38.7	5647	0.76	NA	0.78	0.66	NA	N	C

TABLE D-3-a

ANALYSIS OF LIQUEFACTION POTENTIAL
BORING: B-23 (Gorian) (2%PE in 50 yrs; FS=1.3)

Client: Comstock
J.N. 2677.00
Site: Hitch Ranch, Moorpark

Hammer Type (D,S,A)	**A**	[Ce= D 0.75, S 0.95, A Hammer Efficiency]			
Boring Diameter, ID (in)	**4**				
Site Acceleration (g)	**1.055**	PGAm w/o MSF			
for a Magnitude (Mw) of	**6.95**	Corresponding to 2%PE in 50 yrs			
and MSF of	**1.25**		Analysis Type:	General	
Depth to High GW	**22.0**	ft.	FS for Liquefaction:	**1.3**	
Depth to GW during invest.	**22.0**	ft.	FS for Liqu. Settlement:	**1.3**	
Hammer Efficiency	**72.0**	%	PI Threshold for Liquefaction:	**12**	
Sublayer Thickness	**1.0**	ft.	Min. Moisture Cnt for Liqu. (%LL)	**85**	
Depth of Analysis	**50.0**	ft.	Max FS for Plotting:	**5.0**	

Layer Label (Auto)	Depth Interval (ft)		Layer Mid-Depth (ft)	Soil Type (USCS)	Fines <#200 Sieve (%)	LL (%)	PI	M (%)	Field Nf (bls/ft)	Sample Type SPT/CA	Soil Wet Density (pcf)
	Top	Bottom									
1	0.0	**6.0**	3.0	**SM**	**15**				**7**	**SPT**	**112**
2	6.0	**11.0**	8.5	**SM**	**15**				**3**	**SPT**	**104**
3	11.0	**13.0**	12.0	**ML**	**55**				**3**	**SPT**	**104**
4	13.0	**15.0**	14.0	**SM**	**15**				**3**	**SPT**	**110**
5	15.0	**20.0**	17.5	**SM**	**15**				**8**	**SPT**	**121**
6	20.0	**25.0**	22.5	**SM**	**15**				**6**	**SPT**	**110**
7	25.0	**30.0**	27.5	**SM**	**15**				**1**	**SPT**	**128**
8	30.0	**34.0**	32.0	**SM-ML**	**25**				**1**	**SPT**	**126**
9	34.0	**38.0**	36.0	**SM**	**15**				**2**	**SPT**	**120**
10	38.0	**39.0**	38.5	**CL**	**70**		**12**		**9**	**SPT**	**120**
11	39.0	**42.0**	40.5	**SM-ML**	**25**				**2**	**SPT**	**120**
12	42.0	**44.0**	43.0	**SM**	**15**				**5**	**SPT**	**120**
13	44.0	**46.0**	45.0	**ML**	**65**				**13**	**SPT**	**120**
14	46.0	**50.0**	48.0	**SM**	**15**				**11**	**SPT**	**120**
15	50.0										

TABLE C-2
ANALYSIS OF LIQUEFACTION POTENTIAL
BORING: B-23 (Gorian) (2%PE in 50 yrs; FS=1.3)

SM

Client: Comstock
J.N. 2677.00
Site: Hitch Ranch, Moorpark

Hammer Type (D,S,A)	A			
Boring Diameter, ID (in)	4			
Site Acceleration (g)	1.055			
for a Magnitude (Mw) of	6.95			
and MSF of	1.25			
Depth to High GW	22	ft.	FS for Liquefaction:	1.3
Depth to GW during invest.	22	ft.	FS for Liqu. Settlement:	1.3
Hammer Efficiency	72	%	PI Threshold for Liquefaction:	12
Sublayer Thickness	1	ft.	Moisture Cnt Threshold for Liqu. (%LL)	85
Depth of Boring	50	ft.		

Notes: Underlined numbers are estimated values.
(1) Based on current groundwater conditions at the time of investigation.
(2) Based on assumed/proposed high groundwater conditions.
(3) Kσ=1.0

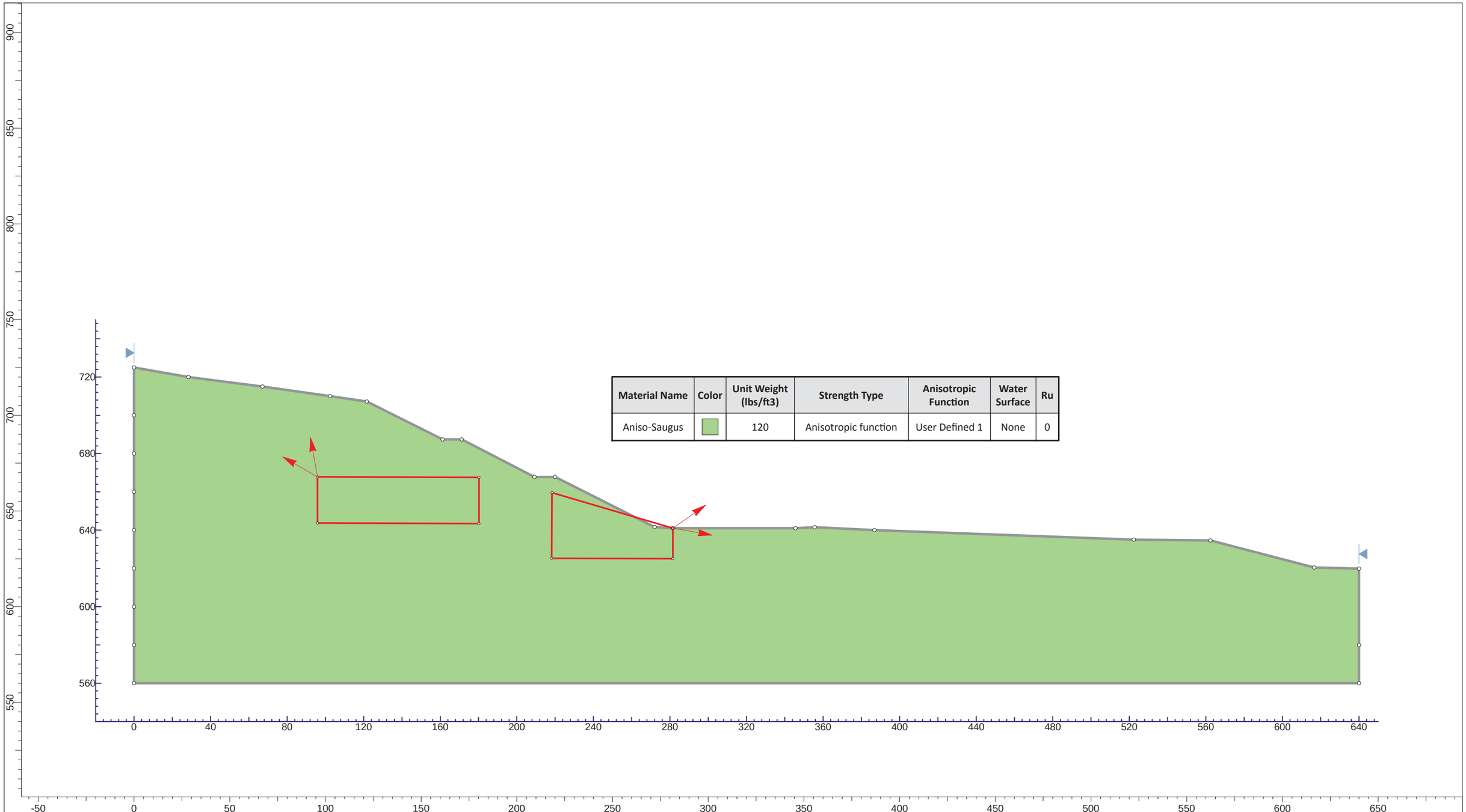
(4) A Layer is located above historically high groundwater
B Factor of Saftey is greater than the specified value of FS=1.3
C The $(N_1)_{60\text{-}cs}$ is greater than 30 blows per foot
D PI > 12 or the in situ moisture content (M%) < 85% LL

Reference: Youd, T.L., et.al., (2001), "Liquefaction Resistance of Soils: Summary Report From The 1996 NCEER and 1998 NCEER/NSF Workshops on Evaluation of Liquefaction Resistance of Soils", ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol.127, No.10, pp.817-833, October, 2001.

Layer Label	Depth Interval (ft) Top	Depth Interval (ft) Bottom	Layer Mid-Depth (ft)	Soil Type (USCS)	Fines <#200 Sieve (%)	LL (%)	PI	M (%)	Field Nf (bls/ft)	Sample Type SPT/CA	Soil Wet Density (pcf)	Total Stress (psf)(1)	Effec. Stress (psf)(1)	C_n	C_e	C_b	C_r	C_L	$(N_1)_{60}$ (lbs/ft)	α	β	$(N_1)_{60\text{-}cs}$ (lbs/ft)	Effec. Stress (psf)(2)	R_d	CRR (M=7.5)	Kσ	CSR	FS (3)	To Liquefy Y/N?	Reason(4) not Liquifiable
																												1.30		
1	0.0	1.0	0.5	SM	15				7	SPT	112	56	56	1.7	1.20	1.00	0.75	1.2	12.9	2.5	1.05	16.0	56	1.00	NA	1.00	0.68	NA	N	A
1	1.0	2.0	1.5	SM	15				7	SPT	112	168	168	1.7	1.20	1.00	0.75	1.2	12.9	2.5	1.05	16.0	168	1.00	NA	1.00	0.68	NA	N	A
1	2.0	3.0	2.5	SM	15				7	SPT	112	280	280	1.6	1.20	1.00	0.75	1.2	12.5	2.5	1.05	15.6	280	0.99	NA	1.00	0.68	NA	N	A
1	3.0	4.0	3.5	SM	15				7	SPT	112	392	392	1.6	1.20	1.00	0.75	1.2	12.0	2.5	1.05	15.1	392	0.99	NA	1.00	0.68	NA	N	A
1	4.0	5.0	4.5	SM	15				7	SPT	112	504	504	1.5	1.20	1.00	0.75	1.2	11.5	2.5	1.05	14.6	504	0.99	NA	1.00	0.68	NA	N	A
1	5.0	6.0	5.5	SM	15				7	SPT	112	616	616	1.5	1.20	1.00	0.75	1.2	11.1	2.5	1.05	14.2	616	0.99	NA	1.00	0.68	NA	N	A
2	6.0	7.0	6.5	SM	15				3	SPT	104	676	676	1.4	1.20	1.00	0.80	1.2	5.0	2.5	1.05	7.7	676	0.99	NA	1.00	0.68	NA	N	A
2	7.0	8.0	7.5	SM	15				3	SPT	104	780	780	1.4	1.20	1.00	0.80	1.2	4.8	2.5	1.05	7.6	780	0.98	NA	1.00	0.68	NA	N	A
2	8.0	9.0	8.5	SM	15				3	SPT	104	884	884	1.4	1.20	1.00	0.80	1.2	4.7	2.5	1.05	7.4	884	0.98	NA	1.00	0.68	NA	N	A
2	9.0	10.0	9.5	SM	15				3	SPT	104	988	988	1.3	1.20	1.00	0.85	1.2	4.8	2.5	1.05	7.6	988	0.98	NA	1.00	0.68	NA	N	A
2	10.0	11.0	10.5	SM	15				3	SPT	104	1092	1092	1.3	1.20	1.00	0.85	1.2	4.7	2.5	1.05	7.4	1092	0.98	NA	1.00	0.66	NA	N	A
3	11.0	12.0	11.5	ML	55				3	SPT	104	1196	1196	1.2	1.20	1.00	0.85	1.2	4.6	5.0	1.20	10.5	1196	0.97	NA	1.00	0.66	NA	N	A
3	12.0	13.0	12.5	ML	55				3	SPT	104	1300	1300	1.2	1.20	1.00	0.85	1.2	4.4	5.0	1.20	10.3	1300	0.97	NA	1.00	0.66	NA	N	A
4	13.0	14.0	13.5	SM	15				3	SPT	110	1485	1485	1.2	1.20	1.00	0.85	1.2	4.2	2.5	1.05	6.9	1485	0.97	NA	1.00	0.66	NA	N	A
4	14.0	15.0	14.5	SM	15				3	SPT	110	1595	1595	1.1	1.20	1.00	0.85	1.2	4.1	2.5	1.05	6.8	1595	0.97	NA	1.00	0.66	NA	N	A
5	15.0	16.0	15.5	SM	15				8	SPT	121	1876	1876	1.0	1.20	1.00	0.85	1.2	10.3	2.5	1.05	13.3	1876	0.96	NA	1.00	0.66	NA	N	A
5	16.0	17.0	16.5	SM	15				8	SPT	121	1997	1997	1.0	1.20	1.00	0.90	1.2	10.6	2.5	1.05	13.6	1997	0.96	NA	1.00	0.66	NA	N	A
5	17.0	18.0	17.5	SM	15				8	SPT	121	2118	2118	1.0	1.20	1.00	0.90	1.2	10.3	2.5	1.05	13.3	2118	0.96	NA	1.00	0.66	NA	N	A
5	18.0	19.0	18.5	SM	15				8	SPT	121	2239	2239	1.0	1.20	1.00	0.90	1.2	10.0	2.5	1.05	13.0	2239	0.96	NA	0.99	0.66	NA	N	A
5	19.0	20.0	19.5	SM	15				8	SPT	121	2360	2360	0.9	1.20	1.00	0.90	1.2	9.8	2.5	1.05	12.8	2360	0.96	NA	0.99	0.66	NA	N	A
6	20.0	21.0	20.5	SM	15				6	SPT	110	2255	2255	1.0	1.20	1.00	0.90	1.2	7.5	2.5	1.05	10.4	2255	0.95	NA	0.99	0.66	NA	N	A
6	21.0	22.0	21.5	SM	15				6	SPT	110	2365	2365	0.9	1.20	1.00	0.90	1.2	7.3	2.5	1.05	10.2	2365	0.95	NA	0.99	0.66	NA	N	A
6	22.0	23.0	22.5	SM	15				6	SPT	110	2475	2444	0.9	1.20	1.00	0.95	1.2	7.6	2.5	1.05	10.5	2444	0.95	0.12	0.98	0.66	0.22	Y	
6	23.0	24.0	23.5	SM	15				6	SPT	110	2585	2491	0.9	1.20	1.00	0.95	1.2	7.5	2.5	1.05	10.4	2491	0.95	0.12	0.98	0.68	0.21	Y	
6	24.0	25.0	24.5	SM	15				6	SPT	110	2695	2539	0.9	1.20	1.00	0.95	1.2	7.5	2.5	1.05	10.3	2539	0.94	0.12	0.97	0.68	0.21	Y	
7	25.0	26.0	25.5	SM	15				1	SPT	128	3264	3046	0.8	1.20	1.00	0.95	1.2	1.1	2.5	1.05	3.7	3046	0.94	0.06	0.94	0.70	0.11	Y	
7	26.0	27.0	26.5	SM	15				1	SPT	128	3392	3111	0.8	1.20	1.00	0.95	1.2	1.1	2.5	1.05	3.7	3111	0.94	0.06	0.93	0.70	0.10	Y	
7	27.0	28.0	27.5	SM	15				1	SPT	128	3520	3177	0.8	1.20	1.00	0.95	1.2	1.1	2.5	1.05	3.7	3177	0.94	0.06	0.93	0.72	0.10	Y	
7	28.0	29.0	28.5	SM	15				1	SPT	128	3648	3242	0.8	1.20	1.00	0.95	1.2	1.1	2.5	1.05	3.6	3242	0.93	0.06	0.93	0.72	0.10	Y	
7	29.0	30.0	29.5	SM	15				1	SPT	128	3776	3308	0.8	1.20	1.00	1.00	1.2	1.1	2.5	1.05	3.7	3308	0.93	0.06	0.92	0.72	0.10	Y	
8	30.0	31.0	30.5	SM-ML	25				1	SPT	126	3843	3313	0.8	1.20	1.00	1.00	1.2	1.1	4.3	1.12	5.6	3313	0.93	0.08	0.92	0.74	0.12	Y	
8	31.0	32.0	31.5	SM-ML	25				1	SPT	126	3969	3376	0.8	1.20	1.00	1.00	1.2	1.1	4.3	1.12	5.5	3376	0.92	0.08	0.92	0.74	0.12	Y	
8	32.0	33.0	32.5	SM-ML	25				1	SPT	126	4095	3440	0.8	1.20	1.00	1.00	1.2	1.1	4.3	1.12	5.5	3440	0.91	0.08	0.91	0.74	0.12	Y	
8	33.0	34.0	33.5	SM-ML	25				1	SPT	126	4221	3503	0.8	1.20	1.00	1.00	1.2	1.1	4.3	1.12	5.5	3503	0.90	0.08	0.91	0.74	0.12	Y	
9	34.0	35.0	34.5	SM	15				2	SPT	120	4140	3360	0.8	1.20	1.00	1.00	1.2	2.3	2.5	1.05	4.9	3360	0.89	0.07	0.92	0.76	0.11	Y	
9	35.0	36.0	35.5	SM	15				2	SPT	120	4260	3418	0.8	1.20	1.00	1.00	1.2	2.2	2.5	1.05	4.8	3418	0.89	0.07	0.92	0.76	0.11	Y	
9	36.0	37.0	36.5	SM	15				2	SPT	120	4380	3475	0.8	1.20	1.00	1.00	1.2	2.2	2.5	1.05	4.8	3475	0.88	0.07	0.91	0.76	0.11	Y	
9	37.0	38.0	37.5	SM	15				2	SPT	120	4500	3533	0.8	1.20	1.00	1.00	1.2	2.2	2.5	1.05	4.8	3533	0.87	0.07	0.91	0.76	0.11	Y	
10	38.0	39.0	38.5	CL	70		12		9	SPT	120	4620	3590	0.8	1.20	1.00	1.00	1.2	9.8	5.0	1.20	16.7	3590	0.86	NA	0.91	0.76	NA	N	D
11	39.0	40.0	39.5	SM-ML	25				2	SPT	120	4740	3648	0.7	1.20	1.00	1.00	1.2	2.2	4.3	1.12	6.7	3648	0.85	0.09	0.90	0.76	0.13	Y	
11	40.0	41.0	40.5	SM-ML	25				2	SPT	120	4860	3706	0.7	1.20	1.00	1.00	1.2	2.1	4.3	1.12	6.7	3706	0.85	0.08	0.90	0.76	0.13	Y	
11	41.0	42.0	41.5	SM-ML	25				2	SPT	120	4980	3763	0.7	1.20	1.00	1.00	1.2	2.1	4.3	1.12	6.6	3763	0.84	0.08	0.90	0.76	0.13	Y	
12	42.0	43.0	42.5	SM	15				5	SPT	120	5100	3821	0.7	1.20	1.00	1.00	1.2	5.2	2.5	1.05	8.0	3821	0.83	0.10	0.89	0.76	0.14	Y	
12	43.0	44.0	43.5	SM	15				5	SPT	120	5220	3878	0.7	1.20	1.00	1.00	1.2	5.2	2.5	1.05	7.9	3878	0.82	0.10	0.89	0.76	0.14	Y	
13	44.0	45.0	44.5	ML	65				13	SPT	120	5340	3936	0.7	1.20	1.00	1.00	1.2	13.4	5.0	1.20	21.0	3936	0.81	0.23	0.89	0.76	0.33	Y	
13	45.0	46.0	45.5	ML	65				13	SPT	120	5460	3994	0.7	1.20	1.00	1.00	1.2	13.2	5.0	1.20	20.9	3994	0.81	0.23	0.88	0.76	0.33	Y	
14	46.0	47.0	46.5	SM	15				11	SPT	120	5580	4051	0.7	1.20	1.00	1.00	1.2	11.1	2.5	1.05	14.1	4051	0.80	0.15	0.88	0.76	0.22	Y	
14	47.0	48.0	47.5	SM	15				11	SPT	120	5700	4109	0.7	1.20	1.00	1.00	1.2	11.0	2.5	1.05	14.0	4109	0.79	0.15	0.88	0.76	0.22	Y	
14	48.0	49.0	48.5	SM	15				11	SPT	120	5820	4166	0.7	1.20	1.00	1.00	1.2	10.9	2.5	1.05	13.9	4166	0.78	0.15	0.87	0.74	0.22	Y	
14	49.0	50.0	49.5	SM	15				11	SPT	120	5940	4224	0.7	1.20	1.00	1.00	1.2	10.8	2.5	1.05	13.8	4224	0.77	0.15	0.87	0.74	0.22	Y	

APPENDIX E

SLOPE STABILITY ANALYSES



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Anisotropic Function	Water Surface	Ru
Aniso-Saugus		120	Anisotropic function	User Defined 1	None	0

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SLIDE 7.018

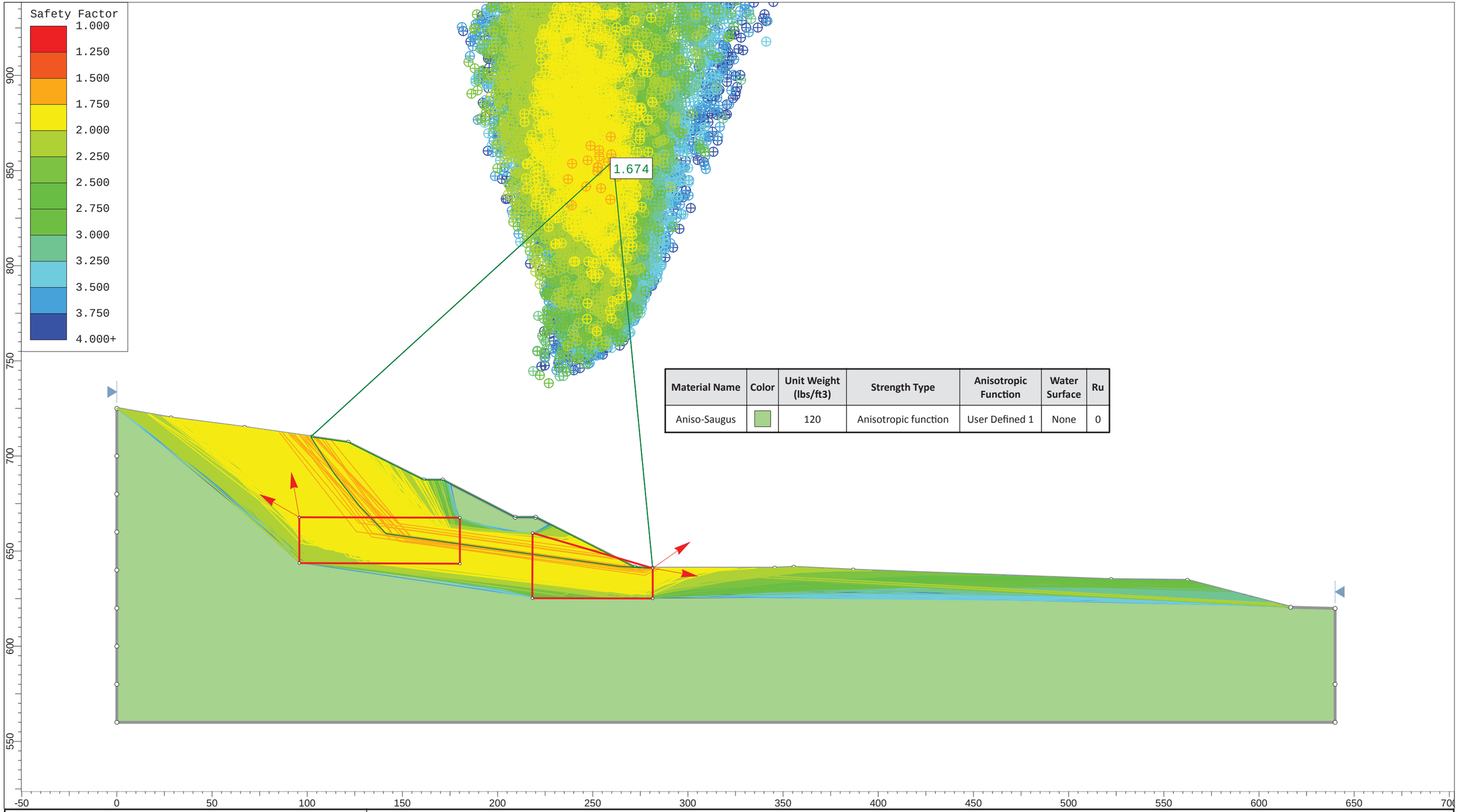
2677.00 Hitch Ranch; Moorpark

Cross Section C-C'; General Configuration

Albus-Keefe & Associates, Inc.

Date: 6/4/2019

Plate E-1



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Anisotropic Function	Water Surface	Ru
Aniso-Saugus		120	Anisotropic function	User Defined 1	None	0

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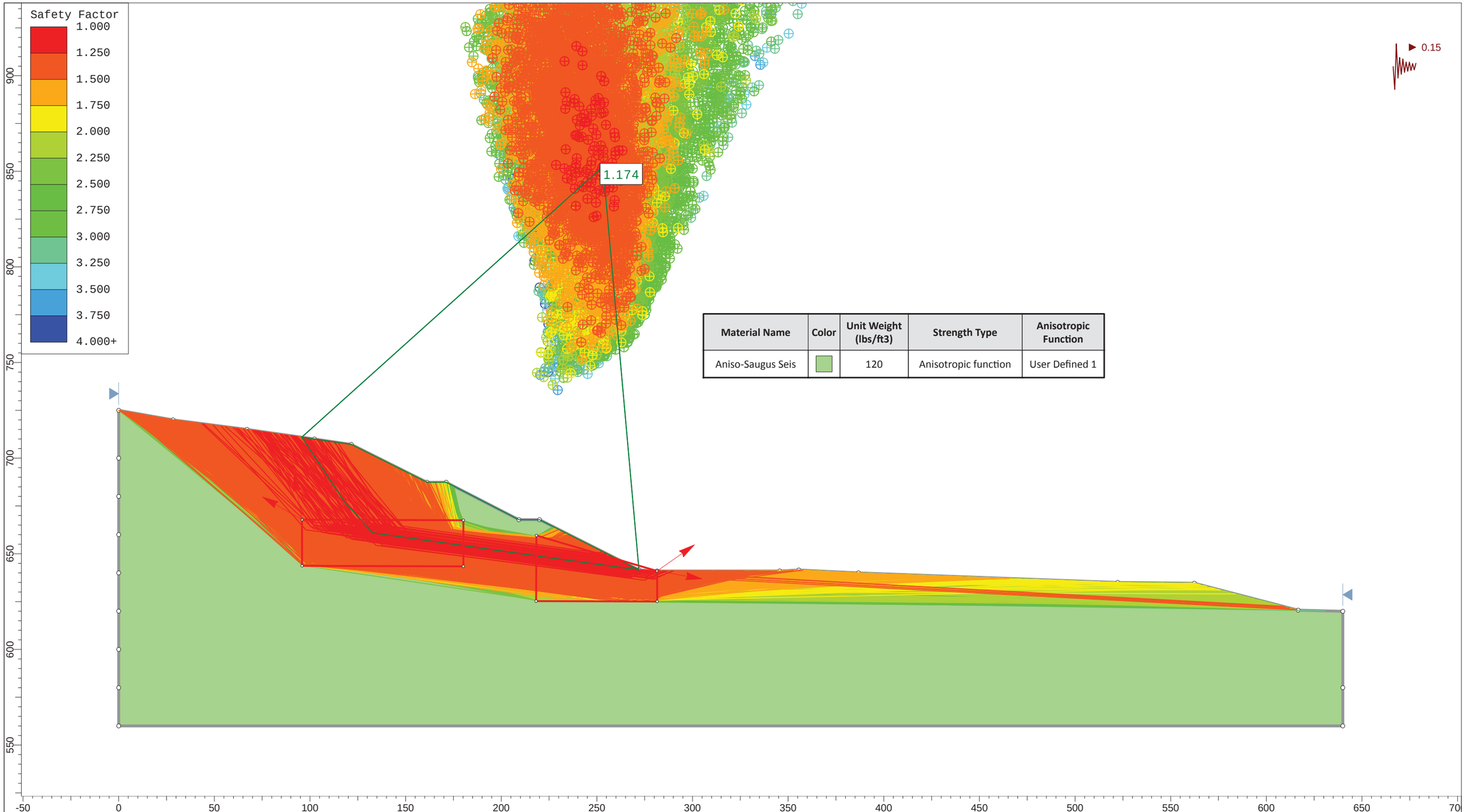
2677.00 Hitch Ranch; Moorpark

Cross Section C-C'; Block; Static

Albus-Keefe & Associates, Inc.

Date: 6/4/2019

Plate E-2



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Anisotropic Function
Aniso-Saugus Seis		120	Anisotropic function	User Defined 1

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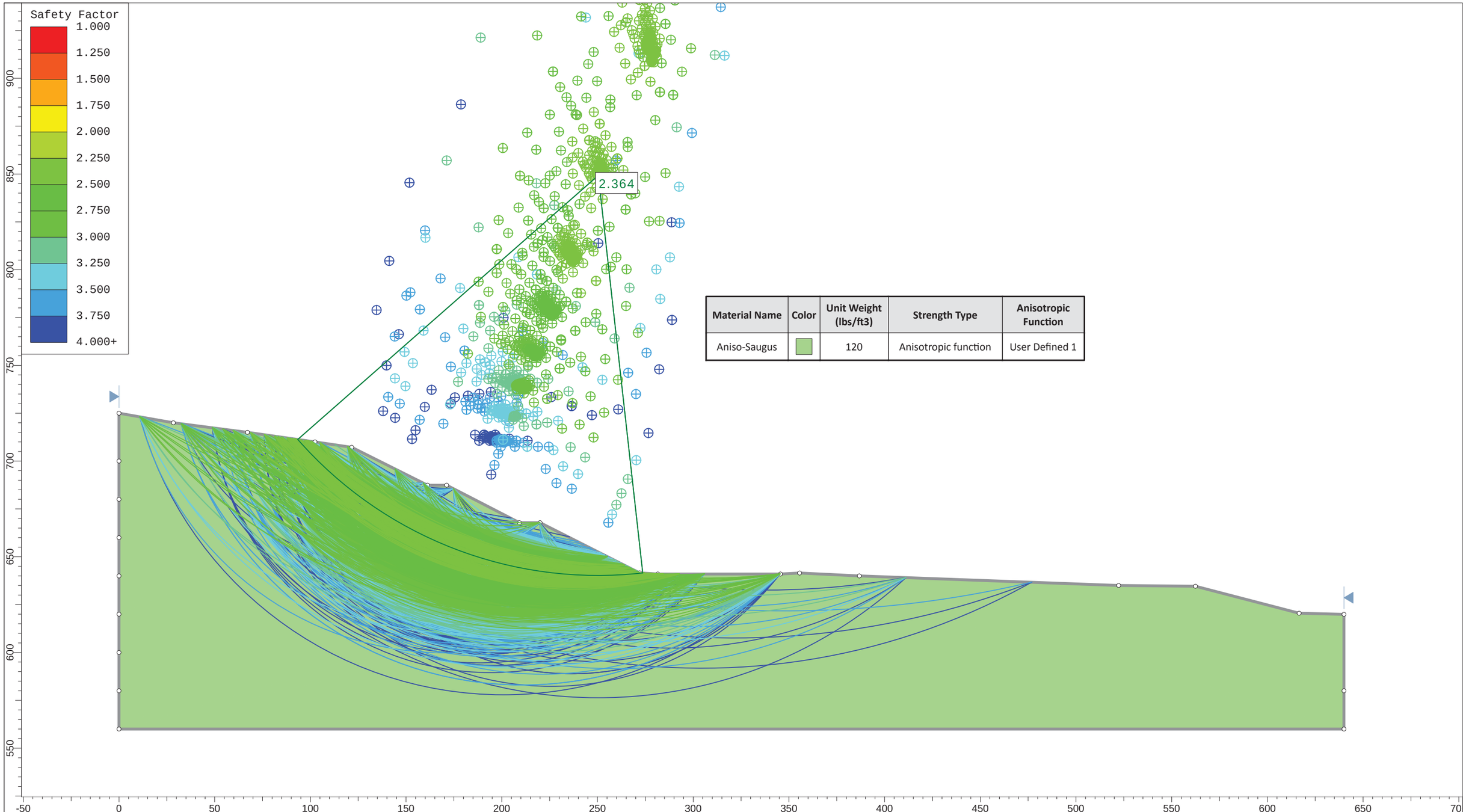
2677.00 Hitch Ranch; Moorpark

Cross Section C-C'; Block; Seismic

Albus-Keefe & Associates, Inc.

Date: 6/4/2019

Plate E-3



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Anisotropic Function
Aniso-Saugus		120	Anisotropic function	User Defined 1

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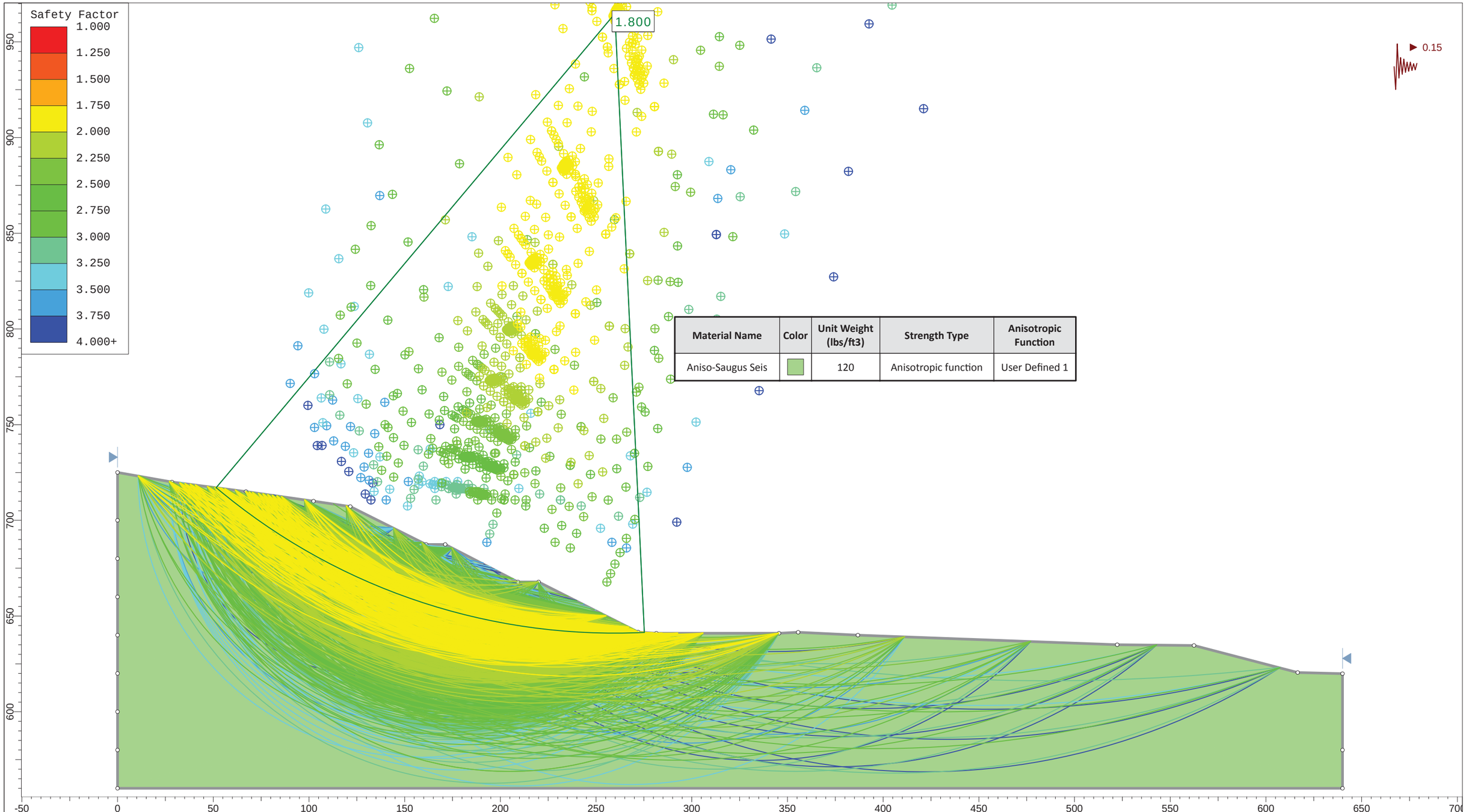
2677.00 Hitch Ranch; Moorpark

Cross Section C-C'; Circular; Static

Albus-Keefe & Associates, Inc.

Date: 6/4/2019

Plate E-4



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Anisotropic Function
Aniso-Saugus Seis		120	Anisotropic function	User Defined 1

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2677.00 Hitch Ranch; Moorpark

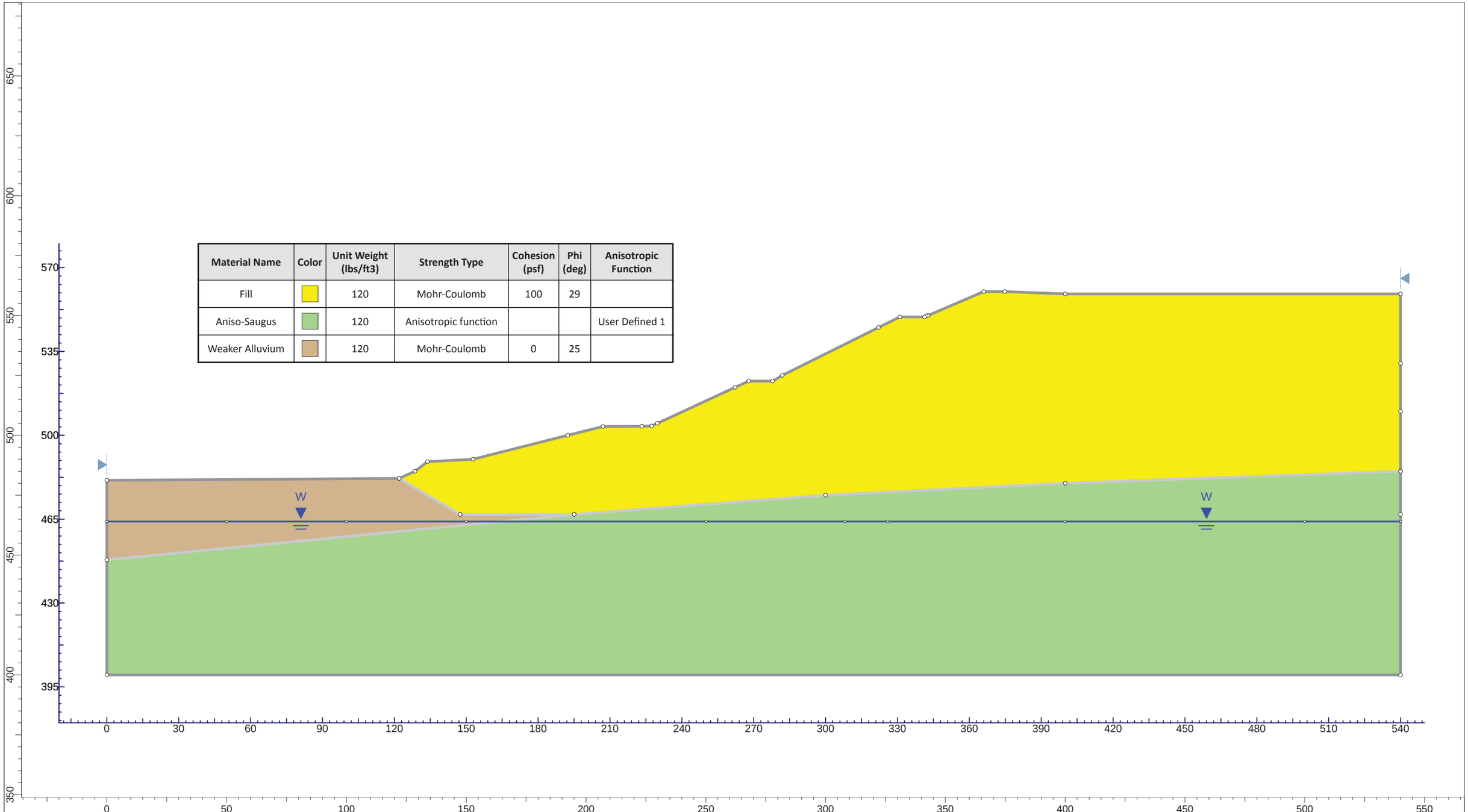
Cross Section C-C'; Circular; Seismic

Albus-Keefe & Associates, Inc.

Date: 6/4/2019

Plate E-5

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus		120	Anisotropic function			User Defined 1
Weaker Alluvium		120	Mohr-Coulomb	0	25	



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SLIDE 7.018

2677.00 Hitch Ranch; Moorpark

Cross Section E-E'; Gneral Configuration

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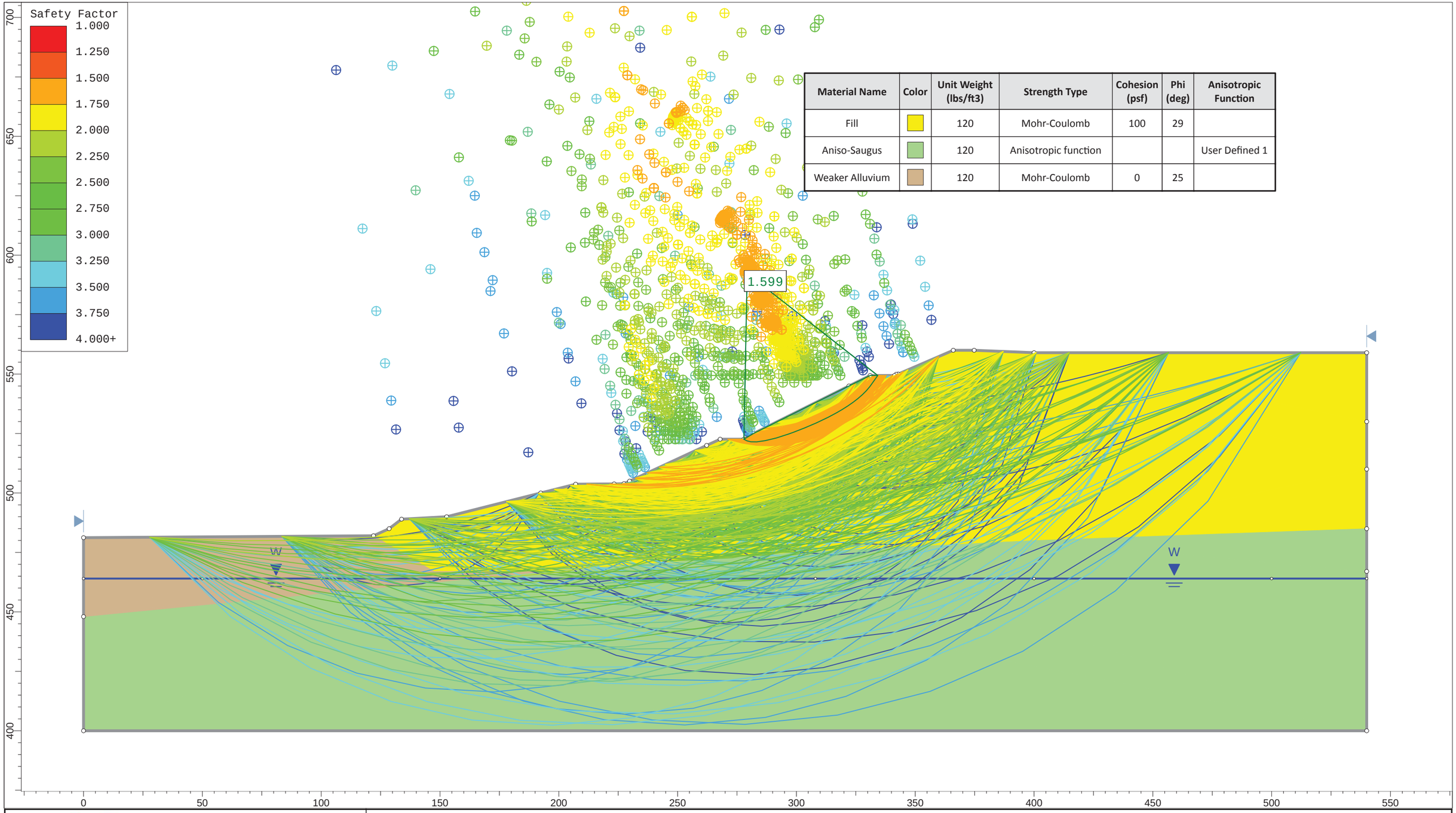
Date: 6/4/2019

Plate E-6



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus		120	Anisotropic function			User Defined 1
Weaker Alluvium		120	Mohr-Coulomb	0	25	

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SLIDEINTERPRET 7.018

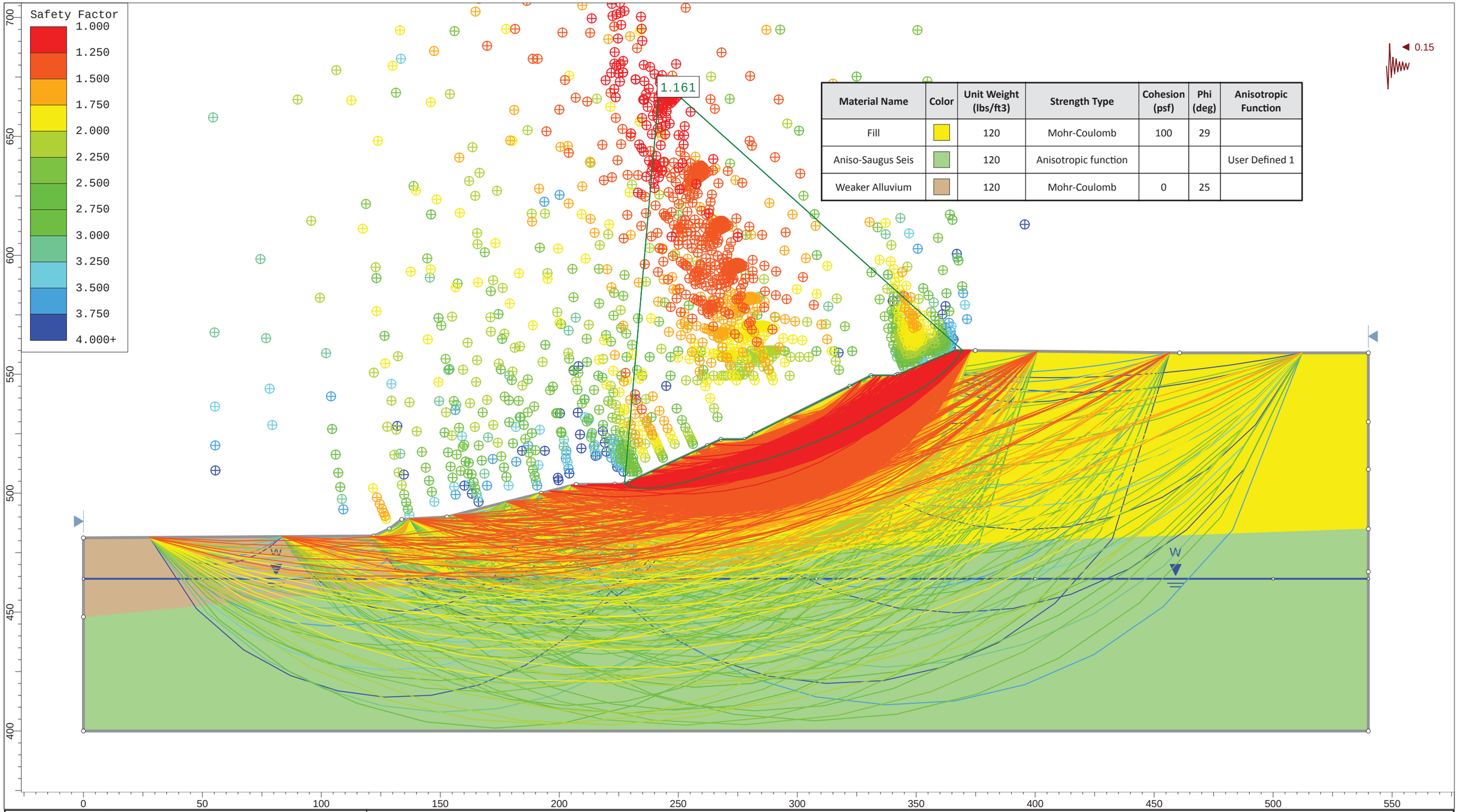
2677.00 Hitch Ranch; Moorpark

Cross Section E-E'; Non Circular; Static

Albus-Keefe & Associates, Inc.

Date: 6/4/2019

Plate E-7



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus Seis		120	Anisotropic function			User Defined 1
Weaker Alluvium		120	Mohr-Coulomb	0	25	

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2677.00 Hitch Ranch; Moorpark

Cross Section E-E'; Non Circular; Seismic

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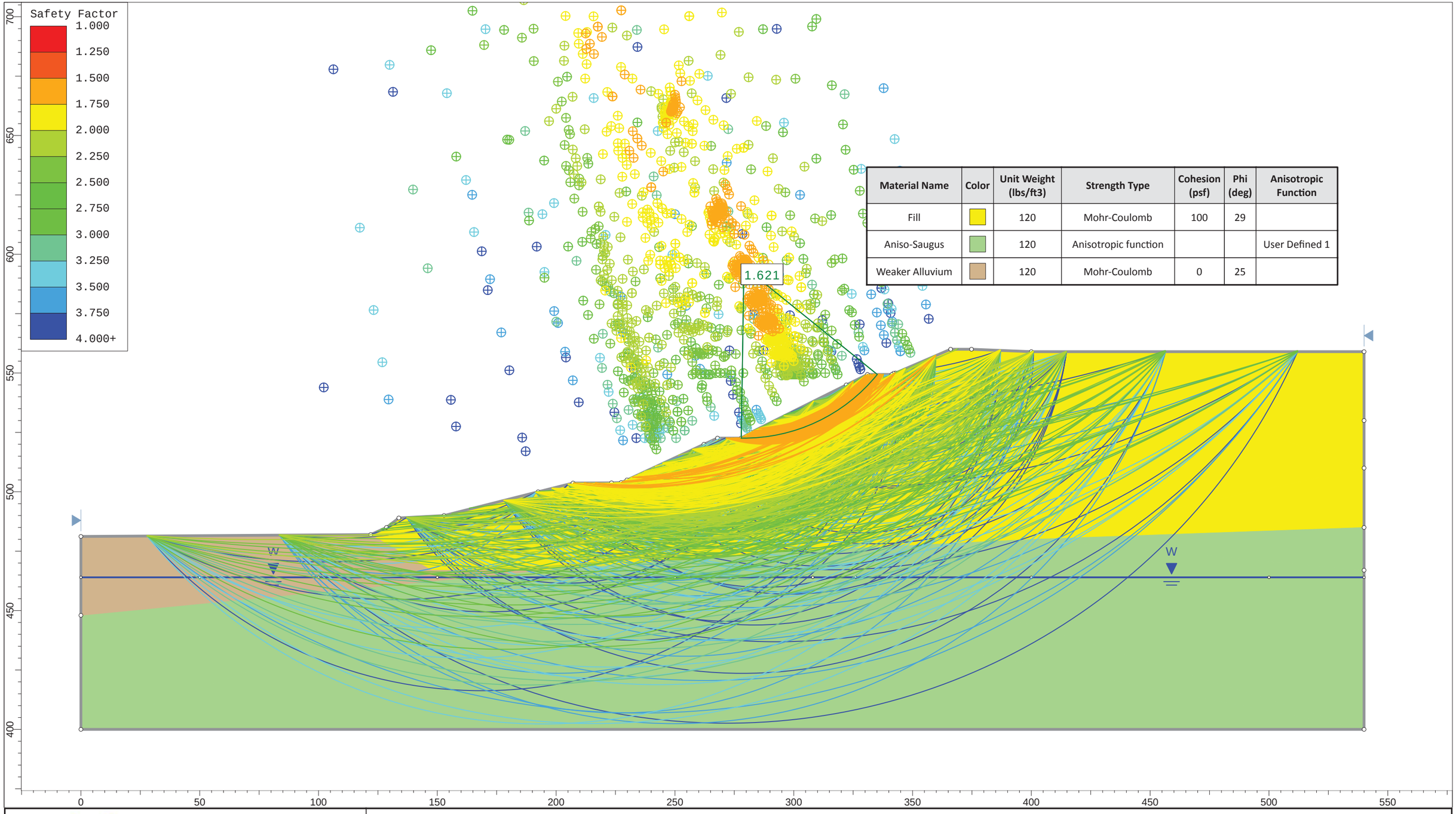
Date: 6/4/2019

Plate E-8



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus		120	Anisotropic function			User Defined 1
Weaker Alluvium		120	Mohr-Coulomb	0	25	

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2677.00 Hitch Ranch; Moorpark

Cross Section E-E'; Circular; Static

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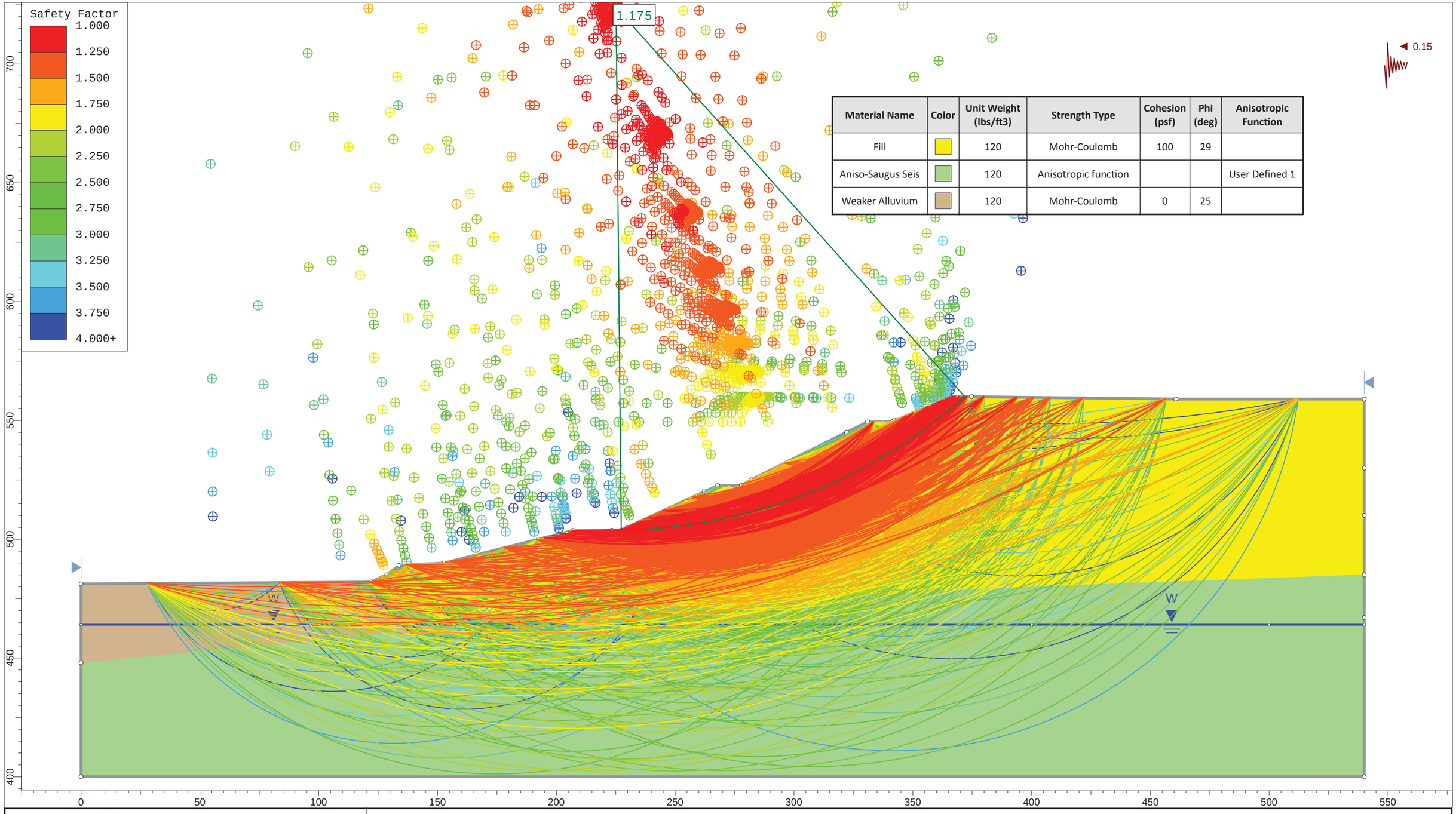
Date: 6/4/2019

Plate E-9



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus Seis		120	Anisotropic function			User Defined 1
Weaker Alluvium		120	Mohr-Coulomb	0	25	

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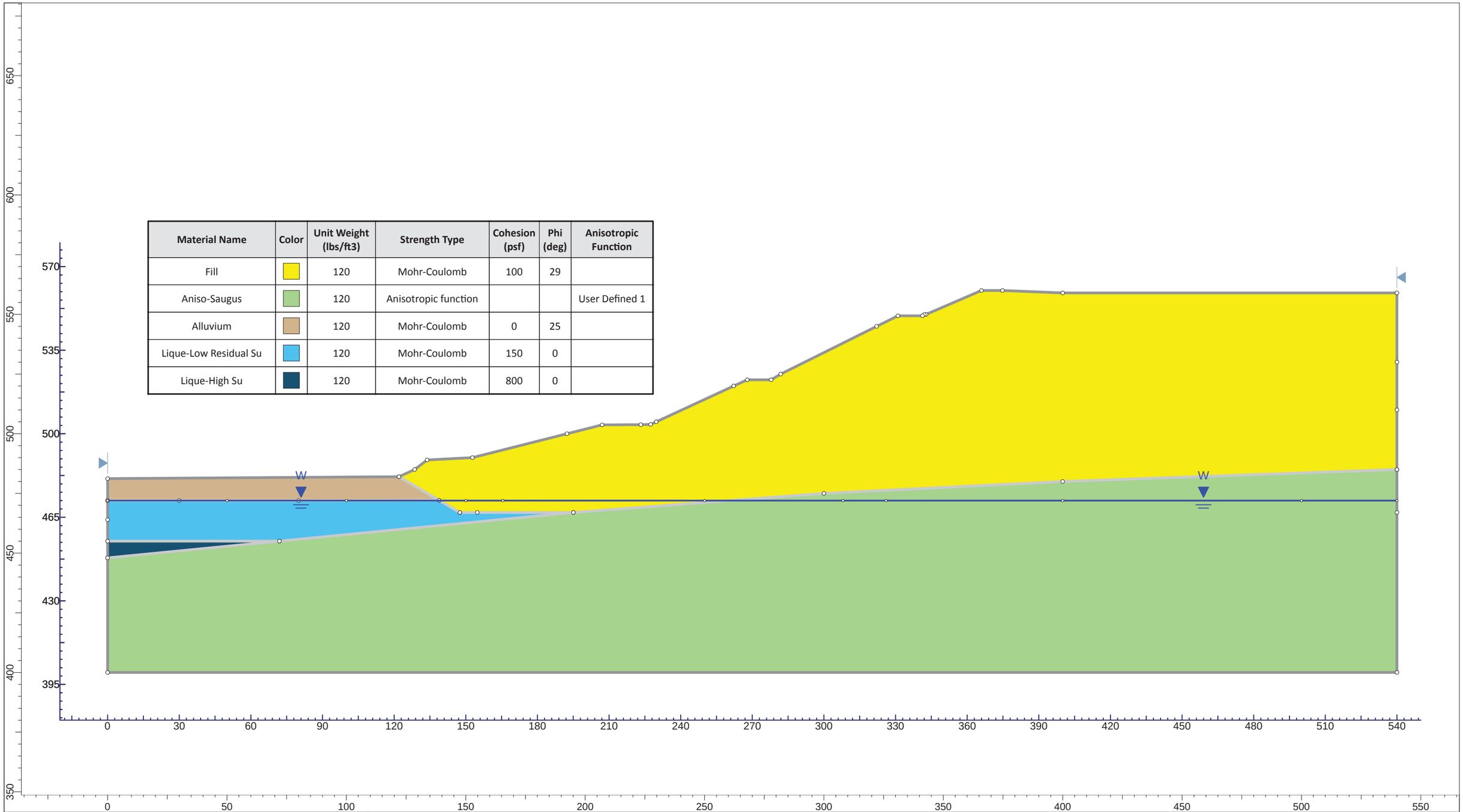
Date: 6/4/2019

Plate E-10

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus		120	Anisotropic function			User Defined 1
Alluvium		120	Mohr-Coulomb	0	25	
Lique-Low Residual Su		120	Mohr-Coulomb	150	0	
Lique-High Su		120	Mohr-Coulomb	800	0	



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SLIDE 7.018

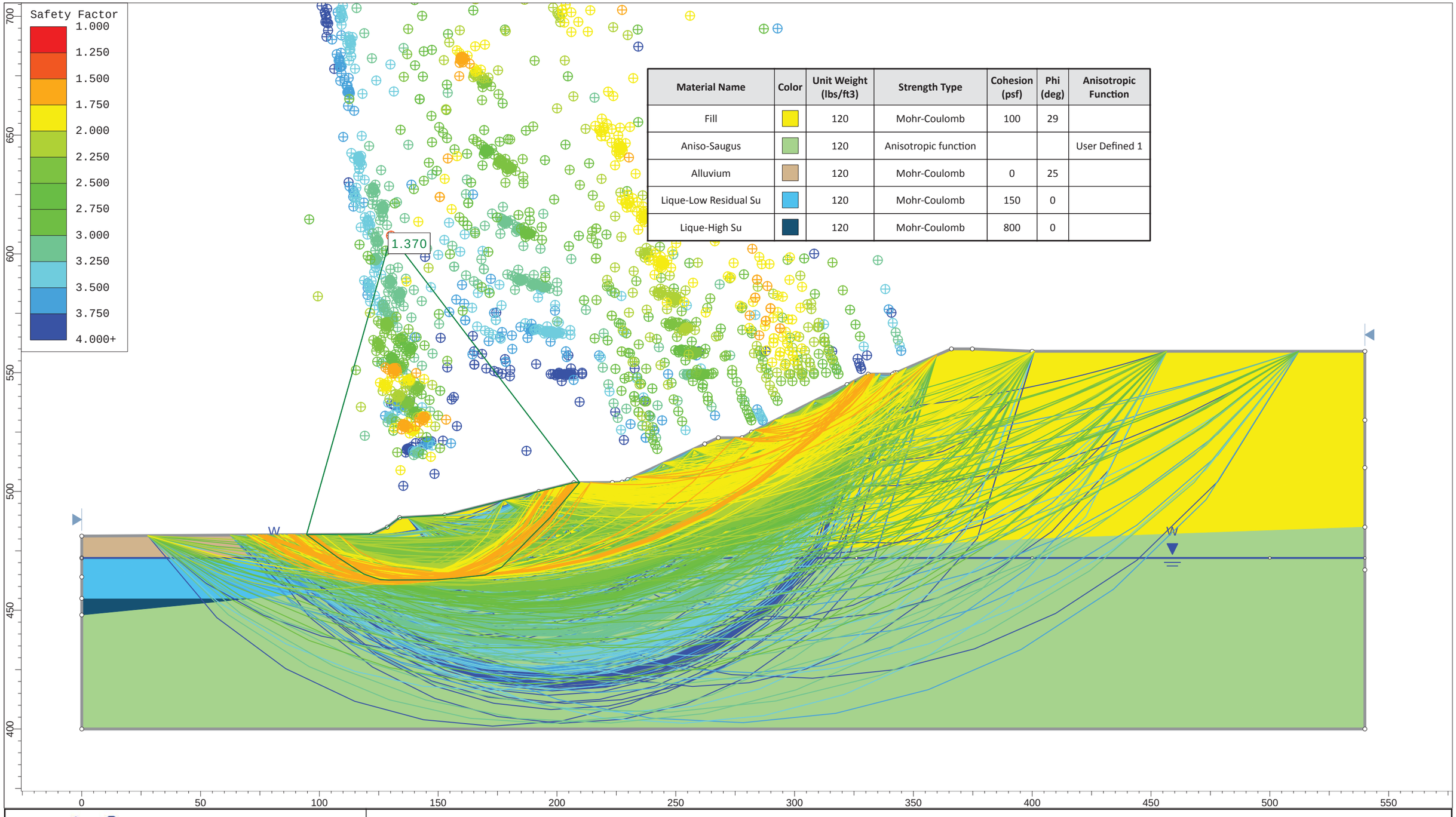
2677.00 Hitch Ranch; Moorpark

Cross Section E-E'; Liquefied; General Configuration

Albus-Keefe & Associates, Inc.

Date: 6/4/2019

Plate E-11



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus		120	Anisotropic function			User Defined 1
Alluvium		120	Mohr-Coulomb	0	25	
Lique-Low Residual Su		120	Mohr-Coulomb	150	0	
Lique-High Su		120	Mohr-Coulomb	800	0	

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2677.00 Hitch Ranch; Moorpark

Cross Section E-E'; Liquefied; Non Circular

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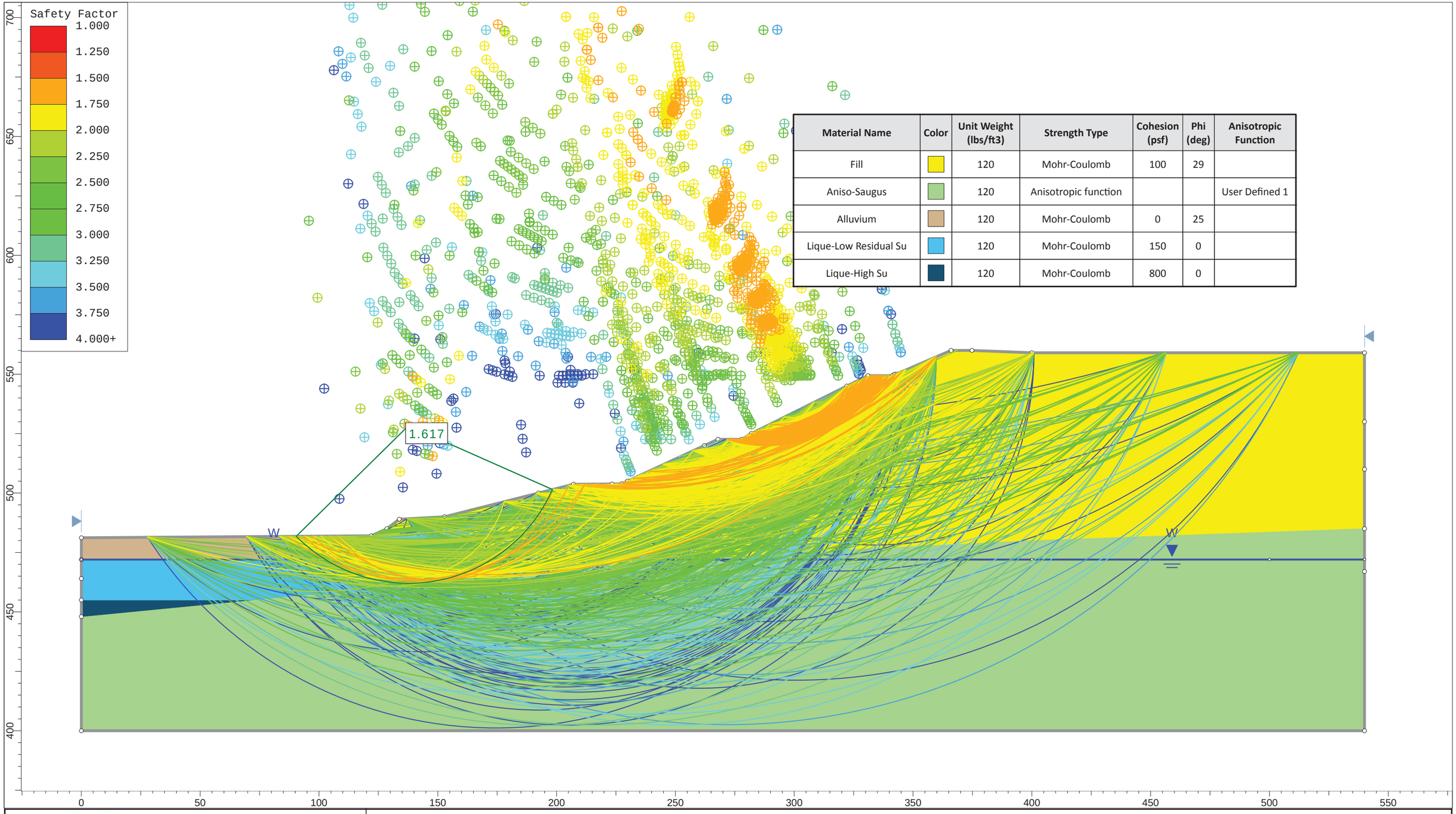
Date: 6/4/2019

Plate E-12



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus		120	Anisotropic function			User Defined 1
Alluvium		120	Mohr-Coulomb	0	25	
Lique-Low Residual Su		120	Mohr-Coulomb	150	0	
Lique-High Su		120	Mohr-Coulomb	800	0	

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2677.00 Hitch Ranch; Moorpark

Cross Section E-E'; Liquefied; Circular

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Date: 6/4/2019

Plate E-13

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus		120	Anisotropic function			User Defined 1

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SLIDE 7.018

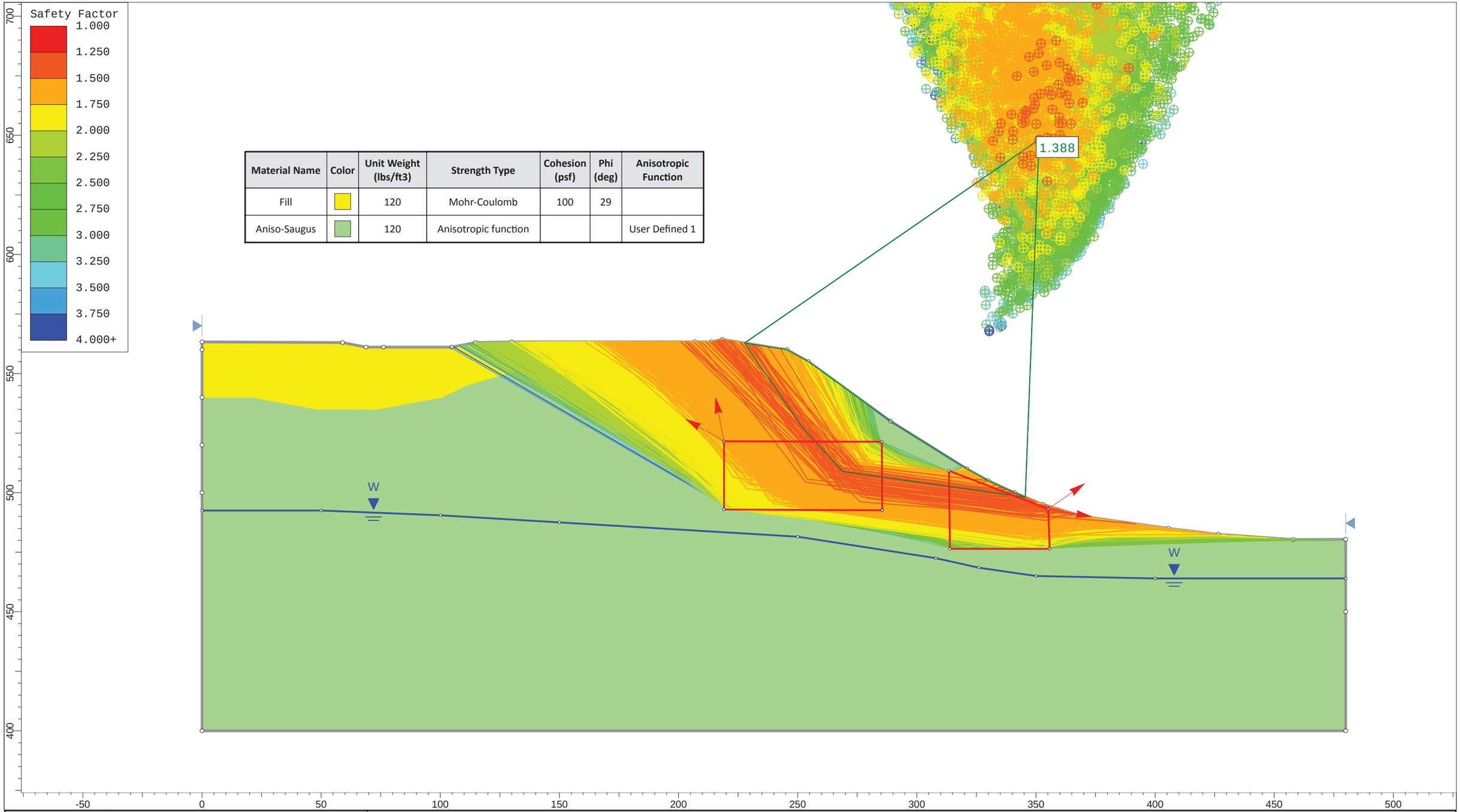
2677.00 Hitch Ranch; Moorpark

Cross Section F-F'; General Configuration

Albus-Keefe & Associates, Inc.

Date: 6/4/2019

Plate E-14



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus		120	Anisotropic function			User Defined 1

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SLIDEINTERPRET 7.018

2677.00 Hitch Ranch; Moorpark

Cross Section F-F'; Block; Static

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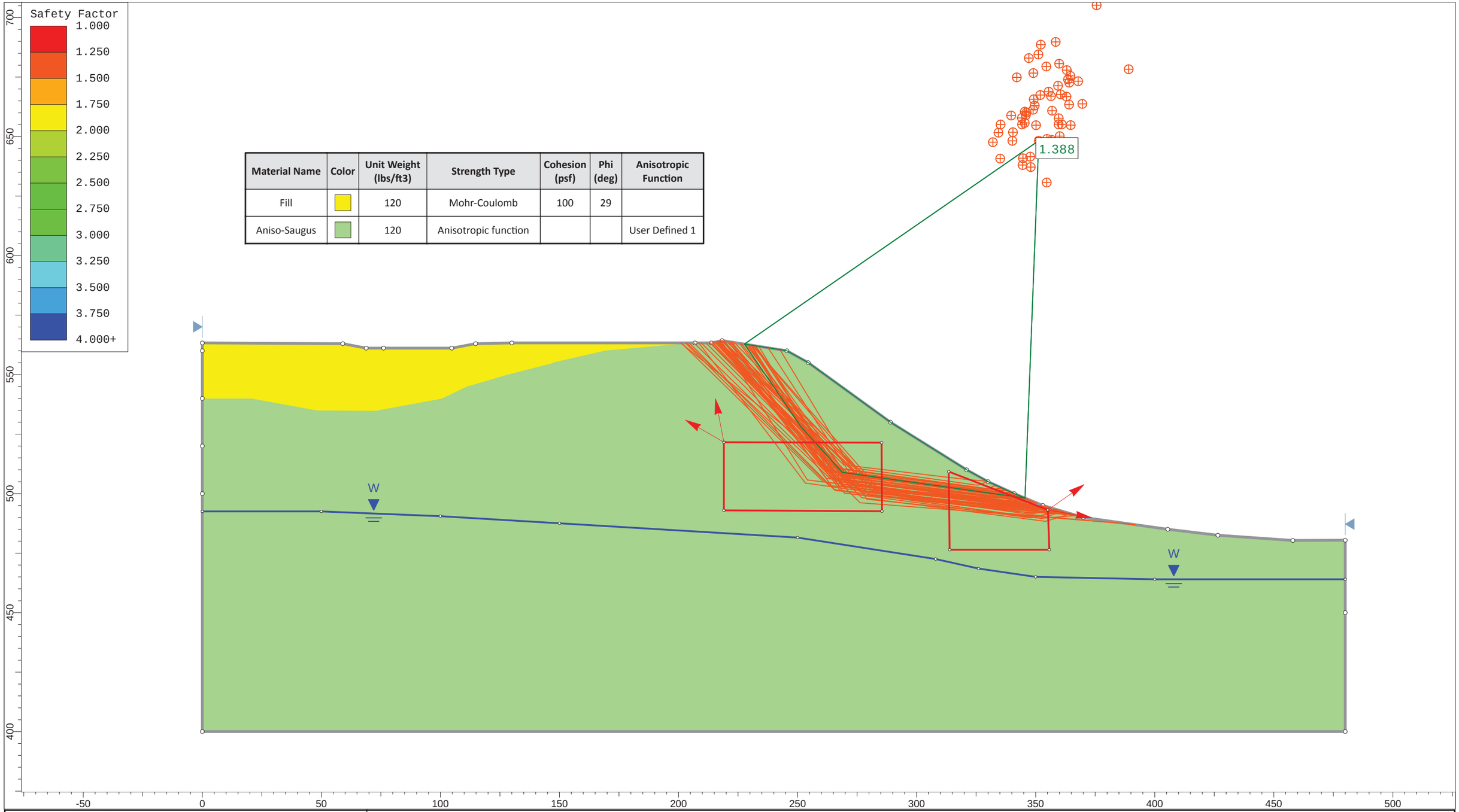
Date: 6/4/2019

Plate E-15



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus		120	Anisotropic function			User Defined 1

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2677.00 Hitch Ranch; Moorpark

Cross Section F-F'; Block; Static

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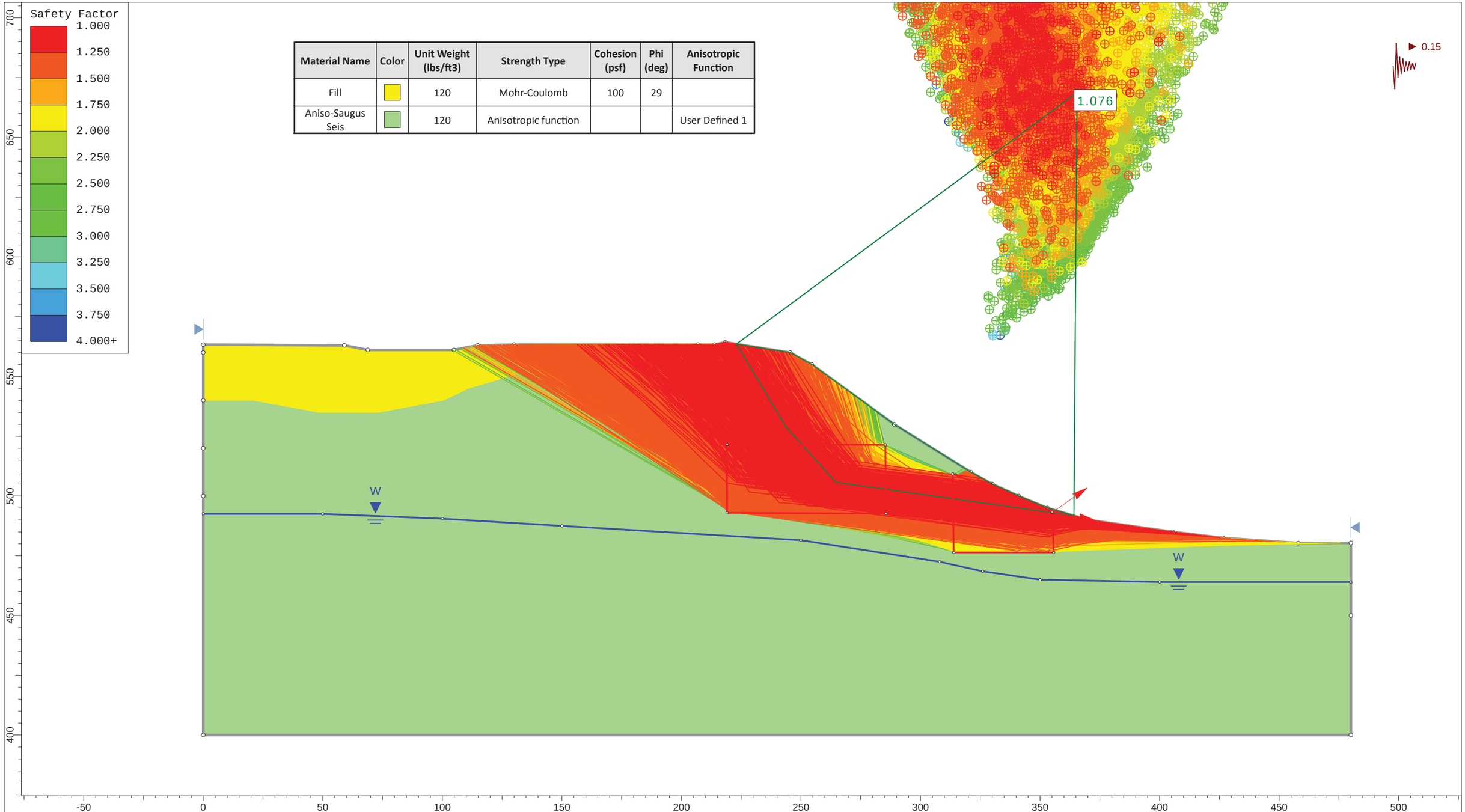
Date: 6/4/2019

Plate E-16

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus Seis		120	Anisotropic function			User Defined 1



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SLIDEINTERPRET 7.018

2677.00 Hitch Ranch; Moorpark

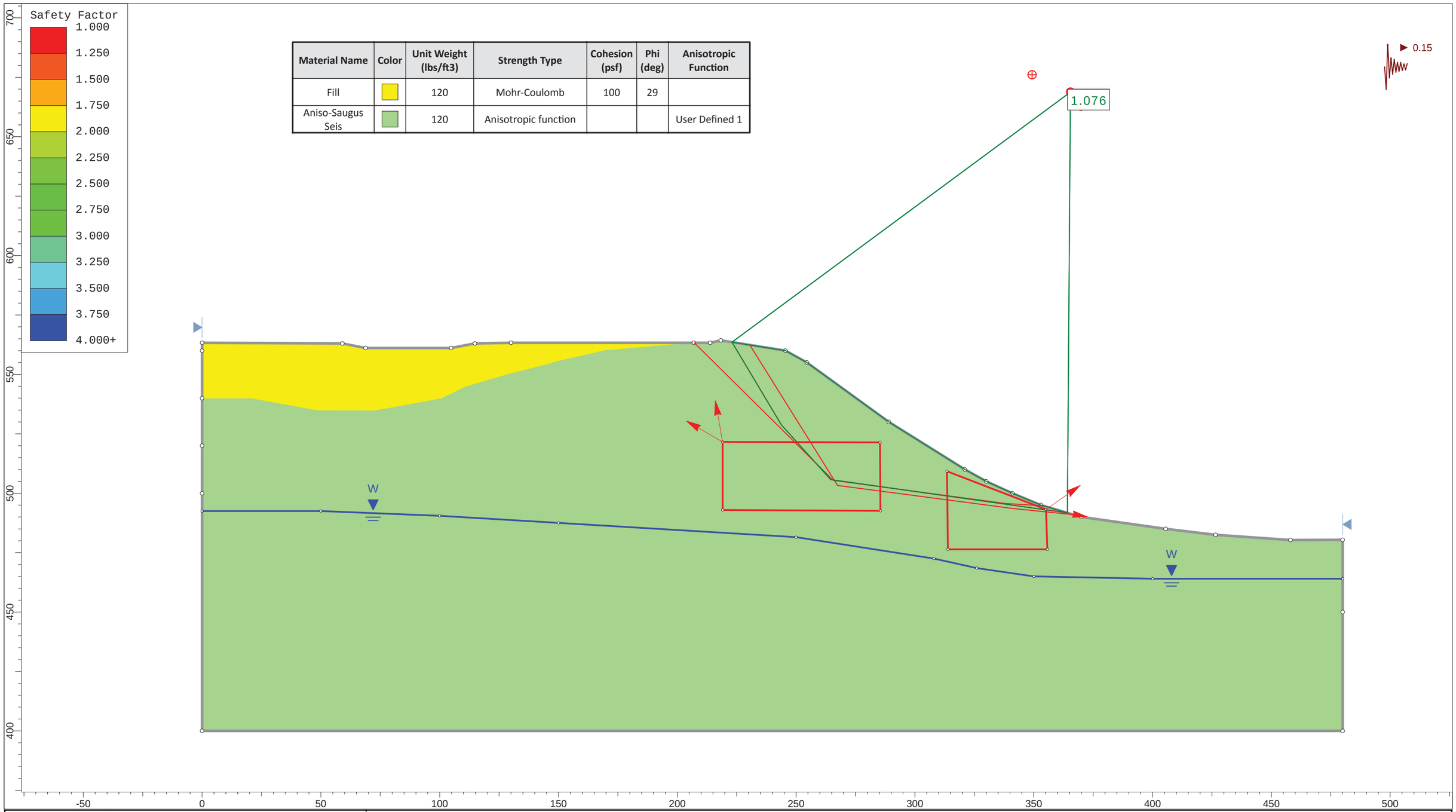
Cross Section F-F'; Block; Seismic

Albus-Keefe & Associates, Inc.

Date: 6/4/2019

Plate E-17

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus Seis		120	Anisotropic function			User Defined 1



ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS
1011 N. Armando Street, Anaheim, CA 92806-2606 Phone (714) 630-1626 Fax (714) 630-1916

SLIDEINTERPRET 7.018

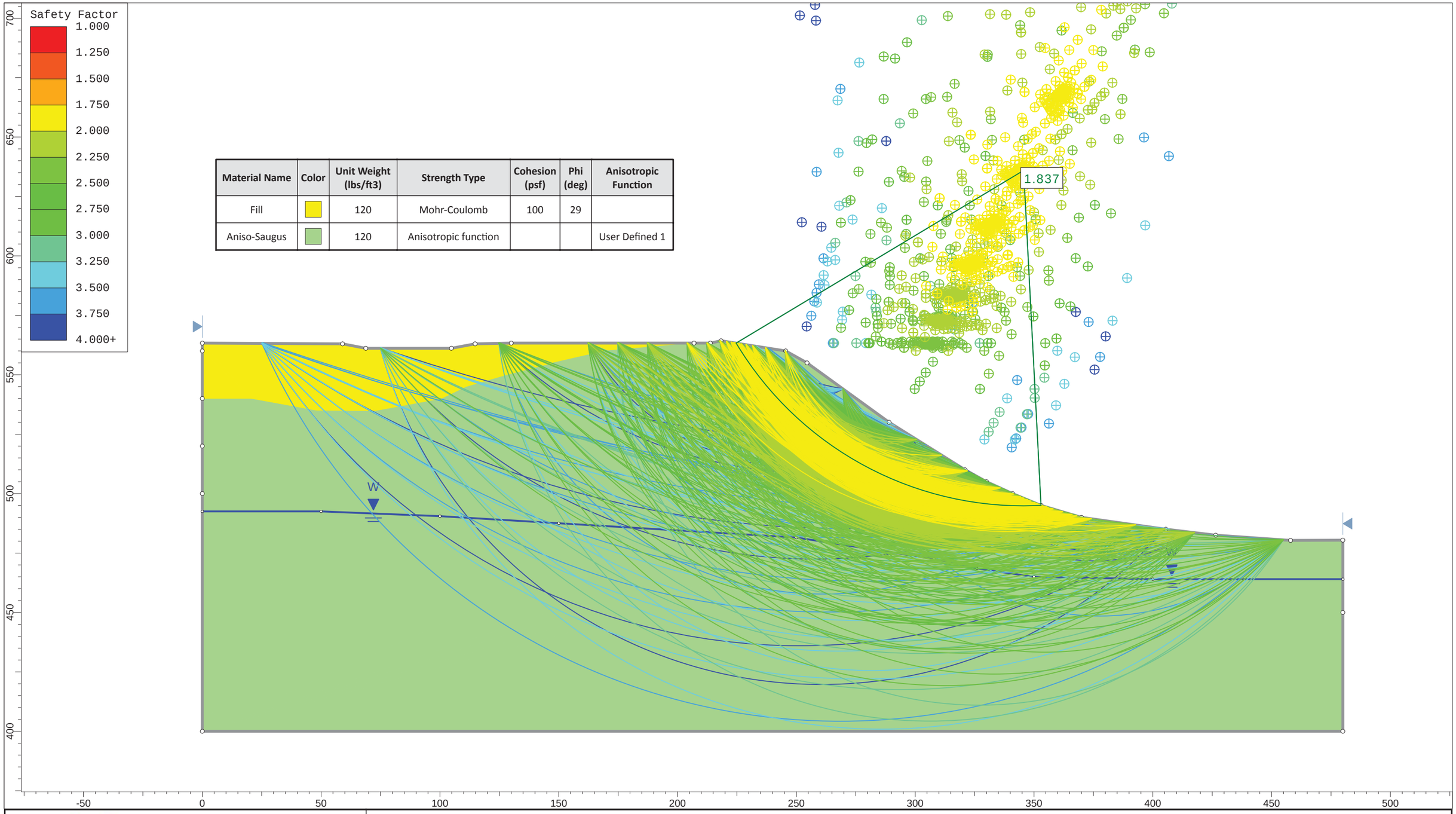
2677.00 Hitch Ranch; Moorpark

Cross Section F-F'; Block; Seismic

Albus-Keefe & Associates, Inc.

Date: 6/4/2019

Plate E-18



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus		120	Anisotropic function			User Defined 1

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS
1011 N. Armando Street, Anaheim, CA 92806-2606 Phone (714) 630-1626 Fax (714) 630-1916

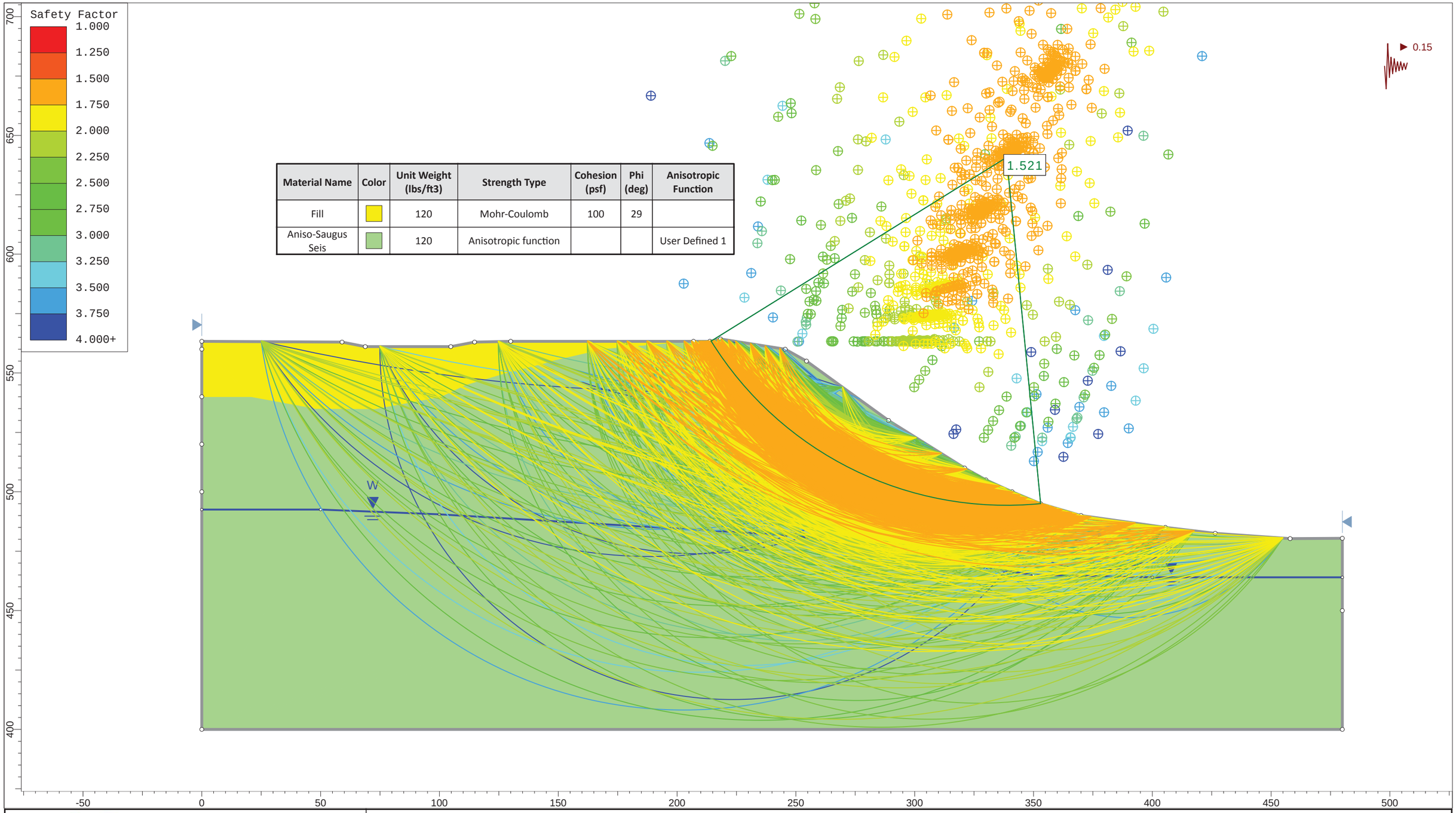
SLIDEINTERPRET 7.018

2677.00 Hotch Ranch; Moorpark

Cross Section F-F'; Circular; Static

Albus-Keefe & Associates, Inc.

Date: 6/4/2019



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function
Fill		120	Mohr-Coulomb	100	29	
Aniso-Saugus Seis		120	Anisotropic function			User Defined 1

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS
1011 N. Armando Street, Anaheim, CA 92806-2606 Phone (714) 630-1626 Fax (714) 630-1916

SLIDEINTERPRET 7.018

2677.00 Hitch Ranch; Moorpark

Cross Section F-F'; Circular; Seismic

Albus-Keefe & Associates, Inc.

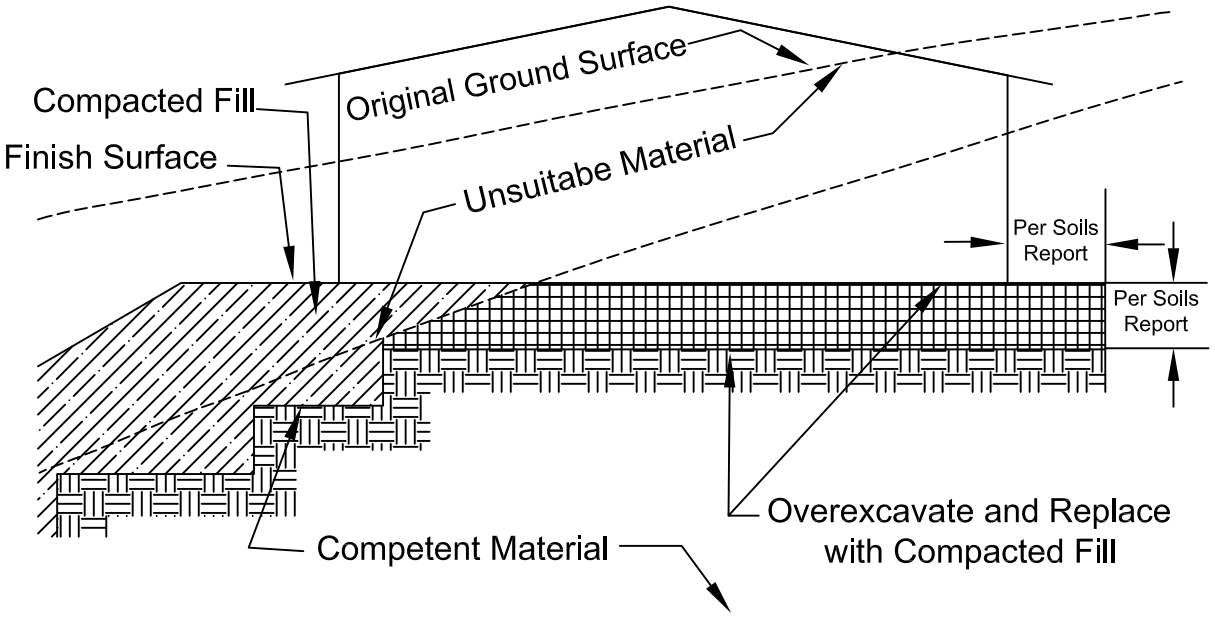
Date: 6/4/2019

Plate E-20

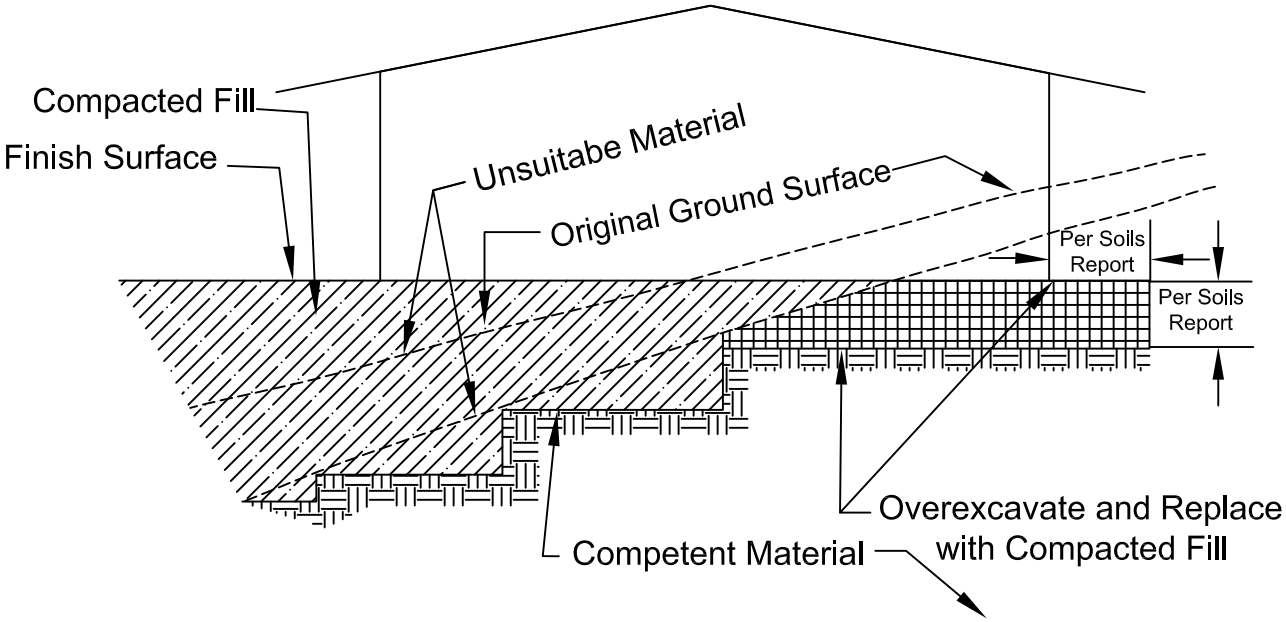
APPENDIX F

GRADING DETAILS

CUT TRANSITION LOT



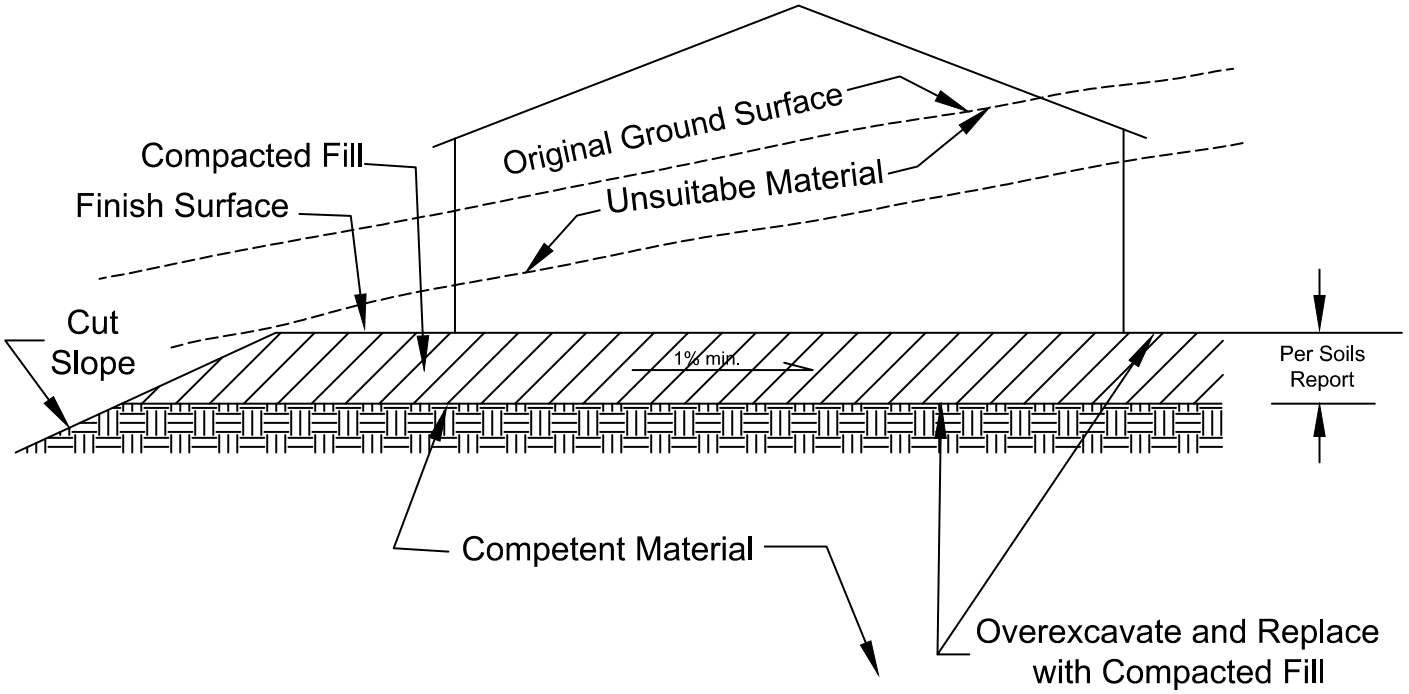
CUT/FILL TRANSITION LOT



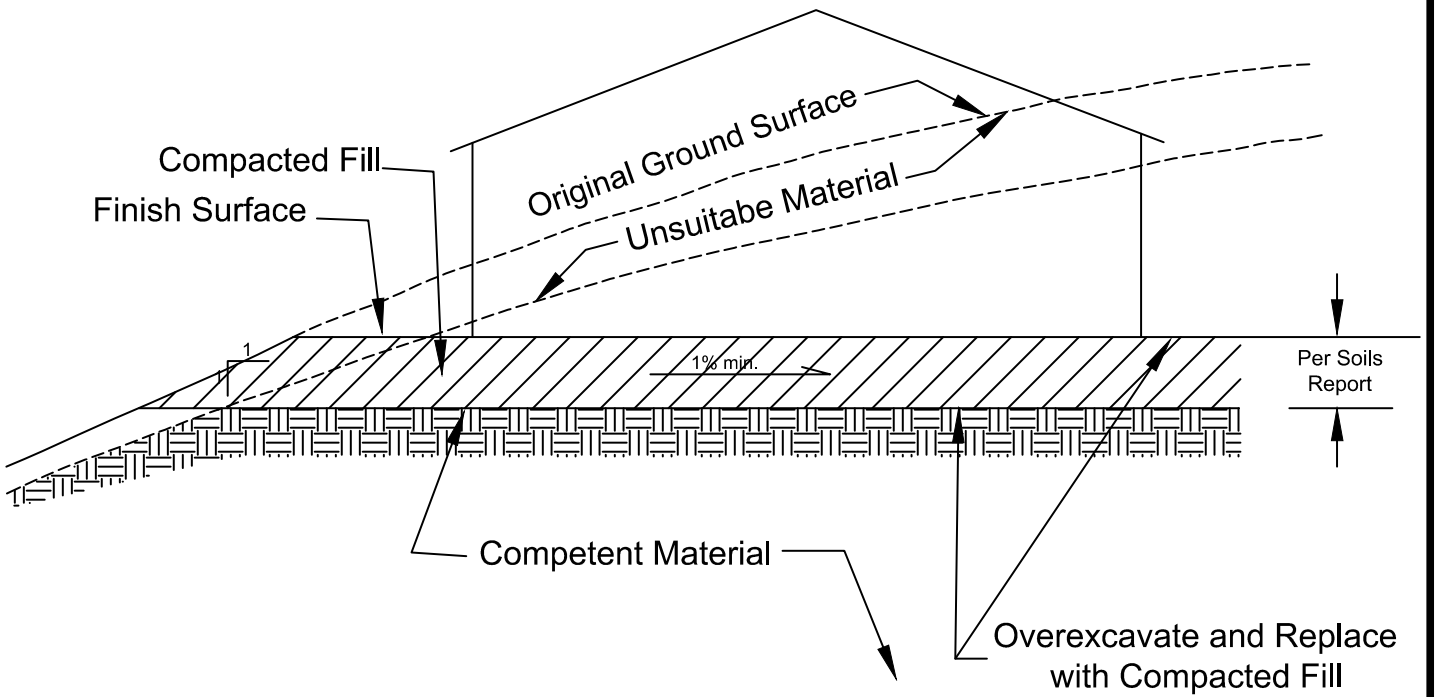
TRANSITION LOT CAPPING

Not To Scale
See attached soils report for specific recommendations

CUT LOT

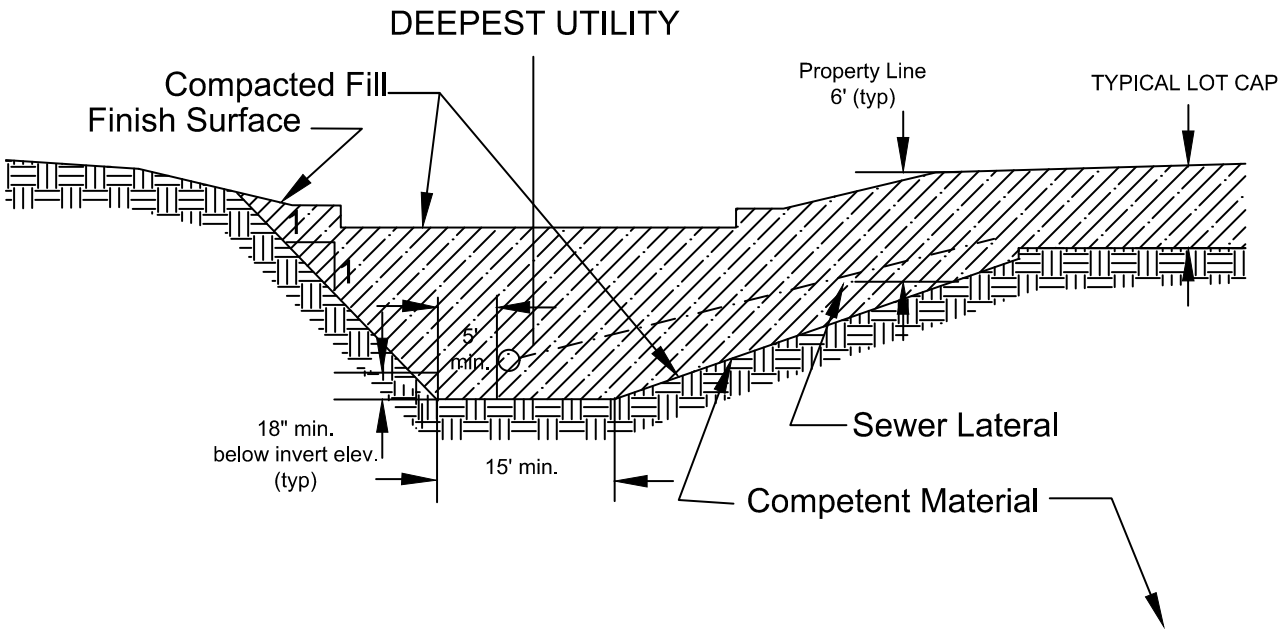


DAYLIGHT CUT LOT



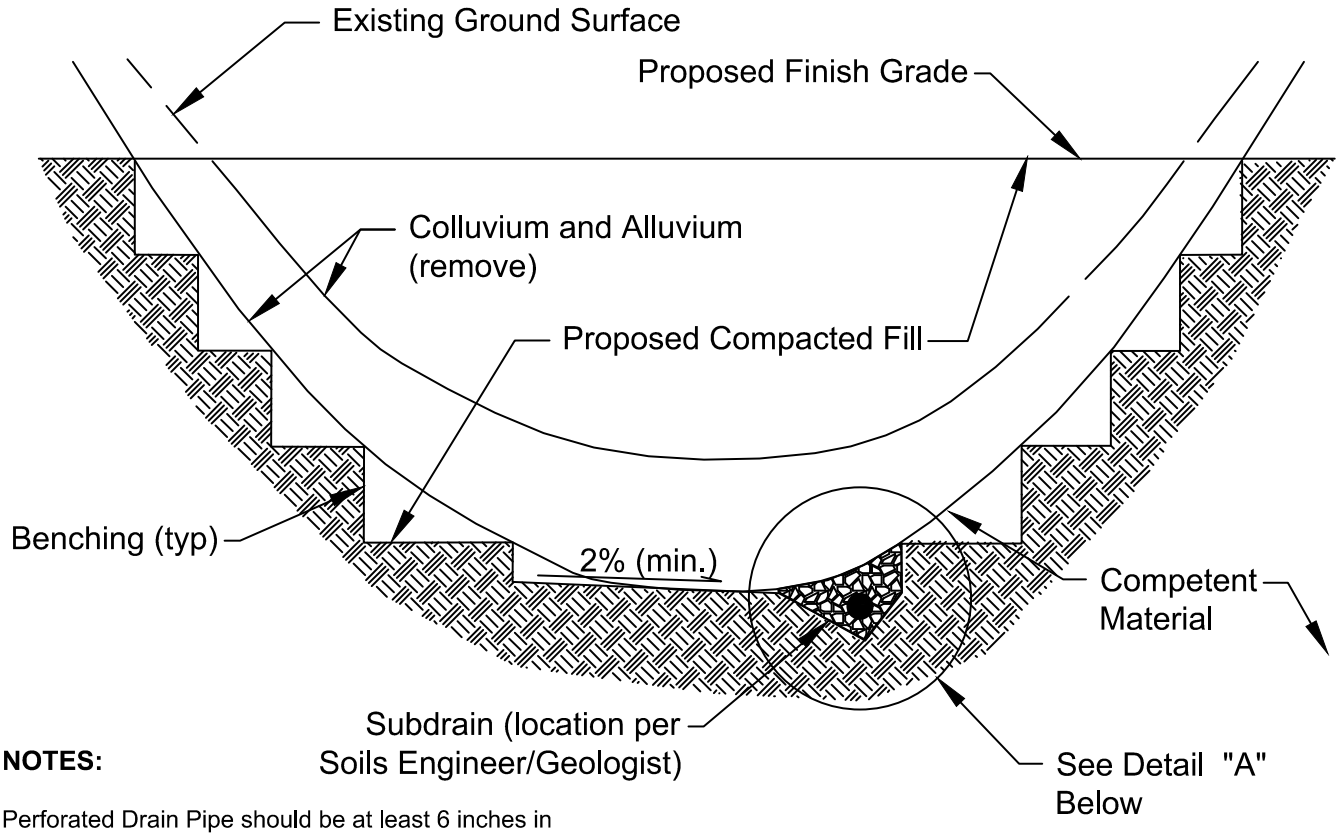
Cut Lot Capping

Not To Scale
See attached soils report for specific recommendations



STREET OVEREXCAVATION

Not To Scale
See attached soils report for specific recommendations



NOTES:

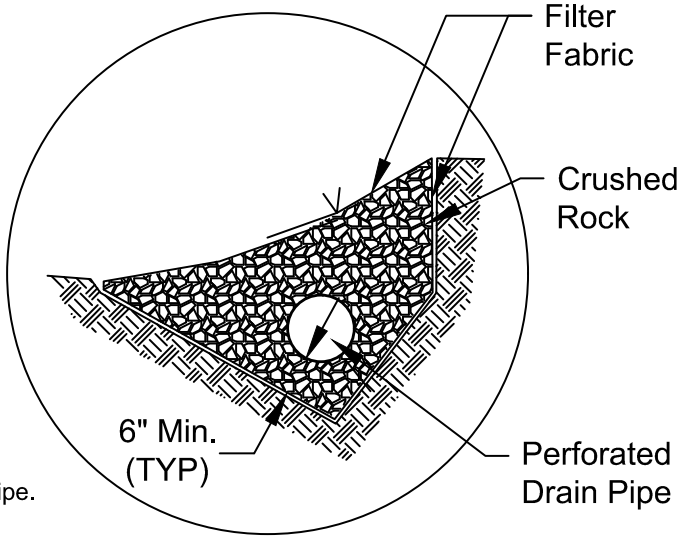
Perforated Drain Pipe should be at least 6 inches in diameter, or 8 inches for runs of more than 500 feet, consisting of either Shedule 40 PVC or SDR 35.
A min. of 8 perforations per linear foot should be provided along the bottom of pipe. The perforations should be in two rows 120 degrees apart, and have diameters of 3/8".
Upstream ends should be provided with a cap. The pipe should slope at a min. 1% gradient toward Outlet Pipes.
Glue all joints.

Outlet Pipe should equal the diameter of the perforated pipe, consisting of either shedule 40 PVC or SDR 35. The pipe should slope at a min. 1% gradient toward the Discharge Point.
Backfill around Outlet Pipe should consist of onsite soils.
Glue all joints.

Crushed Rock should conform to the Standard Specifications for Public Works Construction, Section 200-1.2, for 3/4".
Provide at least 9 cubic feet per lineal foot of Perforated Drain Pipe.
Provide at least 6 inches of gravel below Perforated Pipe.

Filter Fabric should consist of Mirafi 140N or equivelent.
Ends should overlap at least 12 inches.

CALTRANS Class II Permeable Filter Material can be used in lieu of Crushed Rock encased in Filter Fabric

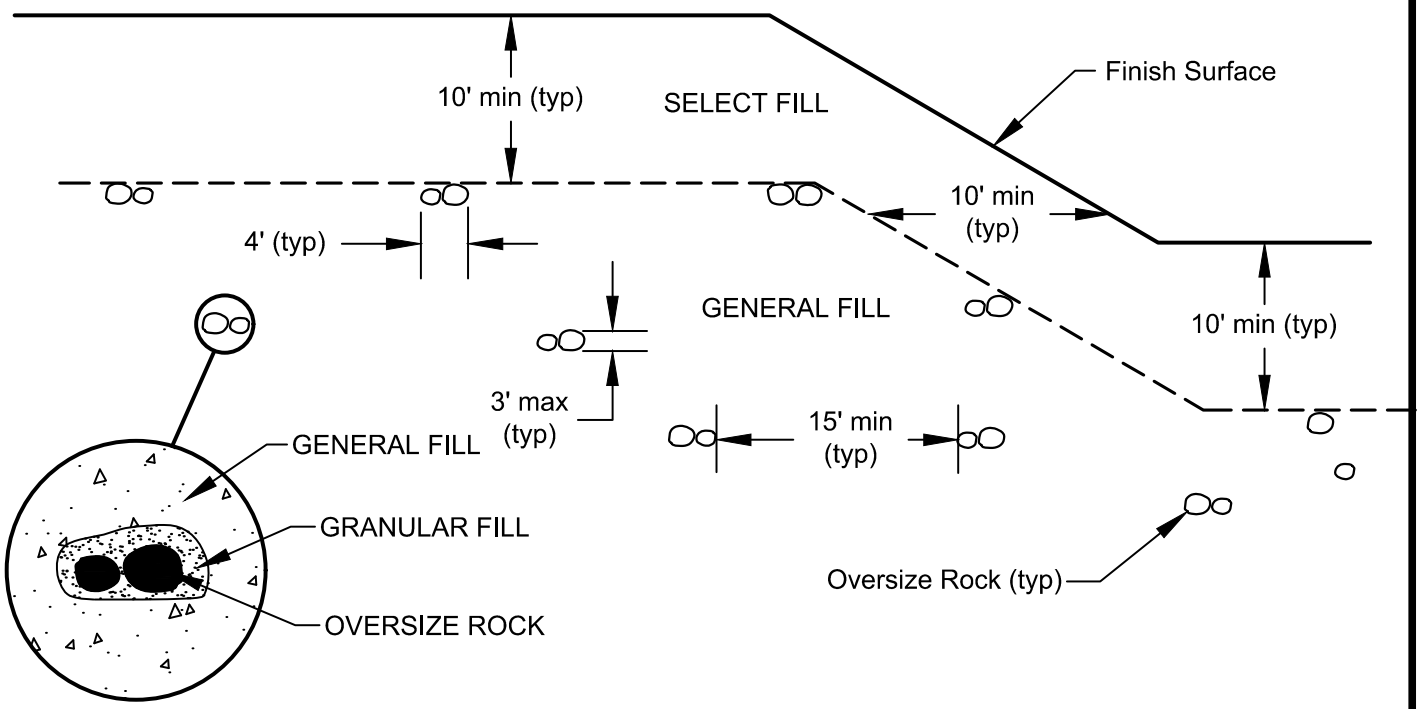


DETAIL "A"

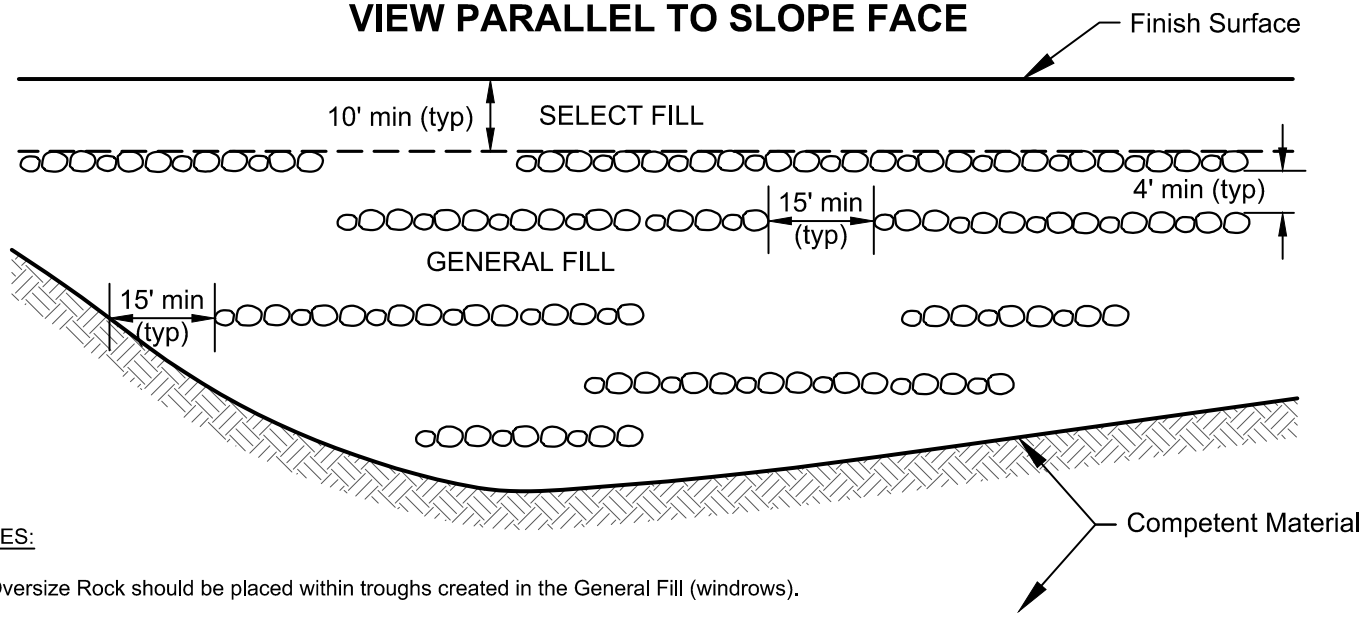
CANYON SUBDRAIN

Not To Scale
See attached soils report for specific recommendations

VIEW NORMAL TO SLOPE FACE



VIEW PARALLEL TO SLOPE FACE



NOTES:

A. Oversize Rock should be placed within troughs created in the General Fill (windrows).

B. Oversize Rocks should be placed to avoid nesting.

C. A layer of Granular Fill (soil material having a maximum particle size of 3 inches or less, and with a Sand Equivalent of 30 or more) should be placed over the Oversize Rock windrow and flooded. This process should be repeated until all voids have been filled.

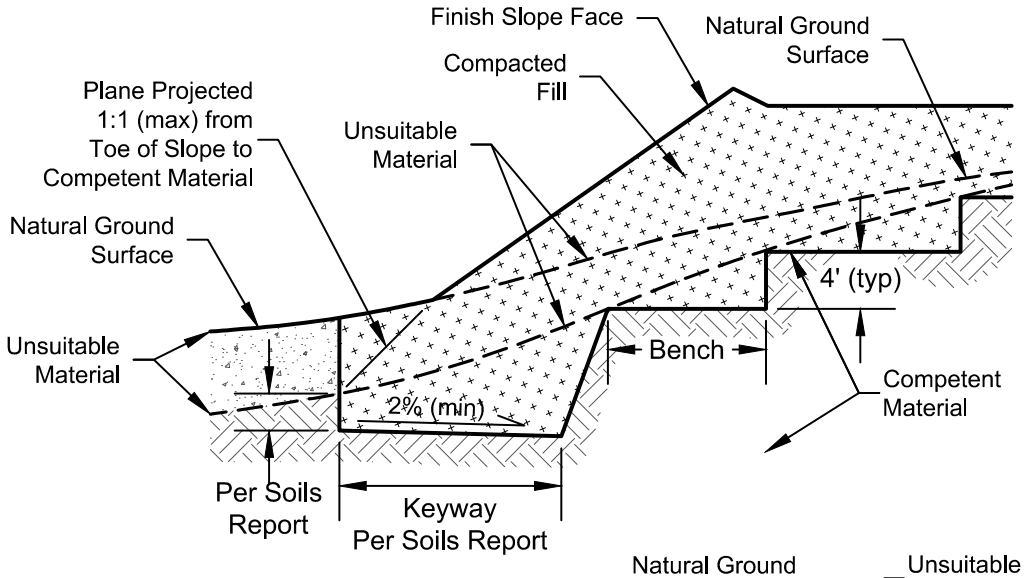
D. After the voids are filled with Granular Fill, the windrow should be track-walked with a dozer prior to placing General Fill over the windrow.

E. Oversize Rock, suitable for disposal by these methods, is defined rock as larger than 12 inches but not more than 36 inches in smallest dimension.

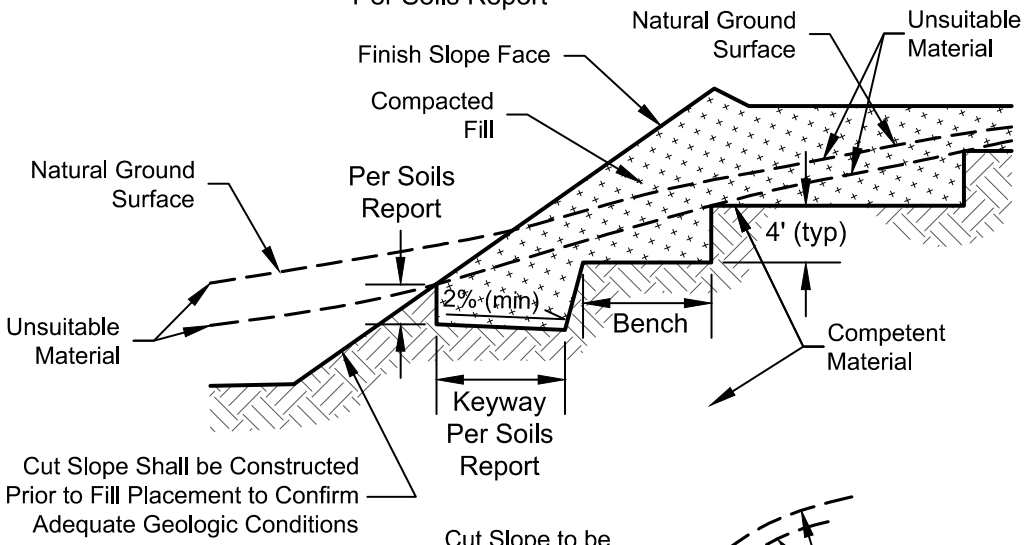
OVERSIZE ROCK DISPOSAL

Not To Scale
See attached soils report for specific recommendations

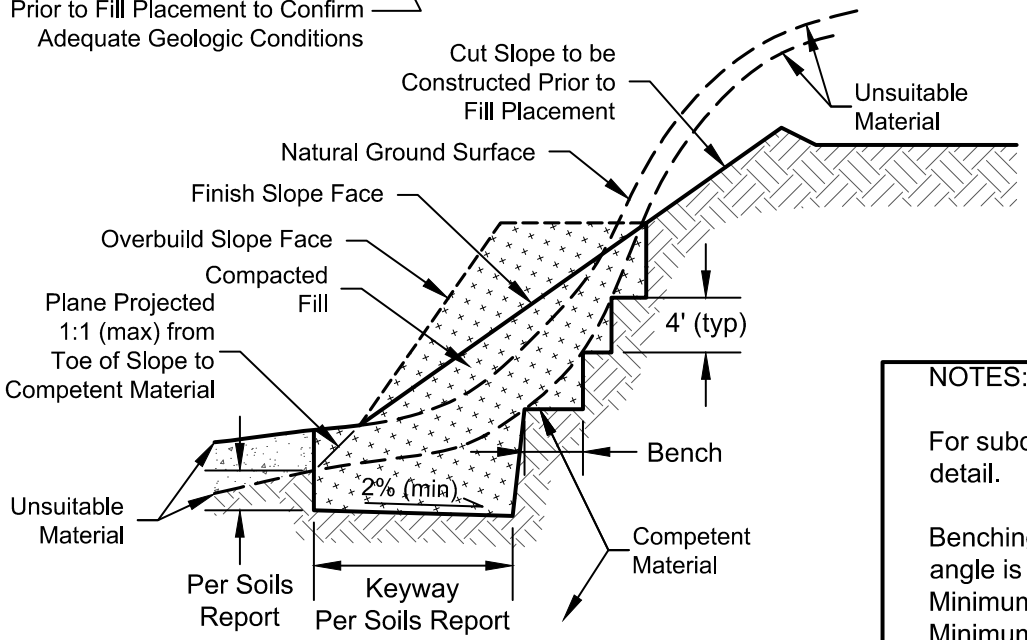
FILL SLOPE



FILL OVER CUT SLOPE



CUT OVER FILL SLOPE



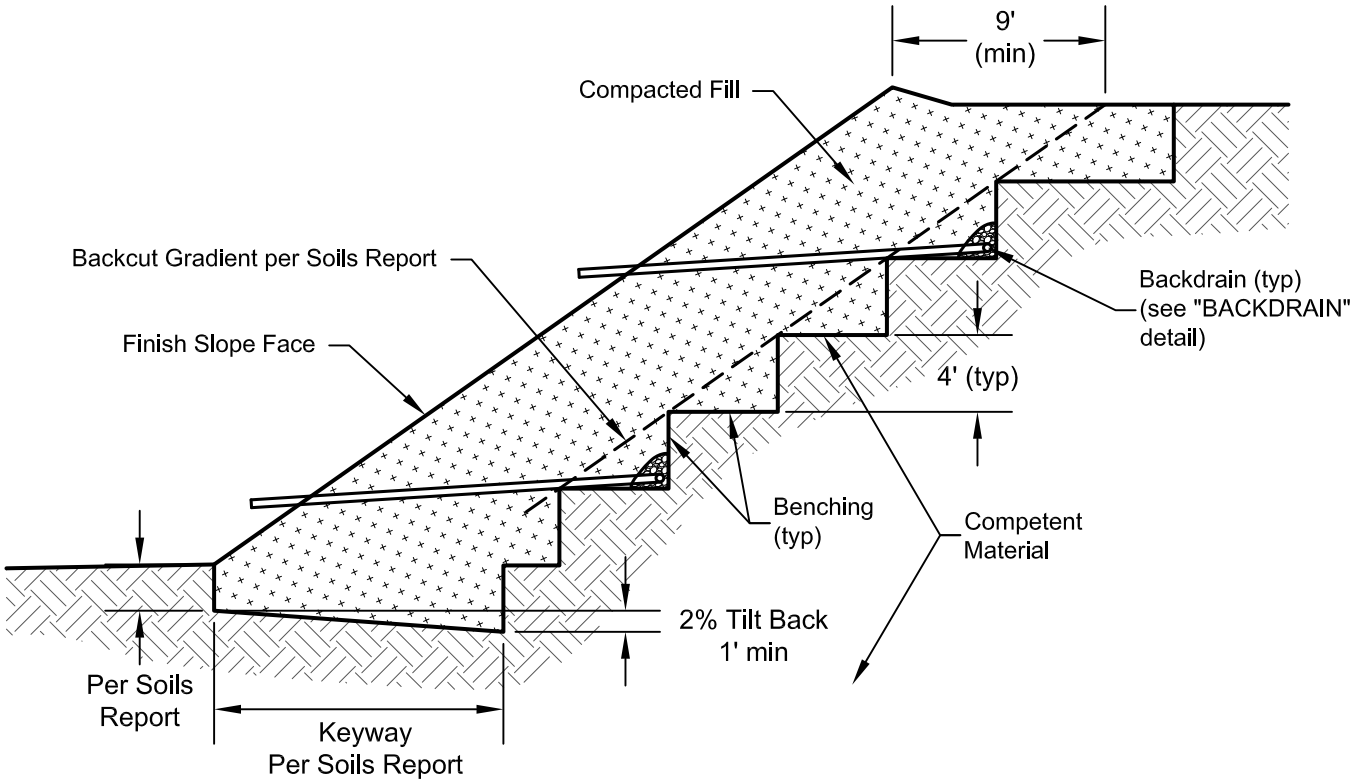
NOTES:

For subdrains see "SLOPE BACKDRAIN" detail.

Benching shall be done when the slope angle is equal to or greater than 5:1. Minimum bench height shall be 4 feet. Minimum fill width shall be 9 feet.

FILL SLOPE CONSTRUCTION

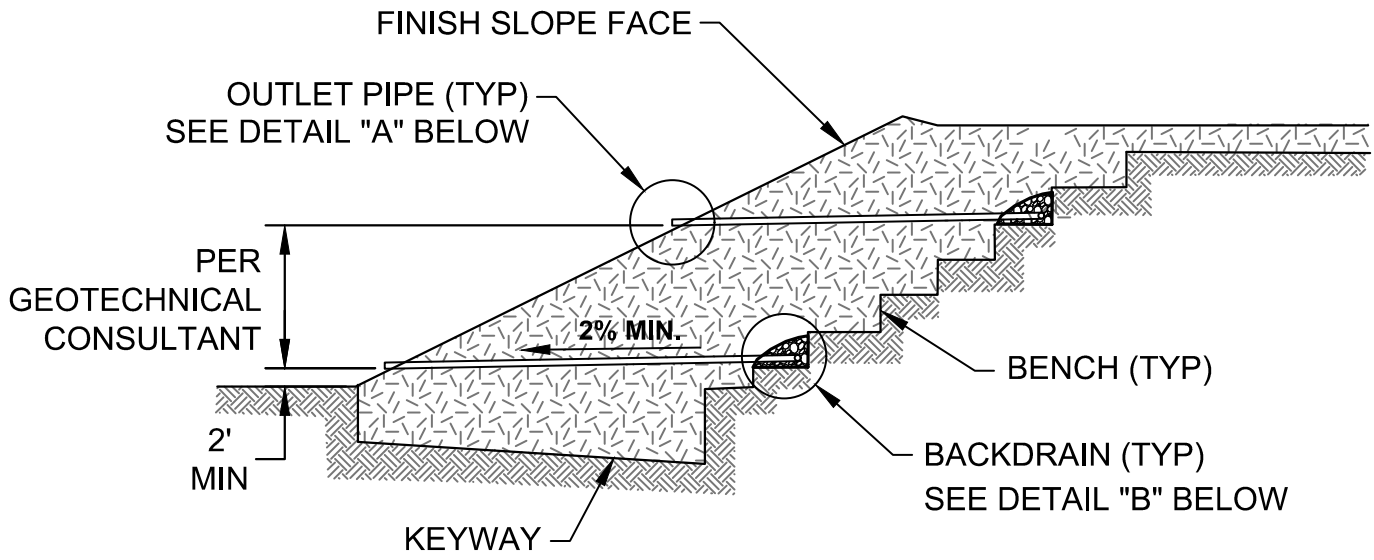
Not To Scale
See attached soils report for specific recommendations

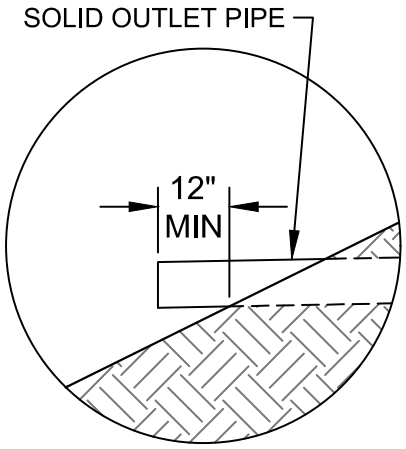


STABILIZATION FILL SLOPE

Not To Scale
See attached soils report for specific recommendations

PLATE F-7





DETAIL "A"

NOTES:

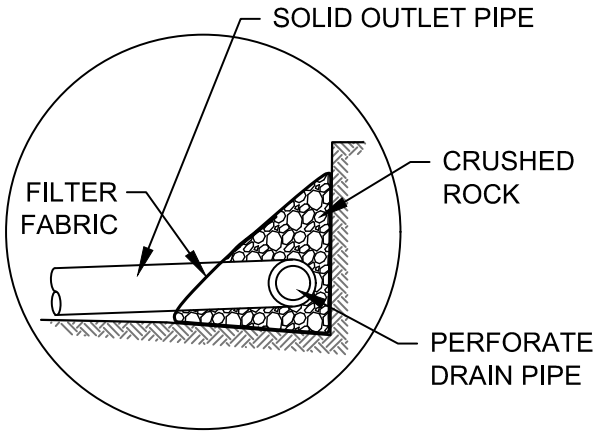
Perforated Drain Pipe should be at least 4 inches in diameter consisting of either Shedule 40 PVC or SDR 35. A min. of 8 perforations per linear foot should be provided along the bottom of pipe. Upstream ends should be provided with a cap. The pipe should slope at a min. 1% gradient toward Outlet Pipes. Glue all joints.

Outlet Pipe should be at least 4 inches in diameter consisting of either shedule 40 PVC or SDR 35. The pipe should slope at a min. 2% gradient toward slope face. Backfill around Outlet Pipe should consist of onsite soils. Provide Outlet Pipe for each 100 feet of Perforated Drain Pipe. Glue all joints. Extend Outlet Pipe 1 foot beyond Finish Slope Face. Glue all joints.

Crushed Rock should conform to the Standard Specifications for Public Works Construction, Section 200-1.2, for 3/4". Provide at least 4 cubic feet per lineal foot of Perforated Drain Pipe. Provide at least 4 inches of gravel below perforated pipe.

Filter Fabric should consist of Mirafi 140N or equivelent. Ends should overlap at least 12 inches.

CALTRANS Class II Permeable Filter Material can be used in lieu of Crushed Rock encased in Filter Fabric.

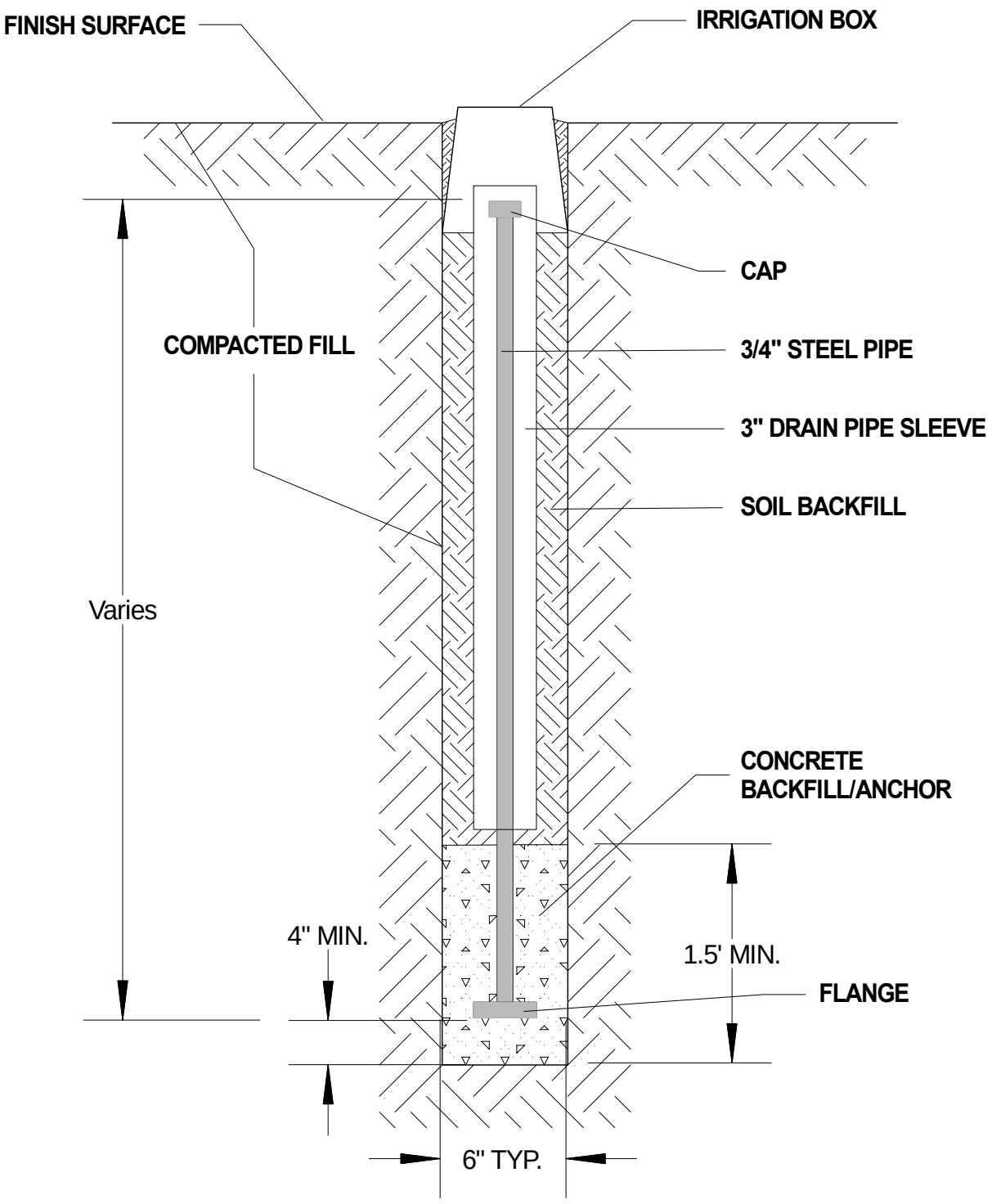


DETAIL "B"

SLOPE BACKDRAIN

Not To Scale
See attached soils report for specific recommendations

PLATE F-8



SETTLEMENT MONUMENT

Not To Scale
See attached soils report for specific recommendations.

Detail No. 20

B

Response to Geotechnical Review

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

January 8, 2020
J.N. 2677.00

Ms. Harriet Rapista
Comstock Homes
2301 Rosecrans Avenue, Ste. 1150
El Segundo, CA 90245

Subject: **Response to Geotechnical Review by the City of Moorpark, Hitch Ranch Fault Study, Tentative Tract 5708, City of Moorpark, California.**

Reference: "Updated" Geotechnical Feasibility Investigation for Proposed Residential Development, Tentative Tract 5708 (Hitch Ranch Project), City of Moorpark, California, prepared by Albus-Keefe & Associates Inc., dated September 20, 2019 (J.N. 2677.00).

Dear Ms. Rapista,

At your request, we have prepared this response to the comments prepared by the city of Moorpark pertaining to a review of our referenced report. The comments were provided in a spreadsheet and a print of the comments are attached herein for reference.

Item 1:

Cover Letter: We note that the study is provided for preliminary recommendations, and that further studies may be needed for grading or foundation plans. If further studies are needed, this should be a requirement listed in the CEQA document for final project design.

We concur. Because the project plans are not developed in detail and subject to change, we have pointed out in our report that additional studies may be warranted, depending on the degree that project plans change. These additional studies could be limited to office analyses or they could include additional site exploration. However, we believe sufficient work has been completed at this time to make the determination that site development as generally proposed is feasible and this should satisfy CEQA requirements. We believe the CEQA document can state that any recommendations of our report and subsequent addendums as approved by the governing agency should be implemented in site development prior to granting construction permits.

Item 2:

Section 3.4: Second paragraph states that there are minor faults. However the previous statement says that there are no active faults. Provide a clear definition between the two. Are these minor faults inactive faults?

The first paragraph is correct in stating there are no active faults within or immediately adjacent the site. This statement does not preclude the possibility that the site has faults, as many sites in southern California have faults, that are not active as defined by the state of California. The second paragraph indicates there are faults (minor) present within the site. However, these faults (minor) are not active

as defined by the state of California. No mitigation is necessary regarding active faulting within the site.

Item 3:

Section 3.5: What are the referenced publications were used to determine that no landslides have been identified?

The publications used were Dibblee, T.W., and Ehrenspeck, H.E., ed., 1992 Geologic Map; and the Department of Conservation, Division of Mines and Geology, 2000 Seismic Hazard Zone Report.

Item 4:

Section 4.1: Briefly define PGA as this is the first mention of it (Peak Ground Acceleration?).

PGA stands for Peak Ground Acceleration. We should have defined the acronym the first time it was used in our report.

Item 5:

Section 4.3: Provide a brief introduction/discussion on the factors of safety and the meaning of the safety value in terms of liquefaction (as provided in Table 4.1).

The factor of safety as used in the evaluation of liquefaction is the ratio of the Cyclic Resistance Ratio (CRR) over the Cyclic Stress Ratio (CSR). The CRR is a measure of the soil's resistance to liquefaction while the CSR is a measure of the force causing liquefaction. If the soil has greater resistance (CRR) compared to the force causing liquefaction (CSR), then the factor of safety is greater than 1. In theory, the soil does not liquefy until the factor of safety drops below a value of 1. To account for uncertainties in geotechnical data, a minimum factor of safety equal to 1.3 is prescribed by statutory requirements.

Item 6:

Section 4.4: Same as previous comment, discuss meaning of the factor of safety value for slope stability (as provided in Table 4.1).

The factor of safety as used in the evaluation of slope stability is the ratio of the resisting forces along a potential slide surface over the forces causing instability. The resisting forces come from the soil cohesion and friction that occur at the potential failure surface. The driving forces come from the weight of soil above the potential failure surface (gravity) and earthquake forces (if included). If the resisting forces are greater than the driving forces, the factor of safety is greater than 1. In theory, a slope will not fail until the factor of safety drops below a value of 1. To account for uncertainties in geotechnical data, minimum factors of safety equal to 1.5 for static (non-earthquake) conditions and 1.1 for earthquake conditions is prescribed by statutory requirements.

Item 7:

Section 5.1: States that final geotechnical investigation report should be prepared. This should be a requirement of the CEQA document, or a requirement for obtaining permits, so that the CEQA document fully analyzed potential geotechnical impacts.

We believe sufficient work has been completed at this time to make the determination that site development as generally proposed is feasible and this should satisfy CEQA requirements. We concur that the CEQA document should state that additional studies as deemed necessary by the geotechnical consultant should be completed, reviewed, and approved by the governing agencies prior to granting of construction permits.

Item 8:

Section 5.2.1: This states that there is no evidence of an 'active' fault. However, previous discussions states that there are minor faults. Clearly define or revise this paragraph or the paragraph in Section 3.4 for consistency. See comment for 3.4.

Please refer to our response to Item 2. The content of Section 5.2.1 is correct as presented and in our opinion, is clear in meaning and intent.

Item 9:

Section 5.2.3: "…in close proximity to active faults". In Section 5.2.1, it states that none are located adjacent to the site. Revise the statement or provide information of the proximity of these 'active faults' to the project area.

The term "in relative close proximity" as used in our report is intended to indicate that the subject matter is sufficiently close enough to require consideration. Our report is clear that no active faults occur within or directly adjacent to the site and therefore, no mitigation is required with respect to ***ground rupture***. This conclusion is not meant to indicate the site is not at risk of experiencing strong ***ground shaking***. We have concluded the site could be subjected to strong ground shaking but this condition can be mitigated through design and construction in accordance with the California Building Code. We have stated in Section 3.4 that the closest known ***active*** fault is the Simi-Santa Rosa fault located approximately 1.5 to 2 miles southeast of the site.

Item 10:

Section 5.2 4: The statement says that some terrains supporting the development are within a landslide zone. However, in Section 3.5, the information provided says that no landslides have been identified within or adjacent to the site. Please revise either section to be consistent with each other.

The state of California has identified zones throughout the state considered "at risk" to landsliding. The inclusion of a site within one of these zones does not mean the location has a known or suspected landside feature. The intent of the zoning by the state was to draw attention to the need to evaluate the potential for landsliding in higher risk areas. Section 5.2.4 of our report as presented in correct and in our opinion, is clear in meaning and intent.

Item 11:

Section 5.7: This section outlines the safety values for static and seismic conditions. An explanation of what these factors would mean for development would be helpful. In addition, if these setbacks are needed to reduce potential impacts to less than significant, this either needs to be part of the project description/project design or a mitigation measure.

Please refer to our response to Item 6. In addition, statutory requirements will dictate that develop be located such a distance from slopes that the calculated factors of safety for static and seismic conditions exceed values of 1.5 and 1.1, respectively, for ground supporting the development. This requirement does not mean that portions of the site cannot have lesser factors of safety as long as those portions do not negatively impact development. We have identified a slope within the site that has calculated factors of safety for stability that are less than statutory requirements. We have recommended a mitigation for this condition. Our mitigation consists of providing a setback of proposed development from the top of this slope and have estimated this setback will be a horizontal distance of approximately 2/3^{rds} of the total slope height. We have recommended that more detailed analyses be performed during the development of project plans to finalize recommended setbacks for mitigation of this condition. We concur that the requirement for setbacks and further detailed analyses prior to granting construction permits be included in the CEQA document as a mitigation measure.

Item 12:

Section 6.0: All recommendations made here should be addressed somewhere in the CEQA document - minimization measures, project design features, or mitigation measures, etc. ***as appropriate for CEQA****.*

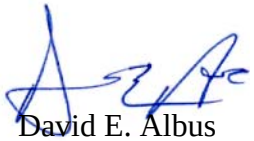
We concur with the reviewer. We suggest a draft of the CEQA document be reviewed by our office to confirm that any and all appropriate mitigation measures we have recommended are identified and addressed.

Closing

We hope this response addresses the issues raised by the city reviewer. If there is need for any further clarification, we are happy to address those concerns.

Respectfully submitted,

Albus-Keefe & Associates, Inc.









David E. Albus
Principal Engineer
GE 2455

Michael O. Spira
Principal Engineering Geologist
C.E.G. 1976

Enclosure: City Review Matrix

Hitch Ranch Peer Review - Geotechnical Feasibility Investigation

Comment No.	Section	PDF Page	Comment: 1
1	Cover Letter	1	We note that the study is provided for preliminary recommendations, and that further studies may be needed for grading or foundation plans. If further studies are needed, this should be a requirement listed in the CEQA document for final project design.
2	3.4 Faulting	15	Second paragraph states that there are minor faults. However the previous statement says that there are no active faults. Provide a clear definition between the two. Are these minor faults inactive faults?
3	3.5 Landslides	16	What are the referenced publications were used to determine that no landslides have been identified?
4	4.1 Seismicity	18	Briefly define PGA as this is the first mention of it (Peak Ground Acceleration?).
5	4.3 Liquefaction	19	Provide a brief introduction/discussion on the factors of safety and the meaning of the safety value in terms of liquefaction (as provided in Table 4.1).
6	4.4 Slope Stability	19	Same as previous comment, discuss meaning of the factor of safety value for slope stability (as provided in Table 4.1).
7	5.1 Feasibility of Proposed Development	21	States that final geotechnical investigation report should be prepared. This should be a requirement of the CEQA document, or a requirement for obtaining permits, so that the CEQA document fully analyzed potential geotechnical impacts.
8	5.2.1 Ground Rupture	22	This states that there is no evidence of an 'active' fault. However, previous discussions states that there are minor faults. Clearly define or revise this paragraph or the paragraph in Section 3.4 for consistency. See comment for 3.4.
9	5.2.3 Ground Shaking	23	"…in close proximity to active faults". In Section 5.2.1, it states that none are located adjacent to the site. Revise the statement or provide information of the proximity of these 'active faults' to the project area.
10	5.2.4 Landsliding	23	The statement says that some terrains supporting the development are within a landslide zone. However, in Section 3.5, the information provided says that no landslides have been identified within or adjacent to the site. Please revise either section to be consistent with each other.
11	5.7 Slope Stability	25	This section outlines the safety values for static and seismic conditions. An explanation of what these factors would mean for development would be helpful. In addition, if these setbacks are needed to reduce potential impacts to less than significant, this either needs to be part of the project description/project design or a mitigation measure.
12	6.0 Recommendations	27-42	All recommendations made here should be addressed somewhere in the CEQA document - minimization measures, project design features, or mitigation measures, etc. **as appropriate for CEQA**.

C

2020 Updated Fault Study

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

January 14, 2020
J.N. 2677.00

Ms. Harriet Rapista
Comstock Homes
2301 Rosecrans Avenue, Ste. 1150
El Segundo, CA 90245

Subject: **"Updated" Geologic Assessment of Surface Fault Rupture Potential, Hitch Ranch, Tentative Tract 5708, City of Moorpark, California.**

Dear Ms. Rapista,

Albus-Keefe & Associates Inc. is pleased to present to you our "updated" fault evaluation report for the subject property located in the City of Moorpark, California. This report was updated to address review comments of our final fault report, revised dated June 3, 2019. These comments were provided on November 11, 2019 and we understand they were prepared by the Chambers Group on behalf of the city of Moorpark. The review comments were largely editorial in nature and did not alter our overall conclusions and recommendations relevant to our geologic assessment of surface fault rupture potential within the subject property.

We appreciate this opportunity to be of service to you. If you should have any questions regarding the contents of this report, please do not hesitate to call.

Respectfully submitted,

Albus-Keefe & Associates, Inc.

Michael O. Spira, C.E.G. 1976
Principal Engineering Geologist

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1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE OF WORK

The purpose of this investigation was to perform a geologic assessment of surface fault rupture potential within the subject property, referred herein as the Site, and to provide mitigation recommendations, if required, for future Site planning and development. As indicated on Figure 1, the Site is not located within the boundaries of a State of California Earthquake Fault Zone (EFZ). The Site is also not located within a City of Moorpark or County of Ventura hazard zone related to faulting. However, the Site is located between two Holocene-active fault zones, the Oak Ridge fault to the north and the Simi-Sana Rosa fault to the south, and previous geotechnical studies in the Moorpark area have reported deformation of late Quaternary sediments near the ground surface in the form of faulting and fault-related folding in association with thrust faulting. Hence, we recommended that this fault study be conducted prior to site development, as discussed further below.

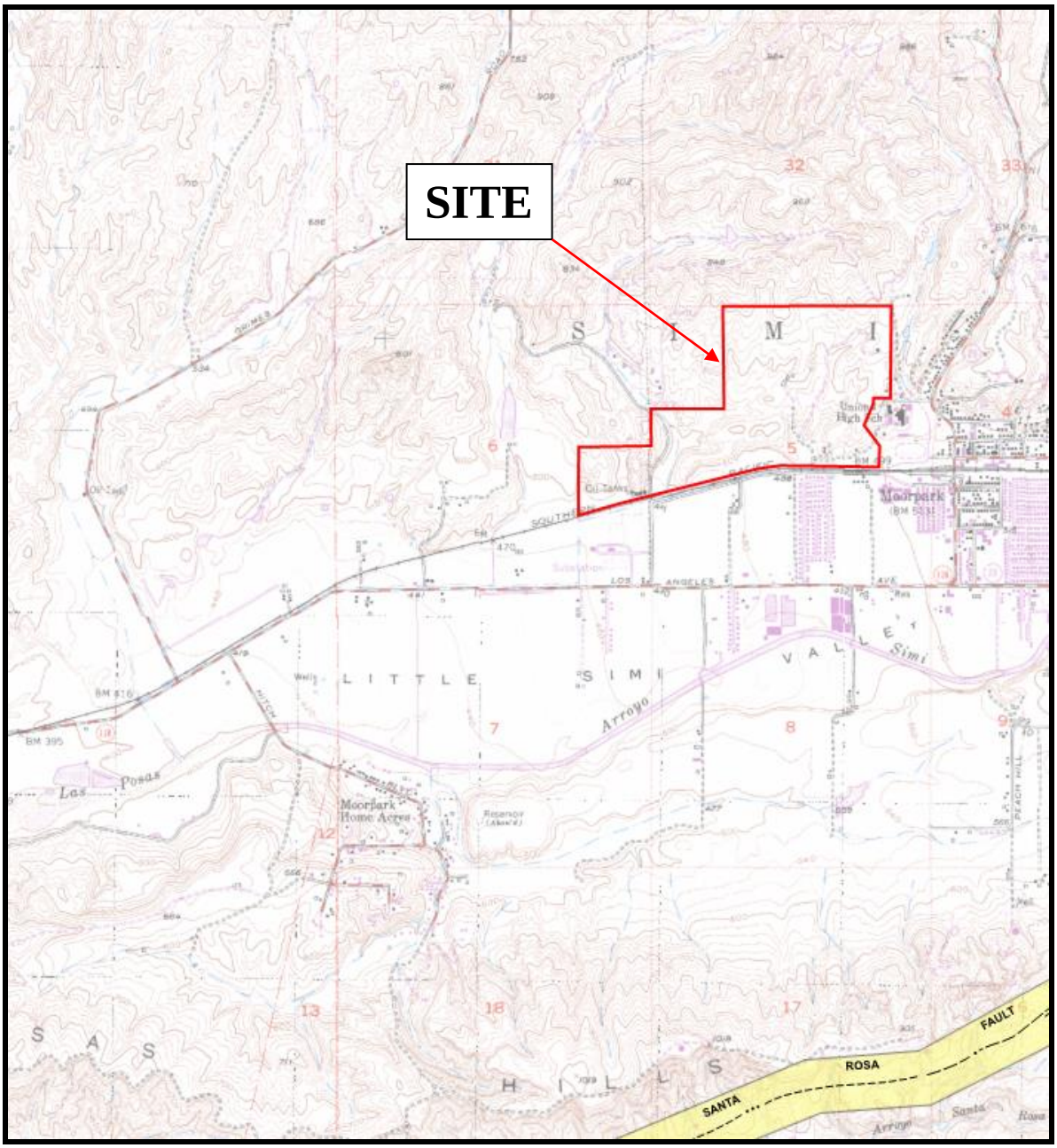
As summarized in detail in a later section of this report, Gorian and Associates, Inc. (Gorian) initially addressed surface fault rupture potential within the Site as part of their geotechnical studies of the property for proposed site development back in the mid-1990's and 2000's. Gorian's studies focused their fault trenching within the central and southerly portions of the Site along and adjacent to a prominent westerly- to southwesterly-trending geomorphic lineament consisting of aligned tributary draws. Geotechnical studies east of Walnut Canyon Road (ECI 1997) reported evidence of faulting and fault-related folding in late Quaternary deposits adjacent to this same lineament associated with a thrust fault referred to in these studies as the Southern Area Thrust fault. Gorian reportedly found no evidence of faulting or folding of the sediments exposed in their trenches within the Site and concluded there was no evidence of active faulting and deformation within the entire Site. However, Gorian did not perform trenching the northerly portion of the Site. Gorian reportedly did not investigate the northerly portion of the Site because they did not identify geomorphic evidence associated with active faulting within this area and claimed there were no faults found in previous studies to the north and east that project through the northern portion of the Site. Bing Yen and Associates, Inc. (BYA), the City of Moorpark reviewer at the time, reportedly observed Gorian's fault trenches within the Site and concurred with their findings from their fault trenches. However, in a review letter that posed several other comments, BYA questioned Gorian's lack of trenching in the northerly portion the Site. Gorian responded to BYA's comments but no additional trenching was performed. An approval letter from BYA was not found in the city files and we do not know if BYA accepted their response.

Considering the geologic structure in the region is complex and that fault trenching was not previously performed in the northerly portion of the Site, the focus of this study was to investigate the northern unexplored portion of the Site to look for evidence of Holocene-active faults. We also looked for evidence of Holocene-active fault-related folding that could also potentially impact future development. The data from this study, combined with the previous work conducted by Gorian for the Site, would then be utilized to create a comprehensive fault investigation report for the entire Site.

This fault investigation was performed in general conformance with the guidelines in the California Geological Survey Special Publication 42, revised 2018 (SP-42; CGS, 2018). These guidelines are for sites regulated by the Alquist-Priolo Earthquake Fault Zoning Act (A-P Act). Projects located outside of an EFZ are still regulated by the A-P Act if a Holocene-active fault (a fault with surface displacement within the last 11,700 years) is found at that site during an investigation. As such, if a Holocene-active fault were found during this fault investigation, structures for human occupancy would not be allowed to be built across that fault. A structure for human occupancy is defined in the A-P Act is as "any structure used or intended for supporting or sheltering any use or occupancy, which is expected to have a human occupancy rate of more than 2,000 person-hours per year."

Our investigation included the following scope of work:

- Review of previous geotechnical and fault reports for the Site
- Review of previous fault investigation reports performed within nearby properties
- Review of published and unpublished geologic literature and maps, reports, and other readily available documents
- Review of historical aerial photographs for the Site and vicinity
- Compilation of geologic information acquired through our research
- Excavation and logging of exploratory fault trenches
- Soil stratigraphic assessment by Earth Consultants International, Inc. (ECI)
- Geologic and paleoseismic evaluation of data
- Preparation of this report



EARTHQUAKE FAULT ZONE MAP

Hitch Ranch
City of Moorpark, California

From: California Geologic Survey, Earthquake Zones of Required Investigation, Moorpark Quadrangle, released May 1, 1999.

FIGURE 1

1.2 SITE LOCATION AND PHYSICAL SETTING

1.2.1 Site Location

The Site is irregular in shaped and occupies 277.3 acres in the city of Moorpark, California. The Site is located north of Poindexter Avenue and approximately 1,500 feet west of Moorpark Avenue The Site is generally bordered by undeveloped hillside property on the north, a new single-family housing tract on the northeast, rural single-family residences and Walnut Canyon Elementary School on the east, undeveloped hillside property on the west, rural single-family residences on the northwest, and Southern Pacific Railroad tracks, Walnut Canyon Channel, and Poindexter Avenue on the south. The location of the Site and its relationship to the surrounding area are shown on Figure 2, Site Location Map.

1.2.2 Physiography

The Site is located on the southern piedmont slopes of Oak Ridge. Topographically, the Site consists of moderately sloping south- to southwest-trending ridge spurs with intervening south- to southwest-draining canyons. At the southern margins of the Site, the hillside terrain transitions to the broad west-draining flood plain of the Arroyo Simi. Surface elevations within the Site vary from 722 feet above mean sea level (MSL) within the upper northern margin of the Site to 470 feet above MSL at the lower southern margin of the Site. Surface gradients within the property generally range from nearly level to 1.5:1 (H:V).

Surface drainage within the Site is generally directed by sheet flow from the hillsides into the south- to southwest-draining canyons. Drainage is then captured at the southerly margin of the Site in a west-flowing, concrete-lined, open-box flood control channel referred to as the Walnut Canyon Channel.

Vegetation currently within the Site consists of a light to moderate growth of grasses, weeds, and bushes. Scattered trees ranging in size from small to very large are also present throughout the Site.

1.2.3 Previous and Existing Land Use and Site Improvements

Based on our review of historical aerial photographs from 1929 through 1998 and review of the referenced reports by Gorian for the property, the Site was largely used for agricultural purposes since the 1920s (earliest available photographs) through the 1960s. This was evident by the presence of scattered groves and features that appear to be farmhouses on some of the ridge tops in the aerial phototrophs reviewed. Ground modifications in the form of roads associated with the agricultural activity were also noted throughout the Site. Some significant ground modifications were also noted in the northwesterly portion of the Site where some ridgetops were cut down and canyons were filled to create a gently sloping area for a later orchard.

Currently, the site appears to be primarily utilized for cattle grazing operations. The groves that previously existed on site have been removed and much of the site appears fallow. Improvements associated with the current Site operations include a horse stable, several small



(From: Google Earth)

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SITE LOCATION MAP

Hitch Ranch
City of Moorpark, California

NOT TO SCALE

FIGURE 2

sheds, cattle pens, and several small water tanks and troughs within the flatter valley areas of the Site. Other site improvements include a paved street (Gabbert Road), several high-voltage overhead power lines and perimeter wire and chain-link fencing. Remnants of the Site's previous agricultural improvements are still scattered throughout much of the property. These improvements include abandoned water wells, an above-ground water-reservoir tank, concrete foundations from previous farmhouses and associated structures, above- and below-ground steel irrigation pipelines, and breached impoundment dams in some of the drainages.

1.3 PROPOSED DEVELOPMENT

Based on our review of the Preliminary Grading, Drainage, and Utilities Plans prepared by Encompass Consultant Group, dated August 13, 2018, the Site will largely be developed for residential use. Institutional, recreational and open space areas are also indicated on the plans. Associated improvements will include public and private streets, and large detention basins predominately located within the southern portion of the Site. The plan indicates a main transecting street, identified as North Hills Parkway, will extend from the northeast corner of the Site to Gabbert Road. The existing nearby streets Casey Road, High Street, and Meridian Hills Drive are also planned to be extended within the property and connect to proposed interior streets. No improvements are currently proposed west of Gabbert Road.

Future Site development will largely involve cut and fill grading to achieve designed grades. Based on the current referenced plans, proposed cuts and fills are anticipated to be as much as approximately 52 feet and 48 feet, respectively. Cut and fill slopes are proposed up to maximum heights of approximately 62 feet and 55 feet, respectively, at slope gradients of 2:1 (H:V) or flatter.

The residential portions of the Site will include both single- and multi-family dwellings. Details of the residential structures are not available at this time. We anticipate future residential structures will consist of slab-on-grade, one- to three-story, wood-framed structures yielding relatively light structural loads. Other associated site improvements are anticipated to include utility services, asphalt and concrete pavements, decorative hardscape, and masonry retaining and screen walls.

2.0 BACKGROUND REASEARCH

2.1 GENERAL

As part of our background research, we reviewed geologic publications and maps for the region as well as historic aerial photographs for the area. We also reviewed numerous geotechnical reports and fault studies prepared by others for the Site and nearby properties to gain an understanding of the local geology and the type and age of faulting reported in the Site vicinity. Data from these sources were utilized to develop some of our findings and conclusions presented in this report. A complete listing of geologic publications and maps, topographic maps and

aerial photographs, and geotechnical and fault studies reports reviewed for this study are provided in the References section of this report.

2.2 REGIONAL GEOLOGIC SETTING

The Site is located within the south-central portion of the Ventura Basin, in the western Transverse Ranges geomorphic province. The Ventura Basin is an east-west-trending trough that experienced basin inversion (extensional to compressional forces) during the late Miocene to early Pliocene geologic eras (Yeats, Huftile & Stitt, 1994). The change from an extensional to compressional environment is believed to be associated with the development of the "Big Bend" of the San Andreas fault to the north, resulting in north-south crustal shortening of the region (DeVecchio et al., 2012b). Continued north-south compressional tectonics have produced an intricate system of generally east-west-trending thrust faults, reverse faults, and large-scale folding throughout the basin.

In closer proximity, the Site as shown on the Regional Geologic Map (Figure 3), is located in Moorpark on the southern piedmont slopes of Oak Ridge. The broad west-draining flood plain of the Arroyo Simi borders the Site to the south. Oak Ridge and the surrounding vicinity are underlain by Tertiary- and Quaternary-age sediments bounded by two major east-west trending faults: the Oak Ridge thrust fault to the north and the Simi-Santa Rosa reverse fault to the south. Crustal shortening of the sediments between these two major faults has resulted in a system of complex folds and thrust terrain. Major features identified on the Regional Geologic Map (Figure 3), include the Moorpark and Long Canyon anticlines and the Epworth syncline (Dibblee,1992a and 1992b). The Moorpark syncline and other less extensive folds have also been recognized in the region but are not shown on the Regional Geologic Map. These structures are generally broadly-diffused folds whose axes trend in an east-west to northeast direction.

2.3 OAK RIDGE AND SIMI-SANTA ROSA FAULTS

As previously discussed, the Site is bounded by two active fault zones, the Oak Ridge fault to the north and the Simi-Santa Rosa fault to the south. The Oak Ridge fault, as described in FER-219 (Treiman, 1990), is an east- to northeast-trending, south-dipping reverse fault that extends roughly 65 miles (100 km) from offshore Ventura/Oxnard to the Santa Susana Mountains. Folding and reverse slip on the Oak Ridge fault has resulted in the uplift of the Oak Ridge and piedmont slopes. In the literature, the fault itself is generally described as a blind thrust fault and is not well defined at the surface. However, local fault splays have been identified in the near surface and are zoned by the State as active faults (Treiman, 1990; C.D.M.G., 1999). The EFZ associated with the Oak Ridge fault is located approximately 5.5 miles northwest of the Site. Yeats (1998) has estimated a recurrence interval on the Oak Ridge fault of 250 to 500 years.

The closer Simi-Santa Rosa fault system is a prominent northeast-trending, north-dipping reverse fault zone that extends approximately 25 miles (40 km) from the Camarillo Hills to the northeastern end of Simi Valley (Treiman, 1998). Movement on the Simi-Santa Rosa fault system resulted in uplift of the Las Posas Hills. Within the Moorpark area, the Simi-Santa Rosa

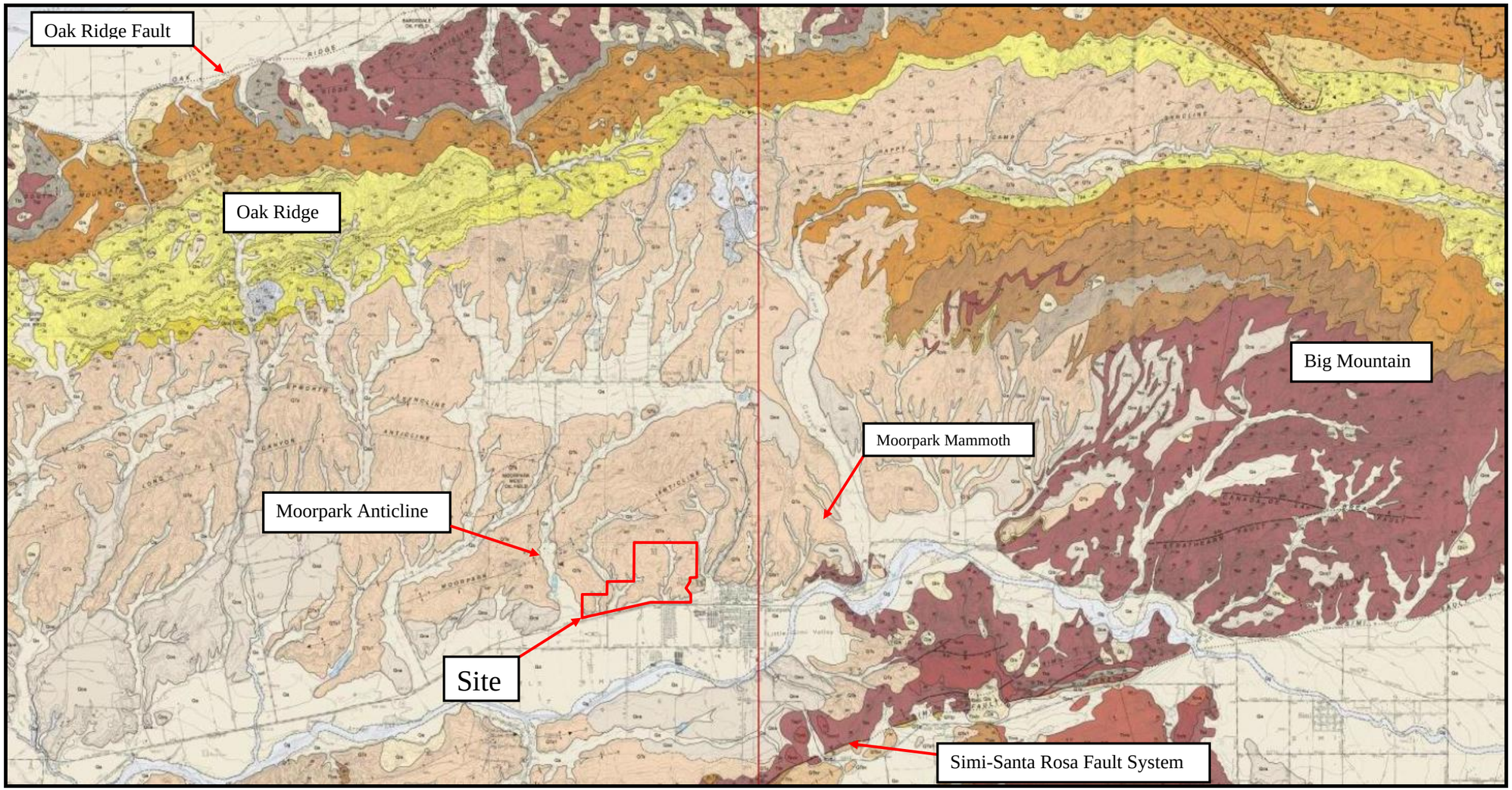
fault system consists of a well-defined zone of deformation comprised of several folds and fault segments, also referred to as the Camarillo fold belt (DeVecchio et al., 2012b). The various fault segments are described as showing clear evidence of Holocene-age faulting and are also zoned by the State as active faults (Treiman, 1998; C.D.M.G., 1999). The EFZ associated with the Simi-Santa Rosa fault system is located approximately 1.5 to 2 miles southeast of the Site as shown on Figure 1. The recurrence interval on the Simi-Santa Rosa Fault Zone has been estimated at 900 years (C.D.M.G., 1998).

2.4 LOCAL GEOLOGIC SETTING

The project area, as indicated on the Regional Geologic Map (Figure 3), is largely underlain by sediments that have been assigned to the Pleistocene to Pliocene Saugus Formation (Dibblee, 1992a and 1992b). The valley floors and flood plains are generally underlain by Holocene-age alluvium. Older alluvial deposits of late Pleistocene age are also locally present in the area. Previous studies we reviewed suggest that older alluvial deposits are more widespread than indicated on the Regional Geologic Map.

The Saugus Formation in this locality is a non-marine unit comprised of alluvial materials deposited by the ancestral Santa Clara River. Levi and Yeats (1993) utilized magnetostratigraphy in the nearby Santa Susana Mountains to estimate the lower age of the Saugus at 2.3 million years old (Ma), and its upper age at 400 to 500 thousand years old (ka). Locally, the discovery of a mammoth (Moorpark Mammoth – see Figure 3) during grading for Tract 5054 has provided a biostratigraphic age of 850 ka to 780 ka for the upper Saugus Formation in the immediate Site vicinity (Wagner et al., 2007).

Structurally, the project area is situated on the southern flank of the Moorpark anticline and bedding structure generally dips at low angles to the south. Previous fault studies in the area, as discussed in detail in later sections of this report, have identified two significant thrust faults that are locally exposed at the surface that deform late-Quaternary sediments; the Northern Area Thrust fault and the Southern Area Thrust fault. The Northern Area and the Southern Area thrust faults are generally described as east- to northeast-trending thrust faults that dip at shallow angles (~15 to 30 degrees) to the north. These thrust faults are generally considered to be related to compression in the cores of the major folds in the area and are not considered seismic-generating sources (ECI, 1997). Minor normal faults (faults with less than 12 inches of offset), reverse faults, and strike-slip faults that generally exhibit offsets of a foot or less and are laterally discontinuous, as well as folding, have also been identified in previous fault studies in the project area. These structures have generally been interpreted to be secondary structures (e.g. back thrusts, bending-moment faults, tear faults, flexural-slip faults, and fault-related folding) associated with deformation of the late-Quaternary sediments in response to movement of the Northern Area and the Southern Area thrust faults in the area. The approximate locations of the Northern and Southern Area Thrust faults, as well as a significant reverse fault interpreted to be a backthrust to the Southern Area Thrust fault in Tract 5130, are shown on our Composite Regional Fault Study Map (Plate 3).



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REGIONAL GEOLOGIC MAP, FIGURE 3

Hitch Ranch
City of Moorpark, California

From: Dibblee, T.W., and Ehrenspeck, H.E., ed., (1992a), Geologic map of the Moorpark quadrangle, Ventura County, California: Dibblee Geological Foundation, Dibblee Foundation Map DF-40, scale 1:24,000) & Dibblee, T.W., and Ehrenspeck, H.E., ed., (1992b), Geologic map of the Simi quadrangle, Ventura County, California: Dibblee Geological Foundation, Dibblee Foundation Map DF-39, scale 1:24,000)

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With regards to fault activity, none of the documents we reviewed report definitive evidence of Holocene-age faulting in the area of the Site. Where the age of faulting has been constrained by dated deposits, the faults have been determined to not deform late Pleistocene sediments, indicating these structures are pre-Holocene (ECI 1999, Geolabs 2003d, Geolabs 2003c, ECI 2006).

2.5 PREVIOUS FAULT STUDIES FOR THE SITE (HITCH RANCH, TRACT 5708)

Gorian and Associates, Inc. (Gorian) assessed faulting within the Site as part of their initial geotechnical investigation of the Site in 1994 (Gorian 1994). Based on aerial photographic evaluation, Gorian noted a prominent westerly- to southwesterly-trending geomorphic lineament consisting of aligned tributary draws traversing the central portion of the Site. The draws were noted to extend offsite in both the east and west directions. As part of their 1994 study, Gorian excavated and logged two trenches (labeled 1-1' and 2-2') perpendicular to this lineament to look for evidence of faulting. The trenches ranged from 10 to 15 feet in depth. No evidence of faulting was found in their trenches.

In 1999, Gorian excavated four (4) additional trenches (labeled 1A-1A', 3-3', 4-4', and 5-5') further to the south of the subject lineament, within the south-central portion of the Site (Gorian 2000c). This supplemental trenching work was performed to assess the continuity of the Southern Area Thrust fault, associated faults, and fault-related folds found offsite and south of this lineament by others (Gorian 1998a and 2000a). The additional trenches by Gorian ranged from 12 to 18 feet in depth. Gorian reported there was no evidence of faulting or deformation in their additional trenches in Hitch Ranch and interpreted the Southern Area Thrust fault dies out near the location of Walnut Canyon Road, about 1,100 feet east of the Site. The additional trench excavations were also reportedly reviewed by the City of Moorpark representative, Bing Yen and Associates, Inc., and BYA reportedly concurred with Gorian's trench findings.

BYA prepared a letter, dated January 19, 2000, summarizing their review of Gorian's report. BYA commented on the lack of trenching in the area south of Trench 5-5', within the southern portion of the Site, and questioned Gorian's justification for not trenching in the northern half of the Site. Gorian provided a response letter on August 28, 2000 (Gorian 2000b), addressing BYA's comments. In their letter, Gorian discussed how their recent trenching and grading work on the Walnut Canyon Elementary school, located immediately southeast of the Site, found no evidence of faulting and therefore addressed the area south of Trench 5-5'. With regards to the northern half of the Site, Gorian discussed how there was no geomorphic evidence associated with active faulting in the northern half of the Site and that trenching completed for projects to the north on Tract 5187 and to the east on Tract 5130 did not encounter any evidence of faulting or surface deformation projecting toward the northern half of the Site. A subsequent review letter or a letter of approval by BYA pertaining to Gorian's response letter dated August 28, 2000 was not found in the City of Moorpark files, and is thought to have never been issued.

The location of the geomorphic lineament identified by Gorian within the Site is shown on the

Composite Regional Fault Study Map, Plate 3. The locations of the trenches completed by Gorian for the Site are shown on the enclosed Plot Plans, Plates 1 & 2, as well as on the Composite Regional Fault Study Map, Plate 3. Trench logs for the Site completed by Gorian are presented in Appendix A. On a side note, during Gorian's later trenching, they reassigned the deposits of the Saugus Formation on the site from their earlier studies to older alluvium.

2.6 FAULT STUDIES BY OTHERS IN THE SITE VICINITY

We reviewed numerous fault/geotechnical studies performed in relatively proximity to the Site. The purpose of our review was to assess the findings of these previous studies with respect to the potential for Holocene-active faults or surface deformation projecting toward the Site. The locations of these previous studies completed in the Site vicinity and pertinent data (trench locations and major faults) are shown on the Composite Regional Fault Study Map, Plate 3. A brief summary of the findings from these previous studies is presented below.

Tract 5054

Based on review of various documents (Gorian 1997, 1998a, 1998b, 2000c, Geolabs 2003d, ECI 1997, 1999) multiple studies were performed by Pacific Materials Laboratory (PML) in 1996 and 1997 for Tract 5054, located approximately 3,300 feet east of the Site. Their studies involved numerous fault trenches and exploratory borings. Copies of their reports were not available at the City of Moorpark nor from other consultants we contacted. As such, we relied on summaries and data contained in the referenced documents to understand the work by PML. Based on these sources, we understand that PML encountered two significant faults in their study area, referred to as the Northern Area thrust and the Southern Area thrust faults, as well as associated smaller faults and folds. These faults and folds reportedly deformed the Saugus Formation and three generations of older alluvial deposits. According to ECI (1997), the age of the youngest deformed older alluvial deposit within Tract 5054 is closely constrained at about 50,000 years (late-Pleistocene).

The Northern Area thrust fault and the Southern Area thrust fault are reportedly east- to northeast-trending thrust faults that shallowly dip (~15 to 30 degrees) to the north. The Northern Area and Southern Area thrust faults were interpreted to be associated with regional folding of the Moorpark syncline and are not considered to be separate earthquake-generating sources (ECI, 1997). However, ECI (1997) considered these two thrust faults to be capable of small displacements in the event of a large earthquake on either the Oak Ridge fault to the north or the Simi-Sana Rosa fault to the south. As such, the Northern Area thrust fault and the Southern Area thrust fault were treated as active faults in Tract 5054.

Tract 5130

Gorian completed a fault study on Tract 5130 located approximately 1,000 feet east of the Site, and west of Tract 5054 (Gorian 1998a). Their report involved the excavation and logging of five trenches, 1-1' to 5-5'. The trenches ranged from 15 to 18 feet in depth. In the southern portion of the property, Gorian observed a prominent reverse fault coupled with significant folding of

the near-surface Saugus Formation and older alluvial deposits within their trenches 1-1' and 2-2'. These features occur several hundred feet south of the lineament identified earlier by Gorian in their study of Hitch Ranch-Tract 5708 (Gorian 1994, 2000c). Gorian interpreted the south-dipping reverse fault to be a possible backthrust of the Southern Area thrust mapped in Tract 5054 to the east and similarly treated the fault as an active fault. Gorian reported it was possible that the main trace of the Southern Area Thrust fault is buried at depth and may daylight south of the site.

Walnut Canyon Elementary School

Gorian completed an investigation for the neighboring Walnut Canyon Elementary school property to the east (Gorian 1997). Their study involved the excavation and logging of three trenches, 1-1' to 3-3', ranging from about 10 to 20 feet in depth. Gorian reported the trenches revealed no indication of active or potentially active faulting. In a response letter dated August 28, 2000 for the Hitch Ranch (Tract 5708), Gorian also reported that observations during the grading operations for the site did not reveal any evidence of faulting.

Tract 5187

A fault study was performed by Geolabs-Westlake Village (Geolabs) for Tract 5187, located immediately north of the Site. Although their fault study report was not available for our review, we were able to review a subsequent geotechnical report for the property by Geolabs (Geolabs 2003d), which included a brief summary of their findings as well as trench logs and maps. A brief summary of their findings was also presented in a report issued by Geolabs (Geolabs 2005a) for Tract 5505. Based on that report, Geolabs excavated ten exploratory trenches, FT-1 to FT-10, throughout the property. Their trenches were generally 7 to 20 feet deep, but locally were as deep as 40 feet (trench FT-8). Geolabs encountered the western extension of the Northern Area thrust in trenches FT-1, FT-4, FT-7, and FT-8. In FT-8, the Northern Area thrust fault was reportedly overlain by unbroken alluvium. Dr. Roy Shlemon, who provided soil stratigraphic assessment for their study, estimated the alluvium to be 15,000 to 20,000 years old, making the fault pre-Holocene and thus not active by current A-P standards (Geolabs 2003d). Secondary normal faults were also reportedly encountered throughout the property and these were also interpreted to be pre-Holocene faults by association with the main thrust fault.

Proposed Casey Road Senior Community Site

Geolabs conducted several investigations of the Casey Road Senior Community site, located east of the Site. The site has also been referred to as Tract 5424 and 5505. Although their fault study report was not available for our review, we were able to review a subsequent geotechnical report for the property prepared by Geolabs (Geolabs 2005a), which included a summary of findings and trench logs and maps from their fault study. According to the geotechnical report we reviewed, Geolabs' fault study involved the excavation and logging of three exploratory trenches, FT-1 to FT-3, oriented north-south to northeast-southwest. Their trenches ranged from 8 to 18 feet in depth. Geolabs encountered several south-dipping secondary normal faults within the southern portion of trench FT-2. Trench FT-3 was then excavated to overlap, along strike, the faulted area in FT-2 and no faults were encountered. As a result, these faults were

interpreted to be laterally discontinuous. Based on their interpretations of faults encountered within Tract 5187 to the north and within the senior community site, Geolabs considered all faults within the property to be pre-Holocene and thus there were no constraints to habitable structures.

To further assess the activity of faulting found in the site by Geolabs, a subsequent fault study was performed by Lawson & Associates Geotechnical Consulting, Inc. (LGC). Although their report was not available to us, we did review a report prepared by ECI (ECI 2006), who provided age estimates of near-surface deposits in support of LGC trenching. We also reviewed a later geotechnical report for the site by Workman Engineering & Consulting (WEC 2014), who summarized the findings from the previous studies by Geolabs and LGC. Their report also included a map showing the trench locations and limited data from these two previous fault studies. Based on these two secondary sources, LGC excavated and logged three additional exploratory trenches, T-1 to T-3, oriented east-west to northeast-southwest within the southerly portion of the property in the vicinity where Geolabs mapped a narrow zone of faulting. Their trenches ranged from 5 to 13 feet in depth. Based on this additional trenching work, LGC confirmed that the fault previously identified by Geolabs in the southerly portion of the site is pre-Holocene age. ECI (ECI 2006) supported this finding based on soil age estimates and geomorphic evidence. A zone of minor north-south-trending normal faults were also reportedly encountered during LGC's fault trenching work. The faults, according to ECI (ECI 2006), were confined to the Saugus Formation and were also determined to be pre-Holocene faults.

Tract 4928

Geolabs performed a fault study for Tract 4928, located approximately 2,000 feet north of the Site. Although we were not able to obtain copies of Geolabs' reports, we did obtain a report prepared by ECI (ECI 1999), who conducted a third-party review of Geolabs' draft report, as well as made field observations of some of the trenches still open onsite. According to ECI, Geolabs had excavated multiple trenches within the site. The trenches reportedly encountered mostly northwest to north-northwest-trending normal faults with vertical offsets ranging from a few inches to 5 feet. In one of the trenches referred to as T-5 where younger alluvium was present, the faults did not offset the overlying younger alluvium unit.

2.7 HISTORIC AERIAL PHOTOGRAPHS ASSESSMENT

We reviewed historical aerial photographs of the Site and surrounding area to look for landforms or other features that would be indicative of faulting. A listing of the aerial photos we reviewed are provided in the Reference section of this report. Features we looked for included linear troughs, vegetative lineaments, and tonal contrast lineaments. Based on the earliest aerial photographs we reviewed (10-31-29), much of the natural surface of the Site appears to have been altered as a result of agricultural activity (plowed and/or covered with orchards). As such, the aerial photographs were of not very helpful in identifying vegetative lineaments and tonal contrast lineaments within the Site. We did observe the prominent westerly to southwesterly trending geomorphic lineament consisting of aligned tributary draws noted by Gorian. This

lineament traverses the central portion of the Site and extends offsite both to the east and west. We did not observe other significant through-going geomorphic lineaments within the Site.

3.0 FIELD INVESTIGATION

3.1 INVESTIGATIVE APPROACH

As previously discussed, the focus of this study was to investigate the northerly unexplored portion of the Site to look for evidence of Holocene-active faulting as well as fault-related deformation (e.g. folding) that could impact future development. Based on our review of Gorian's previous studies for the Site, the central and southerly portions of the Site appear to have been sufficiently investigated to rule out the possibility of active faulting and fault-related deformation associated with the Southern Area thrust. However, we are of the opinion that the northern half of the Site was not sufficiently investigated by Gorian, especially given the large gaps between fault trenches on the adjacent site to the east (Casey Road Senior Community site, Formerly Tentative Tract 5424 and 5505). As such, our field investigative approach was to excavate two exploratory trenches oriented north-south, perpendicular to the regional structural trend, extending from the northeasterly corner of the Site to Gorian's Trench 4-4' at the eastern boarder of the Site. The trenches were sufficiently overlapped to prevent gaps in the data where continuous trenching was not feasible. To assess whether or not this portion of the Site is crossed by Holocene-active faults, our trenches were excavated deep enough to expose pre-Holocene geologic units. If pre-Holocene units and/or soil profiles were observed to extend continuously and unbroken (i.e., with not offset) across the trenched area, then the possibility of Holocene-active faults within the Site could be ruled out.

3.2 EXPLORATORY TRENCHING

Our exploratory trenching was performed from January 21, 2019 through February 13, 2019 and involved the excavation and logging of two overlapping exploratory trenches (FT-1 and FT-2) with a combined linear length of approximately 1,540 feet. The exploratory trenches were excavated utilizing a track-mounted excavator to depths varying from about 6 feet to 14 feet below the current ground surface. The trench walls stepped down in ±5-foot-tall benches for stability and safety in accordance with Cal-OSHA requirements for sloping/benching of open excavations. Engineering geologists from this firm conducted detailed logging of both trenches excavated for this investigation. The walls of the trenches were prepared for logging by removing all caked and smeared materials with hand tools to expose a fresh surface. Logging emphasis was placed on noting stratigraphic continuity within the geologic units exposed. Munsell color notation was used to describe color variations of the earth materials encountered. The trench walls were mapped at a scale of 1 inch equals 5 feet and photographed. To assist in our logging of the trenches, a level string-and-nail baseline was installed on the sides of the trenches and geologic features (lithologic contacts and planar features) were measured with a hand-held ruler from the baseline.

During our exploratory trenching, Mr. Jim O'Tousa (C.E.G. 1393), the County of Ventura Geologist and representative for RJR Engineering, Inc. (reviewing consultant for the City of Moorpark) visited the Site on five separate occasions to review our trenches and discuss our findings. As sections of the trenches were completed and logged, the trenches were backfilled to original grades with the trench spoils; the backfill soils were nominally compacted by wheel-rolling with the water truck or track-walked with the excavator. The approximate locations of our exploratory trenches are indicated on the enclosed Plot Plans, Plates 1 & 2, as well as on the enclosed Composite Regional Geologic Map, Plate 3. Graphic logs of the trenches are presented on our Fault Trench Logs, Plates 4 through 9.

In support of our study, representative soil profile samples were collected from trench FT-1 at specific locations for soil stratigraphic assessment by Earth Consultants International (ECI). The estimated ages of the soils from this soil stratigraphic assessment were then be used to evaluate activity of the faults encountered. The locations of the soil profiles sampled are shown on the Trench Logs. Results of their assessment are provided in the Supporting Soil Stratigraphic Assessment Report, dated March 29, 2019, attached herein as Appendix B.

4.0 FINDINGS AND DISCUSSION

4.1 GEOLOGIC UNITS

Geologic units encountered during our exploratory trenching within the Site consist of bedrock assigned to the Pleistocene-age Saugus Formation (Dibblee and Ehrenspeck, 1992a and 1992b). The bedrock is generally overlain by a thin mantle of topsoil. Colluvium and artificial fill were also locally encountered during our trenching study. Descriptions of the geologic units are provided in the following sections. For a graphic presentation of the trenches, refer to the Fault Trench Logs, Plates 4 through 9.

4.1.1 Artificial Fill (Af)

Artificial fill materials encountered within our exploratory trenches are primarily comprised of locally-derived, very dark grayish-brown clayey sand and sandy clay. The fill materials are typically damp to moist, loose to medium dense/soft to stiff, and contain scattered gravels, small cobbles, and roots. The artificial fill materials encountered are usually associated with old pipelines and generally range from 2 to 3 feet in thickness. However, in trench FT-1, artificial fill materials up to 10 feet in thickness were encountered around Station 6+ 97.

4.1.2 Topsoil (No Map Symbol)

A thin veneer of topsoil generally mantles the Site within the areas trenched. The topsoil generally formed in place by weathering of the underlying units and has been substantially disturbed by ploughing. The topsoil is generally comprised of very dark brown to very dark gray clayey sand and sandy clay that is typically damp to moist, loose/soft to medium stiff, and contains scattered gravel and roots. The topsoil was also observed to be moderately porous and locally has poorly-developed blocky ped structure where not completely disturbed by plowing.

4.1.3 Colluvium (Qcol)

A colluvial deposit associated with a subtle drainage swale was encountered in trench FT-1, between Stations 6+10 and 7+90. The colluvium is generally comprised of strong brown to very dark brown sandy clay. The colluvial materials are typically damp to moist, medium stiff to stiff, and moderately porous. Characteristics associated with soil development (pedogenesis) observed in these materials include moderately developed blocky ped structure with clay films, and manganese oxide staining on ped faces. The colluvial deposit was up to 4 feet in thickness within the center of the drainage.

4.1.4 Bedrock: Saugus Formation (Qs)

The bedrock materials encountered are assigned to the Saugus Formation and generally consist of interbedded sandstone and siltstone with scattered gravelly sandstone beds and lenses. These units are of various shades of brown in color. In general, the bedrock materials are thin to thickly bedded, dry to moist, and moderately hard to hard. Depositional features observed within the Saugus Formation include cross-bedding, graded-bedding, channel scours and fills, and lateral facies changes typically resulting in interfingered deposits of sand and silt. The orientations of the channel scours and fills noted in the trenches generally indicate a westerly paleo-drainage pattern.

The near-surface bedrock materials are generally moderately to extremely weathered and bioturbated with scattered infilled animal burrows (krotovina) and roots. Pedogenic characteristics observed within the near surface Saugus Formation include well-developed blocky ped structure with clay films on ped faces and bridging grains, local carbonate accumulation, iron and manganese oxide staining, and silica-cemented horizons. Numerous sub-horizontal, laterally-discontinuous, closely-spaced, clay-rich laminations or lamellae (termed "Bt lams" in this report) were also observed within the sandier units. The Bt lams were easily distinguished from the parent material by their darker oxide-stained color and increased hardness.

4.2 BEDDING STRUCTURE

Bedding structure observed in the Saugus Formation within our trenches was relatively uniform, with dips at shallow angles (~3-6 degrees) to the south-southwest. However, between Stations 7+30 and 10+30 in trench FT-1, the bedding structure is locally folded forming a broad, relatively-subtle, east-west-trending, asymmetrical anticlinal structure. The north side of the anticlinal structure is defined by north-dipping beds inclined up to 14 degrees from horizontal. The south side of the anticlinal structure is defined by south-dipping beds inclined up to 27 degrees from horizontal.

4.3 GROUNDWATER

Minor groundwater seepage associated with recent precipitation in the area was locally encountered within the bottom of some of the sandy channel fills in the Saugus Formation. Areas where seepage was noticed are shown on our enclosed Trench Logs, Plates 4 through 9.

4.4 FAULTS AND FRACTURES

Faulting was encountered within the Saugus Formation in our trench FT-1 at about Stations 7+75 and 8+40. The areas where these faults were encountered are generally closely associated with the northerly and southerly limbs, respectively, of the anticlinal structure we described in Section 4.2 above. The two fault zones, referred to as Fault Zone A and Fault Zone B, respectively, are described in detail below.

Fault Zone A consists of two subparallel faults that appear to merge at depth. The faults are 1/16- to 1/4-inch wide and are slightly cemented or have Bt soil development. These faults generally strike between N55W and N78W, dip 20 to 35 degrees to the south-southwest, and exhibit a reverse sense of displacement. No evidence of slickensides was observed. The fault with the largest amount of displacement exhibits up to about 12 inches of relative vertical separation in the sandstone unit of the Saugus Formation near the bottom of the trench. This same fault then extends upward and reverses dip direction within the overlying north-dipping siltstone unit, where it becomes indiscernible. This fault clearly did not offset or deform the overlying gravel bed of the Saugus Formation, nor the colluvium unit above (described by ECI as Buried Soil 2 and Buried Soil 1, respectively). The smaller of the two faults extends upward only a short distance from the bottom of the trench and terminates within the lower sandstone unit of the Saugus Formation.

Like Fault Zone A above, Fault Zone B also consists of two subparallel faults that appear to merge at depth. The faults are 1/16- to 1/4-inch wide and are slightly cemented or have Bt soil development. These faults generally strike N65E and dip as much as 32 degrees to the southeast. These faults also have an apparent reverse sense of movement and exhibit up to 2 inches of vertical separation. No evidence of slickensides was observed. The faults, including the small splay that branches off the larger of the two faults, terminate within bedrock of the Saugus Formation and do not break or deform the near-surface pedogenic Bt lams developed in the Saugus Formation.

A few zones of silica-cemented fractures were also encountered within trench FT-1 at around stations 9+70, 10+50, and 12+25. The fractures are generally 1/16- to 1/4-inch wide and typically die out at depth or flatten out and become indiscernible. Typically, these fractures are obscured by roots and rodent activity in the near surface, particularly in the vicinity of station 9+70. These fractures, similar to the minor faults described above, generally strike east-west and dip 5 to 40 degrees to the south. However, some of the fractures are also very irregular in nature.

4.5 CHARACTERISTICS AND AGE OF FAULTING AND FOLDING

The characteristics (e.g. type and orientations) of the faults and asymmetric anticlinal structure encountered during this investigation suggests these structures, like those discussed in reports for projects surrounding the Site, are secondary structures associated with deformation of the late-Quaternary sediments in response to movement of the Northern Area and the Southern Area thrust faults. More specifically, the reverse faults and folding encountered in trench FT-1 are

somewhat similar in characteristics, although not nearly as significant, to the reverse fault and associated folding identified by Gorian (1998) in Tract 5130 to the east. Gorian had interpreted the reverse fault in Tract 5130 to be a backthrust of the Southern Area thrust fault. As such, the Southern Area thrust fault may extend beneath the Site as a blind structure.

With respects to the age of faulting, the faults encountered during our investigation were confined to the Pleistocene-age Saugus Formation (minimum age of 400,000 years in the Site vicinity) and did not offset overlying soils. Results of the soil-stratigraphic assessment completed by ECI (attached as Appendix B) have estimated that the soils developed in the gravel bed (second buried soil) of the Saugus Formation overlying the faults in Fault Zone A has a minimum age of approximately 58,000 years and potentially much older. Similarly, the undeformed soil horizon in the Saugus Formation overlying the faults in Fault Zone B has an estimated age between of about 27,00 and 80,000 years. Thus, the faults in Zones A and B are interpreted to have last moved in the late Pleistocene and are considered pre-Holocene faults.

The age of the anticlinal fold observed between Stations 7+30 to 10+70 in trench FT-1 was also assessed. The anticlinal fold is confined to the Pleistocene-age Saugus Formation and the top of the entire sequence of the gently-folded sediments had been eroded down (planed off) such that the current topography and overlying colluvium and buried soils does not reflect the original shape of the anticline. This indicates that the folding had to occur after the deposition of the Saugus Formation, but before the establishment of the current topography and deposition of the colluvial unit observed locally. Based on the estimated age of the second buried soil in the area of Fault Zone A, ECI suggests the folding occurred more than 58,000 years ago (see Appendix B). However, this age is considered a minimum and does not account for the erosion of the Saugus Formation material that is missing from the top of the fold.

Since the anticlinal fold is interpreted to be a secondary feature associated with the Southern Area thrust fault that has demonstrated the largest amount of deformation of the Saugus Formation, we also assessed the potential vertical uplift and associated tilting of the ground surface that could potentially occur in the event that the Southern Area thrust fault moves in response to a large earthquake on either the Oak Ridge fault or the Simi-Sana Rosa fault, as suggested by ECI (1997). If we assume the folding of the anticline occurred somewhere between 58,000 years ago (minimum age of folding) and 400,000 years ago (minimum age of the Saugus Formation in Site vicinity) and the re-occurrence interval for the Oak old Ridge fault alone is 250 to 500 years (Yeats, 1988), then more than 684 ground rupturing earthquakes have likely occurred during this period resulting in the observed anticlinal fold. If we further assume the bedding structure previously dipped uniformly to the southwest prior to folding, then the maximum amount of apparent vertical uplift associated with the anticlinal structure is about 7.5 feet. Based on these assumptions, the average vertical uplift is estimated at about 0.13 inches per event. Even if we conservatively assume the vertical uplift of one individual event can be up to ten times the average uplift, the vertical uplift would be up to about 1.3 inches for one event. The associated tilting of the ground surface in response to this folding and vertical uplift would likely be very gently distributed over the broad area of the anticlinal structure leading to negligible differential tilting.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 SURFACE FAULT RUPTURE POTENTIAL

The results of our field investigation work within the northerly portion of the Site identified two faults zones in trench FT-1 (Fault Zones A and B). The faults were determined through soil-stratigraphic assessment to be pre-Holocene-age faults, as defined by the California Geological Survey Special Publication 42, revised 2018 (SP-42; CGS, 2018). In addition, previous studies by Gorian for the Site did not find any evidence of faulting or any other forms of deformation of the deposits encountered within their trenches in the central and southerly portions of the Site. Our research also indicates there have been no reports of definitive evidence of Holocene-age faulting during investigations of other projects neighboring the Site. In fact, where the age of faulting has been constrained by dated deposits and/or soils, such as on Tracts 4928, 5187 and the Casey Road Senior Community site [Former Tracts 5424 and 5505]), the faults have been determined to not deform late Pleistocene deposits and/or soils, indicating these faults are pre-Holocene faults. Given the findings for the Site and for the neighboring projects, we conclude the potential for future ground rupture within the Site associated with "active" faulting is considered very low and no mitigation measures are required.

5.2 FAULT-RELATED GROUND DEFORMATION POTENTIAL

Based on SP-42, fault-related (tectonic) ground deformation is defined as "Surface and near-surface deformation caused by fault rupture at depth or at some horizonal distance away from the fault that is not expressed as discrete surface faulting, including both brittle (fissures and tension cracks) and non-brittle (folding, warping, or tilting) deformation". The A-P act does not specifically address fault-related ground deformation. However, in accordance with the guidelines in SP-42, fault-related ground deformation should also be assessed with respect to its impact on the ability of a structure for human occupancy to provide for life-safety and serviceability.

Based on our assessment, the anticlinal fold encountered in our trench FT-1 in the northern portion of the Site is interpreted to be a fault-related structure associated with the Southern Area thrust fault. In addition, results of our the soil-stratigraphic assessment indicates the folding occurred more than 58,000 years ago and probably much later. Considering the folding encountered during our investigation is pre-Holocene in age and that previous studies by Gorian for the Site did not find any evidence of faulting or any other forms of deformation within their trenches in the central and southerly portions of the Site, the probability of fault-related ground deformation during the life of the proposed structures within the Site is considered very low. No mitigation measures are required.

Furthermore, our estimates of uplift of the anticlinal fold presented earlier indicate that if a large earthquake on either the Oak Ridge fault or the Simi-Sana Rosa happens to occur near the Site causing movement of the Southern Area thrust fault beneath the Site, the vertical uplift of the anticlinal structure within the Site would be relatively small. We have estimated the resulting vertical uplift would be about 1.3 inches or less. Due to the recurrence frequency of such events,

only one event is likely to occur during the design life of the project (50 to 100 years). This uplift would also likely be very gently distributed at the ground surface over the broad area of the anticlinal structure such that differential tilting would be negligible. Therefore, the ground displacement from such an event would not affect the ability of proposed habitable structures to provide for the safety and welfare of the occupants nor is expected to impact the performance of utilities.

5.3 GROUND SHAKING

During the life of the proposed development, the Site could experience very high levels of ground shaking associated with the nearby Oak Ridge fault, the Simi-Santa Rosa fault and other nearby faults. As such, future structures should be designed, as a minimum, in conformance with Chapter 16 of the latest California Building Code (CBC) to mitigate this potential hazard.

5.4 FUTURE DEVELOPMENT

Observation by a California Professional Geologist should be conducted during future grading of the Site to assess the geologic conditions exposed at that time in order to confirm or modify the conclusions and recommendations presented herein. This report does not include comprehensive geotechnical engineering design parameters and recommendations for the future grading and development. Future geotechnical reports should consider seismic aspects such as strong ground shaking and potential differential settlement when rendering recommendations for Site development. In addition, the trenches excavated during this investigation were backfilled to existing grades with trench spoils and generally wheel-rolled with the water truck or track-walked with the excavator. The soils were not compacted, nor were they placed under engineering observation and testing. These backfilled soils are not suitable for support of structural foundation. During future Site development, the backfill in these trenches below future grades should be removed and replaced with engineered fill.

6.0 LIMITATIONS

This report has been prepared for the exclusive use of **Comstock Homes**. This report is intended to aid in your assessment of potential land development opportunities within the property.

This report is based on the proposed development and the geologic data as described herein. The geologic conditions interpreted from our field investigation and described in the referenced publications and reports are believed representative of the project area and the conclusions and recommendations contained in this report are presented on that basis. However, geologic conditions can vary in characteristics between points of exploration, both laterally and vertically, and those variations could affect the conclusions and recommendations contained herein. As such, observation by a California Professional Geologist during the grading phases of the project should be performed to confirm the basis of this report.

This report has been prepared consistent with that level of care being provided by other professionals providing similar services at the same locale and time period. The contents of this report are professional opinions and as such, are not to be considered a guarantee or warranty.

This report should be reviewed and updated if the Site ownership or project concept changes from that described herein.

This report has not been prepared for use by parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes.

Respectfully submitted,

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Plans

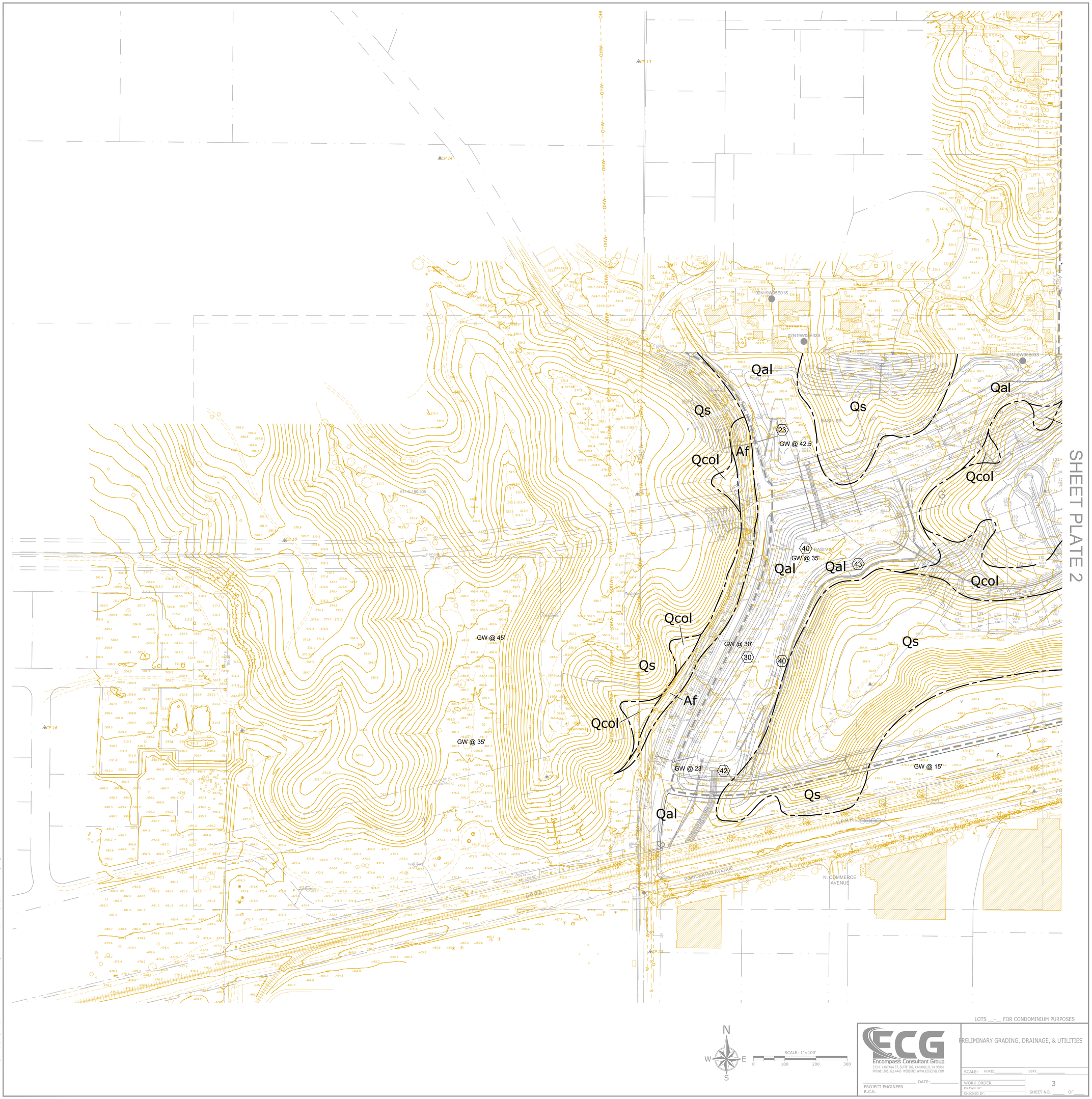
Cut/Fill Map, Hitch Ranch, Tract 5708, prepared by Proforma Grading Consultants, Inc., Scale 1" = 120 feet, dated December 2, 2016.

Illustrative Site Plan, Hitch Ranch – Moorpark, California, prepared by Development Planning Services, Scale 1" = 200' dated July 23, 2018.

Preliminary Grading, Drainage, and Utilities Plans, Hitch Ranch, Tentative Tract No, 5708, City of Moorpark, County of Ventura, prepared by Encompass Consultant Group, Scale 1" = 60', dated August 13, 2018.

Aerial Photographs

Source	Date Flown	Flight No.	Photo No.
Fairchild	10-31-29	C-688	65
Fairchild	12-16-35	C_3797	74
Fairchild	5-8-38	AXI_1938	19-77
Fairchild	10-23-45	C_9800	8-710
Fairchild	12-31-46	GS_EM	5-111
Fairchild	12-29-61	HA_LS	21
Continental	4-20-72	107-10	9 & 10
Continental	3-2-77	1 VEN-4	13, 14, & 15
Continental	4-3-79	2 VEN -24	11 & 12
Continental	3-80	VEN-4	17 & 19
Continental	1-8-88	NAC-VEN-5	11 & 12
Continental	6-7-90	C82-5	20, 21, & 22
Continental	10-93	C88	26, 27, 28
Continental	6-19-95	C113-20	3, 4, & 5
Continental	12-7-98	C130-192	93 & 94



SHEET PLATE 2

EXPLANATION

(LOCATIONS APPROXIMATE)

- FT-2 - Exploratory Fault Trench (Albus-Keefe, this report)
- 5 5' - Exploratory Fault Trench (Gorian 1994, 1999)
- 12 - Bedding Attitude, Indicating Dip
- 30 - Joint Attitude, Indicating Dip
- 32 - Fault Attitude, Indicating Dip
- Geologic Contact
- Af - Artificial Fill, Non-Engineered
- Afc - Artificial Fill, Compacted/Engineered
- Qcol - Colluvium
- Qal - Alluvium
- Qs - Bedrock: Saugus Formation

LOTS __-__ FOR CONDOMINIUM PURPOSES

ECG
Encompass Consultant Group
333 N. LANTANA ST, SUITE 287, CAMARILLO, CA 93010
PHONE: 805.322.4443 WEBSITE: WWW.ECGCIVIL.COM

PROJECT ENGINEER
R.C.E.
DATE:

PRELIMINARY GRADING, DRAINAGE, & UTILITIES

SCALE: HORIZ. VERT.
WORK ORDER
DRAWN BY:
CHECKED BY:
SHEET NO. 3 OF

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

PLOT PLAN

Job No.: 2677.00 | Date: 01/14/20 | Plate: 1

DRAWING: t:\cad files\cad\2600\2677.00 comstock - hitch ranch\preconstruction\2677.00 plot plan - fault study.dwg

SHEET PLATE 1



EXPLANATION
(LOCATIONS APPROXIMATE)

- FT-2 - Exploratory Fault Trench (Albus-Keefe, this report)
- 5 5' - Exploratory Fault Trench (Gorian 1994, 1999)
- 12 - Bedding Attitude, Indicating Dip
- 30 - Joint Attitude, Indicating Dip
- 32 - Fault Attitude, Indicating Dip
- Geologic Contact
- Af - Artificial Fill, Non-Engineered
- Afc - Artificial Fill, Compacted/Engineered
- Qcol - Colluvium
- Qal - Alluvium
- Qs - Bedrock: Saugus Formation

N W E S

SCALE: 1"=100'
0 100 200 300

LOTS ___ FOR CONDOMINIUM PURPOSES

ECG Encompass Consultant Group
333 N. LANTANA ST. SUITE 287, CAMARILLO, CA 93010
PHONE: 805.332.4443 WEBSITE: WWW.ECGCIVIL.COM

PROJECT ENGINEER
R.C.E. _____ DATE: _____

PRELIMINARY GRADING, DRAINAGE, & UTILITIES

SCALE: HORIZ.: _____ VERT.: _____
WORK ORDER
DRAWN BY:
CHECKED BY:
SHEET NO. 3 OF ___

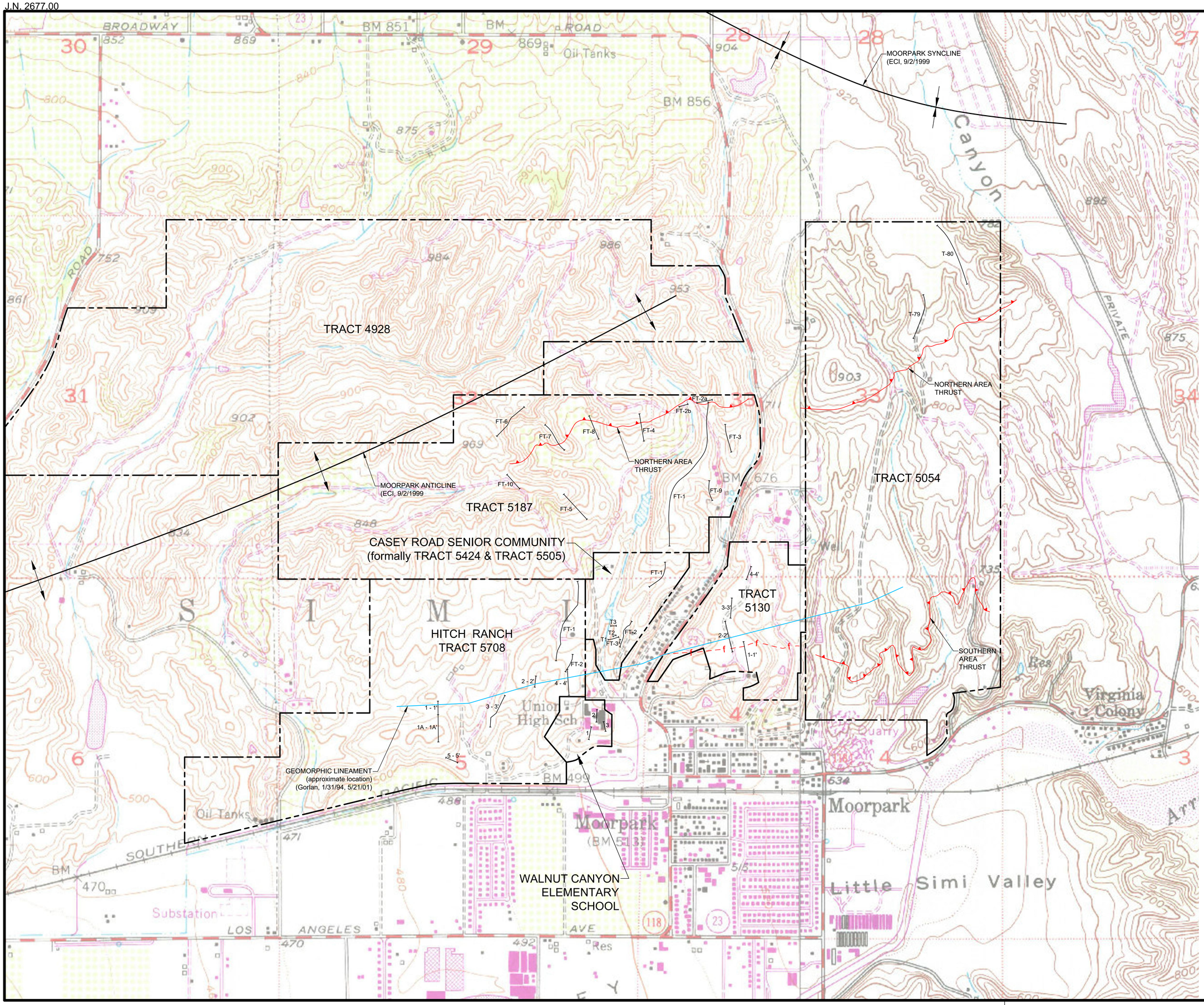
ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

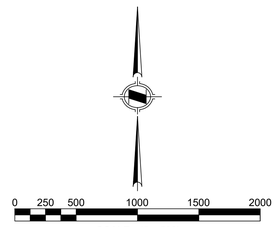
PLOT PLAN

Job No.: 2677.00	Date: 01/14/20	Plate: 2

DRAWING: I:\cad files\cad\2600\2677.00 comstock - hitch ranch\reconstruction\2677.00 plot plan - fault study.dwg

J.N. 2677.00





Base Map References

U.S.G.S., 1974, Moorpark Quadrangle, Ventura County, California, 7.5 Minute Series (Topographic), Scale 1:24,000, released 1951, revised 1974.

U.S.G.S., 1969, Simi Valley West Quadrangle, Ventura County, California, 7.5 Minute Series (Topographic), Scale 1:24,000, released 1951, revised 1969.

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COMPOSITE REGIONAL GEOLOGIC MAP

Job No.: 2677.00	Date: 01/14/20	Plate: 3

FAULT TRENCH LOG EXPLANATION

FT-1

Artificial Fill (Af)

①

Clayey Sand and Sandy Clay (SC/CL), fine- to coarse-grained, very dark grayish brown (10YR 3/2), damp to moist, trace gravel and cobbles, some roots and intermixed clods of Saugus Formation.

Top Soil (No Map Symbol)

②

Silty Sand and Clayey Sand (SM/SC), fine-grained, very dark brown (10YR 2/2) to dark brown (10YR 3/3), damp to moist, trace gravel and small cobbles, moderately porous, some roots and rootlets, scattered krotovinas. Locally very dark gray (5YR 3/1) sandy clay with poorly developed blocky ped structure and clay films on ped surfaces. This unit is substantially disturbed by plowing. Contact at base is gradational in nature.

Colluvium (Qcol)

③

Sandy Clay (CL), fine-grained, very dark brown (10YR 2/2), moist, trace gravel, moderately porous, local poorly developed blocky ped structure, trace roots and krotovinas.

④

Sandy Clay (CL), fine-grained, strong brown (7.5YR 5/6), damp to moist, trace gravel, moderately porous, local moderately developed blocky ped structure with clay films, carbonate development, and manganese oxide staining on ped surfaces, trace roots and krotovinas.

Saugus Formation (Qs)

⑤

Clayey Sand and Sandy Clay (SC/CL), fine-grained, dark yellowish brown (10YR 3/6), yellowish brown (10YR 5/8), and strong brown (7.5YR 4/6), damp to moist, trace gravel moderately porous, local moderately developed blocky ped structure with clay films, carbonate filaments, and manganese oxide staining on ped surfaces, some roots and rootlets. Between stations 0 and 2+80, unit is olive brown (2.5YR 4/3) to dark brown (10YR 3/3) in color. Unit is moderately to extremely weathered throughout with scattered krotovinas and no visible bedrock structure. Contact at base is gradational in nature.

⑥

Clayey Sandstone to Sandstone, fine- to coarse-grained, strong brown (7.5YR 4/6 to 5/6), damp to moist, scattered granitic gravels, slightly friable, brown (7.5YR 4/4) 1/4- to 1-inch thick clay rich “BT lams”. Local channel fills with increased gravels and minor seepage.

⑦

Silty Sandstone to Sandstone, fine- to medium-grained, yellowish brown (10YR 5/4 to 5/6) and dark yellowish brown (10YR 4/4), damp to moist, well indurated, strong brown (7.5YR 4/6) 1/2- to 1-inch thick clay rich “BT lams”, faint iron oxidation staining. Upper 2- to 3-feet is silica-cemented, dark yellowish brown (10YR 3/4 and 3/6), and very hard with pinhole pores and manganese oxide staining. Between stations 12+00 and 12+58, unit becomes very well indurated and very difficult to excavate.

⑧

Silty Sandstone and Sandstone, fine-grained and fine- to medium-grained, yellowish brown (10YR 5/4 5/6), dry to damp, scattered granitic gravels, trace shale fragments, locally friable, some very irregular and discontinuous silt beds, abundant channel fills with increased gravel and cobbles up to 6 inches. Upper 3 to 5 feet of unit appears re-worked and is predominately a sandy claystone, fine-grained, dark yellowish brown (10YR 4/6), damp, trace coarse grained sand and gravel, moderately porous, local carbonate filaments and manganese oxide staining.

⑨

Siltstone to Sandy Siltstone, fine-grained, dark yellowish brown (10YR 4/6 to 3/6) to yellowish brown (10YR 5/4), dry to damp, slightly to moderately porous, very irregular desiccation cracks with carbonate development (particularly between Stations 0 and 2+10), occasional thin silty sand lenses, local faint laminations, trace roots. Local blocky ped structures with clay films and manganese oxide staining on ped surfaces. Between Stations 9+48 and 10+73 the upper 2 to 3 feet is silica-cemented and very hard.

⑩

Silty Sandstone to Sandstone, fine-grained and fine- to medium-grained, yellowish brown (10YR 5/4 to 5/6), brown (10YR 5/3) and pale brown (10YR 6/3), dry to damp, slightly friable to friable, some sand and magnetite layering, manganese specs, interbedded 2- to 3-inch thick olive brown (2.5Y 4/4) silt beds with abundant decomposed rootlets and carbonate development. Unit generally coarsens downward to light olive brown (2.5Y 5/3), fine-coarse grained sandstone with strong brown (7.5 YR 4/6), dark yellowish brown (10YR 4/6) and yellowish brown (10YR 5/8) 1/4- to 2 1/2 -inch thick clay rich “BT lams”, cross-bedding, gravel layering, and channel fills with increased granitic gravels and cobbles up to 10 inches in size. Contact at base is erosional in nature and sharp.

⑪

Clayey Siltstone to Siltstone, brownish yellow (10YR 6/6), damp to moist, well indurated, slightly porous, massive, thin discontinuous internal shears (very dark grayish brown 2.5Y 3/2), trace decomposed rootlets, some iron oxidation staining. Local moderately developed blocky ped structure with clay films, carbonate filaments, and manganese oxide staining on ped surfaces. At Station 7+95, unit gradually grades to the south into yellowish brown (10YR 5/6) Sandy Siltstone with some fine-grained silty sand lenses.

⑫

Sandstone and Gravelly Sandstone, fine- to medium-grained and fine- to coarse-grained, yellowish brown (10YR 5/4) to light olive brown (2.5Y 5/3), dry, trace shale fragments, friable, local sand and gravel layering, scattered granitic cobbles, dark yellowish brown (10YR 4/4) 1/4- to 2 1/2 -inch thick clay rich “BT lams”.

FT-2

Top Soil (No Map Symbol)

②

Silty Sand (SM), fine-grained, dark brown (10YR 3/3), damp to moist, trace gravel, moderately porous, some roots and rootlets, scattered krotovinas. This unit is substantially disturbed by plowing.

Saugus Formation (Qs)

⑤

Clayey Sand (SC), fine-grained, yellowish brown (10YR 5/6), damp to moist, trace gravel moderately porous, local moderately developed blocky ped structure with clay films, carbonate filaments, and manganese oxide staining on ped surfaces, some roots and rootlets. Unit is moderately to extremely weathered throughout with scattered krotovinas and no visible bedrock structure. Contact at base is gradational.

⑦

Sandstone, fine- to medium-grained, light yellowish brown (10YR 6/4), damp to moist, trace gravel, locally well indurated, strong brown (7.5YR 4/6) 1/2- to 1-inch thick clay rich “BT lams”, some sand and gravel layering, local fine- to coarse-grained channel fills with increased granitic gravels. Interbedded Silty Sandstone, fine-grained, dark yellowish brown (3/6), damp, well indurated, local moderately developed blocky ped structure with clay films and manganese oxide staining,. Silty Sandstone beds are typically very irregular and silica-cemented with pinhole pores and faint iron oxidation staining.

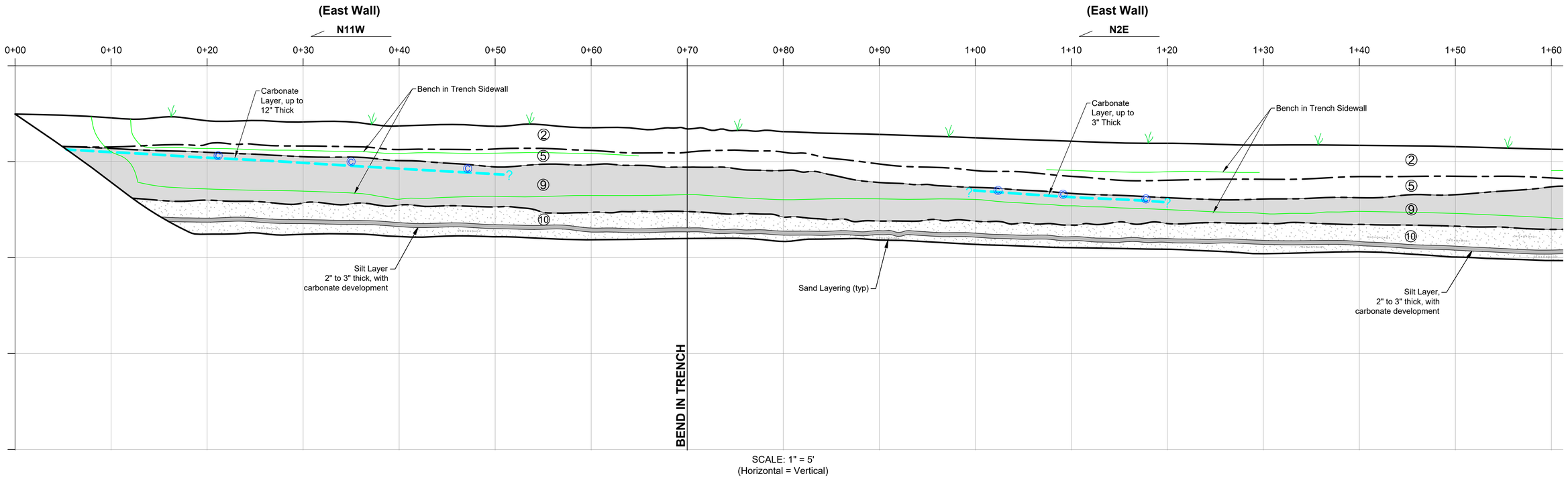
General Notes:

1. Sequence of units listed is generally from youngest ① to oldest ⑫.
2. Color of geologic units described when moist.

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

FAULT TRENCH LOG EXPLANATION

Job No.: 2677.00	Date: 04/03/19	Plate: 4



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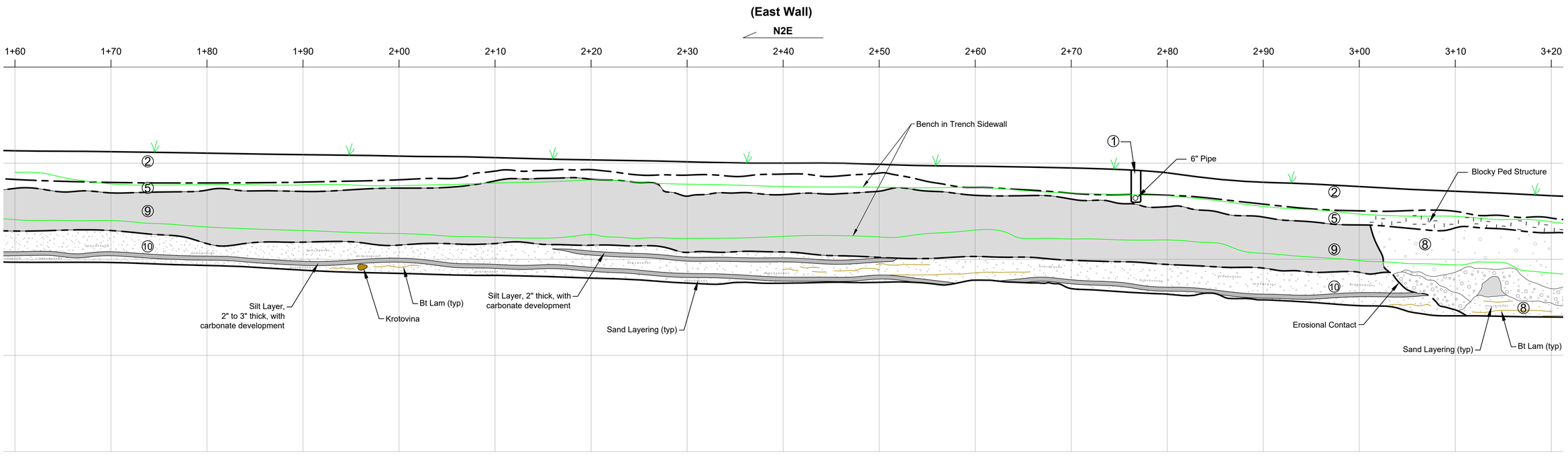


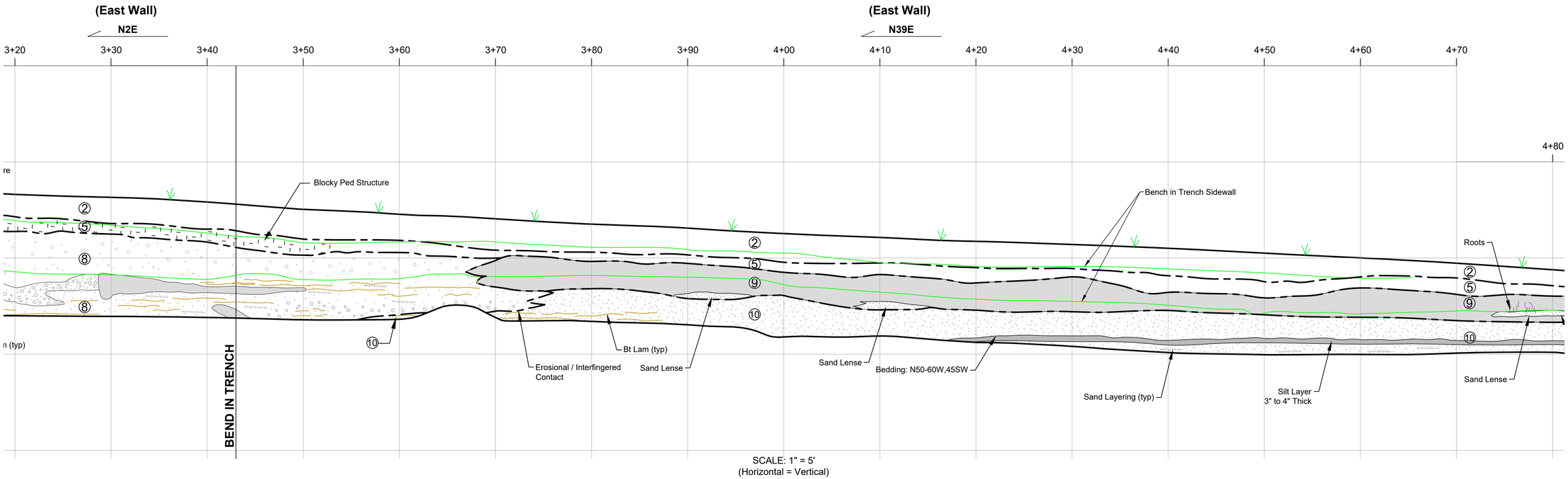
SCALE: 1" = 5'
(Horizontal = Vertical)

(see Plate 4 for Legend of Geologic Units)

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

FAULT TRENCH LOG: FT-1

Job No.: 2677.00	Date: 01/14/20	Plate: 5

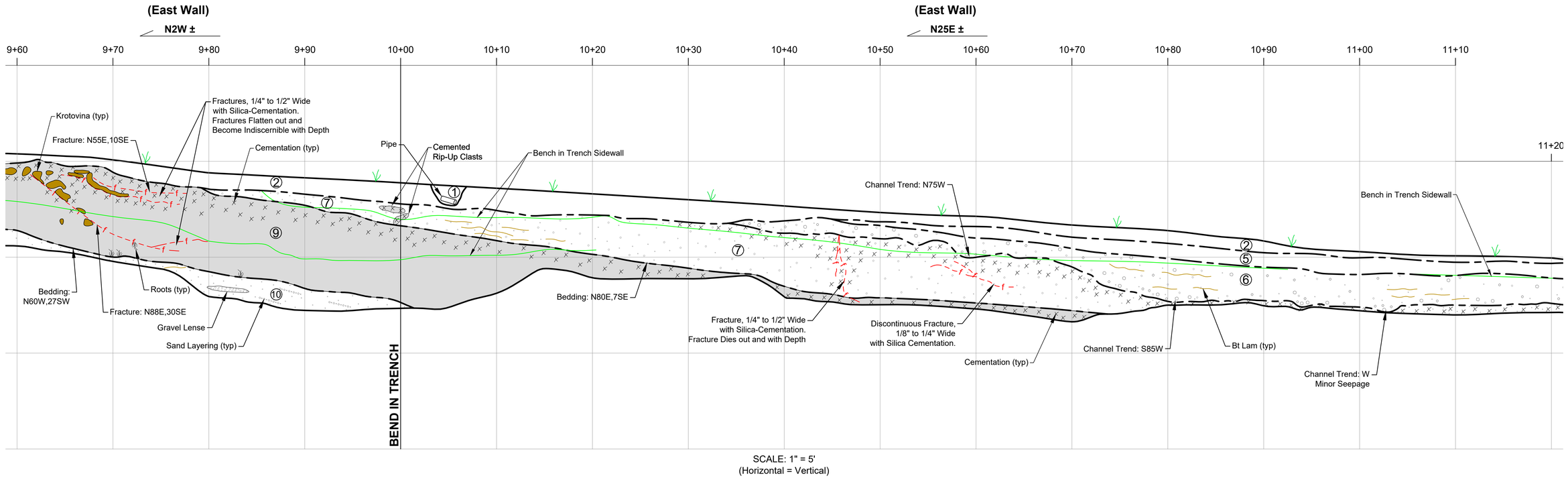


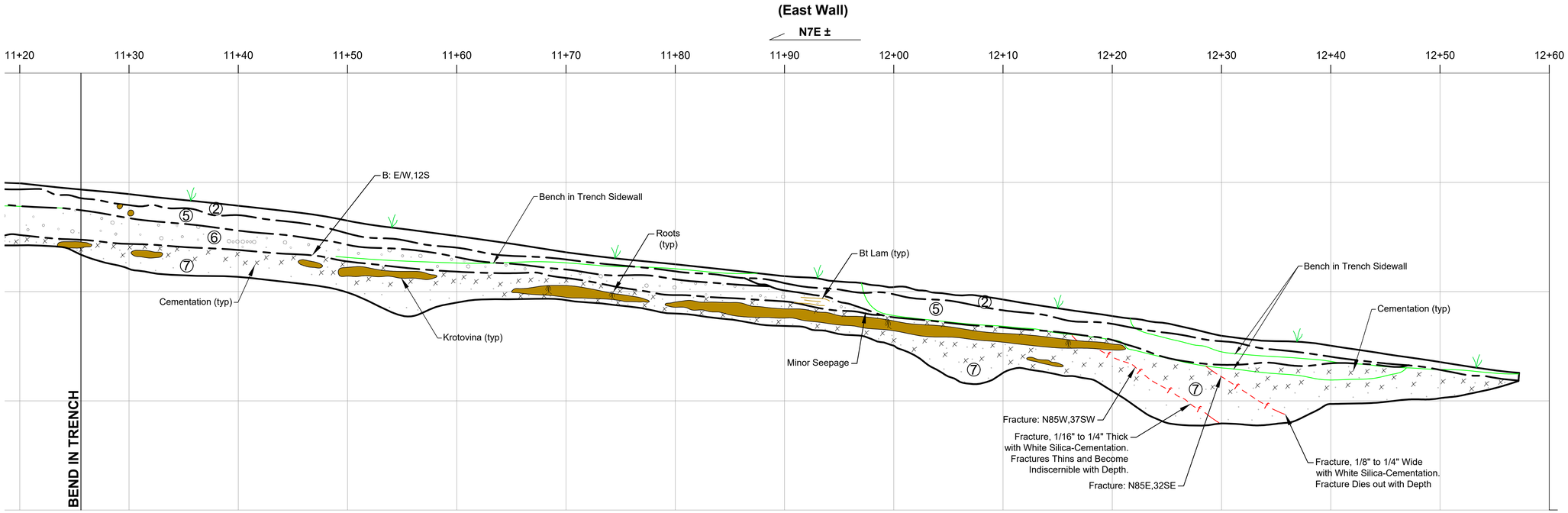
(see Plate 4 for Legend of Geologic Units)

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

FAULT TRENCH LOG: FT-1

Job No.: 2677.00	Date: 01/14/20	Plate: 6



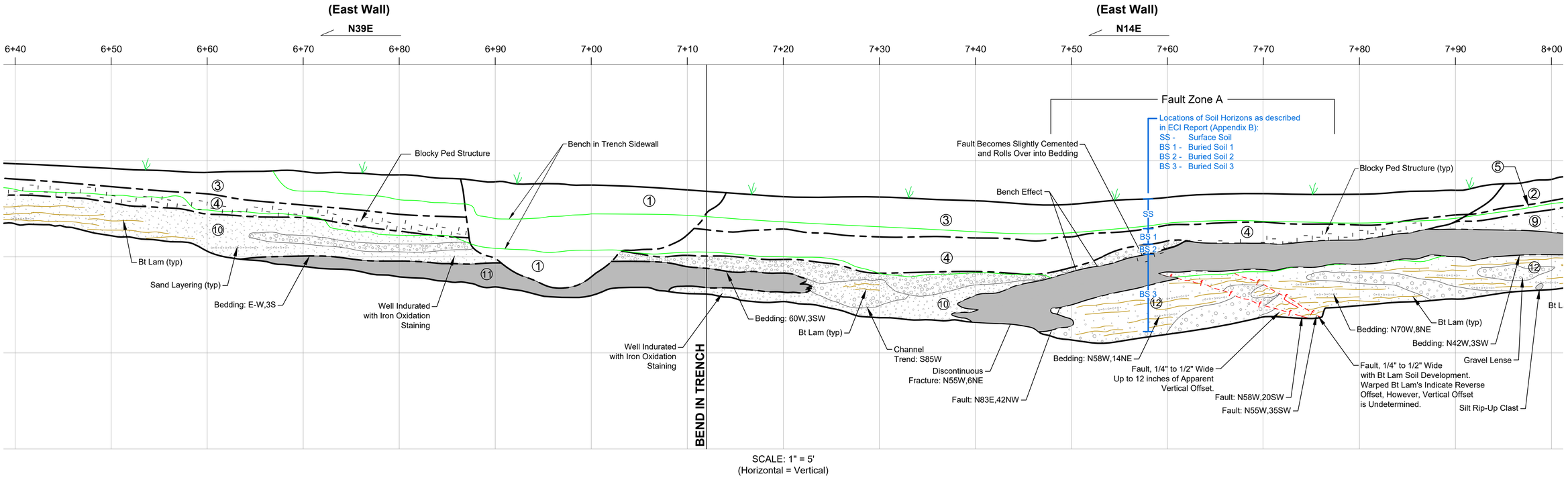


(see Plate 4 for Legend of Geologic Units)

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

FAULT TRENCH LOG: FT-1

Job No.: 2677.00	Date: 01/14/20	Plate: 8



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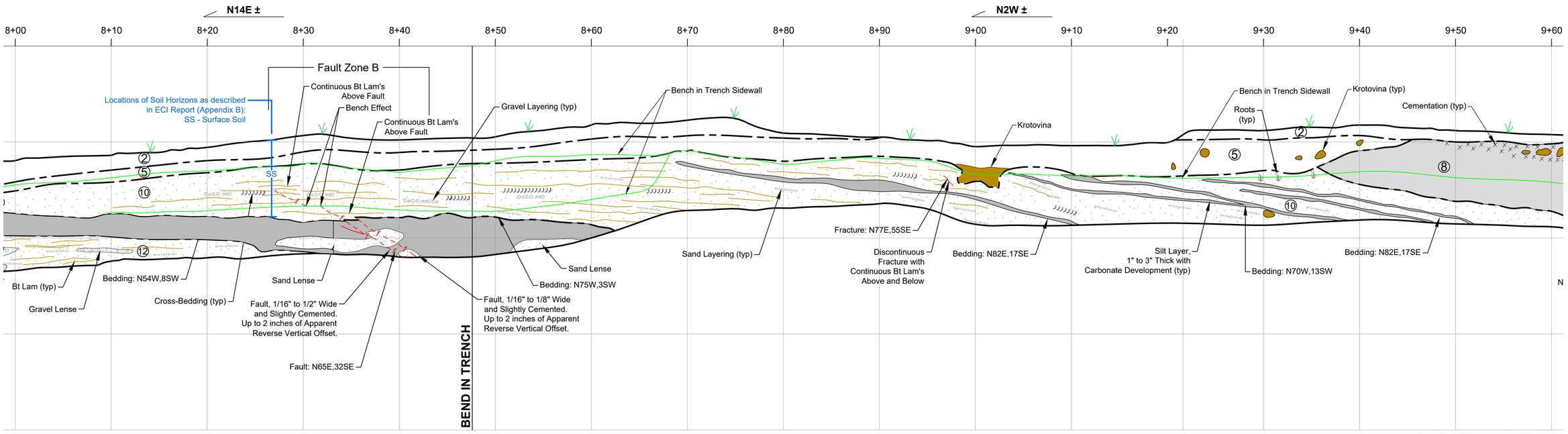

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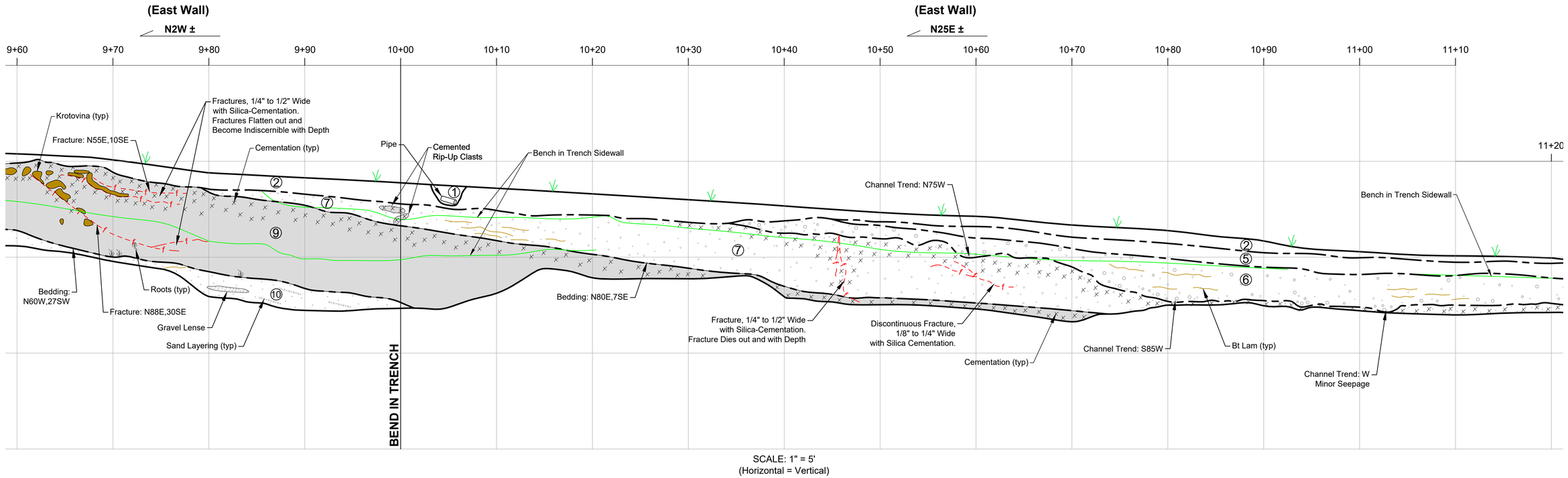
(Horizontal = Vertical)

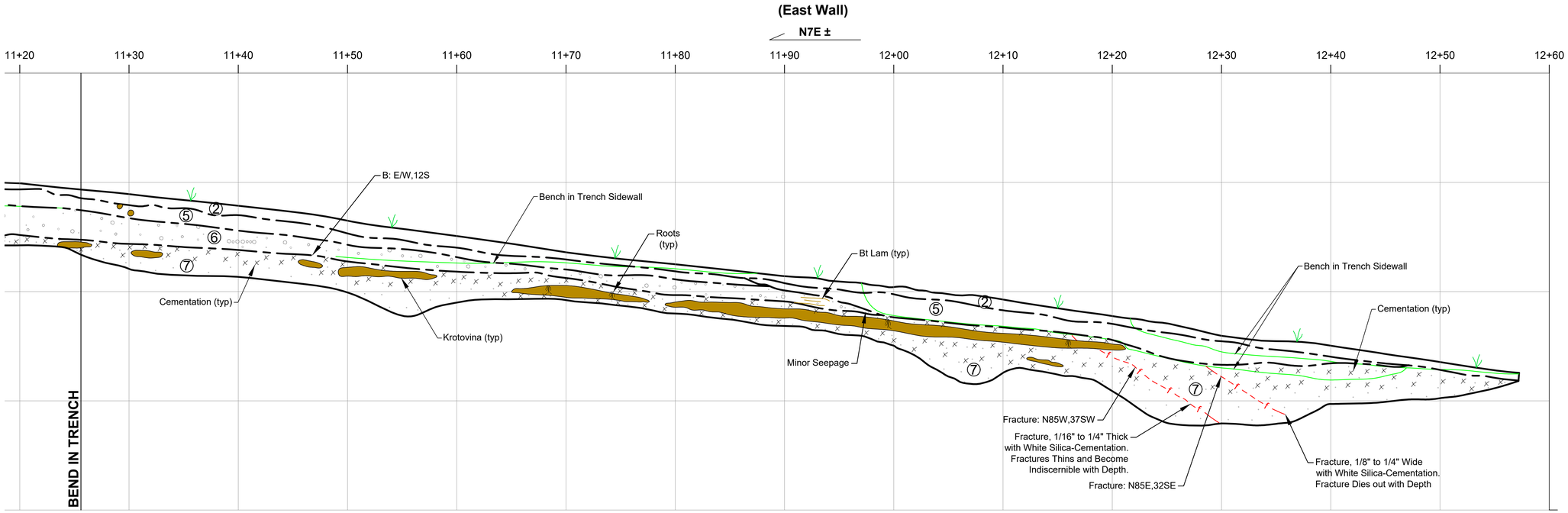
(see Plate 4 for Legend of Geologic Units)

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

FAULT TRENCH LOG: FT-1

Job No.: 2677.00	Date: 01/14/20	Plate: 7



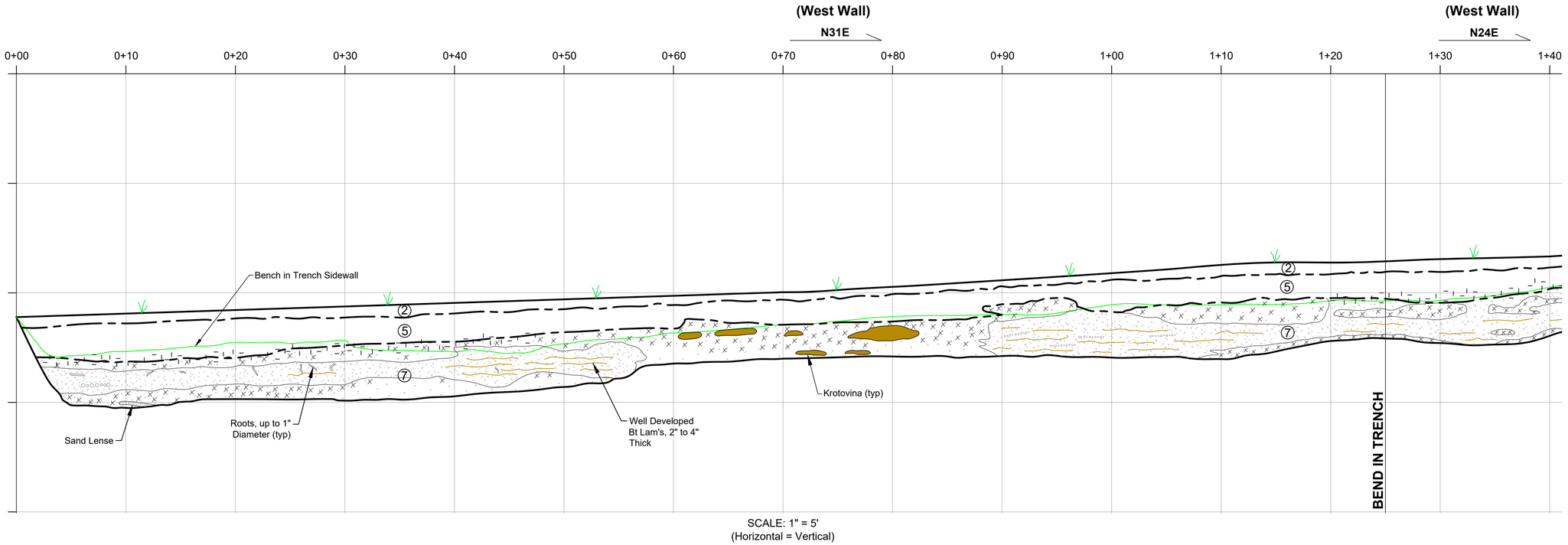


(see Plate 4 for Legend of Geologic Units)

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

FAULT TRENCH LOG: FT-1

Job No.: 2677.00	Date: 01/14/20	Plate: 8



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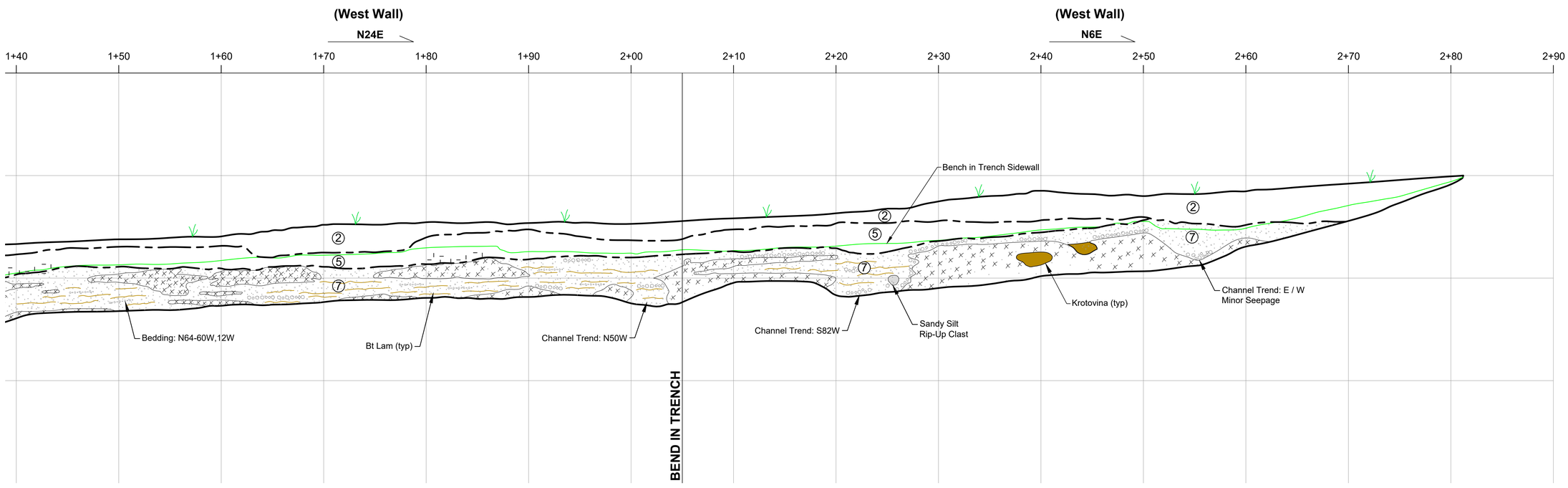

SCALE: 1" = 5'
(Horizontal = Vertical)

(see Plate 4 for Legend of Geologic Units)

ALBUS-KEEFE & ASSOCIATES, INC.
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FAULT TRENCH LOG: FT-2

Job No.: 2677.00	Date: 01/14/20	Plate: 9

APPENDIX A

Previous Trench Logs by Gorian for the Site



① ALLUVIUM: DARK GREY, CLAYEY-SILTY SAND (MOIST-V/MOIST-MED-DENSE) POROUS-LOCALLY DISTURBED.

② ALLUVIUM: MEDIUM BROWN-SANDY SILTY CLAY (DAMP-V/MOIST-STIFF) BLOCKLY FRACTURED-V/POROUS. LOCALIZED RODENT BURROWS-LOCALLY DISTURBED.

③ ALLUVIUM: GREY BROWN-CLAYEY F/SAND MOTTLED W/BLACK SANDY-SILTY CLAY-LOCALIZED CARBONATE VEINLETS, POROUS.

④ SAUGUS FORMATION: GREY-LT. BROWN, V/SANDY MUDSTONE W/F/COARSE GRAIN SAND; SCATTERED PEBBLES (ANG & SUB-ANG); LOCALLY POROUS (MOIST, V/STIFF), ABUNDANT CARBONATE IN UPPER 9', WITH ROOTLETS AND VEINLETS THROUGHOUT. LOWER 3' BECOMING V/SANDY W/LOCALIZED GRAVEL LINNEATIONS. GRADES TO UNIT 5.

④a ALLUVIUM: MEDIUM BROWN-GREY BROWN-SLIGHTLY CLAYEY-SILTY F/MED SAND -VERY DENSE W/SCATTERED GRAVEL, APPEARS TO BE BURIED CHANNEL DEPOSIT.

⑤ SAUGUS FM: TAN-LIGHT BROWN V/SILTY-F/MED SANDSTONE, SLIGHTLY TO MODERATELY FRIABLE W/SCATTERED GRAVEL, LENSES.

⑤a SAUGUS FM: TAN-F/CSE SANDSTONE W/GRAVEL CLASTS (SUB-ANGULAR) FRIABLE-LOCALLY EXHIBITS CROSS BEDDING.

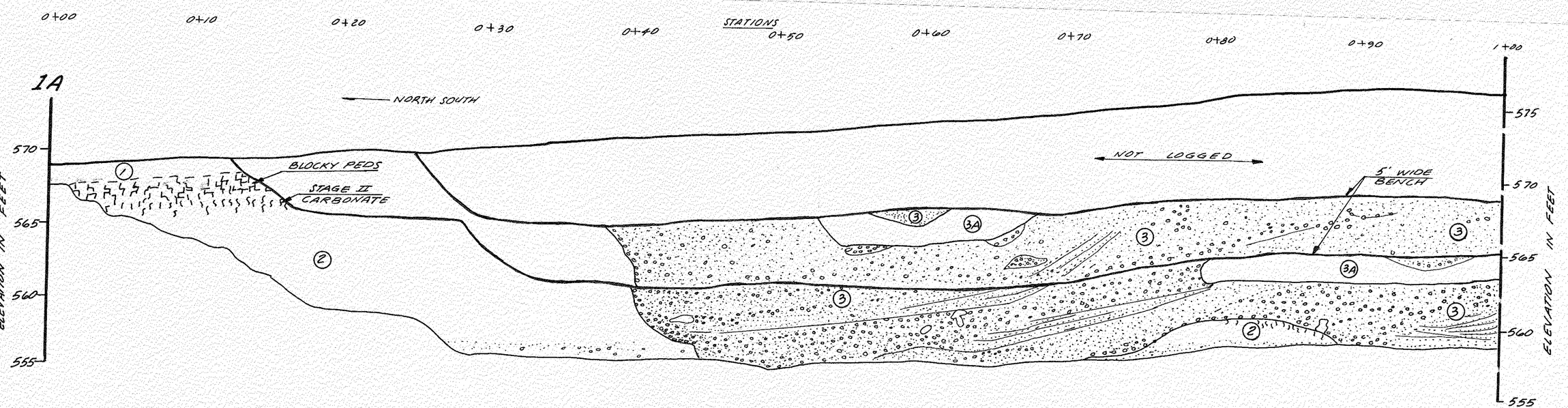
TRENCH LOG 1-1'

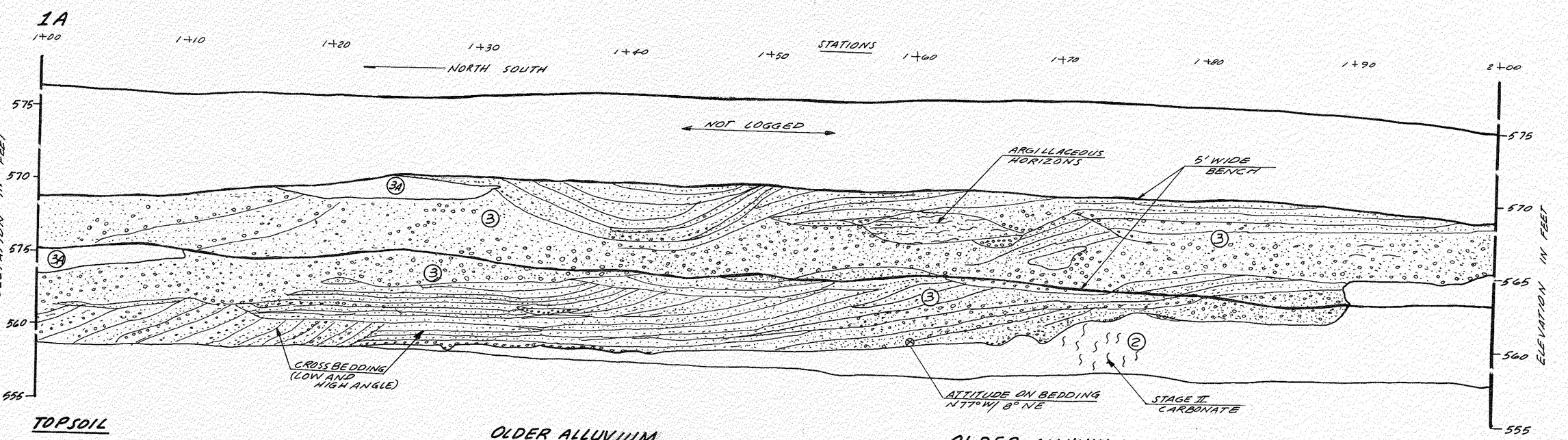
EAST WALL

LEVY RANCH

MOORPARK - CALIFORNIA

GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 2
Job No.: 1974-1-12		Date: 4-20-94
Scale: 1"=5'	Drawn by: JGR Approved by:	Log No.:





TOPSOIL

(1) DARK GRAYISH BROWN (10YR 4/2) SANDY CLAY (HARD, DRY TO DAMP). DESSICATED. SCATTERED ROOTS TO ROOTHAIRS. FEW GRAVEL. GRADATIONAL CONTACT OVER 6" WITH UNIT (2). HACKLY FRACTURES.

OLDER ALLUVIUM

(2) YELLOWISH BROWN (10 YR 5/4) SILTY CLAY, TRACE FINE SAND (HARD, DAMP TO MOIST). BLOCKY PEDS TYPICAL (STATION 4+15 TO 4+29 AND 0+00 TO 0+15), EXTENDING 2 FEET BELOW CONTACT WITH UNIT (1). BELOW BLOCKY PEDS, SCATTERED STAGE II CARBONATE, THEN UNIT GRADES TO YELLOWISH BROWN (10 YR 5/4) SANDY SILTY CLAY (HARD, MOIST) MOTTLED WITH LIGHT BROWNISH GRAY (10 YR 6/2) SANDY CLAY. FEW GRAVEL. SCATTERED MANGANESE STAINING. SLIGHTLY POROUS. STATION 0+35, UNIT GRADES DOWNWARD TO LIGHT YELLOWISH BROWN (10YR 6/4) SILTY FINE TO COARSE SAND WITH SOME GRAVEL (DENSE, DAMP). GRADATIONAL CONTACT WITH SANDY CLAY ABOVE OVER 18." UNIT (2), SHARP EROSIONAL CONTACT WITH UNIT (3); STATION 0+80 TO 0+85, UNIT YELLOWISH BROWN (10 YR 5/4) SILTY CLAY, TRACE FINE SAND (HARD, DAMP). SCATTERED STAGE II CARBONATE JUST BELOW SHARP CONTACT WITH UNIT (3). GRADES DOWNWARD OVER 12" TO LIGHT YELOWISH BROWN (10 YR 6/4) SILTY FINE TO MEDIUM SAND, SOME COARSE SAND, FEW GRAVEL. STATION 0+70 TO 0+76, SCATTERED STAGE II CARBONATE WITHIN YELLOWISH BROWN (10 YR 5/4) SILTY CLAY, TRACE FINE SAND. STATION 1+90 TO SOUTH, UPPER PORTION OF UNIT MOTTLED WITH LIGHT BROWNISH GRAY (10 YR 6/2) SANDY CLAY. STATION 3+05 TO 3+28 UPPER PORTION OF UNIT NEAR CONTACT WITH UNIT (3) BLOCKY PEDS.

(2A) STATION 3+90 TO 4+20, LOWEST PORTION OF UNIT BECOMES LIGHT YELLOWISH BROWN (2.5 Y 6/4) SILTY FINE TO COARSE SAND.

OLDER ALLUVIUM

(3) NEAR EDGE OF CONTACT WITH UNIT (2), LIGHT YELLOWISH BROWN (10 YR 6/4) CLAYEY FINE TO COARSE SAND WITH GRAVEL (MEDIUM DENSE, DAMP). UNIT INTERBEDDED WITH BROWNISH YELLOW (10YR 6/6) FINE TO MEDIUM SAND, FEW GRAVEL. STATION 0+44, 0+60, 0+63, 0+88 AND 1+70, CONTAINS RIP-UP CLASTS OF LIGHT YELLOWISH BROWN (2.5 Y 6/4) SANDY SILT. UNIT GRADES HORIZONTALLY TO PALE YELLOW (2.5 Y 7/4) FINE TO COARSE SAND AND GRAVEL, SOME COBBLES. TYPICALLY, FRIABLE WITH HIGH AND LOW ANGLE CROSS-BEDDING. CLASTS INCLUDE MODELO FORMATION CHERT AND SILTSTONE, GRANODIORITE, QUARTZITE, ANORTHOSITE AND SANDSTONE. WELL-ROUNDED TO SUBANGULAR. UNIT LOCALLY CONTAINS ARGILLACEOUS HORIZONS. STATION 1+80 TO 1+90, LIGHT YELLOWISH BROWN (10 YR 6/4) CLAYEY FINE TO COARSE SAND WITH GRAVEL JUST ABOVE SHARP EROSIONAL CONTACT WITH UNIT (2) AND AGAIN AT STATION 2+15. STATION 3+28 TO 3+82, LIGHTLY YELLOWISH BROWN (10 YR 6/4) SLIGHTLY CLAYEY FINE TO COARSE SAND WITH GRAVEL, FEW COBBLES. SHARP EROSIONAL CONTACT WITH UNIT (2). GRADES UPWARD TO YELLOWISH BROWN (10 YR 5/4) SILTY FINE SAND (VERY DENSE, DAMP) MOTTLED WITH PALE YELLOW (5Y 7/3) SILTY FINE SAND.

(3A) YELLOWISH BROWN (10 YR 5/4) CLAYEY SILT (HARD, DAMP) SLIGHTLY POROUS. TYPICALLY LENSES, GRADATIONAL CONTACT WITH UNIT (3) OVER 3" AT BASE OF UNIT (2A), SHARP CONTACT AT TOP OF UNIT (3A)

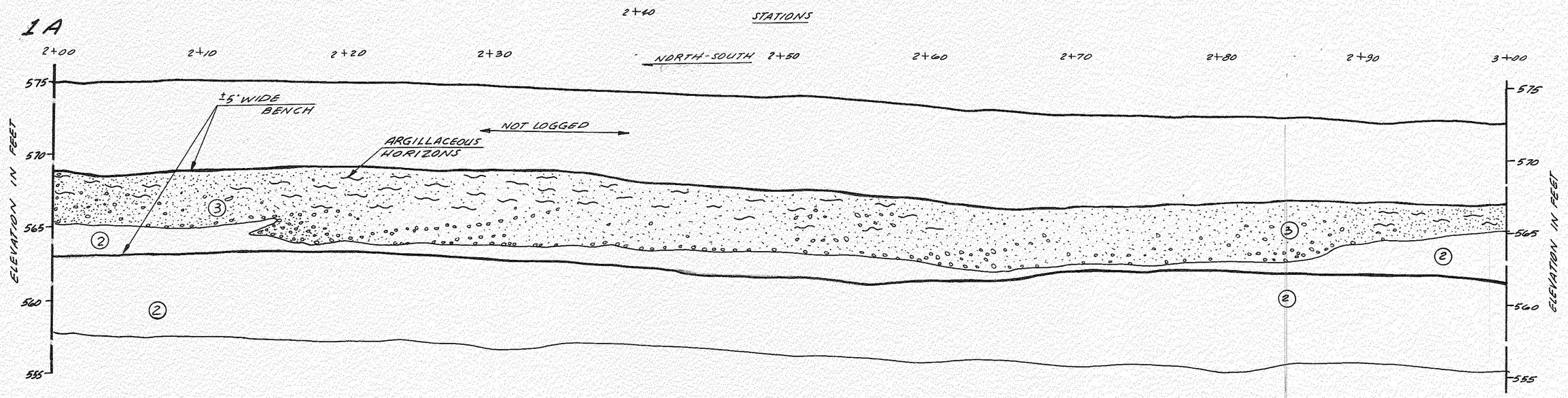
FAULT TRENCH 1A-1A'

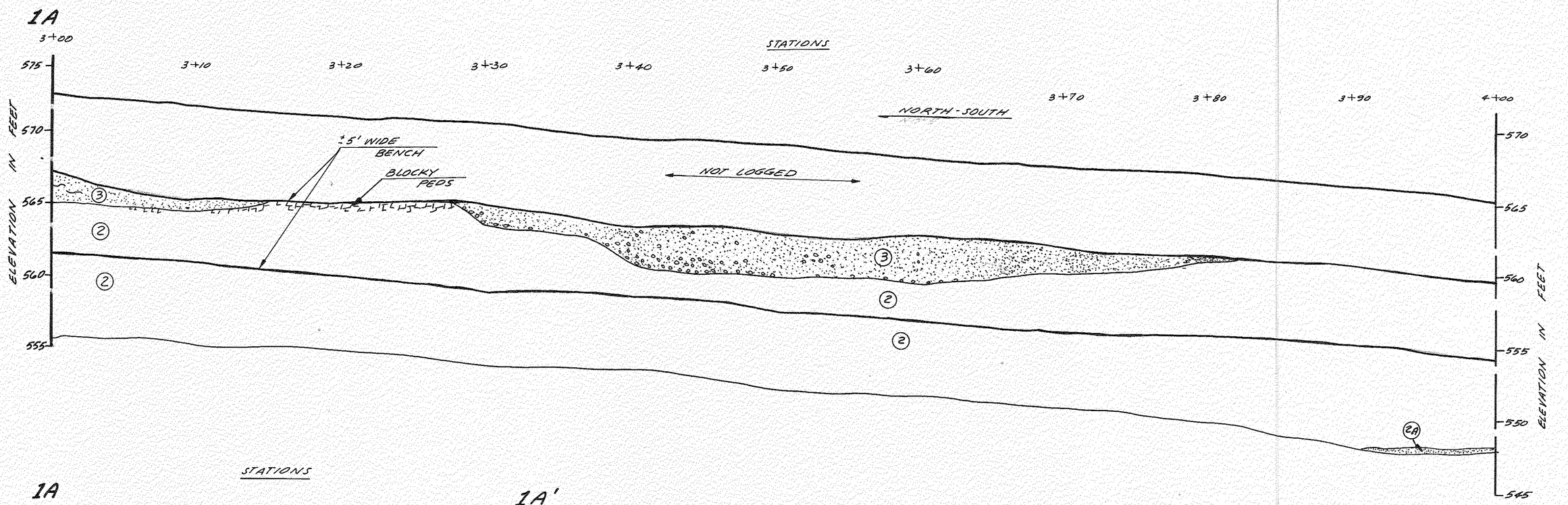
FOR HITCH RANCH · SPECIFIC PLAN #1
CITY OF MOORPARK · CALIFORNIA

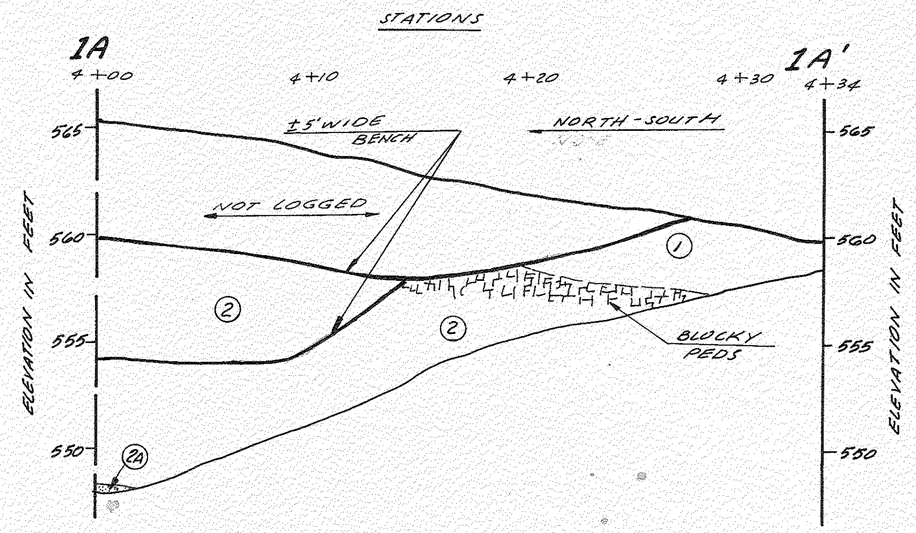
GORIAN & ASSOCIATES, INC.
Applied Earth Sciences

PLATE 2

Job No.: 1974-1-0-12		Date: 1·19·2000
Scale: 1" = 5'	Drawn by: JGR	Log No.: 19875
	Approved by:	







FAULT TRENCH 1A-1A'

FOR HITCH RANCH. SPECIFIC PLAN # 1
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GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 3
Job No.: 1974-1-0-12		Date: 1·19·2000
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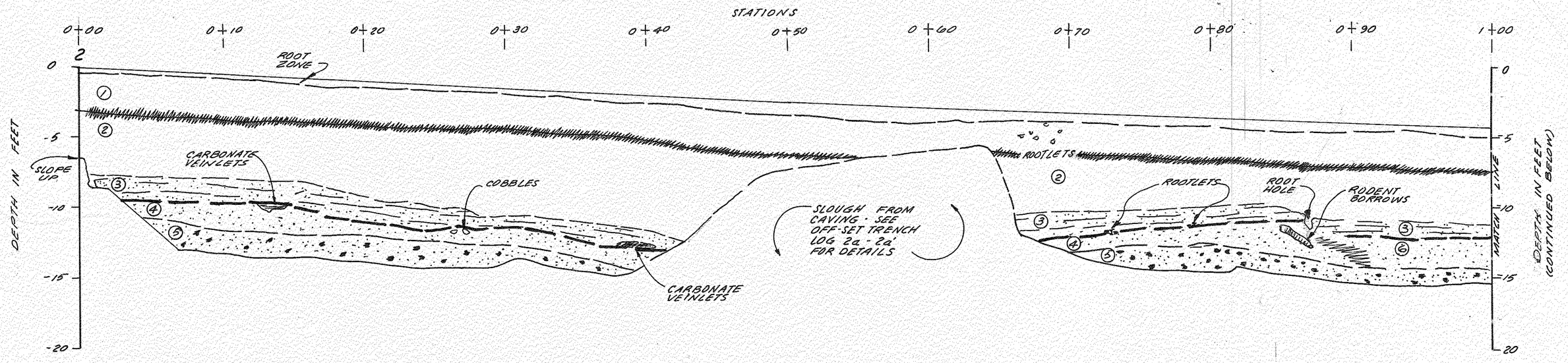
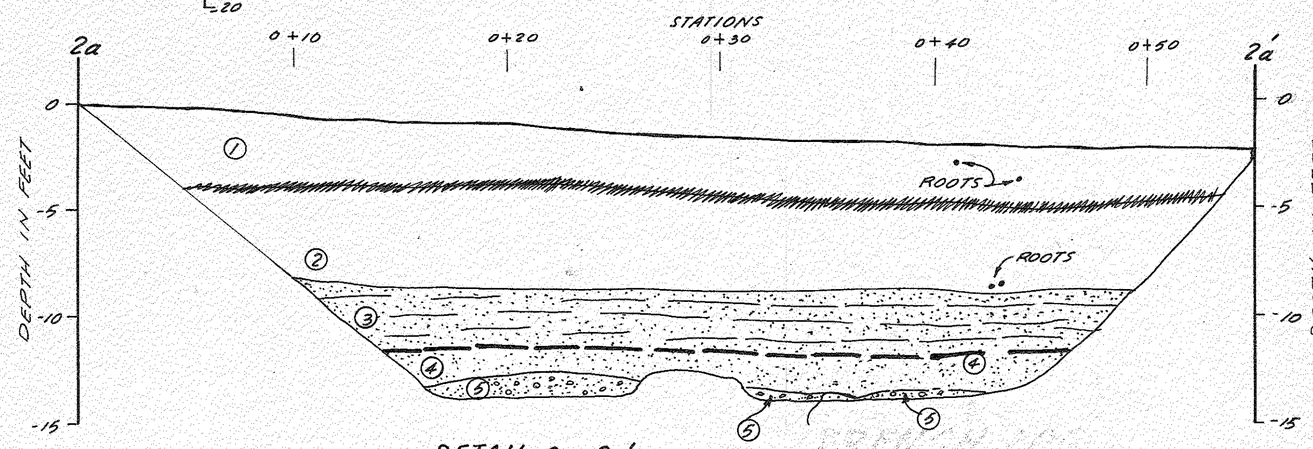




DETAIL 2a-2a'

LEVY RANCH

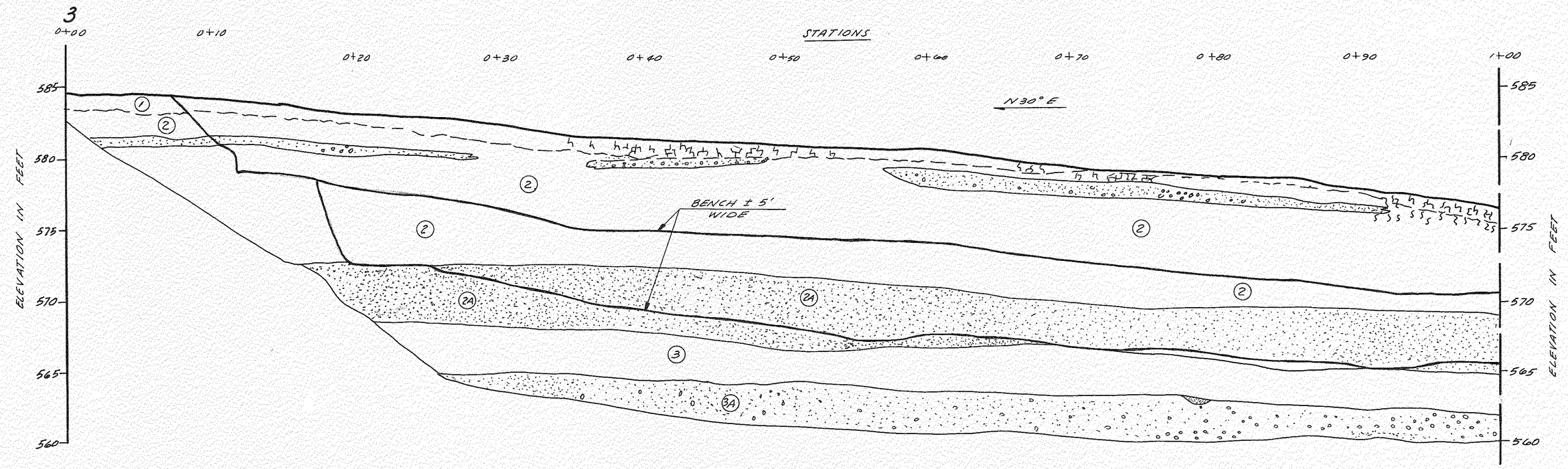
MOORPARK - CALIFORNIA

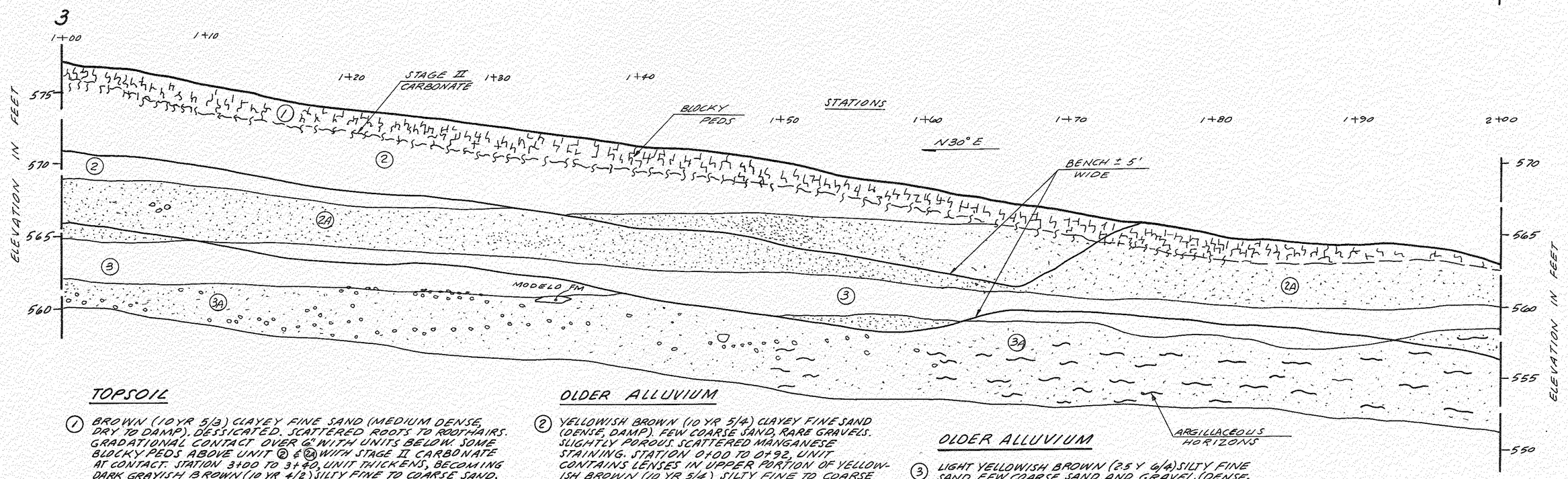
1. ALLUVIUM: DARK GREY SANDY CLAYEY SILT (WET, MED. STIFF.) W/ ABUNDANT ROOTLETS UPPER 6"; SCATTERED PEBBLES.
2. YOUNGER ALLUVIUM: GREY BROWN CLAYEY SILTY SAND; SANDY CLAY; POROUS W/ PIN POINT POROSITY (MOIST, DENSE)
3. OLDER ALLUVIUM: TAN-LIGHT BROWN VERY SILTY FINE SAND - SLIGHTLY FRIABLE, LOCALLY POROUS - W/ SCATTERED CARBONATE NODULES & ABUNDANT CARBONATE VEINLETS - SCATTERED PEBBLES - COBBLES, (QUARTZITE) ANGULAR/SUBANGULAR.
4. OLDER ALLUVIUM: TAN FINE/MEDIUM SAND FRIABLE W/ SCATTERED GRAVEL - WELL SORTED, W/ LOCALLY ABUNDANT CARBONATE VEINLETS SOUTH OF STA 0+60 GRADED BEDDING OBSERVIBLE FROM START OF STA 1+26.
5. OLDER ALLUVIUM: TAN FINE/CSE SAND LOCALIZED GRAVEL TO 1" DIA. (ANGULAR/SUB-ANGULAR, VERY FRIABLE, W/ SOME CAVING - LOWER 1: HORIZONTAL - SUB-HORIZONTIAL GRAVEL LINEATIONS.
6. OLDER ALLUVIUM: GREY BROWN - VERY SILTY - FINE SAND (DAMP) FRIABLE WITH ABUNDANT CARBONATE VEINLETS DISSEMINATED THROUGHOUT. ROOTLETS GENERALLY FOLLOWING CONTACT WITH UNIT 3.

TRENCH LOG 2-2'

EAST WALL

GORIAN & ASSOCIATES, INC. Applied-Earth Sciences		PLATE 3
Job No.: 1974-1-12		Date: 4-20-94
Scale: 1" = 5'	Drawn by: JGR Approved by:	Log No.:





TOPSOIL

(1) BROWN (10YR 5/3) CLAYEY FINE SAND (MEDIUM DENSE, DRY TO DAMP). DESSICATED. SCATTERED ROOTS TO ROOTHAIRS. GRADATIONAL CONTACT OVER 6" WITH UNITS BELOW. SOME BLOCKY PEDS ABOVE UNIT (2) & (2A) WITH STAGE II CARBONATE AT CONTACT. STATION 3+00 TO 3+40, UNIT THICKENS, BECOMING DARK GRAYISH BROWN (10 YR 4/2) SILTY FINE TO COARSE SAND, TRACE CLAY (DENSE, DRY TO DAMP) GRADATIONAL CONTACT OVER 12" WITH UNITS (3A) & (4A). LOCALLY POROUS. SOME GRAVEL, FEW COBBLES.

OLDER ALLUVIUM

(2) YELLOWISH BROWN (10 YR 5/4) CLAYEY FINE SAND (DENSE, DAMP). FEW COARSE SAND, RARE GRAVELS. SLIGHTLY POROUS. SCATTERED MANGANESE STAINING. STATION 0+00 TO 0+92, UNIT CONTAINS LENSES IN UPPER PORTION OF YELLOWISH BROWN (10 YR 5/4) SILTY FINE TO COARSE SAND WITH SOME GRAVEL (MEDIUM DENSE, DRY TO DAMP). SLIGHTLY POROUS. FEW COBBLES. UPPER PORTION OF UNIT LOCALLY EXHIBITS BLOCKY PEDS WITH STAGE II CARBONATE.

(2A) GRADATIONAL CONTACT OVER 12" WITH UNIT (2). BROWNISH YELLOW (10 YR 6/6) SILTY FINE TO COARSE SAND. FEW GRAVEL. RARE COBBLES, (DENSE, DRY TO DAMP). MINOR CROSSBEDDING FROM STATION 1+30 TO 1+35. GRADITIONAL CONTACT OVER 6" WITH UNIT (3).

OLDER ALLUVIUM

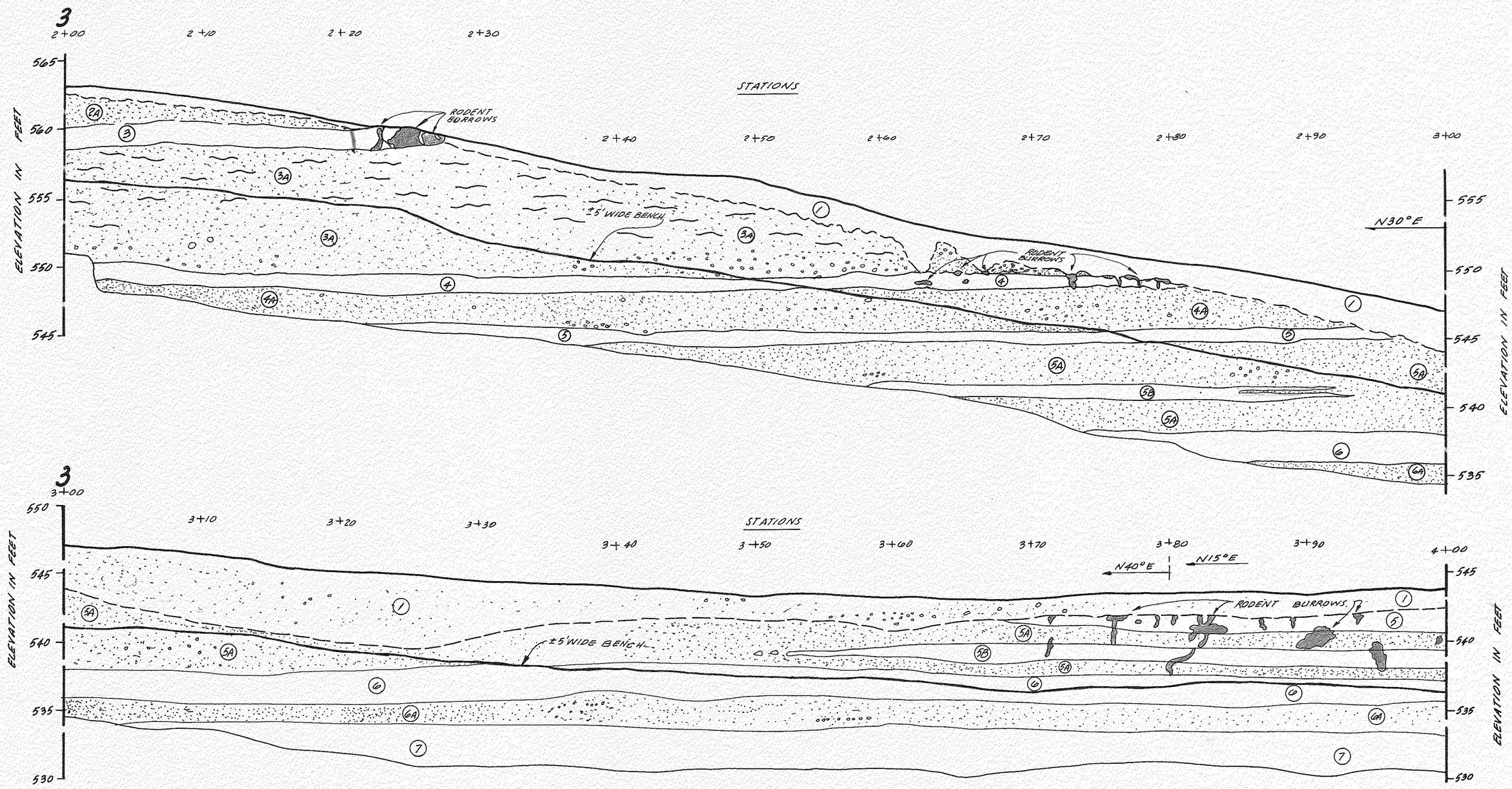
(3) LIGHT YELLOWISH BROWN (2.5 Y 6/4) SILTY FINE SAND, FEW COARSE SAND AND GRAVEL. (DENSE, DAMP) SLIGHTLY POROUS. GRADING DOWNWARD OVER 3" TO LIGHT YELLOWISH BROWN (2.5Y 6/4) VERY SILTY, VERY FINE SAND (DENSE, MOIST TO WET). RARE GRAVEL. GRADATIONAL CONTACT OVER 3" WITH UNIT (3A).

(3A) PALE YELLOW (2.5Y 7/3 TO 7/4) SLIGHTLY SILTY FINE TO COARSE SAND WITH SOME GRAVEL AND COBBLES. (DENSE, DRY) FRIABLE. NEARLY HORIZONTALLY STRATIFIED. GRADATIONAL CONTACT OVER 3" WITH UNIT (3). CONTAINS CLASTS FROM MODELO FORMATION (CHERT AND SILTSTONE), QUARTZITE AND GRANITE. CLASTS ARE SUB ANGULAR TO WELL ROUNDED. LOCALLY EXHIBITS ARGILLACEOUS HORIZONS. SHARP CONTACT WITH UNIT (4). STATION 2+10 CONTAINS WELL ROUNDED RIP UP CLASTS OF LIGHT YELLOWISH BROWN (10YR 6/4) CLAYEY FINE SAND.

FAULT TRENCH 3-3'

FOR HITCH RANCH SPECIFIC PLAN #1
CITY OF MOORPARK · CALIFORNIA

GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 4
Job No.: 1974-1-0-12		Date: 1·19·2000
Scale: 1"=5'	Drawn by: JGR Approved by:	Log No.: 19875



OLDER ALLUVIUM

(4) PALE OLIVE (5Y 6/4) CLAYEY SILT MOTTLED WITH RUST (VERY STIFF, MOIST TO WET) GRADING DOWNWARD TO PALE OLIVE (5Y 6/3) SILTY FINE SAND (MEDIUM DENSE, MOIST). SHARP CONTACT WITH UNIT (3A), GRADATIONAL CONTACT OVER 3" WITH UNIT (4A).

(4A) LIGHT YELLOWISH BROWN (2.5Y 6/4) SLIGHTLY SILTY FINE TO COARSE SAND WITH SOME GRAVEL, FEW COBBLES (DENSE, DRY TO DAMP) NEARLY HORIZONTALLY STRATIFIED. SHARP EROSIONAL CONTACT WITH UNIT (5).

(5) LIGHT OLIVE BROWN (2.5Y 5/4) VERY SILTY FINE SAND (DENSE, MOIST) SHARP EROSIONAL CONTACT WITH UNIT (4A). GRADATIONAL CONTACT OVER 3" WITH UNIT (5A).

(5A) LIGHT YELLOWISH BROWN (2.5Y 6/4) SILTY FINE TO MEDIUM SAND WITH POCKETS OF COARSE SAND AND GRAVEL (DENSE, DAMP). SHARP CONTACT WITH UNIT (5B), GRADATIONAL CONTACT OVER 3" WITH UNIT (5B), LOWER PORTION OF (5A) BELOW (5B) GENERALLY SILTY FINE SAND.

(5B) LIGHT YELLOWISH BROWN (2.5Y 6/4) SILT TO VERY SILTY, VERY FINE SAND. (VERY STIFF TO DENSE, MOIST TO WET). INTER FINGERS WITH UNIT (5A) AT STATION 2+85 TO 2+93.5 AND AT STATION 3+50. SHARP CONTACT WITH UNIT (5A).

(6) YELLOWISH BROWN (10YR 5/4) SILT TO VERY VERY SILTY, VERY FINE SAND (VERY STIFF TO DENSE, MOIST TO VERY MOIST). GRADING DOWNWARD TO LIGHT OLIVE BROWN (2.5Y 5/4) SILTY, VERY FINE SAND (DENSE, DRY). LOCALLY CROSSBEDDED. GRADATIONAL CONTACT OVER 3" WITH UNIT (5A) AND (6A).

(6A) LIGHT OLIVE BROWN (2.5Y 5/4) SILTY VERY FINE SAND (DENSE, DRY) WITH OCCASSIONAL LENSES OF COARSE SAND AND GRAVEL. GRADING DOWNWARD TO LIGHT YELLOWISH BROWN (2.5Y 6/4) SILT (VERY STIFF, DAMP). SOME CARBONATE (STAGE II) ALONG CONTACT WITH UNIT (7). SHARP CONTACT WITH UNIT (7).

(7) YELLOWISH BROWN (10YR 5/6) SILTY FINE SAND (UPPER 6") (DENSE, DRY) GRADING DOWNWARD TO LIGHT YELLOWISH BROWN (2.5Y 6/4) CLAYEY SILT (VERY STIFF, DAMP TO MOIST). SCATTERED MANGANESE OXIDE STAINING. SHARP CONTACT WITH UNIT (6A).

FAULT TRENCH 3-3'

FOR HITCH RANCH · SPECIFIC PLAN #1
CITY OF MOORPARK · CALIFORNIA

GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 5
Job No.: 1974-1-0-12		Date: 1.19.2000
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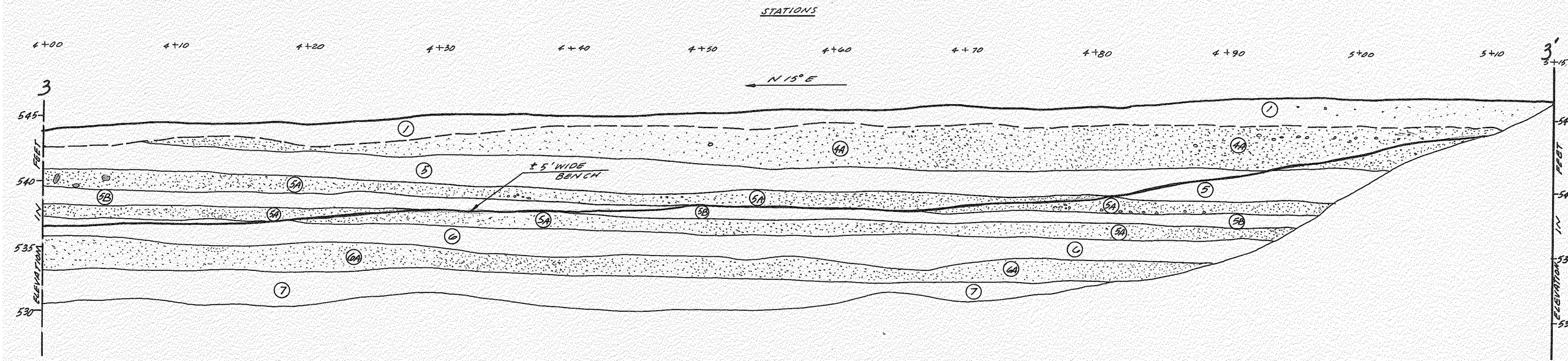

FAULT TRENCH 3-3'

FOR HITCH RANCH · SPECIFIC PLAN #1
CITY OF MOORPARK · CALIFORNIA

GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 6
Job No.: 1974-1-0-12		Date: 1·19·2000
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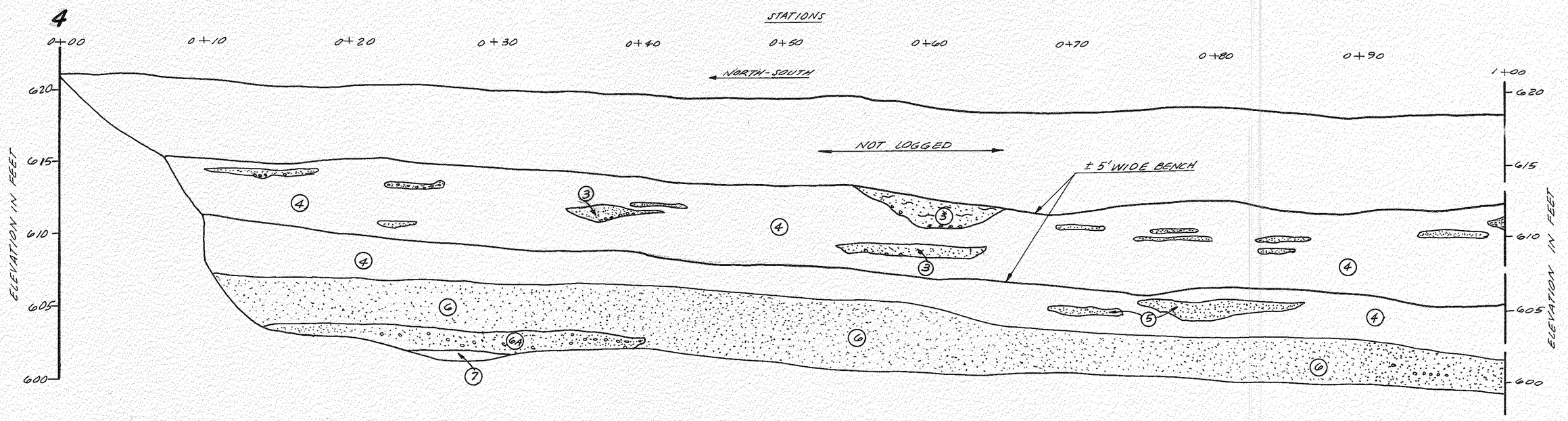

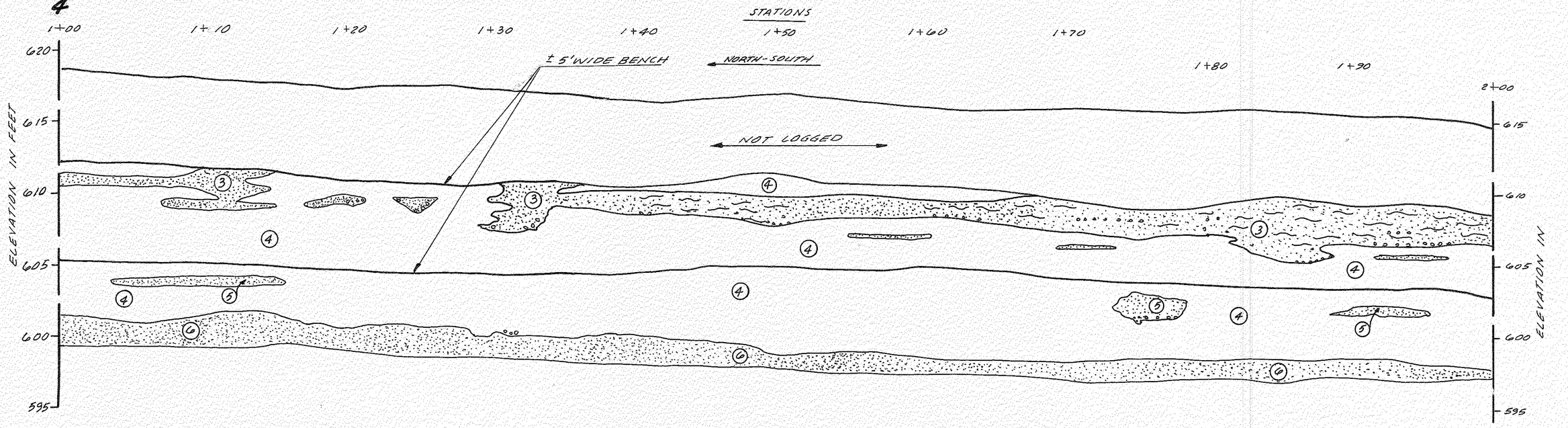

FAULT TRENCH 4-4'

FOR HITCH RANCH · SPECIFIC PLAN #1
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GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 7
Job No.: 1974-0-12		Date: 1·19·2000
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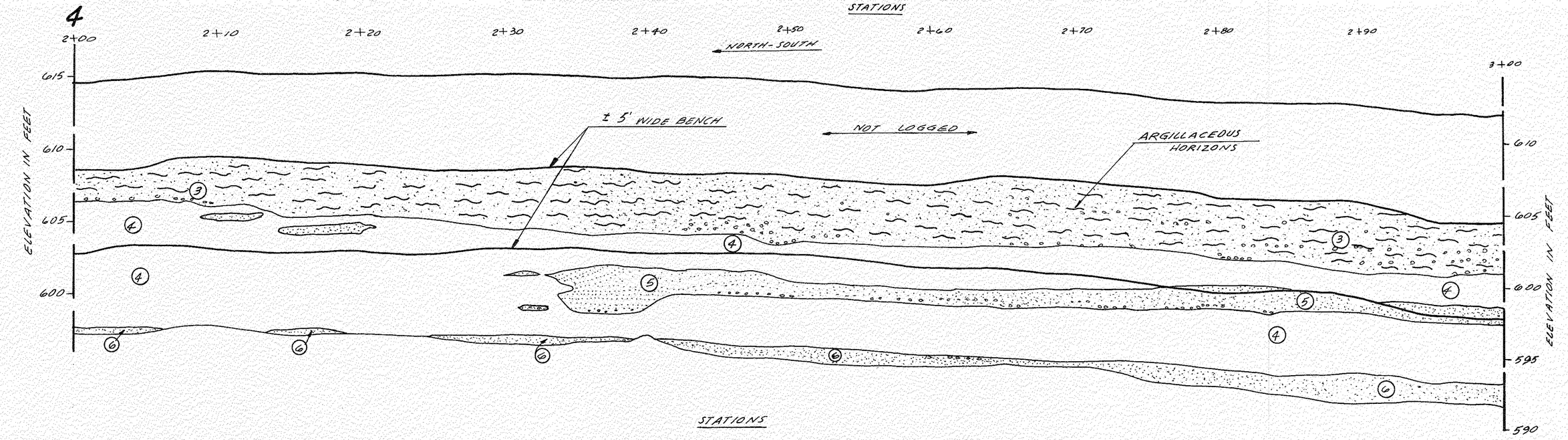

ARTIFICIAL FILL

(1) DARK GRAYISH BROWN (10 YR 4/2) SILTY FINE SAND (DENSE, DRY). POROUS, MOTTLED WITH CHARCOAL, BRICK, GLASS AND DEBRIS. SHARP CONTACT WITH UNIT (2).

OLDER ALLUVIUM

(2) YELLOWISH BROWN (10YR 5/4) CLAYEY FINE TO COARSE SAND, SOME GRAVEL. (DENSE, DAMP) POROUS. SOME BLOCKY TO COLUMNAR PED DEVELOPMENT NEAR TOP OF UNIT. SCATTERED MANGANESE OXIDE STAINING. SHARP CONTACT WITH UNIT (1), GRADATIONAL CONTACT OVER 6" WITH UNIT (3).

(3) BROWNISH YELLOW (10YR 6/6) SLIGHTLY SILTY FINE TO COARSE SAND WITH GRAVEL. (MEDIUM DENSE, DRY TO DAMP). ARGILLACEOUS HORIZONS TYPICAL AS YELLOWISH BROWN (10YR 5/4) SILTY FINE TO COARSE SAND. STATION 0+00 TO 1+70, APPEARS AS LENSES WITHIN UNIT (2). SHARP EROSIONAL CONTACT (GRAVEL AT BASE) WITH UNIT (4). GRADATIONAL CONTACT OVER 3" WITH UNIT (4) AT THE TOP OF UNIT (3). OCCASSIONAL THIN MAGNETITE LAMINATIONS, LOCALLY CROSS BEDDED AT LOW ANGLES. GENERALLY WELL DEFINED BEDDING.

(4) YELLOWISH BROWN (10YR 5/4) CLAYEY FINE TO COARSE SAND, FEW GRAVEL. (DENSE, DAMP), SLIGHTLY POROUS. SHARP EROSIONAL CONTACT WITH UNIT (3). GRADATIONAL CONTACT OVER 3" WITH UNIT (5) (LENSE). THEN SHARP EROSIONAL CONTACT AT BASE OF UNIT (5). GRADATIONAL CONTACT OVER 6" WITH UNIT (6), SOME MAGANESE OXIDE STAINING WITHIN CLAYEY PORTIONS OF UNIT. LOCALLY MOTTLED WITH GRAY CLAYEY SAND WHERE ROOTS ARE PRESENT (STATION 1+50).

(5) YELLOWISH BROWN (10YR 5/6) SILTY FINE TO COARSE SAND, SOME GRAVEL (DENSE, DAMP), APPEARS AS A CONTINUOUS LENSE FROM STATION 2+35 TO 3+76, ISOLATED LENSES WITHIN UNIT (4) ELSEWHERE IN TRENCH. SHARP CONTACT WITH UNIT (4) AT BASE OF LENSES, GRADATIONAL CONTACT OVER 3" AT TOP OF UNIT. STATION 3+34 TO 3+40, THIN MAGNETITE LAMINATIONS. SEEPAGE AT BASE OF TROUGH. OCCASSIONAL LOW ANGLE CROSS BEDDING. GENERALLY, POORLY DEFINED BEDDING.

(6) YELLOWISH BROWN (10 YR 5/4) SILTY FINE TO MEDIUM SAND, SOME COARSE SAND AND GRAVEL. (DENSE, DAMP TO MOIST). GRADATIONAL CONTACT OVER 6" WITH UNIT (4). MASSIVE BEDDING.

(6a) STATION 0+15 TO 0+40. LIGHT YELLOWISH BROWN (10YR 6/4) FINE TO COARSE SAND. (MEDIUM DENSE, DRY TO DAMP). FEW GRAVEL. GRADATIONAL CONTACT OVER 3" WITH UNIT (6), SHARP EROSIONAL CONTACT (GRAVEL AT BASE) WITH UNIT (7).

(7) STATION 0+25 TO 0+31. YELLOWISH BROWN (10YR 5/4) VERY SILTY FINE TO COARSE SAND (DENSE, MOIST). SHARP EROSIONAL CONTACT WITH UNIT .

FAULT TRENCH 4-4'

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GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 8
Job No.: 1974-1-0-12		Date: 1-19-2000
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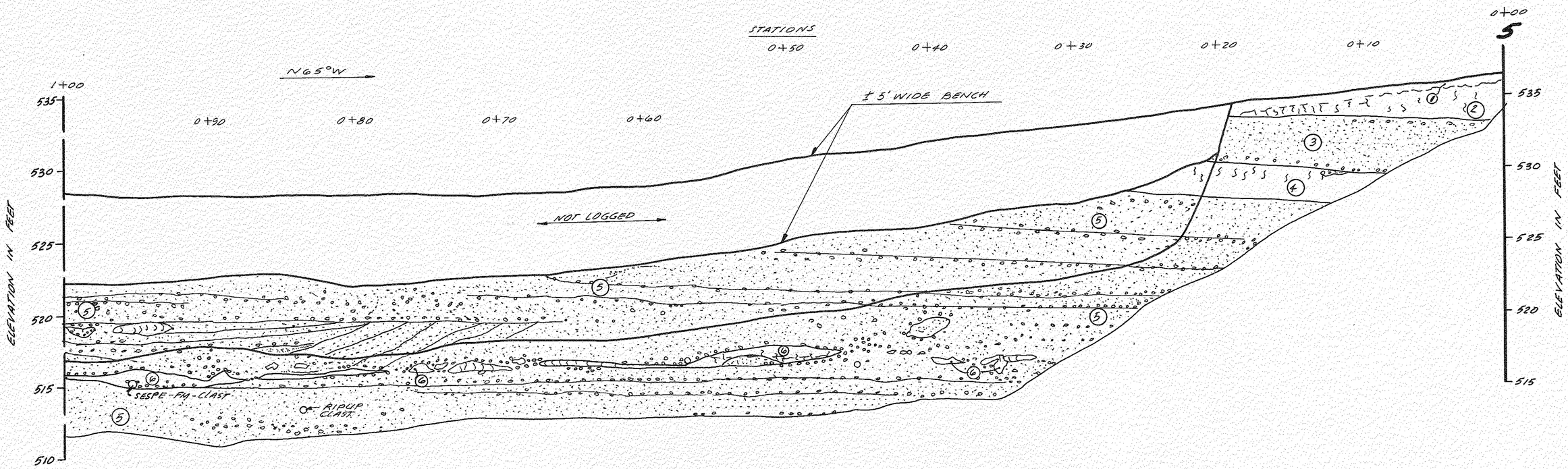

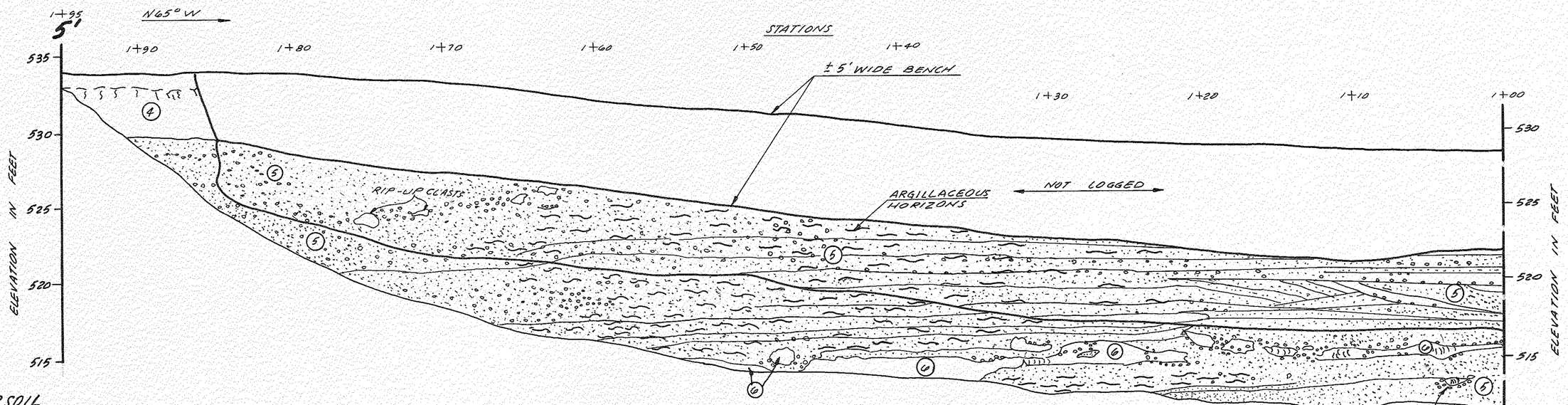

TOPSOIL

(1) GRAYISH BROWN (10YR 5/2) SLIGHTLY SANDY SILT (STIFF, DRY). POROUS. SCATTERED ROOTS AND RODENT BURROWS. GRADATIONAL CONTACT OVER 6" WITH UNDERLYING UNITS.

OLDER ALLUVIUM

(2) YELLOWISH BROWN (10YR 5/4) SILT, WITH A TRACE OF FINE SAND (HARD, DRY). POROUS. SCATTERED STAGE II CARBONATE. GRADATIONAL CONTACT OVER 6" WITH UNIT (1) AND 3" WITH UNIT (3).

(3) PALE YELLOW (2.5 Y 7/3) FINE TO COARSE SAND, SOME GRAVEL. (MEDIUM DENSE, DRY). FRIABLE. GENERALLY HORIZONTALLY BEDDED, SOME LOW ANGLE CROSS BEDDING. GRADATIONAL CONTACT OVER 3" WITH UNIT (2). SHARP EROSIONAL CONTACT WITH UNIT (4).

(4) YELLOWISH BROWN (10YR 5/4). CLAYEY FINE SAND (VERY DENSE, DAMP). SCATTERED STAGE II CARBONATE IN UPPER PORTION OF UNIT. GRADATIONAL CONTACT OVER 6" WITH UNIT (3), SHARP EROSIONAL CONTACT WITH UNIT (3).

(5) PALE YELLOW (2.5 Y 7/3) FINE TO COARSE SAND AND GRAVEL (MEDIUM DENSE, DAMP). FRIABLE. GENERALLY HORIZONTALLY BEDDED, LOCALLY LOW ANGLE CROSS BEDDING. ARGILLACEOUS HORIZONS COMMON STATION 1+25 TO 1+65. COMMONLY CONTAINS RIP-UP-CLASTS FROM UNIT (6). THIN SILTY FINE SAND LENSE STATION 1+05 TO 1+17. COMMONLY CUTS THROUGH UNIT (6) WHERE SURROUNDED BY GRAVEL. GRADATIONAL CONTACT OVER 3" ON BOTTOM OF UNIT (6). SHARP EROSIONAL CONTACT ON THE TOP OF UNIT (6). ARGILLACEOUS HORIZONS TYPICALLY YELLOWISH BROWN (10YR 5/4) SLIGHTLY SILTY FINE TO COARSE SAND AND GRAVEL. CLASTS ARE SUB-ROUNDED TO WELL ROUNDED. MODELO FORMATION CHERT AND SILTSTONE, QUARTZITE AND GRANITE.

(6) YELLOWISH BROWN (10YR 5/4) CLAYEY FINE SAND (DENSE, DAMP) TO YELLOWISH BROWN (10 YR 5/4) SILTY CLAY WITH A TRACE OF FINE SAND (VERY STIFF, DAMP TO MOIST). SCATTERED II CARBONATE SOME MANGANESE STAINING. LOCALLY, SLIGHTLY POROUS. STATION 0+70, BECOMING LIGHT YELLOWISH BROWN (10YR 6/4) CLAYEY SILT (VERY STIFF, MOIST). SCATTERED STAGE II CARBONATE. STATION 0+85, BECOMING MOTTLED WITH LIGHT YELLOWISH BROWN (10YR 6/4) CLAY (VERY STIFF, MOIST). ALSO CONTAINS A CLAST OF LIGHT GREENISH GRAY (7/1 5GY) COARSE GRAINED MICACEOUS SILTSTONE (SESPE FORMATION) STATION 1+10, MOTTLED WITH BROWN (7.5 YR 5/3) CLAY. POLISHED PED FACES COMMON. SOME CARBONATE. UNIT IS HIGHLY IRREGULAR AND NON-CONTINUOUS DUE TO HIGH VELOCITY EROSION DURING DEPOSITION OF UNIT (5). STATION 1+68, WELL ROUNDED CLAST OF LIGHT YELLOWISH BROWN (10YR 6/4) CLAYEY SILT. UNIT (6) ENDS AT STATION 1+66.5 IN BOTTOM OF TRENCH.

FAULT TRENCH 5-5'

FOR HITCH RANCH · SPECIFIC PLAN #1
CITY OF MOORPARK · CALIFORNIA

GORIAN & ASSOCIATES, INC. *Applied Earth Sciences*		PLATE 9
Job No.: 1974-1-0-12		Date: 1-19-2000
Scale: 1" = 5'	Drawn by: JGR Approved by:	Log No.: 19875

APPENDIX B

Supporting Soil Stratigraphic Assessment Report
by Earth Consultants International, Inc. dated March 29, 2019
(Revised January 14, 2020)

March 29, 2019 (Revised January 14, 2020)
ECI Project No. 3904

To: **Albus-Keefe &Associates, Inc.**
1011 N. Armando Street
Anaheim, California 92806

Attention: **Mr. Michael Spira, Principal Engineering Geologist**
Via e-mail at mspira@albus-keefe.net
Mr. Bryan Petry, Project Engineering Geologist
Via e-mail at bpetry@albus-keefe.net

Subject: **Soil Stratigraphic Assessment in Support of a Study to Evaluate the Surface Fault Rupture Potential at Hitch Ranch, Tentative Tract 5708, City of Moorpark, California; Albus-Keefe & Associates Job No. 2677.00**

Dear Sirs,

Earth Consultants International (ECI) was retained by your firm to conduct an analysis of some of the soils and underlying parent materials (bedrock) exposed in trenches that you excavated at the above-referenced site. The purpose of our analysis was to estimate the age of the near-surface sediments that cap, unbroken, a pair of fault zones that you uncovered in the trenches. This in turn provided information on whether or not these faults have moved in the Holocene, and should therefore be considered active in accordance with the criteria for activity used by the California Geological Survey. This letter report summarizes our methodology, findings and conclusions regarding the age of the deposits that were exposed in the two areas of the trench where these minor faults were exposed, and our opinions regarding the recency of activity of the faults encountered.

Thank you for the opportunity to assist you with this project. Should you have any questions regarding our attached report, please do not hesitate to contact the undersigned.

Respectfully submitted for
Earth Consultants International, Inc.

Tania Gonzalez, CEG 1859
Vice-President

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Soil Stratigraphic Assessment in Support of a Study to Evaluate the Surface Fault Rupture Potential at Hitch Ranch, Tentative Tract 5708, City of Moorpark, California

1.0 INTRODUCTION

Per your request, we have completed a soil stratigraphic study to estimate the age of the soils exposed at about Stations 7+55 and 8+23 in your trench FT-1, a trench that Albus-Keefe & Associates (AKA) excavated in the northeastern portion of the Hitch Ranch property, in Moorpark California. The objective of our analysis was to estimate the age of the soils overlying the fault zones, and use that data to evaluate whether or not the two minor fault zones exposed in the trench are Holocene-active. We also described two other soil profiles and several samples from discrete geologic units that you collected and submitted to us; these two profiles were located farther south in the same trench, at Stations 10+20 and 11+30. Our descriptions of these soils and sedimentary units are provided in Appendix A, for your use.

1.1 Scope of Work and Methodology

Specific tasks that we completed for this project are described below. Where appropriate, we also describe the methodology we followed to complete the work.

- We described soil samples that you collected for us from four different sections of the trench, namely from Stations 7+55, 8+23, 10+20 and 11+30. The samples were collected from the upper soil horizons and some of the underlying bedrock units. The soil samples were described according to the characteristics and following the nomenclature set forth by the Soil Survey Staff (1975, 1992), Birkeland (1984, 1999), and the National Soil Survey Center (2012). Characteristics that we recorded include: 1) texture or grain-size distribution, 2) structure (whether the soil mass breaks into distinctive peds, or is single-grained), 3) the amount, distribution and thickness of translocated clay forming films or stains on the soil ped faces and clasts, in pores, between sand grains (called bridges), around clasts, and in clast pockets, 4) the looseness or induration of the soil peds when dry and moist, and 5) the stickiness and plasticity of the wet soil. Colors of the soil matrix and clay films in both the dry and moist states were recorded using a Munsell Soil Color Chart. We also described the approximate percent of gravel, its composition, size, degree of roundness, and weathering stages using McFadden et al.'s (1982) criteria. Finally, we observed the soils' reaction to hydrochloric acid, a qualitative measure of the soils' pH and presence of calcium carbonate. Abbreviated soil descriptions for the profiles collected near the fault zones are provided in Table 1. The complete soil descriptions are provided in Appendix A.
- We used the photographs you took of the soil sample locations and your trench logs to identify the different soil horizons within a given profile, measure the thickness of each horizon, and determine the characteristics of the boundaries between horizons.
- We calculated the profiles' Soil Development Indices (SDI) and Mean Horizon Indices (MHI) and used these values to estimate the age of the soils. Additional information regarding these methods is presented in the section below.
- We prepared this report summarizing our findings and conclusions.

1.2 Background

The term soil as used herein refers to a natural body consisting of layers (referred to as horizons) of mineral and/or organic material that are different from each other and from the underlying geologic material (either bedrock or unconsolidated sedimentary deposit) in their "morphological, physical, chemical and mineralogical properties and their biological characteristics" (Birkeland, 1984). These differences are the result of weathering and the effects of five main soil-forming factors: parent material, climate, slope or topography, organisms, and time (Jenny, 1941). Time is an important factor because the longer a geologic deposit is exposed to the effects of weathering and soil formation, the better developed the soil characteristics typically become. We take advantage of this factor when using soils to estimate the age of the deposits. It is important to keep in mind, however, that soil age estimates generally provide a minimum age for the deposits that the soils formed into, especially in depositional environments where periods of soil formation occur in between erosional and depositional events.

To estimate the age of geologic deposits using soil-stratigraphic techniques, we rely on a comparison of the characteristics of the soils in question with those of other soils developed in similar parent materials and climate that have been dated using both absolute and relative dating methods. For this quantitative comparison, the characteristics of the soils are assigned numerical values that are then used to calculate the soils' degree of development. We used two of these quantitative methods for this study: Harden's (1982) Soil Development Index (SDI), and Ponti's (1985) Maximum Horizon Index (MHI). Both SDI and MHI values have been shown to be useful relative indicators of soil age, with older, better developed soils typically having higher SDI and MHI values (Harden, 1982; Harden and Taylor, 1983; Rockwell et al., 1984; Rockwell et al., 1990; Bornyasz and Rockwell, 1997).

In these quantitative assessments, the characteristics of the soil are "subtracted" from the characteristics of the parent material to develop an empirical estimate of the length of time that a geologic deposit has been subjected to the effects of weathering and soil formation. For this analysis, we used a parent material consisting of sand to loamy sand, with 10YR hues, massive breaking to weak fine subangular blocky soil structure; loose to soft when dry, loose to very friable when moist, and non-sticky and non-plastic soil consistency when wet; and with no clay films. These characteristics describe the matrix in the C_{lam} soil horizon at the bottom of the profile described at Station 7+55, the least pedogenically altered horizon sampled that was not indurated bedrock.

To obtain minimum age estimates for the two soil profiles collected in the areas of Fault Zones A and B, we compared their SDI and MHI values with the chronofunctions presented in Dolan et al. (1997). These chronofunctions are in turn based on the chronosequences of the Ventura Basin by Rockwell (1983) and Rockwell et al. (1985), the Merced Valley by Harden (1982), and the Cajon Pass by McFadden and Weldon (1987). The SDIs and MHIs that we used to estimate the age of each soil are listed on Table 2.

Table 1: Abbreviated Soil Descriptions

Thickness (cm)	Horizon	Texture	Moist Color	Dry Color	Structure	Consistency				Clay Films
						Dry	Moist	Wet		
Parent Material										
n.a.		S-LS	10YR 5/3	10YR 7/3	m -> 1fsbk	lo-so	lo-vfr	so	po	none
Soil Profile in the Area of Fault Zone A										
Surface Soil										
15	Ap1	SCL	10YR 2/2	10YR 4/2	2csbk->1fsbk+sg	lo-so	lo-vfr	vss	vps	none
21	Ap2	SCL	10YR 2/2	10YR 4/2	1-2mabk->2fsbk+sg	lo-so	lo-vfr	vss	vps	none
24	A3	SCL	10YR 3/2, 10YR 4/3	10YR 4/2, 10YR 5/3	1-2msbk-> 1-2fsbk+sg	lo-so	lo-vfr	vss	vps	v1npf
30	Bw	SCL-SC	7.5-10YR 2.5/2, 7.5YR 3/2	10YR 4/2, 5YR 4/4	1-2mabk->1vfabk+sg	lo-so	lo-vfr	vss	ps	1nbr, v1npf
Buried Soil 1										
37	2Btb1	SCL	7.5YR 3/2	10-7.5YR 4/2, 10-7.5YR 5/2	3vcsbk->3f-msbk	sh	fi-vfi	vss	vps	2npf, 2nbr, 2nclpo
24	2Btb2	SCL	7.5YR 3/2.5, 7.5YR 3/2	7.5YR 5/3-6/3, 7.5YR 3/2	3cabk	eh	vfi	vss	vps	1mk+3nbr
Buried Soil 2										
30	3Btb3	C	7.5-10YR 4/3	10-7.5YR 5/4, 10-7.5YR 4/3, 7.5YR 3/2	3cabk	eh	vfi-efi	vs	vp	4mkclpo, 2mk+4npf, 2mk+4npf
Buried Soil 3										
30	4Btb4	C	7.5YR 4/4, 7.5YR 3/2	10-7.5YR 5.5/4, 7.5YR 3/1.5, 7.5YR 3.5/3	3m-cabk->prismatic	eh	vfi-efi	vs	vp	4mkpf, 3-4mk+1kbr
24	4BC1	SiC	7.5YR 4/3, 10YR 3/2, 7.5YR 3/1.5	7.5-10YR 6/4, 7.5YR 3/3, 7.5YR 3/2	3cabk	eh	fi	vs	vp	4kpo, 2npf
44	4BC2	SC	7.5YR 4.5/4, 7.5YR 3.5/3	10-7.5YR 7/4, 7.5YR 4.5/2	3m-cabk	eh	efi	s	p	3n+1mkbr, 1mk+2npf
102	4BClam	S-LS	10YR 5/3, 10-7.5YR 4/4, 7.5YR 3/1.5	10YR 7/2.5, 7.5YR 5/4, 7.5YR 3/2	v1fsbk, 3c-vc abk-> 3f-mabk	lo+so, sh-h	lo+vfr, fi	so, vss	po, po	none, 4n+2mkbr
Soil Profile in the Area of Fault Zone B										
Surface Soil										
20	Ap1-Bt1	SC-C	7.5YR 4/2, 7.5YR 6/6, 7.5YR 3/2	10-7.5YR 4/3, 5YR 4/6, 7.5YR 3/2	2m-cabk	h	fi	s	vp	2-3n+1mkbr
20	Bt2	SiC	7.5YR 4/4, 7.5YR 4/1.5	10-7.5YR 5/4-5/6, 10-7.5YR 4/2	2-3cabk->2fabk	vh-eh	fr	s	vp	3nbr,1mk+3npf
30	BC1	SL	7.5YR 4/4, 7.5YR 3/3	10-7.5YR 5/4, 7.5YR 4/4	1-2msbk->1fsbk+sg	vh	vfr-fr	vss	po-vps	2nbr
25	BClam1	SL	7.5YR 4/4, 7.5YR 4/2, 7.5YR 3/2	10-7.5YR 5/6, 10YR 6/1, 10YR 6/2, 7.5YR 3/3	2vcabk->2fabk	h	fr+vfi	ss	po	3-4nbr
27	BC2	SL	7.5YR 4/4, 7.5YR 3/3	10-7.5YR 5.5/4, 7.5YR 3/4	3vcabk	vh	vfi	vss	po-vps	2nbr
91	BClam2	LS, SL	7.5YR 4/4, 7.5YR 4/4, 7.5YR 2.5/2	7.5YR 5.5/4, 7.5YR 5/4, 7.5YR 3/2	1msbk->1fsbk+sg, 3c-vcabk	lo-sh, vh	vfr-fr, vfi	so, vss	po, po-vps	1nbr, 3nbr
30	C	S	10YR 5/4	10YR 6/3	v1fsbk+sg	lo	lo-fi	so	po	

TEXTURE: S= sand; LS = loamy sand; SL = sandy loam; L = loam; SCL = sandy clay loam; SC = sandy clay; CL = clay loam; Si = silt; SiL = silt loam; SiCL = silty clay loam; SiC = silty clay; C = clay. **STRUCTURE**: Grade: 1 = weak; 2 = moderate, 3 = strong. Class: 1f = very fine, f = fine, m = medium, c = coarse; vc = very coarse. Type: m = massive; sg = single-grained; gr = granular, cr = crumb, abk = angular blocky, sbk = subangular blocky, pr = prismatic. **CONSISTENCY**: Dry: lo = loose, so = soft, sh = slightly hard, h = hard, vh = very hard, eh = extremely hard. Moist: lo = loose, vfr = very friable, fr = friable, fi = firm, vfi = very firm, efi = extremely firm. Wet: ns = non-sticky, ss = slightly sticky, s= sticky, vs = very sticky; np = non-plastic, sp = slightly plastic, p = plastic, vp = very plastic. **CLAY FILMS:** Abundance: v1 = very few, 1 = few, 2 = common, 3 = many, 4 = continuous. Thickness: vn = very thin, n = thin, mk = moderately thick, k = thicK. Location: st = stains, cl = on clasts or clast pockets, po = in pores, br = forming bridges betweeen grains, pf = on ped faces.

2.0 FINDINGS

2.1 Geologic Setting

For an in-depth discussion on the geologic setting of the Hitch Ranch site and adjacent properties, and the geologic studies that have been conducted onsite and in the site vicinity, refer to the main AKA report that this letter is appended to. Essentially, the site is located in an area of northwest-southeast shortening that is being accommodated primarily by faulting on the Oak Ridge and Simi-Santa Rosa fault zones. Crustal shortening between these fault zones has also resulted in a complex system of folds and secondary faults that have been shown to impact the Tertiary and Quaternary sedimentary rocks that underlie and crop out in the region. These structures can be divided into four main groups based on their orientation (strike), dip, and kinematics. Each of these four main types of structures that have been previously exposed in the region are briefly described below: 1) northeast-trending regional folds such as the Moorpark anticline, the Moorpark syncline, and the Long Canyon anticline (Weber et al., 1973; Dibblee, 1992a, 1992b); 2) similarly oriented, smaller-scale, north-dipping flexural-slip blind faults overlain by folded late Quaternary deposits such as the Northern Area and Southern Area thrusts (Pacific Materials Laboratory [PML], as referenced in ECI, 1997a, 1997b, 1999); 3) similarly oriented but south-dipping small-scale dip-slip faults that are interpreted as backthrusts to the folds in 2) above, or as bending-moment faults responding to the folds below; and 4) northerly trending strike-slip to oblique normal faults, generally striking at high angles to bedding (Geolabs, 1997; LGC, as reported by ECI, 2006), that are likely to be strike-slip tear faults that formed to accommodate differences in the depth of the underlying blind thrusts or differential advances of the underlying thrusts (Twiss and Moores, 1992).

In the Hitch Ranch property that is the subject of this study, AKA exposed two shallow south-dipping fault zones with a reverse sense of separation. The faults vary in strike from N65E to N55W; this variation in strike is also observed in the bedding of the Saugus Formation. The faults are similar in character to the faults reported by Gorian (1998) in Tract 5130 to the east of the site (see Plate 3 of Albus-Keefe's report) that Gorian interpreted as backthrusts to the Southern Area thrust. The soil-age analysis described herein was conducted to evaluate the recency of activity of these structures.

2.2 Soil Descriptions and Soil Age Estimates

Per the trench log of trench FT-1, AKA observed and logged two zones of minor faulting in the excavation: 1) Fault Zone A which occurred between about Stations 7+50 to 7+75, and 2) Fault Zone B between Stations 8+25 and 8+40. You found that the faults terminate upward in deposits assigned to the Saugus Formation. We were asked to describe the soils that overlie the faults and estimate the amount of time that these soils have been exposed to soil forming processes, and the age of the overall unfaulted section. These data in turn would provide a minimum age of the most recent faulting event, and thus an assessment as to whether or not these faults should be considered Holocene-active per California's definition of fault activity as described in the most recent guidelines by the California Geological Survey that define the Holocene as the period of time covered by the past 11,700 years (CGS, 2018). Each of the soil profiles described in these fault zones are described below.

2.2.1 Fault Zone A

The photos and characteristics of the soils in the area of Fault Zone A indicate that this area is covered by colluvial deposits and possibly mudflow sediments that in turn overlie deposits typical of the Saugus Formation. The upper pedogenically altered colluvial deposit and **surface soil** has an Ap1/Ap2/A3/Bw soil profile, and consists of primarily dark grayish brown sandy clay loam with 5 to 10% fine-gravel sized clasts predominantly granitic in

composition, and a few of slate. The granitic clasts are unweathered to slightly weathered (Stage I[1]) (McFadden et al., 1982). The "p" in the upper horizon designations indicates that these horizons have been plowed, displaying a mixed appearance and softer-than-expected consistency when dry and moist given their sandy clay loam texture. These horizons also have common roots and rootlets, and are organic-rich as evidenced by their dark color. The Bw horizon at the bottom of the section has mixed colors in the 10YR, 10-7.5YR and 5YR hues, very few thin clay films on ped faces, and few thin clay films bridging grains. The structure of this soil is predominantly in the subangular to angular blocky category, with the strength of the peds varying from weak to strong depending on the horizon. The bottom of this soil is defined by an abrupt lower contact with the first buried soil below. The characteristics of this soil yield a normalized SDI value of 52 and an MHI value of 0.305. Using the soil-age regressions from Dolan et al. (1997), this soil has a minimum age of 4,700 years, and a median age of about 14,600 years. For the purposes of this study, and to be conservative, we give preference to the minimum age of 4,700 years.

The **first buried soil** in this profile is a truncated 2-foot-thick section comprised of two argillic (Bt) soil horizons (2Btb1/2Btb2). These horizons are distinguished from the overlying soil in that they have redder colors in the 7.5YR to 10-7.5YR range, better-developed soil structure described as strong coarse to very coarse angular blocky, more clay films than the horizons above, and silica cementation. These horizons also have a sandy clay loam texture but the gravel fraction is higher than the soil above, with 10 to 20 percent fine gravel. The larger percentage of gravel and the many pores up to 0.2 inch (5 mm) in diameter suggests that these sediments were deposited by a mudflow. The moderately well-developed soil characteristics also show that this sedimentary package was exposed to soil-forming processes at the surface for several thousands of years before it was buried by the sediments that form the uppermost soil described above. The contact between this soil and the underlying buried soil described next is abrupt.

This soil has a calculated normalized SDI value of 76.4 and an MHI value of 0.397. These values give an average estimate of exposure to soil-forming processes prior to burial of between 7,500 (minimum) and 23,000 (median) years. Again, to be conservative, we give preference to the minimum estimate of 7,500 years. The age of this soil is calculated by adding to its length of soil formation estimate the age of the overlying soil. Thus, the

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[1] **Weathering Stages:**
Stage I: Unweathered bedrock, rings sharply to blow of hammer. Mafic rocks exhibiting stage I weathering characteristics are estimated to have been exposed to weathering agents for less than about 1,000 years. Leucocratic (light-colored igneous rocks) exhibiting stage I characteristics are thought to have been exposed to weathering agents for less than about 4,000 years.

Stage II: Slightly weathered bedrock, incipient to moderate surface pitting, fractured, with oxidation rinds greater than 1-2 mm in thickness, yields moderate ring to blow of hammer. Stage II mafic rocks have been exposed to weathering agents for about 4,000 years, whereas stage II leucocratic rocks could have been weathering for as much as about 10,000 years.

Stage III: Substantially weathered bedrock, surface highly pitted, strongly fractured, mafic minerals and feldspars may be strongly altered, clasts can be broken with difficulty by hand, dull sound to blow of hammer. Stage III mafic rocks are estimated to have been exposed to weathering agents for 10,000 to 75,000 years; stage III leucocratic rocks could have been weathering for as much as 400,000 years.

Stage IV: Very strongly weathered bedrock, easily disaggregated by hand into grus; very dull sound when struck with hammer. Stage IV mafic rocks have weathered for more than about 75,000 years; stage IV leucocratic rocks have weathered for more than 400,000 years.

minimum (preferred) age of this buried soil is 12,200 years. Based on these age assessments, the Holocene section in this portion of the site, as exposed in this portion of trench FT-1, consists of this buried soil and the overlying soil combined.

The **second buried soil** interpreted in this profile is also truncated as only a 1-foot-thick argillic soil horizon (3Btb3) remains. The fine-grained fraction of this horizon is clayey in texture, but 20 to 30 percent of the horizon is made up of gravel to cobble-sized clasts of siltstone and granitics. The high percentage of siltstone clasts indicates that this possible mudflow deposit was sourced from a different area than the overlying sediments, which include mostly granitics and slate fragments. This argillic horizon has clayey texture, strong coarse angular blocky structure, and significant concentration of illuviated clay in the form of continuous thin and common moderately thick films on ped faces and bridging grains, and continuous moderately thick films lining clast pockets. Colors of this horizon are in the 7.5YR range. These characteristics indicate that this sediment was exposed to soil-forming processes at the surface for a relatively long period of time prior to being buried. The lower boundary of this soil is abrupt and locally defined by a stoneline.

The horizon has a calculated normalized SDI value of 110.2 and an MHI value of 0.55. These values in turn yield an average estimate of length of soil formation for this soil of 15,600 (minimum), 46,200 (median) and 135,000 (maximum) years. Given the significant accumulation of pedogenic clay in this horizon, we prefer the (conservatively) median value of 46,200 years. The age of this horizon is calculated by adding this value to the estimated age of the section above. Thus, the median (preferred) age of this buried soil is approximately 58,400 years.

The **third buried soil** observed in this section of trench developed in sediments typical of the Saugus Formation of Quaternary age. The soil profile described in these deposits was incised into and partially removed by the overlying coarse-grained, high-energy mudflow deposits such that its topsoil (A horizon) and upper part of its argillic (Bt) section were not preserved. The remaining soil has an overall 4Btb4/4BCb1/4BCb2/4C_{lam} profile. The preserved argillic section is clayey in texture, has 7.5YR to 10-7.5YR colors, strong angular blocky to prismatic soil structure, continuous moderately thick clay films on ped faces, few thick and many to continuous moderately thick clay films bridging grains, and the root channels are lined with manganese oxide staining. The deposit has less than 5 percent fine gravel consisting predominantly of siltstone clasts.

The underlying BC horizons are silty clay to sandy clay in texture, have 7.5YR to 10-7.5YR matrix colors, 7.5YR to 5YR clay film colors, and strong medium to coarse angular blocky soil structure. The clay films in these horizons are less than the argillic horizon above, generally described as common thin and few moderately thick films on ped faces, and continuous moderately thick in pores. Manganese oxide staining occurs locally on ped faces and plugging root pores. The lower C_{lam} horizon consists of fine to medium sand with 1.5- to 2-inch thick argillic lamellae (Bt lams) held together by common moderately thick and continuous thin clay films bridging grains. The matrix has 10YR colors and the Bt lams have 7.5YR colors; the sand has very weak subangular blocky soil structure and is soft to loose when dry. The siltstone clasts observed in this unit are weathered to stages II to III.

The characteristics of this buried soil yield an SDI value of 77.3 and an MHI value of 0.715. The MHI value calculated for the argillic (4Btb4) horizon is most representative of the well-developed characteristics observed in this soil, including color, strong angular blocky to prismatic structure, and abundance and thickness of the clay films. The MHI value yields an estimate of length of soil formation prior to burial for this soil of 46,000 (minimum), 124,000 (median) and 329,000 (maximum) years (values rounded to the nearest 1,000). The age of this soil is calculated by adding these values to the estimated total age of the soil section above. Thus, this deeper soil is at a minimum 104,000 years old, but more likely between 183,000 (median) and 388,000 (maximum) years old. An even older age is possible if we use the median and maximum length-of-soil-formation estimates calculated for the overlying soils (Table 2).

Table 2: Length of Time (LofT) Soils Have Been Exposed to Soil-Forming Processes at the Ground Surface (rounded to the nearest 100 years)

Soil	SDI	MHI	Average LofT (years)	Minimum LofT (years)	Maximum LofT (years)
Profile in the Area of Fault Zone A (Station 7+55)					
Surface Soil	52.0	0.305	14,600	**4,700**	46,000
Buried Soil 1	76.4	0.397	23,000	**7,500**	70,000
Buried Soil 2	110.2	0.551	**46,200**	15,600	134,700
Buried Soil 3	77.3	0.715	**124,300**	45,700	**329,200**
Approximate Total Age of Section (using the preferred values shown in bold; rounded to nearest 1,000)			**183,000 – 388,000**		
Soil	**SDI**	**MHI**	**Average LofT (years)**	**Minimum LofT (years)**	**Maximum LofT (years)**
Profile in the Area of Fault Zone B (Station 8+23)					
Surface Soil	0.467	70.97	**26,800**	8,900	**80,400**

Bold values are the preferred estimates reported in the text of the report, with an emphasis on being conservative and reporting the youngest ages likely for the near-surface soils, and median to maximum ages for the deeper soils that clearly developed in in-situ Saugus Formation deposits.

2.2.2 Fault Zone B

The soils observed and described in the area of Fault Zone B formed entirely in sediments of the Saugus Formation. No overlying colluvial or debris flow deposits are interpreted near the ground surface in this portion of the trench. The soil described in this area has an Ap-Bt1/Bt2/BC1/BClam1/BC2/BClam2/C profile. Each of these horizons is briefly described below. Abbreviated soil descriptions are listed in Table 1, and complete soil descriptions are provided in our Appendix A.

The Ap-Bt1 horizon has mixed characteristics typical of a plowed soil, with organic-rich dark A horizon soil material, and zones or fragments of yellowish red and dark brown sediment typical of deeper portions of the profile. The colors of this horizon vary from 10-7.5YR to 7.5YR and 5YR in hue. The horizon has a sandy clay to clay texture with less than 5 percent of the mineral fraction consisting of gravel-sized chips of siltstone. This profile also has common to many thin and few moderately thick clay films bridging grains, and many roots and rootlets. The underlying Bt2 horizon is silty clay in texture, with less than 5 percent coarse-sand- to fine-gravel-sized clasts of siltstone, colors in the 10-7.5YR and 7.5YR hues, moderate to strong angular blocky soil structure, many thin and few moderately thick clay films on ped faces, and many thin clay films bridging grains. This horizon also has many roots and rootlets, and few pinhole-sized pores. The soil did not react to hydrochloric acid indicating that it has no free calcium carbonate.

The underlying BC and BC_{lam} horizons typically have sandy loam textures, colors in the 10-7.5YR and 7.5YR hues, subangular to angular blocky soil structure, often breaking to single-grained, and common to many thin clay films bridging grains. Coarse-sand to fine-gravel-sized clasts, when present, generally consist of siltstone and a few granitics; these are weathered to Stages II to III. The underlying C horizon is described as a friable sandstone with 10YR colors, very weak fine subangular blocky soil structure breaking to single-grained, and no clay films. The sample we described had possible cemented worm tubes or casts that could suggest a near-shore marine environment of deposition. If so, these sediments would be assigned to the lower, older section of the Saugus Formation.

The characteristics of this soil yielded an SDI value of 70.97 and an MHI value of 0.467. Based on its MHI value we estimate that this soil has been exposed to soil-forming processes at the ground surface for between 26,800 and 80,400 years, using the median and maximum estimates provided by the MHI-soil age regression equation used. These values underestimate by many hundreds of thousands of years the age of the Saugus Formation as reported by Wagner et al. (2007) based on the 780,000- to 850,000-years old biostratrigraphic age assigned to the mammoth fossil uncovered about 1.5 miles to the northeast of the site (see AKA's report, Section 3.1 for additional information). The soil-age estimates, however, provide information on when this section of the Saugus Formation was first exposed to soil-forming processes at and near the ground surface after the overlying Saugus deposits exposed farther south in the trench were removed from this area by erosion. Specifically, the log of Trench FT-1 shows that the Saugus Formation deposits in the area where Fault Zone B was exposed were originally stratigraphically deeper, and capped by a section at least 11 feet (3.4 m) thick of younger deposits also assigned to the Saugus Formation. These beds were removed by erosion from the area where Fault Zone B was exposed, with soil formation beginning only after erosion ceased or became negligible.

2.3 Age of Faulting

We interpret **Fault Zone A** as overlain by a relatively thick section of younger colluvial sediments that were deposited over time, with significant hiatuses in between that allowed for the formation of soils. Specifically, the soils overlying the faults in Fault Zone A are polygenetic, with the surface soil and at least one, and potentially two, of the buried soils in this area having formed in colluvial and/or mudflow sediments that cap finer-grained sediments of the Saugus Formation below. The degree of soil development in these units shows that the upper two units (the surface soil and the first buried soil) are likely Holocene in age. The second buried soil is definitely Pleistocene in age.

The surface soil and the upper two buried soils all extend across the fault zone without being impacted by the faults. Given that this second buried soil is not faulted, we can conclude that Fault Zone A is not Holocene-active. Our preferred combined age of this second buried soil is about 58,400 years, which means that the fault last moved more than 58,000 years ago. This age estimate is a minimum value, however, because 1) there are likely to have been several episodes of incision that are not reflected in the preserved soil profile, and 2) the faults are confined to layers within the Saugus Formation, which is several hundreds of thousands of years old. Nevertheless, this age estimate shows that the faulting in Fault Zone A is pre-Holocene in age and thus that this fault is not active. Note that in this section of the trench, the coarse-grained deposits (into which buried soil 2 developed) can be interpreted as a separate, younger unit that incised into the finer-grained Saugus Formation deposits below. Farther north, however, north of Station 6+90, AKA shows these coarse-grained deposits as interfingering with finer-grained sediments that are clearly part of the Saugus Formation. If these stratigraphic relations are correct, then our age estimate for this soil significantly underestimates the true age of the deposit. This in turn further supports the argument that the faults of Fault Zone A are actually much older than the soil-ages suggest.

The age of the soils developed in the area of **Fault Zone B** can be used only indirectly to evaluate when the faults in this area last moved. These soils developed entirely in in-situ Saugus Formation deposits of known Pleistocene age. The characteristics of the soil suggest that this area became sufficiently stable to allow for soil formation at a minimum about 27,000 years ago, and possibly as much as 80,000 years ago (rounded to the nearest 1,000). The faults mapped in this area are confined to an only partially pedogenically altered horizon characterized by clay-enriched thin layers referred to as Bt lamellae or Bt lams (horizon BC_{lam2} in the soil descriptions). The log prepared by AKA shows that several of these Bt lams extend unbroken across the fault closest to the surface. Given that neither the uppermost Bt lams, or the layers above, show evidence of warping or faulting, we conclude that this fault also last moved in the Pleistocene, probably when the Saugus sediments were still being deposited, and is thus no longer active.

The trench log suggests that this excavation also exposed an asymmetrical anticline defined by a sequence of tilted strata. The originally flat-lying layers now dip south from about Station 8+70 to at least near Station 10+70, and possibly the southern end of the trench. The north side of the fold is defined by the north-dipping beds observed from about Station 7+90 to about Station 7+40. The northern hinge of the top of this fold is approximately in the area of Fault Zone A, whereas the southern hinge of the fold, where bedding starts to dip south, occurs at about Station 8+70. It is possible that a north-dipping buried structure underlies this area, and that Fault Zones A and B are backthrusts off this more deeply buried structure. The top of this entire sequence of gently folded sediments has been eroded down (planed off) such that the current topography does not reflect the original shape of this antiform. These observations in turn indicate that the folding occurred after the sediments of the Saugus Formation exposed in the trench were deposited, but before the current topography was established. The soils described for this study provide a minimum age for when this area became stable enough for soils to form. Using our estimated age of the second buried soil in the area of Fault Zone A, we suggest that folding of these deposits occurred more than 58,000 years ago, with this estimate being a minimum as it does not consider the length of time it took to erode the at least 11-foot-thick section of Saugus Formation deposits that is missing at the top of the fold.

3.0 SUMMARY

Earth Consultants International was retained to conduct a soil-age analysis of the soils and sediments exposed in a few discrete sections of AKA's Trench FT-1. This was a 1,260-foot long trench excavated in the northeastern portion of the Hitch Ranch property to look for faulting or folding associated with the Southern Area thrust mapped by others to the east of the area trenched onsite. The trench exposed two areas where reverse faults with a shallow south dip were encountered. We were asked to estimate the age of the soils that extend unbroken across these structures, to evaluate whether or not these features should be considered Holocene-active under California's definition of fault activity for residential projects.

To that end, we described the near-surface soils collected by AKA in the area of the two fault zones. The faults in both areas are confined to sediments of the Quaternary-aged Saugus Formation. Fault Zone A is also capped by unfaulted colluvial deposits altered by pedogenic processes. The characteristics of these soils indicate that there have been several periods of erosion and deposition with long-enough periods in between to allow for soil formation. The combined age of the surface soil and the two buried soils that extend unbroken across Fault Zone A show that the fault has not moved in at least 58,000 years, and potentially much longer.

The faults in Fault Zone B are overlain by unbroken Bt lamellae that developed as a result of pedogenic processes in the deeper section of the soil that has developed in sediments of the Saugus Formation. This surface soil began developing once this portion of the site became sufficiently stable. The age of the soil that has developed in this area is estimated at between about 27,000 and 80,000 years old. Given that the faults do not extend into the upper soil horizons and do not impact the uppermost Bt lamellae, we conclude that these faults also last moved in the Pleistocene and are therefore not Holocene-active.

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Appendix A: Soil Descriptions

Soil Profile Collected in Fault Zone A

Sample Number	Depth (ft)	Depth (cm)	Horizon	Description
1	0 – 0.5	0 - 15	Ap1	**SANDY CLAY LOAM**; dark grayish brown (10YR 4/2) when dry, very dark brown (10YR 2/2) when moist; moderate coarse subangular blocky breaking to weak fine subangular blocky soil structure and single-grained; loose to soft when dry, loose to very friable when moist, very slightly sticky and very slightly plastic when wet; 5-10% fine gravel- sized clasts of angular to subangular granitics and slate, unweathered to slightly weathered (stage I); clear lower boundary.
2	0.5 – 1.2	15 - 36	Ap2	**SANDY CLAY LOAM**; dark grayish brown (10YR 4/2) when dry, very dark brown (10YR 2/2) when moist; weak to moderate medium angular blocky breaking to moderate fine subangular blocky soil structure and single-grained; loose to soft when dry, loose to very friable when moist; very slightly sticky and very slightly plastic when wet; 10% coarse sand to fine gravel-sized clasts of angular granitics, unweathered to slightly weathered (stage I), few up to 1-inch in size; common roots and rootlets; clear lower boundary
3	1.2 - 2	36 - 60	A3	**SANDY CLAY LOAM**; dark grayish brown (10YR 4/2) and (10YR 5/3) when dry, very dark grayish brown (10YR 3/2) and brown (10YR 4/3) when moist; weak to moderate medium subangular blocky breaking to weak to moderate fine subangular blocky soil structure and single-grained; loose to soft when dry, loose to very friable when moist, very slightly sticky and very slightly plastic when wet; very few thin clay films on ped faces; 5-10% coarse sand to fine gravel-sized clasts of mostly granitics and few slate; unweathered to slightly weathered (stage 1), few scattered angular gravel; common roots and rootlets; scattered charcoal; abrupt to clear lower boundary
4	2 – 3	60 - 90	Bw	**SANDY CLAY LOAM** to **SANDY CLAY**; dark grayish brown (10YR 4/2) and reddish brown (5YR 4/4) when dry, very dark brown to very dark grayish brown (7.5-10YR 2.5/2) and dark brown (7.5YR 3/2) when moist; weak to moderate medium angular blocky breaking to weak very fine angular blocky soil structure and single-grained; loose to soft when dry, loose to very friable when moist, very slightly sticky and slightly plastic when wet; very few thin clay films on ped faces, few thin clay films bridging grains; 5% subangular to subrounded fine gravel-sized clasts of mostly granitics; few roots and rootlets; abrupt lower boundary.
5	3 – 4.2	90 - 127	2Btb1	**SANDY CLAY LOAM**; brown to dark grayish brown (10-7.5YR 4/2) and brown to grayish brown (10-7.5YR 5/2) when dry, dark brown (7.5YR 3/2) when moist; strong very coarse subangular blocky breaking to strong fine to medium subangular blocky soil structure; slightly hard and fragic when dry, firm to very firm when moist, very slightly sticky and very slightly plastic when wet; common thin clay films on ped

				faces, common thin clay films bridging grains, common thin clay films lining clast pockets; 20% rounded to subangular coarse sand to fine gravel-sized clasts up to ½ inch in size; many rootlets; many pinhole-sized to 5-mm-sized pores; cemented, possibly with silica, as there is no reaction to hydrochloric acid; clear lower boundary. [Possible debris flow deposit]
6	4.2 - 5	127 - 152	2Btb2	**SANDY CLAY LOAM**; brown to light brown (7.5YR 5/3-6/3) with dark brown (7.5YR 3/2) clay films when dry, dark brown (7.5YR 3/2.5) and dark brown (7.5YR 3/2) clay films when moist; strong coarse angular blocky soil structure; extremely hard and fragic when dry, very firm when moist; very slightly sticky and very slightly plastic when wet; many thin and few moderately thick clay films bridging grains; 10-20% coarse sand and fine gravel-sized clasts of granitics, quartzite, and Monterey siltstone; common very fine and fine rootlets; common to many pinhole-sized pores, few up to 2 millimeters; cemented, possibly with silica, as there is no reaction to hydrochloric acid; abrupt lower boundary.
7	5 – 6	152 - 182	3Btb3	**CLAY**; yellowish brown to brown (10-7.5YR 5/4) and brown (10-7.5YR 4/3) with dark brown (7.5YR 3/2) clay films when dry, brown (7.5-10YR 4/3) when moist; strong coarse angular blocky soil structure; extremely hard when dry, very firm to extremely firm when moist; very sticky and very plastic when wet; continuous thin and common moderately thick clay films bridging grains, continuous moderately thick clay films lining clast pockets; 20-30% gravel- to cobble-sized clasts of mostly Monterey siltstone and few granitics; no reaction to hydrochloric acid; abrupt lower boundary. [Possible debris flow deposit]
8	6 - 7	181 - 212	4Btb4	**CLAY**; light yellowish brown to brown (10-7.5YR 5.5/4) with very dark gray to dark brown (7.5YR 3/1.5) and brown to dark brown clay films (7.5YR 3.5/3) when dry, brown (7.5YR 4/4) with dark brown (7.5YR 3/2) clay films when moist; strong medium to coarse angular blocky breaking to prismatic soil structure; extremely hard when dry, very firm to extremely firm when moist; very sticky and very plastic when wet; continuous moderately thick clay films on ped faces, few thick and many to continuous moderately thick clay films bridging grains; less than 5% fine gravel-sized clasts of predominately Monterey siltstone; root channels lined with manganese oxide stains; abrupt to clear lower boundary.
9	7 – 7.8	212 - 236	4BCb1	**SILTY CLAY**; light brown to light yellowish brown (7.5-10YR 6/4) with dark brown (7.5YR 3/3) clay films on ped faces and dark brown (7.5YR 3/2) clay films in pores when dry, brown (7.5YR 4.5/4) with very dark grayish brown (10YR 3/2) clay films on ped faces and dark brown to very dark gray (7.5YR 3/1.5) clay films in pores when moist; strong coarse angular blocky soil structure; extremely hard when dry, firm when moist, very sticky and very plastic when wet; common thin clay films on ped faces, continuous thick clay films in pores; few coarse sand-sized clasts of siltstone; few scattered

				rootlets; common pores and root channels 4-5 millimeters in diameter, plugged with manganese oxide and clay; clear lower boundary.
10	7.8 – 9.25	236 - 260	4BCb2	**SANDY CLAY**; very pale brown to pink (10-7.5YR 7/4) with yellowish red (5YR 4/6) and reddish brown (5YR 5/4) mottles and brown (7.5YR 4.5/2) clay films when dry, brown (7.5YR 4.5/4) with yellowish red (5YR 5/6) mottles and brown to dark brown (7.5YR 3.5/3) clay films when moist; strong medium to coarse angular blocky soil structure; extremely hard when dry, extremely firm when moist, sticky and plastic when wet; few moderately thick and common thin clay films on ped faces, few moderately thick and many thin clay films bridging grains, and many thin and few thick clay films in pores and root channels; manganese staining locally, red staining (mottled); few rootlets; very few pinhole pores; abrupt lower boundary.
11	9.25 – 13.95+	260 – 425+	$4C_{lam}$	Fine to medium **SAND** with Bt lams 1.5-2 inches thick that consist of **LOAMY SAND. Matrix:** light gray to very pale brown (10YR 7/2.5) when dry, brown (10YR 5/3) when moist; very weak fine subangular blocky soil structure; loose and soft when dry, loose and very friable when moist, non-sticky and non-plastic when wet; less than 5% fine gravel-sized clasts of granitics and Monterey siltstone; lower boundary not described. **Bt lams**: brown (7.5YR 5/4) with dark brown (7.5YR 3/2) clay films when dry, brown to dark yellowish brown (7.5-10YR 4/4) with dark brown to very dark gray (7.5YR 3/1.5) when moist; strong coarse to very coarse angular blocky breaking to strong fine to medium angular blocky soil structure; slightly hard to hard when dry, firm when moist, very slightly sticky and non-plastic when wet; common moderately thick and continuous thin clay films bridging grains; 5% gravel typically less than ½-inch in diameter, few larger, clasts consist subrounded to subangular volcanics and Monterey siltstone weathered to stage II to III and subrounded.

Soil Profile Collected in Fault Zone B

Sample	Depth (ft)	Depth (cm)	Horizon	Description
1	0 – 0.66	0 - 20	Ap-Bt	**SANDY CLAY** to **CLAY**; brown (10-7.5YR 4/3) with few yellowish red (5YR 4/6) zones and dark brown (7.5YR 3/2) clay films when dry, brown (7.5YR 4/2) with reddish yellow (7.5YR 6/6) zones and dark brown (7.5YR 3/2) clay films when moist; moderate medium to coarse angular blocky soil structure; hard when dry, firm when moist, sticky and very plastic when wet; common to many thin and few moderately thick clay films bridging grains; mixed; less than 5% angular siltstone chips; many roots and rootlets; very few pinhole-sized pores; clear lower boundary.
2	0.66 – 1.3	20 - 40	Bt	**SILTY CLAY**; yellowish brown to brown (10-7.5YR 5/4) to (10-7.5YR 5/6) with dark grayish brown to brown (10-7.5YR 4/2) clay films when dry, brown (7.5YR 4/4) with (7.5YR 4/1.5) clay films when moist; moderate to strong coarse angular blocky breaking to moderate fine angular blocky soil structure; very hard to extremely hard when dry, very firm when moist, sticky and very plastic when wet; many thin and few moderately thick clay films on ped faces, many thin clay films bridging grains; less than 5% coarse-sand and fine gravel-sized clasts of predominantly siltstone; many roots and rootlets; few pinhole-sized pores; abrupt lower boundary.
3	1.3 – 2.3	40 - 70	BC1	**SANDY LOAM**; brown to yellowish brown (10-7.5YR 5/4) with brown (7.5YR 4/4) clay films when dry, brown (7.5YR 4/4) with dark brown (7.5YR 3/3) clay films when moist; weak to moderate medium subangular blocky breaking to weak fine subangular blocky soil structure and single-grained; very hard when dry, very friable to friable when moist, very slightly sticky and non-plastic to very slightly plastic when wet; common thin clay films bridging grains; common roots and rootlets; clear to gradual lower boundary.
4a	2.3 – 3.1	70 - 95	BC_{lam1}	Fine to medium **SANDY LOAM** with Bt lams of medium to coarse **SANDY LOAM. Matrix:** yellowish brown to strong brown (10-7.5YR 5/6) with pockets of gray (10YR 6/1) and light brownish gray (10YR 6/2) when dry, brown (7.5YR 4/4 and 7.5YR 4/2) when moist; moderate fine angular blocky soil structure; hard and slightly fragic when dry, friable when moist, very slightly sticky and non-plastic when wet; no reaction to hydrochloric acid; few roots; gradual lower boundary. **Bt lams**: dark brown (7.5YR 3/3) when dry, dark brown (7.5YR 3/2) when moist; moderate very coarse angular blocky soil structure; hard when dry, very firm when moist, slightly sticky and non-plastic when wet; many to continuous thin clay films bridging grains; >50% coarse sand.
4b	3.1 -4	95 - 122	BC2	**SANDY LOAM**; light yellowish brown to brown (10-7.5YR 5.5/4) with dark brown (7.5YR ¾) clay films when dry, brown (7.5YR 4/4) with dark brown (7.5YR 3/3) clay films when moist; strong very coarse angular blocky soil structure; very hard when dry, very firm when moist, very slightly sticky and non-plastic to very slightly plastic when wet; common thin

Sample	Depth (ft)	Depth (cm)	Horizon	Description
				clay films bridging grains; less than 5% scattered angular chips of Monterey siltstone weathered to stage III; common roots along ped faces; few pinhole-sized pores and few up to 4 millimeters in diameter; slightly cemented; primary bedding of coarse and fine sand locally still visible; clear lower boundary.
5	4 - 7	122 - 213	BC_{lam2}	Fine grained **LOAMY SAND** with 1- to 2-inch-thick Bt lams of **SANDY LOAM. Matrix:** brown to light brown (7.5YR 5.5/4) when dry, brown (7.5YR 4/4) when moist; weak medium subangular blocky breaking to weak fine subangular blocky soil structure and single-grained; loose to slightly hard and fragic when dry, very friable when moist, non-sticky and non-plastic when wet; few thin clay films bridging grains in some sections; 5-10% coarse sand to fine gravel-sized clasts of angular to subrounded, weathered (stage II-III) Monterey siltstone and granitics; calcium carbonate cemented tubes; clear lower boundary. **Bt lams**: brown (7.5YR 5/4) with dark brown (7.5YR 3/2) clay films when dry, brown (7.5YR 4/4) with very dark brown (7.5YR 2.5/2) clay films when moist; string coarse to very coarse angular blocky soil structure; very hard when dry, very firm when moist, very slightly sticky and non-plastic to very slightly plastic when wet; many thin clay films bridging grains; 5-10% gravel-sized clasts of mostly angular to subangular granitics and Monterey siltstone up to 1.5 inches in size, but mostly ¼-inch in size.
6	7 – 8+	213 – 243+	C	Fine to medium **SANDSTONE**; pale brown (10YR 6/3) when dry, yellowish brown (10YR 5/4) when moist; very weak fine subangular blocky soil structure and single-grained; loose when dry, loose when moist, non-sticky and non-plastic when wet; 5-10% coarse-grained sand; coarser than the unit above; possible cemented worm casts or tubes; lower boundary not observed.

Soil Profile Collected at Station 10+20

Sample	Depth (ft)	Depth (cm)	Horizon	Description
9	0 – 2.5	0 - 76	Ap	**SANDY CLAY LOAM**; very dark grayish brown (10YR 3/2) when dry, very dark brown (10YR 2/2) when moist; strong coarse angular blocky soil structure; hard to very hard when dry, very firm when moist, sticky and plastic when wet; less than 5% fragments of brown (7.5YR 4/4) sandstone; mixed; many roots and rootlets; bits of organic matter including twigs, grass, and charcoal; abrupt but broken (due to bioturbation) lower boundary.
8 & 7	2.5 – 3.8	76 - 116	Bt	**SANDY LOAM**; light yellowish brown to light brown (10-7.5YR 6/4) when dry, brown (7.5YR 4/4) with brown (7.5YR 4/3) clay films when moist; strong coarse to very coarse angular blocky soil structure near top grading downward to weak medium to coarse subangular blocky breaking to weak fine subangular blocky soil structure ; extremely hard grading down to hard when dry, extremely firm grading down to firm when moist, slightly sticky grading to very slightly sticky and very slightly plastic when wet; many to continuous thin and common moderately thick clay films on ped faces at top grading down to few thin clay films on ped faces; < 5% primarily fine gravel-sized clasts of rounded to subangular granitics; calcium carbonate coatings on ped faces and filaments; slightly effervescent to hydrochloric acid; manganese oxide stains; few pinhole-sized pores; abrupt lower boundary.
6	3.8 – 4.6	116 - 140	R1	**SANDSTONE** to **SILTY SANDSTONE**; light brown to reddish yellow (7.5YR 6/5) with brown (7.5YR 4/4) clay films when moist; massive breaking to very strong coarse angular blocky soil structure; extremely hard when dry, extremely firm when moist, non-sticky and non-plastic when wet; 10% fine gravel-sized clasts of angular to subrounded granitics; slightly micaceous; cemented; silica as coatings, filaments, and zones; manganese oxide staining; few pinhole-sized pores; gradual lower boundary. [Saugus Formation]
5	4.6 – 5.35	140 - 163	R2	**SILTY SANDSTONE**; brown to strong brown (7.5YR 5/5) with reddish brown (5YR 4/4) clay films when dry, brown (7.5YR 4/4) with reddish brown (5YR 4/4) clay films when moist; massive breaking to strong coarse angular blocky soil structure; extremely hard when dry, firm when moist; very slightly sticky and non-plastic when wet; common thin clay films on ped faces, common to many thin clay films bridging grains; 5-10% coarse sand and fine gravel up to ½ inch-sized clasts; manganese oxide staining; gradual lower boundary.
4	5.35 – 6.15	163 - 187	R3	**SANDY SILTSTONE**; brown (7.5YR 4.5/4) with reddish brown (5YR 4/3) and reddish brown (5YR 4/4) clay films when dry, yellowish red (5YR 4/6) with dark reddish brown (5YR 3/3) clay films when moist; moderate fine angular blocky soil structure and single-grained; slightly hard when dry, slightly firm to firm when moist, slightly sticky and very slightly plastic when wet; few moderately thick and common thin

Sample	Depth (ft)	Depth (cm)	Horizon	Description
				clay films bridging grains5-10% fine gravel-sized clasts of Monterey siltstone chips and granitics; few pinhole-sized pores; clear to gradual lower boundary.
3	6.15 – 6.7	187 - 204	R4	**SANDSTONE**; light brown (7.5YR 6/3) when dry, brown (7.5YR 5/4) when moist; very weak fine subangular blocky soil structure breaking to single-grained; loose to very soft when dry, loose to vary friable when moist, non-sticky and non-plastic when wet; less than 5% scattered subrounded to rounded granitic gravel up to up to 1.5 inch in size; abrupt lower boundary.
2	6.7 – 8.3	204 - 253	R5	**SILTSTONE**; brown (7.5YR 5/4) with brown (7.5YR 5/3) clay films and light yellowish brown (2.5Y6/3) and dark grayish brown (2.5Y4/2) gleied sections when dry, dark brown (7.5YR 3/3) with dark brown (7.5YR 3/2) clay films and dark grayish brown (2.5Y 4/2) gleied sections when moist; extremely hard when dry and extremely firm when moist; old paleosol that has become dense; 5-10% scattered gravel-sized clasts of mostly granitics and quartzite; silica filling old root channels and on locally gleyed sections; iron-oxide staining; few roots on ped faces; few to common fine pinhole-sized pores; gradual lower boundary.
1	8.3 – 10+	253 – 305+	R6	**SILTY CLAYSTONE**; light brown (7.5YR 6/4) and brown (7.5YR 4.5/3) when dry, brown (7.5YR 4/4) and brown (7.5YR 4/3) when moist; massive breaking to strong medium to coarse angular blocky soil structure; extremely hard when dry, extremely firm when moist, sticky and very plastic when wet; common to many thin clay films on ped faces; silica filling larger root holes; very few pinhole-sized pores; lower boundary not observed.

Soil Profile Collected at Station 11+30

Sample	Depth (ft)	Depth (cm)	Horizon	Description
7	0 – 1.1	0 - 34	Ap	**SANDY CLAY LOAM** to **SANDY CLAY**; dark brown to very dark grayish brown (10-7.5YR 3/2) when dry, very dark brown (7.5YR 2.5/2); weak to moderate medium subangular blocky breaking to moderate fine subangular and moderate fine granular soil structure; slightly hard and fragic when dry, very friable when moist; sticky and plastic when wet; mixed in sediment that is light brown (7.5YR 6/4) when dry brown (7.5YR 5/4) when moist; less than 5% fine gravel less than ¼ inch-sized clasts of angular granitics; large amount of organics including twigs and roots; few pinhole-sized pores; abrupt, locally broken (due to bioturbation) lower boundary.
6	1.1 – 2	34 - 61	2Bt1	Gravelly medium and coarse **SANDY CLAY**; brown (7.5YR 4/4) with reddish brown (5YR 4/4) when dry, brown to reddish brown (7.5-5YR 4/4) with dark brown (7.5YR 3/3) clay films when moist; moderate fine to medium subangular blocky breaking to moderate medium granular soil structure; very hard to extremely hard when dry, friable when moist, sticky and plastic when wet; many thin clay films bridging grains, few moderately thick and common thin clay films coating clasts, common moderately thick clay films lining clast pockets; 30-40% fine gravel and few up to 1.5 inch-sized clasts of subangular to rounded mostly granitics; mixed with pockets of material above; few to common roots; clear lower boundary.
5	2 – 3.1	61 - 94	3Bt2	**SANDY CLAY**; brown (7.5YR 4.5/4) with brown (7.5YR 4/3) clay films when dry, brown to reddish brown (7.5-5YR 4/4) with brown (7.5YR 4/3) clay films when moist; moderate coarse to very coarse angular blocky breaking to moderate fine subangular blocky, moderate medium granular soil structure and single-grained; extremely hard when dry, friable when moist; sticky and plastic when wet; few moderately thick and common thin clay films on ped faces; many thin clay films bridging grains, common thin clay films in pores; 5-10% coarse sand and fine gravel-sized clasts of subangular quartzite; common fine rootlets; few organic pockets; abrupt lower boundary on a stoneline.
4	3.1 – 4.5	4 - 137	$4BC_{lam}$	**SAND** with **Bt lams** of medium to coarse **SAND. Matrix:** brown (7.5YR 5/4) when dry, brown (7.5YR 4.5/4) when moist; single-grained; loose when dry, loose to soft when moist; non-sticky and non-plastic when wet; less than 5% subrounded fine gravel typically < ¼-inch in size; clear lower boundary. **Bt lams**: strong brown (7.5YR 4/6) with reddish brown (5YR 4/4) clay films when dry, brown to reddish brown (7.5-5YR 4/4) with reddish brown (5YR 5/3) clay films when moist; moderate fine subangular blocky soil structure breaking to single-grained; soft to slightly hard and slightly fragic when dry, friable when moist, slightly sticky and non-plastic to very slightly plastic when wet; common to many thin clay films bridging grains.

Sample	Depth (ft)	Depth (cm)	Horizon	Description
3 & 2	4.5 – 5.7	137 - 174	4BC1	**LOAMY SAND**; yellowish brown to brown (10-7.5YR 5/4) when dry, brown (7.5YR 4/4) with brown to reddish brown (7.5-5YR 4/3) clay films when moist; massive breaking to strong coarse angular blocky soil structure; extremely hard when dry, extremely firm when moist; non-sticky to very slightly sticky and non-plastic when wet; common moderately thick and many thin clay films on ped faces, many thin clay films bridging grains; 10-15% fine gravel less than ¼ inch-in size, mostly granitics weathered stage II to III; cemented; silica-enriched veins and zones; manganese oxide staining; common pinhole-sized pores; with pockets of **LOAMY SAND**; light brown (7.5YR 6/4) when dry, brown (7.5YR 4/4) when moist; weak fine subangular blocky soil structure breaking to single-grained; hard when dry, friable when moist, very slightly sticky and non-plastic when wet; less than 5% scattered subrounded gravel up to ¼ inch in size; clear irregular lower boundary.
1	5.7 – 6.55+	174 – 200+	4BC2	**SANDY CLAY LOAM**; brown (7.5YR 5/4) with reddish brown (5YR 5/4) clay films when dry, brown to strong brown (7.5YR 5/5) with reddish brown (5YR 4/3) clay films when moist; massive breaking to moderate fine to medium angular blocky soil structure; very hard when dry, firm to very firm when moist, slightly sticky and slightly plastic when wet; few thin clay films on ped faces, many thin clay films bridging grains; less than 5% scattered gravel up to ¼ inch-sized clasts of subangular to subrounded granitics; few manganese oxide stains, mostly in pores; few pinhole-sized pores; lower boundary not observed.

Sample Collected at Station 10+30

Sample	Depth (ft)	Depth (cm)	Horizon	Description
10+30	3	91	Bt	**LOAMY** fine **SAND**; light brown (7.5YR 6/3) with brown clay films when dry, brown (7.5YR 4/4) when moist; strong very coarse angular blocky soil structure; very hard to extremely hard when dry, very firm when moist, non-sticky and non-plastic when wet; common thin clay films on ped faces, common to many thin clay films bridging grains, many thin clay films lining clast pockets; 10% subrounded to rounded fine gravel-sized clasts of primarily granitics; few rootlets; common pinhole-sized pores to 4 millimeters in diameter; lower boundary not reported. [Possibly old mudflow deposit]

Additional Siltstone Samples

Sample	Depth (ft)	Depth (cm)	Horizon	Description
Lighter "punky" siltstone				**SILTSTONE**; very pale brown (10YR 8/2) when dry, light yellowish brown (10YR 6/4) when moist; massive breaking to moderate fine subangular blocky soil structure and single-grained; soft and fragic when dry, friable when moist, slightly sticky and slightly plastic when wet; highly effervescent to hydrochloric acid, few cemented calcium-carbonate-rich zones; few pinhole-sized pores to 4 millimeters in diameter; lower boundary not reported.
Darker "punky" siltstone				**SILTSTONE**; very pale brown (10YR 7/4) with brown (7.5YR 4/3) clay films when dry, brown (7.5YR 4/4) when moist; massive breaking to strong medium angular blocky soil structure; very hard to extremely hard when dry, very firm when moist, slightly sticky and slightly plastic when wet; few to common thin clay films on ped faces; calcium carbonate filaments, coatings, and filling root holes; few to common rootlets; common pinhole-sized pores to 3 millimeters in diameter; lower boundary not reported.

Samples Collected at Stations 11+12 and 11+15

Sample	Depth (ft)	Depth (cm)	Horizon	Description
11+12			Bt	**SANDY CLAY LOAM** to **SANDY CLAY**; brown (7.5YR 4/4) with brown to reddish brown (5-7.5YR 4/4) clay films when dry, brown (7.5YR 4/4) with dark reddish gray (5YR 4/2) clay films when moist; strong coarse angular blocky soil structure; extremely hard when dry, firm when moist, sticky and plastic when wet; many thin and few moderately thick clay films on ped faces, many thin clay films bridging grains; < 5% fine-gravel-sized clasts of mostly subrounded granitics; common to many rootlets and few roots, few pinhole-sized to 2 millimeter-sized pores; lower boundary not reported.
11+15	2		Bt	Fine **SANDY CLAY**; brown (7.5YR 4.5/4) with reddish brown (5YR 4/4) clay films when dry, brown (7.5YR 4/4) with brown (7.5YR 4/3) clay films when moist; moderate to strong coarse subangular blocky breaking to moderate fine to medium subangular blocky soil structure; extremely hard when dry, friable when moist, sticky and plastic when wet; many thin and few moderately thick clay films on ped faces, many thin clay films bridging grains; less than 5% gravel up to 1 inch-sized clasts of rounded to subangular fragments of Monterey siltstone; common to many rootlets and few roots; few pinhole-sized pores; locally bioturbated; lower boundary not reported.

D

Response to Fault Study Review

ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

June 26, 2019
J.N. 2677.00

Ms. Harriet Rapista
Comstock Homes
2301 Rosecrans Avenue, Ste. 1150
El Segundo, CA 90245

Subject: **Response to City of Moorpark Review Comments and Recommendations, Hitch Ranch Fault Study, Tentative Tract 5708, City of Moorpark, California.**

References: Review of Fault Report, Hitch Ranch, TT 5708, Moorpark, California, by Mr. Jim O' Tousa, dated May 8, 2019. (On behalf of RJR Engineering Group for the City of Moorpark)

Geologic Assessment of Surface Fault Rupture Potential, Hitch Ranch, Tentative Tract 5708, City of Moorpark, California, prepared by Albus-Keefe & Associates Inc., dated April 3, 2019 (J.N. 2677.00).

Dear Ms. Rapista,

The city of Moorpark consultant has completed their review of our referenced fault report for the subject site. In the referenced review letter, Mr. Jim O' Tousa, the reviewing engineering geologist, generally stated that he agrees with our findings concerning the absence of "active" faulting within the site. However, he had several technical comments concerning the trench logs in our report as well as recommendations to be considered for future plan review purposes. This correspondence has been prepared to address these comments and recommendations. A copy of their review letter is attached herein for reference. We are also resubmitting our fault report (revised dated June 3, 2019) with revised trench logs as part of our response to the comments below.

Responses to Comments

Comment 1:
Acknowledge. As suggested, we revised our fault trench logs to clearly indicate that the horizontal scale equals the vertical scale. (See Plates 5 through 9 in our fault report, revised dated June 3, 2019)

Comment 2:
Acknowledge. For better correlation purposes we have included the major soil horizons described by ECI directly on Fault Trench FT-1. (See Plate 7 in our fault report, revised dated June 3, 2019)

Comment 3:
Fault trench FT-2 overlaps the upper northerly end of Gorian's fault trench FT-4. Where the fault trenches overlap, Unit C in our fault trench FT-2 actually correlates with both Units 3 and 4 of Gorian's fault trench FT-4.

Comment 4:
Acknowledge. The site is not in a State of California Earthquake Fault Hazard Zone and will not need to be submitted to the State. Three (3) hard copies and an electronic copy of our fault report with the revised plates, as discussed herein, have been resubmitted to the city along with this response letter.

Responses to Recommendations

Recommendation 1:
Acknowledge. We concur that the Moorpark area is part of a compressional framework. However, based on the findings from our study, we are currently of the opinion that the probable magnitude of displacement (small-scale shear displacements or general ground tilting) associated with a significant earthquake on either the Oak Ridge or Simi-Santa Rosa faults during the life of the proposed habitable structures within the site would likely be extremely small. Therefore, no additional structural mitigation measures for the proposed habitable structures were deemed necessary at this time to provide for the safety and welfare of the occupants. In the event that geologic observations during site grading indicate that small-scale deformation in the area of the shears in fault trench FT-1 or other areas of the site could potentially rise to a level that could impact habitable structures within the site, the findings should be reviewed by the geotechnical and structural engineer and mitigation measures should be incorporated in the design of foundations for habitable structures to provide an increased resistance to small-scale ground movements.

Recommendation 2:
Acknowledge. Potential seepage issues associated with daylighted sand lenses and channel features in cut slopes and other excavations will be addressed during future geotechnical studies of the site.

Recommendation 3:
Acknowledge. The changes in the physical properties of the site earth materials resulting from variations in moisture content will be addressed during future geotechnical studies of the site.

We hope the information presented herein meets the approval of the city of Moorpark. If you should have any questions or need clarification regarding this letter, please do not hesitate to call this office.

Respectfully submitted,

Albus-Keefe & Associates, Inc.





Bryan J. Petry
Project Engineering Geologist
C.E.G. 2702

Michael O. Spira
Principal Engineering Geologist
C.E.G. 1976

Attachment: Review of Hitch Ranch Fault Report by Jim O'Tousa, CEG

E

2020 FCS Paleontological Study

FIRSTCARBONSOLUTIONS™

Updated Paleontological Records Search and Assessment for the Hitch Ranch Specific Plan City of Moorpark, Ventura County, California

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Author: Dr. Joe Stewart, Principal Paleontologist

Report Date: March 4, 2020

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SECTION 1: PROJECT SUMMARY

1.1 - Purpose and Scope

At the request of Comstock Homes, FirstCarbon Solutions (FCS) conducted an updated paleontological records search and literature review for the Hitch Ranch Specific Plan (proposed project). An earlier paleontological assessment was done for this project (SWCA 2006). Pursuant to comments and direction received from the City of Moorpark, it was determined that an updated paleontological records search for the project area would be required to bring the report's findings up to date, particularly in light of significant discoveries made in the area that were not available to the study's authors at the time of writing. Chief among them are two particularly important discoveries (the Moorpark Highlands Project and the "Moorpark Mammoth" site) that were recovered from the Saugus Formation in 2005 and have added significant information to the age and nature of Saugus Formation deposits in the area of the proposed project.

This report update provides an updated paleontological records search and literature review that takes this new information into account, and assesses the applicability of the recommendations and proposed mitigation measures outlined in the original 2006 SWCA report. For the purposes of clarity, this report update has attempted to follow the format used in the 2006 report wherever possible.

1.2 - Dates of Investigation

Records search requests were submitted to the Santa Barbara Museum of Natural History and the Natural History Museum of Los Angeles County (LACM) on January 30, 2020. The museum records search results were received on February 21 and February 14, 2020, respectively. Additional archival research including outreach to individuals and firms associated with the two Moorpark discoveries for unpublished draft reports and data was conducted from January 27 to February 7, 2020. The report update was completed on February 27, 2020.

1.3 - Result of Investigation

According to geological mapping of the project area (Dibblee 1992), the proposed project is immediately underlain by late Quaternary older alluvium and the Plio-Pleistocene Saugus Formation. However, more recent geotechnical studies conducted by Gorian and Associates, Inc. (2000) within the project area indicate the presence of Holocene (recent) alluvium colluvium, and artificial fill underlain by late Quaternary older alluvium. Collection records from the LACM indicate no known fossil localities within the project boundaries. Fossil localities have, however, been documented in the vicinity of the project. LACM (CIT) 560, the nearest documented site, is in a canyon southwest of the project area within surficial deposits of older Quaternary alluvium, and produced a specimen of fossil horse (*Equus*). Slightly south of LACM (CIT) 560 is LACM (CIT) 585, which produced an undetermined mastodon tusk fragment from the Saugus Formation. Subsequent Moorpark projects near the project site have uncovered two kinds of mammoth, horse, llama, rabbit, and at least six kinds of rodent from the Saugus Formation.

Results of the literature review, including the Draft Paleontological Resource Impact and Mitigation Report prepared by Chambers Group for the Moorpark Highlands Project (Chambers 2007) are detailed below. This report, along with the LACM Records Search Results, are included in Appendix A.

1.4 - Conclusion and Recommendations

Based on the results of the updated records search and literature review, FCS concurs with the findings and proposed mitigation measures detailed in the 2006 SWCA Paleontological Assessment (SWCA 2006)**.** While significant paleontological resources associated with the Saugus Formation have been discovered in recent years in proximity to the project site, none have been discovered within the project area, nor were any defined features or outcrops identified over the course of the 2006 pedestrian survey that would lend themselves to an effective testing program. As such, FCS concludes that the proposed mitigation measures, which require full-time paleontological monitoring of all ground disturbance within Saugus Formation or Quaternary older alluvium, are sufficient to protect any paleontological resources that may be encountered over the course of project construction. These mitigation measures, detailed in the report, were developed in accordance with the 1995 Society of Vertebrate Paleontology (SVP) standards and Ventura County Guidelines, and meet the most recent SVP 2010 standards as well.

1.5 - Disposition of Data

This report update will be filed with Comstock Homes and with the City of Moorpark. A copy will be retained at FCS.

SECTION 2: INTRODUCTION

The proposed project is located in Moorpark, California, and lies on the Moorpark 7.5-minute quadrangle (Exhibit 1). An earlier paleontological assessment was done for the proposed project (SWCA 2006). Multiple subsequent reports on nearby projects in the Saugus Formation necessitated an update. FCS was retained by Comstock Homes to update the 2006 report. This report presents the findings of an updated museum records search and an updated comprehensive literature review. A field survey was done in 2006. No new field survey was performed for this update, as the previous survey indicated that vegetation obscured inspection of any possible sediment outcrops.

The combination of geologic mapping of the project area (Dibblee 1992) and geotechnical investigations (Gorian and Associates 2000) indicates that the sediments that will be impacted by development of this parcel are the Plio-Pleistocene Saugus Formation, older alluvium, younger alluvium colluvium, and artificial fill. Collection records from the Natural History Museum of Los Angeles County and the Santa Barbara Museum of Natural History were consulted.

Professional Guidelines from the SVP have been revised since the 2006 report, so the resource assessment guidelines have been appropriately updated to 2010 standards. The definition of the Saugus Formation has also been revised as a result of more recent scholarship, and the usage in the document has been modified to conform accordingly.

2.1 - Definition and Significance of Paleontological Resources

The SVP Standard Procedures (2010) state: “Significant paleontological Resources are fossils and fossiliferous deposits, here define as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).”

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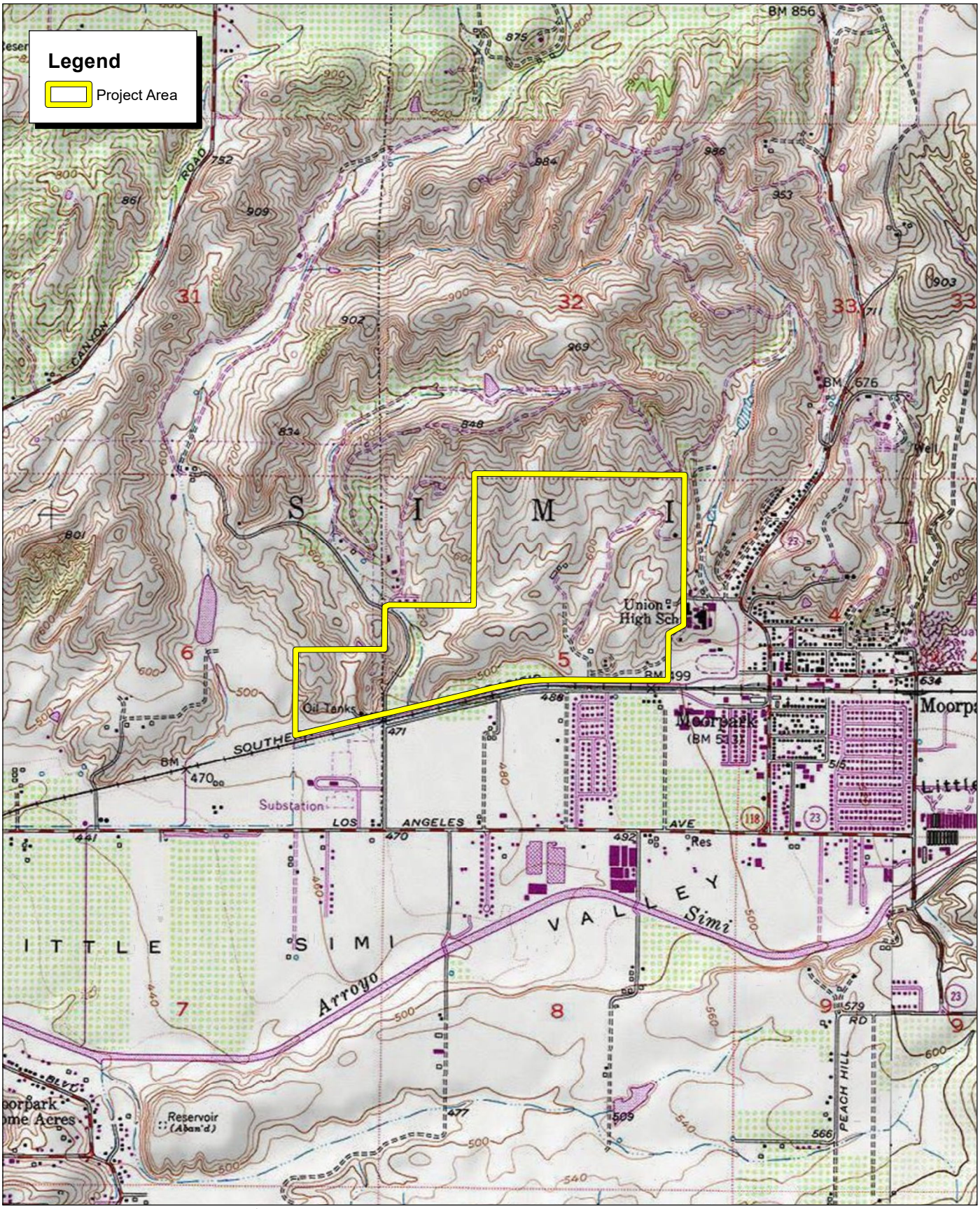

Source: USGS Moorpark 7.5' Quadrangle / Landgrant: Simi

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2,000 1,000 0 2,000 Feet

Exhibit 1
Project Location

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SECTION 3: RESOURCE ASSESSMENT GUIDELINES

Paleontological resources are limited, non-renewable resources of scientific, cultural and educational value, and are afforded protection under federal (National Environmental Policy Act [NEPA]), State (California Environmental Quality Act [CEQA]), and local (County of Ventura) laws and regulations. This study satisfies project requirements in accordance with CEQA (13 Public Resources Code [PRC] 2100 *et seq*.) and complies with guidelines and significance criteria specified by the SVP (SVP 2010).

3.1 - Laws, Ordinances, Regulations, and Standards

Fossils are classified as non-renewable scientific resources and are protected by various laws, ordinances, regulations, and standards (LORS) across the country. The SVP (2010) has established professional standards for the assessment and mitigation for adverse impacts to paleontological resources. This paleontological assessment was conducted in accordance with the LORS applicable to paleontological resources within the project area.

3.2 - Professional Standards

The SVP updated their standard guidelines for impact mitigation (SVP 2010). These outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate Paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines.

As defined by SVP, significant paleontological resources are fossils and fossiliferous deposits, defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).

3.3 - Paleontological Sensitivity

The following categories of sensitivity are taken from the guidelines of the SVP (2010), and provide an update to the SWCA 2006 report.

3.3.1 - High Potential

Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rock units classified as having high potential for producing paleontological resources include but are not limited to, sedimentary formations and some volcaniclastic formations (e.g., ashes or tephras), some low-grade metamorphic rocks that contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or

lithologically suitable for the preservation of fossils (e.g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.). Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Rock units that contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and rock units that may contain new vertebrate deposits, traces, or trackways are also classified as having high potential.

3.3.2 - Undetermined Potential

Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional Paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.

3.3.3 - Low Potential

Reports in the paleontological literature or field surveys by a qualified professional Paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule (e.g. basalt flows or Recent colluvium). Rock units with low potential typically will not require impact mitigation measures to protect fossils.

SECTION 4: PROJECT LOCATION AND DESCRIPTION

The proposed project is located in the City of Moorpark, Ventura County, California (Exhibit 1). The 270.64-acre project site is approximately 1,600 feet west of Moorpark Avenue (State Route 23) at its intersection with Casey Road. The southern boundary of the project site is approximately parallel with Poindexter Avenue, and the project area extends west beyond Gabbert Road.

4.1 - Geology and Paleontology

The geologic map of the project area is shown on Exhibit 2. Previous geologic mapping of the project area indicates the presence of late Quaternary older alluvium and the underlying Plio-Pleistocene Saugus Formation (Dibblee 1992) within the project area. However, it should be noted that geotechnical studies conducted at the project site instead report the composition of the surficial sediments as late Quaternary older alluvium and Holocene (recent) alluvium, colluvium, and artificial fill (Gorian and Associates 2000). Core samples taken from the project site indicate that the Plio-Pleistocene Saugus Formation is present beneath the older alluvium. Thus, the Saugus Formation may be impacted during grading of the project area.

4.1.1 - Saugus Formation

The definition of the Saugus Formation has been revised since the original report (SWCA 2006). It is now defined as being a non-marine formation. Marine strata formerly assigned to the Saugus Formation are now assigned to the Pico Formation (Swanson and Irvine 2015). The Sunshine Ranch and Camarillo members of the Saugus Formation have been formally adopted (Swanson and Irvine 2015). Some strata producing marine organisms and formerly assigned to the Saugus Formation are now assigned to the Pico Formation (Squires et al., 2006; Squires 2012.) However, in the Moorpark area, Campbell et al. (2014) map the Saugus Formation as undifferentiated as to member.

The Saugus Formation is the oldest formation within the project area. Dibblee (1992) maps the Saugus Formation in the hills of the project area. Geotechnical work by Gorian and Associates, Inc. (2000) indicates it occurs beneath older alluvium in the western portion of the proposed project. It is described as moderately-sorted commonly cross-bedded and channeled; interbedded with moderate-brown to reddish-brown poorly sorted sandy mudstone and local claystone seams in the type area and other portions of the eastern Ventura basin, reflecting overbank deposits and paleosols; fluvial near the basin axis, transitioning to alluvial fan environment near the basin margins; interfingers with shallow marine sands to the west (Campbell et al., 2014). Mammalian fossils collected from the upper member of this formation belong to the Irvingtonian North American Land Mammal Age (Wagner et al., 2007). A combination of faunistic and geomagnetic evidence indicates an age range of 850,000 to 780,000 years for the part of the Saugus Formation that produced those fossils (Wagner et al., 2007).

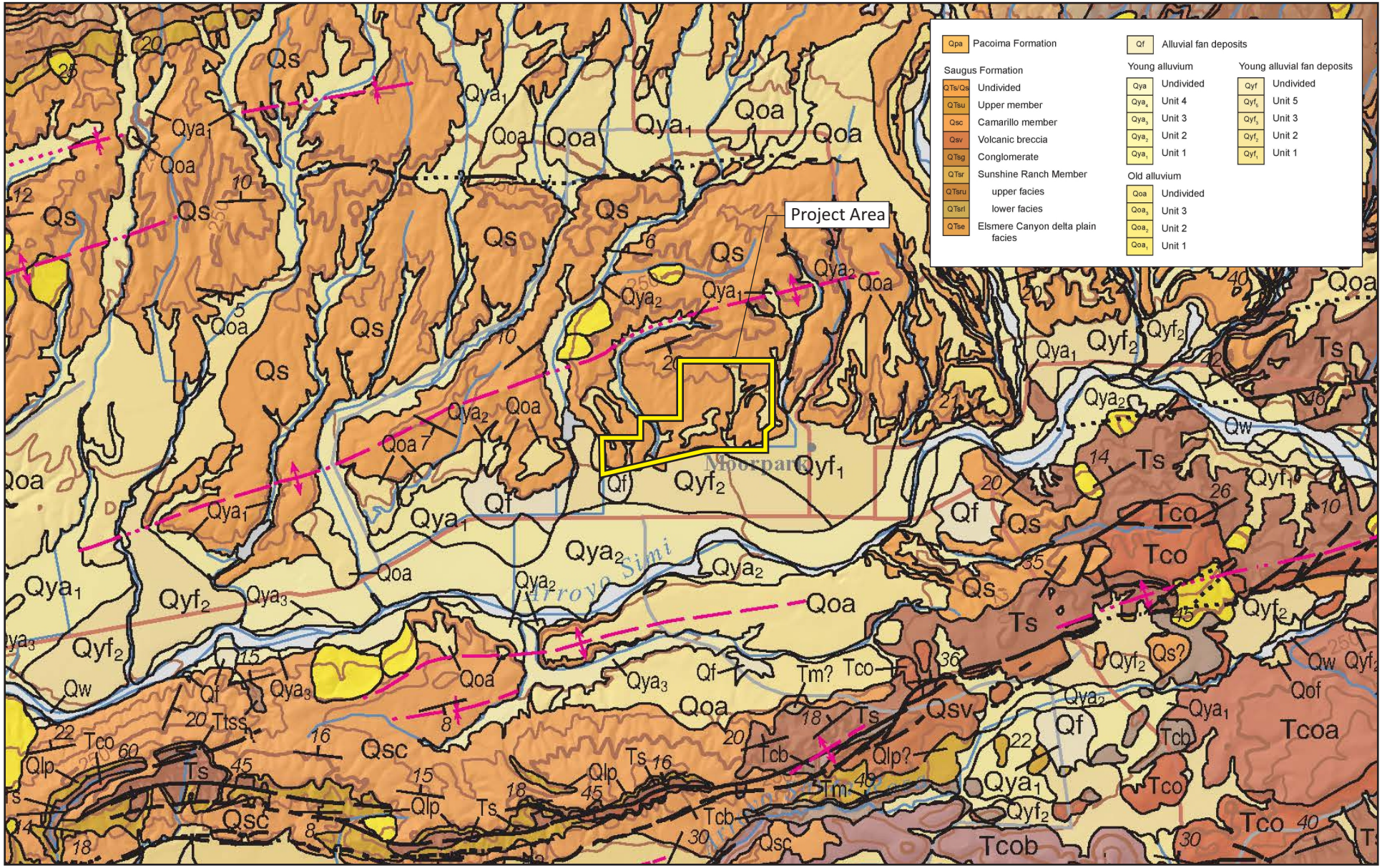
4.1.2 - Late Quaternary Older Alluvium

Geologic mapping (Dibblee 1992) of the project area indicates that late Quaternary older alluvial deposits are exposed in the valleys of the project area. Other workers designate the rock units in the

hills of the project site as late Quaternary (Pleistocene) older alluvium (Impact Sciences 2000). The older Alluvium at Hitch Ranch is composed of up to 36 feet of interbedded, lenticular yellowish-brown sand, light yellowish-brown silt and yellowish-brown clay that often contain clasts from the underlying Modelo Formation. Current data indicates that the older Alluvium in the Moorpark area is Middle Pleistocene (400,000 to 280,000 years old) (Lander 1997.

4.1.3 - Recent Alluvium Colluvium, and Artificial Fill

Geotechnical studies performed by Gorian and Associates, Inc. for the proposed project indicate that some of the surficial sediments overlying the late Quaternary older alluvium in the project area are Holocene (recent) alluvial stream deposits, colluvium and artificial fill (Impact Sciences 2000). Holocene deposits are too young to contain fossils and are thus classified as low sensitivity sediments. The uppermost younger alluvial deposits are determined to have a low paleontological sensitivity rating; however, according to SVP guidelines, geologic units greater than 5,000 years old may contain fossilized material. Therefore, the paleontological sensitivity of the young alluvial sediments mapped within the project site increases with age (i.e., depth). Artificial fill obviously has low potential for paleontological resources. Even if fossils were found in artificial fill, the original locality of the fossils would be unknown.



Source: USGS National Geologic Map Database.

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Exhibit 2
Geologic Map of Project Area

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SECTION 5: METHODS

The methods employed in this report included an updated paleontological records search and an updated literature search.

5.1 - Updated Paleontological Records Search Results

The updated paleontological records search showed no localities within the boundaries of the proposed project. The list of fossils and localities that the LACM reported this year in the vicinity of the proposed project (MacLeod 2020) does not differ from the list provided by MacLeod (2005) in the 2006 SWCA report. There is one recorded fossil from older Quaternary alluvium. It is that of a horse. That locality is southwest of the proposed project. The other is of a mastodon (family *Mammutidae*), from the Saugus Formation, locality LACM (CIT) 585. That locality is somewhat farther to the southwest. Personnel involved in the recovery and reporting of the Meridian Hills Project (see below) reported that a collection of Saugus fossils from that project were curated at the Santa Barbara Museum of Natural History. The Curator of Geology at that institution made available a spreadsheet of the Meridian Hills Project fossils curated there. The Meridian Hills Project is a very short distance from the proposed project. Jonathan Hoffman (pers. com., Feb 2020) reported 16 horse fossils, six mammoth fossils-including two species, two llama fossils, five specimens belonging to camel family, one rabbit, an unspecified number of rodent teeth belonging to six general and one extinct species, and one specimen of an unspecified proboscidean. Mr. Hoffman also reported that the museum has no other collections from the Saugus Formation or from Moorpark.

5.2 - Updated Literature Search Results

Jefferson (1991) recorded one Pleistocene vertebrate fossil from Moorpark. This specimen is of a fossil horse from the collection of the Natural History Museum of Los Angeles County. These include a fossil horse from older Quaternary alluvium at locality LACM (CIT) 560, which is the same specimen mentioned by MacLeod in the 2006 and 2020 records search reports. Lander (2007) summarized the known vertebrate fossils from the Saugus Formation of the Santa Clarita and San Fernando valleys. These include dog, cat, mastodon, tapir, horse, peccary, camel, pronghorn, deer, rabbit, gopher, and pack rat, as well as pond turtle and alligator lizard.

At the time of the original report (SWCA 2006), the Saugus Formation had not produced a significant amount of vertebrate fossils in the Simi Valley. However, since the publication of the original report, a considerable number of fossils have been collected from the Saugus Formation in Moorpark. A development known as the Meridian Hills Project produced vertebrate fossils, and that project lies a few yards northeast of the proposed project. These findings were detailed in an unpublished report (Lander 2007). The Meridian Hills Project produced a 70 percent complete skeleton of the southern mammoth (*Mammuthus meridionalis*), elements of the Columbian mammoth (*Mammuthus columbi*), the western horse (possibly *Equus occidentalis*), the large-headed llama (*Hemiauchenia macrocephala*), as well as smaller vertebrates. The smaller organism include a probable cottontail rabbit (possibly *Sylvilagus*), a species of the pocket gopher (*Thomomys*), a species of the pocket mouse (*Perognathus*), a species of the kangaroo rat (*Dipodomys*), a species of the harvest mouse

(*Reithrodontomys*), a species of the wood rat (*Neotoma*), and Mead's pine mouse (*Pitymys meadensis*). The demonstration that these two species of *Mammuthus* overlapped in this time interval is important. The collection of organisms from this project was designated the Meridian Hills local fauna (Wagner et al., 2007). Those authors demonstrated that the known ranges of the southern mammoth and Mead's pine mouse plus the magnetostratigraphic data from the site narrowed the age range of this deposit to 850,000 to 780,000 years. The collection was accessioned by the Santa Barbara Museum of Natural History.

Another development known as Moorpark Highlands Project produced vertebrate fossils, and it lies farther to the northeast, across Walnut Canyon Road. The final report for the paleontological resource monitoring and mitigation effort by the Chambers Group was authored by Hugh Wagner (Chambers 2007). Mr. Wagner reported that a collection of mollusk fossils was obtained from the Pico Formation, and several vertebrate fossils, including a partial skeleton of a mastodon (*Mammut* sp.,) from the Saugus Formation. Fossils of horse were also recovered. The report states that, "The specimens have since been cleaned, sorted, and analyzed and were recently curated into the collections of the Museum of Natural History, Los Angeles, California." An accession form from the Natural History Museum of Los Angeles County was included as Attachment F. However, the form is undated, has no accession number, and is not signed by any staff member of the museum. Through a personal communication, Dr. Samuel McLeod of the Natural History Museum of Los Angeles County assured that no vertebrate fossils from that project were ever accessioned or curated by that museum (pers. Comm. February 2020). Furthermore, Jonathan Hoffman (pers. comm., Feb 2020) stated that no such collection had been curated at the Santa Barbara Museum of Natural History.

SECTION 6: ANALYSIS

The table below summarizes the paleontological sensitivity ratings of the geologic units underling the project area.

Table 1: Paleontological Sensitivity by Geological Formation

Geologic Formation	Age	Fossils	Paleontological Sensitivity	Monitoring Recommendation
Alluvium, colluvium, and fill	Holocene	none	low to high	Part-time to full-time
Older alluvium	Pleistocene-to Holocene	terrestrial vertebrates	high	full-time
Saugus Formation	Plio-Pleistocene	terrestrial vertebrates	very high	full-time

The search of the LACM collections records indicated that at least one nearby locality produced vertebrate fossils in the older alluvium, and many localities in the older alluvium in Southern California. Older alluvium is almost always rated at least at a high level of paleontological sensitivity. When the first paleontological assessment was written, the LACM collections records showed a single Simi Valley locality that had produced a vertebrate fossil. That statistic has not changed, but multiple subsequent projects near the proposed project have produced significant vertebrate fossil collections. The Saugus Formation in Moorpark must therefore be rated as having a very high level of paleontological sensitivity.

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SECTION 7: CONCLUSIONS

Adverse impacts on paleontological resources result when sediment units become unavailable for study and observation by scientists. The destruction of fossils as a result of human-induced ground disturbance has a significant impact as it makes biological records of ancient life permanently unavailable for study by scientists. Implementation of proper mitigation measures can, however, reduce the impacts to the paleontological resources to below the level of significance.

Due to the very high paleontological sensitivity of the Plio-Pleistocene Saugus Formation and the older Quaternary alluvium, excavations in these units within the project area are likely to have a negative impact on non-renewable paleontological resources unless proper mitigation measures are implemented. The surficial Holocene alluvium, when accurately mapped, is too young to contain *in situ* nonrenewable paleontological resources and thus does not require close paleontological monitoring.

Based on the results of the updated records search and literature review, FCS concurs with the findings and proposed mitigation measures detailed in the 2006 SWCA Paleontological Assessment. While significant paleontological resources associated with the Saugus Formation have been discovered in recent years in proximity to the project site, none have been discovered within the project area, nor were any defined features or outcrops identified over the course of the 2006 pedestrian survey that would lend themselves to an effective testing program. As such, FCS concludes that the project's previously proposed mitigation measures are sufficient to protect any paleontological resources that may be encountered over the course of project construction. These mitigation measures, detailed in the next section, were originally developed in accordance with the 1995 SVP standards and Ventura County Guidelines, and meet the most current (2010) SVP standards.

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SECTION 8: RECOMMENDED MITIGATION MEASURES

The following mitigation measures have been developed in accordance with the SVP (1995; 2010) standards and Ventura County Guidelines, and meet the paleontological requirements of CEQA Guidelines. These mitigation measures have been used throughout California and have been demonstrated to be successful in protecting paleontological resources while allowing timely completion of construction.

1. All project-related ground disturbances that could potentially impact the Saugus Formation and Quaternary older alluvium will be monitored by a qualified Paleontological Monitor on a full-time bases, as these geologic units are determined to have a high paleontological sensitivity rating. Since younger alluvial and colluvial deposits are considered to have a low paleontological sensitivity, monitoring of excavation activities in this unit will be conducted on a part-time basis to ensure that no underlying sensitive unites are being impacted.
2. A qualified Paleontologist as defined by the SVP Guidelines (2010) will be retained to supervise monitoring of construction excavations and to produce a mitigation plan for the proposed project. Paleontological monitoring will include inspection of exposed rock units during active excavations. The Paleontological Monitor will have authority to temporarily divert grading away from exposed fossils in order to professionally and efficiently recover the fossil specimens and collect associated data. The qualified Paleontologist will prepare monthly progress reports to be filed with Comstock Homes and the lead agency.
3. At each fossil locality, field data forms will be used to record pertinent geologic data, stratigraphic sections will be measured, and appropriate sediment samples collected and processed for analysis.
4. Recovered fossils will be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and curated in a recognized paleontological curation facility. Potential repositories include the Natural History Museum of Los Angeles County and the San Bernardino County Museum.
5. The qualified Paleontologist will prepare a final monitoring and mitigation report to be filed with Comstock Homes , the lead agency, and the repository.

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Appendix A:
Updated Records Search and Literature Review Results

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Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

14 February 2020

FirstCarbon Solutions
250 Commerce, Suite 250
Irvine, CA 92602

Attn: Dana DePietro, Project Manager, Archaeologist

re: Paleontological resources for the proposed Hitch Ranch Project, FirstCarbon Solutions Project # 3183.0006, in the City of Moorpark, Ventura County, project area

Dear Dana:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed Hitch Ranch Project, FirstCarbon Solutions Project # 3183.0006, in the City of Moorpark, Ventura County, project area as outlined on the portion of the Moorpark USGS topographic quadrangle map that J.D. Stewart sent to me via e-mail on 30 January 2020. We do not have any vertebrate fossil localities that lie directly within the proposed project area boundaries, but we do have localities nearby from the same sedimentary deposits that occur at in the proposed project area, either at the surface or at depth.

In the canyons, drainages, and lower-lying portions of the proposed project area there are surficial deposits of younger Quaternary Alluvium. These deposits typically do not contain significant vertebrate fossils in the uppermost layers, but older sedimentary deposits at modest depth may well contain significant fossil vertebrate remains. Our closest locality in these sediments is LACM (CIT) 560, southwest of the proposed project area in one of the canyons on the north side of the Las Posas Hills on the south side of Little Simi Valley. A specimen of a fossil horse, *Equus*, was recovered from LACM (CIT) 560.

The more elevated terrain in the proposed project area has exposures of the Plio-Pleistocene Saugus Formation. We have numerous fossil vertebrate localities in the Saugus Formation, primarily

to the east and northeast of the proposed project area, but our closest locality is LACM (CIT) 585, southwest of the proposed project area on the south side of the Las Posas Hills, further southwest of locality LACM (CIT) 560 mentioned above. An specimen of undetermined mastodon, Mammutidae, was recovered from LACM (CIT) 585.

Shallow excavations in the uppermost layers of soil and younger Quaternary Alluvium in the lower lying terrain of the proposed project area are unlikely to encounter significant fossil vertebrate remains. Deeper excavations that extend down into older sedimentary deposits, and any excavations in the Saugus Formation exposed in the hills of the proposed project area, however, may well encounter significant fossil vertebrate remains. Any substantial excavations in the proposed project area, therefore, should be closely monitored to quickly and professionally collect any specimens without impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

DRAFT REPORT
PALEONTOGICAL RESOURCE IMPACT MITIGATION MOORPARK HIGHLANDS PROJECT TRACT NO. 5045 CITY OF MOORPARK VENTURA COUNTY, CALIFORNIA

Prepared for:

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January 2007

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SECTION 1.0 – EXECUTIVE SUMMARY

Paleontological resource mitigation work was conducted during grading associated with the development of an approximately 800-acre parcel of the Moorpark Highlands project for Pardee Homes, in the city of Moorpark, Ventura County, California. This mitigation work included construction monitoring, fossil salvage, laboratory preparation of salvage specimens, curation of prepared specimens, and storage of curated specimens.

This final report summarizes the work performed under this mitigation program.

Earthmoving activities on the subject property were monitored from July, 2004 to September, 2005 and exposed marine and nonmarine Pliocene and Pleistocene age sedimentary rocks to the Pico Formation, the Saugus Formation and Older alluvium. The underlying Plio-Pleistocene age marine of the Pico Formation and Pleistocene age nonmarine rocks of the Saugus Formation and Older alluvium were well exposed as construction activities unearthed a substantial portion of these units in what is mapped as the Moorpark Anticline (Dibblee, 1992). Here the Pico and Saugus formations were dominated by yellow to brown medium and fine-grained, poorly consolidated sandstones, sandy siltstones and claystones with lesser interbedded graded sequences of coarser clastics including coarse sandstones and conglomeratic sandstones. Coarse clasts were observed to be primarily re-worked from the Modelo Formation with some granitic and metamorphic clasts and fragments of marine invertebrates in the nonmarine Saugus Formation. An angular unconformity was documented between the Pico Formation and the overlying Saugus Formation. Disconformably overlying the Saugus Formation a fairly thick sequence of nonmarine Older Alluvium was present that consisted of friable sands and silty sandstones and claystones. The Saugus Formation and the Older Alluvium appeared to have well-developed brown silty claystone paleosols. A majority of the project was located on the southern portion of the anticline bounded on the east by Spring Road. Significant marine invertebrate fossils were collected from the Pico Formation and vertebrate fossils were recovered from the deposits of the Saugus Formation, and poorly preserved unidentifiable bone was observed in the deposits of the overlying Older Alluvium on this project.

Two significant fossil localities were collected on the Moorpark Highlands project. A sample of marine invertebrates was recovered during the early phase of the development of the project from what is considered to be the Pico Formation on this project. A portion of a mastodon skeleton including limb elements, parts of the left fore foot, vertebrate and ribs was collected near Spring Road. Nearby, a separate occurrence of mastodon tusks, were recovered from near Spring Road in July of 2005 just below the contact with the Older Alluvium.

The Saugus Formation has some nomenclature problems associated with the type section near the city of Saugus. The most recent published work by Stevens (1985), Groves and Squires (1988) and Groves (1991) include the underlying marine deposits that have been previously referred to such units as the Pico Formation among others within the Saugus Formation. More recently Squires, Groves and Smith (In Press) have identified the lower marine unit as the Pico Formation and the overlying non-marine deposits as the Saugus Formation. This approach has been used in this report as it follows earlier description and interpretation of these rock units and conforms to the conventional methodology utilized for recognizing lithologic rock units. Groves (1991) provides an excellent review of the nomenclatorial problems surrounding the use of the Saugus Formation. Unfortunately, the author of this report was not present during a majority (98%) of the grading, so the following description of the Pico Formation and some of the Saugus Formation and its depositional and structural features relative to this project are borrowed from the Geotechnical work provided by Geolabs-Westlake Village, for the Moorpark Highlands project, Ventura County, California. There is a reference in the information provided by Geolabs indicating the presence of an angular unconformity within the “Saugus Formation” observed by staff Geologists of Geolabs (2004, 2005) and a Geotechnical Report provided by Pacific Materials Laboratory, Inc. (1997). This is significant as stratigraphic and paleontological work in the last 20 years on the “Saugus Formation” has indicated that there is an unconformity within the “Saugus Formation” where studied elsewhere in Los Angeles and Ventura counties. The rocks below the angular unconformity are here referred to the Pico Formation following Squires, Groves and Smith (In Press) and are, in general,

marine and contain a late Pliocene-early Pleistocene marine to brackish-water invertebrate fauna. Above this unconformity, the rocks of the Saugus Formation are non-marine and do locally contain terrestrial vertebrates. The fossil localities collected on this project and discussed in this report are from a geographic area that prior to this report has no known reported fossils recovered from either the Pico or Saugus formations. The Older Alluvium overlying the Saugus Formation on the Moorpark Highlands property was observed to contain terrestrial mammal bone, but unfortunately, the bone was too poorly preserved to be identifiable. It should be noted, that the Older Alluvium directly overlying the mastodon site appeared to be conformably deposited on a weathered surface of the Saugus Formation and therefore apparently deposited prior to the deformation that produced the Moorpark Anticline. However, Pacific Materials Laboratory, Inc. (1997) indicates that this contact is a disconformity indicating that there may be a significant interval of time missing, but that the deposition of the overlying Older Alluvium was consistent with that of the underlying Saugus Formation.

The marine invertebrate fauna was recovered in the southern portion of the project from olive-gray silty sandstones and a gray fine-gray sandstone in marine deposits of the Pico Formation. Groves (1991) lists 106 mega-invertebrate taxa recovered from the lower Saugus Formation, here recognized as the Pico Formation and indicates that no Pliocene taxa occur above the unconformity in the Saugus Formation in the Santa Susana Mountains of Los Angeles and Ventura counties. Squires (1991) indicates that marine microfossils recovered from above the unconformity in places contains Pleistocene taxa, but in most places, the Saugus Formation is a nonmarine rock unit. At the Moorpark Highlands project an angular unconformity exists between the marine shell-bearing unit here referred to the Pico Formation and the overlying nonmarine deposits of the Saugus Formation. The marine invertebrate and vertebrate fossils collected from the Pico Formation at Moorpark Highlands represent a shallow estuarine environment and the following mega-invertebrates, micro-fossils, and vertebrates were recovered from these rocks (see Table 1, Attachments A, B, C,).

The terrestrial vertebrate fossils recovered from the Moorpark Highlands project were collected from the northwestern portion of the site, just east of Spring Road. These fossils consist of two tusk fragments and a portion of the forequarters of a mastodon *Mammut americanum*. The diagnostic elements of the right front foot including the unciform and 4 other foot elements provided sufficient material to identify this primitive elephant as *Mammut.* Also thoracic vertebrae of a horse *Equus* were collected at this site. The two tusks were collected a short distance from the postcranial material at the same elevation, but are not part of the same individual. This local area appears to be part of a landslide that could had deformed the sediments enough to have juxtaposed the tusks from one individual within a short distance (approximately 100 feet) from the skeletal material of another individual. Nearby at another site, the lower jaw of a horse referred to *Equus scotti* was collected (Table 2)

Table 1

Preliminary composite fossil faunal list from the Pico Formation, Pardee Homes Moorpark Highlands Project, Spring Street and Walnut Canyon Road, Moorpark, Ventura County, California. Foraminifera and Ostracods identified by Micropaleo Consultants, Molluscan identifications by N. Scott Rugh and Lindsey Groves, Vertebrate identification by Mark A. Roeder and Richard W. Huddleston

Phylum	Class	Genus, Species	Common Name	Counts/Abundance
SARCOMASTIGOPHORA			**forams**	
		**Cribroelphidium incertum*		c/f
		**Cribroelphidium* cf. *C. hughsi*		a/n
		**Cribroelphidim* ssp.		n/r
		**Nonion (Pseudononion) auriculum*		r/r
ARTHROPODA	OSTRACODA		**ostracods**	
		**Cyprideis beaconensis*		f/c
		**Cythere maia*		vr/n
		**Cytheromorpha* sp.		vr/n.
		**Perissoscytheridae*		r/f
		**Potamocypris smaragdina*		vf/n
		**Puriana horrida*		r/f
		**Xestoleberis* cf. *X. hopkinsi*		f/c
MOLLUSCA	BIVALVIA		**clams**	
		Trachycardium quadrigenarium	giant Pacific cockle	5
		Clinocardium sp.	cockle	2
		cf. *Argopecten* sp.	bay scallop	2
		Spisula sp. cf. *S. dolabriformis*	surf clam	1
		Macoma inquinata	Irus macoma	746
		Macoma nasuta	bent-nosed macoma	8
		Macoma secta	white sand macoma	8
		Macoma sp.	macoma	3
		Sanguinolaria nuttalii	purple clam	16
		**Chione* sp.	chione	1
		**Mysella* sp.		1
		**Nutallia* sp.		8
		Tagulus subteres	jack knife clam	6
		cf. *Tagelus* sp.	jack knife clam	6
		Mya sp. Cf. M. arenaria	soft-shell clam	51
		**Nutricola* sp		116

Table 1 (continued)
Preliminary composite fossil faunal list from the Pico Formation, Pardee Homes Moorpark Highlands Project, Spring Street and Walnut Canyon Road, Moorpark, Ventura County, California. Foraminifera and Ostracods identified by Micropaleo Consultants, Molluscan identifications by N. Scott Rugh and Lindsey Groves, Vertebrate identification by Mark A. Roeder and Richard W. Huddleston

Phylum	Class	Genus, Species	Common Name	Counts/Abundance
	GASTROPODA		**snails**	
		Olivella bipicata	purple olive	7
		**Olivella* sp.		3
		Nassarius sp.	mud nassa	2
		Littorina plena	periwinkle	1
		**Littorinid*	periwinkle	3
		**Amnicola longinqua*	freshwater snail	225
		**Epitonium* cf.*E. tinctum (*Carpenter, 1864*)* sp.		1
		**Acteocina culcitella* (Gould, 1853)		1
		**Conus* sp.	cone	1
	ECHINODERMATA		sand dollar, starfish, sea urchins	
		**Dendraster* sp.	sand dollar	1
VERTEBRATA	PISCES		**bony fish**	
		*Gobiidae A	goby	6
		*Gobiidae B	goby	3
		*Gobiidae C	goby	1
		*Gobiidae D	goby	4
		*Cottidae?	sculpin	1
		**Icelinus* sp.	sculpin	1
		**Leptocottus armatus*	staghorn sculpin	1
		**Embiotocidae*	surfperch	1
		**Gasterosteus aculeatus*	threespine stickleback	1
	CHONDRICHTHYES		**sharks and rays**	
		**Myliobatis* cf. *M. californica*	bat stingray	2
		**Triakidae*	leopard shark family	1

*** recovered by Chambers Group staff**
abundance code for ostracods and foraminifera from two sediment samples
a=adundant, c=common, f=few, n=none, r=rare, vr=very rare

Table 2
Preliminary composite fossil faunal list from the Saugus Formation, Pardee Homes Moorpark Highlands Project, Spring Street and Walnut Canyon Road, Moorpark, Ventura County, California, fossil mammal identifications by Dr. Hugh Wagner Museum)

Phylum	Class	Genus, Species	Common Name
			mammals
VERTEBRATA	PERISSODACTYLA	*Equus* sp.	extinct horse
		Equus scotti	extinct horse
	PROBOSIDIA	*Mammut* sp.	extinct mastodon

SECTION 2.0 – INTRODUCTION

During earthmoving activities for the housing development for the Moorpark Highlands Project in the city Moorpark, Ventura County Chambers Group completed a paleontological resource mitigation program. (Figures 1 and 2). The parcel consisted of approximately 800 acres north of the city of Moorpark in Little Simi Valley several miles northeast of Moorpark and State Highway 118. The Moorpark Highlands project occurs on the southern limb of the Moorpark Anticline as mapped by Dibblee (1992) on eastern margin of the Moorpark 7.5 Minute Quadrangle. The paleontological resource management program undertaken by Chambers Group was developed to specifically comply with the conditions and regulations of Ventura County and the City of Moorpark regarding the mitigation of paleontological resources. Compliance was completed by identifying the underlying rock units or formations if formally designated, with relative potential for containing fossil remains that could be disturbed during earthmoving activities. Measures were generated to mitigate the disturbance by recovering scientifically important fossil remains and associated geologic data and preserving them in a public museum, where they are available for future study by qualified scientists. During construction from May of 2004 to September of 2005, the field mitigation program was implemented. The specimens have since been cleaned, sorted, and analyzed, and were recently curated into the collections of the Museum of Natural History, Los Angeles County, California. This report describes the methods and results of the paleontological mitigation program. See attachments (D, E, F, G) for specific data regarding fossil collections.

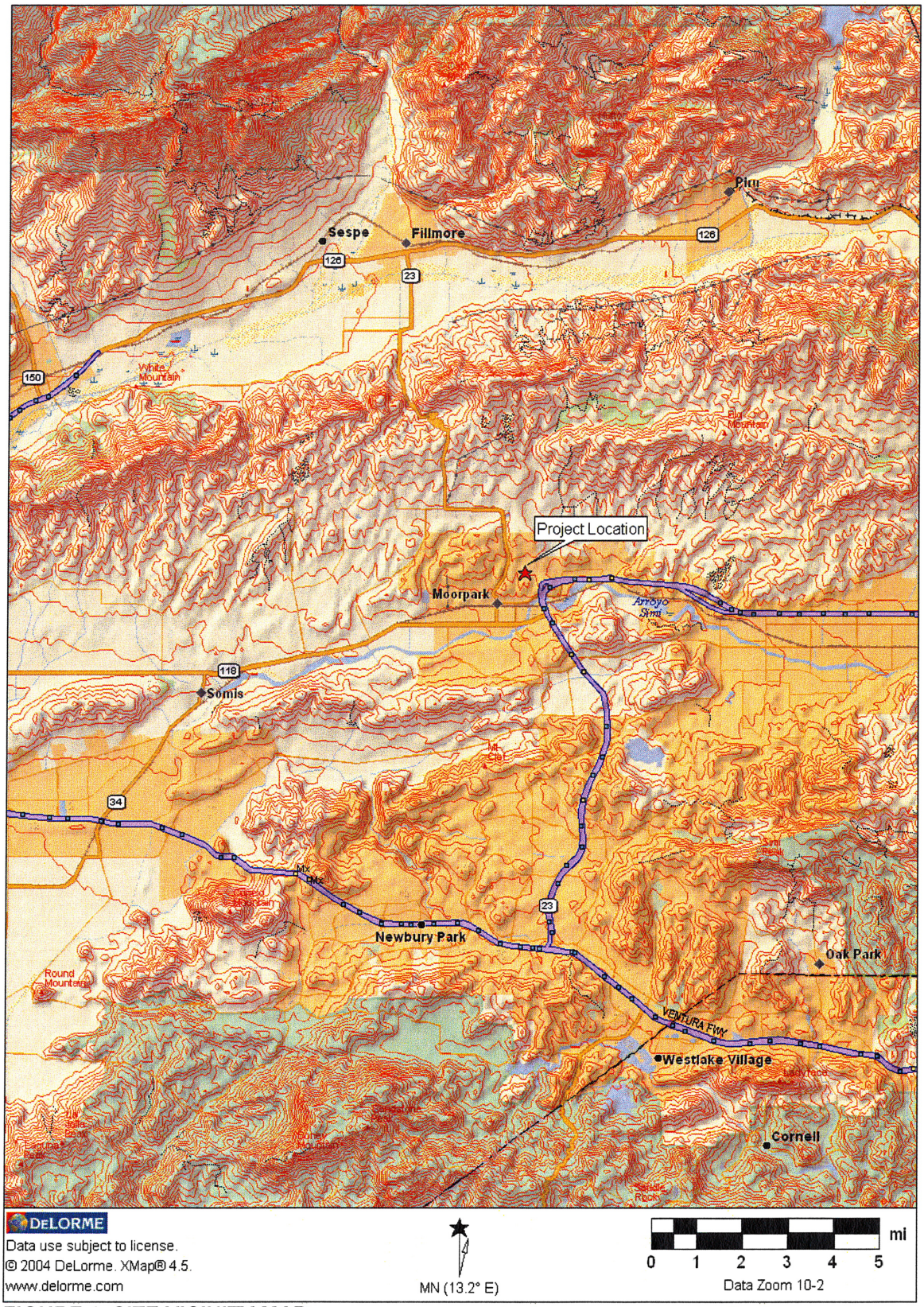


FIGURE 1. SITE VICINITY MAP

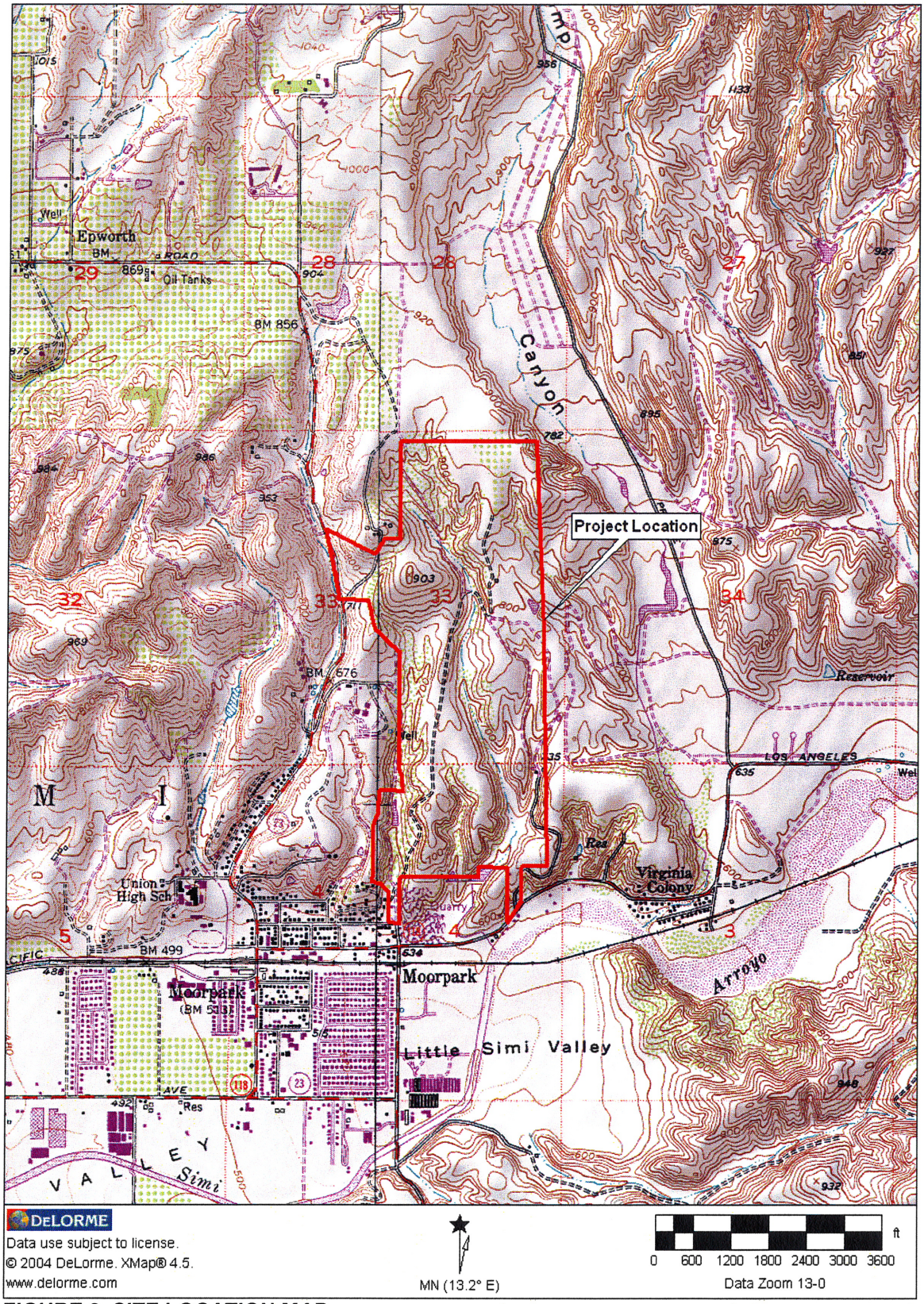


FIGURE 2. SITE LOCATION MAP

SECTION 3.0 – METHODS

The specific mitigation procedures were implemented in the paleontological resource management program during earthmoving activities between May 2004 and September 2005. In the sampling plan all sedimentary rock units to be impacted by earthmoving activities related to the construction of house pads and streets were evaluated for their ability to yield significant fossils. As a result a level of paleontological sensitivity was applied to each rock unit and where this rock unit was present on the project. Specific mitigation efforts were applied to the rock units that had a potential for producing significant fossils. During earthmoving activities in 2004 and 2005 paleontological resource mitigation was performed and consisted of examining fresh cuts and following equipment to locate exposed fossil resources.

3.1 PERSONNEL

The following individuals participated in the mitigation program for this project. Judy McKeehan of Chambers Group supervised all the environmental disciplines on this project. Initially, archaeological and paleontological monitoring of earthmoving activities was conducted by personnel of subcontractor, ArchaeoPaleo Resource Management, Inc. (APRMI) from May 2004 to July 2005. The monitors for APRMI were M. Jean Black, Kristin E. Vowels, and Diane Ward. Later paleontological monitoring was conducted by Chambers Group staff from July to September 2005. The monitors were Trevor J. Lindsay, Mark A. Roeder and David A. Alexander. Salvage activities related to recovering a partial mastodon in the Saugus Formation included Dr. Hugh M Wagner, Mark A. Roeder, Dave A. Alexander, Gino Calvano, Darryl J. Dang Trevor J. Lindsay and Susan Underbrink. Fossil preparation was undertaken by Maureen Walsh and Dave Alexander. Mark Roeder and Hugh Wagner provided supervision for field and laboratory activities. The report was written Dr. Hugh M. Wagner.

3.2 ACKNOWLEDGEMENTS

The personnel of the Pardee Homes and Hewitt & McGuire, LLP who helped to implemented and funded the paleontological mitigation activities for this project. Field geologists included Kristina Mohos and office personnel with Geolabs-WestLake Village also provided important field and geotechnical data utilized in this report. The following individuals and organizations provided professional evaluations of these disciplines: microfossils-Micropaleo Consultants, Inc., fossil invertebrates- N. Scott Rugh and Lindsey Groves; fossil vertebrates- Hugh M. Wagner, Mark A. Roeder, Richard W. Huddleston.

SECTION 4.0 – PALEONTOLOGICAL UNITS AND RESULTS

Significant fossils consisting of Pliocene marine invertebrate and vertebrate fossils were encountered and recovered from fossiliferous rocks of the Pico Formation during earthmoving activities Marine invertebrates were collected from two shell beds. These invertebrate fossils consisted of 38 taxa of mega and micro invertebrates, 11 kinds of micro-fossils, and 11 vertebrates (Table 1) characteristic of an estuarine environment according to N. Scott Rugh (Attachment A), Micro Paleo Consultants Inc. (Attachment B) and Finger (Attachment C). Also terrestrial Pleistocene vertebrate fossils were found and collected from fossiliferous rocks of the Saugus Formation during monitoring of earthmoving activities. Nonmarine vertebrate fossils consisting of possibly two individuals of the American mastodon *Mammut americanum* (Figures 4 and 5) and a lower jaw of a horse *Equus scotti* were recovered from middle Pleistocene age was found (Irvingtonian Land Mammal Age) deposits of the Saugus Formation (Table 2). These are the first known reported fossils from the Saugus Formation in this region of Ventura County.

4.1 PLIOCENE MARINE FORMATION-PICO FORMATION (TP)

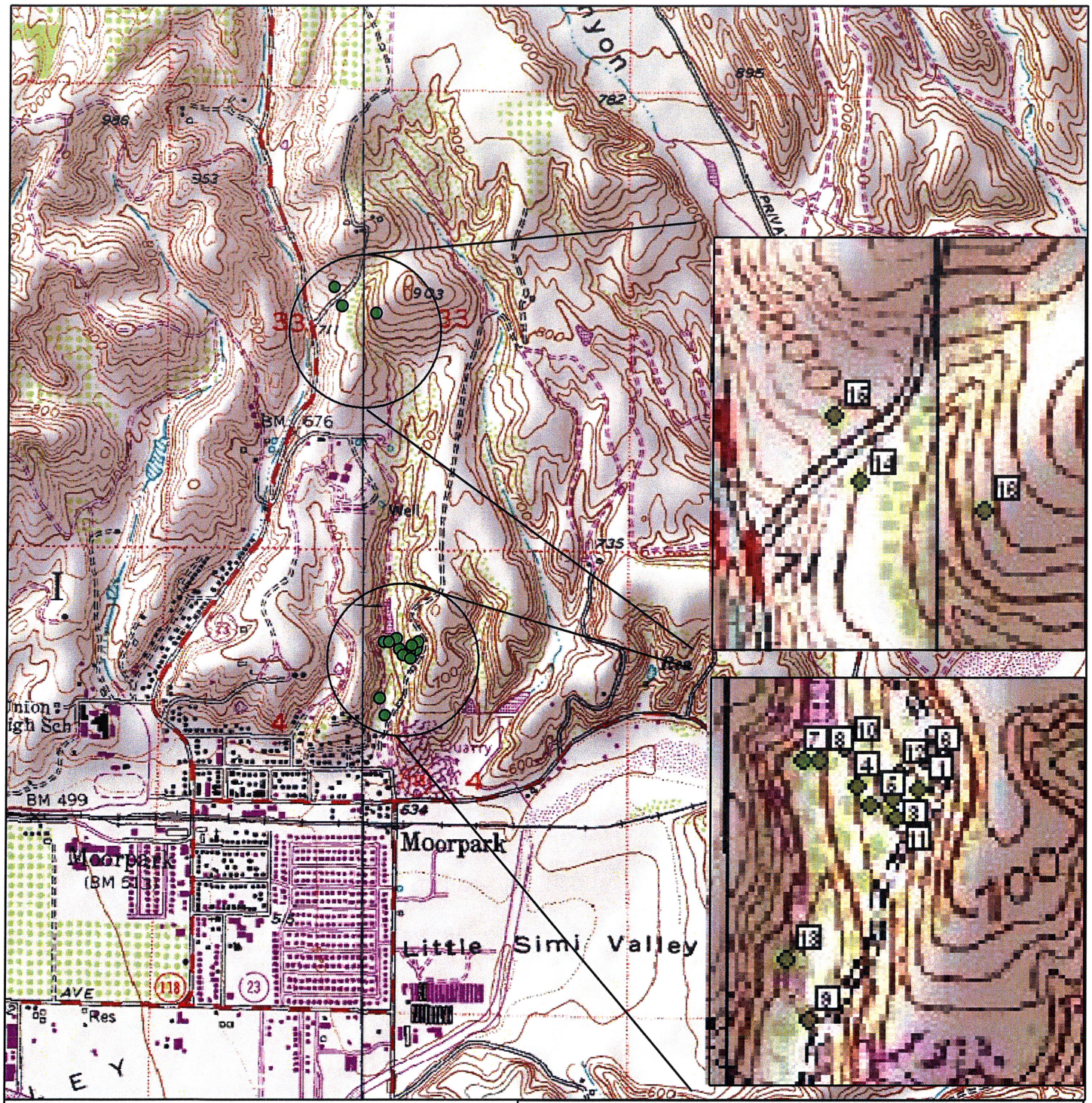
The Pico Formation as recognized in this report is a nearshore marine to estuarine unit known to be very fossiliferous in some regions of Los Angeles and Ventura counties. This lower unit yielded mega-invertebrate fossils that have been discussed and described in the literature since Hershey first named the "Saugus division" in 1902 for rocks near the city of Saugus that were nonmarine In 1902 Hershey named the "Saugus division" for a nonmarine rock unit designating its type section as alluvial deposits exposed in railroad cuts near town of Saugus. At the same time Hershey also described a "Soledad division" underlying the "Saugus division" that contained abundant marine invertebrate fossils. Expanding similar appearing rocks into Los Angeles and Ventura counties Kew (1924) formally named the Saugus Formation with a lower marine unit that intergraded with a nonmarine unit of the type Saugus Formation. Subsequently, the Saugus Formation has been subjected to a progression of re-evaluations of the name, lithologic content and paleontology by such authors as Woodring (1930), Oakshott (1958), Winterer and Durham (1962) Saul (1975, 1979), Squires and White (1983), White (1983), White (1983, 1985) Groves and Squires (1988) and Squires, Groves, and Smith, (In press). In this report, the lower Plio-Pleistocene marine unit is referred to the Pico Formation following Squires, Groves and Smith (In Press) as it contains the same invertebrate assemblage as the "Soledad division" of Hershey (1902).

4.2 PLEISTOCENE NONMARINE FORMATION – SAUGUS FORMATION (QTS)

The Saugus Formation as recognized in this report follows the nomenclature suggested by Squires, Groves, and Smith (In press) and consists of the non-marine deposits unconformably overlying the Pico Formation. The purpose of this report is to provide the results of the paleontological mitigation of the Moorpark Highlands project (Tract 5045) and uses the most recent work of Givens (1991) and Squires, Givens and Smith (In press) and data provided by Geolabs-Westlake Village.

The Saugus Formation at Moorpark Highlands consists of a nonmarine rock unit that characteristically consists of reddish-brown to yellowish-brown siltstones, silty sandstones, sandstones that appear to coarsen up section into some bedded, coarse pebble sandstones containing clasts of igneous, metamorphic and pebbles of reworked Modelo and Saugus formation.

The Saugus Formation is usually always a nonmarine deposit consisting of alluvial fan and other nonmarine facies as it appears in its type area near the city of Saugus in Los Angeles County. At Moorpark Highlands this is also the case. An angular unconformity exists between the underlying marine Pico Formation (Pacific Materials Laboratory, Inc., 1997) and the overlying Saugus Formation. The presence of an angular unconformity between marine and nonmarine rocks usually indicates not only a change in environment of deposition, but also an alteration in the orientation of the land surface and most probably a significant temporal hiatus in deposition. The nonmarine Saugus Formation at Moorpark Highlands consists of brown to yellowish brown sandstones with some interbedded light gray, friable, fine-grained,



Location	LACMIP*	Location	LACM**
1	17814	14	
2	17815	15	
3	17816	16	
4	17817		
5	17818		
6	17819		
7	17820		
10	17821		
9	17822		
11	17823		
12	17824		
8	17825		
13	17826		

N
W E
S

Feet
0 700 1,400 2,800

Fossil Locality Plots

* Invertebrate Paleontology Section Natural History Museum of Los Angelos County
** Vertebrate Paleontology Section Natural History Museum of Los Angelos County

Project Location Map with Fossil Locality Plots Figure 3

Chambers Group

SCALE:

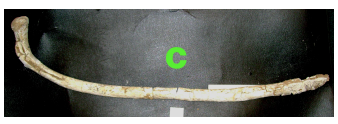
1” = 4” INCHES

LEGEND:

- A = TOE BONE 12 X 5 CM
- B = FEMUR 79 X 13 CM
- C = SMALL BONE
- D = RIB - NOT PULLED
- B2 B1 = RIB 70 CM LONG
- E = RIB 70 CM LONG
- F = FRAGMENT
- G = TOE
- H = TOE
- I = TOE? VERTICAL?
- J = RIB 70 CM
- K = RIB 24 CM
- L = TOE ?
- M = VERTICAL
- N = VERTICAL JACKET
- O = FLOAT - RIBS
- P = FLOAT
- Q = FLOAT
- R = FLOAT
- S = FLOAT
- T = FLOAT
- U = FRAGMENT OF BIG BONE

N



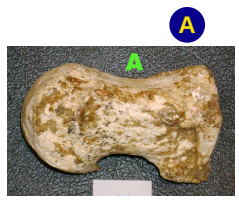


C



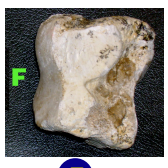
D

A





G



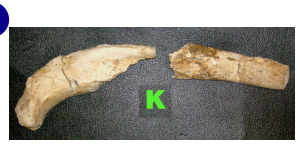
F

E

H

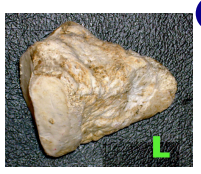


K



B

L



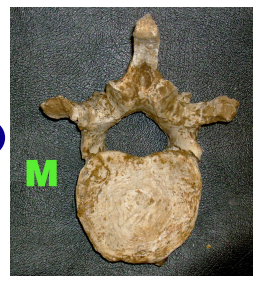
B1



J

B2

M



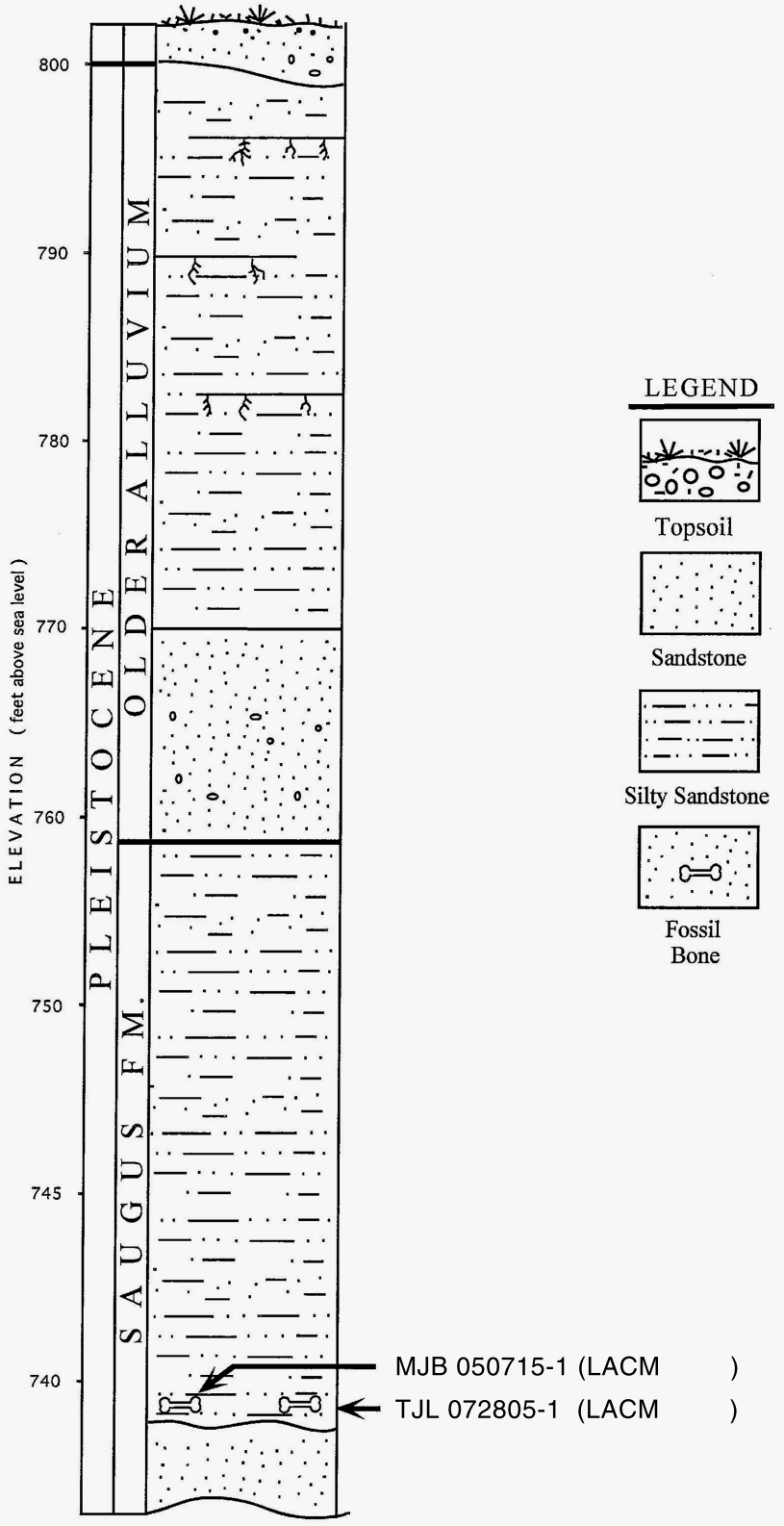


Figure 5 Strategic Section Measure at Mastodon Site Field No. MJB 050715-1 (LACM.....)

cross-bedded, fluvial appearing sandstones. Bones of two individuals of mastodons were collected from the northwest portion of the project at an elevation of 739 and 740 feet, very close to the contact with the overlying Older Alluvium. At one of the mastodon localities the contact between the Saugus Formation and the Older Alluvium (Qoal1 of Pacific Materials Laboratory, Inc. (1997) was approximately 15 feet above the bone bearing horizon in the Saugus Formation. At this location conformably overlying the consolidated concretionary sandstones of the Saugus Formation was a 12 feet thick bed of Older Alluvium that consisted of white to light gray, friable medium- to fine-grained sand with rounded pebbles from some arkosic source and reworked rounded claystones pebbles of the Modelo Formation (Figure X). Overlying the friable light sands was a moderate to poorly consolidated reddish-brown, massive sandy siltstone that contained weekly calcified small rootcasts. This moderately consolidated, weakly bedded, sandy siltstone persisted relatively uniformly for a thickness of 40 vertical feet where it became covered with vegetation. Rare small poorly developed calcareous concretions were observed in the upper portion of this unit.

The Saugus Formation at the mastodon locality was a reddish-brown, well sorted, consolidated silty sandstone that contained abundant off-white, hard, calcareous concretions. The deposits of the Saugus Formation were significantly more lithified than those of the overlying Older Alluvium. Directly underlying the fossil-bearing reddish-brown sandstone was a lighter colored, fine-grained, brown to gray sandstone. The bone was conspicuous because it was white with dark manganese staining and was in a tabular horizon with an orientation of N75W dipping close to 20 degrees to the west. The bone-bearing bed was carefully excavated using rubber-tired equipment with blades. The concentration of bone diminished to zero to the southwest. The major concentration of bone was to the northeast and two small proboscidean tusks that belonged to a different mastodon were collected 100 feet to the northwest at an elevation of 740 feet. The following elements of the left forefoot of the mastodon were identified: left magnum, left trapezoid, left metacarpal II, partial left scaphoid and a fragment of metacarpal V. Other elements of this mastodon consisting of ribs, vertebrae and on a partial tibia were also recovered. (Figures 4 and 5)

4.3 OLDER ALLUVIUM (QAO, QC, QOA)

Older Alluvium is not mapped on either Jennings and Strand (1969) or Dibblee (1992) in this region of Moorpark on the Moorpark Anticline. Subsequent to the work by Pacific Materials Laboratory, Inc. (1997) in response to a seismic study of the Moorpark Highlands Parcel, they recognized three distinct deposits younger than the upper Saugus Formation in this region that they assigned these to the Older Alluvium. These units are sometimes incised into the underlying Saugus Formation requiring PML, Inc. to slightly revise the upper boundary between the Saugus Formation and the Older Alluvium. Pacific Materials Laboratory, Inc. (1997) recognizes three distinct deposits of Older Alluvium deposited overlying the upper Saugus Formation. All three units appear to conformably overlie the Saugus Formation. These three units are defined as: Qoal1, the oldest unit, Qoal2 second oldest unit, and the Qoal3 as the youngest unit. All three units were deposited on sediments of the upper Saugus Formation, though apparently not in direct superposition as paleosols of different color and development occur between Qoal1 and Qoal2 on the Saugus Formation indicating different intervals of time of exposure of the upper surface of the Saugus Formation prior to deposition of the overlying unit of Older Alluvium. Qoal3 closely resembles Qoal2 and appears to lies directly on this unit and exhibits evidence of the least amount of deformation as the formation of the Moorpark Anticline developed and subsequently has been incised and eroded resulting in the development alluvial fans and terrace surfaces.

PLM, Inc. (1997) utilizing structural data based on evidence generated from trench borings and well holes suggest that the age of the oldest deposit of Older Alluvium (Qaol1) is probably greater than 750,000 ka, Their estimate of the age of Qoal2 is less than 50,000ka and the Qoal3 at less than 11,000 ka. They estimate the thickness of the two older units of Older Alluvium to be between 90 and 120 feet. The age of the deposits of the upper Saugus Formation appear to greater the 750,000 years based upon the structural data of Pacific Materials Laboratory. This would be late Irvingtonian in age.

Vertebrate fossils have not been previously reported from deposits mapped as Older alluvium in this Moorpark region of Ventura County during earth moving activities. Some specimens of vertebrate fossils were observed in the deposits mapped as Older Alluvium on the Moorpark Highlands Project; however,

unfortunately on this project they were very poorly preserved unidentifiable fossil bone and not well enough preserved to allow for identification. An age determination on these deposits of Older Alluvium would have been nice as it would have provided an opportunity to possibly determine the interval of time missing between the disconformity between the Older Alluvium and the Saugus Formation at this location where one could visibly discriminate the two different units by their lithology.

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ATTACHMENT A – MARINE MOLLUSCAN IDENTIFICATIONS AND REPORT BY N. SCOTT RUGH

Interpretation of Mollusk Species From Moorpark Highlands Project
Recovered From the Pico Formation

An analysis of the mollusk species found in the Moorpark Highlands Project, and their use in inferring the paleoenvironment is based on the assumption that all field numbers represent one single locality. For the most part this assumption should be sound. Mark Roeder informed me that the specimens generally came from the same fossil horizon. And in my examination of the specimens, I noted that the specimens were either preserved with a weathered original shell material, or as casts and molds in a mostly concreted tan-green, or brown, very fine-grained sandstone, or in occasional samples as a soft mudstone that I considered to be part of the same environment. Some of the specimens recovered however suggested a possibly somewhat different local depositional environment, these being the samples dominated by *Nutricola* sp. and *Amnicola* sp.

I consider the fossil material to be very significant for at least two reasons: 1.) The presence of a dominant *Macoma inquinata/Mya arenaria* bivalve fauna association that I have observed in two other formations, one in the San Jaoquin Formation at the Kettleman Hills, which is an Upper San Diego Formation equivalent (M. Roeder, pers. comm.), and in the Lower San Diego Formation, Tsd 2, from the Otay Ranch development in the city of Chula Vista in San Diego. And 2.) The observation of a specimen of *Littorina plena*, which may be a unique fossil record, and could have at least anectodal value in the study of the orgins of *Littorina* species in the eastern Pacific.

The two dominanat species, *Macoma inquinata* (701 specimens recovered) and *Mya arenaria* (64 specimens recovered), seems to indicate an enclosed bay, in the upestuary portion (farthest from the entrance to the ocean) where sediments are fine grained and water motion is greatly reduced. This is suggested by the observation of *Mya arenaria* in the San Francisco Bay today, where it has been introduced from the east coast of the U.S. This species is considered to have gone extinct at least several tens of thousand years ago. Records of *Mya* are known from the Miocene and the Pliocene, such as the rich fossil record in the *Mya* beds of the San Joaquin Formation. So living Mya in the San Francisco Bay are not considered to be a native species. However, there is a very similar native species found in the deep water off the Pacific Northwest. This species is *Mya truncata*, and resembles it's east coast relative, except that it is distinctly truncated at one end. The other species in the bivalve association is *Macoma inquinata*. The name of this species has reverted back to it's original name, as it was once changed to *Macoma irus* in recent decades. This species is also a calm water estuary species. I have observed specimens of *Macoma inquinata* washed up on beaches of the harbor behind the Half Moon Bay breakwater in northern California, along the sheltered shores of the eastern edge of Humboldt Bay, and from the Puget Sound. I have never seen this species south of Half Moon Bay, so it might be inferred that it's presence in the Pico Formation from the Moorpark Highlands project indicates a northern climate. However, I believe it was a southern climate, because of the presence of the southern species *Tagelus subteres*, and *Trachycardium quadrigenarium*. Also, where the *Macoma inquinata/Mya arenaria* association was observed in the older Lower San Diego Formation from the Otay Ranch project, the species *Macoma inquinata* (a "northern" species) was present with *Bulla gouldiana* (a southern species). So it would appear that the *Macoma inquinata* found in Moorpark Highlands, the Kettleman Hills, and at Otay Ranch were warm water ancestors of the now cold water *Macoma inquinata*.

The *Macoma* found at the Kettleman Hills are morphologically different than those found at Otay Ranch and Moorpark Highlands. While the last two are fairly similar to modern *Macoma inquinata*, those found at the Kettleman Hills are more rounded in a lateral view of the pair or valve, and the pairs are much less inflated from Kettleman Hills. These specimens are identified as *Macoma affinis* by Woodring, but I consider them to be a very close relative to *Macoma inquinata*. Since the San Joaquin Formation is considered to be relatively younger, then it may be a subspecies or species that diverged from the ancestral *M. inquinata*. Between the two dominant bivalve species, Macoma sp. and Mya arenaria, it is interesting to observe the relative dominance of each at each of the three locations where I have observed this association. At Kettleman Hills, the proportion of the two species seems to be nearly equal, or perhaps *Mya arenaria* is the dominant species. At the Moorpark Highlands and Otay Ranch locations it is the other way around. In both cases, *Macoma inquinata* is much more dominant, by a factor of about 5 in both cases. I believe that *Macoma inquinata* lives in a more aerated portion of the estuary, and that *Mya arenaria* would have become more dominate in more anoxic, muddy portions of the estuary, most likely to the exclusion of *Macoma inquinata*. I have not seen a modern example. One would have to find an estuary in the Pacific Northwest where introduced *Mya arenaria* occur together with native *Macoma inquinata*. I only have been able to observe that *Mya arenaria* is very common in some places along the muddy shores of the San Francisco Bay. This led me to hypothesize that the environment represented by the *Mya arenaria* beds was very much like the shores of the modern San Francisco Bay, and that perhaps there was a super bay in central California during the late Pliocene and early Pleistocene. When I observed the specimens from the Moorpark Highlands project, I thought it was possible that this was further evidence of this super bay, perhaps at a different point in time.

The much higher proportion of *Macoma inquinata* than *Mya arenaria* suggests to me that the marine paleoenvironment was nearer to an entrance of a bay. This is supported by the observation of such bivalve species as *Tracycardium quadrigenarium, Clinocardium* sp., *Macoma nasuta, Tagelus subteres*, and *Sanguinolaria nuttalli* (*Nutallia* sp. is a genus equivalent to *Sanguinolaria*), and gastropod species as *Olivella biplicata*, and *Nassarius* sp., which are all found in sandy, well aerated bays, especially near the entrance to the ocean. These species also occur beyond the surf in shallow water along sandy exposed shores. This leads me to modify my hypothesis about the super bay in the lowlands of central California. My assumption was that the bay would have been like the San Francisco Bay, with an entrance near the Golden Gate. But with the presence of the sandy bay and beach species mentioned above, this is not very likely. There would have had to have been an entrance to the super bay near the area of the construction site at Moorpark Highlands.

Finally, additional information is provided by the presence of an adult-sized specimen of *Littorina* I identified as *Littorina plena* (Rugh, 1997). The specimen is characterized by a distinct ridge near the base of the specimen, which is a distinct characteristic of *Littorina plena*. In my Master's Thesis research, I discovered that *Littorina plena* are most common and reach their greatest size within the sheltered waters of bays, especially in the upper estuary where the water is calmest, and often where a source of fresh water, such as a river or creek enters the bay. This observation fits in well with the environment suggested by the bivalve species discussed above. I observed *Littorina plena* in dozens of California bays during research for my thesis, and the largest specimens were always in the back parts of bays, like the specimen I observed in the collection from the Moorpark Highlands Project. I have also observed Littorina from the Lower

San Diego Formation from several project sites in the area of south San Diego Bay. These specimens are generally referred to as *Littorina mariana*. These Littorina, resemble *Littorina scutulata*, the sibling species of *Littorina plena*, except that they often have an umbilicus, a feature that is completely lacking in *Littorina* species all around the world today. Only the sister taxa, *Lacuana* species have an umbilicus. But the lower San Diego species are definitely *Littorina*. Because the *Littorina* species from the Lower San Diego Formation seems to be a primitive species, I believe that it is much older than the *Littorina* I identified from the Moorpark Highlands project. And because the specimen I studied from this project resembles a modern *Littorina plena*, I believe the fossil material from this site must be much more recent than that of the Lower San Diego Formation. I assume the age to be latest Pliocene or early Pliestocene. The recovery of a fragment of *Pecten bellus* in one of the field sites from the overlaying Saugas Formation gives some support to this approximated age. The age of rocks in which Pecten bellus have been found are late Pliocene or early Pleistocene.

Two other mollusk species were so abundant that their presence in the project area must be addressed. These species are *Nutricola* sp. and *Amnicola longinqua* and were obtained from friable sediments. However, neither of these species would appear to have lived in the primary marine paleoenvironment indicated by the other species. The *Nutricola* sp. are a small clam that are very common in deeper water (100 feet or greater), and may not have occurred in the area of the *Macoma inquinata/Mya arenaria* beds. However, they may have occurred in the deeper channel waters of the entrance to the bay. This suggests that the material containing the *Nutricola* may have occurred in a slightly different fossil horizon. The other abundant mollusk is an opposite kind of environmental indicator. The hydobid snail *Amnicola longiqua* would have most likely occured in a brackish water environment, similar to the Tulare Formation found at Kettleman Hills. Again, it does not seem that the material containing this species was part of the environment suggested by most of the other species, found in a mostly concreted material. These other species, prominent in the fossil material I examined, suggest an area in between the entrance of an enclosed estuary, and probably not immediately near a place where a fresh water creek or river entered. For this reason, I also suspect that these abundant small snails could have come from a different fossil layer.

To summarize, the environment suggested by the species of mollusks I examined in mostly concreted sediment was most likely in shallow water, no deeper than 50 to 100 feet, where the water was calm, and near the upper, or inner-most portion of an estuary, but probably not extremely close to where a source of fresh water entered this estuary, as suggested by the relatively low proportion of *Mya arenaria*. This estuary may have been part of a super bay that occurred throughout much of what is now the Central Valley of California. However, the entrance to this super bay was not necessarily limited to the present day Golden Gate, because a number of sandy shore bivalve and gastropod species occurred in the fossil material recovered from the Moorpark Highlands Project, which would not have occurred if there was not a direct connection to the ocean in the area.

N. Scott Rugh 8/31/06

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ATTACHMENT B – FORAMINIFERA ANALYSIS OF TWO SAMPLES BY MICROPALEO CONSULTANTS INC.



CHAMBERS GROUP

MOORPARK HIGHLANDS

CALIFORNIA

2 OUTCROP SAMPLES

FORAMINIFERA

OSTRACOD

REPORT

Interpreted by:

Richard S. Boettcher – (Foraminifera)
Ken Finger – (Ostracoda)

Job No. 26-101 (B2)

August 14, 2006

329 Chapalita Drive ◆ Encinitas, California 92024
(760) 942-6082 ◆ FAX (760) 942-9623 ◆ email: micropaleo@cox.net

RESULTS

1. MJB 041505-1 (Box 4)

Age:	Pliocene to Pleistocene. Pico Formation
Environment:	Marginal Marine to Inner Neritic.
Washed Lithology:	Light brown mudstone.
Fossils:	*Cribroelphidium incertum* (C), *C.* cf. *hughesi* (A), *Nonion (Pseudononion) auriculum* (R), ostracods (A) and shells (A).

2. MJB 041505-1 (Box 3)
Green Bed C-1

Age:	Pliocene to Pleistocene. Pico Formation
Environment:	Marginal Marine to Inner Neritic.
Fossils:	*Cribroelphidium incertum* (Fl), *C.* spp. (R), *Nonion (Pseudononion) auriculum* (R), ostracods (VA) and shells (FT).
Washed Lithology:	No lithology.

Summary

Both samples contain essentially the same fossils: *Cribroelphidium incertum*, *C.* cf. *hughesi*, rare *Nonion (Pseudononion) auriculum*, plus shells and ostracods. This assemblage is not very age indicative other than to say Pliocene to Pleistocene. Typically, shallow water Pico strata are assigned to the Hallian Stage, which is generally placed in the later part of the Pleistocene. However, the Hallian is very poorly constrained and may not be a very reliable zone.

The depositional environment is marginal marine to inner neritic. Water depth was certainly less than 200 feet and may well have been less than 50 feet. The assemblages do not reflect either marsh conditions or a high energy setting. A protected bay/estuary system might best describe the paleoenvironment.

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ATTACHMENT C – OSTRACOD ANALYSIS OF TWO SAMPLES BY KEN FINGER, MICROPALEO CONSULTANTS, INC.

Kenneth L. Finger, Ph.D.
Consulting Paleontologist

August 5, 2006

Re: Analysis of Ostracodes from MJB-041505-1, Chambers Group Job #5448

As per your request, I have examined the two ostracode assemblages (A and B) that you forwarded to me and found that they consist of the following:

Ostracode Species	A (1-3)	B (4)
Cyprideis beaconensis (LeRoy, 1943)	few	common
Cythere maia (Benson, 1959)	very rare	none
Cytheromorpha sp.	very rare	none
Perissoscytheridae sp.	rare	few
Potamocypris smaragdina (Vávra, 1891)	very rare	none
Puriana horrida (Benson & Kaesler, 1963)	rare	few
Xestoleberis cf. *X. hopkinsi* (Skogsberg, 1950)	few	common

In contrast to assemblage A, Assemblage B is richer in numbers and include single specimens of three very rare species.

The ostracode genera present suggest a polyhaline (18-30‰) environment:

Genus	Salinity Tolerance
Cyprideis	meso- to polyhaline, some hyperhaline
Cythere	mesohaline to normal marine
Cytheromorpha	mesohaline to littoral
Perissoscytheridae	meso- to polyhaline
Potamocypris	mostly freshwater, some mesohaline
Puriana	polyhaline to marine
Xestoleberis	polyhaline to littoral, some hyperhaline

The associated forams, mostly *Cribroelphidium* but with some *Pseudononion*, clearly indicate that the polyhaline conditions were due to a marine influence rather than desiccation of a freshwater lake. The apparent lack of size-sorting is due to the absence of strong currents or wave action, and the predominance of complete carapaces in Assemblage B suggests its rapid burial. These brackish-water microfossil associations inhabited a low-energy environment, such as a semi-restricted coastal lagoon. The genus *Cythere* indicates an age not older than Pliocene.

Mailing Address: 18208 Judy Street, Castro Valley, CA 94546
Phone: 510.885.1585; **E-mail:** klfpaleo@comcast.net

ATTACHMENT D – NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY REQUIREMENTS FOR ACCEPTANCE OF THE PARDEE HOMES MOORPARK HIGHLANDS PROJECT PALEONTOLOGIC RESOURCE IMPACT MITIGATION PROGRAM VERTEBRATE FOSSILS

Conditions to be included in any LACM Vertebrate Paleontology Curation Agreement

All localities must be described according the standard format used on the LACM-VP locality form, including a description of the geographic position, lithology, stratigraphy, and depositional environment if known.

All localities must be plotted on standard USGS topographic maps.

All specimens must be fully stabilized and prepared.

All specimens must be designated in such a way as to directly tie them to the localities described above.

All specimens must be identified to the lowest taxonomic level possible.

The collection must be accompanied by copies of any field notes and mitigation or salvage reports.

The collection must be accompanied by a deed-of-gift or letter of transmittal giving free and clear title of the collection to the Natural History Museum of Los Angeles County.

The collection must be accompanied by specimen cabinets, drawers and trays similar to those used by the LACM-VP.

The collection must be accompanied by a curation fee at $10 per locality and $4 per specimen.

The collection must be accompanied by a permanent storage and maintenance fee at a rate of $150 per cubic foot of fully prepared vertebrate fossils.

ATTACHMENT E – NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY REQUIREMENTS FOR ACCEPTANCE OF THE PARDEE HOMES MOORPARK HIGHLAND PROJECT PALEONTOLOGIC RESOURCE IMPACT MITIGATION PROGRAM INVERTEBRATE FOSSILS

17 October 2006

Natural History Museum of Los Angeles County
Department of Invertebrate Paleontology (LACMIP)
900 Exposition Blvd.
Los Angeles, CA 90007

Mark Roeder
Chambers Group, Inc.
17671 Cowan Ave. Suite 100
Irvine, CA 92614

Subject: invertebrate fossil collections
Re: Pardee Homes, Moorpark Highlands, Tract 5045, City of Moorpark, Ventura Co., CA

Dear Mark,

The conditions pertaining to acceptance of the invertebrate fossil collections are presented in the enclosed document. Although an estimate of the amount of storage space required to house the material can be calculated from the tray dimensions given below, the final total storage volume will not be known with certainty until after the specimens have been put into archival-grade containers, arranged in the trays, and placed in the cabinet.

Best regards,
Harry Filkorn

Collections of Invertebrate Fossils resulting from Monitoring of Paleontologic Resources at Construction Sites and Other Excavations

The Natural History Museum of Los Angeles County, Department of Invertebrate Paleontology (LACMIP) agrees to function as a repository for collections of invertebrate fossils made during monitoring of paleontologic resources at construction sites and other excavations, provided that the collection and related data meet the criteria stated herein. Collections will be assessed a storage and maintenance fee of $150.00 per tray space (23.25" x 29.75" x 1.75"h) in a Lane-style museum storage cabinet, in single-spaced configuration. Any labor involved with the curation of the specimens, including re-housing, data entry, labeling, and integration of the specimens into the main collections, will be billed at a rate of $80.00 per hour.

The LACMIP will make every effort to accommodate new collections of invertebrate fossils, but LACMIP also reserves the right to limit the size and number of specimens in incoming collections, particularly in cases when they are perceived to be unnecessarily large or excessively redundant.

A completed Deed of Gift to the Natural History Museum of Los Angeles County, signed by the legal owner of the property or their assigned agent, herein called the Donor, must accompany each incoming collection of invertebrate fossils.

It is essential that the Donor (or their assigned agents) use LACMIP locality numbers and provide accurate and complete locality coordinates and descriptions, maps, and other relevant locality data (see below) for each collection of invertebrate fossils to be placed in the LACMIP collections.

Specimens must be taxonomically classified and identified to the lowest level possible, relatively clean, prepared if necessary, trimmed of excess rock, and individually labeled with the correct LACMIP locality number (see below). Specimens that are too small to be individually labeled must be placed in an appropriate archival-grade container (e.g., vial) that is clearly labeled with the LACMIP locality number. The Donor is responsible for ensuring that new collections are securely packaged and safely delivered to the LACMIP research and collections facility.

All locality and specimen data must be entered in the LACMIP collections database.

The LACMIP Locality data fields and descriptions of their contents are as follows:

LACMIP locality number:
LACMIP locality numbers are assigned to fossil collecting localities by the Collections Manager. Every fossil locality collecting event that is curated in the LACMIP collections is assigned a unique LACMIP number. Note that each specimen curated in the LACMIP collections must be affixed with an archival-grade label that bears its LACMIP locality number. The locality number is to be placed on the specimen by either: 1) using an archival-grade adhesive (e.g., Jade R) to attach a small piece (about 3-4 mm by 10-12 mm) of archival-grade paper that has been pre-printed with the LACMIP locality number; or 2) painting a small, clean area (about 3-4 mm by 10-12 mm) on the specimen with white paint (e.g., automotive touch-up paint works well; however, do not use white-out) and then using a fine-tipped pen with permanent ink (e.g., rapidograph with drawing ink) to hand write the LACMIP locality number on the painted area.

Summary:
The Summary is a very brief, concise description of the geographic position of the collecting locality and ideally it includes any common or popular name used for the area (e.g., Bone bed on Shark Tooth Hill, Kern County, California).

Geography:
The city (or nearest city), county, state, and country of the collecting locality.

Age:
The geologic age of the rocks which yielded the fossils, as placed within the framework of the ages delineated on the geologic time scale of the Geological Society of America (1999). The stated age must be determined and constrained as precisely as possible (e.g., early Steptoean to late Sunwaptan).

Rock unit:
The stratigraphic horizon of the fossil collecting locality, specifically including the member, formation, and group of the fossil bearing unit. Additional information on the precise position of the stratigraphic horizon of the locality (e.g., its height above a particular horizon in a measured section; its relation to a key marker bed; any description of its position in a section; etc.) must be included in the database field provided for the full description of the locality (see below).

Collector:
The name of the fossil collector.

Collection date:
The date the specimens were collected. Only one collection date is entered for each locality.

Collector's field number:
The locality number assigned by the Collector in the field.

Accession number:
A Museum number will be assigned by the Museum Registrar to each incoming collection of fossils that will be accessioned by the Museum.

Other institution number:
Any other locality numbers assigned to the fossil locality by any other institution(s) (e.g., CIT locality 1234).

Position:
The geographic position of a fossil locality is plotted by using at least one, but preferably two, sets of coordinates: 1) latitude and longitude, and 2) township and range.
Latitude and longitude must be determined in degrees, minutes, and seconds, and preferably taken by a modern GPS unit. Alternatively, these coordinates also may be taken from a topographic map grid, provided the name and year or edition of the map also are given.
Section, Township and Range, if the area has been surveyed on the 7.5 minute topographic map, must be determined to the nearest quarter quarter section (e.g., SW 1/4, SW 1/4, section 5, T8S, R35E).

Map citation:
The name, scale, year of publication, and year of edition or photorevision of any map (topographic, geologic, forestry service, etc.) used to plot the position of a fossil locality must be provided along with the above data. This category also must include bibliographic references that contain specific information or maps (e.g., journal articles, field guidebooks, etc.) that were used to plot the position of a fossil locality. Copies, or scanned or digital images, of relevant areas of USGS topographic maps showing the positions of collecting localities must be provided with the locality data.

Description of fossil locality:
This field accommodates any additional information and details that pertain to the fossil collecting locality. This information may include specific details about the position of the fossil

locality (e.g., on south hill side; along ridge crest; in drainage, etc.), the occurrence of fossils at the locality, a list of the taxa collected and their abundance, and comments about the lithology, stratigraphy, geologic structure, diagenesis, taphonomy, and any other significant information.

The information contained in this document is subject to review and revision by the Department of Invertebrate Paleontology and supervising personnel.

ATTACHMENT F – DEED OF GIFT, PARDEE HOMES MOORPARK HIGHLAND, LLC

Deed of Gift

Gift to:

[ ] Natural History Museum of Los Angeles County
[ ] Natural History Museum of Los Angeles County Foundation
900 Exposition Blvd., Los Angeles, CA 90007 Telephone 213.763.3406

Accession No.: _____

Donor Name Pardee Homes, herein called the donor,
Address 10880 Wilshire Blvd., Suite 1900
Los Angeles, CA 90024

hereby irrevocably and unconditionally gives and assigns to the Natural History Museum of Los Angeles County or its Foundation, as indicated above, herein called the DONEE, absolute and unconditional ownership of the following property (including without limitation full powers of management, access, display, conservation and disposition by the DONEE in its sole discretion and in exercise of its general purpose), together with all copyright (if you do not own the copyright, please indicate owner:_____) and other rights associated with said property to which I (we) have title:

Plio-Pleistocene fossils recovered during grading for the Pardee Homes Moorpark Highlands Project, Walnut Canyon and Spring Roads, City of Moorpark, Ventura County, California.

___ Attachments (# of pages___)

I (we) wish that the gift be identified to the public (if on display) and in the records of the Museum as:
Gift of :_____

To the best of my (our) belief, the subject of the gift is free and clear of all encumbrances and restrictions and has not been imported or exported into or from any country contrary to its laws.

The Museum's name(s), logos and marks are the property of the Museum. Donor understands that no reference to the Museum or to the fact that the object is in the Museum's collections may be used in any commercial context, and Donor agrees not to permit or condone any such use without the Museum's prior written permission.

DONOR:
Please sign and return (all copies) to NHMLAC.
Upon acceptance of your gift, a copy of the completed Deed of Gift will be returned to you.

DONEE:
Gift received on behalf of Donee by:
(Please complete upon receiving a signed Deed of Gift and material from the Donor.)

_____ _____
Donor's Signature or Authorized Representative Name & Title (Authorized NHMLAC Curatorial Staff)

Amy Glad - Pardee Homes, Sr. Vice President Governmental Affairs
Authorized Representative's Name & Title NHMLAC Signature

Irvine, CA
Location (City, State) & Date NHMLAC Section & Date

White (Registrar) **Canary** (Section) **Pink** (Donor) 12/98

ATTACHMENT G – FOSSIL SITE RECORD FORMS

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK, VENTURA COUNTY

Paleontologic Site Record

Museum Fossil Site No.: LACMIP 17814	**Field Fossil Site No.:** MJB 05 0415 4/15
Project/Map Fossil Site No.: 1	**Project:** Pardee Homes Moorpark Highland, Tract No. 5045

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Simi Valley West, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969
Township: 2N	**Range:** 19W	**Section:** 4
Latitude: 34° 17.395'N General location	**Longitude:** 118° 52.399'W General location	**Elevations:** 637 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}580$ general location	**m: Northing** $37^{95}690$ North American Datum 1927

Site Description: The fossil site was collected by ArchaeoPaleo Resource Management Inc. and according to M. Jean Black's notes that the invertebrate fossils were found at the SE. side of the job site in Section C-1 East buttress at the far SE. side of the cut. Most of the mainly marine invertebrate fossils were collected in a cut along "new" Spring Road approximately 1250 feet N. and 110 feet E. from southeast corner of existing intersection of Charles Street and Spring Road on Sheet No.36 and 37 of 38 sheets of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by the City (3-4-2005) Engineering Project No. 86.376. Scale one inch = 100 feet and Sheets 23 and 24 of 61 of the Mass Grading, Storm Drain Improvement, and Erosion Control Plans for Tract No. 5045. Plans prepared by RBF (5-17-2004) and approved by the City Engineering (5-18-2004) Project No. 86.376 Scale one inch = 40 feet

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Construction, 10880 Wilshire Blvd., Los Angeles, 90024

Stratigraphy

Formation (Reference): Pico	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** No

Lithology: 2.5 YR 6/3-6/4 light yellowish brown clayey silt

Age: late Pliocene	**Depositional Environment:** estuarine

Collection Information

Collector(s): M. Jean Black

Affiliation, Address, Telephone No.: Archaeo Paleo Resource Management, Inc.(APRMI), 624 Venice Blvd., Venice, CA 90291

Date Collected: 15 April 2005	**Collection Location:** Natural History Museum of Los Angeles County
Photographic Record Available/Location?: No	**Field Notes Available/Location?:** Yes

Fossil Material Collected

Common Name: forams, ostracods, clams, and snails, bony fish, shark	**Class:** Sarcodina, Ostracoda, Bivalvia, Gastropoda, Pisces, Chondrichthyes

Identified By (Affiliation): N. Scott Rugh, San Diego Natural History Museum, Lindsay Groves, Natural History Museum of Los Angeles County, Micro Paleo Consultants, Inc., Mark Roeder, Chambers Group, Inc. (CGI).

Reference:

Remarks: According to Christina Mohos of Geo Labs-Westlake in conversation with Hugh Wagner (2-06-2006), there were two fossil mollusk-bearing horizons roughly ten feet stratigraphically apart that were on the limb of an anticline and the fossil sites climbed in elevation as earthmoving moved to the west on Spring Road. Friable matrix recovered from the preparation of marine invertebrates was water screened by CGI staff through fine mesh sieves to recover foraminifera, ostracods, micro mollusks, fish, and shark. Foraminifera and ostracods submitted to Micropaleo Consultants, Inc for analysis. The field data provided by APRMI was not exact. CGI replotted the locality location based on the elevations and descriptions in M. Jean Black's notes.

Information Compiled By: Mark A. Roeder, Field Supervisor, Paleontology

Affiliation, Address, Telephone No.: Chambers Group, Inc. (CGI), 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

C: data drives job No. 5448 report MJB 05 0415 4 15 LACMIP 17814

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK, VENTURA COUNTY

Paleontologic Site Record

Museum Fossil Site No.: LACMIP 17815	**Field Fossil Site No.:** MJB 05 0415 4/16
Project/Map Fossil Site No.: 2	**Project:** Pardee Homes Moorpark Highland, Tract No. 5045

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Simi Valley West, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969
Township: 2N	**Range:** 19W	**Section:** 4
Latitude: 34° 17.388'N General location	**Longitude:** 118° 52.405'W General location	**Elevations:** 630 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}570$ general location	**m: Northing** $37^{95}680$ North American Datum 1927

Site Description: The fossil site was collected by ArchaeoPaleo Resource Management Inc. and according to M. Jean Black's notes that the invertebrate fossils were found at the SE. side of the job site in Section C-1at east buttress at the SE. side of the cut at the keyway bottom. Most of the mainly marine invertebrate fossils were collected in a cut along "new" Spring Road approximately 1190 feet N. and 110 feet E. from southeast corner of the existing intersection of Charles Street and Spring Road on Sheet No.36 and 37 of 38 sheets of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by the City (3-4-2005) Engineering Project No. 86.376. Scale one inch = 100 feet and Sheets 23 and 24 of 61 of the Mass Grading, Storm Drain Improvement, and Erosion Control Plans for Tract No. 5045. Plans prepared by RBF (5-17-2004) and approved by the City Engineering (5-18-2004) Project No. 86.376 Scale one inch = 40 feet

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Construction, 10880 Wilshire Blvd., Los Angeles, CA 90024

Stratigraphy

Formation (Reference): Pico	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** No

Lithology: 10 YR 6/6 brownish yellow silty very fine sandstone

Age: late Pliocene	**Depositional Environment:** estuarine

Collection Information

Collector(s): M. Jean Black

Affiliation, Address, Telephone No.: Archaeo Paleo Resource Management, Inc. (APRMI), 624 Venice Blvd., Venice, CA 90291

Date Collected: 16 April 2005	**Collection Location:** Natural History Museum of Los Angeles County
Photographic Record Available/Location?: No	**Field Notes Available/Location?:** Yes

Fossil Material Collected

Common Name: clams and snails	**Class:** Bivalvia, Gastropoda

Identified By (Affiliation): N. Scott Rugh, San Diego Natural History Museum, Lindsay Groves, Natural History Museum of Los Angeles County, Micro Paleo Consultants, Inc., Mark Roeder, Chambers Group, Inc. (CGI).

Reference:

Remarks: According to Christina Mohos of Geo Labs-Westlake in conversation with Hugh Wagner (2-06-2006), there were two fossil mollusk-bearing horizons roughly ten feet stratigraphically apart that were on the limb of an anticline and the fossil sites climbed in elevation as earthmoving moved to the west on Spring Road. The field data provided by APRMI was not exact. CGI replotted the locality location based on the elevations and descriptions in M. Jean Black's notes.

Information Compiled By: Mark A. Roeder, Field Supervisor, Paleontology

Affiliation, Address, Telephone No.: Chambers Group, Inc. (CGI), 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

C: data drives job No. 5448 report MJB 05 0415 4 16 LACMIP 17815

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK, VENTURA COUNTY

Paleontologic Site Record

Museum Fossil Site No.: LACMIP 17816	**Field Fossil Site No.:** MJB 05 0415 4/23
Project/Map Fossil Site No.: 3	**Project:** Pardee Homes Moorpark Highland, Tract No. 5045

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Simi Valley West, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969
Township: 2N	**Range:** 19W	**Section:** 4
Latitude: 34° 17.384'N General location	**Longitude:** 118° 52.410'W General location	**Elevations:** 625 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}560$ general location	**m: Northing**$37^{95}680$ North American Datum 1927

Site Description: The fossil site was collected by ArchaeoPaleo Resource Management Inc. and according to M. Jean Black's notes that the invertebrate fossils were collected from the north half east side of F-1 below the C-1 east buttress a cut along "new" Spring Road approximately 1160 feet N. and 100 feet E. from southeast corner of the existing intersection of Charles Street and Spring Road on Sheet No.36 and 37 of 38 sheets of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by the City (3-4-2005) Engineering Project No. 86.376. Scale one inch = 100 feet and Sheets 23 and 24 of 61 of the Mass Grading, Storm Drain Improvement, and Erosion Control Plans for Tract No. 5045. Plans prepared by RBF (5-17-2004) and approved by the City Engineering (5-18-2004) Project No. 86.376 Scale one inch = 40 feet

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Construction, 10880 Wilshire Blvd., Los Angeles, CA 90024

Stratigraphy

Formation (Reference): Pico	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** No

Lithology: 2.5 YR 7/3 Pale yellow very fine sandstone-concretionary

Age: late Pliocene	**Depositional Environment:** estuarine

Collection Information

Collector(s): M. Jean Black

Affiliation, Address, Telephone No.: Archaeo Paleo Resource Management, Inc. (APRMI), 624 Venice Blvd., Venice, CA 90291

Date Collected: 23 April 2005	**Collection Location:** Natural History Museum of Los Angeles County
Photographic Record Available/Location?: Yes	**Field Notes Available/Location?:** No

Fossil Material Collected

Common Name: clams, and snails	**Class:** Bivalvia, Gastropoda

Identified By (Affiliation): N. Scott Rugh, San Diego Natural History Museum

Reference:

Remarks: According to Christina Mohos of Geo Labs-Westlake in conversation with Hugh Wagner (2-06-2006), there were two fossil mollusk-bearing horizons roughly ten feet stratigraphically apart that were on the limb of an anticline and the fossil sites climbed in elevation as earthmoving moved to the west on Spring Road. The field data provided by APRMI was not exact. CGI replotted the locality location based on the elevations and descriptions in M. Jean Black's notes.

Information Compiled By: Mark A. Roeder, Field Supervisor, Paleontology

Affiliation, Address, Telephone No.: Chambers Group, Inc. (CGI), 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

C: data drives job No. 5448 report MJB 05 0415 4 23 LACMIP 17816

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK, VENTURA COUNTY

Paleontologic Site Record

Museum Fossil Site No.: LACMIP 17817	**Field Fossil Site No.:** MJB 05 0415 4/26
Project/Map Fossil Site No.: 4	**Project:** Pardee Homes Moorpark Highland, Tract No. 5045

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Simi Valley West, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969
Township: 2N	**Range:** 19W	**Section:** 4
Latitude: 34° 17.383'N General location	**Longitude:** 118° 52.414'W General location	**Elevations:** 617-620 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}555$ general location	**m: Northing** $37^{95}670$ North American Datum 1927

Site Description: The fossil site was collected by ArchaeoPaleo Resource Management Inc. and according to M. Jean Black's notes that the invertebrate fossils were collected below the C-1 buttress on the SE. side of the north part of F-1 canyon in a cut along "new" Spring Road approximately feet 1150 feet N. and 100 feet E. from the southeast corner of the existing intersection of Charles Street and Spring Road on Sheet No.36 and 37 of 38 sheets of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by the City (3-4-2005) Engineering Project No. 86.376. Scale one inch = 100 feet and Sheets 23 and 24 of 61 of the Mass Grading, Storm Drain Improvement, and Erosion Control Plans for Tract No. 5045. Plans prepared by RBF (5-17-2004) and approved by the City Engineering (5-18-2004) Project No. 86.376 Scale one inch = 40 feet

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Construction, 10880 Wilshire Blvd., Los Angeles, CA 90024

Stratigraphy

Formation (Reference): Pico	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** No

Lithology: 2.5 YR 7/3 Pale yellow very fine sandstone-concretionary

Age: late Pliocene	**Depositional Environment:** estuarine

Collection Information

Collector(s): M. Jean Black

Affiliation, Address, Telephone No.: Archaeo Paleo Resource Management, Inc.(APRMI), 624 Venice Blvd., Venice, CA 90291

Date Collected: 26 April 2005	**Collection Location:** Natural History Museum of Los Angeles County
Photographic Record Available/Location?: Yes	**Field Notes Available/Location?:** No

Fossil Material Collected

Common Name: clams and snails	**Class:** Bivalvia, Gastropoda

Identified By (Affiliation): N. Scott Rugh, San Diego Natural History Museum.

Reference:

Remarks: According to Christina Mohos of Geo Labs-Westlake in conversation with Hugh Wagner (2-06-2006), there were two fossil mollusk-bearing horizons roughly ten feet stratigraphically apart that were on the limb of an anticline and the fossil sites climbed in elevation as earthmoving moved to the west on Spring Road. The field data provided by APRMI is not exact. CGI replotted the locality location based on the elevations and descriptions in M. Jean Black's notes.

Information Compiled By: Mark A. Roeder, Field Supervisor, Paleontology

Affiliation, Address, Telephone No.: Chambers Group, Inc. (CGI), 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

C: data drives job No. 5448 report MJB 05 0415 4 26 LACMIP 17817

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK, VENTURA COUNTY

Paleontologic Site Record

Museum Fossil Site No.: LACMIP 17818	**Field Fossil Site No.:** MJB 05 0415 4/27
Project/Map Fossil Site No.: 5	**Project:** Pardee Homes Moorpark Highland, Tract No. 5045

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Simi Valley West, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969
Township: 2N	**Range:** 19W	**Section:** 4
Latitude: 34° 17.380'N General location	**Longitude:** 118° 52.420'W General location	**Elevations:** 617.7 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}545$ general location	**m: Northing**$37^{95}670$ North American Datum 1927

Site Description: The fossil site was collected by ArchaeoPaleo Resource Management Inc. and according to M. Jean Black's notes that the invertebrate fossils were collected in the east side of F-1 canyon below C-1 east buttress in the SE. corner in a cut along "new" Spring Road approximately 1140 feet N. and 90 feet E. from the southeast corner of existing intersection of Charles Street and Spring Road on Sheet No.36 and 37 of 38 sheets of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by the City (3-4-2005) Engineering Project No. 86.376. Scale one inch = 100 feet and Sheets 23 and 24 of 61 of the Mass Grading, Storm Drain Improvement, and Erosion Control Plans for Tract No. 5045. Plans prepared by RBF (5-17-2004) and approved by the City Engineering (5-18-2004) Project No. 86.376 Scale one inch = 40 feet

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Construction, 10880 Wilshire Blvd., Los Angeles, CA 90024

Stratigraphy

Formation (Reference): Pico	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** No

Lithology: 2.5 YR 7/3 Pale Yellow very fine sand- concretionary

Age: late Pliocene	**Depositional Environment:** estuarine

Collection Information

Collector(s): M. Jean Black

Affiliation, Address, Telephone No.: Archaeo Paleo Resource Management, Inc.(APRMI), 624 Venice Blvd., Venice, CA 90291

Date Collected: 27 April 2005	**Collection Location:** Natural History Museum of Los Angeles County
Photographic Record Available/Location?: Yes	**Field Notes Available/Location?:** No

Fossil Material Collected

Common Name: clams and snails	**Class:** Bivalvia, Gastropoda

Identified By (Affiliation): N. Scott Rugh, San Diego Natural History Museum

Reference:

Remarks: According to Christina Mohos of Geo Labs-Westlake in conversation with Hugh Wagner (2-06-2006), there were two fossil mollusk-bearing horizons roughly ten feet stratigraphically apart that were on the limb of an anticline and the fossil sites climbed in elevation as earthmoving moved to the west on Spring Road. The field data provided by APRMI was not exact. CGI replotted the locality location based on the elevations and descriptions in M. Jean Black's notes.

Information Compiled By: Mark A. Roeder, Field Supervisor, Paleontology

Affiliation, Address, Telephone No.: Chambers Group, Inc. (CGI), 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

C: data drives job No. 5448 report MJB 05 0415 4 27 LACMIP 17818

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK, VENTURA COUNTY

Paleontologic Site Record

Museum Fossil Site No.: LACMIP 17819	**Field Fossil Site No.:** MJB 05 0415 4/29
Project/Map Fossil Site No.: 6	**Project:** Pardee Homes Moorpark Highlands, Tract No. 5045

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Simi Valley West, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969
Township: 2N	**Range:** 19W	**Section:** 4
Latitude: 34° 17.390'N General location	**Longitude:** 118° 52.398'W General location	**Elevations:** 629-650 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}580$ general location	**m: Northing** $37^{95}690$ North American Datum 1927

Site Description: The fossil site was found by ArchaeoPaleo Resource Management Inc. and according to M. Jean Black's notes that the invertebrate fossils were collected on Section C-1 east buttress in a cut along "new" Spring Road approximately 1240 feet N. and 125 feet E. from the southeast corner of the existing intersection of Charles Street and Spring Road on Sheet No.36 and 37 of 38 sheets of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by the City (3-4-2005) Engineering Project No. 86.376. Scale one inch = 100 feet and Sheets 23 and 24 of 61 of the Mass Grading, Storm Drain Improvement, and Erosion Control Plans for Tract No. 5045. Plans prepared by RBF (5-17-2004) and approved by the City Engineering (5-18-2004) Project No. 86.376 Scale one inch = 40 feet

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Construction, 10880 Wilshire Blvd., Los Angeles, CA 90024

Stratigraphy

Formation (Reference): Pico	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** No

Lithology: 2.5 YR 7/3/-7/4 Pale yellow silty fine sandstone-concretionary

Age: late Pliocene	**Depositional Environment:** estuarine

Collection Information

Collector(s): M. Jean Black

Affiliation, Address, Telephone No.: Archaeo Paleo Resource Management, Inc.(APRMI), 624 Venice Blvd., Venice, CA 90291

Date Collected: 29 April 2005	**Collection Location:** Natural History Museum of Los Angeles County
Photographic Record Available/Location?: No	**Field Notes Available/Location?:** Yes

Fossil Material Collected

Common Name: clams and snails	**Class:** Bivalvia, Gastropoda

Identified By (Affiliation): N. Scott Rugh, San Diego Natural History Museum

Reference:

Remarks: According to Christina Mohos of Geo Labs-Westlake in conversation with Hugh Wagner (2-06-2006), there were two fossil mollusk-bearing horizons roughly ten feet stratigraphically apart that were on the limb of an anticline and the fossil sites climbed in elevation as earthmoving moved to the west on Spring Road. The field data provided by Archaeo Paleo Resource Management, Inc. was not exact. CGI replotted the locality location based on the elevations and descriptions in M. Jean Black's notes.

Information Compiled By: Mark A. Roeder, Field Supervisor, Paleontology

Affiliation, Address, Telephone No.: Chambers Group, Inc. (CGI), 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

C: data drives job No. 5448 report MJB 05 0415 4 29 LACMIP 17819

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK, VENTURA COUNTY

Paleontologic Site Record

Museum Fossil Site No.: LACMIP 17820	**Field Fossil Site No.:** MJB 05 0415 4/30
Project/Map Fossil Site No.: 7	**Project:** Pardee Homes Moorpark Highland, Tract No. 5045

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Simi Valley West, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969
Township: 2N	**Range:** 19W	**Section:** 4
Latitude: 34° 17.393'N General location	**Longitude:** 118° 52.421'W General location	**Elevations:** 619 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}550$ general location	**m: Northing**$37^{95}690$ North American Datum 1927

Site Description: The fossil site was found by ArchaeoPaleo Resource Management Inc. and according to M. Jean Black's notes that the marine invertebrate fossils were collected at the same area as the original site except on the west slope cut (buttress0 of Section C in a cut along "new" Spring Road approximately 1190 feet N. and 40 feet E. from southeast corner of existing intersection of Charles Street and Spring Road on Sheet No.36 and 37 of 38 sheets of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by the City (3-4-2005) Engineering Project No. 86.376. Scale one inch = 100 feet and Sheets 23 and 24 of 61 of the Mass Grading, Storm Drain Improvement, and Erosion Control Plans for Tract No. 5045. Plans prepared by RBF (5-17-2004) and approved by the City Engineering (5-18-2004) Project No. 86.376 Scale one inch = 40 feet

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Construction (Pardee Homes), 10880 Wilshire Blvd., Los Angeles, CA 90024

Stratigraphy

Formation (Reference): Pico	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** No

Lithology: 2.5 YR 7/4 Pale yellow very fine sandstone-concretionary

Age: late Pliocene	**Depositional Environment:** near shore marine

Collection Information

Collector(s): M. Jean Black

Affiliation, Address, Telephone No.: Archaeo Paleo Resource Management, Inc.(APRMI), 624 Venice Blvd., Venice, CA 90291

Date Collected: 30 April 2005	**Collection Location:** Natural History Museum of Los Angeles County
Photographic Record Available/Location?: Yes	**Field Notes Available/Location?:** No

Fossil Material Collected

Common Name: clams and snails	**Class:** Bivalvia, Gastropoda

Identified By (Affiliation): N. Scott Rugh, San Diego Natural History Museum

Reference:

Remarks: According to Christina Mohos of Geo Labs-Westlake in conversation with Hugh Wagner (2-06-2006), there were two fossil mollusk-bearing horizons roughly ten feet stratigraphically apart that were on the limb of an anticline and the fossil sites climbed in elevation as earthmoving moved to the west on Spring Road. The field data provided by APRMI was not exact. CGI replotted the locality location based on the elevations and descriptions in M. Jean Black's notes.

Information Compiled By: Mark A. Roeder, Field Supervisor, Paleontology

Affiliation, Address, Telephone No.: Chambers Group, Inc. (CGI), 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

C: data drives job No. 5448 report MJB 05 0415 4 30 LACMIP 17820

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK, VENTURA COUNTY

Paleontologic Site Record

Museum Fossil Site No.: LACMIP 17825	**Field Fossil Site No.:** KEV 05 0421-1 4/21
Project/Map Fossil Site No.: 8	**Project:** Pardee Homes Moorpark Highlands, Tract No. 5045

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Simi Valley West, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969
Township: 2N	**Range:** 19W	**Section:** 4
Latitude: 34° 17.285'N General location	**Longitude:** 118° 52.421'W General location	**Elevations:** 620-625 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}550$ general location	**m: Northing** $37^{95}690$ North American Datum 1927

Site Description: The fossil site found by Archaeo Paleo Resource Management, Inc.and marine invertebrate fossils were collected in the same area as field site MJB05-0415 4/30/05 at the west slope of Section C-1 at the base of the cut along new" Spring Road approximately 1190 feet N. and 40 feet E. of the southeast corner of the existing intersection of Charles Street and Spring Road on Sheet No. 37 of 38 of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrel R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by the City (3-4-2005) Engineering Project No. 86.376 Scale one inch = 100 feet

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Construction, 10880 Wilshire Blvd., Los Angeles, CA 90024

Stratigraphy

Formation (Reference): Pico	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** No

Lithology: 2.5YR 7/4 Pale yellow fine sandstone-concretionary

Age: late Pliocene	**Depositional Environment:** nearshore marine

Collection Information

Collector(s): Kristin E. Vowels

Affiliation, Address, Telephone No.: Archaeo Paleo Resource Management, Inc.(APRMI), 624 Venice Blvd., Venice, CA 90291

Date Collected: 21 April 2005	**Collection Location:** Natural History Museum of Los Angeles County
Photographic Record Available/Location?: Yes	**Field Notes Available/Location?:** No

Fossil Material Collected

Common Name: clams, and snails	**Class:** Bivalvia, Gastropoda

Identified By (Affiliation): N. Scott Rugh, San Diego Natural History Museum

Reference:

Remarks: According to Christina Mohos of Geo Labs-Westlake in conversation with Hugh Wagner (2-06-2006), there were two fossil mollusk-bearing horizons roughly ten feet stratigraphically apart that were on the limb of an anticline and the fossil sites climbed in elevation as earthmoving moved to the west on Spring Road. Field data provided by APRMI is not exact.

Information Compiled By: Mark A. Roeder, Field Supervisor, Paleontology

Affiliation, Address, Telephone No.: Chambers Group, Inc (CGI), 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

C: data drives job No. 5448 report KEV 05 0421-1 4 21 LACM!P 17825

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK, VENTURA COUNTY

Paleontologic Site Record

Museum Fossil Site No.: LACMIP 17822	**Field Fossil Site No.:** MJB 05 0415-1 4/20
Project/Map Fossil Site No.: 9	**Project:** Pardee Homes Moorpark Highland, Tract No. 5045

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Simi Valley West, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969
Township: 2N	**Range:** 19W	**Section:** 4
Latitude: 34° 17.285'N General location	**Longitude:** 118° 52.450'W General location	**Elevations:** 573.5 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}490$ general location	**m: Northing**$37^{95}490$ North American Datum 1927

Site Description: The fossil site was found by ArchaeoPaleo Resource Management Inc. and according to M. Jean Black's notes that the marine vertebrate fossils were collected on the west slope cut on Section F-1 in a cut along "new" Spring Road approximately 540 feet N. and 110 feet W. from the southeast corner of the existing intersection of Charles Street and Spring Road on Sheet No.36 and 37 of 38 sheets of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by the City (3-4-2005) Engineering Project No. 86.376. Scale one inch = 100 feet and Sheets 23 and 24 of 61 of the Mass Grading, Storm Drain Improvement, and Erosion Control Plans for Tract No. 5045. Plans prepared by RBF (5-17-2004) and approved by the City Engineering (5-18-2004) Project No. 86.376 Scale one inch = 40 feet

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Homes, 10880 Wilshire Blvd., Los Angeles, CA 90024

Stratigraphy

Formation (Reference): Pico	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** No

Lithology: 2.5 YR 7/3 Pale yellow clayey siltstone-concretionary

Age: late Pliocene	**Depositional Environment:** estuarine

Collection Information

Collector(s): M. Jean Black

Affiliation, Address, Telephone No.: Archaeo Paleo Resource Management, Inc.(APRMI), 624 Venice Blvd., Venice, CA 90291

Date Collected: 20 April 2005	**Collection Location:** Natural History Museum of Los Angeles County
Photographic Record Available/Location?: No	**Field Notes Available/Location?:** Yes

Fossil Material Collected

Common Name: clams and snails	**Class:** Bivalvia, Gastropoda

Identified By (Affiliation): N. Scott Rugh, San Diego Natural History Museum

Reference:

Remarks: According to Christina Mohos of Geo Labs-Westlake in conversation with Hugh Wagner (2-06-2006), there were two fossil mollusk-bearing horizons roughly ten feet stratigraphically apart that were on the limb of an anticline and the fossil sites climbed in elevation as earthmoving moved to the west on Spring Road. The field data provided by APRMI was not exact. CGI replotted the locality location based on the elevations and descriptions in M. Jean Black's notes.

Information Compiled By: Mark A. Roeder, Field Supervisor, Paleontology

Affiliation, Address, Telephone No.: Chambers Group, Inc. (CGI), 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

C: data drives job No. 5448 report MJB 05 0415-1 4 20 LACMIP 17822

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK, VENTURA COUNTY

Paleontologic Site Record

Museum Fossil Site No.: LACMIP 17821	**Field Fossil Site No.:** MJB 05 0415-1 4/30
Project/Map Fossil Site No.: 10.	**Project:** Pardee Homes Moorpark Highland, Tract No. 5045

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Simi Valley West, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969
Township: 2N	**Range:** 19W	**Section:** 4
Latitude: 34° 17.387'N General location	**Longitude:** 118° 52.417'W General location	**Elevations:** 619 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}550$ general location	**m: Northing** $37^{95}680$ North American Datum 1927

Site Description: The fossil site was collected by ArchaeoPaleo Resource Management Inc. and according to M. Jean Black notes that the invertebrate fossils were found at the SE. side of the job site in Section C-1 East buttress at the far SE. side of the cut. Most of the mainly marine invertebrate fossils were collected in a cut along "new" Spring Road approximately 1140 feet N. and 60 feet E. from the southeast cornier of the existing intersection of Charles Street and Spring Road on Sheet No.36 and 37 of 38 sheets of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by the City (3-4-2005) Engineering Project No. 86.376. Scale one inch = 100 feet and Sheets 23 and 24 of 61 of the Mass Grading, Storm Drain Improvement, and Erosion Control Plans for Tract No. 5045. Plans prepared by RBF (5-17-2004) and approved by the City Engineering (5-18-2004) Project No. 86.376 Scale one inch = 40 feet

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Homes, 10880 Wilshire Blvd., Los Angeles, CA 90024

Stratigraphy

Formation (Reference): Pico	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** No

Lithology: 2.5 YR 7/4 Pale yellow very fine sandstone-concretionary

Age: late Pliocene	**Depositional Environment:** estuarine

Collection Information

Collector(s): M. Jean Black

Affiliation, Address, Telephone No.: Archaeo Paleo Resource Management, Inc., 624 Venice Blvd., Venice, CA 90291

Date Collected: 30 April 2005	**Collection Location:** Natural History Museum of Los Angeles County
Photographic Record Available/Location?: Yes	**Field Notes Available/Location?:** No

Fossil Material Collected

Common Name: clams, and snails	**Class:** Bivalvia, Gastropoda,

Identified By (Affiliation): N. Scott Rugh, San Diego Natural History Museum

Reference:

Remarks: According to Christina Mohos of Geo Labs-Westlake in conversation with Hugh Wagner (7-2005), there were two fossil mollusk-bearing horizons roughly ten feet stratigraphically apart that were on the limb of an anticline and the fossil sites climbed in elevation as earthmoving moved to the west on Spring Road. The locality data provided by Archaeo Paleo Resource Management, Inc. is not exact. CGI replotted the locality locations based on the elevations and descriptions in M. Jean Blacks notes.

Information Compiled By: Mark A. Roeder, Field Supervisor, Paleontology

Affiliation, Address, Telephone No.: Chambers Group, Inc. (CGI), 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

C: data drives job No. 5448 report MJB 05 0415-1 4 30 LACMIP 17821

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK, VENTURA COUNTY

Paleontologic Site Record

Museum Fossil Site No.: LACMIP 17823	**Field Fossil Site No.:** MJB 05 0415-1 4/29
Project/Map Fossil Site No.: 11	**Project:** Pardee Homes Moorpark Highlands, Tract No. 5045

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Simi Valley West, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969
Township: 2N	**Range:** 19W	**Section:** 4
Latitude: 34° 17.376'N General location	**Longitude:** 118° 52.407'W General location	**Elevations:** 625 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}570$ general location	**m: Northing**$37^{95}660$ North American Datum 1927

Site Description: The fossil site was found by ArchaeoPaleo Resource Management Inc. and according to M. Jean Black's notes that the invertebrate fossils were collected on Section C-1 east buttress in a cut along "new" Spring Road approximately 1110 feet N. and 100 feet E. from the southeast corner of the existing intersection of Charles Street and Spring Road on Sheet No.36 and 37 of 38 sheets of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by the City (3-4-2005) Engineering Project No. 86.376. Scale one inch = 100 feet and Sheets 23 and 24 of 61 of the Mass Grading, Storm Drain Improvement, and Erosion Control Plans for Tract No. 5045. Plans prepared by RBF (5-17-2004) and approved by the City Engineering (5-18-2004) Project No. 86.376 Scale one inch = 40 feet

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Construction, 10880 Wilshire Blvd., Los Angeles, CA 90024

Stratigraphy

Formation (Reference): Pico	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** No

Lithology: 2.5 YR 7/6 Pale yellow fine sandstone-concretionary

Age: late Pliocene	**Depositional Environment:** estuarine

Collection Information

Collector(s): M. Jean Black

Affiliation, Address, Telephone No.: Archaeo Paleo Resource Management, Inc.(APRMI), 624 Venice Blvd., Venice, CA 90291

Date Collected: 29 April 2005	**Collection Location:** Natural History Museum of Los Angeles County
Photographic Record Available/Location?: No	**Field Notes Available/Location?:** Yes

Fossil Material Collected

Common Name: clams and snails	**Class:** Bivalvia, Gastropoda

Identified By (Affiliation): N. Scott Rugh, San Diego Natural History Museum

Reference:

Remarks: According to Christina Mohos of Geo Labs-Westlake in conversation with Hugh Wagner (2-06-2006), there were two fossil mollusk-bearing horizons roughly ten feet stratigraphically apart that were on the limb of an anticline and the fossil sites climbed in elevation as earthmoving moved to the west on Spring Road. The field data provided by Archaeo Paleo Resource Management, Inc. was not exact. CGI replotted the locality location based on the elevations and descriptions in M. Jean Black's notes.

Information Compiled By: Mark A. Roeder, Field Supervisor, Paleontology

Affiliation, Address, Telephone No.: Chambers Group, Inc. (CGI), 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

C: data drives job No. 5448 report MJB 05 0415-1 4 29 LACMIP 17823

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK, VENTURA COUNTY

Paleontologic Site Record

Museum Fossil Site No.: LACMIP 17824	**Field Fossil Site No.:** KEV 05 0421 4/21
Project/Map Fossil Site No.: 12	**Project:** Pardee Homes Moorpark Highlands, Tract No. 5045

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Simi Valley West, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969
Township: 2N	**Range:** 19W	**Section:** 4
Latitude: 34° 17.378'N General location	**Longitude:** 118° 52.402'W General location	**Elevations:** 620 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}570$ general location	**m: Northing** $37^{95}600$ North American Datum 1927

Site Description: The fossil site found by Archaeo Paleo Resource Management, Inc. and marine invertebrate fossils were collected from the east side of Section F-1 and south of Section C-1 east buttress in a cut along "new" Spring Road approximately to 1140 feet N. and 125 feet E. of the southeast corner of the existing intersection of Charles Street and Spring Road on Sheet No. 37 of 38 of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrel R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by the City (3-4-2005) Engineering Project No. 86.376 Scale one inch = 100 feet

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Homes, 10880 Wilshire Blvd., Los Angeles, CA 90024

Stratigraphy

Formation (Reference): Pico	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** No

Lithology: olive green to gray shell-bearing siltstone

Age: late Pliocene	**Depositional Environment:** nearshore marine

Collection Information

Collector(s): Kristin E. Vowels

Affiliation, Address, Telephone No.: Archaeo Paleo Resource Management, Inc.(APRMI), 624 Venice Blvd., Venice, CA 90291

Date Collected: 21 April 2005	**Collection Location:** Natural History Museum of Los Angeles County
Photographic Record Available/Location?: Yes	**Field Notes Available/Location?:** No

Fossil Material Collected

Common Name: clams, and snails	**Class:** Bivalvia, Gastropoda

Identified By (Affiliation): N. Scott Rugh, San Diego Natural History Museum

Reference:

Remarks: According to Christana Mohos of Geo Labs-Westlake in conversation with Hugh Wagner (2-06-2006), there were two fossil mollusk-bearing horizons roughly ten feet stratigraphically apart that were on the limb of an anticline and the fossil sites climbed in elevation as earthmoving moved to the west on Spring Road. . The field data provided by APRMI was not exact. CGI replotted the locality location based on elevations and descriptions.

Information Compiled By: Mark A. Roeder, Field Supervisor, Paleontology

Affiliation, Address, Telephone No.: Chambers Group, Inc (CGI), 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

C: data drives job No. 5448 report KEV 05 0421 4 21 LACMIP 17824

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK, VENTURA COUNTY

Paleontologic Site Record

Museum Fossil Site No.: LACMIP 17826	**Field Fossil Site No.:** MJB 05 0415-1 4/23
Project/Map Fossil Site No.: 13	**Project:** Pardee Homes Moorpark Highland, Tract No. 5045

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Simi Valley West, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969
Township: 2N	**Range:** 19W	**Section:** 4
Latitude: 34° 17.317'N General location	**Longitude:** 118° 52.461'W General location	**Elevations:** 625 feet
UTM Coordinates: Zone: 11S	**m: Easting** 3^{27}480 general location	**m: Northing**37^{95}560 North American Datum 1927

Site Description: The fossil site was collected by ArchaeoPaleo Resource Management Inc. and according to M. Jean Black's notes that the invertebrate fossils were collected from the north half east side of F-1 below the C-1 east buttress a cut along "new" Spring Road approximately 830 feet N. and 90 feet E. from the southeast corner of the existing intersection of Charles Street and Spring Road on Sheet No.36 and 37 of 38 sheets of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by the City (3-4-2005) Engineering Project No. 86.376. Scale one inch = 100 feet and Sheets 23 and 24 of 61 of the Mass Grading, Storm Drain Improvement, and Erosion Control Plans for Tract No. 5045. Plans prepared by RBF (5-17-2004) and approved by the City Engineering (5-18-2004) Project No. 86.376 Scale one inch = 40 feet

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Construction, 10880 Wilshire Blvd., Los Angeles, CA 90024

Stratigraphy

Formation (Reference): Pico	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** No

Lithology: 2.5 YR 7/3 Pale yellow very fine sandstone-concretionary

Age: late Pliocene	**Depositional Environment:** estuarine

Collection Information

Collector(s): M. Jean Black

Affiliation, Address, Telephone No.: Archaeo Paleo Resource Management, Inc. (APRMI), 624 Venice Blvd., Venice, CA 90291

Date Collected: 23 April 2005	**Collection Location:** Natural History Museum of Los Angeles County
Photographic Record Available/Location?: Yes	**Field Notes Available/Location?:** No

Fossil Material Collected

Common Name: clams, and snails	**Class:** Bivalvia, Gastropoda

Identified By (Affiliation): N. Scott Rugh, San Diego Natural History Museum

Reference:

Remarks: According to Christina Mohos of Geo Labs-Westlake in conversation with Hugh Wagner (2-06-2006), there were two fossil mollusk-bearing horizons roughly ten feet stratigraphically apart that were on the limb of an anticline and the fossil sites climbed in elevation as earthmoving moved to the west on Spring Road. The field data provided by APRMI was not exact. CGI replotted the locality location based on the elevations and descriptions in M. Jean Black's notes.

Information Compiled By: Mark A. Roeder, Field Supervisor, Paleontology

Affiliation, Address, Telephone No.: Chambers Group, Inc. (CGI), 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

C: data drives job No. 5448 report MJB 05 0415-1 4 23 LACMIP 17826

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK

Paleontologic Site Record

Museum Fossil Site No.:	**Field Fossil Site No.:** MJB 05 0715-1
Project/Map Fossil Site No.: 14	**Project:**

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Moorpark, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969 photoinspected 1974
Township: 3N	**Range:** 19W	**Section:** 33
Latitude: 34° 18' 04"N	**Longitude:** 118° 52' 36"W	**Elevation:** 739-740 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}300$	**m: Northing**$37^{97}147$ North American Datum 1983/84

Site Description: The site was located on the southern edge of proposed Spring Road 50 feet S. of the centerline at STA 11+00 and 375 feet E. of the eastern edge of Walnut Canyon Road on Sheet No. 34 of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by City (3-4-2005) Engineering Project No. 86.376 Scale one inch = 100 feet. Also site plotted on Geologic Map, Tract No. 5045, Plate 1.4 Geolabs-Westlake Village. Scale one inch = 40 feet.

Current Site Condition: destroyed	**Map Attached?:** Yes
Property Owner, Address, Telephone No.: Pardee Homes	

Stratigraphy

Formation (Reference): Saugus	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** Yes
Lithology: yellow brown massive sandy silt to silt	
Age: middle Pleistocene	**Depositional Environment:** fluvial

Collection Information

Collector(s): Mark Roeder, Dave Alexander, Hugh Wagner, Gino Calvano, Susan Underbrink, Jean Black, Diane Ward	
Affiliation, Address, Telephone No.: Chambers Group, Inc., 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414	
Date Collected: 15, 17, 20, 21 July 2005	**Collection Location:** Interpretative Center, Ralph Clark Regional Park
Photographic Record Available/Location?: Yes	**Field Notes Available/Location?:** Yes

Fossil Material Collected

Common Name: mastodon,	**Class:** Mammalia
Identified By (Affiliation): Dr. Hugh M. Wagner, CGI	
Reference:	
Remarks: several casts (*Mammut* sp.) mastodon	
Information Compiled By: Mark A. Roeder	
Affiliation, Address, Telephone No.: Chambers Group, Inc	

C: data drives job No. 5448 report Pardee MGB 05 0715-1

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK

Paleontologic Site Record

Museum Fossil Site No.:	**Field Fossil Site No.:** TJL 072805-1
Project/Map Fossil Site No.:15	**Project:**

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Moorpark, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969 photoinspected 1974
Township: 3N	**Range:** 19W	**Section:** 33
Latitude: 34° 18' 05"N	**Longitude:** 118° 52' 37"W	**Elevation:** 739 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}279$	**m: Northing**$37^{97}147$ North American Datum 1983/84

Site Description: The site was located in the centerline of Spring Road at STA 9+85 and 265 feet E. of the eastern edge of Walnut Canyon Road on Sheet No. 34 of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by City (3-4-2005) Engineering Project No. 86.376 Scale one inch = 100 feet. Also site plotted on Geologic Map, Tract No. 5045, Plate 1.4 Geolabs-Westlake Village. Scale one inch = 40 feet.

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Homes

Stratigraphy

Formation (Reference): Saugus	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** Yes

Lithology: yellow brown massive sandy silt to silt

Age: middle Pleistocene	**Depositional Environment:** fluvial

Collection Information

Collector(s): Trevor L. Lindsay, Dave A. Alexander, Mark A. Roeder

Affiliation, Address, Telephone No.: Chambers Group, Inc., 17671 Cowan Avenue, Suite 100, Irvine, CA 92614 949-261-5414

Date Collected: 28 July 2005	**Collection Location:**
Photographic Record Available/Location?: Yes	**Field Notes Available/Location?:** Yes

Fossil Material Collected

Common Name: mastodon?	**Class:** Mammalia

Identified By (Affiliation): Dr. Hugh M. Wagner, CGI

Reference:

Remarks: two casts (*Mammut* sp.) mastodon tusks

Information Compiled By: Mark A. Roeder

Affiliation, Address, Telephone No.: Chambers Group, Inc

C: data drives job No. 5448 report TJL 072805-1

PARDEE HOMES MOORPARK HIGHLANDS TRACT NO. 5045, MOORPARK

Paleontologic Site Record

Museum Fossil Site No.:	**Field Fossil Site No.:** KEV05-0519
Project/Map Fossil Site No.:16	**Project:**

Site Information

City/Municipality: Moorpark	**County:** Ventura	**State:** California
USGS Quad.: Moorpark, CA	**7.5' or 15':** 7.5	**Publication Date:** 1951 photo-revised 1969 photoinspected 1974
Township: 3N	**Range:** 19W	**Section:** 33
Latitude: 34° 18.070'N	**Longitude:** 118° 52.489'W	**Elevation:** 751-753 feet
UTM Coordinates: Zone: 11S	**m: Easting** $3^{27}460$	**m: Northing**$37^{97}950$ North American Datum 1927

Site Description: The site was collected by ArchaeoPaleo Resource Management Inc. and according to information provided by Kristin E. Vowels, the fossil was collected in the NW corner of area C-12 located on the northern edge of the "new' Spring Road 90 feet N. the centerline of Spring Road at STA 13+60 and 7251 feet E. of the eastern edge of Walnut Canyon Road on Sheet No. 34 of the Rough Graded Erosion Control Plan for Tract No. 5045. Plans prepared by RBF, Irvine, under the supervision of Richard G. Carrell R.C.E. No. 41874 (1-25-2005) for the City of Moorpark, Public Works Department. Planning and Engineering approved by City (3-4-2005) Engineering Project No. 86.376 Scale one inch = 100 feet. Also site plotted on Geologic Map, Tract No. 5045, Plate 1.4 Geolabs-Westlake Village. Scale one inch = 40 feet.

Current Site Condition: destroyed	**Map Attached?:** Yes

Property Owner, Address, Telephone No.: Pardee Construction, 10880 Wilshire Blvd., Los Angeles, CA 90024

Stratigraphy

Formation (Reference): Saugus	**Member:**
Bed/Stratigraphic Level:	**Stratigraphic Section Available?:** Yes
Lithology: olive green/yellow tan silt	
Age: middle Pleistocene	**Depositional Environment:** fluvial

Collection Information

Collector(s): Kristin E. Vowels

Affiliation, Address, Telephone No.: ArchaePaleo Resource Management, Inc.(APRMI), 624 Venice Blvd., Venice CA 90291

Date Collected: 19 May 2005	**Collection Location:**
Photographic Record Available/Location?: Yes	**Field Notes Available/Location?:** Yes

Fossil Material Collected

Common Name: horse	**Class:** Mammalia

Identified By (Affiliation): Dr. Hugh M. Wagner, CGI

Reference: The field data provided by APRMI was not exact. Specimen hit by D9 dozer

Remarks: identified as *Equus scotti*, left dentary P4, M1-M3

Information Compiled By: Mark A. Roeder

Affiliation, Address, Telephone No.: Chambers Group, Inc

C: data drives job No. 5448 report KEV05-05 19

Simi Valley

A Journey Through Time

Historical Text by Patricia Havens

Photographs Compiled and Edited by Bill Appleton

Published by the Simi Valley Historical Society and Museum
1997



California Institute of Technology (CIT) fossil site 150 in upper middle member of Sespe Formation. Site existed in area now occupied by Waste Management of California, Inc., Simi Valley Landfill and Recycling Center. Quarry excavated at site yielded diverse late middle Eocene (early Duchesnean North American Land Mammal Age) Pearson Ranch Local Fauna, which includes large semi-aquatic rhinoceros Amynodontopsis bodei (see Figure 7) and large primitive hyena-like carnivore (creodont) Hyaenodon vetus (see Figure 6). From CIT files at LACM.

Chapter Ten

Geology and Vertebrate Paleontology of Cenozoic Nonmarine Rock Units in Simi Valley

E. Bruce Lander, Ph.D

Four nonmarine sedimentary rock units present in Simi Valley have yielded the fossilized remains of extinct continental vertebrates, including land mammals, from the Cenozoic Era (Age of Mammals). These rock units, in order of decreasing age, include the Sespe and Saugus Formations and the older and younger alluvium, all of which are composed of sediments deposited on land by rivers and streams during floods. Emergence of the Simi Valley area above sea level during the Cenozoic primarily reflects regional uplift of the area resulting from interaction of the western edge of the North American continental plate with the eastern edges of the crustal plates underlying the floor of the Pacific Ocean, and to a lesser extent, development of polar ice caps and a corresponding global fall in sea level.

The Sespe Formation, approximately 42.5 to 28.0 million years in age (early middle Eocene to late Oligocene Epochs), is the oldest rock unit in Simi Valley to contain the remains of land mammals. The sediments comprising the Sespe Formation were deposited by streams flowing in a southerly direction from the Mojave Desert following a period of submergence beneath the Pacific Ocean that lasted at least 6 million years. The Sespe Formation represents a period of emergence about 14.5 million years in duration. During this interval, the Pacific Ocean gradually withdrew southward over a period approximately 14.35 million years, during which the sea level reached its lowest level recorded during the entire Cenozoic, but returned to the Simi Valley in only 300,000 years as the area rapidly subsided below sea level. Fossil remains from the Sespe Formation in and near Simi Valley represent approximately 120 species of vertebrates, including fish, frogs, turtles, crocodiles, lizards, snakes, and birds, as well as a numerous primitive species of land mammals, including opossums, shrews, hedgehogs, bats, primates, squirrels, gophers, mice, rabbits, dogs, cats, saber-toothed cats, horses, rhinoceroses, camels, and other less familiar forms.

During deposition of the sediments comprising the Sespe Formation, the subtropical woodlands and climate of the middle Eocene gave way to the semi-arid grasslands and cooler, dryer, and more seasonal (temperate) climate of the Oligocene, this transition reflecting the northward drift of the North American plate from a tropical climatic zone into a more temperate one. Following deposition of the sediments comprising the Sespe Formation, interaction of the western edge of the North American plate and the eastern edge of the Pacific plate and the resulting offset along the San Andreas and San Gabriel Faults moved the Simi Valley area approximately 190 miles in a northwesterly direction to its present location from an area now occupied by northern Baja California, and to undergo 90 degrees of clockwise rotation.

The Saugus Formation, which overlies the Sespe Formation, represents the final withdrawal of the Pacific Ocean from the Simi Valley area after more than 26 million years of submergence. The geologic activity that resulted in emergence of the area is responsible for the earthquake activity being experienced today in coastal southern California. In Simi Valley, the base of the Saugus Formation is less than 1.9 million years in age (early Pleistocene Epoch). Near Simi Valley, the top of the formation has been determined to be 400,000 years (middle Pleistocene) in age. The Saugus Formation has yielded only fragmentary remains of an extinct Pleistocene (Ice Age) horse in Simi Valley, but has yielded the remains of numerous Pliocene and Pleistocene land mammal species near Simi Valley.

The older alluvium, which overlies the Saugus Formation, has yielded the remains of large extinct Pleistocene land mammal species in Simi Valley, including Harlan's ground sloth, which emigrated from South America, two species of horse, and imperial mammoth, whose immediate ancestor emigrated from Asia. Ground sloths and mammoths entered North America during the Pliocene, when glaciers in the Northern Hemisphere periodically had grown sufficiently large to cause falls in sea level (roughly 400 feet) great enough to expose the Panamanian and Bering land bridges. Available data suggest the older alluvium is 400,000 to 280,000 years and middle Pleistocene in age.

The older alluvium is overlain by the younger alluvium, which has yielded no fossil remains in Simi Valley. However, areas underlain by the younger alluvium has yielded the remains of large extinct Pleistocene land mammal species at a number of fossil sites near Simi Valley. The occurrence of bison remains at some of these sites indicates the younger alluvium is partly middle to late Pleistocene and 280,000 to 10,000 years in age. In Simi Valley, the younger alluvium, of modern age and less than 10,000 years old (Holocene Epoch) at and near the surface, could be old enough at depth to contain the remains of similar land mammal species.

The end of the Pleistocene, which occurred about 10,000 years ago, is marked by the extinction of most larger land mammal species of the world as the result of overkill by early man and/or severe climatic changes (particularly increasing seasonality and drought) and the accompanying alterations of habitat and vegetation that lead to modern conditions. Modern climates of the Northern Hemisphere may only represent a brief interglacial period.

Introduction

The geologic and associated paleontologic (fossil) records of Simi Valley,

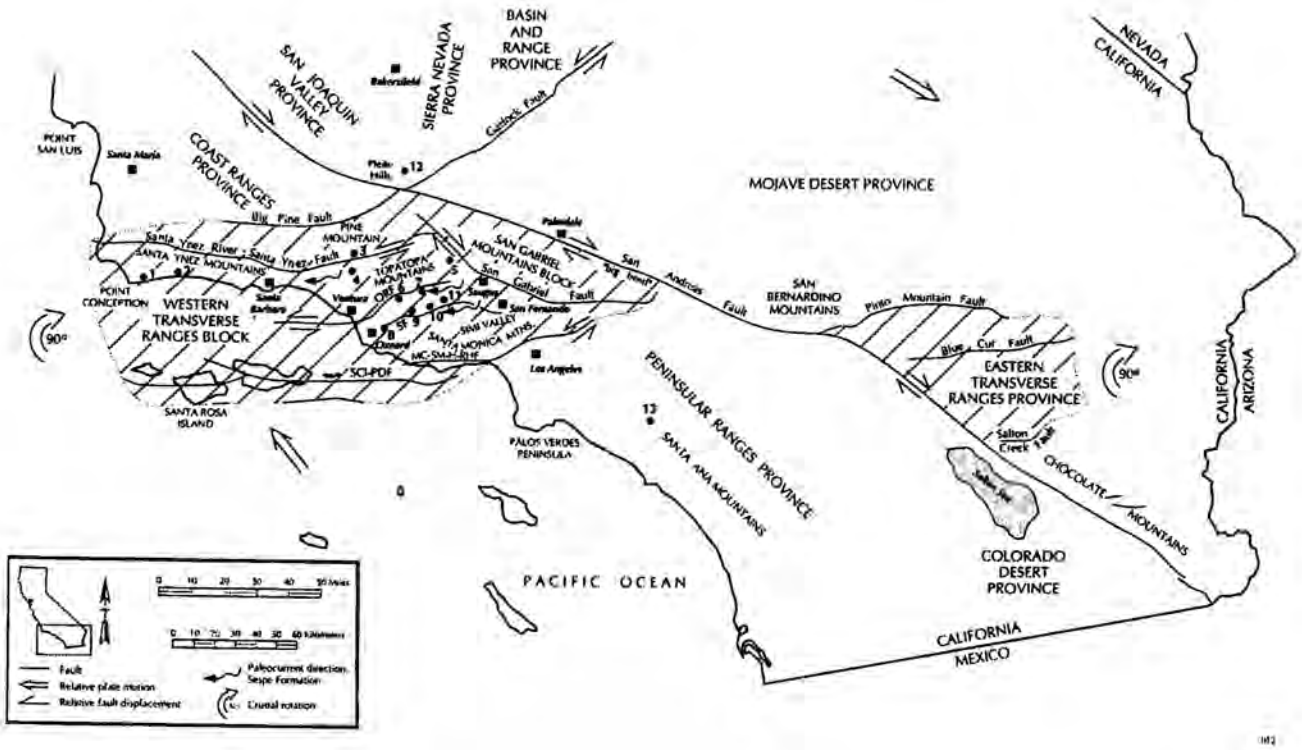

Figure 1. Simplified fault map of southern California. After Jennings (1992). Most faults not shown. Provinces and blocks after Luyendyk and others (1980, 1985) and Whidden and others (1994). MC-SM-H-RHF: Malibu Coast-Santa Monica-Hollywood-Raymond Hill Fault; ORF: Oak Ridge Fault; SCI-PDF: Santa Cruz Island-Point Dume Fault; SF: Simi Fault; 1, Point Conception (Canada del Cementerio); 2, Canada de la Gaviota Local Fauna, Gaviota Pass; 3, Hartman Ranch Local Fauna, southern Pine Mountain; 4, unnamed local fauna, western Nordhoff Ridge; 5, Canton Canyon; 6, South Mountain Local Fauna, South Mountain; 7, Shiells Canyon Local Fauna, Oak Ridge; 8, unnamed local fauna, oil well between Oxnard and Camarillo; 9, Kew Quarry Local Fauna, Las Posas Hills; 10, unnamed local fauna, Little Simi Valley; 11, unnamed local fauna, Tapo Canyon, Brea Canyon, Strathearn, Pearson Ranch, Simi Valley Landfill, and Alamos Canyon Local Faunas, Simi Valley; 12, Tecuya Canyon Local Fauna, southern San Joaquin Valley; 13, Bolero Lookout and Santiago Canyon Landfill Local Faunas, northern Santa Ana Mountains.

California, particularly with regard to the deposition of marine versus nonmarine sediments forming the sedimentary rock layers (strata) underlying Simi Valley and the accompanying preservation of the fossilized remains of the particular kinds of animals found in these strata, reflect major vertical shifts of the earth's crust in the Simi Valley area relative to sea level. These shifts were the result primarily of plate tectonic (structural) activity related to sea floor spreading and subduction, and, to a lesser degree, of global sea level (glacio-eustatic) fluctuations resulting from variations in development of the Arctic and Antarctic ice caps (see below).

Simi Valley lies in the western portion of the western Transverse Ranges Province, which is situated along the southern California portion of the North American plate margin (eastern portion of province restricted to San Gabriel Mountains area). The southern and central California continental margin is bounded to the northeast by the San Andreas Fault. In the western Transverse Ranges Province, most linear features, including mountain ranges, the intervening valleys, and underlying major geologic structures (faults, folds) are oriented in an east-west direction (Figure 1; in adjacent geographic provinces, most features oriented in northwest-southeast direction). The western portion of this geographic province (western Transverse Ranges block) is a crustal block bounded on the north and south by east-west-trending left-lateral-displacement faults (Big Pine and Malibu Coast-Santa Monica-Hollywood-Raymond Hill Faults, respectively; other east-west-trending faults cross block) and on the east by the northwest-southeast-trending right-lateral-displacement San Gabriel Fault (Hornafius, 1985; Kamerling and Luyendyk, 1979; Luyendyk and others, 1980, 1985; Whidden and others, 1994), which is a branch of the San Andreas Fault farther to the northeast, and the San Gabriel Mountains Block. The east-west-trending faults extend offshore and delineate the block on the continental shelf to the west. Presumably, the eastern continuations of these latter faults bound or cross the eastern Transverse Ranges Province, which was once continuous with the western Transverse Ranges Province and block, but has since been shifted gradually to the southeast by offset along the right-lateral-displacement San Gabriel and San Andreas Faults and now is located near the Salton Sea (Luyendyk and others, 1980). Simi Valley lies near the eastern end of a smaller elongate fault-bounded crustal block or segment forming the southern portion of the western Transverse Ranges block. The segment is bounded to the north by the east-west-trending Oak Ridge Fault, which forms the break in slope between the foot of Oak Ridge and the floor of the Santa Clara River valley to the north and exhibits geologic evidence indicating past left-lateral displacement (Kamerling and Luyendyk, 1979). The Simi Fault, which forms the break in slope between the floor of Simi Valley and the foot of Big Mountain to the north (see Dibblee, 1992a, -b; Squires, 1983, this volume), was thought to represent a similar boundary by Luyendyk and others (1980), but lacks evidence of left-lateral offset (Hanson, 1983).

Simi Valley is underlain by a thick succession of strata forming the sedimentary rock units (formations) that, along with the intervening lava flows, record the geologic and paleontologic histories of the area. This sequence of rock units ranges in age from late Cretaceous (roughly 80 million to 70 mil-

lion years) at the base to Holocene (10,000 to 0 years) at the top of the sequence (see Dibblee, 1992a, -b; Squires, this volume; Squires and Filewicz, 1983). Nonmarine rock units in the succession represent periods during which the Simi Valley area was above sea level. Of the nonmarine sedimentary rock units, only the Sespe and Saugus Formations and the older alluvium of Cenozoic age (Figure 2) have yielded fossilized land mammal remains in Simi Valley, although the younger alluvium has yielded land mammal remains near Simi Valley. A study of these remains, primarily skulls, jaws, and teeth, has been critical in determining the ages of the strata that contained them, documenting the nonmarine origin of the sediments comprising these strata, reconstructing the climate and environment that existed at the time, and in estimating the timing of the geologic events (rise and fall of sea level; subsidence and uplift) that lead to the deposition of the particular types of sediments comprising the strata and to their subsequent erosion, respectively, and to the eventual deformation (folding) and displacement (faulting) of the strata and the rock units they comprise.

This chapter, which details the geology and paleontology of the nonmarine fossil-bearing rock units in Simi Valley, substantially updates environmental review documents covering the paleontologic resources of Simi Valley (Lander, 1986, 1988b) and complements the chapter by Dr. Richard L. Squires (this volume), whose contribution covers the geology and paleontology of the entire sequence of rock units in Simi Valley, but emphasizes the marine rock units. Geologic mapping of Simi Valley is provided by Dibblee (1992a, -b), Squires (1983, this volume), and Weber and others (1973). The North American land mammal ages cited in this report and presented in Figure 2 (in order of decreasing age, Uintan, Duchesnean, Chadronian, Orellan, Whitneyan, Arikareean, Hemingfordian, and Blancan Land Mammal Ages of Wood and others, 1941; Irvingtonian and Rancholabrean Land Mammal Ages of Savage, 1951) are based on distinctive, temporally restricted associations of particular land mammal species (see Emry and others, 1987; Kelly, 1990; Kelly and Whistler, 1994; Krishtalka and others, 1987; Lucas, 1992; Lundelius and others, 1987; Tedford and others, 1987; Woodburne, 1987). Determination of the geologic ages (in years) of the land mammal age boundaries, and correlation of the land mammal ages with the Eocene, Oligocene, Miocene, Pliocene, and Pleistocene Epochs are presented in Figure 2 and based on the geologic time scales and correlations provided by Emry and others (1987), Krishtalka and others (1987), Lander (1994a), Lundelius and others (1987), Prothero and Swisher (1992), Prothero and others (in press), Tedford and others (1987), and Woodburne (1987). These time scales and correlations, in turn, primarily are based on radiometric (including fission-track and radioisotopic [potassium-argon, argon-argon]) age determinations for volcanic ash layers or lava flows interbedded with fossiliferous (particularly mammal-bearing) strata, radioisotopic (carbon-14) age determinations on fossil remains, or on paleomagnetic polarity data reflecting reversals of the earth's magnetic field recorded by the strata. Radiometric age determinations, in turn, are based on the predictable decay rate of particular radioactive isotopes that were incorporated into once-living bone or into the minerals that crystallized when a volcanic rock cooled and solidified, thereby trapping the stable decay products (see Prothero, 1994). Paleomagnetic polarity data are based on the orientations of magnetic mineral grains in the sediments deposited during a particular interval. All magnetic mineral grains deposited during a particular paleomagnetic polarity zone (chron) would have pointed to one of the Earth's two magnetic poles, while grains deposited during the adjacent chrons would have pointed toward the opposite pole (see Prothero, 1994). Absolute geologic ages (ages in years) of the chron boundaries are presented in Figure 2 and follow Cande and Kent (1992).

Sespe Formation

The Sespe Formation, which overlies the marine Llajas Formation and underlies the marine Vaqueros Formation in Simi Valley (Figure 1, site 11), is composed of nonmarine sediments deposited during a 14.65-million-year period of emergence beginning roughly 42.6 million years ago (early middle Eocene) and ending approximately 27.95 million years ago (late Oligocene) (Figure 2; Howard, 1988, 1989; Lander, 1983, 1994a; D.R. Prothero, unpublished data; Prothero and others, 1992a, -b, in press; Squires, this volume; see below). The Sespe Formation is the oldest rock unit to have yielded land mammal remains in the western Transverse Ranges block.

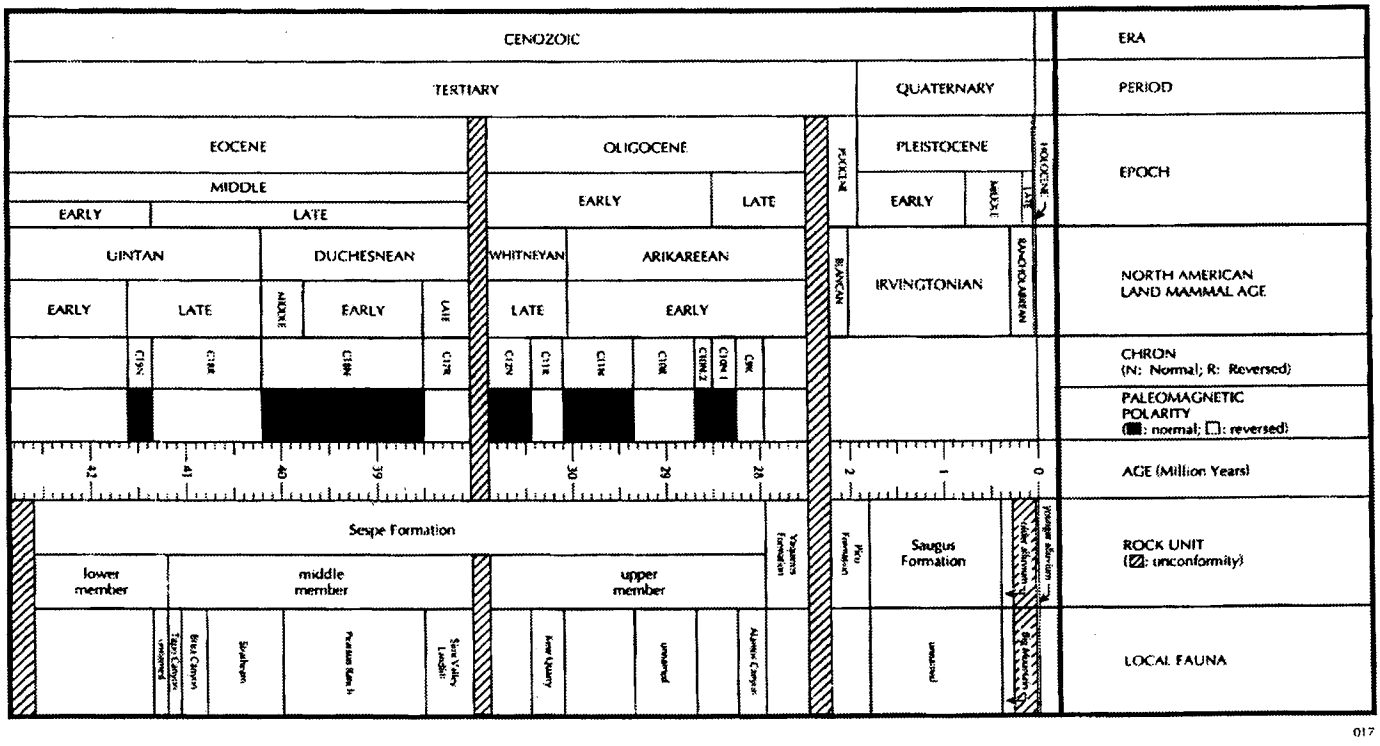

Figure 2. Land mammal local faunas, paleomagnetic polarity zonation, and ages, nonmarine rock units, Simi Valley and vicinity, California. Paleomagnetic polarity zonation modified slightly from Prothero and others (in press). Sespe Formation after Lander (1994).

The Sespe Formation, up to 5,575 feet thick in Simi Valley, consists almost entirely of river (fluvial) flood deposits laid down in river channels and on the adjacent floodplains (Howard, 1988, 1989; Prothero and others, 1992a, -b, in press; Squires, this volume; Taylor, 1983). Although sedimentologic (paleocurrent) data (orientation of water-laid cobbles, indicating direction of current depositing sediments comprising a flood deposit) suggest these rivers flowed in a westerly direction from a mountainous source area to the east, paleomagnetic polarity data suggest the western Transverse Ranges block has been rotated approximately 90 degrees in a clockwise direction since deposition of the sediments comprising the Sespe Formation, and that the rivers actually flowed in a more southerly direction from a source area to the north during the Tertiary (Figure 3; Howard, 1988, 1989; Lander, 1994a; Mason, 1988; Prothero and others, 1992a, -b, in press; Taylor, 1983). Mineralogical compositions of cobbles in Sespe Formation conglomerates indicate the source for the cobbles in all but the uppermost part of the formation is east of Simi Valley and northeast (on opposite side) of the San Andreas Fault in the Mojave Desert (possibly even in southwestern Arizona) (Howard, 1988, 1989; Prothero and others, in press), which once lay north of the Simi Valley area (Figure 3).

The Sespe Formation in Simi Valley is divided into three superposed members (lower, middle, upper) (Figure 2; Prothero and others, in press; Taylor, 1983). With the exception of the upper third (720 feet) of the upper member, the formation represents a major marine regression, during which the Pacific Ocean gradually withdrew from the southern California portion (including western Transverse Ranges block) of the North American plate margin (Golz and Lillegraven, 1977; Howard, 1988, 1989; Lander, 1983, 1994a). Sediment-laden rivers and streams flowed into (and parallel to long axis of) a depositional (fore-arc) basin that lay along and parallel to the edge of the continental margin (Howard, 1988) and immediately landward of the oceanic trench (North American Trench or subduction zone) that once lay just beyond and parallel to the edge of the margin (Figures 3, 4). As the basin slowly filled with sediments, the coastal plain built progressively outward into the basin, causing the Pacific coastline to gradually retreat (regress) westward (southward after correcting for approximately 90 degrees of clockwise crustal rotation; see below) (Howard, 1988; Lander, 1994a; Taylor, 1983). Restoring for crustal rotation and offset along the San Andreas Fault and related northeast-southwest-trending right-lateral-displacement faults, it is presumed rivers and streams once carried sediments southward from the Mojave Desert, across the San Gabriel Mountains, which had not yet been uplifted, and into the fore-arc basin, which included the area now recognized as the western Transverse Ranges block (Figures 3, 4; Hornafius, 1985; Howard, 1988, 1989; Luyendyk and others, 1980, 1985).

Lower Member

The lower member of the Sespe Formation, approximately 42.6 million years old at its base (see below), is separated from the underlying marine Llajas Formation by an erosional surface (unconformity), which reflects withdrawal of the Pacific Ocean from the Simi Valley area after more than 6 million years of submergence, and, in Simi Valley, subsequent erosion and removal of the uppermost part of the Llajas Formation (and any sediments deposited between Llajas and Sespe Formations) prior to deposition of the sediments comprising the Sespe Formation (Figure 2; Squires, this volume; Taylor, 1983). The nonmarine lowermost part of the Llajas Formation is presumed to be at least 48.95 million years old (end of Chron C22N) on the basis of marine microfossil assemblages from the middle part of the formation (see Almgren and others, 1988; Cande and Kent, 1992; Filewicz and Hill, 1983; Haq and others, 1987). The uppermost part of the Llajas Formation is presumed to be older than 46.3 million years in age (end of Chron C21N) on the basis of marine microfossil assemblages (see Almgren and others, 1988; Cande and Kent, 1992; Filewicz and Hill, 1983; Haq and others, 1987), the unconformity separating the lower member from the Llajas Formation probably representing a gap in the rock record spanning roughly 3 million to 4 million years and part of the early middle Eocene. Emergence of the Simi Valley area probably reflects uplift of the region above sea level rather than a global (eustatic) fall in sea level. Uplift, in turn, probably resulted from a change in the rate of convergence of the California continental margin and the leading (subducting) eastern edge of the oceanic (Farallon) plate underlying the adjacent floor of the Pacific Ocean (Figures 3, 4).

The sediments comprising the lower member were laid down as thick layers of sand and gravel during flash floods by braided rivers, whose channels migrated laterally within a broad river bed that extended down a comparatively steep gradient from the nearby mountains, these deposits reflecting continued uplift (relative to Simi Valley area) and erosion of the mountainous source area (Figure 4; Howard, 1988; Squires, this volume; Taylor, 1983). The composition of some gravel cobbles indicates a source area in the Mojave Desert (Howard, 1988, 1989). The gravel comprising the conglomerate beds (layers) at the base of the member in Tapo Canyon shows evidence of wave action, and, along with the presence of burrows in the conglomerate, suggests the gravel is partly marine in origin and was deposited at the mouths of rivers or along the adjacent coastal beaches (Figure 3, sites 11, A; Howard, 1988). As deposition continued, the Pacific coastline gradually receded westward (uncorrected for crustal rotation) from the Simi Valley, indicating the beginning of a major marine regression as the Pacific Ocean withdrew from the fore-arc basin. The sand and gravel layers of the lower member form the thick beds of brown sandstone and conglomerate, respectively, exposed north of the Simi Valley Freeway, each sandstone or conglomerate bed representing the coarser-grained sediments that, because of their larger particles, were deposited first, during the initial active phase of a major flash flood (see Taylor, 1983). Each sandstone or conglomerate bed often is overlain by a thin red or green claystone or mudstone bed, each bed representing the finer-grained sediments (clay, mud) that, because of their smaller particles, were held in suspension longer and not deposited until the final or waning stage of the flood as the floodwaters returned to the river channels (see Taylor, 1983). Development of red or green coloration and calcareous nodules following deposition of the clay and mud layers suggest an extended period of exposure to the atmosphere and intense weathering, resulting in formation of an ancient soil zone (paleosol) in these layers before their burial by the next flood deposit (Taylor, 1983). The paleosols in the uppermost part of the lower member are best exposed in roadcuts along the Simi Valley Landfill and Recycling Center access road, the First Street offramp from the westbound Simi Valley (118) Freeway, and the northern side of the freeway between First Street and Madera Road.

The uppermost part of the lower member at fossil sites (Figure 1, site 11) roughly 900 feet above the base of the formation has yielded the shells of freshwater snails and clams and the remains of a diversity of continental vertebrate species, including tortoises, lizards, opossum-like marsupials, hedgehog-like insectivores, and mouse-like rodents, nearly 41.35 million years in age (beginning of paleomagnetic polarity zone [Chron] C18R; late middle Eocene Epoch, late Uintan North American Land Mammal Age) (Figure 2; Kelly and others, 1991; Prothero and others, in press). With the exception of the tortoise, the vertebrate material (unnamed local fauna of Kelly and others, 1991) was recovered from the paleosols exposed along the Simi Valley Landfill and Recycling Center access road as part of an environmental impact mitigation program. Previously, identifiable land mammal remains were not known from the lower member. Prothero and others (in press) assign the upper (but not uppermost) part of the lower member to Chron C19N, which is no older than 41.6 million years (early middle Eocene) in age (Figure 2). The lower part of the lower member, which contains fossilized wood (Taylor, 1983), is undated. However, the base of the member could be at least as old as 42.6 million years in age (beginning of Chron C19R; Lander, 1994a; Figure 2), based on the correlation (D.R. Prothero, unpublished data) of the upper (but not uppermost) part of the lower member with the lower (but not lowermost) part of a middle Eocene marine rock unit (Coldwater Sandstone) that underlies and interfingers with the Sespe Formation roughly 35 to 40 miles to the northwest in the western Nordhoff Ridge area (Figure 1, site 4) and also is assigned to Chron C19N. The lowermost part of the Coldwater

Sandstone is assigned to Chron C19R (D.R. Prothero unpublished data), and could be the marine continuation of, and, therefore, the same age as the lower part of the lower member of the Sespe Formation in Simi Valley. Moreover, in the southern Pine Mountain area roughly 35 to 40 miles northwest of Simi Valley (Figure 1, site 3), the Coldwater Sandstone contains middle Eocene marine mollusks slightly younger than those from the Llajas Formation, which underlies the Sespe Formation in Simi Valley (Krishtalka and others, 1987; Golz and Lillegraven, 1977).

Middle Member

The middle member of the Sespe Formation is a thick succession composed of numerous superposed flood deposits laid down by meandering rivers crossing a broad floodplain (Howard, 1988; Squires, this volume; Taylor, 1983). These flood deposits, generally composed of finer-grained sediments than those in the lower member, indicate a shallower gradient than for the lower member, and reflect a decrease in the rate of uplift of the source area relative to the Simi Valley area as the fore-arc basin continued filling with sediments (Figure 4; Squires, this volume; Taylor, 1983). Each flood deposit consists of a light-gray sandstone bed (occasionally with a conglomerate layer at its base) overlain by a bed of red-to-green claystone or mudstone (paleosol) (Kelly and others, 1991). The basal conglomerate, when present, often cuts into the upper part of the underlying flood deposit (Kelly and others, 1991), and may represent initial deposition in an active flooding channel after floodwater had eroded or incised the channel into the previous flood deposit. Over thirty-five of these flood deposits are recognized on the Simi Valley Landfill and Recycling Center property between Alamos and Brea Canyons (Figure 1, site 11; see Kelly, 1990), where these deposits appear as a sequence of alternating tan-to-gray sandstone and red-to-green claystone or mudstone layers. These beds extend to the southwest, where they can be seen in roadcuts along the Simi Valley Freeway (west of Madera Road) and California Highway 23, and to the northeast, where they can be seen in roadcuts in the Tapo Canyon area. The middle member also forms badlands exposures north of the Simi Valley Freeway in the Brea Canyon and Alamos Canyon areas (see Taylor, 1983).

The middle member of the Sespe Formation in Simi Valley contains among the most fossiliferous strata known from the formation, and has yielded plant roots, the shells of freshwater snails and clams, and remains representing approximately 90 species of continental vertebrates, including a fish (gar), frog, turtles (terrapins, tortoises), a crocodile, lizards (night lizard, chuckwalla, monitor), snake (boa), and a bird, as well as a diversity of primitive mammals, including opossum-like marsupials, shrew- and hedgehog-like insectivores, bats, tarsier-like primates (Figure 5), squirrel-, gopher-, and mouse-like rodents, hyena-like (creodonts; Figure 6) and dog-like carnivores, a large rhinoceros-like ungulate (titanothere), small tapir-like ungulates, a small rhinoceros, large semi-aquatic tapir-like rhinoceroses (amynodonts; Figure 7), a pig-like ungulate, camel, camel-like ungulates (including oromerycids and oreodonts), pronghorn-like ungulates, and mouse deer-(chevrotain-) like ungulates (hypertragulids) (Golz and Lillegraven, 1977; Kelly, 1990, 1992; Kelly and Whistler, 1994; Kelly and others, 1991; Lander, 1987; Mason, 1988, 1990; Savage and others, 1954). Many of these land mammal species were based on and named for material from the middle member, and some have been recognized from rock units of similar age in Utah, Wyoming, South Dakota, and Texas. The remains representing these species were recovered from over 100 fossil sites in Simi Valley, most in the paleosols. It is very likely more new species will be discovered. Some of the species from the middle member, such as the amynodont rhinoceros, repre-

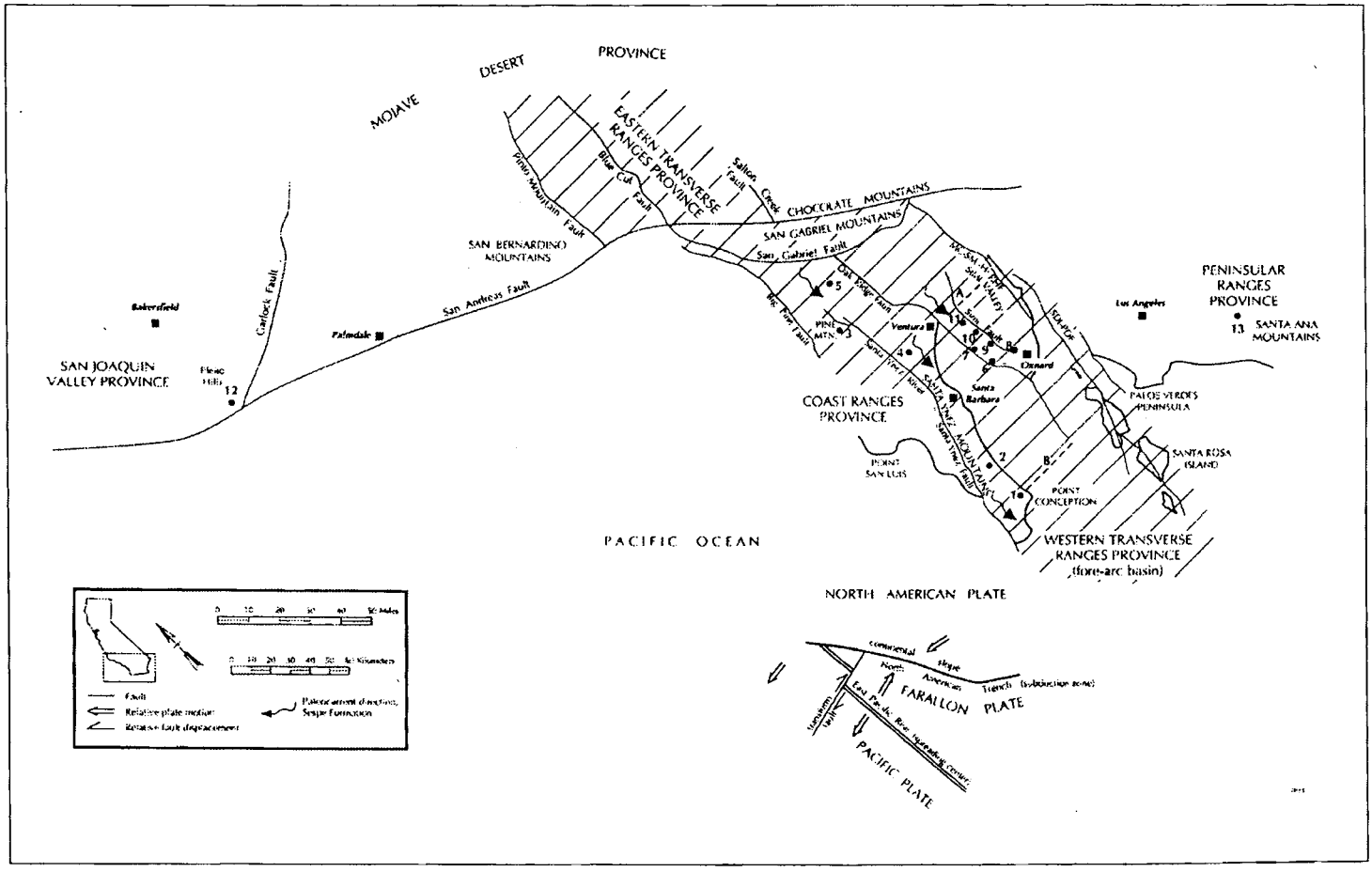

Figure 3. Simplified geologic map of southern California approximately 30 million years ago (early Oligocene) after restoring for offset along major faults and 90 degrees of crustal rotation. Modified from Luyendyk and others (1980, 1985). See Figure 1 for key. A: location of coastline, 42.6 (early middle Eocene) and 27.95 million years ago (late Oligocene); B: location of coastline, 28.25 million years ago (late Oligocene).

sent recent Asian immigrants (Prothero, 1994). The occurrence of plant roots is additional evidence the red-to-green claystone and mudstone beds, like those in the lower member, are paleosols.

The land mammal species from the middle member comprise some of the most diverse land mammal faunas and one of the most complete evolutionary sequences of land mammals known from the late middle Eocene of North America. Five successive faunas (Tapo Canyon, Brea Canyon, Strathearn, Pearson Ranch, Simi Valley Landfill Local Faunas) are now recognized in the middle member (Figure 2; Kelly and others, 1991; Prothero and others, in press), and evolutionary changes, particularly in tooth structure, can be observed in some mammalian evolutionary lineages (particularly rodents, oreodonts, hypertragulids) as they reappear in successively higher (younger) faunas.

During the late middle Eocene, much of North America was covered by subtropical woodlands that developed under the influence of a semi-arid seasonally dry climate (Prothero, 1994). The secondary development of caliche (limy) nodules in the paleosols of the Sespe Formation are consistent with a such a climatic regime (see Prothero, 1994). However, the occurrence of gars, frogs, crocodiles, monitors, boas, arboreal (tree-dwelling) primates, and semi-aquatic rhinoceroses suggest the Simi Valley area was covered by river-border forests. The woodlands reflect a transitional stage from the tropical rainforests and warm moist climate of the early Eocene to the more arid grasslands and cooler and more temperate (seasonal) climate of the Oligocene (see Gyllenhaal, 1991; Prothero, 1994). This change might reflect a much more southerly position for the North American plate in the past, the current location and more temperate (cooler, dryer, more seasonal) climate resulting mostly from the steady northward drift of the plate during the Cenozoic (see below; Gyllenhaal and others, 1991). During deposition of the sediments comprising the Sespe Formation, the Simi Valley area might have been at least 17 to 18 degrees of latitude south of its current position, presumably near the latitude now occupied by southernmost Mexico (about 16 to 17 degrees north latitude) (see Luyendyk and others, 1985; Prothero and others, in press). Right-lateral offset along the San Andreas and San Gabriel Faults account for only 3 to 4 degrees of northward translation (Figures 1, 3; Luyendyk and others, 1985; see below), the remainder (approximately 15 degrees) presumably being the result of continental drift. However, the development of a cooler climate might also reflect, at least in part, global climatic cooling and the development of an Antarctic ice cap (Prothero, 1994). Following the end of the Duchesnean, many land mammal species went extinct because of the development of a cooler dryer climate and the accompanying changes in vegetation (Prothero, 1994).

The land mammal species from the middle member are characteristic of the late Uintan to late Duchesnean North American Land Mammal Ages (Figure 2; Golz and Lillegraven, 1977; Kelly, 1990,1992; Kelly and Whistler, 1994; Kelly and others, 1991; Krishtalka and others, 1987; Prothero and others, 1992a, -b, in press; Savage and others, 1954). Prothero and others (in press) assign the Tapo Canyon, Brea Canyon, and Strathearn Local Faunas to Chron C18R (41.35 million to 40.2 million years old); the Pearson Ranch Local Fauna, to Chron C18N (40.2 million to 38.5 million years old); and the Simi Valley Landfill Local Fauna, to Chron C17R (38.5 million to 38.0 million years old). Prothero and others (1992a, -b, in press) considered the top of the middle member to be in Chron C17N (late middle to late Eocene). However, strata in the middle member above the Simi Valley Landfill Local Fauna are above the Canada de la Brea Fault and are actually the same as strata lower in the middle member, presumably in Chron C18N (see Kelly, 1990; Kelly and others, 1991; Lander, 1994a). Therefore, the top of the middle member is no younger than Chron C17R (38.0 million years) and late middle Eocene in age (Lander, 1994a; Figure 2).

During the late middle Eocene and deposition of the sediments comprising the middle member, the marine regression continued and the Pacific coastline retreated farther westward (southward after correcting for 90 degrees of crustal rotation) from the Simi Valley area to points roughly 35 to 40 miles away (presumably substantially less after correcting for offset along intervening left-lateral-displacement faults) in the southern Pine Mountain/western Nordhoff Ridge area (Figures 1, 3, sites 3, 4). In the latter region, the Sespe Formation overlies and interfingers with a middle Eocene marine formation (Coldwater Sandstone), which, in the southern Pine Mountain area, contains marine mollusks slightly younger than those from the Llajas Formation in Simi Valley (Figure 2; Golz and Lillegraven, 1977; Krishtalka and others, 1987; Lander, 1994a; see Squires, 1988). At a fossil site in the Sespe Formation along Sespe Creek (Figure 1, site 3), the Hartman Ranch Local Fauna contains late Uintan rodent species similar or identical to those from the Tapo Canyon and Brea Canyon Local Faunas, and occurs roughly 100 to 200 feet above the base of the formation in strata the same age (Chron C18R) as those low in the middle member (at least 950 feet above base of Sespe Formation) in Simi Valley (Figure 2; see Golz and Lillegraven, 1977; Kelly and others, 1991; Lander,

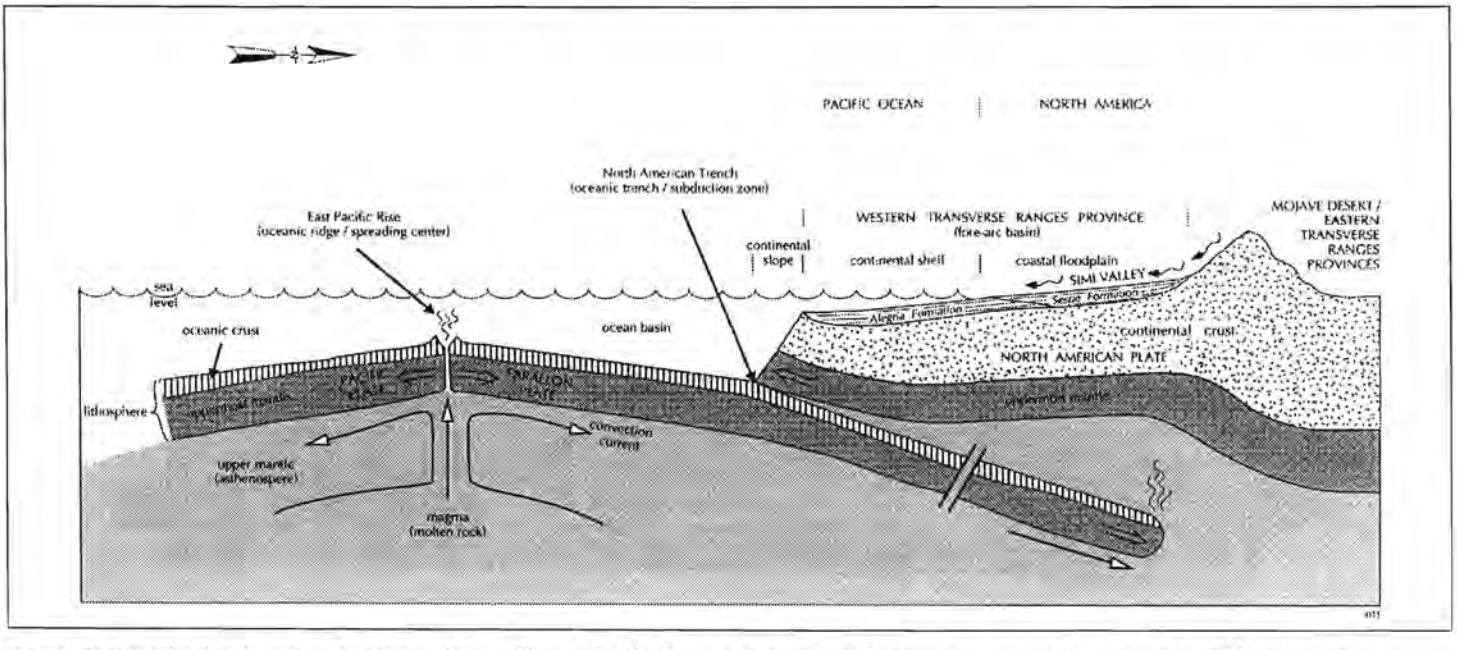

Figure 4. Simplified cross section of plates underlying floor of Pacific Ocean and of southern California continental margin of North American plate approximately 30 million years ago (early Oligocene) during deposition of sediments comprising Sespe Formation. Not to scale.

1994a; Lindsay, 1968; Prothero and others, 1992a, -b; Taylor, 1983). Sandstone beds similar to those in the Coldwater Sandstone occur in the Sespe Formation along Sespe Creek, suggesting the Hartman Ranch Local Fauna is from the transitional zone between the two formations (Lindsay, 1968). Fossil sites in red claystone beds similar to those in the Sespe Formation along Sespe Creek and in Simi Valley occur in the Coldwater Sandstone at the western end of Nordhoff Ridge (Figure 1, site 4). The red claystone beds indicate the fossil sites, which have yielded a rodent and a large rhinoceros-like ungulate (Lander, 1988; D.R. Prothero, unpublished data), are in the same transition zone as that found along Sespe Creek. Presumably, the fossil-bearing beds, which have been assigned to Chron C18N, are the same age as those in the middle member of the Sespe Formation in Simi Valley that yielded the Pearson Ranch Local Fauna (Figure 2; D.R. Prothero, unpublished data). Of particular interest is the occurrence of the mouse Simimys simplex only about 300 feet above the base of the Sespe Formation near Oxnard, approximately 25 to 30 miles south-southwest of Simi Valley (Figure 1, site 8; Lander, 1988, 1994a). This specimen was recovered from an oil well at a depth of 8,195 feet, and may be the deepest occurrence of a land mammal fossil ever recorded. Simimys simplex also occurs from the local faunas in the middle member of the Sespe Formation in Simi Valley, and an undetermined species of Simimys (possibly Simimys simplex) occurs in the Hartman Ranch Local Fauna and in the local fauna in the lower member in Simi Valley (see Figure 2).

Extensive field investigations by California Institute of Technology personnel, who, under the direction of the late Dr. Chester Stock, conducted extensive quarry operations to collect concentrations of fossil remains, were begun around 1930. Many scientific publications, mostly by Stock and one of his students (Dr. Robert W. Wilson), resulted from studies of the numerous fossil specimens recovered by these operations in both the middle and upper members (see below). Subsequently, less extensive investigations were conducted and scientific publications contributed by University of California Museum of Paleontology (Berkeley) and Natural History Museum of Los Angeles County (LACM) personnel. Recently, Dr. Donald R. Prothero and his students (Prothero and others, 1992a, -b, in press) in the Department of Geology at Occidental College have integrated their paleomagnetic polarity data from the Sespe Formation in Simi Valley (particularly on the Simi Valley Landfill and Recycling Center property) and vicinity with the vertebrate paleontologic record of the same strata (Figure 2). Although additional refinement and different age assignments are possible (see Prothero and Swisher, 1992), these data have allowed more accurate assessments of the absolute ages (in years) of these strata and their faunas, and of their relative (land mammal) ages compared to strata and faunas in other regions.

Much information regarding the smaller vertebrates, particularly the mammals, from the middle member has been acquired as the result of the work undertaken for the paleontologic resource impact mitigation program being conducted at the Simi Valley Landfill and Recycling Center with the support of Waste Management of California, Inc., owner of the landfill. The mitigation program has been conducted since 1987 by Mr. Mark A. Roeder and other personnel of Paleo Environmental Associates, Inc. (PEAI), with the assistance of Dr. David P. Whistler, formerly of the LACM Vertebrate Paleontology Section and now with PEAI, Dr. Thomas S. Kelly of the same section, and, initially, Mr. Robert E. Reynolds of the San Bernardino County Museum Division of Earth Sciences to ensure compliance by the landfill operation with Ventura County Resource Management Agency Planning Division environmental guidelines, which were developed in response to the California Environmental Quality Act of 1970, and with recommended mitigation measures presented in the paleontologic resource assessment technical appendix (Lander, 1987) prepared in support of the environmental impact report for the proposed landfill expansion. These guidelines require protection of paleontologic resources by recovering scientifically important fossil remains and associated geologic and geographic site data to reduce the adverse environmental impact of the landfill operation on fossil sites, and to ensure these remains and site data are preserved in a museum for future study by scientific investigators. By the end of 1993, over 75 tons of fossiliferous rock had been processed under this program to allow the recovery of smaller fossil remains normally too small to be observed in the field. Nearly 4,000 identifiable fossil remains, primarily the teeth of small mammals, have been recovered as the result of processing. Due to their very small size, identification of most of these teeth has required study under a microscope. A number of new rodent species have been identified, most from the highest beds in the middle member (Kelly, 1990, 1992; Kelly and Whistler, 1994; Kelly and others, 1991), the first records of land mammals from this part of the member and components of a newly recognized fauna (Simi Valley Landfill Local Fauna of Kelly and others, 1991). A new species of tarsier-like primate (Macrotarsius roederi Kelly, 1990; see Figure 5), the first new primate species collected from the Sespe Formation in over 50 years, received wide media coverage and will also be discussed in several forthcoming high school science textbooks (note: modern tarsiers are found only in the tropical rain forests of southeast Asia). This species, based on a lower right jaw, was named in honor of Mr. Roeder in recognition of his work under the mitigation program and his recovery of the primate specimen. Recently, parts of the lower left jaw of the same individual were recovered by Mr. Roeder, 5 years after discovering the right jaw. The remains of larger land mammals, including the most complete oreodont specimen known from the middle member, were collected during excavation of a small quarry (Kelly and others, 1991). Processing of fossiliferous rock samples also resulted in the recovery of the first identifiable land mammal fossils from the lower member of the formation (Kelly and others, 1991; see above). The fossil material recovered by the program has been the subject of several scientific contributions (Kelly, 1990, 1992; Kelly and Whistler, 1994; Kelly and others, 1991). Recognizing the scientific and educational benefits of its impact mitigation program and the fossil remains from its property, the Simi Valley Landfill and

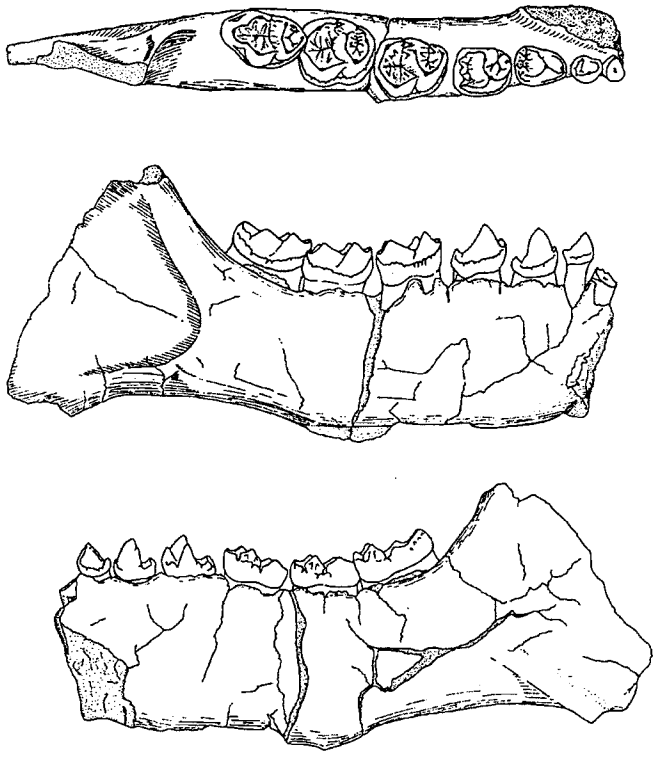

Figure 5. Lower right jaw representing new species of small tarsier-like primate (Macrotarsius roederi) from late middle Eocene (late Uintan North American Land Mammal Age) Tapo Canyon Local Fauna, lower middle member, Sespe Formation. Specimen collected during paleontologic resource impact mitigation program conducted on Waste Management of California, Inc., Simi Valley Landfill and Recycling Center property. After Kelly (1990). A:, top; B, outside; C, inside vie



Figure 6. Right side of skull of large primitive hyena-like carnivore (creodont Hyaenodon vetus) from late middle Eocene (early Duchesnean North American Land Mammal Age) Pearson Ranch Local Fauna, upper middle member, Sespe Formation. Specimen collected by California Institute of Technology personnel in 1932 from large quarry at site (see Figure 8) now occupied by Waste Management of California, Inc., Simi Valley Landfill and Recycling Center. After Stock (1933a).

Recycling Center developed an exhibit on the paleontology of the landfill property. The Simi Valley Historical Society and Museum, and the Rancho Simi Recreation and Park District have begun developing a similar exhibit at the Strathearn Historical Park and Museum.

Upper Member

The upper member of the Sespe Formation is separated from the middle member by an unconformity (Figure 2; Howard, 1988, 1989; Prothero and others, 1992a, -b; however, see Prothero and others, in press). This unconformity, which is documented as far west as the Santa Ynez Mountains (Figure 1; Howard, 1988, 1989), reflects increased emergence of the Simi Valley area relative to sea level and, in Simi Valley, erosion and removal of the uppermost part of the middle member (and any sediments deposited between the middle and upper members) prior to deposition of the sediments comprising the upper member (see Figure 2).

Howard (1988, 1989) suggested the unconformity, which spans the Chadronian, Orellan, and early Whitneyan North American Land Mammal Ages, resulted from the pronounced global fall in sea level that accompanied development of an Antarctic ice cap near the early-late Oligocene boundary. However, paleontologic and paleomagnetic polarity data indicate the unconformity is older and spans all of the late Eocene and much of the early Oligocene, a gap in the rock record spanning roughly 7 million years (Figure 2; Prothero and others, in press; see below). It is possible the unconformity resulted from a global lowstand in sea level that spanned Chrons C17N to C13N (see Haq and others, 1987; Lander, 1994a), or, like the unconformity separating the lower member from the underlying Llajas Formation (see above), could reflect further uplift of the Simi Valley area above sea level as the result of a change in the rate of convergence of the California continental margin and the Farallon plate (Figures 3, 4; see below).

The lower two thirds of the upper member, like the lower member of the formation, consists of thick intervals of yellow sandstone and conglomerate representing deposits of sand and gravel, respectively, laid down during flash floods by braided rivers flowing from the nearby mountains, these deposits reflecting renewed uplift (relative to Simi Valley area) and erosion of the mountainous source area and the return to a steeper gradient (Figure 4; Taylor, 1983). The presence of andesitic (volcanic) cobbles in the upper member suggest a source area in southwestern Arizona (Prothero and others, in press). These sandstone and conglomerate intervals are exposed in Alamos Canyon north of the Simi Valley Freeway (Figure 1, site 11). During deposition of the sediments comprising the lower two thirds of the upper member in Simi Valley, the marine regression continued and finally ended as the fore-arc basin filled with sediments and the Pacific coastline subsequently withdrew to its westernmost point (Lander, 1983, 1994a; Howard, 1988, 1989, however, considered these sediments to have been deposited during the subsequent marine transgression, when the Pacific Ocean returned to the area). Strata in the Sespe Formation the same age as those in the lower two thirds of the upper member in Simi Valley are recognized approximately 100 miles west of Simi Valley in Canada del Cementerio at the southwestern corner of the Santa Ynez Mountains near Point Conception in western Santa Barbara County (Figures 1, 3, sites 1, B), where they overlie and interfinger with a marine rock unit (lower regressive part of Alegria Formation) (Figure 4; Howard, 1988, 1989; Lander, 1983, 1994a; Rigsby, 1988).

No fossil remains are recorded from this portion of the upper member in Simi Valley. However, the upper member and strata of similar age in the Sespe Formation at fossil sites in Little Simi Valley and the Las Posas Hills, at South Mountain, along Oak Ridge, and in the Santa Ynez Mountains (Figure 1, sites 2, 6, 7, 9, 10) have yielded remains representing approximately 30 continental vertebrate species that are early to late Oligocene (late Whitneyan to early Arikareean North American Land Mammal Ages) and about 30.45 million to 27.95 million years in age (beginning of Chron C11R to end of Chron C9R) (Figure 2; see below; Lander, 1983, 1994a; Prothero and others, 1992a, -b, in press; Savage and others, 1954; Tedford and others, 1987). These species include tortoises, a rabbit, rodents (squirrels, a gopher, mice), a bear-like carnivore, small and large dogs, a cat, small saber-tooth cat, horse, small and large rhinoceroses, a hippopotamus-like ungulate, camel, three to five evolutionary lineages of advanced camel-like ungulates (oreodonts), and a mouse deer- (chevrotain-) like ungulate (Lander, 1983), and are decidedly more advanced than their ancestors in the middle member of the formation. The Kew Quarry Local Fauna, which is from a fossil site on the southern side of the Las Posas Hills (Figure 1, site 9) and occurs in a reversed paleomagnetic polarity interval in the upper member, is considered late Whitneyan or early Arikareean (early Oligocene) and assignable to Chron C11R or C10R by Prothero and others (1992a, -b, in press). A normal interval occurs lower in the upper member in the Las Posas Hills (Prothero and others, in press). On the other hand, the comparatively primitive dentition of the rhinoceros ("Subhyracodon" kewi) and the relatively small size of the cat (Nimravus brachyops) in the fauna suggests the Kew Quarry Local Fauna, the oldest known from the upper member, is late Orellan or early Whitneyan in age (Lander, 1983), although the rather large size and prominent metastylids of the horse (Miohippus annectens?) compared to its presumed late Orellan ancestor suggests the fauna is no older than Whitneyan. However, the rhinoceros may be assignable to a late Whitneyan species from Oregon (Lander, 1994a). The Kew Quarry Local Fauna, therefore, probably is late Whitneyan (early Oligocene) and between about 30.45 million and 30.1 million years in age, and presumably assignable to Chron C11R (Lander,



Figure 7. Right side of skull of large semi-aquatic tapir-like rhinoceros (Amynodontopsis bodei) from late middle Eocene (early Duchesnean North American Land Mammal Age) Pearson Ranch Local Fauna, upper middle member, Sespe Formation. Specimen collected by California Institute of Technology personnel in 1932 from large quarry at site (see Frontspiece, pg. 302) now occupied by Waste Management of California, Inc., Simi Valley Landfill and Recycling Center. After Stock (1933b).

1994a; see Figure 2), an assignment consistent with paleomagnetic polarity data for the upper member in Simi Valley (see Prothero and others, 1992a, -b; however, see Prothero and others, in press).

The upper member has yielded an unnamed fauna at a fossil site in Little Simi Valley near Virginia Colony (Figure 1, site 10), approximately 1,000 feet below the base of the overlying marine Vaqueros Formation and presumably from Chron C10R (early Arikareean, early Oligocene, 29.35 million to 28.7 million years ago; see Figure 2; Prothero and others, in press). The fauna is represented by remains probably belonging to one of the late Whitneyan to early Arikareean oreodont species (Sespia nitida, which includes Sespia californica) (Lander, 1983, 1994a; Prothero and others, in press). In the Sespe Formation along Oak Ridge (Shiells Canyon) (Figure 1, site 7), Sespia (Shiells Canyon Local Fauna) occurs only 100 feet below the Vaqueros Formation in strata the same age as the upper member, although the uppermost part of the Sespe Formation in Shiells Canyon might have been removed by faulting and the Sespia nitida specimen from this area could be from a level corresponding to one at least 500 feet below the Vaqueros Formation at South Mountain (Lander, 1983, 1994a; see below). A volcanic ash bed (Willard Canyon Tuff) occurs in the Sespe Formation at South Mountain (Figure 1, site 6), 890 feet below the Vaqueros Formation in strata the same age as those in the upper member, and has been determined to be 28.2 million years old and in Chron C10N (see Figure 2; Mason and Swisher, 1989; Prothero and others, 1992a, -b, in press). This ash bed and an ash bed 150 feet below the top of the upper member in Simi Valley (Corey, 1927) indicate the occurrence of volcanic activity, presumably in the Simi Valley region, during the late Oligocene (see Figure 2). The Sespe Formation at South Mountain has yielded early Arikareean land mammal species (South Mountain Local Fauna), including Sespia nitida, which extends from approximately 1,200 feet below (at base of exposed section, where it occurs with another early Arikareean oreodont species, Merycoides pariogonus) to 400 feet above the ash bed (2,100 to 500 feet below Vaqueros Formation, from Chron C10R to top of Chron C10N or base of Chron C9R; another oreodont species occurs higher in Sespe Formation, presumably still in Chron C9R) (see Figure 2; Lander, 1983, 1994a; Mason and Swisher, 1989; Prothero and others, in press). Lander (1994a) and Prothero and others (1992a, -b, in press) consider this fauna and the upper 2,100 feet of the Sespe Formation to early to late Oligocene (29.35 million to 27.95 million years) in age (Chrons C10R to C9R; see Figure 2). In Canton Canyon (Figure 1, site 5), a different oreodont species occurs near the level of the contact between the Sespe and Vaqueros Formations (E.B. Lander and R.L. Squires, unpublished data). Of particular interest is a fossil site at Gaviota Pass in the south-central Santa Ynez Mountains (Figure 1, site 2), where the lower (regressive) part of the marine Alegria Formation, which is the marine continuation of the upper (but not uppermost) part of the Sespe Formation in the southeastern Santa Ynez Mountains (see Figure 4), also has yielded Sespia nitida (Canada de la Gaviota Local Fauna), as have strata of similar age in the upper (but not uppermost) part of the Sespe Formation in the southeastern Santa Ynez Mountains north and northwest of Santa Barbara (Lander, 1983, 1994a). The Sespe Formation overlies and interfingers with the lower part of the Alegria Formation from the Gaviota Pass area westward nearly to Point Conception in Canada del Cementerio (Figure 1, sites 1, 2; Lander, 1983, 1994a; see Rigsby, 1988). These occurrences of Sespia nitida are younger than the diverse Kew Quarry Local Fauna, which lacks Sespia. The upper (transgressive) part of the Alegria Formation overlies and interfingers with, and, therefore, is the marine continuation of the uppermost part of the Sespe Formation and underlies the Vaqueros Formation from Canada del Cementerio eastward past Gaviota Pass (Figure 1, sites 1, 2; see Figure 4; Howard, 1988; Lander, 1994a; Rigsby, 1988).

In Nebraska, the oldest occurrence of Sespia (Sespia nitida) is in Chron C11N, approximately 15 feet below a volcanic ash bed (Nonpareil Ash) determined to be 30.05 million years old (late Whitneyan, early Oligocene), and the youngest occurrence presumably is in Chron C9N (27.95 million to 27.0 million years in age), above the level of a volcanic ash bed in Chron C9N determined to be 27.8 million years old (early Arikareean, late Oligocene) (Lander, 1994a; D.R. Prothero, unpublished data; Prothero and Swisher, 1992; Prothero and others, 1991a, -b; Tedford and others, 1985; see Figure 2). Presumably, Sespia could have existed in California as early as about 30.05 million years ago (near beginning of Chron C11N), although only the records from the Santa Ynez Mountains (including those from upper part of Sespe Formation), which are still undated, could be so old. Moreover, Sespia appears not to have existed as late in California as it did in Nebraska, probably not lasting past Chron C9R (27.95 million years ago) and possibly not even surviving past Chron C10N (28.25 million years ago) (Lander, 1994a).

The upper third (720 feet) of the upper member of the Sespe Formation in Simi Valley (Figure 1, site 11) consists of sandstone and claystone beds representing sand and clay layers, respectively, deposited on a coastal floodplain (Taylor, 1983). The occurrence of anorthosite (granite-like) pebbles in the uppermost part of the formation in Simi Valley (upper 725 feet; Chron C9R) and Canton Canyon indicate a source area in the San Gabriel Mountains, suggesting the San Gabriel Mountains were uplifted relative to, and lay adjacent to (north of) Simi Valley and Canton Canyon during deposition of the sediments comprising the uppermost part of the Sespe Formation, and were subsequently moved approximately 35 miles to the southeast by right-lateral offset along the San Gabriel Fault (Howard, 1988, 1989; Lander, 1994a; see Prothero and others, in press; Figures 1, 3, sites 5, 11). In Simi Valley, this part of the formation is transitional with the base of the overlying marine Vaqueros Formation (Figure 2; Taylor, 1983; Topanga Formation of Dibblee, 1992b; see below), with which the upper 100 feet of the upper member interfinger (Blundell, 1983; Lander, 1983; Squires, this volume), indicating continuous deposition and subsidence accompanying a major marine transgression as the Pacific Ocean returned to Simi Valley after nearly 15 million years of emergence, the Pacific coastline advancing eastward approximately 100 miles from Canada del Cementerio near Point Conception (probably less than 50 miles south of Simi Valley after correcting for 90 degrees of clockwise crustal rotation and offset along intervening left-lateral-displacement faults) (Figures 1, 3, sites 1, 11, A; see below; Howard, 1988; Lander 1983, 1994a; Rigsby, 1988). Fossil remains from this transitional zone in the Alamos Canyon area of Simi Valley (Figure 1, site 11) represent land mammals (mouse [Leidymys nematodon], rabbit, mouse deer- [chevrotain-] like ungulate), marine vertebrates (sharks), marine mollusks (snails, clams), and land plants, the land mammal and shark remains occurring at the base of the transition zone, 95 to 100 feet below the top of the Sespe Formation (Blundell, 1983; Lander, 1983, 1994a; Prothero and others, in press; Taylor, 1983). The species represented by the land mammal remains comprise a fauna (Alamos Canyon Local Fauna) that lies roughly 900 feet above and postdates the last local occurrence of Sespia in the upper (but not uppermost) part of the upper member and probably is late early Arikareean in age (Lander, 1983, 1994a; Figure 2). Prothero and others (1992a, -b, in press) consider this fauna (and upper part of upper member) to be late Oligocene (28.0 million to 27.5 million years) in age (Chron C9R; see Figure 2; however, see Prothero and others, in press). However, in the Pleito Hills at the southern end of the San Joaquin Valley (Figure 1, site 12), late early Arikareean land mammal species (including Leidymys nematodon) comprising the Tecuya Canyon Local Fauna occur in the uppermost part of the lower member of the Tecuya Formation, as high as a level about 25 feet below a lava flow determined to be 22.9 million years (earliest Miocene) in age (Lander, 1983). Presumably, the Alamos Canyon Local Fauna is older than the Tecuya Canyon Local Fauna, or the estimated age for one of the faunas is in error.

In the northern Santa Ana Mountains area of the Peninsular Ranges Province in Orange County (Figures 1, 3, site 13), approximately 60 miles southeast of Simi Valley, the upper part of the Sespe Formation underlies and interfingers with its marine continuation, the Vaqueros Formation, but has yielded younger land mammal assemblages (Bolero Lookout and Santiago Canyon Landfill Local Faunas) assignable to the early Hemingfordian North American Land Mammal Age (late early Miocene; 18

million to 20 million year old; Lander, 1994b; H.W. Wagner, personal communication in Belyea and Minch, 1989). These assemblages include the oreodont Merychyus arenarum and overlie an early Arikareean assemblage containing Sespia nitida (Lander, 1994b; RMW Paleo Associates, unpublished data). Paleontologic data suggest the Pacific coastline transgressed beyond the Simi Valley area and into the northern Santa Ana Mountains during the early Miocene.

Recalibration of Marine RegressiveTransgressive Cycle Recorded by Sespe Formation

A major marine regressive-transgressive cycle is recorded in the western Transverse Ranges block by the Sespe Formation, and by this and other nonmarine rock units elsewhere along the southern and central California portion of the North American plate margin. Based on geologic and paleontologic evidence from the Santa Ynez Mountains (see above), Lander (1983, 1994a) considered the sediments comprising all but the uppermost (transgressive) part (upper third of upper member) of the Sespe Formation in Simi Valley to have been deposited during the regression and before the last local occurrence of Sespia. Howard (1988, 1989), however, considered the sediments comprising only the lower and middle members of the Sespe Formation to have been deposited during the regression, the unconformity between the middle and upper members spanning the time during which a sudden pronounced drop in sea level and the maximum extent of the accompanying regression occurred. The latter interpretation is not consistent with paleontologic evidence or paleomagnetic polarity data (see above). The maximum extent of the regression and the transition from regressive to transgressive sedimentation, as recognized in the Santa Ynez Mountains, occurred by about 28.25 million years ago (end of Chron C10N), probably as late as the late Oligocene and after the last local occurrence of Sespia (Lander, 1983, 1994a; see Figure 2; see above). During the Oligocene, broad areas of the southern and central California continental margin were exposed as a result of the marine regression and covered by nonmarine deposits as the mountainous source areas farther inland were extensively eroded (Ingle, 1981; Nilsen, 1987).

Data presented above and in Lander (1994a) indicate the Pacific coastline was in Simi Valley (Tapo Canyon) during the early middle Eocene, probably near the beginning of Chron C19R about 42.6 million years ago, when the sediments comprising the basal conglomerate of the lower member of the Sespe Formation were being deposited on the marine Llajas Formation (Figure 2; Figure 3, sites 11, A). The coastline subsequently withdrew westward (southward after correcting for 90 degrees of crustal rotation; Prothero and others, 1992a, -b, in press), probably passing through the southern Pine Mountain area by the end of Chron C18R and the western Nordhoff Ridge area by the end of Chron C18N (late middle Eocene) (Lander, 1994a; Figure 2; Figure 3, sites 3, 4). The coastline finally reached the Point Conception area (Canada del Cementerio) at the western end of the Santa Ynez Mountains, where the upper part of the formation interfingers with and pinches out between the lower (regressive) and upper (transgressive) parts of the marine Alegria Formation, probably after the last local occurrence of Sespia and presumably near the Chron C10N-C9R boundary, about 28.25 million years ago (late Oligocene) (Lander, 1983, 1994a; Figure 2; Figure 3, sites 1, B). Recalibration of the beginning and end of the regression suggest the regressive phase of the regressive-transgressive cycle lasted approximately 14.3 million years (Lander, 1994a).

The coastline subsequently returned from Point Conception to Simi Valley (Figure 3, sites 11, A), where the upper third of the upper member of the Sespe Formation underlies and interfingers with the marine Vaqueros Formation, by the end of Chron C9R, about 27.95 million years ago (late Oligocene) (Lander, 1983, 1994a). Recalibration of the beginning and end of the transgression suggest the transgressive phase of the regressive-transgressive cycle lasted only about 500,000 years, a duration roughly 2 per cent of that estimated for the transgressive phase (Lander, 1994a). These data suggest the Simi Valley area was emergent for approximately 14.65 million years during deposition of the sediments comprising the Sespe Formation. However, the Santa Ana Mountains might have been emergent for over 22 million years (see above).

Causes of Apparent Sea Level Changes During Deposition of Sediments Comprising Sespe Formation

Several geologic phenomena have been identified to account for the initial fall and subsequent rise in sea level that comprise the regressive-transgressive cycle recorded by the Sespe Formation. These phenomena include changes in the size of the Antarctic ice cap, which would have caused global (glacio-eustatic) fluctuations in sea level, and plate tectonic (structural) processes, including changes in the sea floor spreading rate along an oceanic ridge, which also would have caused global (eustatic) sea level fluctuations, and interaction of the western margin of the North American plate and the eastern edges of the oceanic plates underlying the Pacific Ocean (changes in convergence/subduction rate; collision of continental plate margin and East Pacific Rise), which would have resulted in sea level fluctuations that were primarily regional in extent. It is difficult to distinguish the influences of plate tectonic and climatic changes because these phenomena appear to have occurred at about the same time and to have had similar effects (Howard, 1989; Lander and Butcher, 1984). Moreover, fluvial sedimentation would have had a pronounced local effect on sea level (Lander, 1994a).

Filling of Fore-arc Basin with Fluvial Sediments

The influences of glacio-eustatic and plate tectonic events would have been imprinted on fluvial deposition, which, even without the effects of regional uplift or a global fall in sea level, would have built the coastal plain seaward and caused the Pacific Ocean to withdraw from the southern and central California portion of the North American plate margin, particularly with regard to the western Transverse Ranges block as the fore-arc basin filled with fluvial sediments, including those comprising all but the uppermost part of the Sespe Formation (Lander, 1994a; see Howard, 1988; Ingle, 1981; Figure 4). Filling of the fore-arc basin might have caused the reduction in gradient documented from the lower to middle members of the formation in Simi Valley (see above). However, the development of unconformities, which, in the Simi Valley area, separate the Sespe Formation from the underlying marine Llajas Formation and the middle member of the Sespe Formation from the upper member, as well as the apparent uplift relative to sea level and accompanying erosion of the Simi Valley area and the rest of the western Transverse Ranges block during the time intervals represented by these unconformities, suggest some other mechanism was causing global falls in sea level or regional uplift.

Sea Floor Spreading Rate

Gurnis (1992) and Vail and others (1977) suggested increased upwelling of molten mantle rock under an oceanic ridge (as indicated by accelerated sea floor spreading rate along ridge), as well as the accompanying increased arching of the sea floor centered about the ridge, as a possible cause for a global rise in sea level, increased arching of the sea floor displacing a sufficient volume of sea water to cause a global rise in sea level. An increase in the sea floor spreading rate would have resulted in subsidence and an even greater regional rise in sea level along the adjacent continental plate margins landward of the associated oceanic trenches, where the leading edges of the oceanic plates generated by the ridge were being subducted and pulling down the continental margins (Gurnis, 1992; Ingle, 1981). Presumably, a decrease in the spreading rate would have been accompanied by a global fall in sea level, as well as regional uplift of the continental plate margins.

Ingle (1981) reported an increase in the sea floor spreading rate along the East Pacific Rise during the late Oligocene to earliest Miocene approximately 22 million to 25 million years ago (presumably Chron C6, as indicated by sea floor paleomagnetic polarity data; see Haq and others, 1987) as being responsible for subsidence of the southern and central California continen-



A view of "Whiteface," the prominent cliff that dominates the northern view of Simi Valley, comprised of exposed white diatomite of the Modelo Formation 12 to 6 million years old. Diatomite is a soft white silica-rich deposit that is formed in a cold, deep marine environment and is composed largely of the remains of microscopic floating algae (diatoms). (Photo by Bill Appleton.)

tal margin (particularly Simi Valley area) and the accompanying marine transgression, as reflected by marine sediments comprising the Vaqueros Formation being deposited on nonmarine sediments comprising the Sespe Formation. However, subsidence of the plate margin began during deposition of the sediments comprising the uppermost part of the Sespe Formation in the area now comprising the western Transverse Ranges block near the Chron C10N-C9R boundary approximately 28.25 million years ago (see below).

Ward (1991), on the other hand, has argued that a dramatic slowing in the rate at which the Farallon plate was being subducted under the North American plate margin resulted in uplift of the margin, presumably by the beginning of Chron C19R (see below). This reduction in the subduction rate, however, was not related to a decrease in the sea floor spreading rate along the East Pacific Rise (Ward, 1991). Instead, the East Pacific Rise migrated northwestward away from the subduction zone, which resulted in the decreased subduction rate.

Interaction of Oceanic Plates and North American Plate Margin

Convergence of the East Pacific Rise and the southern and central California portion of the North American plate margin as the margin overrode the intervening Farallon plate (see Figures 3, 4) might explain the apparent uplift and the accompanying progressive withdrawal of the Pacific Ocean from the continental margin (including fore-are basin and area now comprising western Transverse Ranges block) during the early middle Eocene to late Oligocene (see Lander, 1994a; Nilsen, 1987; Ward, 1991)

The sea floor gradually rises towards an oceanic ridge, where the earth's crust is hotter, less dense, and, therefore, more buoyant due to convection currents in the lower liquid portion of the mantle (asthenosphere) and the resulting upwelling of the molten mantle rock that forms new oceanic lithosphere (crust and underlying upper rigid portion of mantle) in the spreading center that lies along the ridge crest (see Figure 4; Anderson, 1971; Burchfiel, 1983; Francheteau, 1983). Farther from the ridge, the crust is increasingly older and, therefore, cooler and denser, displacing the underlying asthenosphere and subsiding farther below sea level. In those instances where the oceanic ridge and corresponding subduction zone are widely separated, the sea floor slopes away from the oceanic ridge to a depth over 2 miles greater at the subduction zone (Francheteau, 1983).

During the regression, the Farallon plate, which comprised the oceanic crust that lay east of, and was being generated by the spreading center along the crest of the East Pacific Rise, was moving eastward and plunging (subducting) under the western margin of the North American plate, where an oceanic trench (North American Trench or subduction zone) existed and beyond which the leading edge of the Farallon plate was being consumed in the asthenosphere (Anderson, 1971). Regional uplift of the southern and central California continental margin above sea level and, in the western Transverse Ranges block, deposition of nonmarine sediments comprising the Sespe Formation over marine sediments as the margin rode up the shallow gradient towards the East Pacific Rise (Lander, 1994a).

According to Ward (1991), the segment of the East Pacific Rise between the Pioneer and Murray fracture zones approached the oceanic trench off the coast of northwestern Mexico, presumably by Chron C19R (early middle Eocene; 42.6 million to 41.6 million years ago). Ward (1991) argued that subduction of the Farallon plate slowed dramatically or even stopped, at which time uplift of the continental margin occurred and major unconformities developed because of the difficulty subducting increasingly buoyant oceanic

crust. During the early middle Eocene, the western Transverse Ranges block was adjacent to northern Mexico (see above), and the beginning of the regression and deposition of the sediments comprising the lower member of the Sespe Formation in Simi Valley roughly 42.6 million years ago (beginning of Chron C19R) appears to coincide with the approach of the East Pacific Rise to the continental margin and the reduction in the subduction rate. Moreover, a major unconformity separates the Sespe Formation from the underlying marine Llajas Formation. Because one of the earliest occurrences of nonmarine deposition along the central and southern California continental margin during the early middle Eocene was in Simi Valley, it is probable the western Transverse Ranges block, particularly with regard to Simi Valley, was one of the areas of the margin closest to the East Pacific Rise.

During the late Oligocene (presumably during Chron C9, approximately 27.0 million to 28.25 million years ago), the East Pacific Rise finally collided with, or was overridden by that part of the continental margin now comprising the western Transverse Ranges block when the block was adjacent to that portion of northwestern Mexico currently situated near 32.5 degrees north latitude; following the initial collision event, the fore-arc basin and the drainage system depositing the sediments comprising all but the uppermost part of the Sespe Formation were disrupted as spreading and subduction ended along the lengthening contact zone, which reflected the transition from a zone of convergent and collisional tectonics to one of extension and right-lateral transform shear (Figures 1-4; see below; Anderson, 1971; Bohannon and others, 1994; Howard, 1988; Lander, 1994a; McLaughlin and Underwood, 1993). Extension (stretching) of the continental margin resulted from coupling and subsequent divergence of the margin and the Pacific plate, which lies northwest of, and is being generated in a northwesterly direction by remnants and newly developed segments of the East Pacific Rise spreading center north and south of the zone of contact (Figure 3; see Anderson, 1971). Extension caused the margin to break up along east-west-trending normal (extensional) faults (see Squires, this volume; north-south-trending after correcting for 90 degrees of crustal rotation; see below) oblique to the direction of extension. Ancient normal faults were active during deposition of the sediments comprising the uppermost part of the Sespe Formation (but not the overlying Vaqueros Formation) at Big Mountain (northern side of Simi Valley) (Dibblee, 1992b; Yeats, 1983). Normal faulting caused the development of parallel elongate fault-bounded basins and ridges, this development disrupting the fore-arc basin and the drainage system that had occupied the fore-arc basin and deposited the nonmarine sediments comprising all but the uppermost part of the Sespe Formation (see Howard, 1988, 1989). The Simi Valley area and the rest of the region now forming the western Transverse Ranges block became part of a large subsiding basin south of the emerging San Gabriel Mountains during deposition of the sediments comprising the uppermost part of the Sespe Formation and the overlying marine Vaqueros Formation (Lander, 1994a; see Howard, 1988, 1989). Deposition of marine sediments comprising the Vaqueros Formation over nonmarine sediments comprising the Sespe Formation records subsidence and the resulting marine transgression (Ingle, 1981; Lander, 1994a).

Extension also caused the margin to break up along more recently developed northwest-southeast-trending right-lateral-displacement faults (transform shear zones) related to and including the San Andreas and San Gabriel Faults (see below). The onset of widespread volcanism in southern and central California (including southern San Joaquin Valley; see above) approximately 25 million to 23 million years ago was an additional effect of extension.

Antarctic Glaciation

A pronounced global fall in sea level began in the early Oligocene (Chron C12R) and ended with a dramatic plunge just after the early-late Oligocene boundary during Chron C10N.1; the subsequent rise in sea level began during Chron C10N.1 and ended in the earliest Miocene during Chron C6BR (Haq and others, 1987) (see Figure 2). Recent revisions of the paleomagnetic polarity time scale (Cande and Kent, 1992) suggest the regression lasted from about 33 million until about 28.5 million years ago, the transgression from about 28.5 million until about 23 million years ago. Recent estimates for the magnitude of the sea level fall range from 100 to 650 feet (Hallam, 1992; Haq and others, 1987). These estimates indicate the excursion is the most pronounced documented in the Tertiary geologic record (Hallam, 1992; Haq and others, 1987; Vail and others, 1977). Fluctuations in Antarctic glaciation and ice cap volume during the Tertiary and the corresponding variations in sea level have been identified by some workers (for example, Hallam, 1992) as the causes for the global transgressive-regressive cycle documented in Oligocene rock unit sequences around the world.

An ice cap develops when precipitation falls on a continent at high latitudes during an interval of lower temperatures and, rather than flowing back to the ocean as water, is converted into glacial ice and trapped on the continent as part of the ice cap. The progressive growth of the ice cap results in a corresponding global (glacio-eustatic) fall in sea level, while melting of the ice cap leads to a corresponding global rise in sea level as glacial meltwater flows into the ocean (Vail and others, 1977). Melting of the modern Antarctic ice cap, for example, would cause a global rise in sea level of 200 to 250 feet (Hallam, 1992).

Bartek and others (1992) and Wise and others (1991) have recently assessed various lines of geologic and paleontologic evidence regarding development of an Antarctic ice cap during the Tertiary. The oldest Antarctic glacial debris (tillite deposits) underlies lava flows determined to be 49.4 million years (early Eocene) in age. Glaciers had grown sufficiently large to have reached the ocean by the late Eocene. An ice cap (or extensive ice sheets) began developing during the early Oligocene and attained its maximum volume, up to twice that of the modern ice cap according to one estimate, by the late Oligocene, when growth of the ice cap is presumed to have resulted in the dramatic global fall in sea level documented elsewhere. Glacial ice was present until the early Miocene, when the Antarctic continent deglaciated. Based on estimates for the volume of the late Oligocene ice cap and for sea level changes resulting from melting of the modern ice cap, fluctuations in development of the Tertiary Antarctic ice cap could have resulted in sea level changes up to 500 feet.

Ingle (1981), Howard (1988, 1989), Lander (1983), particularly with regard to the Sespe Formation, and Lander and Butcher (1984) suggested glaciation of the Antarctic continent and the accompanying global fall in sea level as the causes of the regression recorded in rock unit sequences of early middle Eocene to late Oligocene age along the southern and central California continental margin. Similarly, Lander (1983) and Lander and Butcher (1984) proposed deglaciation of the Antarctic continent and the corresponding rise in sea level, rather than collision of the California continental margin and the East Pacific Rise, as the causes for the subsequent transgression from the late Oligocene to early Miocene. The regressive-transgressive cycle is recorded in a number of rock unit sequences of similar age along the southern and central California continental margin (Lander and Butcher, 1984), the end of the regression and the beginning of the transgression appearing to have occurred in California at about the same time similar transitions occurred elsewhere in the world. Lander and Butcher (1984) argued that the end of the regression and the beginning of the transgression at one site appeared too similar in age to the transitions documented at other widely separated sites along the California continental margin to have been caused by a regional tectonic (collision) event, in which the transition should have occurred earliest nearest the point of initial contact and subsequent crustal extension.

Howard (1988, 1989) considered the unconformity between the middle and upper members of the Sespe Formation in Simi Valley and between the lower and upper parts of the Sespe Formation in the Santa Ynez Mountains and elsewhere in the western Transverse Ranges block to be the result of the pronounced glacio-eustatic drop in sea level that occurred during Chron C10N. However, paleontologic and paleomagnetic polarity data from the Sespe Formation in these areas indicate the unconformity is too old to have resulted from the glacio-eustatic event (see above; Figure 2).

Summary

Integration of geologic, paleomagnetic polarity, and paleontologic data have allowed a more refined calibration of the regressive-transgressive cycle than available previously, and permits correlation of each phase of the cycle with other calibrated geologic phenomena.

The initial phase of the regression in the western Transverse Ranges block and deposition of the sediments comprising the regressive lower and middle members of the Sespe Formation in the Simi Valley area began during the early middle Eocene, presumably by the beginning of Chron C19R, 42.6 million years ago (Lander, 1994a; see Figure 2). This phase of the regression appears to have been a regional phenomenon that occurred in response to a plate tectonic event--the approach and close proximity of the East Pacific Rise to the southern California portion of the North American plate margin, and possibly an accompanying dramatic decrease in the rate at which the Farallon plate was being subducted under the margin (Lander, 1994a; Nilsen, 1987; Ward, 1991). Alternatively, the initial phase of the regression also might be the result, at least in part, of another regional plate tectonic phenomenon--the overriding of progressively younger, hotter, more buoyant, and, therefore, shallower sea floor of the Farallon plate by the continental margin as the margin rode up a shallow gradient towards the topographic high created by the East Pacific Rise (Lander, 1994a). No global eustatic event appears to coincide with this phase of the regression. Moreover, Nilsen (1987) suggested that the effects of eustatic sea level changes would have been more uniform in their timing and more widespread than the observed effects.

The temporal gap represented by the unconformity separating the middle and upper members of the Sespe Formation in Simi Valley, on the other hand, seems to coincide with a pronounced late Eocene eustatic sea level lowstand of undetermined origin that spanned Chrons C17N to C13N, 36.65 to 33.05 million years ago (Lander, 1994a; Haq and others, 1987; Vail and others, 1977; however, see Prothero and others, in press; see Figure 2). There is no evidence this lowstand is a global glacio-eustatic event, but it is possible a regional reduction in the sea-floor spreading rate and a corresponding reduction in the volume and elevation of the affected spreading ridge might have caused a global lowstand in sea level (see Vail and others, 1977).

The final phase of the regression in the western Transverse Ranges block and deposition of the sediments comprising the lower regressive part of the upper member of the Sespe Formation in Simi Valley began during the early Oligocene, presumably just after the beginning of Chron C13N, 33.55 million years ago (Lander, 1994a; see Figure 2). This phase of the regression appears to correlate with an early Oligocene eustatic fall in sea level of undetermined origin that began near the beginning of Chron C12R and ended with the dramatic late Oligocene glacio-eustatic sea level lowstand that occurred during an Antarctic glacial maximum just before the end of Chron C10N.1 about 28.25 million years ago (Lander, 1994a; see Figure 2). Alternatively, the final phase of the regression again might be the result of the overriding of the Farallon plate (see above).

However, regressive sedimentation caused by these tectonic and eustatic events was imprinted on coastal fluvial deposition, which, even without uplift or a drop in sea level, would have caused the seaward or westward (southward after correcting for 90 degrees of crustal rotation; Prothero and others, 1992a, -b, in press) expansion of the alluvial coastal plain as the source area eroded and the fore-arc basin filled with fluvial sediments (Lander, 1994a).

The transgression in the western Transverse Ranges block and deposition of the sediments comprising the transgressive upper part of the upper member of the Sespe Formation began during the late Oligocene, presumably near the beginning of Chron C9R about 28.25 million years ago (Lander, 1994a; see Figure 2). This transgression appears to have occurred too rapidly, and its magnitude seems to have been too great to be the result of a glacio-eustatic rise in sea level (Lander, 1994a; see Hallam, 1992). Instead, the development of normal faults that offset strata within the Sespe Formation but not the overlying Vaqueros Formation in Simi Valley, and the occurrence of San Gabriel Mountains anorthosite clasts in the upper part of the upper member in Simi Valley and Canton Canyon suggest the transgression was a regional response to a plate tectonic event that occurred subsequent to the initial contact of the continental margin and the East Pacific Rise and as a result of the coupling of the margin with the Pacific plate--crustal extension of the margin as the margin and the Pacific plate diverged. Crustal extension, in turn, resulted in tectonic subsidence of that part of the continental margin now comprising the western Transverse Ranges block when the block was adjacent to that part of northwestern Mexico (after correcting for 190 miles of right-lateral-displacement along San Andreas and San Gabriel Faults) where the initial contact of the margin and the East Pacific Rise occurred (Bohannon and others, 1994; Lander, 1994a). The sediments comprising the upper part of the upper member of the Sespe Formation and the overlying marine rock units in the western Transverse Ranges block probably were deposited in a large, rapidly subsiding basin immediately south of the emerging San Gabriel Mountains, subsidence possibly occurring along a normal fault that subsequently developed right-lateral displacement and became the San Gabriel Fault (Lander, 1994a).

Crustal Rotation of Western Transverse Ranges Block Following Deposition of Sediments Comprising Sespe Formation

Paleocurrent and paleomagnetic polarity data indicate rivers depositing the sediments comprising the Sespe Formation flowed in a southerly direction; however, following deposition of these sediments about 28 million years ago and beginning during the early middle Miocene about 16 million years ago, the western Transverse Ranges block (including former fore-arc basin and present Simi Valley area) was gradually rotated 90 to 95 degrees in a clockwise direction so that the ancient river channels preserved in the Sespe Formation are now directed to the west (Figures 1, 3; Hornafius, 1985; Howard, 1988, 1989; Kamerling and Luyendyk, 1979; Luyendyk and others, 1980, 1985; Mason, 1988; Prothero and others, 1992a, -b; Taylor, 1983; see above). The block was transformed from a zone of extension and normal faulting to one of right-lateral shear between the rest of the North American plate to the northeast and the Pacific plate to the southwest (Luyendyk and others, 1980, 1985). Following collision of the East Pacific Rise and the North American plate, the North American plate was offset to the southeast along the right-lateral-displacement San Andreas Fault while the Pacific plate drifted in a northwesterly (right-lateral) direction, the intervening crustal segments of the continental margin now comprising the western Transverse Ranges block rotating in a clockwise direction in response to this right-lateral shear couple, rotation being accommodated by left-lateral displacement along previously existing normal (extensional) faults that developed during and/or after deposition of the sediments comprising the upper member of the Sespe Formation (Figure 9; see above). As a result of left-lateral displacement, these fault-bounded crustal segments comprising the fore-arc basin were offset relative to one another (see Figure 9).

Northwestward Translation Along Right-Lateral-Displacement Faults Following Deposition of Sediments Comprising Sespe Formation

Since inception of right-lateral offset (see Squires, this volume) along the San Andreas Fault and related faults (including San Gabriel Fault) to the southwest, the southern and central California continental margin, including the Simi Valley area, has been displaced in a northwesterly direction relative to the rest of North America, which lies on the opposite (northeastern) side of the San Andreas Fault, at the rate of about 0.5 inch per year (Anderson, 1971). Displacement has occurred because the continental margin is coupled to the Pacific plate, which is pulling the margin in a northwesterly direction at a rate approaching 2 inches per year relative to the rest of the North American plate (U.S. Geological Survey and Southern California Earthquake Center, 1994). During deposition of the sediments comprising the Sespe Formation, the Simi Valley area lay approximately 190 miles to the southeast relative to the area northeast of the fault (see Howard, 1988), and is pre-

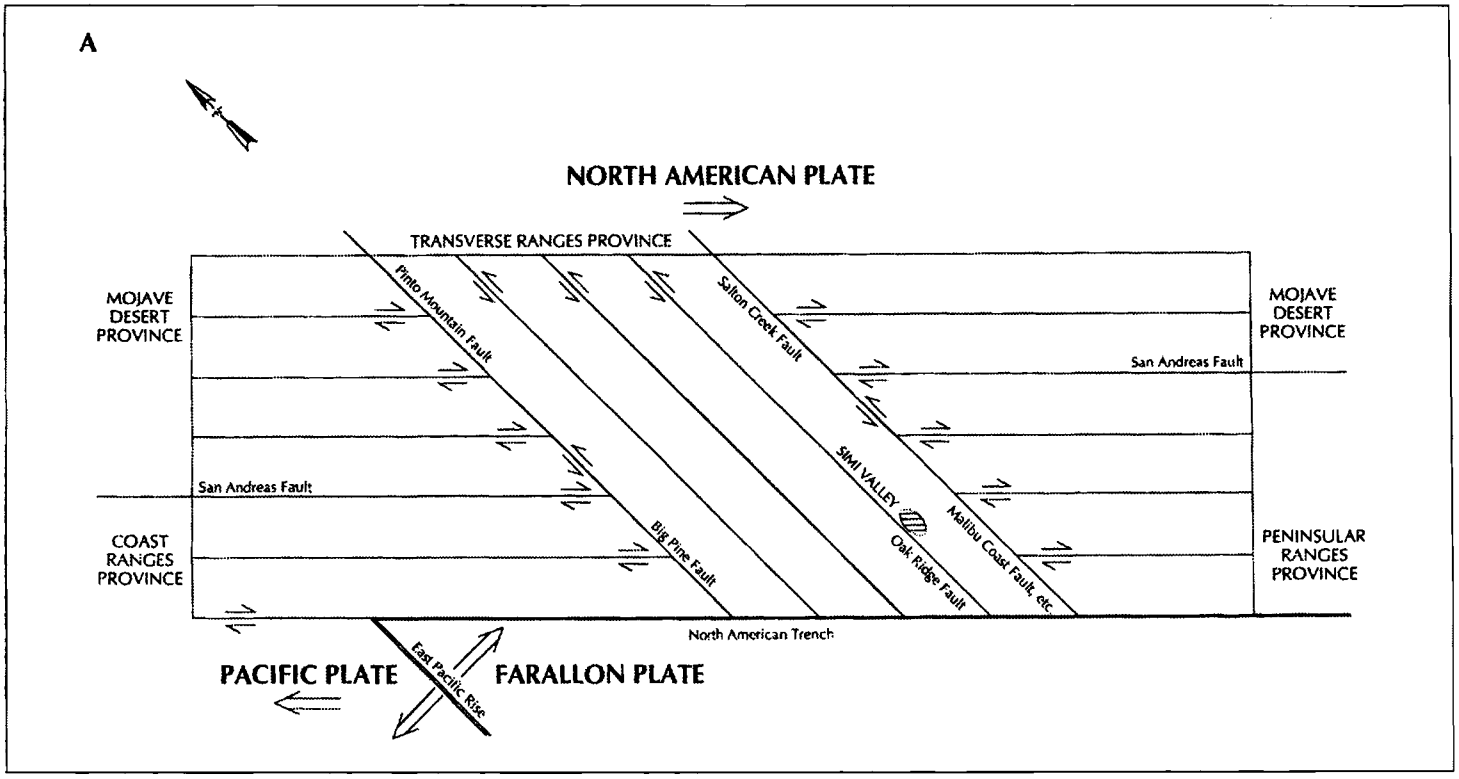

Figure 9A. Simplified diagrammatic representation of tectonic history of southern California. Modified from Luyendyk and others (1980, 1985). At initial contact of East Pacific Rise and southern California continental margin of North American plate approximately 28.25 million years ago (late Oligocene).

sumed to have been located in the area now occupied by northern Baja California. Continued movement along the San Andreas Fault and other active faults in southern California is responsible for the earthquake activity experienced in the Simi Valley area today.

Today, the continental margin (including all of California southwest of San Andreas Fault and Baja California), along with the Pacific plate, continues to be transported in a northwesterly direction towards the Aleutian Trench, which borders the southern edge of the Aleutian Islands chain and along

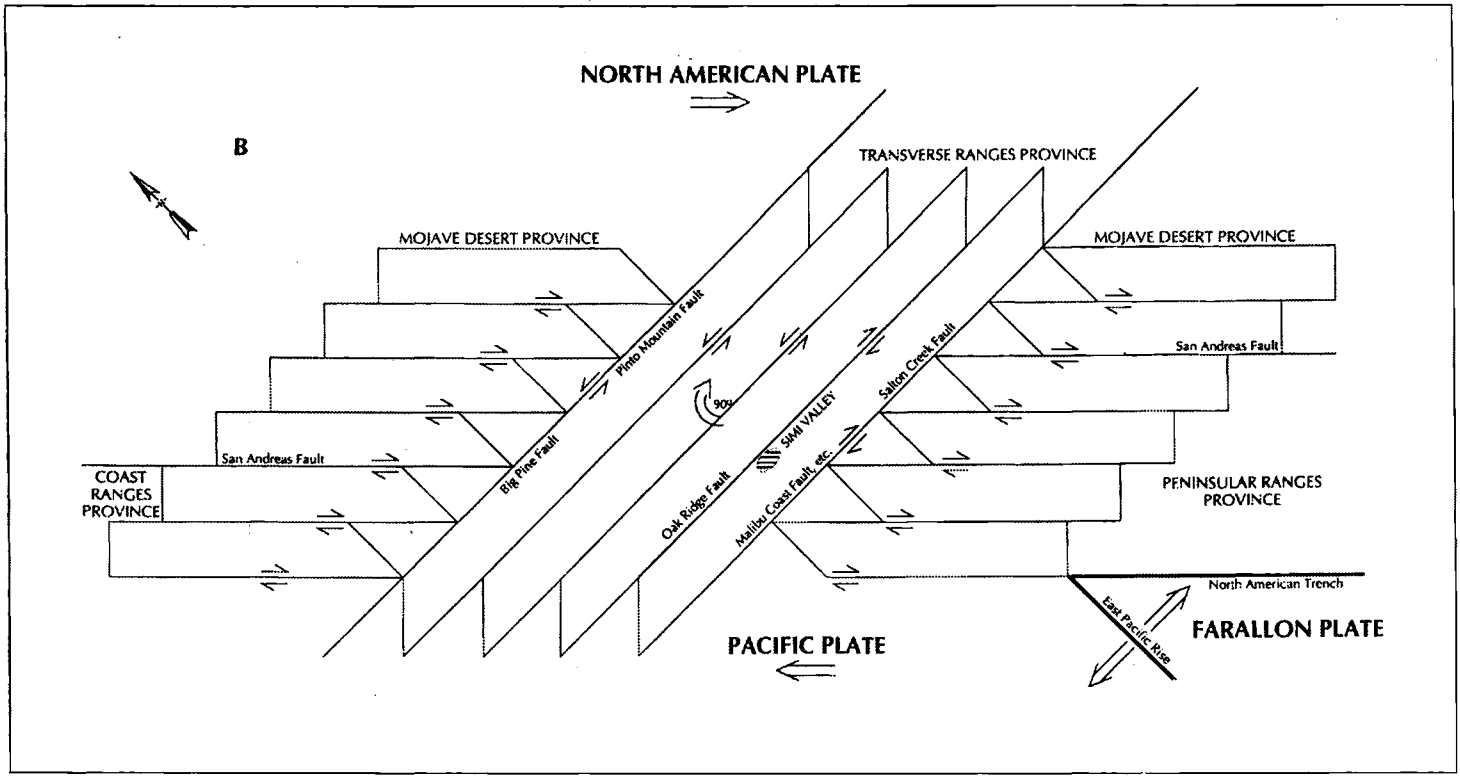

Figure 9B. Simplified diagrammatic representation of tectonic history of southern California. Modified from Luyendyk and others (1980, 1985). Subsequent to rotation of Transverse Ranges Province, prior to offset along San Andreas Fault.

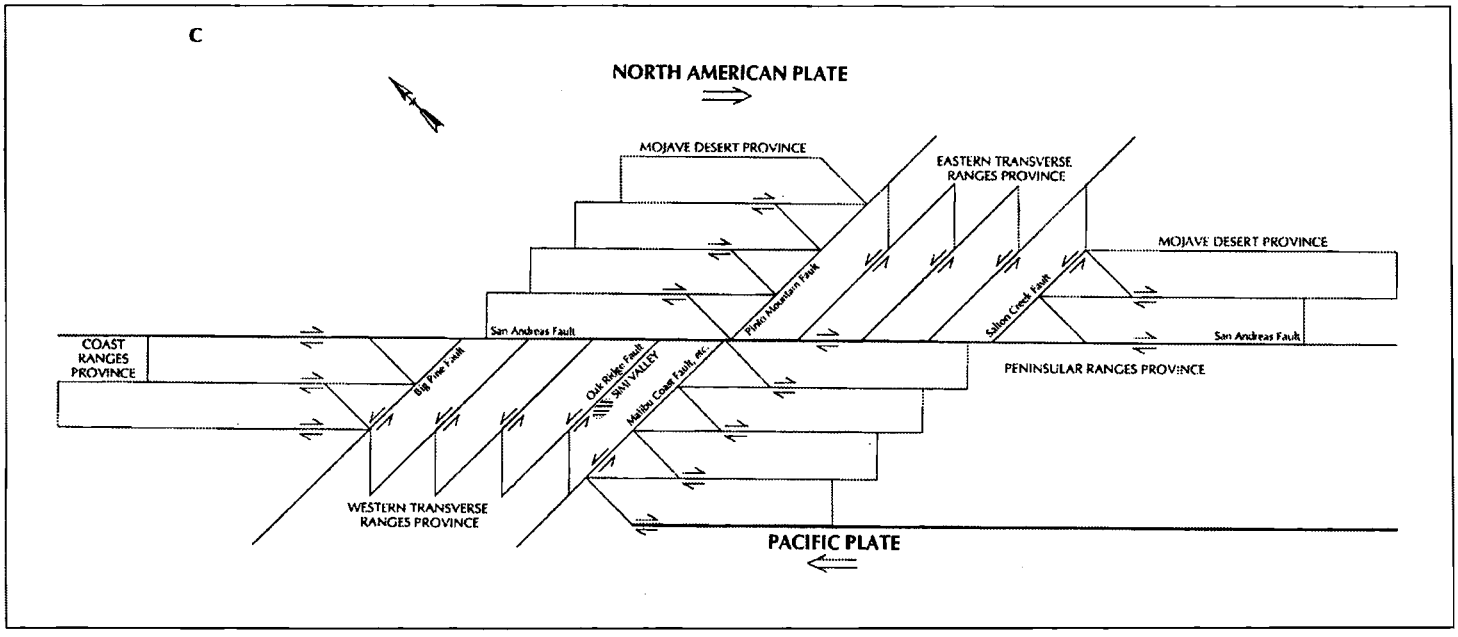

Figure 9C. Simplified diagrammatic representation of tectonic history of southern California. Modified from Luyendyk and others (1980, 1985). Subsequent to offset along San Andreas Fault.

which the Pacific plate is being subducted into the mantle. Eventually, the continental margin will form an island off the North American coast, finally encountering the Aleutian Trench and becoming attached (accreted) to that part of the North American plate forming the northern border of the trench.

Saugus Formation

The Saugus Formation (upper member of Saugus Formation of earlier workers) is composed of nonmarine sandstone and conglomerate beds representing the sand and gravel layers, respectively, deposited by rivers crossing a river delta during floods (Squires, this volume). Strata at the base of the rock unit interfinger with and are continuous with marine strata at the top of the underlying Pico Formation (lower member of Saugus Formation of earlier workers) at a number of places on the southern side of Big Mountain (see Dibblee, 1992a, -b; Squires, 1983, this volume), indicating a fluctuating coastline. Deposition of the nonmarine sediments comprising the Saugus Formation over the marine sediments of the Pico Formation reflects the final marine regression along the southern California continental margin as the Pacific Ocean withdrew from the Simi Valley area for the last time after an interval of marine deposition lasting approximately 26 million years (see above, below).

This final period of emergence, which continues today, reflects uplift resulting from regional north-south compression (shortening) of the southern California portion of the North American plate margin now occupied by the western Transverse Ranges block. Compression occurred during displacement of this part of the southern California continental margin westward (rather than northward) past the "big bend" of the San Andreas Fault, the "big bend", in turn, reflecting the diversion of the fault and the plate margin around the resistant masses formed by the Sierra Nevada and San Bernardino Mountains (Anderson, 1971; U.S. Geological Survey and Southern California Earthquake Center, 1994; see Figure 1). Compression results because the remainder of the plate margin (including Peninsular Ranges Province and Baja California) south of the western Transverse Ranges block, like the Pacific plate, continue to be transported in a more northerly direction, pushing the western Transverse Ranges block against the Sierra Nevada and San Bernardino Mountains, causing the east-west trending folds and reverse and thrust faults that characterize the block (Anderson, 1971; U.S. Geological Survey and Southern California Earthquake Center, 1994; see Squires, this volume; Figure 1). The recent Northridge earthquake occurred on one of these thrust faults, which extends under Simi Valley, and reflects continued compression of the western Transverse Ranges block.

The initial emergence of the Simi Valley area could also reflect, though only in part, the profound glaciations and corresponding glacio-eustatic drops in sea level that characterized the Pleistocene (Ice Ages) in the Northern Hemisphere (see above). The North American ice cap had grown sufficiently large by the late Pliocene to have reached as far south as Iowa, where glacial till is overlain by a volcanic ash bed determined to be 2.2 million years old (Lundelius and others, 1987). The glacial cycles recorded during the Pliocene and Pleistocene reflect predictable periodic changes in the tilt of the earth's axis of rotation and in the earth's orbit around the sun (Milankovitch cycles). These changes, in turn, affected the intensity of sun light hitting the earth's surface and the resulting global temperature. For example, a decrease in the tilt of the earth's axis would have resulted in a decrease in temperature and an increase in glacial ice in the Northern Hemisphere because of the failure of snow to melt during the summer (Webb and Rind, 1991). The buildup of glacial ice would have led to a glacio-eustatic fall in sea level (see above). Reliable estimates indicate sea level was approximately 400 feet lower than modern sea level during the Pleistocene (Hallam, 1992). However, regional tectonic uplift along the continental margin during the Pleistocene and Holocene was great enough to exceed the 400-foot rise in sea level resulting from melting of the Pleistocene ice cap that covered much of the Northern Hemisphere.

No age-diagnostic land mammal species are recorded from the Saugus Formation in Simi Valley, where only the fragmentary remains of a horse (presumably Equus; unnamed local fauna) have been reported (Raschke, 1991; see Figure 2). However, the occurrence of Pleistocene marine mollusks near the top of the underlying Pico Formation (Groves, 1991) indicate the rock unit is no older than Pleistocene (about 1.9 million years; see Cande and Kent, 1992). In the western Santa Clarita Valley north-northeast of Simi Valley, and in the northwestern San Fernando Valley to the east in western Los Angeles County, the Saugus Formation has yielded a diversity of land mammal species, including dog, cat, mastodon, tapir, horse, peccary, camel, pronghorn, deer, rabbit, gopher, and pack rat, as well as pond turtle and alligator lizard (Chen, 1988; Jefferson, 1991; Lander, 1988a, 1990; Saul, 1975; Whistler, 1991). Reynolds (1987) assigned the Porter Ranch Local Fauna from the San Fernando Valley to the Irvingtonian North American Land Mammal Age (latest Pliocene to middle Pleistocene), which began approxi-

mately 2.0 million years ago (beginning of Chron C2N) and ended approximately 280,000 years ago (see below).

A series of volcanic ashes have been found in the Pico Formation and in rock units that are the marine continuation of the Saugus Formation at South Mountain and on the slopes north of the Santa Clara River near Ventura; these ashes, which also have been found as far east as the Great Plains and Gulf Coast areas of the United States, have been determined to be approximately 1.9 million to 620,000 years in age and to have erupted from volcanic sources in northern Owens Valley of California and the Yellowstone National Park area of Wyoming (Lajoie and others, 1982; Yeats, 1988). One of these ashes (Bishop Ash), which resulted from an immense volcanic eruption in the northern Owens Valley approximately 777,000 to 762,000 years ago, has been recognized in the Saugus Formation on the northern side of the Santa Susana Mountains in the Santa Clarita Valley, 5 to 10 miles north-northeast of Simi Valley in northwestern Los Angeles County, where the top of the formation has been determined to be about 400,000 years in age (Izett and Obradovich, 1991; Treiman, 1982; Yeats, 1988). These data and paleontologic data from the Pico Formation in Simi Valley indicate the Saugus Formation in Simi Valley is Irvingtonian and less than 1.9 million to approximately 400,000 years (early to middle Pleistocene) in age. Identifiable land mammal remains from the Saugus Formation in Simi Valley could substantiate and refine estimates for the age of the formation.

Rotation of the western Transverse Ranges block continued during the Pleistocene. Paleomagnetic polarity data for the Saugus Formation in the Santa Clarita Valley indicate the block has rotated approximately 30 degrees in the last 2.2 million years (since end of Chron C2R.1N) and approximately 15 degrees in the last 780,000 years (since beginning of Chron CN1) (Levi and others, 1986; see Cande and Kent, 1992). Folding of the strata comprising the Saugus Formation may not have begun until after deposition of the sediments comprising the strata (Levi and others, 1986).

During the Pleistocene, the climate of much of North America, including California, though still temperate, was cooler, wetter, and milder than today, but quite unlike the tropical climate that existed over much of North America during the middle Eocene. The change from a tropical to a temperate climate reflects, in part, gradual northward movement of the North American plate from a tropical climatic belt or zone far to the south, to a temperate one as the result of continental drift (Gyllenhaal and others, 1991; see above). Modern climates of the Northern Hemisphere may only represent a brief interglacial period.

Older Alluvium

The older alluvium (terrace deposits of some workers) is separated from the underlying Saugus Formation by an unconformity (Figure 2), indicating renewed uplift of the Simi Valley area and erosion of the Saugus Formation before deposition of the older alluvium, which consists of sediments eroded from the Saugus Formation and the other underlying rock units in Simi Valley and subsequently transported and deposited by rivers and streams during floods (Squires, this volume). The older alluvium occurs as isolated erosional remnants across most of the southern side of Big Mountain, which has been uplifted relative to the floor of Simi Valley by late Quaternary offset along the north-sloping reverse-displacement Simi Fault (Hanson, 1983; Squires, 1983, this volume; Yeats, 1983; see Dibblee, 1992a, -b).

The older alluvium has yielded a small fauna (Big Mountain Local Fauna) containing large extinct Pleistocene (Ice Age) land mammal species, including Harlan's ground sloth (Glossotherium), two species of horse (Equus, including Equus [Equus] with anterior protoconal extension; see Downs and Miller, 1994), imperial mammoth (Mammuthus imperator), and an undetermined large ungulate (artiodactyl) in the Alamos Canyon and Brea Canyon areas (Jefferson, 1991; Lander, 1986; Lander and others, in preparation).

Some of the species from the older alluvium reflect periodic dispersal events from Asia or South America into North America during major glacial advances in the Northern Hemisphere, each glaciation resulting in a corresponding glacio-eustatic drop in sea level of roughly 400 feet (see above; Hallam, 1992; Haq and others, 1987; Vail and others, 1977) and the subsequent emergence of the Bering and Panamanian land bridges, which allowed invasion of North America by these and many other species (Lindsay and others, 1987; Lundelius and others, 1987; Woodburne, 1987). Glossotherium, for example, immigrated to North America from South America at the beginning of the late Blancan North American Land Mammal Age (late Pliocene), about 2.5 million to 2.7 million years ago, presumably during a major drop in sea level that occurred roughly 2.8 million years ago; Mammuthus, however, emigrated from Asia at the beginning of the succeeding Irvingtonian North American Land Mammal Age (latest Pliocene), which began about 2.0 million years ago (beginning of Chron C2N), Mammuthus imperator having existed in North America during the late Irvingtonian and succeeding earlier Rancholabrean North American Land Mammal Ages (early to late Pleistocene), approximately 1 million or 700,000 to 200,000 or 130,000 years ago (Agenbroad, 1984; Graham, 1986; Haq and others, 1987; Lindsay and others, 1987; Lundelius and others, 1987; Maglio, 1973; Vail and others, 1977; Woodburne, 1987). These data, as well as the apparent absence of Bison (see below) in the older alluvium and an age determination of roughly 400,000 years for the top of the Saugus Formation (see above) suggest the older alluvium is late Irvingtonian and roughly 400,000 to 280,000 years (middle Pleistocene) in age. Additional land mammal remains from the older alluvium in Simi Valley could allow changes to or refinement of these age estimates.

Younger Alluvium

The younger alluvium consists of the most recent nonmarine sediments, primarily sand and gravel, deposited by streams during floods. The younger alluvium overlies the older alluvium and underlies the floor of Simi Valley and its tributaries (see Dibblee, 1992a, -b; Squires, 1983, this volume; Figure 2).

No vertebrate fossil remains are recorded from the younger alluvium in Simi Valley. However, the younger alluvium has yielded the remains of large extinct Pleistocene land mammals (primarily ground sloths, horses, mastodons, mammoths, camels, and bison) at a number of fossil sites in the Simi Valley vicinity, including the northwestern and north-central San Fernando Valley, where the remains of a horse (Equus) were found only 3 feet below the surface in Chatsworth (see Jefferson, 1991; Lander, 1988b; Reynolds, 1987). The occurrence of North American buffalo (Bison) at some of these sites indicates the younger alluvium is partly late Pleistocene (Rancholabrean) in age. Bison appeared in California at the beginning of the Rancholabrean approximately 280,000 years ago, and is associated with columbian mammoth (Mammuthus columbi) (see Jefferson, 1991, 1992), which arose from the imperial mammoth 200,000 or 130,000 years ago (Agenbroad, 1984; Graham, 1986; Maglio, 1973; however, see Remeika and Jefferson, 1994, regarding age of first appearance of Mammuthus columbi) and went extinct at the end of the Pleistocene about 10,000 years ago. Bison entered North America from Asia across the Bering land bridge during the glacio-eustatic fall in sea level that occurred during the last glaciation of the Northern Hemisphere (see above), and its appearance in North America is defined as the beginning of the Rancholabrean North American Land Mammal Age (Lundelius and others, 1987; Woodburne, 1987). Therefore, it is presumed the Rancholabrean began about 280,000 years ago.

Most of the fossil sites in the younger alluvium were discovered below the surface in excavations for construction projects or aggregate. In Simi Valley, the younger alluvium, of modern (Holocene) age or less than 10,000 years old at the surface (Figure 2), could be old enough at depth to contain Rancholabrean land mammal remains.

The end of the Pleistocene (and Rancholabrean) is marked by the extinction of most larger land mammal species of the world, particularly herbivores, and diminishing average adult body size in successive generations of

smaller herbivores (Lander, 1988c; Lundelius and others, 1987). Many phenomena have been proposed to account for these faunal events, including overkill resulting from intense hunting by prehistoric humans, as well as severe climatic changes following the end of the last glaciation and the accompanying alterations of habitat and vegetation that lead to present conditions (Lander, 1988c; Lundelius and others, 1987). Lander (1988c) concluded that increasing aridity, particularly seasonal drought, that characterizes modern climates would have resulted in reduction of the vegetation the herbivores fed on. This reduction in turn would have caused the observed extinctions and changes in body size. Pleistocene extinctions remain an area of intense investigation and controversy.

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Appendix B:
2006 SWCA Hitch Ranch Paleontological Assessment

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SWCA
ENVIRONMENTAL CONSULTANTS

Paleontological Assessment for the Hitch Ranch Specific Plan, Moorpark, Ventura County, California

Prepared for

Impact Sciences

Prepared by

SWCA Environmental Consultants

February 2006



Paleontological Assessment for the Hitch Ranch Specific Plan, Moorpark, Ventura County, California

Prepared for

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Prepared by

SWCA Environmental Consultants

February 2006

Paleontological Assessment
Hitch Ranch Specific Plan, Moorpark, Ventura County, California

SWCA Job # 10559-113

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1.0 PROJECT SUMMARY

1.1 PURPOSE AND SCOPE

SWCA Environmental Consultants was retained by Impact Sciences to conduct a paleontological field survey and assessment of the Hitch Ranch Specific Plan project located in the city of Moorpark, Ventura County, California. The scope of services included a comprehensive literature review and museum records search, a field survey, recommendations for mitigation measures, and preparation of this technical report.

1.2 DATES OF INVESTIGATION

The museum records search was performed on December 8, 2005. The paleontological field survey was conducted on January 5, 2006. This technical report was completed on February 10, 2006.

1.3 RESULTS OF INVESTIGATION

According to geological maps of the project area (Dibblee 1992), the Hitch Ranch Specific Plan project is immediately underlain by Late Quaternary Older Alluvium and the Plio-Pleistocene Saugus Formation. However, geotechnical studies conducted by Gorian and Associates, Inc. (2000) within the project area indicate the presence of Holocene (Recent) alluvium, colluvium and artificial fill underlain by Late Quaternary Older Alluvium. Collections records from the Natural History Museum of Los Angeles County (LACM) indicate the absence of known fossil localities within the project boundaries. Fossil localities have, however, been documented in the vicinity of the project. LACM (CIT) 560, the nearest documented site, is in a canyon southwest of the project area within surficial deposits of older Quaternary alluvium, and produced a specimen of fossil horse, *Equus*. Slightly south of LACM (CIT) 560 is LACM (CIT) 585, which produced an undetermined elephantoid tusk fragment from the Saugus Formation.

1.4 RECOMMENDATIONS

Recommendations presented in this report are based on the assumption that all of the geologic units mapped within the project area by various authors are present on site, either at the surface or at depth. Although shallow excavations will not negatively impact non-renewable fossil resources since young surficial sediments typically do not contain significant vertebrate fossils, the underlying Saugus Formation may also be impacted during grading. Therefore, if project-related excavations are deep enough to impact underlying older alluvial sediments and the paleontologically sensitive Saugus Formation, it is strongly recommended that a qualified paleontologist be retained to develop and implement a paleontological monitoring and mitigation program during such excavations within the Hitch Ranch project site.

1.5 DISPOSITION OF DATA

This report will be filed with Impact Sciences. A copy will be retained at SWCA Environmental Consultants, along with all maps, notes and data relevant to this project.

2.0 INTRODUCTION

This report presents the findings of a museum records search, comprehensive literature review, and field survey conducted in order to evaluate the paleontological sensitivity of geologic units underlying the Hitch Ranch Specific Plan project area located in the City of Moorpark, Ventura County, California. This study was performed to evaluate the paleontological sensitivity of the project area and vicinity, assess potential project-related impacts, and provide recommendations for project-specific mitigation measures in accordance with the professional guidelines established by the Society of Vertebrate Paleontology (SVP) (1995) and guidelines set forth by Ventura County.

2.1 DEFINITION AND SIGNIFICANCE OF PALEONTOLOGICAL RESOURCES

Paleontology is a multidisciplinary science that combines elements of geology, biology, chemistry, and physics in an effort to understand the history of life on earth. Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. These include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. The fossil record is the only evidence that life on earth has existed for more than 3.6 billion years. Fossils are considered non-renewable resources because the organisms they represent no longer exist. Thus, once destroyed, a fossil can never be replaced. Fossils are an important scientific and educational resource because they are used to:

- Study the phylogenetic relationships between extinct organisms, as well as their relationships to modern groups.
- Elucidate the taphonomic, behavioral, temporal, and diagenetic pathways responsible for fossil preservation, including biases in the fossil record.
- Reconstruct ancient environments, climate change, and paleoecological relationships.
- Provide a measure of relative geologic dating, which forms the basis for biochronology and biostratigraphy, and which is an independent and supporting line of evidence for isotopic dating.
- Study the geographic distribution of organisms and tectonic movements of land masses and ocean basins through time.
- Study patterns and processes of evolution, extinction, and speciation.
- Identify past and potential future human-caused effects to global environments and climates.

3.0 RESOURCE ASSESSMENT GUIDELINES

Paleontological resources are limited, non-renewable resources of scientific, cultural and educational value, and are afforded protection under federal (National Environmental Policy Act, or NEPA), state (California Environmental Quality Act, or CEQA), and local (County of Ventura) laws and regulations. This study satisfies project requirements in

accordance with CEQA (13 PRC, 2100 et seq.) and complies with guidelines and significance criteria specified by the SVP (SVP, 1995).

3.1 LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

Fossils are classified as non-renewable scientific resources and are protected by various laws, ordinances, regulations, and standards (LORS) across the country. The SVP (1995) has established professional standards for the assessment and mitigation of adverse impacts to paleontological resources. This paleontological assessment was conducted in accordance with the LORS applicable to paleontological resources within the project area.

3.2 PROFESSIONAL STANDARDS

The Society of Vertebrate Paleontology's Conformable Impact Mitigation Guidelines Committee has established standard guidelines (SVP, 1995) that outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological LORS accept and utilize the professional standards set forth by the SVP.

As defined by the SVP (1995:26), significant nonrenewable paleontological resources are defined as:

> ...fossils and fossiliferous deposits here restricted to vertebrate fossils and their taphonomic and associated environmental indicators. This definition excludes invertebrate or paleobotanical fossils except when present within a given vertebrate assemblage. Certain invertebrate and plant fossils may be defined as significant by a project paleontologist, local paleontologist, specialists, or special interest groups, or by lead agencies or local governments.

As defined by the SVP (1995:26), significant fossiliferous deposits are defined as:

> A rock unit or formation which contains significant nonrenewable paleontologic resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals, e.g., trackways, or nests and middens which provide datable material and climatic information). Paleontologic resources are considered to be older than recorded history and/or older than 5,000 years [before present].

Based on the significance definitions of the SVP (1995), all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new knowledge in one of the following areas.

- **Taxonomy** - fossils that are scientifically judged to be important for representing rare or unknown taxa, such as defining a new species.
- **Evolution** – fossils that are scientifically judged to represent important stages or links in evolutionary relationships, or fill gaps or enhance under represented intervals in the stratigraphic record.
- **Biostratigraphy** – fossils that are scientifically judged to be important for determining or constraining relative geologic (stratigraphic) age, or for use in regional to interregional stratigraphic correlation problems.
- **Paleoecology** – fossils that are scientifically judged to be important for reconstructing ancient organism community structure and interpretation of ancient sedimentary environments.
- **Taphonomy** – fossils that are scientifically judged to be exceptionally well or unusually/uniquely preserved, or are relatively rare in the stratigraphy.

3.3 PALEONTOLOGICAL SENSITIVITY

As indicated by the SVP's definition of fossiliferous deposits, there is a direct correlation between fossils and the geologic formation in which they are preserved. This is because "...paleontologic sites...indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontologic potential in each case." This is contrary to archaeological sites, where "the boundaries of archaeological sites define the areal extent of the resource." For this reason, "it is extremely important to distinguish between archaeological and paleontological (fossil) resource sites when defining the sensitivity of rock units."

Therefore, paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. The level of sensitivity is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities that are recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific location. In its "standard guidelines for the assessment and mitigation of adverse impacts to non-renewable paleontologic resources," the SVP (1995:23) defines three categories of paleontological sensitivity (potential) for rock units: high, low, and undetermined:

- **High Potential.** Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils have been recovered and are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include, but are not limited to, sedimentary formations

and some volcanic formations that contain significant non-renewable paleontologic resources anywhere within their geographical extent and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical, and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas which may contain new vertebrate deposits, traces, or trackways are also classified as significant.

- **Low Potential**. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections.
- **Undetermined Potential**. Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials.
- **No Potential**. Metamorphic and granitic rock units do not yield fossils and therefore have no potential to yield significant non-renewable fossiliferous resources.

Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils, or if defined as significant by project paleontologists, specialists, or local government agencies.

Full-time monitoring is generally recommended during any project-related ground disturbance in highly potential geologic units, whereas part-time monitoring is recommended for geologic units with a low potential. Protection or salvage efforts will not generally be required for units with no potential. Field surveys by a qualified vertebrate paleontologist should be conducted in units with undetermined potential to specifically identify the paleontologic potential of the rock units within the study area.

4.0 PROJECT LOCATION AND DESCRIPTION

The Hitch Ranch project area is located in the City of Moorpark, Ventura County, California (Figure 1). The 283.2-acre project site is approximately 1,600 feet west of Moorpark Avenue (State Route 23) at its intersection with Casey Road. The southern boundary of the area is approximately parallel with Poindexter Avenue, and the project extends west beyond Gabbert Road.

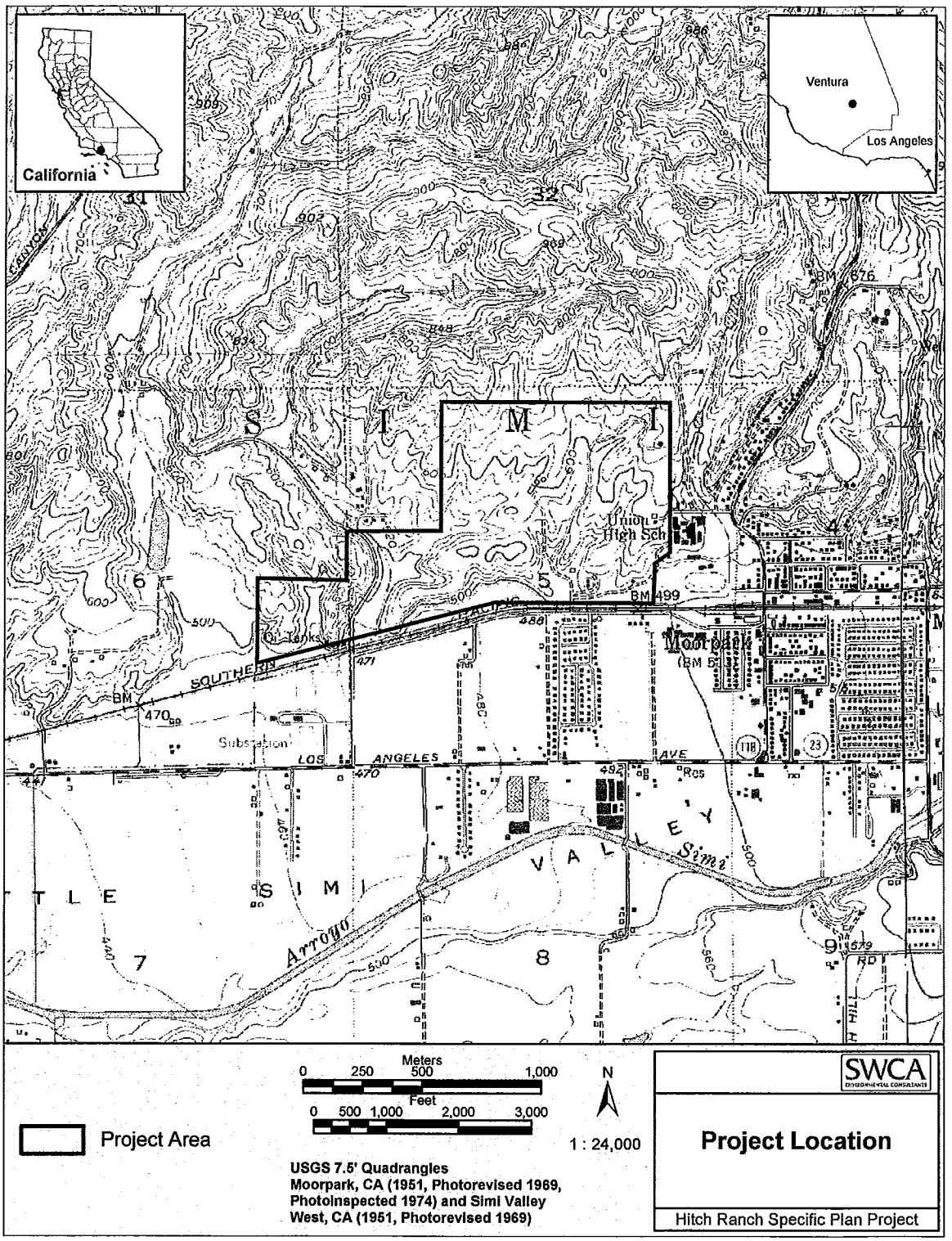

Figure 1. Project Location Map

4.1 GEOLOGY AND PALEONTOLOGY

Previous geologic mapping of the project area indicates the presence of Late Quaternary Older Alluvium and the underlying Plio-Pleistocene Saugus Formation (Dibblee 1992) within the project area. However, it should be noted that geotechnical studies conducted at the project site instead report the composition of the surficial sediments as Late Quaternary Older Alluvium and Holocene (Recent) alluvium, colluvium and artificial fill (Gorian and Associates Inc. 2000). Core samples taken from Hitch Ranch indicate that the Plio-Pleistocene Saugus Formation is present beneath the Older Alluvium. Thus, the Saugus Formation may be impacted during grading of the proposed project area

The controversy over the Saugus Formation/Older Alluvium has been ongoing for more than 75 years. In fact there has been considerable debate in the scientific community since 1924 as to whether the Saugus Formation is exposed in the hills of the project site as mapped by Dibblee (1992), or if the units outcropping in the hills are actually Late Quaternary Older Alluvium. Unfortunately due to heavy vegetation, no geologic units were exposed at Hitch Ranch during this field survey. Therefore, this question remains out of this scope of study and will not be addressed in this report. However, recommendations presented in this report are based on the assumption that all of the geologic units mapped for Hitch Ranch by various authors are present on site, either at the surface or at depth.

4.1.1 SAUGUS FORMATION

The oldest formation within the project area is the Plio-Pleistocene (2.5 million to 200,000 years old) Saugus Formation, which is potentially exposed in the hills of the project area (Dibblee 1992), and is underlying Older Alluvium in the western portion of Hitch Ranch (Gorian and Associates, Inc 2000).

The Saugus Formation is divided into lower and upper members, although only the Upper Saugus Formation is present in the project area. The lower member of the Saugus is composed of marine conglomerates, sandstones, siltstones and coquinites, and is well known for its marine invertebrate fossil localities (Squires and White 1983, White 1983). The upper member of the Saugus Formation, which is present within the project area, is composed of coarse-grained nonmarine conglomerates and sandstones (Levi et al. 1983).

The Upper Saugus Formation in the Moorpark area is well known for several Pleistocene large mammal fossil sites. These localities have produced a wide diversity of animals including mastodons, tapirs, horses and camels. The Saugus Formation is considered to have high paleontologic sensitivity due to its very high potential to produce significant non-renewable paleontologic resources in the Moorpark area (Lander 1997).

4.1.2 LATE QUATERNARY OLDER ALLUVIUM

Geologic mapping (Dibblee 1992) of the project area indicates that Late Quaternary older alluvial deposits are exposed in the valleys of the Hitch Ranch project area. Other

workers designate the rock units exposed in the hills of Hitch Ranch as Late Quaternary (Pleistocene) Older Alluvium (Impact Sciences EIR 2000). The Older Alluvium at Hitch Ranch is composed of up to 36 feet of interbedded, lenticular yellowish-brown sand, light yellowish-brown silt and yellowish-brown clay that often contain clasts from the underlying Modelo Formation. Current data indicates that the Older Alluvium in the Moorpark area is Middle Pleistocene (400,000 to 280,000 years old) (Lander 1997). However the occurrence of bison remains found at several localities in the Moorpark area indicates that some Older Alluvium may have been deposited in the Late Pleistocene (280,000 to 10,000 years old) (Lander 1997).

Due to its high potential to produce significant non-renewable paleontologic resources, Pleistocene Older Alluvium has been assigned high paleontologic sensitivity throughout Southern California (Reynolds and Reynolds 1991). The Older Alluvium in the Moorpark area has yielded the remains of several large Pleistocene land mammal species, including Harlan's ground sloth, two species of horses, and the remains of an imperial mammoth (Lander 1997).

4.1.3 RECENT ALLUVIUM, COLLUVIUM AND ARTIFICIAL FILL

Geotechnical studies performed by Gorian and Associates, Inc. for the Hitch Ranch Specific Plan project indicate that some of the surficial sediments overlying the Saugus Formation and Older Pleistocene alluvium in the project area are Holocene (Recent) alluvial stream deposits, colluvium and artificial fill (Impact Sciences EIR 2000). Holocene deposits are too young to contain fossils and are thus classified as low sensitivity sediments. The uppermost younger alluvial deposits are determined to have a low paleontological sensitivity rating; however, according to SVP guidelines, geologic units greater than 5,000 years old may contain fossilized material. Therefore, the paleontological sensitivity of the young alluvial sediments mapped within the project site increases with age (i.e., depth).

5.0 METHODS

A paleontological reconnaissance survey of the 283.2-acre parcel was conducted on January 5, 2006. The fieldwork consisted of a thorough pedestrian inspection of the study area for (1) surface fossils, (2) exposures of potentially fossil-bearing geologic units, and (3) areas in which fossil-bearing geologic units could be exposed during pre-construction grading activity.

5.1 MUSEUM RECORDS SEARCH

A detailed review of museum collections records of the Los Angeles County Museum (LACM) was performed for the purposes of: (1) determining whether there are any known fossil localities in or near the project area, (2) identifying the geologic units present in the project area, and (3) determining the paleontological sensitivity ratings of those geologic units in order to assess potential impacts to nonrenewable paleontological

resources. Published and unpublished literature and geologic maps were reviewed, and mitigation measures specific to this project were developed in accordance with the SVP professional standards and guidelines (1995).

5.2 PROJECT PERSONNEL

Jessica DeBusk conducted the museum records search. Cara Corsetti, Qualified Paleontologist and Paleontology Program Director, conducted the field survey with Lori Browne, primary author of this technical report. Heather Timmons produced graphics.

6.0 RESULTS AND ANALYSIS

The following table summarizes the paleontological sensitivity ratings of the geologic units underlying the Hitch Ranch Specific Plan project area.

Geologic Formation	Age	Fossils	Paleontological Sensitivity	Monitoring Recommendation
alluvium, colluvium, and fill	Holocene	none	low to high	part-time to full-time
older alluvium	Pleistocene-Holocene	terrestrial vertebrates	high	full-time
Saugus Formation	Plio-Pleistocene	marine invertebrates, terrestrial vertebrates	very high	full-time

Table 1. Paleontological Sensitivities of Geologic Units Within the Hitch Ranch Project Area

The search of the LACM collections records indicated the absence of documented fossil localities within the project area. Fossil localities have, however, been documented in the vicinity of the project. LACM (CIT) 560, the nearest documented site, is in a canyon southwest of the project area within surficial deposits of older Quaternary alluvium, and produced a specimen of fossil horse, *Equus*. Slightly south of LACM (CIT) 560 is LACM (CIT) 585, which produced an undetermined elephantoid tusk fragment from the Saugus Formation.

7.0 CONCLUSIONS

Adverse impacts on paleontological resources result when rock units become unavailable for study and observation by scientists. The destruction of fossils as a result of human-induced ground disturbance has a significant impact as it makes biological records of ancient life permanently unavailable for study by scientists. Implementation of proper mitigation measures can, however, reduce the impacts to the paleontological resources to below the level of significance.

Due to the high paleontological sensitivity of the Plio-Pleistocene Saugus Formation and the older Quaternary alluvium, excavations in these units within the Hitch Ranch project area are likely to have a negative impact on non-renewable paleontological resources unless proper mitigation measures are implemented. The surficial Holocene alluvium is too young to contain nonrenewable scientific resources and thus does not require close paleontological monitoring.

8.0 RECOMMENDED MITIGATION MEASURES

The following mitigation measures have been developed in accordance with the SVP (1995) standards and Ventura County guidelines, and meet the paleontological requirements of CEQA. These mitigation measures have been used throughout California and have been demonstrated to be successful in protecting paleontological resources while allowing timely completion of construction.

1. All project-related ground disturbances that could potentially impact the Saugus Formation and Quaternary older alluvium will be monitored by a qualified paleontological monitor on a full-time basis, as these geologic units are determined to have a high paleontological sensitivity rating. Since younger alluvial and colluvial deposits are considered to have a low paleontological sensitivity, monitoring of excavation activities in this unit will be conducted on a part-time basis to ensure that no underlying sensitive units are being impacted.
2. A Qualified Paleontologist will be retained to supervise monitoring of construction excavations and to produce a mitigation plan for the proposed project. Paleontological monitoring will include inspection of exposed rock units during active excavations. The monitor will have authority to temporarily divert grading away from exposed fossils in order to professionally and efficiently recover the fossil specimens and collect associated data. The Qualified Paleontologist will prepare monthly progress reports to be filed with the client and the lead agency.
3. At each fossil locality, field data forms will be used to record pertinent geologic data, stratigraphic sections will be measured, and appropriate sediment samples collected and submitted for analysis.
4. Recovered fossils will be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and reposed in a designated paleontological curation facility. Potential repositories include the Natural History Museum of Los Angeles County and the San Bernardino County Museum.
5. The Qualified Paleontologist will prepare a final monitoring and mitigation report to be filed with the client, the lead agency, and the repository.

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Appendix C:
Personnel Qualifications

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FIRSTCARBON SOLUTIONS™

DANA DOUGLAS DePIETRO, PH.D.—Cultural Resources Lead (North)

OVERVIEW

- More than 15 Years' Experience in Archaeology and Cultural Resources

Education

- Ph.D., Near Eastern Art and Archaeology, University of California at Berkeley, 2012
- M.A., Near Eastern Art and Archaeology, University of California at Berkeley, 2005
- B.A., Archaeology and History (double major), University of California at San Diego, 2002

Fellowships and Awards

- Albright Institute Educational and Cultural Affairs Fellowship (2015)
- Katherine Davis Foundation Projects for Peace Prize (2012)
- International House Gateway Fellowship (2011-2012)
- The George Franklin Dales Foundation Fellowship for Archaeological Research (2011)
- CAORC Multi-Country Dissertation Research Fellowship (2010)

Dana DePietro, Ph.D. is a Registered Professional Archaeologist who meets the Secretary of Interior's standards for historic preservation programs in archaeology. Dr. DePietro has over 15 years of experience in all aspects of cultural resource management, including prehistoric and historic archaeology, paleontology, materials conservation, history of art and architecture, and community engagement. He has experience in compliance with the National Environmental Policy Act (NEPA), the California Environment Quality Act (CEQA), the National Historic Preservation Act (NHPA), and the Archaeological Resources Protection Act (ARAP). Dr. DePietro has completed cultural resource projects that have involved agency, client, Native American, and subcontractor coordination; treatment plans and research design development; archival research; field reconnaissance; site testing; data recovery excavation; construction monitoring; site recordation; site protection/preservation, mapping/ cartography; spatial analysis/GIS; laboratory analysis; materials conservation; artifact curation and exhibition; and report production. He has completed projects in California within the jurisdiction of the Bureau of Land Management (BLM) and other federal agencies requiring compliance with Section 106 of the NHPA. He has also completed projects throughout California under CEQA for state and local governments and municipalities, including the California Department of Transportation (Caltrans) and has worked with clients to insure deliverables meet and exceed the standards set by the State Historic Preservation Office (SHPO).

RELATED EXPERIENCE AND CLIENT SUMMARY

FirstCarbon Solutions

As the Lead Archaeologist/Cultural Resource Specialist for FCS, Dr. DePietro conducts evaluations and performs field documentation of historic and prehistoric cultural resources; prepares environmental impact reports (EIRs), cultural resources assessments (CRAs), DPR forms and Section 106 reports; conducts mapping, GIS analysis, and state and county record searches; leads archaeological surveys and field monitoring efforts; and coordinates with state, federal and tribal officials and institutions for a variety of FCS projects, including the following:

DANA DOUGLAS DePIETRO, PH.D.—Cultural Resources Lead (North)

- Atherton Baptist Homes Master Plan/Phase II, City of Alhambra, Los Angeles County
- Biological and Cultural Resources Assistance 140-Acre Project Site Woodcrest, Riverside County, CA
- Blanchard Road Industrial EIR Project, City of San Jose, Santa Clara County, CA
- Bonadelle Tract 6120 AQ/GHG and Bio Tech Studies, City of Clovis, Fresno County, CA
- CEQA Analysis for Mayhew Way Project, City of Walnut Creek, Contra Costa County
- 2268 El Camino Real, Mountain View—II CEQA Compliance Checklist Project, City of Mountain View, Santa Clara County
- CEQA Documentation for New Science Building, City of Fairfield, Solano County
- CEQA Services for Clover Spring Open Space Preserve Project, City of Cloverdale, Sonoma County
- Chico Walmart Expansion Project, City of Chico, CA
- Cultural Resources Services for Froom Ranch/El Villagio Specific Plan, City of San Luis Obispo, CA
- Cultural Resource & Historic Evaluation for Sacramento Dome Theatre, City of Sacramento, CA
- Cultural Resources Services for Haven Berryessa Block 7 & 8 San Jose Flea Market, San Jose, CA
- Caltrans NEPA/CEQA Documentation and Permitting for the Dogtown Road Bridges Replacement Projects (San Domingo Creek, French Gulch, and Indian Creek), Calaveras County, CA
- Due Diligence for Meadowlark Project in Pleasanton, CA
- Due Diligence Services for the Montalcino Property, Napa County, CA
- Due Diligence Site Review for Parcel APN 68-241-30 located at 260 Bartlett Way Santa Cruz, CA
- Due Diligence Level IA Entitlements for the Boscell Road Osgood Project, City of Fremont, CA
- Trellis Residential Project EIR, City of Walnut Creek, CA
- El Dorado Materials Recovery Facility Remodeling Project, El Dorado County, CA
- Farmstand IS/MND, City of Healdsburg, CA
- La Paloma Winery Demo Project IS/MND, City of Clovis, CA
- Kaiser Dublin Medical Center EIR, City of Dublin, California
- Merced Gateway Master Plan Project EIR, City of Merced, CA
- Phase 1 Cultural Resource Assessment for 44 acres TTM No. 19992, Rancho Cucamonga, CA
- Bonadelle Tract 6120 Cultural Resources Study, City of Clovis, CA
- Professional Services to Support the Development of a Preferred Development Plan and Associated Regulatory Strategies for the Solano 360 Project, Solano County, CA
- Tassajara Parks EIR, Contra Costa County, California

Other Relevant Experience

The Society for Humanitarian Archaeological Research and Exploration

Dr. DePietro is the Founder and Executive Director of The Society for Humanitarian Archaeological Research and Exploration. He manages the projects, staff, and the daily operation of this not-for-profit organization. Dr. DePietro likewise establishes relationships with partner universities and institutions, writes grant proposals, supervises fundraising projects, and maintains accounts, financial records, and the organization's online presence.

University of California at Berkeley

Dr. DePietro was a lecturer at the University of California, Berkeley from August 2003 to January 2015. During his tenure, he prepared University-level source and lectures in the history of the modern and ancient Middle East, performed student advising and evaluation, and university administrative duties. Dr. DePietro provided resources and opportunities that empower people to critically engage with other cultures as well as with their own communities.

DANA DOUGLAS DePIETRO, PH.D.—Cultural Resources Lead (North)

Penn State University—Tel Akko Total Archaeology Project

Dr. DePietro was the Director of Community Engagement from 2013 to 2014 at the Penn State University for the Tel Akko Total Archaeology Project. He developed and executed a community engagement program, supervised staff and community participants, taught excavation and conservation techniques to groups of young people in Akko, and performed outreach, dialogue, and program developments in partnership[with community leaders.

Harvard University—Leon Levy Expedition to Ashkelon, Israel

Dr. De Pietro was the excavation supervisor during the summers of 2007-2013 for the Harvard University—Leon Levy Expedition to Ashkelon, Israel. He supervised the excavation and stratagraphic interpretation and instructed students in excavation techniques, data collection, photography, analysis, and publication.

Early Iron Age Cemetery Excavation—Dhamar, Yemen

Dr. De Pietro was the Area Supervisor during the summer of 2004 for the Early Iron Age Cemetery Excavation in Dhamar, Yemen. He supervised the excavation and stratagraphic interpretation, taught excavation techniques, strategy and implementation, field conservation, surveying techniques, data collection and analysis, and site management.

Journal of Associated Graduates in Near Eastern Studies (JAGNES)

Dr. DePietro was the Associate Editor from August 2003 to May 2012 for the Journal of Associated Graduates in Near Eastern Studiers (JAGNES). He solicited and proofread submissions, fundraising, and advertisements.

"Travel Today: Egypt" Magazine

Dr. De Pietro was an Archaeological Correspondent from December 2002 to February 2005. He wrote magazine articles, conducted relevant interviews and research, and procured photos and images to compliment articles.

FIRSTCARBON SOLUTIONS™

J. D. STEWART, PHD—PRINCIPAL PALEONTOLOGIST

OVERVIEW

- More than 42 years of experience

Education

- Doctor of Philosophy, Systematics & Ecology, University of Kansas, 1984
- Master of Arts, Systematics & Ecology, University of Kansas, 1979

Training and Certifications

- Certified Paleontologist, Orange and Riverside counties, California
- Hazardous Waste Operations and Emergency Response 40 Hr.
- General Site Worker

Professional Affiliations

- Society of Vertebrate Paleontology

J.D. Stewart, PhD, is a Vertebrate Paleontologist with more than 40 years of experience in paleontology, and more than 30 years of experience in the geology and paleontology of California. He has been involved in the permitting or construction of more than 10 power plants, and has directed the paleontological monitoring and mitigation program for Path 15, a major transmission line project. His publications include more than 40 peer-reviewed articles in books and journals. His research specialties are fossil fishes and Pleistocene vertebrate faunas.

RELATED EXPERIENCE AND CLIENT SUMMARY

Representative FCS Projects

- Paleontological, Archaeological, and Monitoring and Reporting Services for the Los Angeles Regional Interoperable Communications Biological System (LA-RICS), Los Angeles County, CA
- Paleontological and Archaeological Services for the North Shore Solar Facility Project, City of Mecca, Riverside County, CA
- Anaheim Coves Cultural, Paleontological, and Biological Monitoring Services, City of Anaheim, CA
- Cadence Property Paleontological WEAP Training and Monitoring Plan, 309-400 Airport Boulevard, San Francisco, CA
- Basic Feasibility Services for the AT&T 140-Mile Fiber Optic Installation from Julian to Brawley, Multiple Locations, CA
- Rio Vista Specific Plan Project EIR, City of Jurupa Valley, CA
- Midpen Cypress Point Affordable Housing Project Paleontological Review, City of Moss Beach, CA
- Paleontological Peer Review Services for the City of Los Angeles, CA

J. D. STEWART, PHD—PRINCIPAL PALEONTOLOGIST

Other Relevant Experience

Tenaska Imperial Solar Energy Center (ISEC) West Project, Imperial Valley, CA

For the Tenaska Imperial Solar Energy Center West Solar Project, Dr. Stewart supervised paleontological monitoring activities on private lands.

BrightSource Sonoran West Solar Project, Blythe, CA

Dr. Stewart supervised paleontological surveys on the U.S. Bureau of Land Management (BLM) and private lands. He worked on the Application for Certification (AFC) and wrote the final report when the project was terminated.

TerraGen Project

Dr. Stewart performed pedestrian paleontological surveys of the TerraGen Project site and wrote the Paleontological Resources section for the AFC.

BrightSource Rio Mesa Solar Project, Blythe, CA

Dr. Stewart supervised paleontological surveys on BLM and private lands, and prepared the Paleontological Resources section for the AFC.

Pio Pico Energy Center, Otay Mesa, CA

The Pio Pico Energy Center is a 300 MW simple-cycle electrical generating facility that is contracted under a 25-year power purchase agreement with San Diego Gas & Electric. Pio Pico is located on a 10-acre site in Otay Mesa, an unincorporated area of San Diego County, California, approximately 15 miles southeast of downtown San Diego. Dr. Stewart supervised paleontological surveys and wrote the Paleontological Resources section for the AFC for this project.

Mesquite Nevada Replacement General Aviation Airport, Clark County, NV

Dr. Stewart prepared the Paleontological Resource Assessment for the Federal Aviation Administration.

Marsh Landing Generating Station Application for Certification, Contra Costa County, CA

Dr. Stewart performed a paleontological pedestrian survey of a project area in Contra Costa County and wrote the Paleontological Resources section of the AFC. He also served as the Paleontological Resource Specialist during construction and prepared the final report.

Imperial Valley Solar Application for Certification, Imperial Valley, CA

Dr. Stewart directed paleontological pedestrian surveys within a project area in San Bernardino County and wrote the Paleontological Resources section of the AFC.

Calico Solar Application for Certification, San Bernardino County, CA

Dr. Stewart participated in paleontological pedestrian surveys of the Calico Solar project area, edited the Paleontology section of the AFC, and served as the Paleontological Resource Specialist.

J. D. STEWART, PHD—PRINCIPAL PALEONTOLOGIST

Starwood Power-Midway, LLC Peaking Project Construction

Dr. Stewart wrote a mitigation plan for paleontological resources, oversaw paleontological monitoring during project construction, and wrote the final report.

Calnev Pipeline Project, San Bernardino County, CA and Clark County, NV

Dr. Stewart directed paleontological surveys of a 234-mile-long project area in San Bernardino County, California and Clark County, Nevada. He also prepared the paleontological assessment.

Willow Pass Generating Station Application for Certification, Contra Costa County, CA

Dr. Stewart participated in paleontological pedestrian surveys of a project area in Contra Costa County and wrote the Paleontological Resources section of the AFC.

San Joaquin One and Two Application for Certification, Fresno County, CA

Dr. Stewart directed paleontological pedestrian surveys of a project area in Fresno County and prepared the Paleontological Resources section of the AFC.

Carrizo Energy Solar Farm (Ausra) Application for Certification, Simmler, CA

Dr. Stewart participated in paleontological pedestrian surveys of the Carrizo Energy Solar Farm project area and edited the Paleontology section of the AFC.

Starwood Power-Midway, LLC Peaking Project Application for Certification

Dr. Stewart participated in the responses to the CEC Provisional Staff Assessments for Starwood Power-Midway, LLC's Peaking Project AFC.

Path 15 500-kV Power Transmission Line between Los Banos and Gates Substations, Los Banos, CA

Dr. Stewart supervised paleontological resource monitoring, excavations, specimen preparation, specimen identification, and report writing for this 80-mile-long power line.

Publications

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2006 SWCA Paleontological Study

SWCA
ENVIRONMENTAL CONSULTANTS

Paleontological Assessment for the Hitch Ranch Specific Plan, Moorpark, Ventura County, California

Prepared for

Impact Sciences

Prepared by

SWCA Environmental Consultants

February 2006



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Paleontological Assessment
Hitch Ranch Specific Plan, Moorpark, Ventura County, California

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1.0 PROJECT SUMMARY

1.1 PURPOSE AND SCOPE

SWCA Environmental Consultants was retained by Impact Sciences to conduct a paleontological field survey and assessment of the Hitch Ranch Specific Plan project located in the city of Moorpark, Ventura County, California. The scope of services included a comprehensive literature review and museum records search, a field survey, recommendations for mitigation measures, and preparation of this technical report.

1.2 DATES OF INVESTIGATION

The museum records search was performed on December 8, 2005. The paleontological field survey was conducted on January 5, 2006. This technical report was completed on February 10, 2006.

1.3 RESULTS OF INVESTIGATION

According to geological maps of the project area (Dibblee 1992), the Hitch Ranch Specific Plan project is immediately underlain by Late Quaternary Older Alluvium and the Plio-Pleistocene Saugus Formation. However, geotechnical studies conducted by Gorian and Associates, Inc. (2000) within the project area indicate the presence of Holocene (Recent) alluvium, colluvium and artificial fill underlain by Late Quaternary Older Alluvium. Collections records from the Natural History Museum of Los Angeles County (LACM) indicate the absence of known fossil localities within the project boundaries. Fossil localities have, however, been documented in the vicinity of the project. LACM (CIT) 560, the nearest documented site, is in a canyon southwest of the project area within surficial deposits of older Quaternary alluvium, and produced a specimen of fossil horse, *Equus*. Slightly south of LACM (CIT) 560 is LACM (CIT) 585, which produced an undetermined elephantoid tusk fragment from the Saugus Formation.

1.4 RECOMMENDATIONS

Recommendations presented in this report are based on the assumption that all of the geologic units mapped within the project area by various authors are present on site, either at the surface or at depth. Although shallow excavations will not negatively impact non-renewable fossil resources since young surficial sediments typically do not contain significant vertebrate fossils, the underlying Saugus Formation may also be impacted during grading. Therefore, if project-related excavations are deep enough to impact underlying older alluvial sediments and the paleontologically sensitive Saugus Formation, it is strongly recommended that a qualified paleontologist be retained to develop and implement a paleontological monitoring and mitigation program during such excavations within the Hitch Ranch project site.

1.5 DISPOSITION OF DATA

This report will be filed with Impact Sciences. A copy will be retained at SWCA Environmental Consultants, along with all maps, notes and data relevant to this project.

2.0 INTRODUCTION

This report presents the findings of a museum records search, comprehensive literature review, and field survey conducted in order to evaluate the paleontological sensitivity of geologic units underlying the Hitch Ranch Specific Plan project area located in the City of Moorpark, Ventura County, California. This study was performed to evaluate the paleontological sensitivity of the project area and vicinity, assess potential project-related impacts, and provide recommendations for project-specific mitigation measures in accordance with the professional guidelines established by the Society of Vertebrate Paleontology (SVP) (1995) and guidelines set forth by Ventura County.

2.1 DEFINITION AND SIGNIFICANCE OF PALEONTOLOGICAL RESOURCES

Paleontology is a multidisciplinary science that combines elements of geology, biology, chemistry, and physics in an effort to understand the history of life on earth. Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. These include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. The fossil record is the only evidence that life on earth has existed for more than 3.6 billion years. Fossils are considered non-renewable resources because the organisms they represent no longer exist. Thus, once destroyed, a fossil can never be replaced. Fossils are an important scientific and educational resource because they are used to:

- Study the phylogenetic relationships between extinct organisms, as well as their relationships to modern groups.
- Elucidate the taphonomic, behavioral, temporal, and diagenetic pathways responsible for fossil preservation, including biases in the fossil record.
- Reconstruct ancient environments, climate change, and paleoecological relationships.
- Provide a measure of relative geologic dating, which forms the basis for biochronology and biostratigraphy, and which is an independent and supporting line of evidence for isotopic dating.
- Study the geographic distribution of organisms and tectonic movements of land masses and ocean basins through time.
- Study patterns and processes of evolution, extinction, and speciation.
- Identify past and potential future human-caused effects to global environments and climates.

3.0 RESOURCE ASSESSMENT GUIDELINES

Paleontological resources are limited, non-renewable resources of scientific, cultural and educational value, and are afforded protection under federal (National Environmental Policy Act, or NEPA), state (California Environmental Quality Act, or CEQA), and local (County of Ventura) laws and regulations. This study satisfies project requirements in

accordance with CEQA (13 PRC, 2100 et seq.) and complies with guidelines and significance criteria specified by the SVP (SVP, 1995).

3.1 LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

Fossils are classified as non-renewable scientific resources and are protected by various laws, ordinances, regulations, and standards (LORS) across the country. The SVP (1995) has established professional standards for the assessment and mitigation of adverse impacts to paleontological resources. This paleontological assessment was conducted in accordance with the LORS applicable to paleontological resources within the project area.

3.2 PROFESSIONAL STANDARDS

The Society of Vertebrate Paleontology's Conformable Impact Mitigation Guidelines Committee has established standard guidelines (SVP, 1995) that outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological LORS accept and utilize the professional standards set forth by the SVP.

As defined by the SVP (1995:26), significant nonrenewable paleontological resources are defined as:

> ...fossils and fossiliferous deposits here restricted to vertebrate fossils and their taphonomic and associated environmental indicators. This definition excludes invertebrate or paleobotanical fossils except when present within a given vertebrate assemblage. Certain invertebrate and plant fossils may be defined as significant by a project paleontologist, local paleontologist, specialists, or special interest groups, or by lead agencies or local governments.

As defined by the SVP (1995:26), significant fossiliferous deposits are defined as:

> A rock unit or formation which contains significant nonrenewable paleontologic resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals, e.g., trackways, or nests and middens which provide datable material and climatic information). Paleontologic resources are considered to be older than recorded history and/or older than 5,000 years [before present].

Based on the significance definitions of the SVP (1995), all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new knowledge in one of the following areas.

- **Taxonomy** - fossils that are scientifically judged to be important for representing rare or unknown taxa, such as defining a new species.
- **Evolution** – fossils that are scientifically judged to represent important stages or links in evolutionary relationships, or fill gaps or enhance under represented intervals in the stratigraphic record.
- **Biostratigraphy** – fossils that are scientifically judged to be important for determining or constraining relative geologic (stratigraphic) age, or for use in regional to interregional stratigraphic correlation problems.
- **Paleoecology** – fossils that are scientifically judged to be important for reconstructing ancient organism community structure and interpretation of ancient sedimentary environments.
- **Taphonomy** – fossils that are scientifically judged to be exceptionally well or unusually/uniquely preserved, or are relatively rare in the stratigraphy.

3.3 PALEONTOLOGICAL SENSITIVITY

As indicated by the SVP's definition of fossiliferous deposits, there is a direct correlation between fossils and the geologic formation in which they are preserved. This is because "...paleontologic sites...indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontologic potential in each case." This is contrary to archaeological sites, where "the boundaries of archaeological sites define the areal extent of the resource." For this reason, "it is extremely important to distinguish between archaeological and paleontological (fossil) resource sites when defining the sensitivity of rock units."

Therefore, paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. The level of sensitivity is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities that are recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific location. In its "standard guidelines for the assessment and mitigation of adverse impacts to non-renewable paleontologic resources," the SVP (1995:23) defines three categories of paleontological sensitivity (potential) for rock units: high, low, and undetermined:

- **High Potential.** Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils have been recovered and are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include, but are not limited to, sedimentary formations

and some volcanic formations that contain significant non-renewable paleontologic resources anywhere within their geographical extent and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical, and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas which may contain new vertebrate deposits, traces, or trackways are also classified as significant.

- **Low Potential**. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections.
- **Undetermined Potential**. Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials.
- **No Potential**. Metamorphic and granitic rock units do not yield fossils and therefore have no potential to yield significant non-renewable fossiliferous resources.

Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils, or if defined as significant by project paleontologists, specialists, or local government agencies.

Full-time monitoring is generally recommended during any project-related ground disturbance in highly potential geologic units, whereas part-time monitoring is recommended for geologic units with a low potential. Protection or salvage efforts will not generally be required for units with no potential. Field surveys by a qualified vertebrate paleontologist should be conducted in units with undetermined potential to specifically identify the paleontologic potential of the rock units within the study area.

4.0 PROJECT LOCATION AND DESCRIPTION

The Hitch Ranch project area is located in the City of Moorpark, Ventura County, California (Figure 1). The 283.2-acre project site is approximately 1,600 feet west of Moorpark Avenue (State Route 23) at its intersection with Casey Road. The southern boundary of the area is approximately parallel with Poindexter Avenue, and the project extends west beyond Gabbert Road.

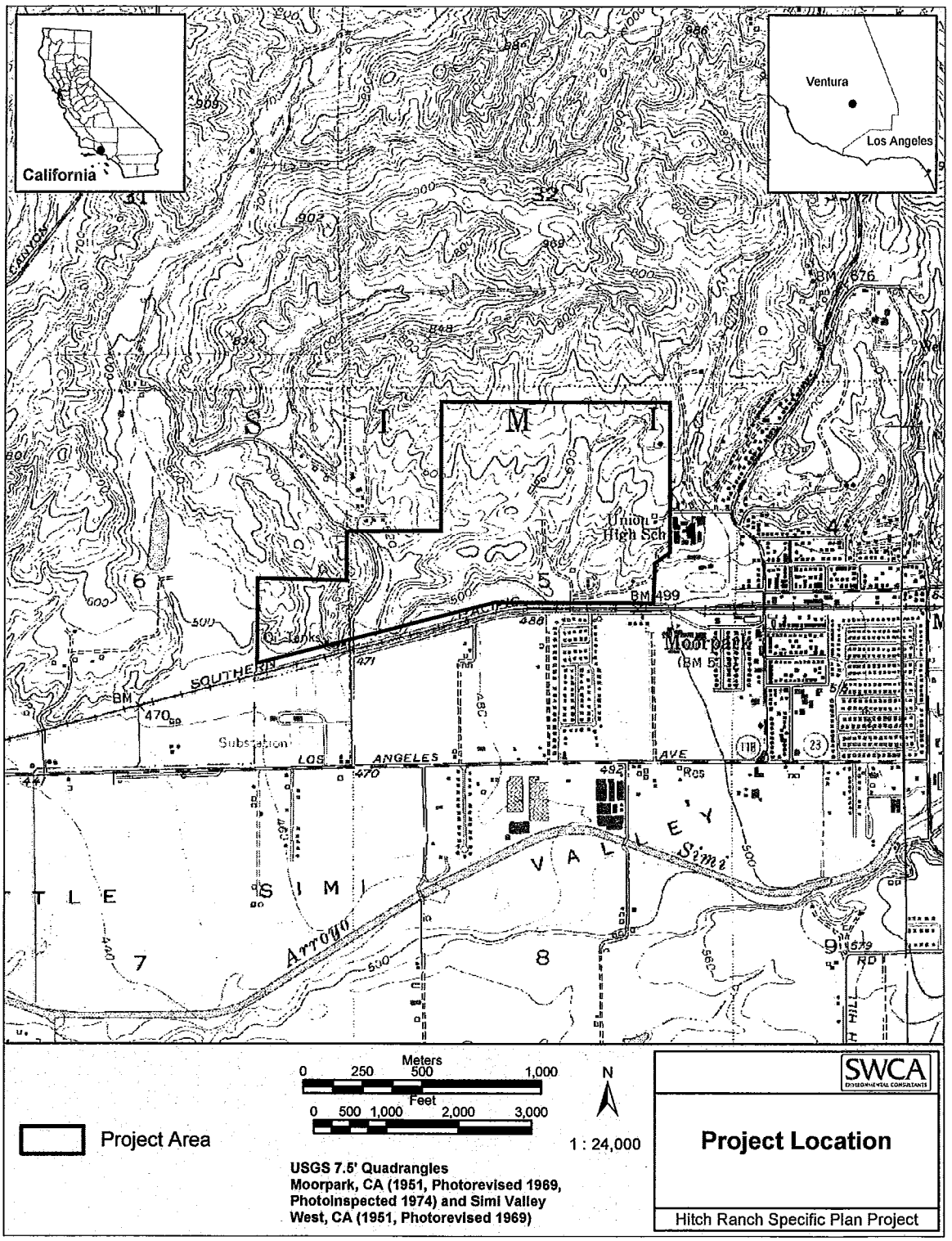

Figure 1. Project Location Map

4.1 GEOLOGY AND PALEONTOLOGY

Previous geologic mapping of the project area indicates the presence of Late Quaternary Older Alluvium and the underlying Plio-Pleistocene Saugus Formation (Dibblee 1992) within the project area. However, it should be noted that geotechnical studies conducted at the project site instead report the composition of the surficial sediments as Late Quaternary Older Alluvium and Holocene (Recent) alluvium, colluvium and artificial fill (Gorian and Associates Inc. 2000). Core samples taken from Hitch Ranch indicate that the Plio-Pleistocene Saugus Formation is present beneath the Older Alluvium. Thus, the Saugus Formation may be impacted during grading of the proposed project area

The controversy over the Saugus Formation/Older Alluvium has been ongoing for more than 75 years. In fact there has been considerable debate in the scientific community since 1924 as to whether the Saugus Formation is exposed in the hills of the project site as mapped by Dibblee (1992), or if the units outcropping in the hills are actually Late Quaternary Older Alluvium. Unfortunately due to heavy vegetation, no geologic units were exposed at Hitch Ranch during this field survey. Therefore, this question remains out of this scope of study and will not be addressed in this report. However, recommendations presented in this report are based on the assumption that all of the geologic units mapped for Hitch Ranch by various authors are present on site, either at the surface or at depth.

4.1.1 SAUGUS FORMATION

The oldest formation within the project area is the Plio-Pleistocene (2.5 million to 200,000 years old) Saugus Formation, which is potentially exposed in the hills of the project area (Dibblee 1992), and is underlying Older Alluvium in the western portion of Hitch Ranch (Gorian and Associates, Inc 2000).

The Saugus Formation is divided into lower and upper members, although only the Upper Saugus Formation is present in the project area. The lower member of the Saugus is composed of marine conglomerates, sandstones, siltstones and coquinites, and is well known for its marine invertebrate fossil localities (Squires and White 1983, White 1983). The upper member of the Saugus Formation, which is present within the project area, is composed of coarse-grained nonmarine conglomerates and sandstones (Levi et al. 1983).

The Upper Saugus Formation in the Moorpark area is well known for several Pleistocene large mammal fossil sites. These localities have produced a wide diversity of animals including mastodons, tapirs, horses and camels. The Saugus Formation is considered to have high paleontologic sensitivity due to its very high potential to produce significant non-renewable paleontologic resources in the Moorpark area (Lander 1997).

4.1.2 LATE QUATERNARY OLDER ALLUVIUM

Geologic mapping (Dibblee 1992) of the project area indicates that Late Quaternary older alluvial deposits are exposed in the valleys of the Hitch Ranch project area. Other

workers designate the rock units exposed in the hills of Hitch Ranch as Late Quaternary (Pleistocene) Older Alluvium (Impact Sciences EIR 2000). The Older Alluvium at Hitch Ranch is composed of up to 36 feet of interbedded, lenticular yellowish-brown sand, light yellowish-brown silt and yellowish-brown clay that often contain clasts from the underlying Modelo Formation. Current data indicates that the Older Alluvium in the Moorpark area is Middle Pleistocene (400,000 to 280,000 years old) (Lander 1997). However the occurrence of bison remains found at several localities in the Moorpark area indicates that some Older Alluvium may have been deposited in the Late Pleistocene (280,000 to 10,000 years old) (Lander 1997).

Due to its high potential to produce significant non-renewable paleontologic resources, Pleistocene Older Alluvium has been assigned high paleontologic sensitivity throughout Southern California (Reynolds and Reynolds 1991). The Older Alluvium in the Moorpark area has yielded the remains of several large Pleistocene land mammal species, including Harlan's ground sloth, two species of horses, and the remains of an imperial mammoth (Lander 1997).

4.1.3 RECENT ALLUVIUM, COLLUVIUM AND ARTIFICIAL FILL

Geotechnical studies performed by Gorian and Associates, Inc. for the Hitch Ranch Specific Plan project indicate that some of the surficial sediments overlying the Saugus Formation and Older Pleistocene alluvium in the project area are Holocene (Recent) alluvial stream deposits, colluvium and artificial fill (Impact Sciences EIR 2000). Holocene deposits are too young to contain fossils and are thus classified as low sensitivity sediments. The uppermost younger alluvial deposits are determined to have a low paleontological sensitivity rating; however, according to SVP guidelines, geologic units greater than 5,000 years old may contain fossilized material. Therefore, the paleontological sensitivity of the young alluvial sediments mapped within the project site increases with age (i.e., depth).

5.0 METHODS

A paleontological reconnaissance survey of the 283.2-acre parcel was conducted on January 5, 2006. The fieldwork consisted of a thorough pedestrian inspection of the study area for (1) surface fossils, (2) exposures of potentially fossil-bearing geologic units, and (3) areas in which fossil-bearing geologic units could be exposed during pre-construction grading activity.

5.1 MUSEUM RECORDS SEARCH

A detailed review of museum collections records of the Los Angeles County Museum (LACM) was performed for the purposes of: (1) determining whether there are any known fossil localities in or near the project area, (2) identifying the geologic units present in the project area, and (3) determining the paleontological sensitivity ratings of those geologic units in order to assess potential impacts to nonrenewable paleontological

resources. Published and unpublished literature and geologic maps were reviewed, and mitigation measures specific to this project were developed in accordance with the SVP professional standards and guidelines (1995).

5.2 PROJECT PERSONNEL

Jessica DeBusk conducted the museum records search. Cara Corsetti, Qualified Paleontologist and Paleontology Program Director, conducted the field survey with Lori Browne, primary author of this technical report. Heather Timmons produced graphics.

6.0 RESULTS AND ANALYSIS

The following table summarizes the paleontological sensitivity ratings of the geologic units underlying the Hitch Ranch Specific Plan project area.

Geologic Formation	Age	Fossils	Paleontological Sensitivity	Monitoring Recommendation
alluvium, colluvium, and fill	Holocene	none	low to high	part-time to full-time
older alluvium	Pleistocene-Holocene	terrestrial vertebrates	high	full-time
Saugus Formation	Plio-Pleistocene	marine invertebrates, terrestrial vertebrates	very high	full-time

Table 1. Paleontological Sensitivities of Geologic Units Within the Hitch Ranch Project Area

The search of the LACM collections records indicated the absence of documented fossil localities within the project area. Fossil localities have, however, been documented in the vicinity of the project. LACM (CIT) 560, the nearest documented site, is in a canyon southwest of the project area within surficial deposits of older Quaternary alluvium, and produced a specimen of fossil horse, *Equus*. Slightly south of LACM (CIT) 560 is LACM (CIT) 585, which produced an undetermined elephantoid tusk fragment from the Saugus Formation.

7.0 CONCLUSIONS

Adverse impacts on paleontological resources result when rock units become unavailable for study and observation by scientists. The destruction of fossils as a result of human-induced ground disturbance has a significant impact as it makes biological records of ancient life permanently unavailable for study by scientists. Implementation of proper mitigation measures can, however, reduce the impacts to the paleontological resources to below the level of significance.

Due to the high paleontological sensitivity of the Plio-Pleistocene Saugus Formation and the older Quaternary alluvium, excavations in these units within the Hitch Ranch project area are likely to have a negative impact on non-renewable paleontological resources unless proper mitigation measures are implemented. The surficial Holocene alluvium is too young to contain nonrenewable scientific resources and thus does not require close paleontological monitoring.

8.0 RECOMMENDED MITIGATION MEASURES

The following mitigation measures have been developed in accordance with the SVP (1995) standards and Ventura County guidelines, and meet the paleontological requirements of CEQA. These mitigation measures have been used throughout California and have been demonstrated to be successful in protecting paleontological resources while allowing timely completion of construction.

1. All project-related ground disturbances that could potentially impact the Saugus Formation and Quaternary older alluvium will be monitored by a qualified paleontological monitor on a full-time basis, as these geologic units are determined to have a high paleontological sensitivity rating. Since younger alluvial and colluvial deposits are considered to have a low paleontological sensitivity, monitoring of excavation activities in this unit will be conducted on a part-time basis to ensure that no underlying sensitive units are being impacted.
2. A Qualified Paleontologist will be retained to supervise monitoring of construction excavations and to produce a mitigation plan for the proposed project. Paleontological monitoring will include inspection of exposed rock units during active excavations. The monitor will have authority to temporarily divert grading away from exposed fossils in order to professionally and efficiently recover the fossil specimens and collect associated data. The Qualified Paleontologist will prepare monthly progress reports to be filed with the client and the lead agency.
3. At each fossil locality, field data forms will be used to record pertinent geologic data, stratigraphic sections will be measured, and appropriate sediment samples collected and submitted for analysis.
4. Recovered fossils will be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and reposed in a designated paleontological curation facility. Potential repositories include the Natural History Museum of Los Angeles County and the San Bernardino County Museum.
5. The Qualified Paleontologist will prepare a final monitoring and mitigation report to be filed with the client, the lead agency, and the repository.

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2020 Cultural Assessment

FIRSTCARBONSOLUTIONS™

Updated Cultural Resources Records Search and Assessment for the Hitch Ranch Specific Plan City of Moorpark, Ventura County, California

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Appendix A: Updated SCCIC Records Search and Literature Review Results

Appendix B: 2003 S&W Associates Cultural Resources Assessment

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SECTION 1: PROJECT SUMMARY

At the request of Comstock Homes, FirstCarbon Solutions (FCS) conducted an updated cultural resources records search and literature review for the Hitch Ranch Specific Plan (proposed project). An earlier cultural resources assessment was completed by W&S Consultants in 2003. Based on the age of the previous report and comments received from the City of Moorpark and a third party reviewer, it was determined that an updated records search and literature review would be sufficient to bring the report up-to-date and in compliance with California Environmental Quality Act (CEQA) Guidelines.

The purpose of this update is to identify the presence or absence of potentially significant cultural resources within the project area and if impacted by the proposed development, propose recommendations for mitigation. Completion of this overall investigation fulfills the requirements associated with CEQA Guidelines. This report update, in conjunction with the 2003 W&S assessment, fulfills the California Office of Historic Preservation (OHP) procedures for cultural resource surveys and the OHP Archaeological Resource Management Report (ARMR) format for archaeological reports. For the sake of clarity and consistency during the CEQA review process, this report update has been formatted to closely match a second FCS update addressing paleontological resources for the proposed project.

On February 26, 2020, an updated records search was conducted at the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton for the project area and a 0.50-mile radius beyond the project boundaries. The results of the records search indicate that six resources have been recorded within 0.5 mile of the project area; none of which are located within the project area. In addition, 44 area-specific survey reports are on file with the SCCIC for the project area and its 0.50-mile search radius, 11 survey reports (S-00607, S-02852, S-02847, S-01656, S-02386, S-02741, S-02890, S-02390, S-03263, S-01329, S-02314) are completely or partially within the project area indicating that the immediate area has previously been surveyed for cultural resources.

The resources P-56-001503, P-56-001574, and P-56-100196 consist of three lithic scatters and a habitation site, potentially consisting of middens, house-floors, and/or burials. While none of the sites are located within or in close proximity to the project site boundary, their presence in the vicinity indicates a higher potential for undiscovered buried archaeological deposits within the project area. Two survey reports encompassing the entire project area (S-01329 and S-02314) are previous studies completed by W&S Consultants in 1994 and 2003. The results of both surveys were negative for historic or prehistoric resources; however, the report mentions that there appears to be a reasonable possibility that some historical remains may be present within the central portion of the study area.

To ensure that all Native American knowledge and concerns over potential Tribal Cultural Resources (TCRs) that may be affected by implementation of the proposed project are addressed, the City of Moorpark provided formal notification to applicable Native American Governments pursuant to Assembly Bill 52 (AB 52). Consultation results will be included in the Tribal Cultural Resources section of the Initial Study/Mitigated Negative Declaration (IS/MND).

Based on the results of the updated records search and literature review, FCS considers the potential for the proposed project to have an adverse effect on historic or prehistoric cultural resources to be moderate. FCS recommends that an Archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology inspect the site once grubbing and clearing are complete, and prior to any grading or trenching into previously undisturbed soils. This should be followed by regular periodic or "spot-check" archaeological monitoring as determined by the Archaeologist. If the Archaeologist believes that a reduction in monitoring activities is prudent, then a letter report detailing the rationale for making such a reduction and summarizing the monitoring results may be provided to the City of Moorpark for concurrence. Additional procedures for the inadvertent discovery of human remains and cultural resources are provided below.

SECTION 2: INTRODUCTION

2.1 - Project Location and Description

The 270.64-acre project area is located in the City of Moorpark, in Ventura County, California on the *Moorpark*, United States Geological Survey (USGS) 7.5-minute Quadrangle (Exhibit 1). The project site lies within the southern limits of the Simi Hills, immediately to the north of the little Simi Valley, and immediately west of the town center of Moorpark proper, Ventura County, California. The Southern Pacific Railroad right-of-way forms the southern limits of the project site, while the eastern boundary runs approximately north-south immediately to the west of the old Union High School and the Moorpark Civic Center. The northern and western boundaries abut rural and semi-rural properties in the Simi Hills.

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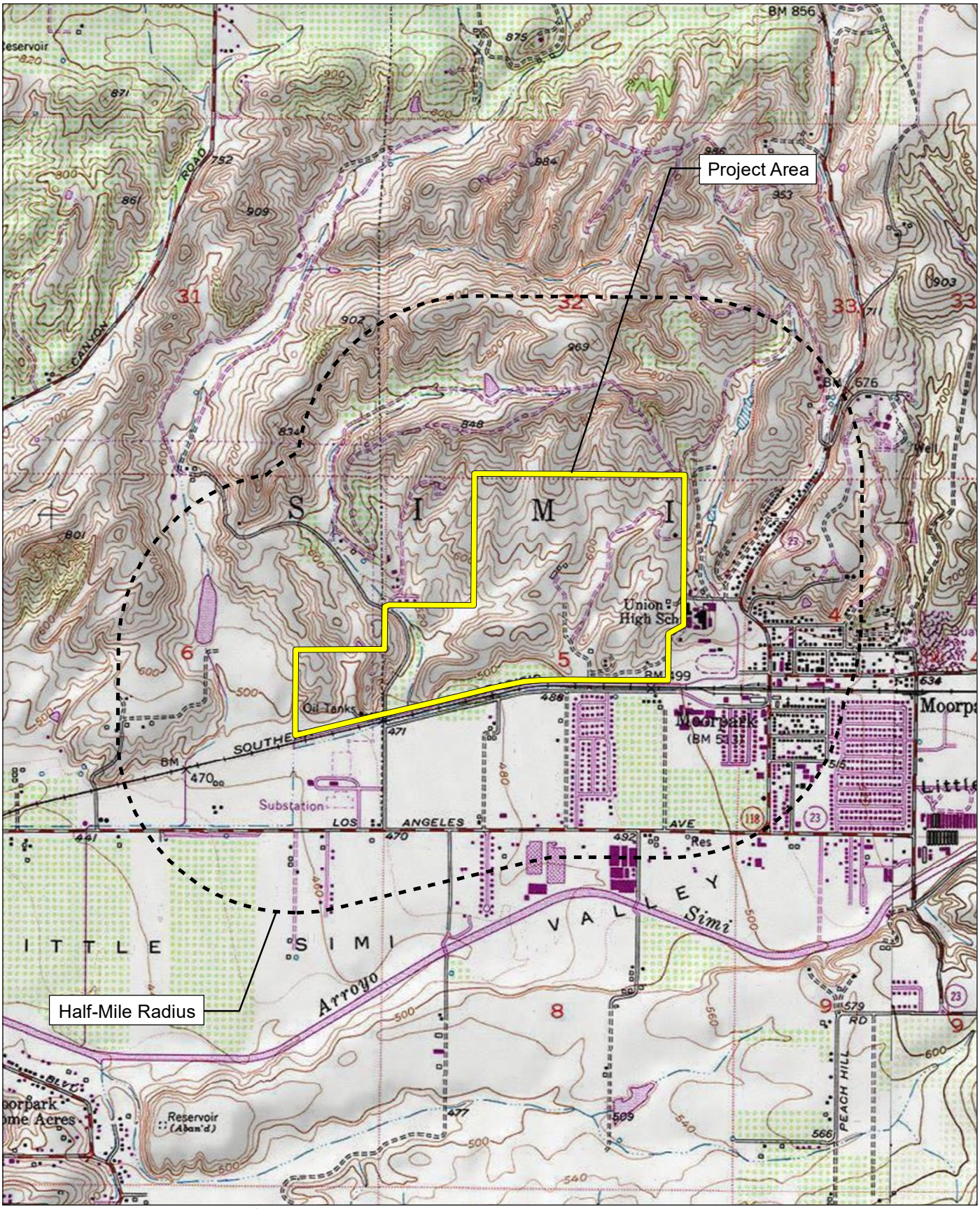

Source: USGS Moorpark 7.5' Quadrangle / Landgrant: Simi

FIRSTCARBON SOLUTIONS™

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Record Search Map

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SECTION 3: PREVIOUS CULTURAL RESOURCES ASSESSMENT

In 2003 at the request of Impact Sciences, Inc., S&W Associates conducted an intensive Phase I Archaeological Survey for the proposed project (Appendix B). This cultural resources survey was intended to inventory and evaluate any known historical or prehistoric archaeological sites lying within the 270.64 gross acre parcel, and to identify and record previously unknown cultural resources. Based on the results, the report also assessed potential impacts to cultural resources pursuant to the CEQA Guidelines.

In addition to a thorough discussion of the natural setting, prehistoric and ethnographic background, and history of the project area, the Phase 1 Archaeological Survey primarily consisted of a records search and intensive pedestrian survey, the results of which are summarized below.

3.1 - Previous Records Search Results

In order to determine if the project site had been previously surveyed or found to contain historic or prehistoric cultural resources, S&W Associates commissioned the staff of the Archaeological Information Center (AIC) located at California State University, Fullerton, to conduct an archaeological record search on January 29, 2003. This search included a review of all recorded historic and prehistoric archaeological sites within a 0.25-mile radius of the project area as well as a review of all known cultural resource reports. According to the maps, site records, and reports on file at the AIC, no archaeological sites of any kind had been recorded within the project area, nor in the immediate vicinity of the project site.

Historical maps, consisting of the 1921 and 1942 USGS Piru 15-minute topographical quadrangles, were also examined in an effort to identify historical structures or features that might have existed on the property. None were found to exist within the project area, despite the development of the Moorpark Town Center by 1921. The records search also noted that the project area had been previously surveyed once before in 1994, with negative results.

3.2 - Intensive Pedestrian Survey Results

Unless otherwise noted, the following is taken directly from the Phase I Hitch Ranch Archaeological Survey authored by W&S Consultants in 2003.

> An intensive, Phase I archaeological field survey was conducted by S&W associates on the entire 285 gross acres Hitch Ranch study area between February 5-8, 2003. Field procedures involved spacing the crew of three surveyors at approximately 15 to 20 meter intervals and then walking the property in transects, generally following the contours of the local topography. The ground surface was examined during these transects to identify archaeological specimens in the form of worked artifacts, or archaeological indicators, which might consist of specimens of shellfish, bone or waste lithic material resulting from the tool-making process.

During the survey special attention was paid to geomorphological conditions that affect the preservation of archaeological remains. Road or bank-cuts that expose subsurface stratigraphy, for example, along with stable geomorphic and depositional environments, were carefully examined for evidence of cultural remains. Given the geomorphology of the current project area, these included saddles in particular, as likely spots for subsurface deposition, and broad ridgelines/knolltops as areas also likely to contain cultural resources. In contrast, slopes of greater than about 25% grade, where erosional and gravitational forces would preclude the preservation of archaeological remains, were less intensively examined both because of the negligible possibility that sites might be present on them, and for the safety of the crewmembers.

Conditions for the field survey of the Hitch Ranch study area were found to be, in general, fair. Groundcover was moderate but not heavy, thereby impeding ground surface visibility in some areas, but a network of dirt roads and rodent-hole backdirt piles enabled a thorough examination of the study area.

Recent/modern structures and structural remains were present within the study area, with cleared zones surrounding these features. In particular, what appears to have been a demolished house is present along the central-eastern boundary of the property, now consisting solely of a graded and recently grubbed pad, and a pile of modern household and demolition rubbish, with other remnants of modern remains scattered throughout the property. No evidence of a ·possible turn of the century homestead was found.

No evidence of prehistoric archaeological remains was discovered during the intensive Phase I survey. The absence of such remains can be presumed to correlate with the relative xeric conditions within the study area, the apparently low density of prehistoric archaeological sites in the Moorpark region, and the tendency for any such sites to cluster tightly around permanent water sources.

No cultural resources of any kind, accordingly, were discovered during the intensive Phase I archaeological survey, reflecting the fact that the property was peripheral to prehistoric and historical habitation and use of the Moorpark region. However, there appears to be a reasonable possibility that some historical remains may be present within the central portion of the study area.

SECTION 4: METHODS AND ANALYSIS

The methods employed in this updated Cultural Resources Assessment included an updated cultural resources records search and an updated literature search.

4.1 - Results of the Updated Records Search and Literature Review

On February 26, 2020, an updated cultural resources records search was conducted for the project area at the SCCIC located at California State University, Fullerton. The records search radius was expanded to a 0.50-mile radius beyond the project boundaries, as is now standard practice for CEQA compliant cultural resources assessments. The current inventories of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Historical Landmarks (CHL) list, the California Points of Historical Interest (CPHI) list, and the California Historical Resources Inventory (HRI) for Ventura County were also reviewed to determine the existence of previously documented local historical resources.

The updated records search indicate that six resources have been recorded within 0.5 mile of the project area, none of which are located within the project site. Of the six recorded resources, three are prehistoric and three are historic in nature. In addition, 44 area-specific survey reports are on file with the SCCIC for the project area and its 0.50-mile search radius. Eleven survey reports (S-00607, S-02852, S-02847, S-01656, S-02386, S-02741, S-02890, S-02390, S-03263, S-01329, S-02314) are completely or partially within the project area indicating that immediate area has previously been surveyed for cultural resources. Two survey reports encompassing the entire project area (S-01329 and S-02314) are previous studies completed by W&S Consultants in 1994 and 2003.

The tables below summarize previously recorded cultural resources and investigations conducted within a 0.5-mile search radius of the proposed project.

Table 1: Cultural Resources within a 0.5-mile Radius of the Project Area

Resource No.	Resource Description	Date Recorded
P-56-001503	CA-VEN-001503: VAM-1 AP02 (Lithic scatter)	2014
P-56-001574	CA-VEN-001574: SunCal 1 AP02 (Lithic scatter)	1998, 2014
P-56-100196	SCE MN-1 AP02 (Lithic scatter), AP15 (Habitation debris)	2007, 2008
P-56-152817	Tanner Corner HP06 (1-3 story commercial building)	2000
P-56-153133	Fire Station No. 42 HP09 (Public utility building)	2015
P-56-153134	798 Moorpark Avenue HP06 (1-3 story commercial building)	2015
Source: SCCIC Records Search, February 26, 2020.		

Table 2: Previous Investigations within 0.5-mile of the Project Area

Report No.	Report Title/Project Focus	Author	Date
VN-00191	An Archaeological Reconnaissance of Korwasser Estates, Tract 3271, Moorpark, Ventura County, California (m-2774.3).	Robert Lopez	1979
VN-00213	Archaeological Assessment for Pm-3192 Moorpark, Ventura County, California.	Robert Lopez	1979
VN-00233	Archaeological Assessment for Pm-3244 Moorpark, Ventura County, California 93003.	Robert Lopez	1979
VN-00322	An Archaeological Reconnaissance of 230+-Acres of Tentative Tract No. 3218, Moorpark, Ventura County, California.	Robert Lopez	1979
VN-00557	Cultural Resource Survey for Pm-3496.	Sheila Callison	1980
VN-00558	Cultural Resources Survey for Pm-3408.	Sheila Callison	1979
VN-00572	Phase 1 Cultural Resources Survey Fiber Optic Cable Project, Burbank to Santa Barbara, California for US Sprint Communications Company.	Dames and Moore	1988
VN-00607	An Archaeological Survey of 2500 Acres for a Proposed Oil Exploration Project by Neaves Petroleum Developments in the Vicinity of Moorpark, Ventura County, California.	Robert Lopez	1977
VN-00775	An Archaeological Reconnaissance of the Area Involved in Jemco Properties Proposed Industrial Development Moorpark, Ventura County, California.	Robert Lopez	1989
VN-00776	Archaeological Reconnaissance for Pm-4318.	Robert Lopez	1989
VN-00821	Archaeological Investigation: 538 Los Angeles Avenue, Moorpark, Ventura County, California.	Gwendolyn R. Romani	1990
VN-01059	Cultural Resources Survey and Impact Assessment for Parcel B of Lot 53 on Gabbert Road in the City of Moorpark, Ventura County, California.	Clay A. Singer and John E. Atwood	1991
VN-01102	Preliminary Cultural Resource Survey and Potential Impact Assessment for Thirteen Areas in Southern Ventura County, California.	Clay A. Singer	1977
VN-01153	Class 3 Cultural Resource Assessment of the Proposed Carpinteria and Southern Reroutes, Santa Barbara, Ventura, and Los Angeles Counties, California.	Peak and Associates, Inc.	1991
VN-01265	Consolidated Report: Cultural Resources Studies for the Proposed Pacific Pipeline Project.	L. W. Reed	1992
VN-01274	Phase I Archaeological Survey and Cultural Resources Assessment for the Moorpark Golf Course Project, Ventura County, California.	David S. Whitley and Joseph M. Simon	1993

Table 2 (cont.): Previous Investigations within 0.5-mile of the Project Area

Report No.	Report Title/Project Focus	Author	Date
VN-01329	Phase 1 Archaeological Survey and Cultural Resources Assessment for the Levy Specific Plan Study Area, Ventura County, California.	Robert Lopez	1994
VN-01471	An Archaeological Reconnaissance of the Area Involved in Parcel Map No. 5056 Within the Incorporated Limits of the City of Moorpark, Ventura County.	Anonymous	1996
VN-01548	Phase 1 Archaeological Survey and Cultural Resources Assessment for the Moorpark Street Improvements Project Study Area, Ventura County, California.	Robert Lopez	1997
VN-01589	Archaeological Survey of a Proposed New Well Site Within the Area of the Winchester Development in the Vicinity of Moorpark, Ventura County, California.	Robert Lopez	1977
VN-01656	Report of Phase I Archaeological Investigation Westpointe Moorpark Project Tentative Tract No. 4620 Moorpark, California.	Stephen Home	1998
VN-01680	Archaeological Test Excavation of CA-VEN-1574 on the Suncal Development, Tentative Tract 5130, Moorpark, Ventura County, California.	Patrick O. Maxon	1998
VN-02052	Phase I Archaeological Survey of the Gisler Fields Project Study Area, Moorpark, Ventura County, California.	David S. Whitley and Joseph Simms	2000
VN-02054	Phase I Archaeological Survey of the Triliad Development Study Area, Moorpark, Ventura County, California.	David S. Whitley and Joseph Simms	1999
VN-02314	Phase I Archaeological Survey of Hitch Ranch, Moorpark, Ventura County, California.	David S. Whitley and Joseph Simms	2003
VN-02320	Phase 1 Archaeological Resources Report, Birkenshaw Site, 251 Moorpark Avenue, Moorpark, California.	David Stone	2004
VN-02386	Archaeological Survey Report for the Southern California Edison Company Replacement of 71 Deteriorated Poles on the Patricia 16kv, Thacher 16kv, Matilda 16kv, Tico 16kv, Seaquit 4kv, Maguire 16kv, Galahad 16kv, Brennan B4 16kvm Strathern 16kv, Gabbert B2.	Stacey C. Jordon and Joshua D. Patterson	2006
VN-02390	Archaeological Survey Report for the Southern California Edison Company Replacement of 30 Deteriorated Poles Private and Public Inholdings, Ventura, Los Angeles, and Santa Barbara Counties, California.	Stacey C. Jordon and Joshua D. Patterson	2006

Table 2 (cont.): Previous Investigations within 0.5-mile of the Project Area

Report No.	Report Title/Project Focus	Author	Date
VN-02504	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and II.	Cindy Arrington and Nancy Sikes	2006
VN-02521	Dwo 6335-6792; Ai 6-1190: Essex Properties Overhead Relocation Project, Moorpark Area, Ventura County.	James J. Schmidt	2007
VN-02617	Archaeological Survey Report, Southern California Edison, Moorpark-Newbury 66kv New Source Line Project, Wo 4605-2104: Jo 6042-0468.	James J. Schmidt	2007
VN-02666	Cultural Resources Records Search and Site Visit Results for Sprint Nextel Candidate VR73XC919A/CA7312 (Grimes Canyon), 11800 Championship Drive, Moorpark, Ventura County, California.	Wayne H. Bonner	2007
VN-02741	Strathern 16kV Deteriorated Pole Replacement Project, Ventura County, California.	June Schmidt	2009
VN-02810	Results of Extended Phase I Investigations at Sites P56-100196 (SCE MN-1), P56-001797 (CA-Ven-1797; SCE MN-2), and P56-100197 (SCE MN-3), for the Southern California Edison Moorpark-Newbury Park 66kV New Source Line Project, Ventura County, California.	James Schmidt, June Schmidt, and Gwen Romani	2008
VN-02847	Archaeological Survey Report for the Southern California Edison Company Replacement of Seven Deteriorated Poles on the Morganstein 16 kV, Strathern 16 kV, and Brennan 16kV Circuits, Private Inholdings in Ventura County, California.	Stacey C. Jordan and Joshua D. Patterson	2006
VN-02852	Phase I Archaeological Survey for TTM 5505, Moorpark, Ventura County, California.	David S. Whitley	2004
VN-02890	Archaeological Letter Report: WO 6035-4800. TD 453269: Moorpark Deteriorated Pole Replacement Project, Ventura County, California.	James Schmidt	2010
VN-02981	Moorpark Vistas & North Hills Parkway Extension Archaeology.	Patrick Maxon	2008
VN-03094	Historic Resource Evaluation Report—Mason Avenue At-Grade Crossing and Safety Improvements Project, Los Angeles City, California.	John A. Foster	2002
VN-03210	Housing Authority of Ventura County Moorpark Affordable Housing Project.	Shannon Carmack, Breana Campbell, and Christopher Duran	2015

Table 2 (cont.): Previous Investigations within 0.5-mile of the Project Area

Report No.	Report Title/Project Focus	Author	Date
VN-03251	Phase I Archaeological Survey for TTM 5505, Moorpark, Ventura County, California.	Joseph M. Simon and Robert B. Rechtman	2014
VN-03263	Archeological Survey Report Moorpark—2 Gabbert Road, Moorpark Ventura County, California.	David Stone and Heather McDaniel	2015
VN-03266	Archaeological Survey Report Vistas at Moorpark Ventura County, California.	David Stone and Ken Victorino	2014
Source: SCCIC Records Search, February 26, 2020.			

Records search results from the SCCIC indicate that three prehistoric archaeological resources lie within 0.5 mile of the project site. The resources P-56-001503, P-56-001574, and P-56-100196 consist of three lithic scatters and a habitation site, potentially consisting of middens, house-floors, and/or burials. While none of the sites are located within or in close proximity to the project site boundary, their presence in the vicinity indicates a higher potential for undiscovered buried archaeological deposits within the project area.

4.2 - Native American Heritage Commission

Given that the previous cultural resource assessment did not include outreach to the Native American Heritage Commission (NAHC), and to ensure that all Native American knowledge and concerns over potential TCRs that may be affected by implementation of the proposed project are addressed, the City of Moorpark provided formal notification to applicable Native American Governments pursuant to AB 52. Consultation results will be included in the Tribal Cultural Resources section of the IS/MND.

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SECTION 5: SUMMARY AND RECOMMENDATIONS

5.1 - Summary

At the request of Comstock Homes, FCS conducted an updated cultural resources records search and literature review for the proposed project. Results from the SCCIC indicate that three prehistoric cultural resources are located within the 0.5-mile search radius. The resources P-56-001503, P-56-001574, and P-56-100196 consist of three lithic scatters and a habitation site, potentially consisting of middens, house-floors, and/or burials. While none of the sites are located within or in close proximity to the project site boundary, their presence in the vicinity indicates a higher potential for undiscovered buried archaeological deposits within the project area.

Forty-four area-specific survey reports are on file with the SCCIC for the project area and its 0.50-mile search radius. Eleven survey reports (S-00607, S-02852, S-02847, S-01656, S-02386, S-02741, S-02890, S-02390, S-03263, S-01329, S-02314) are completely or partially within the project area indicating that the immediate area has previously been surveyed for cultural resources. Two survey reports encompassing the entire project area (S-01329 and S-02314) are previous studies completed by W&S Consultants in 1994 and 2003. The results of both surveys were negative for historic or prehistoric resources; however, the report mentions that there appears to be a reasonable possibility that some historical remains may be present within the central portion of the study area.

5.2 - Recommendations

5.2.1 - Cultural Resources Recommendations

Based on the results of the updated records search and literature review, FCS considers the potential for the proposed project to have an adverse effect on historic or prehistoric cultural resources to be moderate. FCS recommends that an Archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology inspect the site once grubbing and clearing are complete, and prior to any grading or trenching into previously undisturbed soils. This should be followed by regular periodic or "spot-check" archaeological monitoring as determined by the Archaeologist. If the Archaeologist believes that a reduction in monitoring activities is prudent, then a letter report detailing the rationale for making such a reduction and summarizing the monitoring results may be provided to the City of Moorpark for concurrence. Additional procedures for the inadvertent discovery of human remains and cultural resources are provided below.

5.3 - Inadvertent Discovery Procedures

5.3.1 - Accidental Discovery of Human Remains

There is always the possibility that ground-disturbing activities during construction may uncover previously unknown buried human remains. Should this occur, Section 7050.5 of the California Health and Safety Code applies, and the following procedures shall be followed.

In the event of an accidental discovery or recognition of any human remains, Public Resource Code Section 5097.98 must be followed. In this instance, once project-related earthmoving begins and if there is accidental discovery or recognition of any human remains, the following steps shall be taken:

1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains to be Native American, the coroner shall contact the NAHC within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" of the deceased Native American. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or
2. Where the following conditions occur, the landowner or his/her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendent or on the project area in a location not subject to further subsurface disturbance:
   - The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission;
   - The descendent identified fails to make a recommendation; or
   - The landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

5.3.2 - Accidental Discovery of Cultural Resources

It is always possible that ground-disturbing activities during construction may uncover previously unknown, buried cultural resources. In the event that buried cultural resources are discovered during construction, operations shall stop in the immediate vicinity of the find and a qualified Archaeologist shall be consulted to determine whether the resource requires further study. The qualified Archeologist and shall make recommendations to the Lead Agency on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Potentially significant cultural resources consist of but are not limited to stone, bone, fossils, wood, or shell artifacts or features, including hearths, structural remains, or historic dumpsites. Any previously undiscovered resources found during construction within the project area should be recorded on appropriate Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of CEQA Guidelines.

If the resources are determined to be unique historic resources as defined under Section 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the Archaeological Monitor and recommended to the Lead Agency. Appropriate mitigation measures for significant resources could

include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds.

No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these resources. Any archaeological artifacts recovered as a result of mitigation shall be donated to a qualified scientific institution approved by the Lead Agency where they would be afforded long-term preservation to allow future scientific study.

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Appendix A:
Updated SCCIC Records Search and Literature Review Results

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Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-56-001503	CA-VEN-001503	Resource Name - VAM-1	Site	Prehistoric	AP02 (Lithic scatter)	2014 (Brian Holguin and Lucas Nichols, Dudek)	VN-03210, VN-03266
P-56-001574	CA-VEN-001574	Resource Name - SunCal 1	Site	Prehistoric	AP02 (Lithic scatter)	1998 (P. Maxon, RMW Paleo Associates); 2014 (Ken Victorino, Dudek)	VN-01680, VN-02745, VN-02852, VN-02890, VN-02981, VN-03210, VN-03266
P-56-100196		Resource Name - SCE MN-1	Other	Prehistoric	AP02 (Lithic scatter); AP15 (Habitation debris)	2007 (J. Schmidt, Compass Rose Archaeological, Inc.); 2008 (James J. Schmidt, Compass Rose Archaeological, Inc.)	VN-02810
P-56-152817		OHP Property Number - 125224; Resource Name - Tanner Corner; Voided - 19-187094	Building	Historic	HP06 (1-3 story commercial building)	2000 (Colin and Victoria Velazquez)	VN-03210
P-56-153133		Resource Name - Fire Station No. 42	Building	Historic	HP09 (Public utility building)	2015 (Shannon Carmack, Rincon)	VN-03210
P-56-153134		Resource Name - 798 Moorpark Ave	Building	Historic	HP06 (1-3 story commercial building)	2015 (Shannon Carmack, Rincon)	VN-03210

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
VN-00191		1979	Lopez, Robert	An Archaeological Reconnaissance of Korwasser Estates, Tract 3271, Moorpark, Ventura County, California (m-2774.3).	Robert Lopez, Archaeological Consultant	
VN-00213		1979	Lopez, Robert	Archaeological Assessment for Pm-3192 Moorpark, Ventura County California.		
VN-00233		1979	Lopez, Robert	Archaeological Assessment for Pm-3244 Moorpark, Ventura County California 93003.		
VN-00322		1979	Lopez, Robert	An Archaeological Reconnaissance of 230+- Acres of Tentative Tract No. 3218, Moorpark, Ventura County, California.		
VN-00557		1980	Callison, Sheila	Cultural Resource Survey for Pm-3496	Ventura County	
VN-00558		1979	Callison, Sheila	Cultural Resources Survey for Pm-3408	Ventura County	
VN-00572		1988	Dames and Moore	Phase 1 Cultural Resources Survey Fiber Optic Cable Project, Burbank to Santa Barbara, California for Us Sprint Communications Company	Dames & Moore	56-000027, 56-000196, 56-000202, 56-000240, 56-000241, 56-000341, 56-000342, 56-000550, 56-000643, 56-000644, 56-000655, 56-000729, 56-000789, 56-000895, 56-000896, 56-000916, 56-000917, 56-000918
VN-00607		1977	Lopez, Robert	An Archaeological Survey of 2500 Acres for a Proposed Oil Exploration Project by Neaves Petroleum Developments in the Vicinity of Moorpark, Ventura County, California	Robert Lopez, Archaeological Consultant	
VN-00775		1989	Lopez, Robert	An Archaeological Reconnaissance of the Area Involved in Jemco Properties Proposed Industrial Development Moorpark, Ventura County, California		
VN-00776		1989	Lopez, Robert	Archaeological Reconnaissance for Pm-4318		
VN-00821		1990	Romani, Gwendolyn R.	Archaeological Investigation: 538 Los Angeles Avenue, Moorpark, Ventura County	Greenwood and Associates	
VN-01059		1991	Singer, Clay A. and John E. Atwood	Cultural Resources Survey and Impact Assessment for Parcel B of Lot 53 on Gabbert Road in the City of Moorpark, Ventura County, California.	C.A. Singer & Associates, Inc.	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
VN-01102		1977	Singer, Clay A.	Preliminary Cultural Resource Survey and Potential Impact Assessment for Thirteen Areas in Southern Ventura County, California	ARI	56-000003, 56-000004, 56-000005, 56-000013, 56-000014, 56-000031, 56-000032, 56-000033, 56-000075, 56-000076, 56-000077, 56-000087, 56-000135, 56-000136, 56-000137, 56-000138, 56-000140, 56-000142, 56-000148, 56-000149, 56-000150, 56-000158, 56-000163, 56-000164, 56-000165, 56-000458, 56-000478, 56-000479, 56-000481, 56-000490
VN-01153		1991	Peak and Associates, Inc.	Class 3 Cultural Resource Assessment of the Proposed Carpinteria and Southern Reroutes, Santa Barbara, Ventura, and Los Angeles Counties, California	Peak & Associates	56-001089
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VN-01274		1993	Whitley, David S. and Joseph M. Simon	Phase I Archaeological Survey and Cultural Resources Assessment for the Moorpark Golf Course Project, Ventura County, California	W & S Consultants	
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VN-01471		1996	Lopez, Robert	An Archaeological Reconnaissance of the Area Involved in Parcel Map No. 5056 Within the Incorporated Limits of the City of Moorpark, Ventura County		
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VN-01680		1998	Maxon, Patrick O.	Archaeological Test Excavation of CA-VEN-1574 on the Suncal Development, Tentative Tract 5130, Moorpark, Ventura County, California	RMW Paleo Associates, Inc.	56-001574
VN-02052		2000	Whitley, David S. and Joseph Simms	Phase I Archaeological Survey of the Gisler Fields Project Study Area, Moorpark, Ventura County, California	W&S Consultants	
VN-02054		1999	Whitley, David S. and Joseph Simms	Phse I Archaeological Survey of the Triliad Development Study Area, Moorpark, Ventura County, California	W&S Consultants	
VN-02314		2003	Whitley, David S. and Joseph M. Simon	Phase I Archaeological Survey of Hitch Ranch, Moorpark, Ventura County, California	W & S Consultants	
VN-02320		2004	Stone, David	Phase 1 Archaeological Resources Report, Birkenshaw Site, 251 Moorpark Avenue, Moorpark, California	Stone Archaeological Consulting	
VN-02386		2006	Jordon, Stacey C. and Patterson, Joshua D.	Archaeological Survery Report for the Southern California Edison Company Replacement of 71 Deteriorated Poles on the Patricia 16kv, Thacher 16kv, Matilda 16kv, Tico 16kv, Seaquit 4kv, Maguire 16kv, Galahad 16kv, Brennan B4 16kvm Strathern 16kv, Gabbert B2	Mooney, Jones & Stokes	19-001041, 19-001402, 19-002075, 19-002076, 19-120027, 56-000137, 56-000140, 56-000192, 56-000193, 56-001109, 56-001265, 56-001266, 56-100048, 56-100049, 56-152750
VN-02390		2006	Jordan, Stacey C. and Patterson, Joshua D.	Archaeological Survey Report for the Southern California Edison Company Replacement of 30 Deteriorated Poles Private and Public Inholdings, Ventura, Los Angeles, and Santa Barbara Counties, California	Mooney, Jones & Stokes	19-000729, 19-000730, 19-000731, 19-001266, 56-000141, 56-000550, 56-000562, 56-000901, 56-000902, 56-000980, 56-001110, 56-001124, 56-001125
VN-02504		2006	Arrington, Cindy and Nancy Sikes	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and Ii	SWCA Environmental Consultants, Inc.	
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VN-02617		2007	Schmidt, James J.	Archaeological Survey Report, Southern California Edison, Moorpark-newbury 66kv New Source Line Project, Wo 4605-2104: Jo 6042-0468	Compass Rose Archaeological, Inc.	56-000449, 56-000454, 56-001031, 56-001032, 56-001036
VN-02666		2007	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for Sprint Nextel Candidate VR73XC919A/CA7312 (Grimes Canyon), 11800 Championship Drive, Moorpark, Ventura County, California	Michael Brandman Associates	
VN-02741		2009	Schmidt, June	Strathern 16kV Deteriorated Pole Replacement Project, Ventura County, California	Compass Rose Archaeological, Inc.	
VN-02810		2008	Schmidt, James, June Schmidt, and Gwen Romani	Results of Extended Phase I Investigations at Sites P56-100196 (SCE MN-1), P56-001797 (CA-Ven-1797; SCE MN-2), and P56-100197 (SCE MN-3), for the Southern California Edison Moorpark-Newbury Park 66kV New Source Line Project, Ventura County, California	Compass Rose Archaeological, Inc.	56-001797, 56-100196, 56-100197
VN-02847		2006	Jordan, Stacey C. and Joshua D. Patterson	Archaeological Survey Report for the Southern California Edison Company Replacement of Seven Deteriorated Poles on the Morganstein 16 kV, Strathern 16 kV, and Brennan 16kV Circuits, Private Inholdings in Ventura County, California	Mooney - Jones & Stokes	56-000901, 56-000902, 56-000980
VN-02852		2004	Whitley, David S.	Phase I Archaeological Survey for TTM 5505, Moorpark, Ventura County, California	W&S Consultants	56-000671, 56-000791, 56-001264, 56-001270, 56-001573, 56-001574
VN-02890		2010	Schmidt, James	Arcaheological Letter Report: WO 6035-4800; TD 453269: Moorpark Deteriorated Pole Replacement Project, Ventura County, California	Compass Rose Archaeological, Inc.	56-001574
VN-02981		2008	Maxon, Patrick	Moorpark Vistas & North Hills Parkway Extension Archaeology	Chambers Group	56-000791, 56-001574
VN-03094		2002	Foster, John A.	Historic Resource Evaluation Report- Mason Avenue At-Grade Crossing and Safety Improvements Project, Los Angeles City, California	Greenwood and Associates	
VN-03210		2015	Carmack, Shannon, Breana Campbell, and Christopher Duran	Housing Authority of Ventura County Moorpark Affordable Housing Project	Rincon Consultants	56-000791, 56-001268, 56-001269, 56-001270, 56-001503, 56-001574, 56-100050, 56-152817, 56-153133, 56-153134

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
VN-03251		2014	Simon, Jospeh M. and Robert B. Rechtman	Phase I Archaeological Survey for TTM 5505, Moorpark, Ventura County, California	W & S Consultants	
VN-03263		2015	Stone, David and Heather McDaniel	ARCHAEOLOGICAL SURVEY REPORT MOORPARK - 2 GABBERT ROAD, MOORPARK VENTURA COUNTY, CALIFORNIA	DUDEK	
VN-03266		2014	Stone, David and Ken Victorino	ARCHAEOLOGICAL SURVEY REPORT VISTAS AT MOORPARK VENTURA COUNTY, CALIFORNIA	DUDEK	56-000791, 56-001503, 56-001574

Appendix B:
2003 S&W Associates Cultural Resources Assessment

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2003 Phase I Archaeological Report

PHASE I ARCHAEOLOGICAL SURVEY OF HITCH RANCH, MOORPARK, VENTURA COUNTY, CALIFORNIA

Prepared for:

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7 February, 2003

Management Summary

An intensive Phase I archaeological survey was conducted for the Hitch Ranch study area, Moorpark, Ventura County, California. This involved background studies of the prehistory and ethnography of the area; an archival records search of relevant maps, site forms and documents; and an on-foot survey of the subject property. No cultural resources had been recorded within the study area, and none were noted during the intensive survey of it. Development of the property, therefore, does not have the potential to result in adverse impacts to cultural resources. No additional archaeological work is recommended for this property.

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1.0 INTRODUCTION

At the request of Mr. Mark Austin, Impact Sciences, Inc., an intensive Phase I archaeological survey was conducted for the Hitch Ranch study area, City of Moorpark, Ventura County, California (Figure 1). This cultural resources survey was intended to inventory and evaluate any known historical or prehistoric archaeological sites lying within this 285 gross acres parcel, and to identify and record previously unknown cultural resources. Following the California Environmental Quality Act (CEQA), the purpose of this investigation was to provide baseline data from which a preliminary assessment of the adverse impacts to any such cultural resources could be made, should this property be developed, and to develop management recommendations for the further study or treatment of archaeological sites or localities identified within the subject property.

This study was undertaken by W & S Consultants, and was conducted on February 5-8, 2003. David S. Whitley, Ph.D., Joseph M. Simon and Tamara K. Whitley, M.A., were responsible for the field work portion of the study. This manuscript was prepared by Whitley and Simon.

A series of procedures and studies were conducted in order to adequately inventory and evaluate the cultural resources within the study area at the Phase I level. These included: a review of published reports and studies to establish the aboriginal cultural history of the region in question; an examination of historical reports and sources to determine the history of the subject property; a study of existing archaeological site records and files to identify known cultural resources within the subject property; and a field survey and assessment to identify previously unknown or unreported archaeological sites. This report summarizes the findings and conclusions of each of these aspects of the Phase I investigation.

We begin with an environmental overview of our study area, the 285 gross acres Hitch Ranch study area. We then turn to a summary of local cultural history, including both ethnography and prehistory. We also consider the previous archaeological research that has been conducted in inland Ventura County. Subsequently we summarize the results of an archaeological records search, conducted by the staff of

the California State University, Fullerton, Archaeological Information Center (AIC). Next we outline the field procedures we followed in conducting the survey of the study area, and then turn to the results of the field study. We conclude with management recommendations for the study zone.

2.0 ENVIRONMENTAL BACKGROUND

The 285 gross acres Hitch Ranch study area lies within the southern limits of the Simi Hills, immediately to the north of Little Simi Valley, and immediately west of the town center of Moorpark proper, Ventura County, California (Figure 1). The Southern Pacific railroad right-of-way forms the southern limits of the study area, while the eastern boundary runs approximately north-south immediately to the west of the old Union High School and the Moorpark Civic Center. The northern and western boundaries abut rural and semi-rural properties in the Simi Hills.

From a geomorphological perspective, this is an area of minor dissected fault scarps and intervening arroyos, creating a series of low, broad and generally north-south trending ridges, with round-bottomed arroyos in between. The ridges rise gently from the southern boundary, which sits on the flat alluvium created by Arroyo Simi and Little Simi Valley, to the higher foothills on the north. Elevation ranges from just under 500 feet a.s.l., at the south limits of the study area, to 700 feet a.s.l. along the northern edge of the property. Major drainages feeding the Arroyo Simi do not occur within the study area, although Walnut Canyon lies to the east, and the upper reaches of Grimes Canyon are located immediately west. Furthermore, no springs or active water-courses are present on the property.

Although historic and recent land-use changes have altered the environment considerably from what existed during prehistoric times, one major plant association probably characterized this area during the aboriginal period. This is the chaparral association (cf. Muntz 1974). Southern oak woodlands may also have been present within or near to the study area, while riparian environments clearly would have been present in the Arroyo Simi to the south.

The chaparral association covers steeper slopes with poorly developed soils and xeric conditions. It includes the following species: California sagebrush (Artemisia californica), white sage (Salvia mellifera), black sage (S. apliana), purple or white-leaved sage (S. Leucophylla), California encilia (Encilia californica), California buckwheat (Eriogonum fasciculatum), chamise (Adneostoma fasciculatum), buckbruch

(Ceanothus cuneatus), scrub oak (Quercus dumosa), toyon (Heteromeles arbutifolia), mountain mahogony (Cercocarpus betuloides), lemonade sumac (Rhus integrifolia) and sugar sumac (R. ovata).

The southern oak woodland may have been of primary aboriginal significance in the inland zones adjacent to the coastal strip. This results because of the great importance placed on the acorn as a food staple by Native Californians (Kroeber 1925), and the rarity of this resource on the coastal side of the Santa Monica Mountains. The association is characterized by the coast live oak (Quercus lobata) and the valley oak (Q. agrifolia), but also would have included various species of native grasses. Although currently restricted in distribution, this association was probably once much more widespread throughout the Simi Valley and Moorpark regions, which are near to the study area, and may have been present within the open flats of Little Simi Valley, south of the study area, as well as on the Mesa de Somis, immediately to the north.

Riparian habitats are localized and poorly diversified woodlands found in areas of perennial moisture. They include such species as arroyo willow (Salix lasiolepsi), mule fat (Baccharis glutinosa), willow dock (Rumex salicifolius), swamp knotweed (Polygonum coccineum), nettle (Urtica holosericea), cocklebur (Xanthium strumarium) and rabbitsfoot grass (Polypogon monspeiensis). Though this plant association is limited in distribution, it can still be considered to have had significant economic importance in aboriginal times, especially in terms of the acquisition of raw materials for items like baskets, cordage and netting. As noted above, originally it would have been present in Arroyo Simi, south of the study area.

Soils within the study zone are uniformally a heavy, expansive adobe soil, thinly-mantling sedimentary bedrock. Although the relationship between this soil type and specific plant associations have not yet been defined, our experience surveying in the inland Ventura County area suggests that prehistoric archaeological sites are rarely located on such soils, apparently signalling the fact that the specific plant associations found on such soils were not considered ideal for aboriginal exploitation and therefore inhabitation.

Because the above, idealized scenario applies to the region prior to modern ranching and development, much of the current vegetation within the Hitch Ranch study area is introduced or otherwise altered. It thereby varies considerably from what would have existed aboriginally or prehistorically. Essentially all of the study area has been disked, may have been grazed by livestock at some point, and may also have been farmed. The study area is now covered with introduced grasses and stands of mustard, precluding any definite reconstruction of original environmental conditions.

3.0 ETHNOGRAPHIC AND PREHISTORIC BACKGROUND

The Hitch Ranch study region, lying in southeastern Ventura County, California, is situated in a zone known prehistorically to have comprised a portion of the Canaliño culture area, and historically to have been a part of the Chumash ethnolinguistic sphere. In general archaeological terms the region of the Canaliño culture area is known to have first been occupied during the Early Millingstone period, which dates back to about 9000 years before B.P. (before present). During this period subsistence is posited to have emphasized plant resources, and site assemblages are dominated by large-sized and relatively crude chopping, grinding and pounding tools. At about 3500 years B.P. the prehistoric inhabitants of the region are said to have made a transition to a more hunting-oriented economy, which occurred during the duration of the Intermediate period, lasting to about A.D. 1200. Artifacts particularly diagnostic of this period include large, stemmed projectile points, probably used as spear or dart points, although smaller arrow points were introduced after about A.D. 500. The Intermediate period was replaced subsequently by the Late Prehistoric, or Canaliño period, per se, which lasted until the time of Spanish missionization during the last two decades of the 18th century. The Canaliño period witnessed a florescence of aboriginal culture which included a substantial growth in population, the establishment of permanent settlements on the coast, a high degree of sociopolitical complexity and the development of a very sophisticated maritime economy. It was during the Canaliño period that the ethnolinguistic group now known as the Chumash achieved levels of cultural and social sophistication perhaps unrivalled by hunter-gatherer groups anywhere else in the world (Wallace 1955; Landberg 1965).

The term "Chumash" strictly applies to a group of people united only by the use of a series of closely related Hokan languages, sharing a number of similar cultural traits, and stretching from Topanga Canyon inland to Mt. Piños and along the coast to the San Luis Obispo area (cf. Kroeber 1925). That is, it implies no necessary sociopolitical unity (as in a single 'tribe') and, in fact, a series of different Chumash languages and political units existed at the time of Spanish contact. In the southeasternmost region of the Chumash, including the immediate area of Moorpark, Ventureño Chumash was spoken.

Based on recent ethnohistoric reconstructions (cf. Whitley and Clewlow 1979; Whitley 1980; Whitley and Beaudry 1991), we now know that the Chumash were united into at least two major chiefdoms at the time of contact with the Spanish, and that these cross-cut linguistic boundaries between the various Chumashan-speaking groups. One of these political bodies, Lulapin, was governed from a village occupied by the paramount chief located near modern Point Mugu, at the mouth of the Calleguas Creek. Apparently this village controlled a series of smaller villages and village provinces within a large region stretching to the north of Santa Barbara at the time of Spanish contact. One of these 'controlled' or subordinate provinces was Humaliwo, which was governed by the historic village located at modern Malibu Beach. Logically, we can assume that whatever villages existed historically within the Moorpark/Simi Valley area would have been subordinate to the capital at Point Mugu as well.

While the specific region of the study area must be viewed within this general prehistoric and ethnohistoric context, it is nonetheless true that the reconstruction of Chumash prehistory and ethnohistory has largely been based on coastal evidence. That is, sites and minor regions inland from the coast obviously vary from those on the coastal strip (lacking, for example, access to coastal and maritime resources) and therefore exhibit not only some differences in terms of general site characteristics and adaptational trajectories, but in general chronological parameters too (W & S Consultants 1985; Whitley 1985).

The region in which the Hitch Ranch study area is located is an inland area generally referred to as the Simi Corridor. This comprises part of a series of east-west trending valleys and intervening hill systems lying northward (and therefore inland) of the Santa Monica Mountains and Conejo Corridor. It includes the Simi Valley proper, the Tierra Rejada, Little Simi and the Santa Rosa Valleys, all of which are tributary to the Calleguas Creek drainage. Although little archaeological research in the Simi Valley area and Simi Corridor has been published, it is probable that the prehistory of this area is similar to that of the adjacent Conejo Corridor, located immediately to the south. A relatively intensive period of research in this last area, resulting largely from development in the Thousand Oaks region and the cultural resources management studies that have been attendant to this development, has provided a fairly thorough indication of the

nature of the prehistoric record in this inland region, which appears applicable to the Simi Corridor as well.

If we may use the prehistory of the Conejo Corridor as a model, and unlike the Chumash region in a more general sense, the first indication of aboriginal occupation in this inland area appears to date to the beginning of the Intermediate period, or from about 3500 years B.P. (W & S Consultants 1985:69). This comprised the initial occupations of a series of what have been termed site complexes. These are agglomerations of small habitation and special purpose sites that tend to be localized in relatively restricted areas (Whitley 1979, 1980, 1985).

A series of site complexes have now been identified and studied in the Conejo Corridor region, and it is very probable that some exist in the Simi Corridor region as well. Almost without fail, each of these complexes contains deposits or components that represent the entire temporal span of inland occupation. As well, there is no clear functional or adaptational differentiation between earlier versus later temporal components of these complexes. That is, even while there is a general tendency towards more complexity in the nature and variability of the tool assemblages towards the present, it is now clear that even some of the earlier temporal components in the region exhibit subsistence emphasizes found in the later components (W & S Consultants 1984). And this is to say that, from the initial occupation of this inland region, a very generalized foraging strategy was followed, not necessarily by every site complex in the area, but certainly by the inland occupation when considered as a whole (ibid; Whitley 1985).

Thus, in the Conejo Corridor not only do we see early occupations exhibiting artifact assemblages that resemble more typically 'later' assemblages, with their heavy emphasis on hunting and hunting tools, but we also see late sites very much appearing like temporally 'earlier' sites, with a dominance of groundstone tools and chopping implements (ibid). The inference that results, consequently, is that the establishment of inland sites some 3500 years ago in the Conejo Corridor appears to represent an effort to exploit a variety of non-coastal environments, following a number of different subsistence strategies. This point of initial exploitation and occupation may correlate with a shift to the modern climatic regime, which also

appears to occur at this time (G. Smith, personal communication, 1990). Further, it is clear that no single subsistence strategy uniquely characterized any specific time period; instead, a generalized foraging pattern appears to have held for the entirety of the prehistoric occupation of the area.

4.0 HISTORICAL BACKGROUND

The Moorpark region, including the Hitch Ranch study area, was originally part of El Rancho Simí land grant (or, more properly, San José de Nuestra Señora de Altagracia y Simí), ceded by the Spanish crown to the Santiago de la Cruz Pico family in 1795 (Havens n.d.; Thompson and West 1883:49, 389) and headquartered at the 'Simi Adobe' (at modern Strathearn Historical Park). Although now in Ventura County, El Rancho Simí was placed under the ecclesiastical jurisdiction of Mission San Fernando (Cameron 1963:5), thus indicating that its original economic and social ties lay to the east, not the west.

Rancho Simí was evidently a successful enterprise until 1842, at which poin it was purchased by Don José de la Guerra y Noriega, who added it to his substantial holdings that were said to stretch from Santa Barbara to San Diego (Thompson and West 1883:44; Sheridan 1926:168). In 1862 this 113,009.21 acres parcel was ceded to Mr. Guerra by the U.S. Land Commission following the war with Mexico, and the property was patented on June 19, 1865 (Sheridan 1926:168; Allen 1987:3). Subsequently the rancho in general served principally for sheep grazing until purchased by eastern investors, involved in oil speculation. Because they failed to find oil, the Simi Land and Water Company was formed under the leadership of Thomas R. Bard, representing Thomas Scott of Pennsylvania, in 1887, and an effort was made to sell the land in parcels (Havens n.d.). In 1889, Robert Strathearn purchased 18,000 acres of Rancho Simí, including the eastern portion of what is now Moorpark. During the existence of the original Rancho Simí, however, it is apparent that the study area was a marginal zone (in fact, near the western boundary of the ranch) and did not figure in any historical incidents or developments.

The City of Moorpark, proper, portion of Rancho Simí, including the Hitch Ranch study area, apparently formed a portion of the Rancho Simí retained by the Simí Land and Water Company, of which Robert Poindexter was a major shareholder and member of the board of directors.

During the 1850s and 1860s, however, the first settlers moved into the Moorpark region (Cameron 1967:9), apparently on land peripheral to what would be the Strathearn Ranch. Whether these individuals

were squatters or not is unclear from existing records, although this is likely. Regardless, there is essentially no record of their activities and occupation of the area.

The first subdivision of Moorpark was known as Fremont or Fremontville (also sometimes referred to as Little Simí), apparently named after General Fremont, who was said to have passed through the area on his way to the Battle of Cahuenga Pass (ibid:2). Fremont was recorded in 1893 by Robert and Madeline Poindexter, presumably representing the Simí Land and Water Company. Although the map of Fremont shows the town area divided into lots of various sizes (ibid:24), there is essentially no indication that any of these were sold and/or occupied.

For reasons apparently related to the reorganization of the Simí Land and Water Company, Fremont was subdivided and recorded again in 1900. The Poindexters were again responsible for this subdivision, as well as for laying out the new township, including the planting of the California Pepper trees along High Street, and the establishment of a school site (ibid:3, 23), in anticipation of the appearance of the railroad, work for which began in 1899. Mr. Poindexter was also responsible for naming the town Moorpark, apparently after a variety of apricot that was then being cultivated in the area (ibid).

By 1901 a rail depot, warehouse, post-office, blacksmith shop, general store and barber shop had been established in Moorpark. In 1905 the school that had formerly stood on Peach Hill in Fremont was moved into town. Shortly thereafter, the Methodist Church that had been built in Epworth (to the north of town on Broadway) was moved to the corner of Walnut and Charles Streets, and the town quickly developed into an important farming community (ibid:24). By 1920 it had established itself as the apricot center of the county.

Moorpark remained a rural farming community into the latter half of this century: in 1957 the population had only reached 2463 people (ibid). However, since that time the town's growth has become increasingly related to the suburban development of the county as a whole. It was incorporated a decade ago and has grown rapidly ever-since.

According to the original subdivision map of Moorpark (ibid:24), the central portion of the current study area was under the ownership of E.J. Whitney in 1900, while the Gabbert Ranch apparently had been established to the west of the property at about the same time. However, this map does not indicate whether or not structures were placed within the property, and subsequent maps (see Record Search below) record no buildings or roads on the property in 1921 and 1942. Accordingly, our best interpretation is that the Hitch Ranch study area was peripheral to the historical events in the development of Moorpark, although it may have been used for farming and/or grazing as early as 1900. However, the possibility exists that a homestead was present on the property around the turn-of-the-century, and that it had been destroyed prior to the 1921 map, or simply omitted from it. That is, the background historical studies suggest that historical resources might be present within the Hitch Ranch study area.

5.0 ARCHAEOLOGICAL RECORD SEARCH

In order to determine both if the Hitch Ranch study area had ever been systematically surveyed by archaeologists, and whether or not prehistoric and/or historical archaeological sites were known to exist on the property, an archaeological records search of the CSUF Archaeological Information Center (AIC) site files and maps was commissioned. This record search was conducted by the AIC staff on 29 January 2003. We include a copy of their records search as Appendix A of this report.

According to the maps, site records and reports on file at the AIC, no archaeological sites of any kind had been recorded within the Hitch Ranch study area, nor in the immediate vicinity of the study area, despite the fact that the project area had been previously surveyed in 1994.

Historical maps, consisting of the 1921 and 1942 USGS Piru 15' topographical quadrangles, were also examined in an effort to identify historical structures or features that might have existed on the property. None were found to exist within the study area, although there was development of the Moorpark town center by 1921.

6.0 ARCHAEOLOGICAL FIELD SURVEY

An intensive, Phase I archaeological field survey was conducted on the entire 285 gross acres Hitch Ranch study area between February 5-8, 2003. David S. Whitley, Ph.D., Joseph M. Simon and Tamara K. Whitley, M.A., served as the survey crew during this study.

Field procedures involved spacing the crew at approximately 15 to 20 meter intervals and then walking the property in transects, generally following the contours of the local topography. The groundsurface was examined during these transects to identify archaeological specimens in the form of worked artifacts, or archaeological indicators, which might consist of specimens of shellfish, bone or waste lithic material resulting from the tool-making process.

During the survey special attention was paid to geomorphological conditions that affect the preservation of archaeological remains. Road or bank-cuts that expose subsurface stratigraphy, for example, along with stable geomorphic and depositional environments, were carefully examined for evidence of cultural remains. Given the geomorphology of the current project area, these included saddles in particular, as likely spots for subsurface deposition, and broad ridgelines/knolltops as areas also likely to contain cultural resources. In contrast, slopes of greater than about 25% grade, where erosional and gravitational forces would preclude the preservation of archaeological remains, were less intensively examined both because of the negligible possibility that sites might be present on them, and for the safety of the crewmembers.

7.0 SURVEY RESULTS

Conditions for the field survey of the Hitch Ranch study area were found to be, in general, fair. Groundcover was moderate but not heavy, thereby impeding groundsurface visibility in some areas, but a network of dirt roads and rodent-hole backdirt piles enabled a thorough examination of the study area.

Recent/modern structures and structural remains were present within the study area, with cleared zones surrounding these features. In particular, what appears to have been a demolished house is present along the central-eastern boundary of the property, now consisting solely of a graded and recently grubbed pad, and a pile of modern household and demolition rubbish, with other remnants of modern remains scattered throughout the property. No evidence of a possible turn of the century homestead was found.

No evidence of prehistoric archaeological remains was discovered during the intensive Phase I survey. The absence of such remains can be presumed to correlate with the relative xeric conditions within the study area, the apparently low density of prehistoric archaeological sites in the Moorpark region, and the tendency for any such sites to cluster tightly around permanent water sources.

No cultural resources of any kind, accordingly, were discovered during the intensive Phase I archaeological survey, reflecting the fact that the property was peripheral to prehistoric and historical habitation and use of the Moorpark region. However, there appears to be a reasonable possibility that some historical remains may be present within the central portion of the study area.

8.0 CONCLUSIONS AND RECOMMENDATIONS

An intensive Phase I archaeological survey of the Hitch Ranch study area, City of Moorpark, Ventura County, California, was conducted by W & S Consultants. This study involved a literature, maps and records review of the prehistory, history and status of archaeological research in the region, and an on-foot survey of the 285 gross acres property. The background studies indicated that no cultural resources of any kind were known to be present on the property, although a 1900 subdivision map indicated that there was some possibility that the remains of an early homestead might be present. The intensive field survey of the property, however, failed to discover any evidence of prehistoric or historical cultural resources within the study area.

Accordingly, the development and use of the Hitch Ranch study area will not result in any adverse impacts to known cultural resources of any kind. No additional archaeological work is recommended for this property.

9.0 CITED REFERENCES

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1987 Historical Overview of the McCrea Ranch Property. In: An Archaeological and Historical Resource Survey and Impact Assessment of the McCrea Ranch, Thousand Oaks, Ventura County, California, by W and S Consultants. Unpublished manuscript on file, City of Thousand Oaks.

Cameron, J.S.

1963 Simi Grows Up. Los Angeles, Anderson, Ritchie and Simon.

1967 Moorpark: Star of the Valley. Los Angeles, Anderson, Ritchie and Simon.

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Kroeber, A. L.

1925 Handbook of the Indians of California. Bureau of American Ethnology, Bulletin 78.

Landberg, L.

1965 The Chumash Indians of Southern California. Southwest Museum Papers 19. Highland Park.

Sheridan, S.N.

1926 History of Ventura County, Volume 1. Chicago, S.J. Clarke.

Thompson, T.H. and A.A. West

1883 History of Santa Barbara and Ventura Counties, California, With Illustrations and Biographical Sketches of Its Prominent Men and Pioneers. (reprinted, 1961, Berkeley, Howell-North).

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1955 A Suggested Chronology for Southern California Coastal Archaeology. Southwestern Journal of Anthropology 11 (3):214-230.

W & S Consultants

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1985 An Intensive Archaeological Investigation of the Stafford Road Realignment Corridor, Lake Sherwood, Ventura County, California. Unpublished manuscript on file, County of Ventura.

1989 Phase II Archaeological Test Excavations at CA-Ven-982 and -983, Dos Vientos Ranch, Newbury Park, Ventura County, California. Unpublished manuscript on file, County of Ventura.

Whitley, D.S.

1979 A Historical Perspective on the Research at Oak Park. In The Archaeology of Oak Park, Ventura County, California, Volume 3. Edited by C.W. Clewlow and D.S. Whitley. Institute of Archaeology, Monograph 11. UCLA.

1979b Subsurface features, toolkits and a sweathouse pit from the Ring Brothers Site Complex. In Archaeological Investigations at the Ring Brothers Site Complex, Thousand Oaks, California, edited by C.W. Clewlow, Jr., D.S. Whitley and E.L. McCann, pp. 101-110. UCLA Institute of Archaeology, Monograph 13.

1980 Shell Beads to Glass Bangles: The Evolution of a Chiefdom in Southern California. Paper presented at the Annual Meetings of the Society for Historical Archaeology, Albuquerque.

1985 Site Types and Settlement Patterns in the Conejo Corridor. Paper presented at the University of California, Davis.

Whitley, D.S. and M.P. Beaudry

1991 Chiefs on the Coast: Developing Chiefdoms in the Tiquisate Region in Ethnographic Perspective. In The Development of Complex Societies in Southeastern Mesoamerica, edited by W. Fowler. CRC Press: Orlando.

Whitley, D.S. and C.W. Clewlow, Jr.
1979 The Organizational Structure of the Lulapin and Humaliwo. In The Archaeology of Oak Park, Ventura County, California, Volume III, edited by C.W. Clewlow, Jr. and D.S. Whitley, pp 149-174. UCLA Institute of Archaeology, Monograph 11.

10.0 FIGURES

LIST OF FIGURES

1 - Map of the Hitch Ranch study area. Base map: USGS Moorpark 7.5' quadrangle.

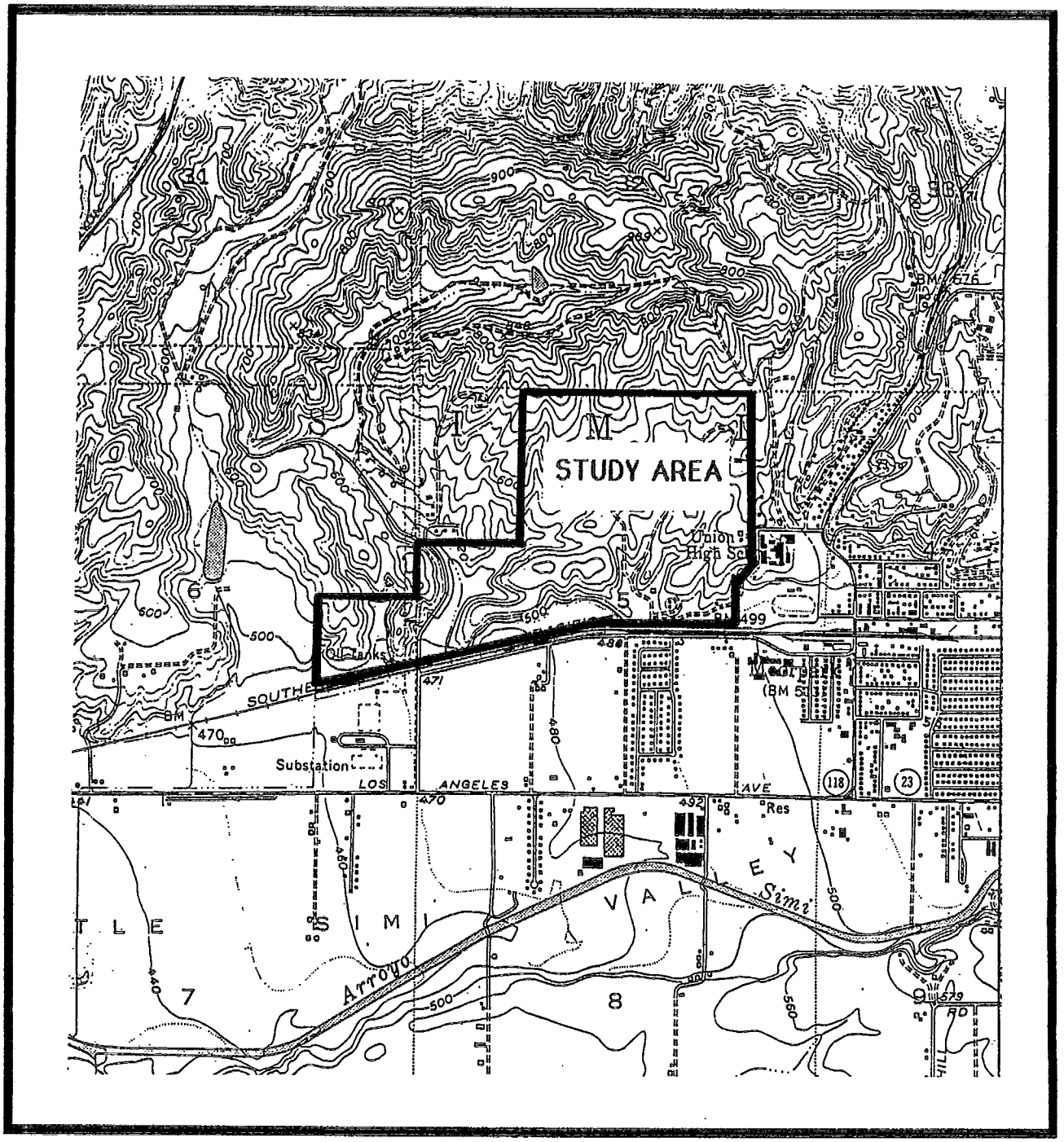

FIGURE 1: Location of the Hitch Ranch study area, Moorpark, Ventura County, California (base map: USGS Moorpark 7.5 quad; scale 1 : 24,000).

11.0 APPENDIX A: RECORDS SEARCH

South Central Coastal Information Center

California Historical Resources Information System
California State University, Fullerton
Department of Anthropology
800 North State College Boulevard
Fullerton, CA 92834-6846
714.278.5395 / FAX 714.278-5542
anthro.fullerton.edu/sccic.html - sccic@fullerton.edu

Ventura
Los Angeles
Orange

January 29, 2003

Mr. David S. Whitley, Ph.D.
W and S Consultants
2242 Stinson Street
Simi Valley, CA 93065
(805) 524-3620

RE: Record Search for the 285 acre Hitch Ranch, Moorpark, Ventura County, CA

Dear Dr. Whitley,

As per your request received on January 16, 2003, we have conducted a records search for the above referenced project. This search includes a review of all recorded historic and prehistoric archaeological sites within a one-quarter mile radius of the project area as well as a review of all known cultural resource reports. In addition, we have checked our file of historic maps, the California Points of Historical Interest (PHI), the listing of California Historical Landmarks (CHL), the California Register of Historic Places (CR), the National Register of Historic Places (NR), and the California State Historic Resources Inventory (HRI) for the referenced project area. The following is a discussion of our findings for the project area.

ARCHAEOLOGICAL RESOURCES:

No prehistoric archaeological sites have been identified within a one-quarter mile radius of the project area (see enclosed map). No prehistoric isolates have been identified within a one-quarter mile radius of the project area.

No historic archaeological sites have been identified within a one-quarter mile radius of the project area (see enclosed map). No historic isolates have been identified within a one-quarter mile radius of the project area.

HISTORIC RESOURCES:

No recorded historic built environments have been identified within a one-quarter mile radius of the project area.

Copies of our historic map – Piru (1921 and 1941) 15' USGS - are enclosed for your review.

The California Point of Historical Interest (1992) of the Office of Historic Preservation, Department of Parks and Recreation, lists no properties within a one-quarter mile radius of the project area.

The California Historical Landmarks (1990) of the Office of Historic Preservation, Department of Parks and Recreation, lists no properties within a one-quarter mile radius of the project area.

The California Register of Historic Places lists no properties within a one-quarter mile radius of the project area.

The National Register of Historic Places lists no properties within a one-quarter mile radius of the project area.

The California Historic Resources Inventory lists no properties that have been evaluated for historical significance within a one-quarter mile radius of the project area.

PREVIOUS CULTURAL RESOURCES INVESTIGATIONS:

Twenty-two studies (VN191, VN213, VN233, VN322, VN557, VN558, VN572, VN607, VN776, VN821, VN1059, VN1102, VN1153, VN1265, VN1329*, VN1471, VN1548, VN1589, VN1656, VN1680, VN2052 and VN2054) have been conducted within a one-quarter mile radius of the project area. Of these, one is located within the project area. There are eleven additional investigations located on the Moorpark 7.5' USGS Quadrangle that are potentially within a one-quarter mile radius of the project area. These reports are not mapped due to insufficient locational information.
A bibliography of these reports is available upon request.
(* = Located within the project area)

Please forward a copy of any reports from this project to our office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you **do not include** records search maps in your report. If you have any questions regarding the results presented herein, please feel free to contact our office at 714.278.5395 Monday through Thursday 8:00 am to 3:30 pm.

Invoices are mailed approximately two weeks after records searches are completed. This enables your firm to request further information under the same invoice number. Please reference the invoice number listed below when making inquiries. Requests made after the invoicing will result in the preparation of a separate invoice with a $15.00 handling fee.

Sincerely,
SCCIC

Catharine M. Wood
Staff Archaeologist

Enclosures:

( ) Primary Number Explanation
( ) Site List
( ) Survey List
(X) Maps – Moorpark 7.5' USGS Quadrangle, Piru 15' USGS Quadrangle
(X) Bibliography – 8 pages
( ) HRI
( ) National Register Status Codes
( ) Site Records
( ) Survey Reports
(X) Confidentiality Form
( ) Invoice #2203

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN1059 **DATE:** 1991 **PAGES:** 17

AUTHOR: Singer, Clay A. and John E. Atwood

FIRM: C. A. SINGER & Associates

TITLE: Cultural ResourceS Survey and Impact Assessment FOR PARCEL B OF LOT 53 ON GABBERT ROAD IN THE CITY OF MOORPARK, VENTURA COUNTY, CALIFORNIA.

AREA: 5 ac

SITES: none

QUADNAME: MOORPARK

MEMO:

IC ID#: VN1102 **DATE:** 1977 **PAGES:** 34

AUTHOR: Singer, Clay A.

FIRM: ARI

TITLE: PRELIMINARY Cultural Resource Survey and POTENTIAL Impact ASSESSMENT FOR THIRTEEN AREAS IN SOUTHERN VENTURA COUNTY, CALIFORNIA

AREA:

SITES: CA-VEN-3, VEN-4, VEN-5, VEN-13, VEN-14, VEN-31, VEN-479, VEN-32, VEN-33, VEN-34, VEN-61, VEN-66, VEN-75, VEN-478, VEN-76, VEN-77, VEN-87, VEN-135, VEN-136, VEN-137, VEN-458, VEN-138, VEN-140, VEN-142, VEN-148, VEN-149, VEN-150, VEN-158, VEN-163, VEN-164, VEN-165,

QUADNAME: Calabasas, Newbury Park, Camarillo, Santa Susana, Simi, Ojai,Piru,Thousand Oaks,Saticoy,Mati Saticoy, Matilija, Ventura

MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN1153 **DATE:** 1991 **PAGES:** 55

AUTHOR: Peak and Associates, Inc.

FIRM: Peak & Associates

TITLE: Class 3 Cultural Resource Assessment of the Proposed Carpinteria and Southern Reroutes, Santa Barbara, Ventura, and Los Angeles Counties, California

AREA: 58 li mi

SITES: VEN-1089

QUADNAME: Burbank

MEMO:

IC ID#: VN1265 **DATE:** 1992 **PAGES:** 356

AUTHOR: Anonymous

FIRM: PEAK AND Associates

TITLE: Consolicated Report: Cultural Resources Studies for the Proposed Pacific Pipeline Project

AREA: 172 li mi

SITES: SEE REPORT

QUADNAME: SEE REPORT

MEMO:

IC ID#: VN1329 **DATE:** 1994 **PAGES:** 36

AUTHOR: Whitley, David, and Joseph Simon

FIRM: W and S CONSULTANTS

TITLE: Phase 1 Archaeological Survey and Cultural ResourceS ASSESSMENT FOR THE LEVY SPECIFIC PLAN STUDY AREA, VENTURA COUNTY, CALIFORNIA

AREA: 285 ac

SITES: none

QUADNAME: MOORPARK

MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN1471 **DATE:** 1996 **PAGES:** 13

AUTHOR: Lopez, Robert
FIRM:

TITLE: An Archaeological Reconnaissance of the Area Involved in Parcel Map No. 5056 Within the Incorporated Limits of The City of Moorpark, Ventura County

AREA: 2 ac

SITES: none

QUADNAME: Moorpark
MEMO:

IC ID#: VN1548 **DATE:** 1997 **PAGES:** 25

AUTHOR: Anonymous
FIRM: W & S Consultants

TITLE: Phase 1 Archaeological Survey and Cultural Resources Assessment for the Moorpark Street Improvements Project Study Area, Ventura County, California

AREA: .5 li mi

SITES: none

QUADNAME: Moorpark
MEMO:

IC ID#: VN1589 **DATE:** 1977 **PAGES:** 2

AUTHOR: Lopez, Robert
FIRM: Rober Lopez

TITLE: Archaeological Survey of a Proposed New Well Site Within th Area of the Winchester Development in the Vicinity of Moorpark, Ventura County, Ca.

AREA:

SITES: none

QUADNAME: Moorpark
MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN1656 **DATE:** 1998 **PAGES:** 21

AUTHOR: Horne, Stephen

FIRM: Stephen Horne Anthropological Consultation

TITLE: Report of Phase I Archeological Investigation WestPointe Moorpark Project Tentative Tract No. 4620 Moorpark, California

AREA: 1.5 ac

SITES: 56-001573

QUADNAME: Moorpark

MEMO:

IC ID#: VN1680 **DATE:** 1998 **PAGES:** 49

AUTHOR: Maxon, Patrick O.

FIRM: RMW Paleo Associates

TITLE: Archaeological Test Excavation of CA-VEN-1574 on the SunCal Development, Tentative Tract 5130, Moorpark, Ventura County, California

AREA: 70.4 ac

SITES: 19-001574

QUADNAME: Moorpark

MEMO:

IC ID#: VN191 **DATE:** 1979 **PAGES:**

AUTHOR: LOPEZ, ROBERT

FIRM:

TITLE: AN Archaeological RECONNAISSANCE of KORWASSER ESTATES, TRACT 3271, MOORPARK, VENTURA COUNTY, CALIFORNIA (M-2774.3).

AREA: 76 ac

SITES: none

QUADNAME: MOORPARK
SIMI

MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN2052 **DATE:** 2000 **PAGES:** 36
AUTHOR: Whitely, David & Joseph Simm
FIRM: W&S Consultants
TITLE: Phase I Archaeologcial Survey of the Gisler Fields Project Study Area, Moorpark, Ventura County, California
AREA: 6.6 ac
SITES: none

QUADNAME: Moorpark
MEMO:

IC ID#: VN2054 **DATE:** 1999 **PAGES:** 33
AUTHOR: Whitely, David & Joseph Simm
FIRM: W&S Consultants
TITLE: Phse I Archaeological Survey of the Triliad Development Study Area, Moorpark, Ventura County, California
AREA: 30 ac
SITES: none

QUADNAME: Moorpark
MEMO:

IC ID#: VN213 **DATE:** 1979 **PAGES:** 8
AUTHOR: LOPEZ, ROBERT
FIRM:
TITLE: Archaeological Assessment FOR PM-3192 MOORPARK, VENTURA COUNTY CALIFORNIA.
AREA: 55 ac
SITES: none

QUADNAME: MOORPARK
MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN233 **DATE:** 1979 **PAGES:** 8
AUTHOR: LOPEZ, ROBERT
FIRM:
TITLE: Archaeological Assessment FOR PM-3244 MOORPARK, VENTURA COUNTY CALIFORNIA 93003.
AREA: 15 ac
SITES: none

QUADNAME: MOORPARK
MEMO:

IC ID#: VN322 **DATE:** 1979 **PAGES:** 10
AUTHOR: LOPEZ, ROBERT
FIRM:
TITLE: AN Archaeological RECONNAISSANCE of 230+- ACRES of Tentative TRACT NO. 3218, MOORPARK, VENTURA COUNTY, CALIFORNIA.
AREA: 230 ac
SITES: none

QUADNAME: MOORPARK
MEMO:

IC ID#: VN557 **DATE:** 1980 **PAGES:** 2
AUTHOR: Callison, Sheila
FIRM: VENTURA CO.
TITLE: Cultural Resource Survey FOR PM-3496
AREA:
SITES: none

QUADNAME: Moorpark
MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN558 **DATE:** 1979 **PAGES:** 2

AUTHOR: Callison, Sheila
FIRM: VENTURA CO.
TITLE: Cultural ResourceS Survey FOR PM-3408
AREA:
SITES: none

QUADNAME: Moorpark
MEMO:

IC ID#: VN572 **DATE:** 1988 **PAGES:** 120

AUTHOR: Dames and Moore
FIRM: DAMES & MOORE
TITLE: Phase 1 Cultural Resources Survey Fiber Optic Cable Project, Burbank to Santa Barbara, California for US Sprint Communications Company
AREA: 82 li mi
SITES: CA-Ven-27, VEN-196, VEN-202, VEN-240, VEN-241, VEN-341, VEN-342, VEN-550, VEN-643, VEN-644, VEN-655 VEN-729, VEN-789, VEN-895/H, VEN-896/H, VEN-916, VEN-917, VEN-918 & OTHER COUNTIES
QUADNAME: Burbank
Van Nuys, Simi
MEMO: REPORT LA160 COVER LOS ANGELES AREA

IC ID#: VN607 **DATE:** 1977 **PAGES:** 7

AUTHOR: Lopez, Robert
FIRM: ROBERT LOPEZ,
TITLE: AN Archaeological Survey of 2500 ACRES FOR A PROPOSED OIL EXPLORATION PROJECT BY NEAVES PETROLEUM DEVELOPMENTS IN THE VICINITY OF MOORPARK, VENTURA COUNTY, CALIFORNIA
AREA: 2500 ac
SITES: none

QUADNAME: Moorpark
MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN776 **DATE:** 1989 **PAGES:** 2
AUTHOR: Lopez, Robert
FIRM:
TITLE: Archaeological RECONNAISSANCE FOR PM-4318
AREA: 10 ac
SITES: none

QUADNAME: MOORPARK
MEMO:

IC ID#: VN821 **DATE:** 1990 **PAGES:** 9
AUTHOR: Romani, Gwendolyn R.
FIRM: Greenwood and Associates
TITLE: Archaeological INVESTIGATION: 538 LOS ANGELES AVENUE, MOORPARK, VENTURA COUNTY
AREA: 1 ac
SITES: none

QUADNAME: MOORPARK
MEMO:

Appendix C:
Personnel Qualifications

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FIRSTCARBON SOLUTIONS™

DANA DOUGLAS DePIETRO, PH.D.—Cultural Resources Lead (North)

OVERVIEW

- More than 15 Years' Experience in Archaeology and Cultural Resources

Education

- Ph.D., Near Eastern Art and Archaeology, University of California at Berkeley, 2012
- M.A., Near Eastern Art and Archaeology, University of California at Berkeley, 2005
- B.A., Archaeology and History (double major), University of California at San Diego, 2002

Fellowships and Awards

- Albright Institute Educational and Cultural Affairs Fellowship (2015)
- Katherine Davis Foundation Projects for Peace Prize (2012)
- International House Gateway Fellowship (2011-2012)
- The George Franklin Dales Foundation Fellowship for Archaeological Research (2011)
- CAORC Multi-Country Dissertation Research Fellowship (2010)

Dana DePietro, Ph.D. is a Registered Professional Archaeologist who meets the Secretary of Interior's standards for historic preservation programs in archaeology. Dr. DePietro has over 15 years of experience in all aspects of cultural resource management, including prehistoric and historic archaeology, paleontology, materials conservation, history of art and architecture, and community engagement. He has experience in compliance with the National Environmental Policy Act (NEPA), the California Environment Quality Act (CEQA), the National Historic Preservation Act (NHPA), and the Archaeological Resources Protection Act (ARAP). Dr. DePietro has completed cultural resource projects that have involved agency, client, Native American, and subcontractor coordination; treatment plans and research design development; archival research; field reconnaissance; site testing; data recovery excavation; construction monitoring; site recordation; site protection/preservation, mapping/ cartography; spatial analysis/GIS; laboratory analysis; materials conservation; artifact curation and exhibition; and report production. He has completed projects in California within the jurisdiction of the Bureau of Land Management (BLM) and other federal agencies requiring compliance with Section 106 of the NHPA. He has also completed projects throughout California under CEQA for state and local governments and municipalities, including the California Department of Transportation (Caltrans) and has worked with clients to insure deliverables meet and exceed the standards set by the State Historic Preservation Office (SHPO).

RELATED EXPERIENCE AND CLIENT SUMMARY

FirstCarbon Solutions

As the Lead Archaeologist/Cultural Resource Specialist for FCS, Dr. DePietro conducts evaluations and performs field documentation of historic and prehistoric cultural resources; prepares environmental impact reports (EIRs), cultural resources assessments (CRAs), DPR forms and Section 106 reports; conducts mapping, GIS analysis, and state and county record searches; leads archaeological surveys and field monitoring efforts; and coordinates with state, federal and tribal officials and institutions for a variety of FCS projects, including the following:

DANA DOUGLAS DePIETRO, PH.D.—Cultural Resources Lead (North)

- Atherton Baptist Homes Master Plan/Phase II, City of Alhambra, Los Angeles County
- Biological and Cultural Resources Assistance 140-Acre Project Site Woodcrest, Riverside County, CA
- Blanchard Road Industrial EIR Project, City of San Jose, Santa Clara County, CA
- Bonadelle Tract 6120 AQ/GHG and Bio Tech Studies, City of Clovis, Fresno County, CA
- CEQA Analysis for Mayhew Way Project, City of Walnut Creek, Contra Costa County
- 2268 El Camino Real, Mountain View—II CEQA Compliance Checklist Project, City of Mountain View, Santa Clara County
- CEQA Documentation for New Science Building, City of Fairfield, Solano County
- CEQA Services for Clover Spring Open Space Preserve Project, City of Cloverdale, Sonoma County
- Chico Walmart Expansion Project, City of Chico, CA
- Cultural Resources Services for Froom Ranch/El Villagio Specific Plan, City of San Luis Obispo, CA
- Cultural Resource & Historic Evaluation for Sacramento Dome Theatre, City of Sacramento, CA
- Cultural Resources Services for Haven Berryessa Block 7 & 8 San Jose Flea Market, San Jose, CA
- Caltrans NEPA/CEQA Documentation and Permitting for the Dogtown Road Bridges Replacement Projects (San Domingo Creek, French Gulch, and Indian Creek), Calaveras County, CA
- Due Diligence for Meadowlark Project in Pleasanton, CA
- Due Diligence Services for the Montalcino Property, Napa County, CA
- Due Diligence Site Review for Parcel APN 68-241-30 located at 260 Bartlett Way Santa Cruz, CA
- Due Diligence Level IA Entitlements for the Boscell Road Osgood Project, City of Fremont, CA
- Trellis Residential Project EIR, City of Walnut Creek, CA
- El Dorado Materials Recovery Facility Remodeling Project, El Dorado County, CA
- Farmstand IS/MND, City of Healdsburg, CA
- La Paloma Winery Demo Project IS/MND, City of Clovis, CA
- Kaiser Dublin Medical Center EIR, City of Dublin, California
- Merced Gateway Master Plan Project EIR, City of Merced, CA
- Phase 1 Cultural Resource Assessment for 44 acres TTM No. 19992, Rancho Cucamonga, CA
- Bonadelle Tract 6120 Cultural Resources Study, City of Clovis, CA
- Professional Services to Support the Development of a Preferred Development Plan and Associated Regulatory Strategies for the Solano 360 Project, Solano County, CA
- Tassajara Parks EIR, Contra Costa County, California

Other Relevant Experience

The Society for Humanitarian Archaeological Research and Exploration

Dr. DePietro is the Founder and Executive Director of The Society for Humanitarian Archaeological Research and Exploration. He manages the projects, staff, and the daily operation of this not-for-profit organization. Dr. DePietro likewise establishes relationships with partner universities and institutions, writes grant proposals, supervises fundraising projects, and maintains accounts, financial records, and the organization's online presence.

University of California at Berkeley

Dr. DePietro was a lecturer at the University of California, Berkeley from August 2003 to January 2015. During his tenure, he prepared University-level source and lectures in the history of the modern and ancient Middle East, performed student advising and evaluation, and university administrative duties. Dr. DePietro provided resources and opportunities that empower people to critically engage with other cultures as well as with their own communities.

DANA DOUGLAS DePIETRO, PH.D.—Cultural Resources Lead (North)

Penn State University—Tel Akko Total Archaeology Project

Dr. DePietro was the Director of Community Engagement from 2013 to 2014 at the Penn State University for the Tel Akko Total Archaeology Project. He developed and executed a community engagement program, supervised staff and community participants, taught excavation and conservation techniques to groups of young people in Akko, and performed outreach, dialogue, and program developments in partnership[with community leaders.

Harvard University—Leon Levy Expedition to Ashkelon, Israel

Dr. De Pietro was the excavation supervisor during the summers of 2007-2013 for the Harvard University—Leon Levy Expedition to Ashkelon, Israel. He supervised the excavation and stratagraphic interpretation and instructed students in excavation techniques, data collection, photography, analysis, and publication.

Early Iron Age Cemetery Excavation—Dhamar, Yemen

Dr. De Pietro was the Area Supervisor during the summer of 2004 for the Early Iron Age Cemetery Excavation in Dhamar, Yemen. He supervised the excavation and stratagraphic interpretation, taught excavation techniques, strategy and implementation, field conservation, surveying techniques, data collection and analysis, and site management.

Journal of Associated Graduates in Near Eastern Studies (JAGNES)

Dr. DePietro was the Associate Editor from August 2003 to May 2012 for the Journal of Associated Graduates in Near Eastern Studiers (JAGNES). He solicited and proofread submissions, fundraising, and advertisements.

"Travel Today: Egypt" Magazine

Dr. De Pietro was an Archaeological Correspondent from December 2002 to February 2005. He wrote magazine articles, conducted relevant interviews and research, and procured photos and images to compliment articles.

FIRSTCARBON SOLUTIONS™

J. D. STEWART, PHD—PRINCIPAL PALEONTOLOGIST

OVERVIEW

- More than 42 years of experience

Education

- Doctor of Philosophy, Systematics & Ecology, University of Kansas, 1984
- Master of Arts, Systematics & Ecology, University of Kansas, 1979

Training and Certifications

- Certified Paleontologist, Orange and Riverside counties, California
- Hazardous Waste Operations and Emergency Response 40 Hr.
- General Site Worker

Professional Affiliations

- Society of Vertebrate Paleontology

J.D. Stewart, PhD, is a Vertebrate Paleontologist with more than 40 years of experience in paleontology, and more than 30 years of experience in the geology and paleontology of California. He has been involved in the permitting or construction of more than 10 power plants, and has directed the paleontological monitoring and mitigation program for Path 15, a major transmission line project. His publications include more than 40 peer-reviewed articles in books and journals. His research specialties are fossil fishes and Pleistocene vertebrate faunas.

RELATED EXPERIENCE AND CLIENT SUMMARY

Representative FCS Projects

- Paleontological, Archaeological, and Monitoring and Reporting Services for the Los Angeles Regional Interoperable Communications Biological System (LA-RICS), Los Angeles County, CA
- Paleontological and Archaeological Services for the North Shore Solar Facility Project, City of Mecca, Riverside County, CA
- Anaheim Coves Cultural, Paleontological, and Biological Monitoring Services, City of Anaheim, CA
- Cadence Property Paleontological WEAP Training and Monitoring Plan, 309-400 Airport Boulevard, San Francisco, CA
- Basic Feasibility Services for the AT&T 140-Mile Fiber Optic Installation from Julian to Brawley, Multiple Locations, CA
- Rio Vista Specific Plan Project EIR, City of Jurupa Valley, CA
- Midpen Cypress Point Affordable Housing Project Paleontological Review, City of Moss Beach, CA
- Paleontological Peer Review Services for the City of Los Angeles, CA

J. D. STEWART, PHD—PRINCIPAL PALEONTOLOGIST

Other Relevant Experience

Tenaska Imperial Solar Energy Center (ISEC) West Project, Imperial Valley, CA

For the Tenaska Imperial Solar Energy Center West Solar Project, Dr. Stewart supervised paleontological monitoring activities on private lands.

BrightSource Sonoran West Solar Project, Blythe, CA

Dr. Stewart supervised paleontological surveys on the U.S. Bureau of Land Management (BLM) and private lands. He worked on the Application for Certification (AFC) and wrote the final report when the project was terminated.

TerraGen Project

Dr. Stewart performed pedestrian paleontological surveys of the TerraGen Project site and wrote the Paleontological Resources section for the AFC.

BrightSource Rio Mesa Solar Project, Blythe, CA

Dr. Stewart supervised paleontological surveys on BLM and private lands, and prepared the Paleontological Resources section for the AFC.

Pio Pico Energy Center, Otay Mesa, CA

The Pio Pico Energy Center is a 300 MW simple-cycle electrical generating facility that is contracted under a 25-year power purchase agreement with San Diego Gas & Electric. Pio Pico is located on a 10-acre site in Otay Mesa, an unincorporated area of San Diego County, California, approximately 15 miles southeast of downtown San Diego. Dr. Stewart supervised paleontological surveys and wrote the Paleontological Resources section for the AFC for this project.

Mesquite Nevada Replacement General Aviation Airport, Clark County, NV

Dr. Stewart prepared the Paleontological Resource Assessment for the Federal Aviation Administration.

Marsh Landing Generating Station Application for Certification, Contra Costa County, CA

Dr. Stewart performed a paleontological pedestrian survey of a project area in Contra Costa County and wrote the Paleontological Resources section of the AFC. He also served as the Paleontological Resource Specialist during construction and prepared the final report.

Imperial Valley Solar Application for Certification, Imperial Valley, CA

Dr. Stewart directed paleontological pedestrian surveys within a project area in San Bernardino County and wrote the Paleontological Resources section of the AFC.

Calico Solar Application for Certification, San Bernardino County, CA

Dr. Stewart participated in paleontological pedestrian surveys of the Calico Solar project area, edited the Paleontology section of the AFC, and served as the Paleontological Resource Specialist.

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Starwood Power-Midway, LLC Peaking Project Construction

Dr. Stewart wrote a mitigation plan for paleontological resources, oversaw paleontological monitoring during project construction, and wrote the final report.

Calnev Pipeline Project, San Bernardino County, CA and Clark County, NV

Dr. Stewart directed paleontological surveys of a 234-mile-long project area in San Bernardino County, California and Clark County, Nevada. He also prepared the paleontological assessment.

Willow Pass Generating Station Application for Certification, Contra Costa County, CA

Dr. Stewart participated in paleontological pedestrian surveys of a project area in Contra Costa County and wrote the Paleontological Resources section of the AFC.

San Joaquin One and Two Application for Certification, Fresno County, CA

Dr. Stewart directed paleontological pedestrian surveys of a project area in Fresno County and prepared the Paleontological Resources section of the AFC.

Carrizo Energy Solar Farm (Ausra) Application for Certification, Simmler, CA

Dr. Stewart participated in paleontological pedestrian surveys of the Carrizo Energy Solar Farm project area and edited the Paleontology section of the AFC.

Starwood Power-Midway, LLC Peaking Project Application for Certification

Dr. Stewart participated in the responses to the CEC Provisional Staff Assessments for Starwood Power-Midway, LLC's Peaking Project AFC.

Path 15 500-kV Power Transmission Line between Los Banos and Gates Substations, Los Banos, CA

Dr. Stewart supervised paleontological resource monitoring, excavations, specimen preparation, specimen identification, and report writing for this 80-mile-long power line.

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PHASE I ARCHAEOLOGICAL SURVEY OF HITCH RANCH, MOORPARK, VENTURA COUNTY, CALIFORNIA

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Management Summary

An intensive Phase I archaeological survey was conducted for the Hitch Ranch study area, Moorpark, Ventura County, California. This involved background studies of the prehistory and ethnography of the area; an archival records search of relevant maps, site forms and documents; and an on-foot survey of the subject property. No cultural resources had been recorded within the study area, and none were noted during the intensive survey of it. Development of the property, therefore, does not have the potential to result in adverse impacts to cultural resources. No additional archaeological work is recommended for this property.

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1.0 INTRODUCTION

At the request of Mr. Mark Austin, Impact Sciences, Inc., an intensive Phase I archaeological survey was conducted for the Hitch Ranch study area, City of Moorpark, Ventura County, California (Figure 1). This cultural resources survey was intended to inventory and evaluate any known historical or prehistoric archaeological sites lying within this 285 gross acres parcel, and to identify and record previously unknown cultural resources. Following the California Environmental Quality Act (CEQA), the purpose of this investigation was to provide baseline data from which a preliminary assessment of the adverse impacts to any such cultural resources could be made, should this property be developed, and to develop management recommendations for the further study or treatment of archaeological sites or localities identified within the subject property.

This study was undertaken by W & S Consultants, and was conducted on February 5-8, 2003. David S. Whitley, Ph.D., Joseph M. Simon and Tamara K. Whitley, M.A., were responsible for the field work portion of the study. This manuscript was prepared by Whitley and Simon.

A series of procedures and studies were conducted in order to adequately inventory and evaluate the cultural resources within the study area at the Phase I level. These included: a review of published reports and studies to establish the aboriginal cultural history of the region in question; an examination of historical reports and sources to determine the history of the subject property; a study of existing archaeological site records and files to identify known cultural resources within the subject property; and a field survey and assessment to identify previously unknown or unreported archaeological sites. This report summarizes the findings and conclusions of each of these aspects of the Phase I investigation.

We begin with an environmental overview of our study area, the 285 gross acres Hitch Ranch study area. We then turn to a summary of local cultural history, including both ethnography and prehistory. We also consider the previous archaeological research that has been conducted in inland Ventura County. Subsequently we summarize the results of an archaeological records search, conducted by the staff of

the California State University, Fullerton, Archaeological Information Center (AIC). Next we outline the field procedures we followed in conducting the survey of the study area, and then turn to the results of the field study. We conclude with management recommendations for the study zone.

2.0 ENVIRONMENTAL BACKGROUND

The 285 gross acres Hitch Ranch study area lies within the southern limits of the Simi Hills, immediately to the north of Little Simi Valley, and immediately west of the town center of Moorpark proper, Ventura County, California (Figure 1). The Southern Pacific railroad right-of-way forms the southern limits of the study area, while the eastern boundary runs approximately north-south immediately to the west of the old Union High School and the Moorpark Civic Center. The northern and western boundaries abut rural and semi-rural properties in the Simi Hills.

From a geomorphological perspective, this is an area of minor dissected fault scarps and intervening arroyos, creating a series of low, broad and generally north-south trending ridges, with round-bottomed arroyos in between. The ridges rise gently from the southern boundary, which sits on the flat alluvium created by Arroyo Simi and Little Simi Valley, to the higher foothills on the north. Elevation ranges from just under 500 feet a.s.l., at the south limits of the study area, to 700 feet a.s.l. along the northern edge of the property. Major drainages feeding the Arroyo Simi do not occur within the study area, although Walnut Canyon lies to the east, and the upper reaches of Grimes Canyon are located immediately west. Furthermore, no springs or active water-courses are present on the property.

Although historic and recent land-use changes have altered the environment considerably from what existed during prehistoric times, one major plant association probably characterized this area during the aboriginal period. This is the chaparral association (cf. Muntz 1974). Southern oak woodlands may also have been present within or near to the study area, while riparian environments clearly would have been present in the Arroyo Simi to the south.

The chaparral association covers steeper slopes with poorly developed soils and xeric conditions. It includes the following species: California sagebrush (Artemisia californica), white sage (Salvia mellifera), black sage (S. apliana), purple or white-leaved sage (S. Leucophylla), California encilia (Encilia californica), California buckwheat (Eriogonum fasciculatum), chamise (Adneostoma fasciculatum), buckbruch

(Ceanothus cuneatus), scrub oak (Quercus dumosa), toyon (Heteromeles arbutifolia), mountain mahogony (Cercocarpus betuloides), lemonade sumac (Rhus integrifolia) and sugar sumac (R. ovata).

The southern oak woodland may have been of primary aboriginal significance in the inland zones adjacent to the coastal strip. This results because of the great importance placed on the acorn as a food staple by Native Californians (Kroeber 1925), and the rarity of this resource on the coastal side of the Santa Monica Mountains. The association is characterized by the coast live oak (Quercus lobata) and the valley oak (Q. agrifolia), but also would have included various species of native grasses. Although currently restricted in distribution, this association was probably once much more widespread throughout the Simi Valley and Moorpark regions, which are near to the study area, and may have been present within the open flats of Little Simi Valley, south of the study area, as well as on the Mesa de Somis, immediately to the north.

Riparian habitats are localized and poorly diversified woodlands found in areas of perennial moisture. They include such species as arroyo willow (Salix lasiolepsi), mule fat (Baccharis glutinosa), willow dock (Rumex salicifolius), swamp knotweed (Polygonum coccineum), nettle (Urtica holosericea), cocklebur (Xanthium strumarium) and rabbitsfoot grass (Polypogon monspeiensis). Though this plant association is limited in distribution, it can still be considered to have had significant economic importance in aboriginal times, especially in terms of the acquisition of raw materials for items like baskets, cordage and netting. As noted above, originally it would have been present in Arroyo Simi, south of the study area.

Soils within the study zone are uniformally a heavy, expansive adobe soil, thinly-mantling sedimentary bedrock. Although the relationship between this soil type and specific plant associations have not yet been defined, our experience surveying in the inland Ventura County area suggests that prehistoric archaeological sites are rarely located on such soils, apparently signalling the fact that the specific plant associations found on such soils were not considered ideal for aboriginal exploitation and therefore inhabitation.

Because the above, idealized scenario applies to the region prior to modern ranching and development, much of the current vegetation within the Hitch Ranch study area is introduced or otherwise altered. It thereby varies considerably from what would have existed aboriginally or prehistorically. Essentially all of the study area has been disked, may have been grazed by livestock at some point, and may also have been farmed. The study area is now covered with introduced grasses and stands of mustard, precluding any definite reconstruction of original environmental conditions.

3.0 ETHNOGRAPHIC AND PREHISTORIC BACKGROUND

The Hitch Ranch study region, lying in southeastern Ventura County, California, is situated in a zone known prehistorically to have comprised a portion of the Canaliño culture area, and historically to have been a part of the Chumash ethnolinguistic sphere. In general archaeological terms the region of the Canaliño culture area is known to have first been occupied during the Early Millingstone period, which dates back to about 9000 years before B.P. (before present). During this period subsistence is posited to have emphasized plant resources, and site assemblages are dominated by large-sized and relatively crude chopping, grinding and pounding tools. At about 3500 years B.P. the prehistoric inhabitants of the region are said to have made a transition to a more hunting-oriented economy, which occurred during the duration of the Intermediate period, lasting to about A.D. 1200. Artifacts particularly diagnostic of this period include large, stemmed projectile points, probably used as spear or dart points, although smaller arrow points were introduced after about A.D. 500. The Intermediate period was replaced subsequently by the Late Prehistoric, or Canaliño period, per se, which lasted until the time of Spanish missionization during the last two decades of the 18th century. The Canaliño period witnessed a florescence of aboriginal culture which included a substantial growth in population, the establishment of permanent settlements on the coast, a high degree of sociopolitical complexity and the development of a very sophisticated maritime economy. It was during the Canaliño period that the ethnolinguistic group now known as the Chumash achieved levels of cultural and social sophistication perhaps unrivalled by hunter-gatherer groups anywhere else in the world (Wallace 1955; Landberg 1965).

The term "Chumash" strictly applies to a group of people united only by the use of a series of closely related Hokan languages, sharing a number of similar cultural traits, and stretching from Topanga Canyon inland to Mt. Piños and along the coast to the San Luis Obispo area (cf. Kroeber 1925). That is, it implies no necessary sociopolitical unity (as in a single 'tribe') and, in fact, a series of different Chumash languages and political units existed at the time of Spanish contact. In the southeasternmost region of the Chumash, including the immediate area of Moorpark, Ventureño Chumash was spoken.

Based on recent ethnohistoric reconstructions (cf. Whitley and Clewlow 1979; Whitley 1980; Whitley and Beaudry 1991), we now know that the Chumash were united into at least two major chiefdoms at the time of contact with the Spanish, and that these cross-cut linguistic boundaries between the various Chumashan-speaking groups. One of these political bodies, Lulapin, was governed from a village occupied by the paramount chief located near modern Point Mugu, at the mouth of the Calleguas Creek. Apparently this village controlled a series of smaller villages and village provinces within a large region stretching to the north of Santa Barbara at the time of Spanish contact. One of these 'controlled' or subordinate provinces was Humaliwo, which was governed by the historic village located at modern Malibu Beach. Logically, we can assume that whatever villages existed historically within the Moorpark/Simi Valley area would have been subordinate to the capital at Point Mugu as well.

While the specific region of the study area must be viewed within this general prehistoric and ethnohistoric context, it is nonetheless true that the reconstruction of Chumash prehistory and ethnohistory has largely been based on coastal evidence. That is, sites and minor regions inland from the coast obviously vary from those on the coastal strip (lacking, for example, access to coastal and maritime resources) and therefore exhibit not only some differences in terms of general site characteristics and adaptational trajectories, but in general chronological parameters too (W & S Consultants 1985; Whitley 1985).

The region in which the Hitch Ranch study area is located is an inland area generally referred to as the Simi Corridor. This comprises part of a series of east-west trending valleys and intervening hill systems lying northward (and therefore inland) of the Santa Monica Mountains and Conejo Corridor. It includes the Simi Valley proper, the Tierra Rejada, Little Simi and the Santa Rosa Valleys, all of which are tributary to the Calleguas Creek drainage. Although little archaeological research in the Simi Valley area and Simi Corridor has been published, it is probable that the prehistory of this area is similar to that of the adjacent Conejo Corridor, located immediately to the south. A relatively intensive period of research in this last area, resulting largely from development in the Thousand Oaks region and the cultural resources management studies that have been attendant to this development, has provided a fairly thorough indication of the

nature of the prehistoric record in this inland region, which appears applicable to the Simi Corridor as well.

If we may use the prehistory of the Conejo Corridor as a model, and unlike the Chumash region in a more general sense, the first indication of aboriginal occupation in this inland area appears to date to the beginning of the Intermediate period, or from about 3500 years B.P. (W & S Consultants 1985:69). This comprised the initial occupations of a series of what have been termed site complexes. These are agglomerations of small habitation and special purpose sites that tend to be localized in relatively restricted areas (Whitley 1979, 1980, 1985).

A series of site complexes have now been identified and studied in the Conejo Corridor region, and it is very probable that some exist in the Simi Corridor region as well. Almost without fail, each of these complexes contains deposits or components that represent the entire temporal span of inland occupation. As well, there is no clear functional or adaptational differentiation between earlier versus later temporal components of these complexes. That is, even while there is a general tendency towards more complexity in the nature and variability of the tool assemblages towards the present, it is now clear that even some of the earlier temporal components in the region exhibit subsistence emphasizes found in the later components (W & S Consultants 1984). And this is to say that, from the initial occupation of this inland region, a very generalized foraging strategy was followed, not necessarily by every site complex in the area, but certainly by the inland occupation when considered as a whole (ibid; Whitley 1985).

Thus, in the Conejo Corridor not only do we see early occupations exhibiting artifact assemblages that resemble more typically 'later' assemblages, with their heavy emphasis on hunting and hunting tools, but we also see late sites very much appearing like temporally 'earlier' sites, with a dominance of groundstone tools and chopping implements (ibid). The inference that results, consequently, is that the establishment of inland sites some 3500 years ago in the Conejo Corridor appears to represent an effort to exploit a variety of non-coastal environments, following a number of different subsistence strategies. This point of initial exploitation and occupation may correlate with a shift to the modern climatic regime, which also

appears to occur at this time (G. Smith, personal communication, 1990). Further, it is clear that no single subsistence strategy uniquely characterized any specific time period; instead, a generalized foraging pattern appears to have held for the entirety of the prehistoric occupation of the area.

4.0 HISTORICAL BACKGROUND

The Moorpark region, including the Hitch Ranch study area, was originally part of El Rancho Simí land grant (or, more properly, San José de Nuestra Señora de Altagracia y Simí), ceded by the Spanish crown to the Santiago de la Cruz Pico family in 1795 (Havens n.d.; Thompson and West 1883:49, 389) and headquartered at the 'Simi Adobe' (at modern Strathearn Historical Park). Although now in Ventura County, El Rancho Simí was placed under the ecclesiastical jurisdiction of Mission San Fernando (Cameron 1963:5), thus indicating that its original economic and social ties lay to the east, not the west.

Rancho Simí was evidently a successful enterprise until 1842, at which poin it was purchased by Don José de la Guerra y Noriega, who added it to his substantial holdings that were said to stretch from Santa Barbara to San Diego (Thompson and West 1883:44; Sheridan 1926:168). In 1862 this 113,009.21 acres parcel was ceded to Mr. Guerra by the U.S. Land Commission following the war with Mexico, and the property was patented on June 19, 1865 (Sheridan 1926:168; Allen 1987:3). Subsequently the rancho in general served principally for sheep grazing until purchased by eastern investors, involved in oil speculation. Because they failed to find oil, the Simi Land and Water Company was formed under the leadership of Thomas R. Bard, representing Thomas Scott of Pennsylvania, in 1887, and an effort was made to sell the land in parcels (Havens n.d.). In 1889, Robert Strathearn purchased 18,000 acres of Rancho Simí, including the eastern portion of what is now Moorpark. During the existence of the original Rancho Simí, however, it is apparent that the study area was a marginal zone (in fact, near the western boundary of the ranch) and did not figure in any historical incidents or developments.

The City of Moorpark, proper, portion of Rancho Simí, including the Hitch Ranch study area, apparently formed a portion of the Rancho Simí retained by the Simí Land and Water Company, of which Robert Poindexter was a major shareholder and member of the board of directors.

During the 1850s and 1860s, however, the first settlers moved into the Moorpark region (Cameron 1967:9), apparently on land peripheral to what would be the Strathearn Ranch. Whether these individuals

were squatters or not is unclear from existing records, although this is likely. Regardless, there is essentially no record of their activities and occupation of the area.

The first subdivision of Moorpark was known as Fremont or Fremontville (also sometimes referred to as Little Simí), apparently named after General Fremont, who was said to have passed through the area on his way to the Battle of Cahuenga Pass (ibid:2). Fremont was recorded in 1893 by Robert and Madeline Poindexter, presumably representing the Simí Land and Water Company. Although the map of Fremont shows the town area divided into lots of various sizes (ibid:24), there is essentially no indication that any of these were sold and/or occupied.

For reasons apparently related to the reorganization of the Simí Land and Water Company, Fremont was subdivided and recorded again in 1900. The Poindexters were again responsible for this subdivision, as well as for laying out the new township, including the planting of the California Pepper trees along High Street, and the establishment of a school site (ibid:3, 23), in anticipation of the appearance of the railroad, work for which began in 1899. Mr. Poindexter was also responsible for naming the town Moorpark, apparently after a variety of apricot that was then being cultivated in the area (ibid).

By 1901 a rail depot, warehouse, post-office, blacksmith shop, general store and barber shop had been established in Moorpark. In 1905 the school that had formerly stood on Peach Hill in Fremont was moved into town. Shortly thereafter, the Methodist Church that had been built in Epworth (to the north of town on Broadway) was moved to the corner of Walnut and Charles Streets, and the town quickly developed into an important farming community (ibid:24). By 1920 it had established itself as the apricot center of the county.

Moorpark remained a rural farming community into the latter half of this century: in 1957 the population had only reached 2463 people (ibid). However, since that time the town's growth has become increasingly related to the suburban development of the county as a whole. It was incorporated a decade ago and has grown rapidly ever-since.

According to the original subdivision map of Moorpark (ibid:24), the central portion of the current study area was under the ownership of E.J. Whitney in 1900, while the Gabbert Ranch apparently had been established to the west of the property at about the same time. However, this map does not indicate whether or not structures were placed within the property, and subsequent maps (see Record Search below) record no buildings or roads on the property in 1921 and 1942. Accordingly, our best interpretation is that the Hitch Ranch study area was peripheral to the historical events in the development of Moorpark, although it may have been used for farming and/or grazing as early as 1900. However, the possibility exists that a homestead was present on the property around the turn-of-the-century, and that it had been destroyed prior to the 1921 map, or simply omitted from it. That is, the background historical studies suggest that historical resources might be present within the Hitch Ranch study area.

5.0 ARCHAEOLOGICAL RECORD SEARCH

In order to determine both if the Hitch Ranch study area had ever been systematically surveyed by archaeologists, and whether or not prehistoric and/or historical archaeological sites were known to exist on the property, an archaeological records search of the CSUF Archaeological Information Center (AIC) site files and maps was commissioned. This record search was conducted by the AIC staff on 29 January 2003. We include a copy of their records search as Appendix A of this report.

According to the maps, site records and reports on file at the AIC, no archaeological sites of any kind had been recorded within the Hitch Ranch study area, nor in the immediate vicinity of the study area, despite the fact that the project area had been previously surveyed in 1994.

Historical maps, consisting of the 1921 and 1942 USGS Piru 15' topographical quadrangles, were also examined in an effort to identify historical structures or features that might have existed on the property. None were found to exist within the study area, although there was development of the Moorpark town center by 1921.

6.0 ARCHAEOLOGICAL FIELD SURVEY

An intensive, Phase I archaeological field survey was conducted on the entire 285 gross acres Hitch Ranch study area between February 5-8, 2003. David S. Whitley, Ph.D., Joseph M. Simon and Tamara K. Whitley, M.A., served as the survey crew during this study.

Field procedures involved spacing the crew at approximately 15 to 20 meter intervals and then walking the property in transects, generally following the contours of the local topography. The groundsurface was examined during these transects to identify archaeological specimens in the form of worked artifacts, or archaeological indicators, which might consist of specimens of shellfish, bone or waste lithic material resulting from the tool-making process.

During the survey special attention was paid to geomorphological conditions that affect the preservation of archaeological remains. Road or bank-cuts that expose subsurface stratigraphy, for example, along with stable geomorphic and depositional environments, were carefully examined for evidence of cultural remains. Given the geomorphology of the current project area, these included saddles in particular, as likely spots for subsurface deposition, and broad ridgelines/knolltops as areas also likely to contain cultural resources. In contrast, slopes of greater than about 25% grade, where erosional and gravitational forces would preclude the preservation of archaeological remains, were less intensively examined both because of the negligible possibility that sites might be present on them, and for the safety of the crewmembers.

7.0 SURVEY RESULTS

Conditions for the field survey of the Hitch Ranch study area were found to be, in general, fair. Groundcover was moderate but not heavy, thereby impeding groundsurface visibility in some areas, but a network of dirt roads and rodent-hole backdirt piles enabled a thorough examination of the study area.

Recent/modern structures and structural remains were present within the study area, with cleared zones surrounding these features. In particular, what appears to have been a demolished house is present along the central-eastern boundary of the property, now consisting solely of a graded and recently grubbed pad, and a pile of modern household and demolition rubbish, with other remnants of modern remains scattered throughout the property. No evidence of a possible turn of the century homestead was found.

No evidence of prehistoric archaeological remains was discovered during the intensive Phase I survey. The absence of such remains can be presumed to correlate with the relative xeric conditions within the study area, the apparently low density of prehistoric archaeological sites in the Moorpark region, and the tendency for any such sites to cluster tightly around permanent water sources.

No cultural resources of any kind, accordingly, were discovered during the intensive Phase I archaeological survey, reflecting the fact that the property was peripheral to prehistoric and historical habitation and use of the Moorpark region. However, there appears to be a reasonable possibility that some historical remains may be present within the central portion of the study area.

8.0 CONCLUSIONS AND RECOMMENDATIONS

An intensive Phase I archaeological survey of the Hitch Ranch study area, City of Moorpark, Ventura County, California, was conducted by W & S Consultants. This study involved a literature, maps and records review of the prehistory, history and status of archaeological research in the region, and an on-foot survey of the 285 gross acres property. The background studies indicated that no cultural resources of any kind were known to be present on the property, although a 1900 subdivision map indicated that there was some possibility that the remains of an early homestead might be present. The intensive field survey of the property, however, failed to discover any evidence of prehistoric or historical cultural resources within the study area.

Accordingly, the development and use of the Hitch Ranch study area will not result in any adverse impacts to known cultural resources of any kind. No additional archaeological work is recommended for this property.

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10.0 FIGURES

LIST OF FIGURES

1 - Map of the Hitch Ranch study area. Base map: USGS Moorpark 7.5' quadrangle.

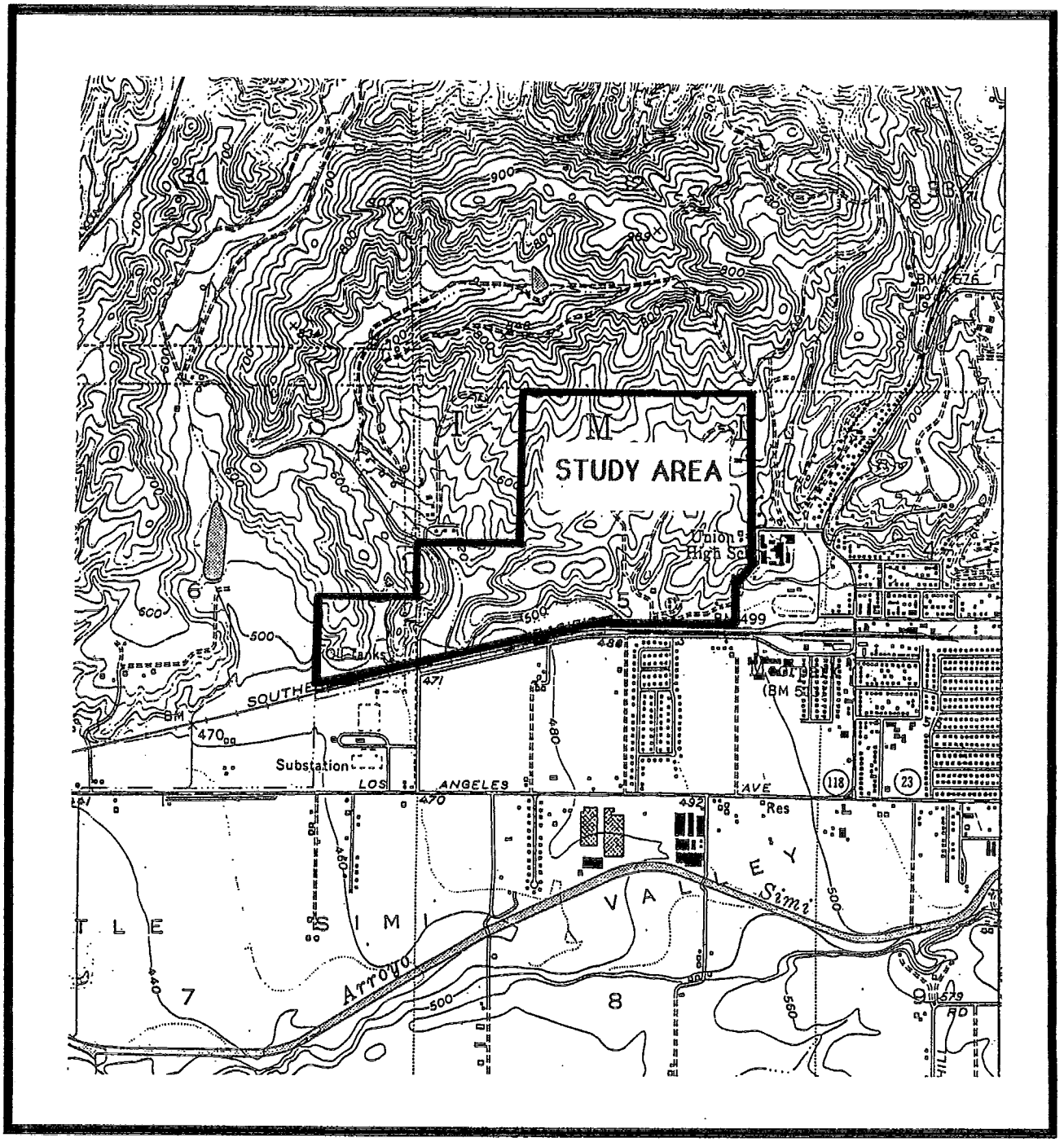

FIGURE 1: Location of the Hitch Ranch study area, Moorpark, Ventura County, California (base map: USGS Moorpark 7.5 quad; scale 1 : 24,000).

11.0 APPENDIX A: RECORDS SEARCH

South Central Coastal Information Center

California Historical Resources Information System
California State University, Fullerton
Department of Anthropology
800 North State College Boulevard
Fullerton, CA 92834-6846
714.278.5395 / FAX 714.278-5542
anthro.fullerton.edu/sccic.html - sccic@fullerton.edu

Ventura
Los Angeles
Orange

January 29, 2003

Mr. David S. Whitley, Ph.D.
W and S Consultants
2242 Stinson Street
Simi Valley, CA 93065
(805) 524-3620

RE: Record Search for the 285 acre Hitch Ranch, Moorpark, Ventura County, CA

Dear Dr. Whitley,

As per your request received on January 16, 2003, we have conducted a records search for the above referenced project. This search includes a review of all recorded historic and prehistoric archaeological sites within a one-quarter mile radius of the project area as well as a review of all known cultural resource reports. In addition, we have checked our file of historic maps, the California Points of Historical Interest (PHI), the listing of California Historical Landmarks (CHL), the California Register of Historic Places (CR), the National Register of Historic Places (NR), and the California State Historic Resources Inventory (HRI) for the referenced project area. The following is a discussion of our findings for the project area.

ARCHAEOLOGICAL RESOURCES:

No prehistoric archaeological sites have been identified within a one-quarter mile radius of the project area (see enclosed map). No prehistoric isolates have been identified within a one-quarter mile radius of the project area.

No historic archaeological sites have been identified within a one-quarter mile radius of the project area (see enclosed map). No historic isolates have been identified within a one-quarter mile radius of the project area.

HISTORIC RESOURCES:

No recorded historic built environments have been identified within a one-quarter mile radius of the project area.

Copies of our historic map – Piru (1921 and 1941) 15' USGS - are enclosed for your review.

The California Point of Historical Interest (1992) of the Office of Historic Preservation, Department of Parks and Recreation, lists no properties within a one-quarter mile radius of the project area.

The California Historical Landmarks (1990) of the Office of Historic Preservation, Department of Parks and Recreation, lists no properties within a one-quarter mile radius of the project area.

The California Register of Historic Places lists no properties within a one-quarter mile radius of the project area.

The National Register of Historic Places lists no properties within a one-quarter mile radius of the project area.

The California Historic Resources Inventory lists no properties that have been evaluated for historical significance within a one-quarter mile radius of the project area.

PREVIOUS CULTURAL RESOURCES INVESTIGATIONS:

Twenty-two studies (VN191, VN213, VN233, VN322, VN557, VN558, VN572, VN607, VN776, VN821, VN1059, VN1102, VN1153, VN1265, VN1329*, VN1471, VN1548, VN1589, VN1656, VN1680, VN2052 and VN2054) have been conducted within a one-quarter mile radius of the project area. Of these, one is located within the project area. There are eleven additional investigations located on the Moorpark 7.5' USGS Quadrangle that are potentially within a one-quarter mile radius of the project area. These reports are not mapped due to insufficient locational information.
A bibliography of these reports is available upon request.
(* = Located within the project area)

Please forward a copy of any reports from this project to our office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you **do not include** records search maps in your report. If you have any questions regarding the results presented herein, please feel free to contact our office at 714.278.5395 Monday through Thursday 8:00 am to 3:30 pm.

Invoices are mailed approximately two weeks after records searches are completed. This enables your firm to request further information under the same invoice number. Please reference the invoice number listed below when making inquiries. Requests made after the invoicing will result in the preparation of a separate invoice with a $15.00 handling fee.

Sincerely,
SCCIC

Catharine M. Wood
Staff Archaeologist

Enclosures:

( ) Primary Number Explanation
( ) Site List
( ) Survey List
(X) Maps – Moorpark 7.5' USGS Quadrangle, Piru 15' USGS Quadrangle
(X) Bibliography – 8 pages
( ) HRI
( ) National Register Status Codes
( ) Site Records
( ) Survey Reports
(X) Confidentiality Form
( ) Invoice #2203

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN1059 **DATE:** 1991 **PAGES:** 17

AUTHOR: Singer, Clay A. and John E. Atwood

FIRM: C. A. SINGER & Associates

TITLE: Cultural ResourceS Survey and Impact Assessment FOR PARCEL B OF LOT 53 ON GABBERT ROAD IN THE CITY OF MOORPARK, VENTURA COUNTY, CALIFORNIA.

AREA: 5 ac

SITES: none

QUADNAME: MOORPARK

MEMO:

IC ID#: VN1102 **DATE:** 1977 **PAGES:** 34

AUTHOR: Singer, Clay A.

FIRM: ARI

TITLE: PRELIMINARY Cultural Resource Survey and POTENTIAL Impact ASSESSMENT FOR THIRTEEN AREAS IN SOUTHERN VENTURA COUNTY, CALIFORNIA

AREA:

SITES: CA-VEN-3, VEN-4, VEN-5, VEN-13, VEN-14, VEN-31, VEN-479, VEN-32, VEN-33, VEN-34, VEN-61, VEN-66, VEN-75, VEN-478, VEN-76, VEN-77, VEN-87, VEN-135, VEN-136, VEN-137, VEN-458, VEN-138, VEN-140, VEN-142, VEN-148, VEN-149, VEN-150, VEN-158, VEN-163, VEN-164, VEN-165,

QUADNAME: Calabasas, Newbury Park, Camarillo, Santa Susana, Simi, Ojai,Piru,Thousand Oaks,Saticoy,Mati Saticoy, Matilija, Ventura

MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN1153 **DATE:** 1991 **PAGES:** 55

AUTHOR: Peak and Associates, Inc.

FIRM: Peak & Associates

TITLE: Class 3 Cultural Resource Assessment of the Proposed Carpinteria and Southern Reroutes, Santa Barbara, Ventura, and Los Angeles Counties, California

AREA: 58 li mi

SITES: VEN-1089

QUADNAME: Burbank

MEMO:

IC ID#: VN1265 **DATE:** 1992 **PAGES:** 356

AUTHOR: Anonymous

FIRM: PEAK AND Associates

TITLE: Consolicated Report: Cultural Resources Studies for the Proposed Pacific Pipeline Project

AREA: 172 li mi

SITES: SEE REPORT

QUADNAME: SEE REPORT

MEMO:

IC ID#: VN1329 **DATE:** 1994 **PAGES:** 36

AUTHOR: Whitley, David, and Joseph Simon

FIRM: W and S CONSULTANTS

TITLE: Phase 1 Archaeological Survey and Cultural ResourceS ASSESSMENT FOR THE LEVY SPECIFIC PLAN STUDY AREA, VENTURA COUNTY, CALIFORNIA

AREA: 285 ac

SITES: none

QUADNAME: MOORPARK

MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN1471 **DATE:** 1996 **PAGES:** 13

AUTHOR: Lopez, Robert
FIRM:

TITLE: An Archaeological Reconnaissance of the Area Involved in Parcel Map No. 5056 Within the Incorporated Limits of The City of Moorpark, Ventura County

AREA: 2 ac

SITES: none

QUADNAME: Moorpark
MEMO:

IC ID#: VN1548 **DATE:** 1997 **PAGES:** 25

AUTHOR: Anonymous
FIRM: W & S Consultants

TITLE: Phase 1 Archaeological Survey and Cultural Resources Assessment for the Moorpark Street Improvements Project Study Area, Ventura County, California

AREA: .5 li mi

SITES: none

QUADNAME: Moorpark
MEMO:

IC ID#: VN1589 **DATE:** 1977 **PAGES:** 2

AUTHOR: Lopez, Robert
FIRM: Rober Lopez

TITLE: Archaeological Survey of a Proposed New Well Site Within th Area of the Winchester Development in the Vicinity of Moorpark, Ventura County, Ca.

AREA:

SITES: none

QUADNAME: Moorpark
MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN1656 **DATE:** 1998 **PAGES:** 21

AUTHOR: Horne, Stephen

FIRM: Stephen Horne Anthropological Consultation

TITLE: Report of Phase I Archeological Investigation WestPointe Moorpark Project Tentative Tract No. 4620 Moorpark, California

AREA: 1.5 ac

SITES: 56-001573

QUADNAME: Moorpark

MEMO:

IC ID#: VN1680 **DATE:** 1998 **PAGES:** 49

AUTHOR: Maxon, Patrick O.

FIRM: RMW Paleo Associates

TITLE: Archaeological Test Excavation of CA-VEN-1574 on the SunCal Development, Tentative Tract 5130, Moorpark, Ventura County, California

AREA: 70.4 ac

SITES: 19-001574

QUADNAME: Moorpark

MEMO:

IC ID#: VN191 **DATE:** 1979 **PAGES:**

AUTHOR: LOPEZ, ROBERT

FIRM:

TITLE: AN Archaeological RECONNAISSANCE of KORWASSER ESTATES, TRACT 3271, MOORPARK, VENTURA COUNTY, CALIFORNIA (M-2774.3).

AREA: 76 ac

SITES: none

QUADNAME: MOORPARK
SIMI

MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN2052 **DATE:** 2000 **PAGES:** 36
AUTHOR: Whitely, David & Joseph Simm
FIRM: W&S Consultants
TITLE: Phase I Archaeologcial Survey of the Gisler Fields Project Study Area, Moorpark, Ventura County, California
AREA: 6.6 ac
SITES: none

QUADNAME: Moorpark
MEMO:

IC ID#: VN2054 **DATE:** 1999 **PAGES:** 33
AUTHOR: Whitely, David & Joseph Simm
FIRM: W&S Consultants
TITLE: Phse I Archaeological Survey of the Triliad Development Study Area, Moorpark, Ventura County, California
AREA: 30 ac
SITES: none

QUADNAME: Moorpark
MEMO:

IC ID#: VN213 **DATE:** 1979 **PAGES:** 8
AUTHOR: LOPEZ, ROBERT
FIRM:
TITLE: Archaeological Assessment FOR PM-3192 MOORPARK, VENTURA COUNTY CALIFORNIA.
AREA: 55 ac
SITES: none

QUADNAME: MOORPARK
MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN233 **DATE:** 1979 **PAGES:** 8
AUTHOR: LOPEZ, ROBERT
FIRM:
TITLE: Archaeological Assessment FOR PM-3244 MOORPARK, VENTURA COUNTY CALIFORNIA 93003.
AREA: 15 ac
SITES: none

QUADNAME: MOORPARK
MEMO:

IC ID#: VN322 **DATE:** 1979 **PAGES:** 10
AUTHOR: LOPEZ, ROBERT
FIRM:
TITLE: AN Archaeological RECONNAISSANCE of 230+- ACRES of Tentative TRACT NO. 3218, MOORPARK, VENTURA COUNTY, CALIFORNIA.
AREA: 230 ac
SITES: none

QUADNAME: MOORPARK
MEMO:

IC ID#: VN557 **DATE:** 1980 **PAGES:** 2
AUTHOR: Callison, Sheila
FIRM: VENTURA CO.
TITLE: Cultural Resource Survey FOR PM-3496
AREA:
SITES: none

QUADNAME: Moorpark
MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN558 **DATE:** 1979 **PAGES:** 2

AUTHOR: Callison, Sheila
FIRM: VENTURA CO.
TITLE: Cultural ResourceS Survey FOR PM-3408
AREA:
SITES: none

QUADNAME: Moorpark
MEMO:

IC ID#: VN572 **DATE:** 1988 **PAGES:** 120

AUTHOR: Dames and Moore
FIRM: DAMES & MOORE
TITLE: Phase 1 Cultural Resources Survey Fiber Optic Cable Project, Burbank to Santa Barbara, California for US Sprint Communications Company
AREA: 82 li mi
SITES: CA-Ven-27, VEN-196, VEN-202, VEN-240, VEN-241, VEN-341, VEN-342, VEN-550, VEN-643, VEN-644, VEN-655 VEN-729, VEN-789, VEN-895/H, VEN-896/H, VEN-916, VEN-917, VEN-918 & OTHER COUNTIES
QUADNAME: Burbank
Van Nuys, Simi
MEMO: REPORT LA160 COVER LOS ANGELES AREA

IC ID#: VN607 **DATE:** 1977 **PAGES:** 7

AUTHOR: Lopez, Robert
FIRM: ROBERT LOPEZ,
TITLE: AN Archaeological Survey of 2500 ACRES FOR A PROPOSED OIL EXPLORATION PROJECT BY NEAVES PETROLEUM DEVELOPMENTS IN THE VICINITY OF MOORPARK, VENTURA COUNTY, CALIFORNIA
AREA: 2500 ac
SITES: none

QUADNAME: Moorpark
MEMO:

Bibliography
Moorpark 7.5' USGS Quadrangle

IC ID#: VN776 **DATE:** 1989 **PAGES:** 2
AUTHOR: Lopez, Robert
FIRM:
TITLE: Archaeological RECONNAISSANCE FOR PM-4318
AREA: 10 ac
SITES: none

QUADNAME: MOORPARK
MEMO:

IC ID#: VN821 **DATE:** 1990 **PAGES:** 9
AUTHOR: Romani, Gwendolyn R.
FIRM: Greenwood and Associates
TITLE: Archaeological INVESTIGATION: 538 LOS ANGELES AVENUE, MOORPARK, VENTURA COUNTY
AREA: 1 ac
SITES: none

QUADNAME: MOORPARK
MEMO:

APPENDIX 3.7

Greenhouse Gas Emissions

A

CalEEMod Output Files

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Hitch Ranch Specific Plan - GHG Emissions

Ventura County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	6.77	Acre	6.77	294,901.20	0
Apartments Low Rise	193.00	Dwelling Unit	0.00	193,000.00	591
Apartments Mid Rise	135.00	Dwelling Unit	0.00	135,000.00	413
Single Family Housing	427.00	Dwelling Unit	215.33	768,600.00	1307

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land uses per Project Description in EIR. 277.3-acre site with 55.2 undisturbed and 6.77 for city park

Construction Phase - Phase duration per project applicant.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Trips (worker and vendor) during building construction and arch coating reflect proportion of project constructed during each phase. Grading material balanced on-site, no off-site hauling trips required.

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading - No import/export per project applicant for grading P1 and grading P3, balanced on-site. Other phases only fine grading for building pads.

Architectural Coating - Coating square footage distributed proportionately by amount of project being constructed per phase. VCAPCD Rule 74.2.

Vehicle Trips - Trip rates and VMT to match project traffic study.

Area Coating - VCAPCD Rule 74.2

Area Mitigation - VCPACPD Rule 74.2

Energy Mitigation - Compliance with 2019 Building Energy Efficiency Standards, which require on-site solar to meet 100% of electricity requirements for residential uses 3 stories or less, plus rooftop solar system for four-story building included in project design

Water Mitigation - Compliance with CALGreen requirements

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	740,205.00	102,942.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	740,205.00	196,081.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	740,205.00	196,081.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	740,205.00	245,101.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,220,615.00	30,682.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,220,615.00	58,441.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,220,615.00	58,441.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,220,615.00	73,051.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	75.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	75.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	75.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	75.00	50.00
tblConstructionPhase	NumDays	330.00	20.00
tblConstructionPhase	NumDays	330.00	21.00
tblConstructionPhase	NumDays	330.00	11.00
tblConstructionPhase	NumDays	330.00	20.00

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	4,650.00	234.00
tblConstructionPhase	NumDays	4,650.00	234.00
tblConstructionPhase	NumDays	4,650.00	115.00
tblConstructionPhase	NumDays	4,650.00	367.00
tblConstructionPhase	NumDays	4,650.00	88.00
tblConstructionPhase	NumDays	465.00	218.00
tblConstructionPhase	NumDays	465.00	6.00
tblConstructionPhase	NumDays	465.00	4.00
tblConstructionPhase	NumDays	465.00	5.00
tblConstructionPhase	NumDays	465.00	86.00
tblConstructionPhase	NumDays	465.00	6.00
tblConstructionPhase	NumDays	330.00	72.00
tblConstructionPhase	NumDays	330.00	87.00
tblGrading	MaterialExported	0.00	3,900,000.00
tblGrading	MaterialExported	0.00	1,500,000.00
tblGrading	MaterialImported	0.00	3,900,000.00
tblGrading	MaterialImported	0.00	1,500,000.00
tblLandUse	LotAcreage	12.06	0.00
tblLandUse	LotAcreage	3.55	0.00
tblLandUse	LotAcreage	138.64	215.33
tblTripsAndVMT	HaulingTripNumber	975,000.00	0.00
tblTripsAndVMT	HaulingTripNumber	375,000.00	0.00
tblTripsAndVMT	VendorTripNumber	129.00	34.00
tblTripsAndVMT	VendorTripNumber	129.00	34.00
tblTripsAndVMT	VendorTripNumber	129.00	18.00
tblTripsAndVMT	VendorTripNumber	129.00	43.00
tblTripsAndVMT	WorkerTripNumber	514.00	136.00
tblTripsAndVMT	WorkerTripNumber	103.00	27.00
tblTripsAndVMT	WorkerTripNumber	514.00	136.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblTripsAndVMT	WorkerTripNumber	103.00	27.00
tblTripsAndVMT	WorkerTripNumber	514.00	71.00
tblTripsAndVMT	WorkerTripNumber	103.00	14.00
tblTripsAndVMT	WorkerTripNumber	514.00	170.00
tblTripsAndVMT	WorkerTripNumber	103.00	34.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TTP	49.10	0.00
tblVehicleTrips	HO_TTP	49.10	0.00
tblVehicleTrips	HO_TTP	49.10	0.00
tblVehicleTrips	HS_TTP	18.00	0.00
tblVehicleTrips	HS_TTP	18.00	0.00
tblVehicleTrips	HS_TTP	18.00	0.00
tblVehicleTrips	HW_TL	10.80	6.12
tblVehicleTrips	HW_TL	10.80	8.63
tblVehicleTrips	HW_TL	10.80	4.78
tblVehicleTrips	HW_TTP	32.90	100.00
tblVehicleTrips	HW_TTP	32.90	100.00
tblVehicleTrips	HW_TTP	32.90	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00

2.0 Emissions Summary

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2820	2.9750	2.2628	4.8600e-003	1.3678	0.1251	1.4930	0.3769	0.1151	0.4921	0.0000	427.0407	427.0407	0.1353	3.0000e-004	430.5129
2023	0.3468	3.1470	3.3855	7.1500e-003	1.6579	0.1360	1.7938	0.3545	0.1262	0.4807	0.0000	635.6999	635.6999	0.1493	0.0112	642.7686
2024	0.8940	4.2516	5.4271	0.0124	0.9977	0.1721	1.1698	0.2802	0.1605	0.4407	0.0000	1,120.8655	1,120.8655	0.1960	0.0363	1,136.5789
2025	0.5105	1.7417	2.3956	5.1300e-003	0.1858	0.0675	0.2532	0.0536	0.0634	0.1170	0.0000	459.3245	459.3245	0.0754	0.0132	465.1313
2026	0.5045	1.7103	2.3442	4.9800e-003	0.1712	0.0665	0.2377	0.0485	0.0626	0.1110	0.0000	445.9732	445.9732	0.0735	0.0124	451.5012
2027	0.2299	0.6421	0.8612	1.6700e-003	0.0339	0.0259	0.0598	9.1300e-003	0.0244	0.0335	0.0000	147.2623	147.2623	0.0275	2.6900e-003	148.7507
Maximum	**0.8940**	**4.2516**	**5.4271**	**0.0124**	**1.6579**	**0.1721**	**1.7938**	**0.3769**	**0.1605**	**0.4921**	**0.0000**	**1,120.8655**	**1,120.8655**	**0.1960**	**0.0363**	**1,136.5789**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2820	2.9750	2.2628	4.8600e-003	1.3678	0.1251	1.4930	0.3769	0.1151	0.4921	0.0000	427.0402	427.0402	0.1353	3.0000e-004	430.5124
2023	0.3468	3.1470	3.3855	7.1500e-003	1.6579	0.1360	1.7938	0.3545	0.1262	0.4807	0.0000	635.6993	635.6993	0.1493	0.0112	642.7680
2024	0.8940	4.2516	5.4271	0.0124	0.9977	0.1721	1.1698	0.2802	0.1605	0.4407	0.0000	1,120.8647	1,120.8647	0.1960	0.0363	1,136.5781
2025	0.5105	1.7417	2.3956	5.1300e-003	0.1858	0.0675	0.2532	0.0536	0.0634	0.1170	0.0000	459.3242	459.3242	0.0754	0.0132	465.1309
2026	0.5045	1.7103	2.3442	4.9800e-003	0.1712	0.0665	0.2377	0.0485	0.0626	0.1110	0.0000	445.9729	445.9729	0.0735	0.0124	451.5008
2027	0.2299	0.6421	0.8612	1.6700e-003	0.0339	0.0259	0.0598	9.1300e-003	0.0244	0.0335	0.0000	147.2622	147.2622	0.0275	2.6900e-003	148.7506
Maximum	**0.8940**	**4.2516**	**5.4271**	**0.0124**	**1.6579**	**0.1721**	**1.7938**	**0.3769**	**0.1605**	**0.4921**	**0.0000**	**1,120.8647**	**1,120.8647**	**0.1960**	**0.0363**	**1,136.5781**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-1-2022**	**8-31-2022**	1.3987	1.3987
2	**9-1-2022**	**11-30-2022**	1.3838	1.3838
3	**12-1-2022**	**2-28-2023**	2.9829	2.9829
4	**3-1-2023**	**5-31-2023**	1.5507	1.5507
5	**6-1-2023**	**8-31-2023**	0.6540	0.6540

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6	**9-1-2023**	**11-30-2023**	0.6022	0.6022
7	**12-1-2023**	**2-29-2024**	1.7647	1.7647
8	**3-1-2024**	**5-31-2024**	1.4471	1.4471
9	**6-1-2024**	**8-31-2024**	1.1674	1.1674
10	**9-1-2024**	**11-30-2024**	1.1269	1.1269
11	**12-1-2024**	**2-28-2025**	0.5805	0.5805
12	**3-1-2025**	**5-31-2025**	0.5163	0.5163
13	**6-1-2025**	**8-31-2025**	0.5150	0.5150
14	**9-1-2025**	**11-30-2025**	0.6742	0.6742
15	**12-1-2025**	**2-28-2026**	0.5496	0.5496
16	**3-1-2026**	**5-31-2026**	0.5145	0.5145
17	**6-1-2026**	**8-31-2026**	0.5132	0.5132
18	**9-1-2026**	**11-30-2026**	0.6578	0.6578
19	**12-1-2026**	**2-28-2027**	0.5050	0.5050
20	**3-1-2027**	**5-31-2027**	0.5749	0.5749
		Highest	2.9829	2.9829

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0103	0.0645	5.5912	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1574	9.1574	8.7200e-003	0.0000	9.3755
Energy	0.0761	0.6500	0.2766	4.1500e-003		0.0526	0.0526		0.0526	0.0526	0.0000	1,574.2215	1,574.2215	0.0838	0.0222	1,582.9326
Mobile	2.1238	2.0958	18.4622	0.0360	4.6205	0.0262	4.6467	1.2333	0.0244	1.2577	0.0000	3,512.2496	3,512.2496	0.2497	0.1698	3,569.1007
Waste						0.0000	0.0000		0.0000	0.0000	139.5218	0.0000	139.5218	8.2455	0.0000	345.6593
Water						0.0000	0.0000		0.0000	0.0000	15.6061	190.5895	206.1956	1.6190	0.0398	258.5300
Total	**7.2101**	**2.8102**	**24.3301**	**0.0404**	**4.6205**	**0.1098**	**4.7303**	**1.2333**	**0.1081**	**1.3414**	**155.1279**	**5,286.2179**	**5,441.3458**	**10.2067**	**0.2318**	**5,765.5980**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0103	0.0645	5.5912	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1574	9.1574	8.7200e-003	0.0000	9.3755
Energy	0.0761	0.6500	0.2766	4.1500e-003		0.0526	0.0526		0.0526	0.0526	0.0000	806.9885	806.9885	0.0190	0.0144	811.7416
Mobile	2.1238	2.0958	18.4622	0.0360	4.6205	0.0262	4.6467	1.2333	0.0244	1.2577	0.0000	3,512.2496	3,512.2496	0.2497	0.1698	3,569.1007
Waste						0.0000	0.0000		0.0000	0.0000	139.5218	0.0000	139.5218	8.2455	0.0000	345.6593
Water						0.0000	0.0000		0.0000	0.0000	12.4849	167.8709	180.3558	1.2965	0.0320	222.3027
Total	**7.2101**	**2.8102**	**24.3301**	**0.0404**	**4.6205**	**0.1098**	**4.7303**	**1.2333**	**0.1081**	**1.3414**	**152.0067**	**4,496.2663**	**4,648.2730**	**9.8194**	**0.2162**	**4,958.1798**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.01**	**14.94**	**14.57**	**3.79**	**6.75**	**14.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/1/2022	3/31/2023	5	218	
2	Paving	Paving	2/1/2023	5/11/2023	5	72	
3	Grading P2	Grading	6/1/2023	6/7/2023	5	5	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Building Construction P2	Building Construction	6/8/2023	11/1/2024	5	367	
5	Grading P3	Grading	12/1/2023	3/31/2024	5	86	
6	Utilities P3	Building Construction	4/1/2024	7/31/2024	5	88	
7	Paving P3	Paving	8/1/2024	11/30/2024	5	87	
8	Architectural Coating P2	Architectural Coating	11/2/2024	11/30/2024	5	20	
9	Grading P4	Grading	12/1/2024	12/9/2024	5	6	
10	Building Construction P4	Building Construction	12/10/2024	10/31/2025	5	234	
11	Architectural Coating P4	Architectural Coating	11/1/2025	11/30/2025	5	20	
12	Grading P5	Grading	12/1/2025	12/8/2025	5	6	
13	Building Construction P5	Building Construction	12/9/2025	10/31/2026	5	234	
14	Architectural Coating P5	Architectural Coating	11/1/2026	11/30/2026	5	21	
15	Grading P6	Grading	12/1/2026	12/5/2026	5	4	
16	Building Construction P6	Building Construction	12/6/2026	5/14/2027	5	115	
17	Architectural Coating P6	Architectural Coating	5/15/2027	5/31/2027	5	11	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 654

Acres of Paving: 0

Residential Indoor: 73,051; Residential Outdoor: 245,101; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading P2	Excavators	2	8.00	158	0.38
Grading P2	Graders	1	8.00	187	0.41
Grading P2	Rubber Tired Dozers	1	8.00	247	0.40
Grading P2	Scrapers	2	8.00	367	0.48
Grading P2	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P2	Cranes	1	7.00	231	0.29
Building Construction P2	Forklifts	3	8.00	89	0.20
Building Construction P2	Generator Sets	1	8.00	84	0.74
Building Construction P2	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P2	Welders	1	8.00	46	0.45
Grading P3	Excavators	2	8.00	158	0.38
Grading P3	Graders	1	8.00	187	0.41
Grading P3	Rubber Tired Dozers	1	8.00	247	0.40
Grading P3	Scrapers	2	8.00	367	0.48
Grading P3	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Utilities P3	Cranes	1	7.00	231	0.29
Utilities P3	Forklifts	3	8.00	89	0.20
Utilities P3	Generator Sets	1	8.00	84	0.74
Utilities P3	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Utilities P3	Welders	1	8.00	46	0.45
Paving P3	Pavers	2	8.00	130	0.42
Paving P3	Paving Equipment	2	8.00	132	0.36
Paving P3	Rollers	2	8.00	80	0.38
Architectural Coating P2	Air Compressors	1	6.00	78	0.48
Grading P4	Excavators	2	8.00	158	0.38
Grading P4	Graders	1	8.00	187	0.41
Grading P4	Rubber Tired Dozers	1	8.00	247	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading P4	Scrapers	2	8.00	367	0.48
Grading P4	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P4	Cranes	1	7.00	231	0.29
Building Construction P4	Forklifts	3	8.00	89	0.20
Building Construction P4	Generator Sets	1	8.00	84	0.74
Building Construction P4	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P4	Welders	1	8.00	46	0.45
Architectural Coating P4	Air Compressors	1	6.00	78	0.48
Grading P5	Excavators	2	8.00	158	0.38
Grading P5	Graders	1	8.00	187	0.41
Grading P5	Rubber Tired Dozers	1	8.00	247	0.40
Grading P5	Scrapers	2	8.00	367	0.48
Grading P5	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P5	Cranes	1	7.00	231	0.29
Building Construction P5	Forklifts	3	8.00	89	0.20
Building Construction P5	Generator Sets	1	8.00	84	0.74
Building Construction P5	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P5	Welders	1	8.00	46	0.45
Architectural Coating P5	Air Compressors	1	6.00	78	0.48
Grading P6	Excavators	2	8.00	158	0.38
Grading P6	Graders	1	8.00	187	0.41
Grading P6	Rubber Tired Dozers	1	8.00	247	0.40
Grading P6	Scrapers	2	8.00	367	0.48
Grading P6	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction P6	Cranes	1	7.00	231	0.29
Building Construction P6	Forklifts	3	8.00	89	0.20
Building Construction P6	Generator Sets	1	8.00	84	0.74
Building Construction P6	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction P6	Welders	1	8.00	46	0.45

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Architectural Coating P6	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P2	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P2	9	170.00	43.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P3	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities P3	9	514.00	129.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving P3	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P2	1	34.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P4	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P4	9	136.00	34.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P4	1	27.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P5	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P5	9	136.00	34.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P5	1	27.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading P6	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction P6	9	71.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating P6	1	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3555	0.0000	1.3555	0.3737	0.0000	0.3737	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2773	2.9715	2.2217	4.7500e-003		0.1251	0.1251		0.1151	0.1151	0.0000	417.1897	417.1897	0.1349	0.0000	420.5629
Total	**0.2773**	**2.9715**	**2.2217**	**4.7500e-003**	**1.3555**	**0.1251**	**1.4806**	**0.3737**	**0.1151**	**0.4887**	**0.0000**	**417.1897**	**417.1897**	**0.1349**	**0.0000**	**420.5629**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-003	3.4500e-003	0.0412	1.1000e-004	0.0123	7.0000e-005	0.0124	3.2800e-003	7.0000e-005	3.3400e-003	0.0000	9.8510	9.8510	3.4000e-004	3.0000e-004	9.9501
Total	**4.7000e-003**	**3.4500e-003**	**0.0412**	**1.1000e-004**	**0.0123**	**7.0000e-005**	**0.0124**	**3.2800e-003**	**7.0000e-005**	**3.3400e-003**	**0.0000**	**9.8510**	**9.8510**	**3.4000e-004**	**3.0000e-004**	**9.9501**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3555	0.0000	1.3555	0.3737	0.0000	0.3737	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2773	2.9715	2.2217	4.7500e-003		0.1251	0.1251		0.1151	0.1151	0.0000	417.1892	417.1892	0.1349	0.0000	420.5624
Total	**0.2773**	**2.9715**	**2.2217**	**4.7500e-003**	**1.3555**	**0.1251**	**1.4806**	**0.3737**	**0.1151**	**0.4887**	**0.0000**	**417.1892**	**417.1892**	**0.1349**	**0.0000**	**420.5624**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-003	3.4500e-003	0.0412	1.1000e-004	0.0123	7.0000e-005	0.0124	3.2800e-003	7.0000e-005	3.3400e-003	0.0000	9.8510	9.8510	3.4000e-004	3.0000e-004	9.9501
Total	**4.7000e-003**	**3.4500e-003**	**0.0412**	**1.1000e-004**	**0.0123**	**7.0000e-005**	**0.0124**	**3.2800e-003**	**7.0000e-005**	**3.3400e-003**	**0.0000**	**9.8510**	**9.8510**	**3.4000e-004**	**3.0000e-004**	**9.9501**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0905	0.0000	1.0905	0.2280	0.0000	0.2280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1080	1.1218	0.9117	2.0200e-003		0.0463	0.0463		0.0426	0.0426	0.0000	177.2394	177.2394	0.0573	0.0000	178.6725
Total	**0.1080**	**1.1218**	**0.9117**	**2.0200e-003**	**1.0905**	**0.0463**	**1.1368**	**0.2280**	**0.0426**	**0.2706**	**0.0000**	**177.2394**	**177.2394**	**0.0573**	**0.0000**	**178.6725**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8600e-003	1.3000e-003	0.0162	4.0000e-005	5.2400e-003	3.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.0757	4.0757	1.3000e-004	1.2000e-004	4.1146
Total	**1.8600e-003**	**1.3000e-003**	**0.0162**	**4.0000e-005**	**5.2400e-003**	**3.0000e-005**	**5.2700e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.0757**	**4.0757**	**1.3000e-004**	**1.2000e-004**	**4.1146**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0905	0.0000	1.0905	0.2280	0.0000	0.2280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1080	1.1218	0.9117	2.0200e-003		0.0463	0.0463		0.0426	0.0426	0.0000	177.2392	177.2392	0.0573	0.0000	178.6723
Total	**0.1080**	**1.1218**	**0.9117**	**2.0200e-003**	**1.0905**	**0.0463**	**1.1368**	**0.2280**	**0.0426**	**0.2706**	**0.0000**	**177.2392**	**177.2392**	**0.0573**	**0.0000**	**178.6723**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8600e-003	1.3000e-003	0.0162	4.0000e-005	5.2400e-003	3.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.0757	4.0757	1.3000e-004	1.2000e-004	4.1146
Total	**1.8600e-003**	**1.3000e-003**	**0.0162**	**4.0000e-005**	**5.2400e-003**	**3.0000e-005**	**5.2700e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.0757**	**4.0757**	**1.3000e-004**	**1.2000e-004**	**4.1146**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0372	0.3669	0.5250	8.2000e-004		0.0184	0.0184		0.0169	0.0169	0.0000	72.0967	72.0967	0.0233	0.0000	72.6797
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0372**	**0.3669**	**0.5250**	**8.2000e-004**		**0.0184**	**0.0184**		**0.0169**	**0.0169**	**0.0000**	**72.0967**	**72.0967**	**0.0233**	**0.0000**	**72.6797**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5400e-003	1.0800e-003	0.0134	4.0000e-005	4.3500e-003	2.0000e-005	4.3800e-003	1.1600e-003	2.0000e-005	1.1800e-003	0.0000	3.3860	3.3860	1.1000e-004	1.0000e-004	3.4183
Total	**1.5400e-003**	**1.0800e-003**	**0.0134**	**4.0000e-005**	**4.3500e-003**	**2.0000e-005**	**4.3800e-003**	**1.1600e-003**	**2.0000e-005**	**1.1800e-003**	**0.0000**	**3.3860**	**3.3860**	**1.1000e-004**	**1.0000e-004**	**3.4183**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0372	0.3669	0.5250	8.2000e-004		0.0184	0.0184		0.0169	0.0169	0.0000	72.0966	72.0966	0.0233	0.0000	72.6796
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0372**	**0.3669**	**0.5250**	**8.2000e-004**		**0.0184**	**0.0184**		**0.0169**	**0.0169**	**0.0000**	**72.0966**	**72.0966**	**0.0233**	**0.0000**	**72.6796**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5400e-003	1.0800e-003	0.0134	4.0000e-005	4.3500e-003	2.0000e-005	4.3800e-003	1.1600e-003	2.0000e-005	1.1800e-003	0.0000	3.3860	3.3860	1.1000e-004	1.0000e-004	3.4183
Total	**1.5400e-003**	**1.0800e-003**	**0.0134**	**4.0000e-005**	**4.3500e-003**	**2.0000e-005**	**4.3800e-003**	**1.1600e-003**	**2.0000e-005**	**1.1800e-003**	**0.0000**	**3.3860**	**3.3860**	**1.1000e-004**	**1.0000e-004**	**3.4183**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0230	0.0000	0.0230	9.1300e-003	0.0000	9.1300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3000e-003	0.0863	0.0701	1.6000e-004		3.5600e-003	3.5600e-003		3.2800e-003	3.2800e-003	0.0000	13.6338	13.6338	4.4100e-003	0.0000	13.7440
Total	**8.3000e-003**	**0.0863**	**0.0701**	**1.6000e-004**	**0.0230**	**3.5600e-003**	**0.0266**	**9.1300e-003**	**3.2800e-003**	**0.0124**	**0.0000**	**13.6338**	**13.6338**	**4.4100e-003**	**0.0000**	**13.7440**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.2400e-003	0.0000	4.0000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3135	0.3135	1.0000e-005	1.0000e-005	0.3165
Total	**1.4000e-004**	**1.0000e-004**	**1.2400e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3135**	**0.3135**	**1.0000e-005**	**1.0000e-005**	**0.3165**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading P2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0230	0.0000	0.0230	9.1300e-003	0.0000	9.1300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3000e-003	0.0863	0.0701	1.6000e-004		3.5600e-003	3.5600e-003		3.2800e-003	3.2800e-003	0.0000	13.6338	13.6338	4.4100e-003	0.0000	13.7440
Total	**8.3000e-003**	**0.0863**	**0.0701**	**1.6000e-004**	**0.0230**	**3.5600e-003**	**0.0266**	**9.1300e-003**	**3.2800e-003**	**0.0124**	**0.0000**	**13.6338**	**13.6338**	**4.4100e-003**	**0.0000**	**13.7440**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.2400e-003	0.0000	4.0000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3135	0.3135	1.0000e-005	1.0000e-005	0.3165
Total	**1.4000e-004**	**1.0000e-004**	**1.2400e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.1000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3135**	**0.3135**	**1.0000e-005**	**1.0000e-005**	**0.3165**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1156	1.0573	1.1939	1.9800e-003		0.0514	0.0514		0.0484	0.0484	0.0000	170.3765	170.3765	0.0405	0.0000	171.3897
Total	**0.1156**	**1.0573**	**1.1939**	**1.9800e-003**		**0.0514**	**0.0514**		**0.0484**	**0.0484**	**0.0000**	**170.3765**	**170.3765**	**0.0405**	**0.0000**	**171.3897**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0800e-003	0.1244	0.0431	5.9000e-004	0.0211	7.1000e-004	0.0218	6.0800e-003	6.8000e-004	6.7600e-003	0.0000	57.6516	57.6516	2.3700e-003	8.6300e-003	60.2828
Worker	0.0357	0.0251	0.3110	8.4000e-004	0.1008	5.6000e-004	0.1013	0.0268	5.1000e-004	0.0273	0.0000	78.3479	78.3479	2.5100e-003	2.3000e-003	79.0961
Total	**0.0388**	**0.1495**	**0.3541**	**1.4300e-003**	**0.1218**	**1.2700e-003**	**0.1231**	**0.0328**	**1.1900e-003**	**0.0340**	**0.0000**	**135.9995**	**135.9995**	**4.8800e-003**	**0.0109**	**139.3789**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1156	1.0573	1.1939	1.9800e-003		0.0514	0.0514		0.0484	0.0484	0.0000	170.3763	170.3763	0.0405	0.0000	171.3895
Total	**0.1156**	**1.0573**	**1.1939**	**1.9800e-003**		**0.0514**	**0.0514**		**0.0484**	**0.0484**	**0.0000**	**170.3763**	**170.3763**	**0.0405**	**0.0000**	**171.3895**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0800e-003	0.1244	0.0431	5.9000e-004	0.0211	7.1000e-004	0.0218	6.0800e-003	6.8000e-004	6.7600e-003	0.0000	57.6516	57.6516	2.3700e-003	8.6300e-003	60.2828
Worker	0.0357	0.0251	0.3110	8.4000e-004	0.1008	5.6000e-004	0.1013	0.0268	5.1000e-004	0.0273	0.0000	78.3479	78.3479	2.5100e-003	2.3000e-003	79.0961
Total	**0.0388**	**0.1495**	**0.3541**	**1.4300e-003**	**0.1218**	**1.2700e-003**	**0.1231**	**0.0328**	**1.1900e-003**	**0.0340**	**0.0000**	**135.9995**	**135.9995**	**4.8800e-003**	**0.0109**	**139.3789**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1619	1.4788	1.7784	2.9600e-003		0.0675	0.0675		0.0635	0.0635	0.0000	255.0340	255.0340	0.0603	0.0000	256.5417
Total	**0.1619**	**1.4788**	**1.7784**	**2.9600e-003**		**0.0675**	**0.0675**		**0.0635**	**0.0635**	**0.0000**	**255.0340**	**255.0340**	**0.0603**	**0.0000**	**256.5417**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4900e-003	0.1853	0.0642	8.6000e-004	0.0315	1.0700e-003	0.0326	9.0900e-003	1.0200e-003	0.0101	0.0000	84.9800	84.9800	3.6300e-003	0.0127	88.8612
Worker	0.0500	0.0337	0.4344	1.2200e-003	0.1508	8.0000e-004	0.1516	0.0401	7.3000e-004	0.0408	0.0000	114.5637	114.5637	3.4200e-003	3.2100e-003	115.6060
Total	**0.0544**	**0.2190**	**0.4987**	**2.0800e-003**	**0.1823**	**1.8700e-003**	**0.1842**	**0.0491**	**1.7500e-003**	**0.0509**	**0.0000**	**199.5437**	**199.5437**	**7.0500e-003**	**0.0159**	**204.4671**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction P2 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1619	1.4788	1.7784	2.9600e-003		0.0675	0.0675		0.0635	0.0635	0.0000	255.0337	255.0337	0.0603	0.0000	256.5414
Total	**0.1619**	**1.4788**	**1.7784**	**2.9600e-003**		**0.0675**	**0.0675**		**0.0635**	**0.0635**	**0.0000**	**255.0337**	**255.0337**	**0.0603**	**0.0000**	**256.5414**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4900e-003	0.1853	0.0642	8.6000e-004	0.0315	1.0700e-003	0.0326	9.0900e-003	1.0200e-003	0.0101	0.0000	84.9800	84.9800	3.6300e-003	0.0127	88.8612
Worker	0.0500	0.0337	0.4344	1.2200e-003	0.1508	8.0000e-004	0.1516	0.0401	7.3000e-004	0.0408	0.0000	114.5637	114.5637	3.4200e-003	3.2100e-003	115.6060
Total	**0.0544**	**0.2190**	**0.4987**	**2.0800e-003**	**0.1823**	**1.8700e-003**	**0.1842**	**0.0491**	**1.7500e-003**	**0.0509**	**0.0000**	**199.5437**	**199.5437**	**7.0500e-003**	**0.0159**	**204.4671**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4108	0.0000	0.4108	0.0815	0.0000	0.0815	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0349	0.3624	0.2945	6.5000e-004		0.0150	0.0150		0.0138	0.0138	0.0000	57.2620	57.2620	0.0185	0.0000	57.7250
Total	**0.0349**	**0.3624**	**0.2945**	**6.5000e-004**	**0.4108**	**0.0150**	**0.4258**	**0.0815**	**0.0138**	**0.0952**	**0.0000**	**57.2620**	**57.2620**	**0.0185**	**0.0000**	**57.7250**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.2000e-004	5.2300e-003	1.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3168	1.3168	4.0000e-005	4.0000e-005	1.3294
Total	**6.0000e-004**	**4.2000e-004**	**5.2300e-003**	**1.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3168**	**1.3168**	**4.0000e-005**	**4.0000e-005**	**1.3294**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4108	0.0000	0.4108	0.0815	0.0000	0.0815	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0349	0.3624	0.2945	6.5000e-004		0.0150	0.0150		0.0138	0.0138	0.0000	57.2619	57.2619	0.0185	0.0000	57.7249
Total	**0.0349**	**0.3624**	**0.2945**	**6.5000e-004**	**0.4108**	**0.0150**	**0.4258**	**0.0815**	**0.0138**	**0.0952**	**0.0000**	**57.2619**	**57.2619**	**0.0185**	**0.0000**	**57.7249**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.2000e-004	5.2300e-003	1.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3168	1.3168	4.0000e-005	4.0000e-005	1.3294
Total	**6.0000e-004**	**4.2000e-004**	**5.2300e-003**	**1.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3168**	**1.3168**	**4.0000e-005**	**4.0000e-005**	**1.3294**

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3.6 Grading P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5433	0.0000	0.5433	0.1543	0.0000	0.1543	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1046	1.0523	0.9010	2.0200e-003		0.0434	0.0434		0.0399	0.0399	0.0000	177.1885	177.1885	0.0573	0.0000	178.6211
Total	**0.1046**	**1.0523**	**0.9010**	**2.0200e-003**	**0.5433**	**0.0434**	**0.5867**	**0.1543**	**0.0399**	**0.1942**	**0.0000**	**177.1885**	**177.1885**	**0.0573**	**0.0000**	**178.6211**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7400e-003	1.1700e-003	0.0151	4.0000e-005	5.2400e-003	3.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	3.9822	3.9822	1.2000e-004	1.1000e-004	4.0184
Total	**1.7400e-003**	**1.1700e-003**	**0.0151**	**4.0000e-005**	**5.2400e-003**	**3.0000e-005**	**5.2700e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**3.9822**	**3.9822**	**1.2000e-004**	**1.1000e-004**	**4.0184**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Grading P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5433	0.0000	0.5433	0.1543	0.0000	0.1543	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1046	1.0523	0.9010	2.0200e-003		0.0434	0.0434		0.0399	0.0399	0.0000	177.1882	177.1882	0.0573	0.0000	178.6209
Total	**0.1046**	**1.0523**	**0.9010**	**2.0200e-003**	**0.5433**	**0.0434**	**0.5867**	**0.1543**	**0.0399**	**0.1942**	**0.0000**	**177.1882**	**177.1882**	**0.0573**	**0.0000**	**178.6209**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7400e-003	1.1700e-003	0.0151	4.0000e-005	5.2400e-003	3.0000e-005	5.2700e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	3.9822	3.9822	1.2000e-004	1.1000e-004	4.0184
Total	**1.7400e-003**	**1.1700e-003**	**0.0151**	**4.0000e-005**	**5.2400e-003**	**3.0000e-005**	**5.2700e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**3.9822**	**3.9822**	**1.2000e-004**	**1.1000e-004**	**4.0184**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Utilities P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0648	0.5915	0.7113	1.1900e-003		0.0270	0.0270		0.0254	0.0254	0.0000	102.0136	102.0136	0.0241	0.0000	102.6167
Total	**0.0648**	**0.5915**	**0.7113**	**1.1900e-003**		**0.0270**	**0.0270**		**0.0254**	**0.0254**	**0.0000**	**102.0136**	**102.0136**	**0.0241**	**0.0000**	**102.6167**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3800e-003	0.2224	0.0771	1.0300e-003	0.0378	1.2800e-003	0.0391	0.0109	1.2300e-003	0.0121	0.0000	101.9760	101.9760	4.3600e-003	0.0153	106.6334
Worker	0.0604	0.0407	0.5254	1.4800e-003	0.1824	9.6000e-004	0.1833	0.0484	8.9000e-004	0.0493	0.0000	138.5547	138.5547	4.1400e-003	3.8800e-003	139.8152
Total	**0.0658**	**0.2631**	**0.6025**	**2.5100e-003**	**0.2202**	**2.2400e-003**	**0.2224**	**0.0594**	**2.1200e-003**	**0.0615**	**0.0000**	**240.5307**	**240.5307**	**8.5000e-003**	**0.0191**	**246.4486**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Utilities P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0648	0.5915	0.7113	1.1900e-003		0.0270	0.0270		0.0254	0.0254	0.0000	102.0135	102.0135	0.0241	0.0000	102.6166
Total	**0.0648**	**0.5915**	**0.7113**	**1.1900e-003**		**0.0270**	**0.0270**		**0.0254**	**0.0254**	**0.0000**	**102.0135**	**102.0135**	**0.0241**	**0.0000**	**102.6166**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3800e-003	0.2224	0.0771	1.0300e-003	0.0378	1.2800e-003	0.0391	0.0109	1.2300e-003	0.0121	0.0000	101.9760	101.9760	4.3600e-003	0.0153	106.6334
Worker	0.0604	0.0407	0.5254	1.4800e-003	0.1824	9.6000e-004	0.1833	0.0484	8.9000e-004	0.0493	0.0000	138.5547	138.5547	4.1400e-003	3.8800e-003	139.8152
Total	**0.0658**	**0.2631**	**0.6025**	**2.5100e-003**	**0.2202**	**2.2400e-003**	**0.2224**	**0.0594**	**2.1200e-003**	**0.0615**	**0.0000**	**240.5307**	**240.5307**	**8.5000e-003**	**0.0191**	**246.4486**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Paving P3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0430	0.4143	0.6362	9.9000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	87.1154	87.1154	0.0282	0.0000	87.8198
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0430**	**0.4143**	**0.6362**	**9.9000e-004**		**0.0204**	**0.0204**		**0.0188**	**0.0188**	**0.0000**	**87.1154**	**87.1154**	**0.0282**	**0.0000**	**87.8198**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7400e-003	1.1700e-003	0.0152	4.0000e-005	5.2600e-003	3.0000e-005	5.2900e-003	1.4000e-003	3.0000e-005	1.4200e-003	0.0000	3.9975	3.9975	1.2000e-004	1.1000e-004	4.0338
Total	**1.7400e-003**	**1.1700e-003**	**0.0152**	**4.0000e-005**	**5.2600e-003**	**3.0000e-005**	**5.2900e-003**	**1.4000e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**3.9975**	**3.9975**	**1.2000e-004**	**1.1000e-004**	**4.0338**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Paving P3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0430	0.4143	0.6362	9.9000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	87.1153	87.1153	0.0282	0.0000	87.8197
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0430**	**0.4143**	**0.6362**	**9.9000e-004**		**0.0204**	**0.0204**		**0.0188**	**0.0188**	**0.0000**	**87.1153**	**87.1153**	**0.0282**	**0.0000**	**87.8197**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7400e-003	1.1700e-003	0.0152	4.0000e-005	5.2600e-003	3.0000e-005	5.2900e-003	1.4000e-003	3.0000e-005	1.4200e-003	0.0000	3.9975	3.9975	1.2000e-004	1.1000e-004	4.0338
Total	**1.7400e-003**	**1.1700e-003**	**0.0152**	**4.0000e-005**	**5.2600e-003**	**3.0000e-005**	**5.2900e-003**	**1.4000e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**3.9975**	**3.9975**	**1.2000e-004**	**1.1000e-004**	**4.0338**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Architectural Coating P2 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3687					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**0.3705**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.1000e-004	6.1000e-004	7.9000e-003	2.0000e-005	2.7400e-003	1.0000e-005	2.7600e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	2.0830	2.0830	6.0000e-005	6.0000e-005	2.1019
Total	**9.1000e-004**	**6.1000e-004**	**7.9000e-003**	**2.0000e-005**	**2.7400e-003**	**1.0000e-005**	**2.7600e-003**	**7.3000e-004**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**2.0830**	**2.0830**	**6.0000e-005**	**6.0000e-005**	**2.1019**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 Architectural Coating P2 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3687					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**0.3705**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.1000e-004	6.1000e-004	7.9000e-003	2.0000e-005	2.7400e-003	1.0000e-005	2.7600e-003	7.3000e-004	1.0000e-005	7.4000e-004	0.0000	2.0830	2.0830	6.0000e-005	6.0000e-005	2.1019
Total	**9.1000e-004**	**6.1000e-004**	**7.9000e-003**	**2.0000e-005**	**2.7400e-003**	**1.0000e-005**	**2.7600e-003**	**7.3000e-004**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**2.0830**	**2.0830**	**6.0000e-005**	**6.0000e-005**	**2.1019**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Grading P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0276	0.0000	0.0276	0.0110	0.0000	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6500e-003	0.0971	0.0832	1.9000e-004		4.0100e-003	4.0100e-003		3.6900e-003	3.6900e-003	0.0000	16.3559	16.3559	5.2900e-003	0.0000	16.4881
Total	**9.6500e-003**	**0.0971**	**0.0832**	**1.9000e-004**	**0.0276**	**4.0100e-003**	**0.0316**	**0.0110**	**3.6900e-003**	**0.0147**	**0.0000**	**16.3559**	**16.3559**	**5.2900e-003**	**0.0000**	**16.4881**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.3900e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3676	0.3676	1.0000e-005	1.0000e-005	0.3709
Total	**1.6000e-004**	**1.1000e-004**	**1.3900e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3676**	**0.3676**	**1.0000e-005**	**1.0000e-005**	**0.3709**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 Grading P4 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0276	0.0000	0.0276	0.0110	0.0000	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6500e-003	0.0971	0.0832	1.9000e-004		4.0100e-003	4.0100e-003		3.6900e-003	3.6900e-003	0.0000	16.3558	16.3558	5.2900e-003	0.0000	16.4881
Total	**9.6500e-003**	**0.0971**	**0.0832**	**1.9000e-004**	**0.0276**	**4.0100e-003**	**0.0316**	**0.0110**	**3.6900e-003**	**0.0147**	**0.0000**	**16.3558**	**16.3558**	**5.2900e-003**	**0.0000**	**16.4881**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.3900e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3676	0.3676	1.0000e-005	1.0000e-005	0.3709
Total	**1.6000e-004**	**1.1000e-004**	**1.3900e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3676**	**0.3676**	**1.0000e-005**	**1.0000e-005**	**0.3709**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1076	0.1293	2.2000e-004		4.9100e-003	4.9100e-003		4.6200e-003	4.6200e-003	0.0000	18.5479	18.5479	4.3900e-003	0.0000	18.6576
Total	**0.0118**	**0.1076**	**0.1293**	**2.2000e-004**		**4.9100e-003**	**4.9100e-003**		**4.6200e-003**	**4.6200e-003**	**0.0000**	**18.5479**	**18.5479**	**4.3900e-003**	**0.0000**	**18.6576**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	0.0107	3.6900e-003	5.0000e-005	1.8100e-003	6.0000e-005	1.8700e-003	5.2000e-004	6.0000e-005	5.8000e-004	0.0000	4.8868	4.8868	2.1000e-004	7.3000e-004	5.1100
Worker	2.9100e-003	1.9600e-003	0.0253	7.0000e-005	8.7700e-003	5.0000e-005	8.8200e-003	2.3300e-003	4.0000e-005	2.3700e-003	0.0000	6.6655	6.6655	2.0000e-004	1.9000e-004	6.7262
Total	**3.1700e-003**	**0.0126**	**0.0290**	**1.2000e-004**	**0.0106**	**1.1000e-004**	**0.0107**	**2.8500e-003**	**1.0000e-004**	**2.9500e-003**	**0.0000**	**11.5523**	**11.5523**	**4.1000e-004**	**9.2000e-004**	**11.8362**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1076	0.1293	2.2000e-004		4.9100e-003	4.9100e-003		4.6200e-003	4.6200e-003	0.0000	18.5479	18.5479	4.3900e-003	0.0000	18.6576
Total	**0.0118**	**0.1076**	**0.1293**	**2.2000e-004**		**4.9100e-003**	**4.9100e-003**		**4.6200e-003**	**4.6200e-003**	**0.0000**	**18.5479**	**18.5479**	**4.3900e-003**	**0.0000**	**18.6576**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	0.0107	3.6900e-003	5.0000e-005	1.8100e-003	6.0000e-005	1.8700e-003	5.2000e-004	6.0000e-005	5.8000e-004	0.0000	4.8868	4.8868	2.1000e-004	7.3000e-004	5.1100
Worker	2.9100e-003	1.9600e-003	0.0253	7.0000e-005	8.7700e-003	5.0000e-005	8.8200e-003	2.3300e-003	4.0000e-005	2.3700e-003	0.0000	6.6655	6.6655	2.0000e-004	1.9000e-004	6.7262
Total	**3.1700e-003**	**0.0126**	**0.0290**	**1.2000e-004**	**0.0106**	**1.1000e-004**	**0.0107**	**2.8500e-003**	**1.0000e-004**	**2.9500e-003**	**0.0000**	**11.5523**	**11.5523**	**4.1000e-004**	**9.2000e-004**	**11.8362**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1491	1.3592	1.7532	2.9400e-003		0.0575	0.0575		0.0541	0.0541	0.0000	252.7922	252.7922	0.0594	0.0000	254.2778
Total	**0.1491**	**1.3592**	**1.7532**	**2.9400e-003**		**0.0575**	**0.0575**		**0.0541**	**0.0541**	**0.0000**	**252.7922**	**252.7922**	**0.0594**	**0.0000**	**254.2778**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4300e-003	0.1436	0.0501	6.6000e-004	0.0247	8.4000e-004	0.0255	7.1300e-003	8.0000e-004	7.9300e-003	0.0000	65.3675	65.3675	2.9300e-003	9.7800e-003	68.3550
Worker	0.0371	0.0241	0.3223	9.4000e-004	0.1195	6.0000e-004	0.1201	0.0318	5.5000e-004	0.0323	0.0000	88.5705	88.5705	2.4700e-003	2.3800e-003	89.3423
Total	**0.0405**	**0.1676**	**0.3724**	**1.6000e-003**	**0.1442**	**1.4400e-003**	**0.1457**	**0.0389**	**1.3500e-003**	**0.0402**	**0.0000**	**153.9380**	**153.9380**	**5.4000e-003**	**0.0122**	**157.6973**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 Building Construction P4 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1491	1.3592	1.7532	2.9400e-003		0.0575	0.0575		0.0541	0.0541	0.0000	252.7919	252.7919	0.0594	0.0000	254.2775
Total	**0.1491**	**1.3592**	**1.7532**	**2.9400e-003**		**0.0575**	**0.0575**		**0.0541**	**0.0541**	**0.0000**	**252.7919**	**252.7919**	**0.0594**	**0.0000**	**254.2775**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4300e-003	0.1436	0.0501	6.6000e-004	0.0247	8.4000e-004	0.0255	7.1300e-003	8.0000e-004	7.9300e-003	0.0000	65.3675	65.3675	2.9300e-003	9.7800e-003	68.3550
Worker	0.0371	0.0241	0.3223	9.4000e-004	0.1195	6.0000e-004	0.1201	0.0318	5.5000e-004	0.0323	0.0000	88.5705	88.5705	2.4700e-003	2.3800e-003	89.3423
Total	**0.0405**	**0.1676**	**0.3724**	**1.6000e-003**	**0.1442**	**1.4400e-003**	**0.1457**	**0.0389**	**1.3500e-003**	**0.0402**	**0.0000**	**153.9380**	**153.9380**	**5.4000e-003**	**0.0122**	**157.6973**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Architectural Coating P4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2949					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0115	0.0181	3.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567
Total	**0.2966**	**0.0115**	**0.0181**	**3.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5567**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	4.4000e-004	5.8700e-003	2.0000e-005	2.1800e-003	1.0000e-005	2.1900e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.6132	1.6132	4.0000e-005	4.0000e-005	1.6273
Total	**6.8000e-004**	**4.4000e-004**	**5.8700e-003**	**2.0000e-005**	**2.1800e-003**	**1.0000e-005**	**2.1900e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.6132**	**1.6132**	**4.0000e-005**	**4.0000e-005**	**1.6273**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Architectural Coating P4 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2949					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0115	0.0181	3.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5567
Total	**0.2966**	**0.0115**	**0.0181**	**3.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5567**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	4.4000e-004	5.8700e-003	2.0000e-005	2.1800e-003	1.0000e-005	2.1900e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.6132	1.6132	4.0000e-005	4.0000e-005	1.6273
Total	**6.8000e-004**	**4.4000e-004**	**5.8700e-003**	**2.0000e-005**	**2.1800e-003**	**1.0000e-005**	**2.1900e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.6132**	**1.6132**	**4.0000e-005**	**4.0000e-005**	**1.6273**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Grading P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0276	0.0000	0.0276	0.0110	0.0000	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7000e-003	0.0838	0.0790	1.9000e-004		3.3900e-003	3.3900e-003		3.1200e-003	3.1200e-003	0.0000	16.3519	16.3519	5.2900e-003	0.0000	16.4841
Total	**8.7000e-003**	**0.0838**	**0.0790**	**1.9000e-004**	**0.0276**	**3.3900e-003**	**0.0310**	**0.0110**	**3.1200e-003**	**0.0141**	**0.0000**	**16.3519**	**16.3519**	**5.2900e-003**	**0.0000**	**16.4841**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.0000e-004	1.3000e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3585	0.3585	1.0000e-005	1.0000e-005	0.3616
Total	**1.5000e-004**	**1.0000e-004**	**1.3000e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3585**	**0.3585**	**1.0000e-005**	**1.0000e-005**	**0.3616**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Grading P5 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0276	0.0000	0.0276	0.0110	0.0000	0.0110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7000e-003	0.0838	0.0790	1.9000e-004		3.3900e-003	3.3900e-003		3.1200e-003	3.1200e-003	0.0000	16.3518	16.3518	5.2900e-003	0.0000	16.4841
Total	**8.7000e-003**	**0.0838**	**0.0790**	**1.9000e-004**	**0.0276**	**3.3900e-003**	**0.0310**	**0.0110**	**3.1200e-003**	**0.0141**	**0.0000**	**16.3518**	**16.3518**	**5.2900e-003**	**0.0000**	**16.4841**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.0000e-004	1.3000e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3585	0.3585	1.0000e-005	1.0000e-005	0.3616
Total	**1.5000e-004**	**1.0000e-004**	**1.3000e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3585**	**0.3585**	**1.0000e-005**	**1.0000e-005**	**0.3616**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0116	0.1060	0.1367	2.3000e-004		4.4800e-003	4.4800e-003		4.2200e-003	4.2200e-003	0.0000	19.7132	19.7132	4.6300e-003	0.0000	19.8290
Total	**0.0116**	**0.1060**	**0.1367**	**2.3000e-004**		**4.4800e-003**	**4.4800e-003**		**4.2200e-003**	**4.2200e-003**	**0.0000**	**19.7132**	**19.7132**	**4.6300e-003**	**0.0000**	**19.8290**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	0.0112	3.9100e-003	5.0000e-005	1.9300e-003	7.0000e-005	1.9900e-003	5.6000e-004	6.0000e-005	6.2000e-004	0.0000	5.0975	5.0975	2.3000e-004	7.6000e-004	5.3304
Worker	2.8900e-003	1.8800e-003	0.0251	7.0000e-005	9.3200e-003	5.0000e-005	9.3700e-003	2.4800e-003	4.0000e-005	2.5200e-003	0.0000	6.9069	6.9069	1.9000e-004	1.9000e-004	6.9671
Total	**3.1600e-003**	**0.0131**	**0.0290**	**1.2000e-004**	**0.0113**	**1.2000e-004**	**0.0114**	**3.0400e-003**	**1.0000e-004**	**3.1400e-003**	**0.0000**	**12.0044**	**12.0044**	**4.2000e-004**	**9.5000e-004**	**12.2975**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0116	0.1060	0.1367	2.3000e-004		4.4800e-003	4.4800e-003		4.2200e-003	4.2200e-003	0.0000	19.7131	19.7131	4.6300e-003	0.0000	19.8290
Total	**0.0116**	**0.1060**	**0.1367**	**2.3000e-004**		**4.4800e-003**	**4.4800e-003**		**4.2200e-003**	**4.2200e-003**	**0.0000**	**19.7131**	**19.7131**	**4.6300e-003**	**0.0000**	**19.8290**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	0.0112	3.9100e-003	5.0000e-005	1.9300e-003	7.0000e-005	1.9900e-003	5.6000e-004	6.0000e-005	6.2000e-004	0.0000	5.0975	5.0975	2.3000e-004	7.6000e-004	5.3304
Worker	2.8900e-003	1.8800e-003	0.0251	7.0000e-005	9.3200e-003	5.0000e-005	9.3700e-003	2.4800e-003	4.0000e-005	2.5200e-003	0.0000	6.9069	6.9069	1.9000e-004	1.9000e-004	6.9671
Total	**3.1600e-003**	**0.0131**	**0.0290**	**1.2000e-004**	**0.0113**	**1.2000e-004**	**0.0114**	**3.0400e-003**	**1.0000e-004**	**3.1400e-003**	**0.0000**	**12.0044**	**12.0044**	**4.2000e-004**	**9.5000e-004**	**12.2975**

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1484	1.3530	1.7452	2.9300e-003		0.0572	0.0572		0.0538	0.0538	0.0000	251.6326	251.6326	0.0592	0.0000	253.1114
Total	**0.1484**	**1.3530**	**1.7452**	**2.9300e-003**		**0.0572**	**0.0572**		**0.0538**	**0.0538**	**0.0000**	**251.6326**	**251.6326**	**0.0592**	**0.0000**	**253.1114**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3400e-003	0.1411	0.0498	6.5000e-004	0.0246	8.3000e-004	0.0254	7.0900e-003	8.0000e-004	7.8900e-003	0.0000	63.8617	63.8617	2.9900e-003	9.5500e-003	66.7825
Worker	0.0347	0.0218	0.3020	9.0000e-004	0.1190	5.7000e-004	0.1196	0.0316	5.2000e-004	0.0321	0.0000	86.0822	86.0822	2.2400e-003	2.2400e-003	86.8049
Total	**0.0381**	**0.1629**	**0.3518**	**1.5500e-003**	**0.1436**	**1.4000e-003**	**0.1450**	**0.0387**	**1.3200e-003**	**0.0400**	**0.0000**	**149.9438**	**149.9438**	**5.2300e-003**	**0.0118**	**153.5874**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Building Construction P5 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1484	1.3530	1.7452	2.9300e-003		0.0572	0.0572		0.0538	0.0538	0.0000	251.6323	251.6323	0.0592	0.0000	253.1111
Total	**0.1484**	**1.3530**	**1.7452**	**2.9300e-003**		**0.0572**	**0.0572**		**0.0538**	**0.0538**	**0.0000**	**251.6323**	**251.6323**	**0.0592**	**0.0000**	**253.1111**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3400e-003	0.1411	0.0498	6.5000e-004	0.0246	8.3000e-004	0.0254	7.0900e-003	8.0000e-004	7.8900e-003	0.0000	63.8617	63.8617	2.9900e-003	9.5500e-003	66.7825
Worker	0.0347	0.0218	0.3020	9.0000e-004	0.1190	5.7000e-004	0.1196	0.0316	5.2000e-004	0.0321	0.0000	86.0822	86.0822	2.2400e-003	2.2400e-003	86.8049
Total	**0.0381**	**0.1629**	**0.3518**	**1.5500e-003**	**0.1436**	**1.4000e-003**	**0.1450**	**0.0387**	**1.3200e-003**	**0.0400**	**0.0000**	**149.9438**	**149.9438**	**5.2300e-003**	**0.0118**	**153.5874**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Architectural Coating P5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2949					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7900e-003	0.0120	0.0190	3.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.0000	2.6809	2.6809	1.5000e-004	0.0000	2.6846
Total	**0.2967**	**0.0120**	**0.0190**	**3.0000e-005**		**5.4000e-004**	**5.4000e-004**		**5.4000e-004**	**5.4000e-004**	**0.0000**	**2.6809**	**2.6809**	**1.5000e-004**	**0.0000**	**2.6846**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.2000e-004	5.8000e-003	2.0000e-005	2.2900e-003	1.0000e-005	2.3000e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.6539	1.6539	4.0000e-005	4.0000e-005	1.6677
Total	**6.7000e-004**	**4.2000e-004**	**5.8000e-003**	**2.0000e-005**	**2.2900e-003**	**1.0000e-005**	**2.3000e-003**	**6.1000e-004**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**1.6539**	**1.6539**	**4.0000e-005**	**4.0000e-005**	**1.6677**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Architectural Coating P5 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2949					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7900e-003	0.0120	0.0190	3.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.0000	2.6809	2.6809	1.5000e-004	0.0000	2.6846
Total	**0.2967**	**0.0120**	**0.0190**	**3.0000e-005**		**5.4000e-004**	**5.4000e-004**		**5.4000e-004**	**5.4000e-004**	**0.0000**	**2.6809**	**2.6809**	**1.5000e-004**	**0.0000**	**2.6846**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.2000e-004	5.8000e-003	2.0000e-005	2.2900e-003	1.0000e-005	2.3000e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.6539	1.6539	4.0000e-005	4.0000e-005	1.6677
Total	**6.7000e-004**	**4.2000e-004**	**5.8000e-003**	**2.0000e-005**	**2.2900e-003**	**1.0000e-005**	**2.3000e-003**	**6.1000e-004**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**1.6539**	**1.6539**	**4.0000e-005**	**4.0000e-005**	**1.6677**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Grading P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0184	0.0000	0.0184	7.3100e-003	0.0000	7.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8000e-003	0.0559	0.0527	1.2000e-004		2.2600e-003	2.2600e-003		2.0800e-003	2.0800e-003	0.0000	10.9012	10.9012	3.5300e-003	0.0000	10.9894
Total	**5.8000e-003**	**0.0559**	**0.0527**	**1.2000e-004**	**0.0184**	**2.2600e-003**	**0.0207**	**7.3100e-003**	**2.0800e-003**	**9.3900e-003**	**0.0000**	**10.9012**	**10.9012**	**3.5300e-003**	**0.0000**	**10.9894**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	6.0000e-005	8.2000e-004	0.0000	3.2000e-004	0.0000	3.2000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	1.0000e-005	0.2353
Total	**9.0000e-005**	**6.0000e-005**	**8.2000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2334**	**0.2334**	**1.0000e-005**	**1.0000e-005**	**0.2353**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Grading P6 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0184	0.0000	0.0184	7.3100e-003	0.0000	7.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8000e-003	0.0559	0.0527	1.2000e-004		2.2600e-003	2.2600e-003		2.0800e-003	2.0800e-003	0.0000	10.9012	10.9012	3.5300e-003	0.0000	10.9894
Total	**5.8000e-003**	**0.0559**	**0.0527**	**1.2000e-004**	**0.0184**	**2.2600e-003**	**0.0207**	**7.3100e-003**	**2.0800e-003**	**9.3900e-003**	**0.0000**	**10.9012**	**10.9012**	**3.5300e-003**	**0.0000**	**10.9894**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	6.0000e-005	8.2000e-004	0.0000	3.2000e-004	0.0000	3.2000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	1.0000e-005	0.2353
Total	**9.0000e-005**	**6.0000e-005**	**8.2000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2334**	**0.2334**	**1.0000e-005**	**1.0000e-005**	**0.2353**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0130	0.1185	0.1528	2.6000e-004		5.0100e-003	5.0100e-003		4.7100e-003	4.7100e-003	0.0000	22.0324	22.0324	5.1800e-003	0.0000	22.1618
Total	**0.0130**	**0.1185**	**0.1528**	**2.6000e-004**		**5.0100e-003**	**5.0100e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**22.0324**	**22.0324**	**5.1800e-003**	**0.0000**	**22.1618**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	6.5400e-003	2.3100e-003	3.0000e-005	1.1400e-003	4.0000e-005	1.1800e-003	3.3000e-004	4.0000e-005	3.7000e-004	0.0000	2.9602	2.9602	1.4000e-004	4.4000e-004	3.0956
Worker	1.5900e-003	1.0000e-003	0.0138	4.0000e-005	5.4400e-003	3.0000e-005	5.4600e-003	1.4400e-003	2.0000e-005	1.4700e-003	0.0000	3.9348	3.9348	1.0000e-004	1.0000e-004	3.9679
Total	**1.7500e-003**	**7.5400e-003**	**0.0161**	**7.0000e-005**	**6.5800e-003**	**7.0000e-005**	**6.6400e-003**	**1.7700e-003**	**6.0000e-005**	**1.8400e-003**	**0.0000**	**6.8951**	**6.8951**	**2.4000e-004**	**5.4000e-004**	**7.0635**

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3.17 Building Construction P6 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0130	0.1185	0.1528	2.6000e-004		5.0100e-003	5.0100e-003		4.7100e-003	4.7100e-003	0.0000	22.0323	22.0323	5.1800e-003	0.0000	22.1618
Total	**0.0130**	**0.1185**	**0.1528**	**2.6000e-004**		**5.0100e-003**	**5.0100e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**22.0323**	**22.0323**	**5.1800e-003**	**0.0000**	**22.1618**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	6.5400e-003	2.3100e-003	3.0000e-005	1.1400e-003	4.0000e-005	1.1800e-003	3.3000e-004	4.0000e-005	3.7000e-004	0.0000	2.9602	2.9602	1.4000e-004	4.4000e-004	3.0956
Worker	1.5900e-003	1.0000e-003	0.0138	4.0000e-005	5.4400e-003	3.0000e-005	5.4600e-003	1.4400e-003	2.0000e-005	1.4700e-003	0.0000	3.9348	3.9348	1.0000e-004	1.0000e-004	3.9679
Total	**1.7500e-003**	**7.5400e-003**	**0.0161**	**7.0000e-005**	**6.5800e-003**	**7.0000e-005**	**6.6400e-003**	**1.7700e-003**	**6.0000e-005**	**1.8400e-003**	**0.0000**	**6.8951**	**6.8951**	**2.4000e-004**	**5.4000e-004**	**7.0635**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0656	0.5985	0.7721	1.2900e-003		0.0253	0.0253		0.0238	0.0238	0.0000	111.3213	111.3213	0.0262	0.0000	111.9755
Total	**0.0656**	**0.5985**	**0.7721**	**1.2900e-003**		**0.0253**	**0.0253**		**0.0238**	**0.0238**	**0.0000**	**111.3213**	**111.3213**	**0.0262**	**0.0000**	**111.9755**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.7000e-004	0.0326	0.0117	1.5000e-004	5.7600e-003	1.9000e-004	5.9500e-003	1.6600e-003	1.9000e-004	1.8500e-003	0.0000	14.6507	14.6507	7.2000e-004	2.1900e-003	15.3214
Worker	7.5400e-003	4.6000e-003	0.0660	2.0000e-004	0.0275	1.2000e-004	0.0276	7.3000e-003	1.1000e-004	7.4100e-003	0.0000	19.4467	19.4467	4.8000e-004	4.9000e-004	19.6046
Total	**8.3100e-003**	**0.0372**	**0.0777**	**3.5000e-004**	**0.0332**	**3.1000e-004**	**0.0336**	**8.9600e-003**	**3.0000e-004**	**9.2600e-003**	**0.0000**	**34.0973**	**34.0973**	**1.2000e-003**	**2.6800e-003**	**34.9260**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Building Construction P6 - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0656	0.5985	0.7721	1.2900e-003		0.0253	0.0253		0.0238	0.0238	0.0000	111.3212	111.3212	0.0262	0.0000	111.9754
Total	**0.0656**	**0.5985**	**0.7721**	**1.2900e-003**		**0.0253**	**0.0253**		**0.0238**	**0.0238**	**0.0000**	**111.3212**	**111.3212**	**0.0262**	**0.0000**	**111.9754**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.7000e-004	0.0326	0.0117	1.5000e-004	5.7600e-003	1.9000e-004	5.9500e-003	1.6600e-003	1.9000e-004	1.8500e-003	0.0000	14.6507	14.6507	7.2000e-004	2.1900e-003	15.3214
Worker	7.5400e-003	4.6000e-003	0.0660	2.0000e-004	0.0275	1.2000e-004	0.0276	7.3000e-003	1.1000e-004	7.4100e-003	0.0000	19.4467	19.4467	4.8000e-004	4.9000e-004	19.6046
Total	**8.3100e-003**	**0.0372**	**0.0777**	**3.5000e-004**	**0.0332**	**3.1000e-004**	**0.0336**	**8.9600e-003**	**3.0000e-004**	**9.2600e-003**	**0.0000**	**34.0973**	**34.0973**	**1.2000e-003**	**2.6800e-003**	**34.9260**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Architectural Coating P6 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1548					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4000e-004	6.3000e-003	9.9500e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	1.4043	1.4043	8.0000e-005	0.0000	1.4062
Total	**0.1558**	**6.3000e-003**	**9.9500e-003**	**2.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**1.4043**	**1.4043**	**8.0000e-005**	**0.0000**	**1.4062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.0000e-004	1.4900e-003	0.0000	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4394	0.4394	1.0000e-005	1.0000e-005	0.4429
Total	**1.7000e-004**	**1.0000e-004**	**1.4900e-003**	**0.0000**	**6.2000e-004**	**0.0000**	**6.2000e-004**	**1.6000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.4394**	**0.4394**	**1.0000e-005**	**1.0000e-005**	**0.4429**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Architectural Coating P6 - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1548					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4000e-004	6.3000e-003	9.9500e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	1.4043	1.4043	8.0000e-005	0.0000	1.4062
Total	**0.1558**	**6.3000e-003**	**9.9500e-003**	**2.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**1.4043**	**1.4043**	**8.0000e-005**	**0.0000**	**1.4062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.0000e-004	1.4900e-003	0.0000	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4394	0.4394	1.0000e-005	1.0000e-005	0.4429
Total	**1.7000e-004**	**1.0000e-004**	**1.4900e-003**	**0.0000**	**6.2000e-004**	**0.0000**	**6.2000e-004**	**1.6000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.4394**	**0.4394**	**1.0000e-005**	**1.0000e-005**	**0.4429**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.1238	2.0958	18.4622	0.0360	4.6205	0.0262	4.6467	1.2333	0.0244	1.2577	0.0000	3,512.2496	3,512.2496	0.2497	0.1698	3,569.1007
Unmitigated	2.1238	2.0958	18.4622	0.0360	4.6205	0.0262	4.6467	1.2333	0.0244	1.2577	0.0000	3,512.2496	3,512.2496	0.2497	0.1698	3,569.1007

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,412.76	1,571.02	1212.04	3,133,665	3,133,665
Apartments Mid Rise	734.40	662.85	552.15	2,193,090	2,193,090
City Park	5.28	13.27	14.83	16,621	16,621
Single Family Housing	4,030.88	4,073.58	3650.85	6,929,562	6,929,562
Total	6,183.32	6,320.72	5,429.87	12,272,938	12,272,938

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	6.12	7.30	7.50	100.00	0.00	0.00	100	0	0
Apartments Mid Rise	8.63	7.30	7.50	100.00	0.00	0.00	100	0	0
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	4.78	7.30	7.50	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.570667	0.059093	0.166777	0.117104	0.024699	0.007310	0.013440	0.006292	0.000648	0.000382	0.027795	0.000615	0.005178
Apartments Mid Rise	0.570667	0.059093	0.166777	0.117104	0.024699	0.007310	0.013440	0.006292	0.000648	0.000382	0.027795	0.000615	0.005178
City Park	0.570667	0.059093	0.166777	0.117104	0.024699	0.007310	0.013440	0.006292	0.000648	0.000382	0.027795	0.000615	0.005178
Single Family Housing	0.570667	0.059093	0.166777	0.117104	0.024699	0.007310	0.013440	0.006292	0.000648	0.000382	0.027795	0.000615	0.005178

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	54.2156	54.2156	4.5800e-003	5.5000e-004	54.4953
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	821.4486	821.4486	0.0693	8.4000e-003	825.6863
NaturalGas Mitigated	0.0761	0.6500	0.2766	4.1500e-003		0.0526	0.0526		0.0526	0.0526	0.0000	752.7729	752.7729	0.0144	0.0138	757.2463
NaturalGas Unmitigated	0.0761	0.6500	0.2766	4.1500e-003		0.0526	0.0526		0.0526	0.0526	0.0000	752.7729	752.7729	0.0144	0.0138	757.2463

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	2.39689e+006	0.0129	0.1105	0.0470	7.0000e-004		8.9300e-003	8.9300e-003		8.9300e-003	8.9300e-003	0.0000	127.9074	127.9074	2.4500e-003	2.3400e-003	128.6675
Apartments Mid Rise	1.5052e+006	8.1200e-003	0.0694	0.0295	4.4000e-004		5.6100e-003	5.6100e-003		5.6100e-003	5.6100e-003	0.0000	80.3231	80.3231	1.5400e-003	1.4700e-003	80.8005
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.02043e+007	0.0550	0.4702	0.2001	3.0000e-003		0.0380	0.0380		0.0380	0.0380	0.0000	544.5424	544.5424	0.0104	9.9800e-003	547.7784
Total		**0.0761**	**0.6500**	**0.2766**	**4.1400e-003**		**0.0526**	**0.0526**		**0.0526**	**0.0526**	**0.0000**	**752.7729**	**752.7729**	**0.0144**	**0.0138**	**757.2463**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	2.39689e+006	0.0129	0.1105	0.0470	7.0000e-004		8.9300e-003	8.9300e-003		8.9300e-003	8.9300e-003	0.0000	127.9074	127.9074	2.4500e-003	2.3400e-003	128.6675
Apartments Mid Rise	1.5052e+006	8.1200e-003	0.0694	0.0295	4.4000e-004		5.6100e-003	5.6100e-003		5.6100e-003	5.6100e-003	0.0000	80.3231	80.3231	1.5400e-003	1.4700e-003	80.8005
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.02043e+007	0.0550	0.4702	0.2001	3.0000e-003		0.0380	0.0380		0.0380	0.0380	0.0000	544.5424	544.5424	0.0104	9.9800e-003	547.7784
Total		**0.0761**	**0.6500**	**0.2766**	**4.1400e-003**		**0.0526**	**0.0526**		**0.0526**	**0.0526**	**0.0000**	**752.7729**	**752.7729**	**0.0144**	**0.0138**	**757.2463**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	776018	137.6234	0.0116	1.4100e-003	138.3334
Apartments Mid Rise	517567	91.7882	7.7500e-003	9.4000e-004	92.2617
City Park	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	3.33832e+006	592.0370	0.0500	6.0600e-003	595.0912
Total		**821.4486**	**0.0693**	**8.4100e-003**	**825.6863**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	51217.2	9.0831	7.7000e-004	9.0000e-005	9.1300
Apartments Mid Rise	34159.4	6.0580	5.1000e-004	6.0000e-005	6.0893
City Park	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	220329	39.0744	3.3000e-003	4.0000e-004	39.2760
Total		**54.2156**	**4.5800e-003**	**5.5000e-004**	**54.4953**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.0103	0.0645	5.5912	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1574	9.1574	8.7200e-003	0.0000	9.3755
Unmitigated	5.0103	0.0645	5.5912	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1574	9.1574	8.7200e-003	0.0000	9.3755

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5575					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.2855					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1672	0.0645	5.5912	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1574	9.1574	8.7200e-003	0.0000	9.3755
Total	**5.0103**	**0.0645**	**5.5912**	**3.0000e-004**		**0.0311**	**0.0311**		**0.0311**	**0.0311**	**0.0000**	**9.1574**	**9.1574**	**8.7200e-003**	**0.0000**	**9.3755**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5575					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.2855					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1672	0.0645	5.5912	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	9.1574	9.1574	8.7200e-003	0.0000	9.3755
Total	**5.0103**	**0.0645**	**5.5912**	**3.0000e-004**		**0.0311**	**0.0311**		**0.0311**	**0.0311**	**0.0000**	**9.1574**	**9.1574**	**8.7200e-003**	**0.0000**	**9.3755**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	180.3558	1.2965	0.0320	222.3027
Unmitigated	206.1956	1.6190	0.0398	258.5300

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	12.5747 / 7.92755	48.6469	0.4135	0.0101	62.0041
Apartments Mid Rise	8.79579 / 5.54517	34.0276	0.2893	7.0900e-003	43.3707
City Park	0 / 8.06633	15.8932	1.3400e-003	1.6000e-004	15.9752
Single Family Housing	27.8208 / 17.5392	107.6280	0.9149	0.0224	137.1800
Total		**206.1957**	**1.6190**	**0.0398**	**258.5300**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.0598 / 7.92755	42.0414	0.3311	8.1400e-003	52.7433
Apartments Mid Rise	7.03663 / 5.54517	29.4072	0.2316	5.6900e-003	36.8930
City Park	0 / 8.06633	15.8932	1.3400e-003	1.6000e-004	15.9752
Single Family Housing	22.2566 / 17.5392	93.0139	0.7325	0.0180	116.6912
Total		**180.3558**	**1.2965**	**0.0320**	**222.3027**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	139.5218	8.2455	0.0000	345.6593
Unmitigated	139.5218	8.2455	0.0000	345.6593

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	88.78	18.0215	1.0650	0.0000	44.6476
Apartments Mid Rise	62.1	12.6057	0.7450	0.0000	31.2302
City Park	0.58	0.1177	6.9600e-003	0.0000	0.2917
Single Family Housing	535.87	108.7768	6.4285	0.0000	269.4898
Total		**139.5218**	**8.2455**	**0.0000**	**345.6593**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	88.78	18.0215	1.0650	0.0000	44.6476
Apartments Mid Rise	62.1	12.6057	0.7450	0.0000	31.2302
City Park	0.58	0.1177	6.9600e-003	0.0000	0.2917
Single Family Housing	535.87	108.7768	6.4285	0.0000	269.4898
Total		**139.5218**	**8.2455**	**0.0000**	**345.6593**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Hitch Ranch Specific Plan - GHG Emissions - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number

11.0 Vegetation

APPENDIX 3.8

Hazards and Hazardous Materials

amicus



PHASE I ENVIRONMENTAL SITE ASSESSMENT

Hitch Ranch Project Property
Poindexter Avenue at Gabbert Road, Moore Park, California

PREPARED FOR:

Comstock Homes
2301 Rosecrans Avenue
El Segundo, CA 90245

PREPARED BY:

Amicus – Strategic Environmental Consulting
580 Second Street
Suite 260
Oakland, CA 94607

December 13, 2017

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1 SUMMARY

Amicus – Strategic Environmental Consulting (Amicus) was retained by Comstock Homes (Comstock) to conduct a Phase I Environmental Site Assessment (ESA) of the approximately 285-acre project property located in Moorpark, California (Figure 1). The property is being evaluated in association with a contemplated acquisition and residential development project.

The ESA was conducted in accordance with the EPA All Appropriate Inquiry (AAI) Final Rule (40 CFR, Part 312, § 312.10) and the ASTM International E 1527-13 Standard Practice for Environmental Site Assessments. As defined by AAI and ASTM, the purpose of a Phase I ESA is the discovery of Recognized Environmental Conditions (REC), facts indicative of a release or potential release of hazardous substances or petroleum products. In accordance with the AAI/ASTM protocol, Amicus staff obtained historic use-related documentation, inspected the property on foot, and interviewed available relevant parties for the purposes of evaluating environmental conditions and the potential for REC.

The project property is located about an hour northwest of Los Angeles east of the coastal community of Ventura in the City of Moorpark. The property is in an undeveloped state. Signs of prior occupation exist in the form of foundation slabs, fences and water production, conveyance and storage features. Nearby land is developed for single-family residential and light industrial/commercial uses in neighborhoods mostly east and south of the project property.

A small corral with stables was located on the property in 2017 with permission by the owner. The ranch runs cows within the fenceline of the project property. A water storage tank, watering trough and water well are present in the southwestern portion of the primary project parcel. Two several hundred gallon capacity manifolded poly tanks are present near the former hog husbandry buildings in the central property interior. A large steel water tank (no longer in use) remains in the northeastern portion of the primary assemblage.

Prior ESA were conducted in 1998 and 2006. The 1998 ESA recommended removal of observed dumped debris and the sampling and analysis of property soil to determine the presence/magnitude of residual pesticides and herbicides. The testing was conducted in 2006 by Applied Environmental Technologies, Inc. (AET) and while residual concentrations were measured in collected samples they were not of a magnitude that warranted concern of further testing.

Amicus observed no indication of a REC or an activity likely to cause a REC during the property inspection. No use or feature indicative of a current REC was noted in the review of environmental databases or historic project documentation. No additional evaluation is recommended. Amicus concurs with the AET recommendation for vigilance during grading and utility work, for as even though no REC was identified, underground features may be present and may be encountered during earth-disturbing activity.

2 INTRODUCTION

Amicus – Strategic Environmental Consulting (Amicus) was retained by Comstock Homes (Comstock) to conduct a Phase I Environmental Site Assessment (ESA) of an approximately 285-acre project property located in Moorpark, California (Figure 1). The land is presently vacant and undeveloped. The property is being evaluated in association with a contemplated acquisition and residential development project.

This ESA was conducted for the purposes of evaluating the environmental condition of the property in association with the contemplated transaction. The ESA was conducted in accordance with the EPA All Appropriate Inquiry (AAI) Final Rule (40 CFR, Part 312, § 312.10) and the ASTM International (formerly the American Society for Testing and Materials) E 1527-05 and updated/revised E 1527-13 Standard Practice for Environmental Site Assessments: Phase I ESA Process.

2.1 Purpose

The objective of this ESA is the identification of property environmental conditions for transactional purposes. Current standards of professional practice require Environmental Site Assessments to be conducted in accordance with AAI and the ASTM Standard E 1527-13 (which is fashioned after and follows AAI). As described by the ASTM standard, the objective of this ESA is to identify, to the extent practicable, "Recognized Environmental Conditions."

A Recognized Environmental Condition (REC) is defined by ASTM as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water on the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimus conditions that generally do not pose a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."

2.2 Detailed Scope of Services

The scope of services for this ESA follows the ASTM Standard and includes the following activities:

Review of User-Provided Information – As deemed necessary for the analysis of property conditions, review of User-provided information regarding title and judicial records for environmental liens or activity and use limitations, actual or specialized knowledge or commonly known information regarding environmental conditions, readily available maps, environmental reports, and other environmental documents pertaining to the site, as available.

Records Review – Acquisition and review of records possibly including but not limited to federal, state, tribal, and local regulatory agency databases for the site and for properties located within a specified radius of the site; local regulatory agency files for the site and selected nearby properties of potential environmental concern; physical setting sources including topographic maps, geologic maps, and geologic and hydrogeologic reference documents; and historic land use information including aerial photographs, historical fire insurance rate maps, building department records, and city directories, as needed; that are reasonably ascertainable, publicly available, can be obtained within reasonable time and cost, and are practically reviewable.

Site Reconnaissance – A physical inspection to observe the Property and its condition.

Interviews – Interviews or review of records of interviews with site representatives including as necessary owners, occupants, and site managers regarding current and historic property use and condition.

Report – Compilation and presentation in this report of the methods and findings associated with the above-described tasks.

2.3 Significant Assumptions

The legal boundaries of the subject property are assumed to be as described in the materials provided to Amicus by Comstock. Amicus has performed no independent verification of the property boundaries and assumes that the boundaries described are accurate.

2.4 Limitations and Exemptions

The environmental services described in this report have been conducted in general accordance with the ASTM standard and the standard-of-care exercised by environmental professionals performing similar work. This document is intended to be used only in its entirety. The findings, conclusions, and recommendations expressed herein are based on an analysis of the observed site conditions and the referenced research and literature at the time the ESA was conducted.

2.5 Reliance

This report was prepared for use solely and exclusively by Comstock and parties to the currently contemplated transaction. No other use or disclosure is intended or authorized by Amicus. In the preparation of this ESA, Amicus has used the degree of care and skill ordinarily exercised by a reasonably prudent environmental professional in the same community and in the same time frame given the same or similar facts and circumstances. No other warranties are made to any third party, either express or implied.

2.6 Special Terms and Conditions

There are no special terms and conditions associated with this Phase I ESA.

3 SITE DESCRIPTION

3.1 Location

The project property is approximately 285 acres of land in eight parcels located on Poindexter Avenue in the City of Moorpark, in Ventura County, California.

Seven of the eight parcels together comprise the primary project assemblage; the eighth parcel is across and separated from the primary assemblage by Gabbert Road.

3.2 Environmental Setting

The project property is located about an hour northwest of Los Angeles east of the coastal community of Ventura in the City of Moorpark. Moorpark is a small city in a semi-rural setting about 15 miles east of the more densely developed Ventura and its surrounding cities and about 5 miles west of Simi Valley, also more densely developed.

Moorpark is situated in the rolling hills of the western Transverse Mountain Range. Property elevations range from approximately 475 feet above mean sea level (msl) in its southern portion near Poindexter Avenue to 720 feet near the northern property boundary. According to the 2006 ESA by Advanced Environmental Technologies, Inc. (AET), groundwater is encountered in unconsolidated sediments at approximately 10 feet below ground surface near the Arroyo Simi in the southern portion of the site and at depths greater than 100 feet in the higher elevations of the northern portion of the property. Seasonally wet arroyos and washes flow south to the concrete-lined drainage channel near the southern property line.

The Transverse Range is seismically active, with the Simi Fault mapped near the Los Osos Hills about three miles south of the project property (Treiman, 1998). A detailed examination of earthquakes and active faults is outside the scope of this ESA.

3.3 Site and Vicinity Characteristics

The property is in an undeveloped state. Signs of prior occupation exist in the form of foundation slabs, fences and water production, conveyance and storage features. Nearby land is developed primarily for single-family residential uses to the east and west. Residential neighborhoods and light industrial and commercial development is present south of Poindexter Avenue fronting on Poindexter north of East Los Angeles Avenue (Highway 23) further south.

3.4 Current Use of Property and Adjoining Property

The property is undeveloped though as described in this ESA was historically used by agricultural and livestock businesses for growing crops (primarily in orchards) and raising animals (hogs and cows). The southern property boundary extends for an approximate mile in an east-west direction north of Poindexter Avenue, a Southern Pacific railroad right

of way and a concrete storm water channel. Land immediately south of Poindexter Avenue from the project property is developed as a light industrial park to the west and a residential neighborhood to the east. Walnut Canyon Elementary School abuts the southeastern property line; single family residential parcels and undeveloped land adjoin the northeastern and western property boundaries. Land to the north is in an undeveloped state.

3.5 Description of Structures, Roads, Other Improvements

The property no longer contains permanent structural improvements for human or animal occupation. Those structures associated with prior agricultural and human habitation have been removed. A small corral with stables was located on the property in 2017 with permission by the owner. The ranch runs cows within the fenceline of the project property. A water storage tank and watering trough are present in the southwestern portion of the primary project parcel. Two several hundred gallon capacity manifolded poly tanks are present near the former hog husbandry buildings in the central property interior. One of the tanks is marked "Chlorine" and both contained liquid and were in good condition at the time of site reconnaissance. A large steel water tank (no longer in use) remains in the northeastern portion of the primary assemblage.

4 USER PROVIDED INFORMATION

The User is defined by ASTM E 1527-13 as "the party seeking to use Practice E 1527 to complete an environmental site assessment of the property." Here, the Comstock is the User.

4.1 User Supplied Reports

Comstock provided a Preliminary Title Report (PTR) dated June 13, 2016, a previously completed ESA and the 2012 Draft Hitch Ranch Specific Plan.

4.2 Environmental Liens or Activity and Use Limitations

No lien, use or activity limitation associated with an environmental impediment or concern that would qualify as a REC was reported to Amicus by Comstock or identified in the documentary record reviewed for this ESA.

4.3 Specialized Knowledge or Experience of the User

The User purchases and develops property and in association with this work has dealt with acquisition-related environmental conditions in the past. The User is knowledgeable of environmental conditions associated with properties such as the subject site, but had nothing material to add to this ESA.

4.4 Commonly Known or Reasonably Ascertainable Information

The User is not aware of any commonly known or reasonably ascertainable information within the local community that is material to RECs in connection with the property.

4.5 Valuation Reduction for Environmental Issues

The User reported no reduction in property valuation in association with environmental issues or REC.

4.6 Owner, Property Manager and Occupant Information

As listed in the PTR (Appendix A), title to the property is vested in:

Kimberley Jeanne Milligan, Trustee of the Kimberley J. Milligan Trust dated May 16, 1995 (as to an undivided 12.5% interest);

John R. Milligan, Trustee of the John R. Milligan Trust dated December 11, 1998 (as to an undivided 12.5% interest);

Lucy Milligan Wahl and Claire Catherine Milligan, as successor Co-Trustee of the MCM Trust II dated December 14, 1990 (as to an undivided 12.5% interest);

Julia Summers and Jim Summers, Co-Trustees of the Julia Summers 2013 Trust dated August 29,
2013 (as to an undivided 12.5% interest);

Carolyn Howarth, as Trustee of the Wesley J. Pomatto Trust Two, created January 2, 2012 (as to an undivided 6.25% interest);

Carolyn Howarth, as Trustee of the John J. Pomatto Trust Two, created January 2, 2012 (as to an undivided 6.25% interest);

The Richard H. Jones Ltd. Partnership, a Colorado Limited Partnership (as to an undivided 12.5% interest);

Susan C. Bavo, as Trustee of the Susan C. Bavo Trust, dated October 26, 1993 (as to an undivided 6.25% interest);

Palmyre L. Bavo, as Trustee of the Palmyre L. Bavo Trust dated September 10, 2001 (as to an undivided 9.375% interest) and

Nicole K. Bavo, as Trustee of the Nicole K. Bavo Trust dated September 7, 2001 (as to an undivided 9.375% interest)

The PTR provided by Comstock describes seven of the eight parcels shown on the APN map in the Specific Plan. It is noted that the PTR parcel numbers are slightly different than those shown in the Specific Plan. The PTR lists the following parcels and APN and shows the primary assemblage east of Gabbert Road:

"Parcel 1" – APN 511-0-020-170
"Parcel 2" – APN 511-0-020-110, 130, 160, 180
"Parcel 3" – APN 511-0-020-195
"Parcel 4" – APN 511-0-200-245

4.7 Reason for Performing This Assessment

This ESA was conducted for the purposes of identifying the presence of petroleum products, hazardous substances, and other site characteristics satisfying the ASTM/AAI definition of Recognized Environmental Condition (REC).

5 RECORDS REVIEW

As required by the ASTM standard, "the purpose of the records review is to obtain and review records that will help identify RECs in connection with the property." ASTM requires certain records be obtained and reviewed for the subject property and for properties within established distances from the subject site. ASTM requires review of what they describe as "Standard Source Information" as well as Additional Environmental Record Sources if, in the opinion of the Environmental Professional, an inspection of these records is necessary to enhance and supplement the Standard Sources.

5.1 Standard Environmental Record Sources

An environmental database was ordered from Environmental Data Resources (EDR), a regulatory agency database consolidator and provider. The December 7, 2017 EDR Radius Report presents a summary of sources required for review by the ASTM standard.

The sources of EDR Radius Report information are selected such that known environmental cases are identified (current or historic spill or release sites) and that an inventory is made of occupational uses capable of causing negative environmental conditions on the subject property or those within a defined radius of interest. A listing of the databases searched by EDR is presented in the EDR Radius Report (Appendix B).

The Radius Report shows 30 cases within a one-mile radius of the project property. Neither the property itself nor any neighboring property was shown by EDR to be listed as an environmental case. None of the mapped cases are in a location that would likely compromise the project parcel. The EDR Radius report therefore shows no recent or historic condition on the subject parcel or on neighboring parcels that would obviously compromise the environmental quality of the subject site or qualify as a REC.

5.2 Additional Environmental Record Sources

Preliminary Title Report

As noted above, Amicus was provided a PTR dated June 13, 2016 (Appendix A). The PTR describes a number of easements, none of which are for uses that would obviously affect property environmental condition or constitute a REC. No encumbrance for an environmental responsibility is noted. Several notices of non-compliance with County well ordinances are noted; these are not REC.

There was no indication in the PTR of any current or historic use on or adjacent to the project property indicative of REC.

State of California Regulatory Agency Databases

Amicus accessed and reviewed case files available on the State of California Geotracker (lists primarily Regional Water Quality Control Board and local agency environmental cases) and Envirostor (lists cases administered by the California Department of Toxic Substances Control) environmental project on-line databases.

There was no listing for the project property or neighboring properties on either Geotracker or Envirostor.

Division of Oil, Gas & Geothermal Resources – Well Finder

The California Department of Conservation, Division of Oil, Gas & Geothermal Resources (DOGGR) hosts an interactive web page showing the location of recorded oil and gas wells. The DOGGR well finder showed numerous wells in Ventura County but none on or immediately proximal to the project property.

Prior Environmental Site Assessments

Environmental Conditions

Comstock provided Amicus with a prior ESA, an ESA Addendum and an ESA Update. The February 13, 1998 ESA was prepared by Gradient Engineers for Impact Sciences as was the February 14, 2000 ESA Addendum. The ESA Addendum addresses ESA-related questions posed by City of Moorpark Community Development Department staff. The relationship between Impact Sciences and the City is not described in the project documents, though it appears as if the ESA was conducted in association with development planning. The October 16, 2006 ESA Update by AET was also prepared for Impact Sciences.

The 1998 ESA described historic property uses as agricultural (apricot orchard from the 1930s to 1948, a lemon orchard and wheat farming from 1948 to the 1970s), livestock husbandry (pig and cow) and horse training. The ESA reported site structural development at the time of Gradient inspection as limited to one single family residence along Poindexter Avenue and several structures associated with apricot processing in the central area of the property. Gradient documented the presence of debris in the vicinity of the agricultural

buildings and small quantities of dumped debris in discrete areas of the property. A number of small above-ground storage tanks (AST) were also noted. Gradient recommended the removal of the debris, the examination of the AST areas for obvious contamination, and the testing of property soil for the presence of agricultural chemicals (pesticides). The 2002 ESA update provided additional information on neighboring properties and the potential for activities on these properties to create an environmental condition on the subject parcel; no possibility was found to exist.

The 2006 ESA Update by AET reviewed the prior reports and documented changes in site use and condition in the period since the prior evaluation by Gradient. AET reported that the structures documented by Gradient were no longer present, and that the only observed structural improvement was a large steel above-ground water tank in the northeastern portion of the property. AET reported that the debris documented by Gradient was no longer present

AET conducted focused physical soil testing, collecting 15 shallow samples from a grid established within the area of the property historically occupied by orchards and directing these samples to the project laboratory for pesticide analysis (as recommended by Gradient in their 1998 ESA). Results of analysis showed traces of pesticide residue in all samples collected, though only a single sample contained a concentration that exceeded established screening levels for DDT and DDE. This sample (HA-15) was collected "from the flat southern portion of the site." AET noted that the sample was collected from an area not planned for residential development and that no additional evaluation for pesticides or any other potential issue appeared warranted. AET recommended vigilance during pre-construction grading, as remnant conditions or water wells may be encountered.

Water Wells

At the time of the site inspection for the 2006 ESA, AET reported the presence of three water wells (one of the three was said to be operational) located near and along the southern property boundary. In their ESA update, AET described their research of the Ventura County Water Resources Department (VCWRD) and their subsequent field inspection. AET reported the following:

AET contacted the VCWRD for information concerning the reported water wells located on the Site. Ms. Barbara Council of the VCWRD provided AET with a Table listing 16 wells identified by State Well Numbers and several aerial photo graphs showing the approximately location of the 16 water wells suspected of being on the Site. The Table also shows the Status and Revised Status of the wells. Six of the 16 wells are listed as "destroyed" (meaning properly removed and plugged), two wells are listed as "Non -Compliant Abandoned" (abandoned in this case means the well is not in use but is not yet destroyed), one well is listed as active, and seven wells are listed as "Can't Locate Indeterminable". According to Ms. Council, their records indicate that some of wells permitted on the Site were drilled but

were not cased (possibly because they were dry or low yielding); therefore, there is no well at that location that requires destruction. Most, if not all, of the indeterminable wells may have been un-cased core holes.

And,

During AET's Site visit, three wells were located: Well 5K1 (non-compliant) was observed with a pump located north of Poindexter Avenue on the flat land south east of the former residence; Well 5K2 (non-compliant) was observed on a concrete pad without a pump in bushes on the east side of the entrance road approximately 50 feet south of the gate; and "'Well 5F2 (active) was observed with a pump and electric panel at the location of Well 5F1 on the photograph (Plate 2). The well is located in trees approximately 200 feet east of the southeast corner of the rural residential neighborhood northwest of the Site.

Plate 2 from the AET report is modified and presented as Figure 3 of this ESA.

5.3 Historical Use Information for the Property

Historic use information for the project property was obtained through a review of aerial photographs and topographic maps ordered from EDR. These records are presented in Appendix B. No other records were deemed necessary for the purposes of determining the nature of historic occupation and use.

Sanborn Maps

From 1867 to 2007 the Sanborn Map Company created maps for assessing fire insurance liability. Map coverage was primarily provided primarily in urbanized areas, though in some instances Sanborn Maps were prepared for properties in rural settings. Sanborn Maps document features that would be of interest to insurance underwriters. Many of these features (such as the location of fuel storage tanks) are also of interest to environmental assessors.

Sanborn coverage has not been published for the project parcel or surrounding area.

Aerial Photographic Record

An aerial photographic record was ordered from EDR. The record included photographs made at roughly five to 10-year intervals beginning in 1938. The photographs are of generally good quality. It should be noted that the red property outline shown on the photographs is in an approximate, not precise, location.

The most recent aerial photographs provided by EDR were made in 2010 and 2012. These photographs depict the property in a condition similar to what is observed today, with the exception of the small ranching operation that moved onto the property in 2017.

The 1938 photograph depicts the property in its historic agricultural use. Orchards are visible in the eastern, central and southern areas of the property. The western remainder of the property does not contain orchards or crops, though may have been utilized for grazing. The land now occupied by the Walnut Canyon Elementary School appears as a contiguous part of the project parcel and is occupied by the orchard and what appears to be a residential structure. What appears to be a residential structure is also present on the hill just east of the main property entrance (the southern entrance in 1938 is in the same location as the Poindexter entrance today). A structure several hundred feet north of the southern entrance is observed adjacent to the orchard. This structure may have been associated with the agricultural operation (a barn). Land to the south across Poindexter is developed as an orchard similar to that observed on the project property.

The 1947 photograph is similar to 1938, with the exception of the appearance of structures in the center of the property in the locations of foundation slabs observed today. These structures are identified in the 1998 Gradient ESA as being historically used for apricot pitting, drying and storage. The large water tank in the northeast is first observed in this photograph.

The 1952 photo is similar to the 1947 photograph with the exception of the addition of buildings in the area described by prior assessors as used for hog husbandry. The 1959 photograph clearly shows these buildings; the barn near the southern entrance no longer appears to be present. Much of the land occupied by orchards has been cleared, as has the land now occupied by the substation across the railroad tracks from the western parcel west of Gabbert.

The 1969 photograph shows only the eastern portion of the property as in an orchard. The remainder of the property is cleared of crops; the hog and apricot-related buildings in the central area of the property remain. Electricity transmission towers and the substation are first observed in this photograph. Land to the south has been cleared and the community south of the eastern project property redeveloped for residential purposes. The western area is cleared but not yet redeveloped. The development of the residential lots along the northwestern property boundary is apparent. The 1978 photograph is similar to 1969 with the exception of the addition of structures and a cleared area (possible livestock enclosure) northeast of the apricot buildings in an area where slabs are observed today.

The project property configuration and use observed in the 1985 photograph is similar to that seen in 1979; the land south of the western project property is in the process of being redeveloped as the light industrial/commercial use observed today and the elementary school is present off-site to the east. The structures northeast of the apricot buildings are gone; the residential structure in the southeast is either gone or in a state of deterioration. This structure is no longer present in the 1994 photograph. The apricot and hog buildings also no longer appear to be present.

The residential structure near the southern gate is no longer present by 2005. The remainder of the property and the surrounding communities are developed in a manner substantially similar to what is observed today.

Topographic Maps

The United States Geological Survey (USGS) topographical map record as provided by EDR was reviewed. The earliest maps (1903 30-minute Camulos Quadrangle and 15-minute Piru Quadrangle) show the subject property as undeveloped. The Southern Pacific railroad corridor is present on both maps, though Poindexter Avenue is not apparent. The 1941 and 1944 Piru Quadrangle maps are similar in configuration, though the 1941 map includes symbols for orchards, with orchards occupying the subject property and surrounding parcels in a manner similar to that observed in the aerial photographic record.

The 1951, 1969 and 1971 Moorpark Quadrangle maps depict dirt roads and structures on the project property in locations similar to the features observed in the aerial record. The 2012 map shows project and surrounding land in a configuration similar to what is observed today.

No use or feature likely to have caused a REC on the project parcel or nearby land was observed in the aerial or topographic map record.

5.4 Historical Use Information for Adjoining Properties

Review of the photographs and maps as described above documents the gradual development of Moorpark from its agricultural roots to the mixed-use community observed today.

No adjoining-property use or feature indicative of an environmental concern or REC for the subject property was observed on the aerial photographs or topographic maps.

6 SITE RECONNAISSANCE

6.1 Methodology and Limiting Conditions

The purpose of the reconnaissance was the visual identification and photo documentation of site features, particularly those features indicative of a recent or historic use that may have resulted in an environmental impairment or REC. The property was visited by Markus Niebanck on Saturday December 9, 2017. Access was made by way of a locked gate off of Casey Road near the southeastern corner of the project property.

6.2 General Setting and Land Use

As described above, the project property is situated north of the developed downtown of the City of Moorpark. The property is not structurally developed and is being presently used for cattle grazing. A small corral is present in the south-central portion of the property north of the Poindexter gate. Land to the north is undeveloped; the eastern and

western sides of the property are occupied primarily by single family residential lots. Walnut Canyon Elementary School is located near the southeastern corner of the project property.

6.3 Subject Property – Features, Structures and Other Improvements

The site was observed from the dirt tracks and on foot. The parcel west of Gabbert Road was accessed on foot over the locked gate. Two ranch hands patrolled the property at the time of the site reconnaissance. Photographs of the property and its relevant features are provided as an attachment to this report.

Ungraded dirt tracks crisscross the property providing access to most areas of the site. Structural features on the project parcels include the small stable and corral in the south-central area, the watering trough, tank and dilapidated shed in the southwestern area, and the large above-ground water tank in the northeastern area of the property. A number of water wells associated with the historic agricultural use were reported to be present in the prior ESA but not inspected during this reconnaissance. Numerous valve boxes for the historic orchard irrigation system are present in concrete enclosures distributed about the site. Foundation slabs of historic agricultural buildings were observed in the north central portion of the property. A limited amount of debris was observed near the larger slabs on the flat just northwest and above the small corral and near the Casey gate; no drums or tanks or debris that would likely affect the environmental condition of the property was observed. The corral in the central portion of the property was constructed recently and is well kept and in good condition.

No structures or signs of structural improvement were observed on the western parcel. High-tension electricity transmission lines run along the western and northern edges of the western parcel; a sub-station is located across the railroad tracks to the south.

The property has varied topography, generally rising south to north with intervening small valleys and flats. Some slope breaks are gradual; most are fairly steep. Trees grow in places, most often in lower elevations near areas of seasonal water. Site vegetation is primarily scrub and tumbleweeds.

The most recent prior ESA did not identify a feature use or condition that had obviously caused or could potentially cause a REC. No indication of a current or recent practice or activity that could cause a REC was observed in the property interior during this site inspection. The boundaries of the property were inspected from the interior tracks during the reconnaissance for signs of dumping or trespass that could cause a REC. None was observed.

6.4 Description of Adjoining Property

The project parcels are bordered to the south by a concrete-lined drainage channel, then the railroad right-of-way, then Poindexter Avenue. From west to east parcels across Poindexter to the south are occupied by a power substation (on the west side of Gabbert), a light industrial/office park, and a residential neighborhood. Land west of Gabbert adjoining the northwestern property boundary of the main parcels is developed as single family residential lots. To the east the property is bordered by the elementary school, two individual residential lots, and open space. The land to the immediate north is undeveloped. No feature or activity that is likely to result in environmental impact to the project property was observed on any of the adjacent parcels.

7 INTERVIEWS

The 1998 Gradient ESA discussed several interviews conducted during their evaluation. The AET ESA Update did not include interviews. The Gradient interviews and the email questions and answers generated for this ESA are discussed below.

7.1 Interviews with Owner's Representative

The property owner completed a site assessment questionnaire for Gradient in 1998. Amicus reviewed this questionnaire and found it sufficiently thorough. A. A. Milligan, the property owner in 1998, knew of no use, feature or activity that may have detrimentally affected the environmental quality of the project parcel.

7.2 Interview with Site Manager

No site manager was interviewed for the prior or current ESA.

7.3 Interview with Occupants

Ranch hands were encountered during the site reconnaissance but due to the recent nature of their operation possessed no information regarding the use of the property in the years since the AET ESA.

7.4 Interview with Local Government Officials

Gradient interviewed several local government representatives during the conduct of their ESA. No REC was identified during these interviews. No condition was observed by Amicus during this ESA that warranted verification with a local agency. No file research other than that conducted using the on-line governmental resources described earlier in this ESA was deemed necessary at this time.

7.5 Interview with Others

Comstock introduced Amicus to Dennis Hardgrave of Development Planning Services, Inc. Mr. Hardgrave has been affiliated with the project property since approximately 1990 and knows of no activity or incident that may have affected site environmental quality in the period since the completion of the AET ESA in 2006.

8 ADDITIONAL SERVICES/NON-SCOPE CONSIDERATIONS/SPECIAL CONTRACT PROVISIONS

No additional services were requested or supplied; no non-scope items were considered. There were no special contractual provisions between Comstock and Amicus for the conduct of this ESA.

9 FINDINGS

As defined by AAI and ASTM, the purpose of a Phase I ESA is the discovery of Recognized Environmental Conditions (REC), facts indicative of a release or potential release of hazardous substances or petroleum products. In accordance with the AAI/ASTM protocol, Amicus staff obtained historic use-related documentation, inspected portions of the property on foot, and interviewed the knowledgeable persons for the purposes of evaluating environmental conditions and the potential for REC.

Amicus observed no activity or indication of a REC during the property inspection. No use or feature indicative of a current or historic REC was noted in the review of environmental databases or compiled project documentation.

10 OPINION

This all appropriate inquiry conducted in accordance with ASTM E 1527-13 and 40 CFR Part 312 has identified no conditions indicative of obvious releases or threatened releases of hazardous substances, pollutants, contaminants, petroleum and petroleum products, and controlled substances on, at, in, or to the subject property assemblage. No obvious REC was observed. No further evaluative action is recommended.

11 DATA GAPS

The documentary record was reasonably complete; no data gaps were identified.

12 CONCLUSIONS

The project property is comprised of approximately 285 acres of open land in Moorpark, California. The land has been in historic agricultural cultivation with areas also used for hog husbandry. Building foundations and historic irrigation system implements are present in places about the property. A small cattle ranch moved on-property in 2017. Their corral is well kept and clean.

The prior environmental consultants recommended sampling and analysis of property soil to determine the presence and magnitude of orchard-related agricultural chemicals (pesticides and herbicides). AET implemented this testing and described the results in their 2006 ESA update. As described in this report, pesticide residue below regulatory residential screening levels was detected in all but one sample. Given the generally low concentrations and the location of

the single exceedance AET found that no additional investigative or remedial activity was necessary.

The purpose of this ESA was the identification of REC potentially associated with historic or recent uses and practices. No current or historic REC was observed. No additional evaluative action is recommended. Amicus concurs with the AET recommendation for vigilance during grading and utility work, for as even though no REC was identified, underground features may be present and may be encountered during earth-disturbing activity.

13 DEVIATIONS

No deviations from ASTM Standard E 1527-05, ASTM E 1527-13, and EPA's AAI standards as set forth in § 312.10 of 40 CFR 312 occurred during the preparation of this report.

14 REFERENCES

EDR Radius Report, December 7, 2017

Draft Hitch Ranch Specific Plan; Development Planning Services, Inc., 2012

USGS 7.5 Minute Moorpark Topographic Quadrangle Map, 2012

Phase I Environmental Site Assessment Update; AET, 2006

Phase I Environmental Site Assessment Addendum; Gradient Engineers, 2000

Phase I Environmental Site Assessment; Gradient Engineers, Inc., 1998

Simi-Santa Rosa Fault Zone in the Moorpark, Newbury Park, Simi Valley East, Simi Valley West, and Thousand Oaks Quadrangles; California Division of Mines and Geology, 1998

15 AFFIRMATION, SIGNATURE AND QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL

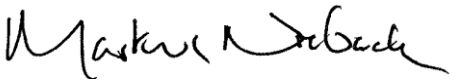
The following affirmation is required by 40 CFR 312.21(d):

Amicus has performed a Phase I Environmental Site Assessment of approximately 285 acres of land in Moorpark, California. Seven of the eight parcels comprising the project property are currently utilized for cattle grazing by a small rancher.

The ESA was conducted in conformance with the ASTM International (formerly the American Society for Testing and Materials) E 1527-13 Standard Practice for Environmental Site Assessments: Phase I ESA Process and the Environmental Protection Agency (EPA) All Appropriate Inquiry (AAI) Final Rule (40 CFR, Part 312, § 312.10). Any exceptions to or deletions from this practice are described in Section 13 (there are no exceptions, deletions deviations). This assessment has revealed no evidence of releases of hazardous substances or REC.

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Markus B. Niebanck, PG
Principal

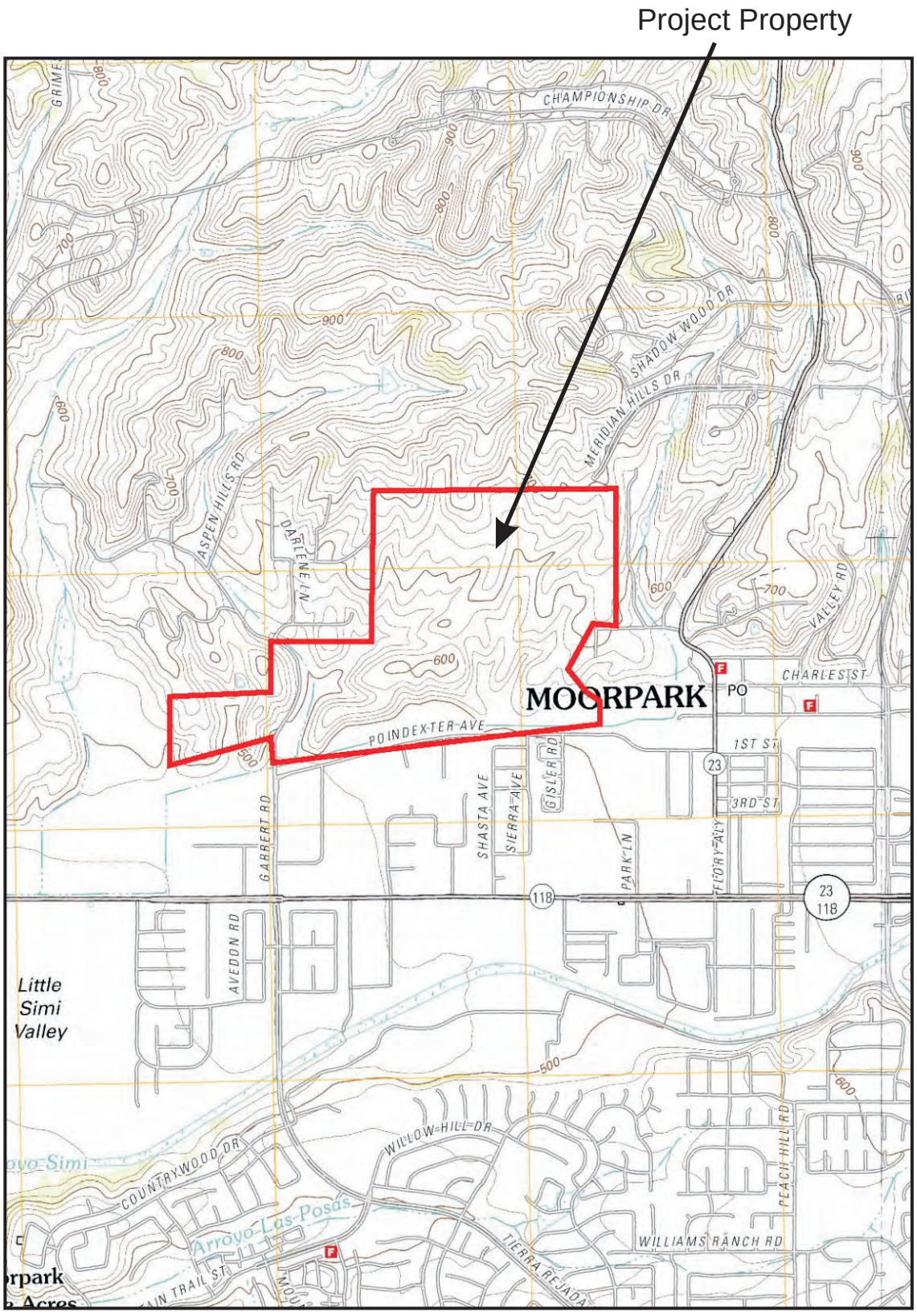
ATTACHMENTS

FIGURES
PHOTOGRAPHS

APPENDICES

A – PTR
B – EDR RADIUS, AERIAL PHOTOGRAPHS, TOPO, SANBORM MAPS, CITY DIRECTORY

FIGURES AND PHOTOGRAPHS



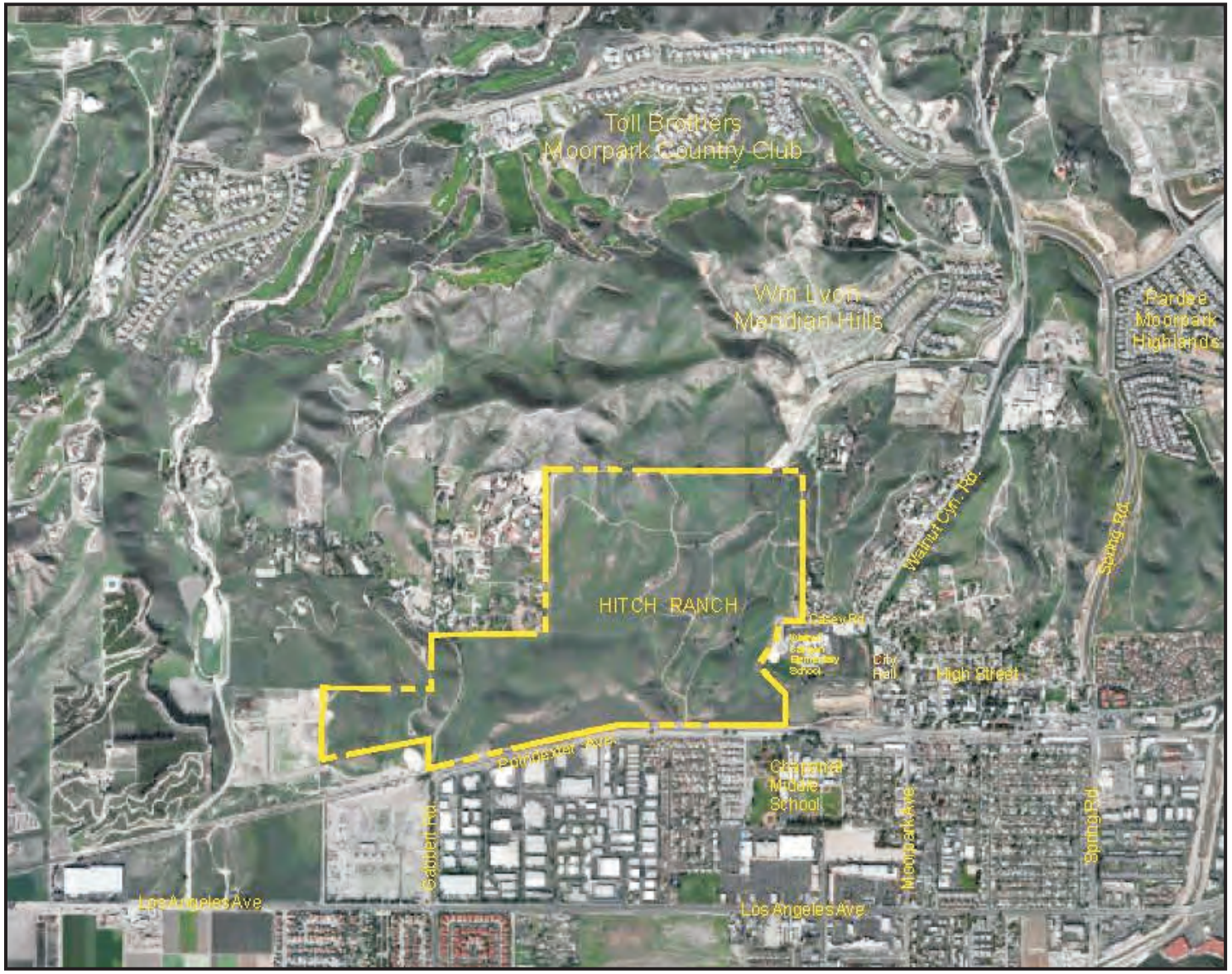
Base map from 2012 Moorpark USGS Topographic Quadrangle Map

Figure 1 - Location Map

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017

amicus - STRATEGIC ENVIRONMENTAL CONSULTING



From 2012 Hitch Ranch Specific Plan

Figure 2 - Aerial View

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017



Base map from AET Phase I ESA Update

Figure 3 - Well Location Map

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017

amicus - STRATEGIC ENVIRONMENTAL CONSULTING



Photo 1 - Gate at Poindexter Avenue.



Photo 2 - View east at Poindexter Avenue gate.

Site Photos - Sheet 1

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017



Photo 3 - Cattle near Poindexter gate.



Photo 4 - Small stable and support vehicle at ranch near Poindexter gate.

Site Photos - Sheet 2

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017



Photo 5 - Totes and tipped-over toilet at ranch.



Photo 6 - Fence piping behind ranch stable.

Site Photos - Sheet 3

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017



Photo 7 - View east over ranch from near former hog farming building slabs.



Photo 8 - Structural footers in former hog building area.

Site Photos - Sheet 4

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017



Photo 9 - Foundation slab in hog farming area.



Photo 10 - Presumed troughs in hog farming area.

Site Photos - Sheet 5

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017



Photo 11 - Hog area slab and valve box.



Photo 12 - Presumed irrigation feature in hog area.

Site Photos - Sheet 6

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017



Photo 13 - Foundation slabs for former small buildings in west-central area.



Photo 14 - West-central slabs.

Site Photos - Sheet 7

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017



Photo 15 - Poly tanks near hog area above ranch.



Photo 16 - Dilapidated building near former southwestern corral.

Site Photos - Sheet 8

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017



Photo 17 - Looking west at southeastern corner of west-of-Gabbert parcel.



Photo 18 - View east from southwestern corner of primary parcel.

Site Photos - Sheet 9

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017



Photo 19 - Substation south of small western parcel.



Photo 20 - Small western parcel interior and transmission towers.

Site Photos - Sheet 10

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017



Photo 21 - View north along Gabbert of southwestern portion of primary parcel.



Photo 22 - View from across Poindexter of southwestern portion of primary parcel.

Site Photos - Sheet 11

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017



Photo 23 - Eastern portion of property near Casey gate.



Photo 24 - Debris in eastern portion near Casey gate; water tank in background right.

Site Photos - Sheet 12

Comstock Hitch Ranch Prospect Property
Poindexter Avenue at Gabbert Road, Moorpark, CA

December 13, 2017



Photo 25 - Shed at old corral.



Photo 26 - Water storage tank and watering trough; near active well.

APPENDIX A – PTR

Lawyers Title Company
2751 Park View Court, Suite 241
Oxnard, CA 93036
Phone: (805) 484-2701
Fax: (805) 987-1759

MUSICK PELLER & GARRETT LLP
2801 Townsgate Rd, Suite 200
Westlake Village, CA 91361

Attn: Laura McAvoy

Title Officer: Noel Palacio--So
email: npalacio@ltic.com
Phone No.: (805) 484-2701 x 127
Fax No.: (805) 278-7320
File No.: 416240577

Your Reference No: Gabbert Rd, Moorpark

Property Address: Gabbert Road, Moorpark, California

UPDATED PRELIMINARY REPORT

Dated as of June 13, 2016 at 7:30 a.m.

In response to the application for a policy of title insurance referenced herein, Lawyers Title Company hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitation on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

The policy(s) of title insurance to be issued hereunder will be policy(s) of **Commonwealth Land Title Insurance Company.**

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered. It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

SCHEDULE A

The form of policy of title insurance contemplated by this report is:

ALTA Owners 2006
ALTA Loan 2006

The estate or interest in the land hereinafter described or referred to covered by this report is:

A FEE

Title to said estate or interest at the date hereof is vested in:

Kimberley Jeanne Milligan, Trustee of the Kimberley J. Milligan Trust dated May 16, 1995 (as to an undivided 12.5% interest);

John R. Milligan, Trustee of the John R. Milligan Trust dated December 11, 1998 (as to an undivided 12.5% interest);

Lucy Milligan Wahl and Claire Catherine Milligan, as successor Co-Trustee of the MCM Trust II dated December 14, 1990 (as to an undivided 12.5% interest);

Julia Summers and Jim Summers, Co-Trustees of the Julia Summers 2013 Trust dated August 29, 2013 (as to an undivided 12.5% interest);

Carolyn Howarth, as Trustee of the Wesley J. Pomatto Trust Two, created January 2, 2012 (as to an undivided 6.25% interest);

Carolyn Howarth, as Trustee of the John J. Pomatto Trust Two, created January 2, 2012 (as to an undivided 6.25% interest);

The Richard H. Jones Ltd. Partnership, a Colorado Limited Partnership (as to an undivided 12.5% interest);

Susan C. Bavo, as Trustee of the Susan C. Bavo Trust, dated October 26, 1993 (as to an undivided 6.25% interest);

Palmyre L. Bavo, as Trustee of the Palmyre L. Bavo Trust dated September 10, 2001 (as to an undivided 9.375% interest) and

Nicole K. Bavo, as Trustee of the Nicole K. Bavo Trust dated September 7, 2001 (as to an undivided 9.375% interest)

The land referred to herein is situated in the County of Ventura, State of California, and is described as follows:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

EXHIBIT "A"

All that certain real property situated in the County of Ventura, State of California, described as follows:

Parcel 1:

Lots 14 and 16 and that portion of Lots 22 and 23, Fremont Subdivision of Rancho Simi, in the City of Moorpark, County of Ventura, State of California, as per map recorded in Book 3, Page 39 of Maps, in the Office of the County Recorder of said County, lying Northerly of the right of way of the Southern Pacific Railroad 100 feet wide, as described in deed recorded in Book 58, Page 590 of Deeds.

Assessor's Parcel No: 511-0-020-170

Parcel 2:

Part of Tract "S" and "T" of part of Tract "L" of Rancho Simi, in the City of Moorpark, County of Ventura, State of California, as per map showing the Townsite of Moorpark and Lands of Madeline R. Poindexter, a Re-Subdivision of Fremont Tract, as per map recorded in Book 5, Page 5 of Maps, in the Office of the County Recorder of said County, described as follows:

Beginning at a point which is common to the Northeast corner of Lot "S" and the Northwest corner of Lot "T"; thence, from said point of beginning.

1st: South 89°55' West 1320 feet along the North line of said Lot "S" to the Northeast corner of that certain Parcel of land conveyed to William Hedges, by deed dated March 3, 1909, recorded in Book 117, Page 217 of Deeds; thence,

2nd: South 1964.16 feet along the East line of said lands of William Hedges to the Northwest corner of Lot 14, as shown on map entitled "Map of Fremont" a Subdivision of Lot "L" of the Rancho Simi, Ventura Co., Cal." And recorded in Book 3, Page 39 of Maps; thence at right angles,

3rd: East 1320 feet along the North line of said Lot 14, to a point in the boundary line between said Lots "S" and "T"; thence, at right angles,

4th: South 660 feet along the boundary line between Lots 14 and 16 of said Fremont Tract, and Tract "T" above described to the Southeast corner of said Lot 16 of said Fremont Tract; thence at right angles,

5th: West 330 feet along the South line of said Lot 16 to the Northeast corner of Lot 23 of said Fremont Tract; thence, at right angles,

6th: South 429.66 feet along the East line of Lot 23 to a point in the North line of the right of way of the Southern Pacific Railroad; thence along same,

7th: Easterly along a curve to the right (the long chord of which bears North 88°3'7" East) 330.66 feet to a point; thence,

8th: East 990 feet along the North line of said railroad right of way to the Southwest corner of that certain Parcel of land conveyed to Alice N. Graham, by deed dated October 25, 1911 and recorded

in Book 130, Page 33 of Deeds; thence, still along the North line of the right of way of the Southern Pacific Railroad,

9th: East 588.06 feet to the Southwest corner of that certain Parcel of land as conveyed to Leonard C. Elver and Nellie B. Elver, his wife, by deed dated January 7, 1931, recorded in Book 340, Page 198 of Official Records; thence along the West and North lines of the lands so conveyed,

10th: North 696.96 feet to a 1 ¼" X 6" pipe; thence,

11th: North 61°30' East 258.72 feet to a 2 X 66" pipe; thence,

12th: North 2230.14 feet to a point in the North line of said Tract "T" in the South line of Lot 32, as the same is shown on Map entitled "Map of the Vallette Tract, being a Subdivision of Lot 2 of Block "L" of Rancho Simi, Ventura Co., Cal." And recorded in Book 3, Page 41 of Maps, and at the Northwest corner of the lands conveyed to Maxwell W. Wright, by deed dated September 10, 1914 recorded in Book 144, Page 283 of Deeds; thence,

13th: South 89°53' West 1805.166 feet along the South line of Vallette Tract, and along the North line of Tract "T" to the point of beginning.

Except those portions of land described as Estates 1, 2 and 3 in the Final Order of Condemnation, Case No. SC 16973, Superior Court of California, County of Ventura, a certified copy of which recorded December 18, 1997 as Document No. 97-172929 of Official Records.

Assessor's Parcel No: 511-0-020-110, 130, 160, 180

Parcel 3:

Portions of Lot "R" and "S" as shown on Map of a Part of Tract "L" of the Rancho Simi, in the City of Moorpark, County of Ventura, State of California, as per map recorded in Book 5, Page 5 of Maps, in the Office of the County Recorder of said County described as a whole as follows:

Beginning at a point on the West line of said Lot "S" distant North thereon 660 feet from the Southwest corner of said Lot "S"' thence along the West line of Lots "S" and "R",

1st: South 1617 feet to the North line of the 100-foot right of way of the Southern Pacific Railroad; thence, along said North line,

2nd: North 76°10' East 1703.46 feet to the Southeast corner of said Lot "R"; thence along the East line of said Lot "R",

3rd: North 551.76 feet to the Northeast corner of said Lot "R"; thence,

4th: West along the North lines of said Lot "R", 330 feet to the Southwest corner of Lot 16 of Fremont Tract, as per map recorded in Book 3, Page 39 of Maps, in the Office of the County Recorder of said County; thence,

5th: North along the West line of Lots 16 and 14 of said Fremont Tract, 660 feet to the Northwest corner of said Lot 14; thence,

6th: West 1320 feet to the point of beginning.

Except the interest in a strip of land 40 feet wide, as granted to Ventura County for "road purposes" in deed recorded in Book 127, Page 326 of Deeds.

Also except one half of all mineral, oil, gas an other hydrocarbon substances in and under said land without, however, any right of surface entry or any right of entry in and to the subsurface thereof at a depth of less than 500 feet beneath the surface of Official Records the development or removal of said substances, as reserved by Sena Bauer, a life estate, Walter W. Bauer, Charles E. Bauer,

Ellen Regina Bauer, Frances D. Arbogast Mericle, who acquired title as Frances B. Arbogast and Serena H. Bauer Cox, who acquired title as Serena H. Bauer, in deed recorded September 12, 1961 in Book 2045, Page 334 of Official Records.

Assessor's Parcel No: 511-0-020-195

Parcel 4:

The East half of the Southeast Quarter of Section 6, Township 2 North, Range 19 West, Rancho Simi, in the City of Moorpark, County of Ventura, State of California, as shown on map entitled "Map of the Land of Rancho Simi, in Ventura and Los Angeles counties, California", and recorded in Book 3, Page 7 of maps, in the Office of the County Recorder of said County, and particularly described as follows:

Beginning at a point in the centerline of that certain public road, 60 feet wide, locally known as and called "Los Angeles Avenue" at the corner common to Sections 5, 6, 7 and 8 of Township 2 North, Range 19 West, Rancho Simi, as shown on the above described map, said point of beginning being the Southwest corner of Tract "Q" as shown on map entitled "Map of Part of Tract "L" of Rancho Simi, Ventura County, California, showing the Townsite of Moorpark and Lands of Madeleine R. Poindexter, a Re-Subdivision of Fremont Tract" and recorded in Book 5, Page 5 of Maps, in the Office of the County Recorder of Ventura County; thence, from said point of beginning,

1st: North 2640 feet to the Southeast corner of Lot 56 of Vallette Tract, as per map recorded in Book 3, Page 41 of Maps, in the Office of the County Recorder of said County; thence, at right angles,

2nd: West 1320 feet to the Southwest corner of said Lot 56 of Vallette Tract, at the Northeast corner of that certain Parcel of land, conveyed to Mary Frances Estes, by deed dated October 22, 1902 and recorded in Book 87, Page 120 of Deeds; thence at right angles,

3rd: South 2640 feet along the East line of said lands of Mary Frances Estates to a point in the centerline of said Los Angeles Avenue; thence, along same,

4th: East 1320 feet to the point of beginning.

Except that portion lying Southerly of the Northerly line of that certain strip 100 feet wide described in the deed to the Southern Pacific Railroad Company, recorded November 13, 1899 in Book 58, Page 596 of Deeds.

Also except that portion lying within that certain strip 345 feet wide described in deed to Southern California Edison Company, recorded October 22, 2010 as Instrument No. 20101022-00163068 of Official Records.

Assessor's Parcel No: 511-0-200-245

cph

SCHEDULE B – Section A

The following exceptions will appear in policies when providing standard coverage as outlined below:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may asserted by persons in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.

4. Any encroachment, encumbrance, violation, variation or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the Public Records.

6. Any lien or right to a lien for services, labor or material not shown by the Public Records.

SCHEDULE B – Section B

At the date hereof Exceptions to coverage in addition to the printed exceptions and exclusions in said policy form would be as follows:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes to be levied for the fiscal year 2016-2017.

B. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A; or as a result of changes in ownership or new construction occurring prior to date of policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. Right of entry and right of way over said land for the use of any system for the collection, conducting and distribution of the waters of the Rancho Simi, which may be adopted by the Simi Land and Water Company, or its assigns, as reserved in deed recorded January 3, 1890, in Book 29, page 500 of Deeds.

   The exact location and extent of said easement is not disclosed of record.

3. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern California Edison Company
Purpose:	public utilities
Recording Date:	January 16, 1931
Recording No:	in Book 339, Page 109 of Official Records
Affects:	portion of said land

4. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern California Edison Company
Purpose:	public utilities
Recording Date:	December 7, 1950
Recording No:	in Book 968, Page 442 of Official Records
Affects:	portion of said land

5. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern California Edison Company
Purpose:	public utilities
Recording Date:	May 31, 1951
Recording No:	in Book 1001, Page 544 of Official Records
Affects:	portion of said land

6. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern California Edison Company
Purpose:	public utilities
Recording Date:	May 31, 1951
Recording No:	in Book 1001, Page 550 of Official Records
Affects:	portion of said land

7. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Ventura County Flood Control District
Purpose:	Flood Control
Recording Date:	April 26, 1962
Recording No:	in Book 2141, Page 551 of Official Records
Affects:	portion of said land

8. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Ventura County Flood Control District
Purpose:	Flood Control
Recording Date:	April 26, 1962
Recording No:	in Book 2141, Page 556 of Official Records
Affects:	portion of said land

9. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Ventura County Flood Control District
Purpose:	Flood Control
Recording Date:	April 26, 1962
Recording No:	in Book 2141, Page 558 of Official Records
Affects:	portion of said land

10. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern California Edison Company
Purpose:	public utilities and roads
Recording Date:	July 1, 1963
Recording No:	in Book 2347, Page 225 of Official Records
Affects:	portion of said land

Limitations on the use, by the owners of said Land, of the easement area as set forth in the easement document shown hereinabove.

Reference is hereby made to said document for full particulars.

11. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern California Edison Company
Purpose:	roads
Recording Date:	January 4, 1968
Recording No:	in Book 3243, Page 379 of Official Records
Affects:	portion of said land

Limitations on the use, by the owners of said Land, of the easement area as set forth in the easement document shown hereinabove.

Reference is hereby made to said document for full particulars.

12. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern California Edison Company
Purpose:	roads and public utilities
Recording Date:	January 4, 1968
Recording No:	in Book 3243, Page 387 of Official Records
Affects:	portion of said land

Limitations on the use, by the owners of said Land, of the easement area as set forth in the easement document shown hereinabove.

Reference is hereby made to said document for full particulars.

13. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	A-B Properties, a California General Partnership
Purpose:	access road, utilities and slopes
Recording Date:	January 18, 2001
Recording No:	as Instrument No. 2001-012562 of Official Records
Affects:	portion of said land
and Recording Date:	June 5, 2007
and Recording No:	as Instrument No. 2007-1113389 of Official Records
and Re-Recording Date:	June 6, 2007
and Re-Recording No:	as Instrument No. 2007-114628 of Official Records

14. Notice of Non-Compliance with Ventura County Well Ordinance No. 4184

Recording Date:	March 11, 2004
Recording No.:	as Instrument No. 2004-063631 of Official Records

Reference is hereby made to said document for full particulars.

15. Notice of Non-Compliance with Ventura County Well Ordinance No. 4184

Recording Date:	March 11, 2004
Recording No.:	as Instrument No. 2004-063632 of Official Records

Reference is hereby made to said document for full particulars.

16. Any easement rights for AT & T fiber optic cable along railroad corridor, as contained in that certain Supplement Final Order and Judgment recorded June 26, 2009 as Instrument No. 2009-106766 of Official Records.

17. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Ventura County Watershed Protection District
Purpose:	flood control purpose of periodic inundation with flood and/or storm drainage water
Recording Date:	September 4, 2012
Recording No:	as Instrument No. 2012-155707 of Official Records
Affects:	portion of said land

Limitations on the use, by the owners of said Land, of the easement area as set forth in the easement document shown hereinabove.

Reference is hereby made to said document for full particulars.

The exact location and extent of said easement is not disclosed of record.

and Re-Recording Date:	September 20, 2012
and Re-Recording No:	as Instrument No. 2012-167698 of Official Records

18. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Level3 Communication, LLC
Purpose:	Telecommunications and incidental purposes
Recording Date:	August 21, 2013
Recording No:	as Instrument No. 2013-146419 of Official Records
Affects:	along the railroad boundary adjacent to said land

Limitations on the use, by the owners of said Land, of the easement area as set forth in the easement document shown hereinabove.

Reference is hereby made to said document for full particulars.

19. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Sprint Communications Company, LP
Purpose:	Telecommunications and incidental purposes
Recording Date:	December 27, 2013
Recording No:	as Instrument No. 2013-205739 of Official Records
Affects:	along the railroad boundary adjacent to said land

Limitations on the use, by the owners of said Land, of the easement area as set forth in the easement document shown hereinabove.

Reference is hereby made to said document for full particulars.

20. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Quest Communications International Inc., et al
Purpose:	Telecommunications and incidental purposes
Recording Date:	January 30, 2014
Recording No:	as Instrument No. 2014-011258 of Official Records
Affects:	along the railroad boundary adjacent to said land

Limitations on the use, by the owners of said Land, of the easement area as set forth in the easement document shown hereinabove.

Reference is hereby made to said document for full particulars.

21. Any invalidity or defect in the title of the vestees in the event that the trust referred to herein is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

If title is to be insured in the trustee(s) of a trust, (or if their act is to be insured), this Company will require a Trust Certification pursuant to California Probate Code Section 18100.5.

The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

22. The search did not disclose any open mortgages or deeds of trust of record, therefore the Company reserves the right to require further evidence to confirm that the property is unencumbered, and further reserves the right to make additional requirements or add additional items or exceptions upon receipt of the requested evidence.

23. We find numerous items of record against one with the same or similar name RICHARD JONES. Please provide a statement of identity as soon as possible to clear these matters.

24. Matters which may be disclosed by an inspection and/or by a correct ALTA/ACSM Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

25. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

    The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

    The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

26. Any easements not disclosed by the public records as to matters affecting title to real property, whether or not said easements are visible and apparent.

27. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other matters which a correct survey would disclose and which are not shown by the public records.

END OF SCHEDULE B EXCEPTIONS

PLEASE REFER TO THE "NOTES AND REQUIREMENTS SECTION" WHICH FOLLOWS FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION

REQUIREMENTS SECTION:

Req. No. 1: In order to complete this report, the Company requires a Statement of Information to be completed by the following party(s),

Party(s): ALL PARTIES

The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

NOTE: The Statement of Information is necessary to complete the search and examination of title under this order. Any title search includes matters that are indexed by name only, and having a completed Statement of Information assists the Company in the elimination of certain matters which appear to involve the parties but in fact affect another party with the same or similar name. Be assured that the Statement of Information is essential and will be kept strictly confidential to this file.

Req. No. 2: The Company will require that it be provided with either (i) a complete copy of the trust agreement and any amendments thereto certified by the trustee(s) to be a true and complete copy with respect to the hereinafter named trust, or (ii) a Certification, pursuant to California Probate Code Section 18100.5, executed by all of the current trustee(s) of the hereinafter named trust, a form of which is attached.

Trust(S): Kimberley Jeanne Milligan, Trustee of the Kimberley J. Milligan Trust dated May 16, 1995;

John R. Milligan, Trustee of the John R. Milligan Trust dated December 11, 1998;

Lucy Milligan Wahl and Claire Catherine Milligan, as successor Co-Trustee of the MCM Trust II dated December 14, 1990;

Julia Summers and Jim Summers, Co-Trustees of the Julia Summers 2013 Trust dated August 29, 2013;

Carolyn Howarth, as Trustee of the Wesley J. Pomatto Trust Two, created January 2, 2012;

Carolyn Howarth, as Trustee of the John J. Pomatto Trust Two, created January 2, 2012;

The Richard H. Jones Ltd. Partnership, a Colorado Limited Partnership;

Susan C. Bavo, as Trustee of the Susan C. Bavo Trust, dated October 26, 1993;

Palmyre L. Bavo, as Trustee of the Palmyre L. Bavo Trust dated September 10, 2001 and

Nicole K. Bavo, as Trustee of the Nicole K. Bavo Trust dated September 7, 2001

Req. No. 3: The Company will require the following documents for review prior to the issuance of any title insurance predicated upon a conveyance or encumbrance from the limited partnership named below:

Name: THE RICHARD H. JONES LTD, a limited partnership

a) Satisfactory evidence that the partnership was validly formed, is in good standing and that there have been no amendments to the partnership agreement

The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

Req. No. 4: The Company requires a Statement of Information from the parties named below in order to complete this report, based on the effect of documents, proceedings, liens, decrees, or other matters which do not specifically describe said Land, but which, if any do exist, may affect the title or impose liens or encumbrances thereon. After review of the requested Statement(s) of Information, the Company may have additional requirements before the issuance of any policy of title insurance.

No names were furnished with the application. Please have the buyers furnish the Statement of Information as soon as possible.

The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

NOTE: The Statement of Information is necessary to complete the search and examination of title under this order. Any title search includes matters that are indexed by name only, and having a completed Statement of Information assists the Company in the elimination of certain matters which appear to involve the parties but in fact affect another party with the same or similar name. Be assured that the Statement of Information is essential and will be kept strictly confidential to this file.

INFORMATIONAL NOTES SECTION

Note No. 1: The information on the attached plat is provided for your convenience as a guide to the general location of the subject property. The accuracy of this plat is not guaranteed, nor is it a part of any policy, report or guarantee to which it may be attached.

Note No. 2: California insurance code section 12413.1 regulates the disbursement of escrow and sub-escrow funds by title companies. The law requires that funds be deposited in the title company escrow account and available for withdrawal prior to disbursement. Funds deposited with the company by wire transfer may be disbursed upon receipt. Funds deposited with the company via cashier's check or teller's check drawn on a California based bank may be disbursed on the next business day after the day of deposit. If funds are deposited with the company by other methods, recording and/or disbursement may be delayed. All escrow and sub-escrow funds received by the company will be deposited with other escrow funds in one or more non-interest bearing escrow accounts of the company in a financial institution selected by the company. The company may receive certain direct or indirect benefits from the financial institution by reason of the deposit of such funds or the maintenance of such accounts with such financial institution, and the company shall have no obligation to account to the depositing party in any manner for the value of, or to pay to such party, any benefit received by the company. Those benefits may include, without limitation, credits allowed by such financial institution on loans to the company or its parent company and earnings on investments made with the proceeds of such loans, accounting, reporting and other services and products of such financial institution. Such benefits shall be deemed additional compensation of the company for its services in connection with the escrow or sub-escrow.

For wiring Instructions please contact your Title Officer or Title Company Escrow officer.

Note No. 3: Lawyers Title is a division of Commonwealth Land Title Insurance Company. The insurer in policies of title insurance, when issued in this transaction, will be Commonwealth Land Title Insurance Company.

Note No. 4: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-110
Fiscal Year:	2015-2016
1st Installment:	$9,038.68
2nd Installment:	$9,038.68
Exemption:	NONE
Code Area:	10-075

Note No. 5: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-130
Fiscal Year:	2015-2016
1st Installment:	$809.95
2nd Installment:	$809.95
Exemption:	NONE
Code Area:	10-066

Note No. 6: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-160
Fiscal Year:	2015-2016
1st Installment:	$5,143.74
2nd Installment:	$5,143.74
Exemption:	NONE
Code Area:	10-041

Note No. 7: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-170
Fiscal Year:	2015-2016
1st Installment:	$2,384.98
2nd Installment:	$2,384.98
Exemption:	NONE
Code Area:	10-007

Note No. 8: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-180
Fiscal Year:	2015-2016
1st Installment:	$303.50
2nd Installment:	$303.50
Exemption:	NONE
Code Area:	10-041

Note No. 9: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-195
Fiscal Year:	2015-2016
1st Installment:	$4,071.20
2nd Installment:	$4,071.20
Exemption:	NONE
Code Area:	10-007

Note No. 10: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-200-245
Fiscal Year:	2015-2016
1st Installment:	$2,088.71
2nd Installment:	$2,088.71
Exemption:	NONE
Code Area:	10-041

Note No. 11: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-110
Fiscal Year:	2012
1st Installment:	$193.48
2nd Installment:	$193.48
Code Area:	10-075
Supplemental Bill No.:	959639

Note No. 12: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-110
Fiscal Year:	2013
1st Installment:	$579.95
2nd Installment:	$579.95
Code Area:	10-075
Supplemental Bill No.:	959640

Note No. 13: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-130
Fiscal Year:	2012
1st Installment:	$11.79
2nd Installment:	$11.79
Code Area:	10-066
Supplemental Bill No.:	959641

Note No. 14: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-130
Fiscal Year:	2013
1st Installment:	$35.29
2nd Installment:	$35.29
Code Area:	10-066
Supplemental Bill No.:	959642

Note No. 15: Property taxes, including any personal property taxes and any assessments collected with taxes, arepaid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-160
Fiscal Year:	2012
1st Installment:	$111.06
2nd Installment:	$111.06
Code Area:	10-041
Supplemental Bill No.:	959643

Note No. 16: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-160
Fiscal Year:	2013
1st Installment:	$332.90
2nd Installment:	$332.90
Code Area:	10-041
Supplemental Bill No.:	959644

Note No. 17: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-170
Fiscal Year:	2012
1st Installment:	$51.71
2nd Installment:	$51.71
Code Area:	10-007
Supplemental Bill No.:	959645

Note No.18: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-170
Fiscal Year:	2013
1st Installment:	$155.02
2nd Installment:	$155.02
Code Area:	10-007
Supplemental Bill No.:	959646

Note No. 19: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-180
Fiscal Year:	2013
1st Installment:	$19.10
2nd Installment:	$19.10
Code Area:	10-041
Supplemental Bill No.:	959647

Not No. 20: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-195
Fiscal Year:	2012
1st Installment:	$88.18
2nd Installment:	$88.18
Code Area:	10-007
Supplemental Bill No.:	959648

Note No. 21: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-195
Fiscal Year:	2013
1st Installment:	$264.3
2nd Installment:	$264.37
Code Area:	10-007
Supplemental Bill No.:	959649

Note No. 22: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-245
Fiscal Year:	2012
1st Installment:	$41.11
2nd Installment:	$41.11
Code Area:	10-041
Supplemental Bill No.:	959650

Note No. 23: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	511-0-020-245
Fiscal Year:	2013
1st Installment:	$123.23
Delinquent:	June 30
Code Area:	10-041
Supplemental Bill No.:	959651

Processor: SAH
Date Typed: June 21, 2016

ATTACHMENT ONE

4-2-15 CA & NV

CALIFORNIA LAND TITLE ASSOCIATION

STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.

   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.
5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

Except as provided in Schedule B - Part II, this policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

PART I

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:
The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.
7. Variable exceptions such as taxes, easements, CC&R's, etc. shown here.

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (12-02-13)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

File No: 416240577

Lawyers Title Company
2751 Park View Court, Suite 241
Oxnard, CA 93036
Phone: (805) 484-2701
Fax: (805) 987-1759

Order No. 416240577

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the filed rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for such discount. These discounts only apply to transactions involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

FNF Underwritten Title Company
LTC – Lawyers Title Company

FNF Underwriter
CLTIC – Commonwealth Land Title Insurance Co.

Available Discounts

DISASTER LOANS (CLTIC)
The charge for a Lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within 24 months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be 50% of the appropriate title insurance rate.

EMPLOYEE RATE (LTC and CLTIC)
No charge shall be made to employees (including employees on approved retirement) of the Company or its underwritten, subsidiary or affiliated title companies for policies or escrow services in connection with financing, refinancing, sale or purchase of the employees' bona fide home property. Waiver of such charges is authorized only in connection with those costs which the employee would be obligated to pay, by established custom, as a party to the transaction.

FIDELITY NATIONAL FINANCIAL
PRIVACY NOTICE

At Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF", "our" or "we"), we value the privacy of our customers. This Privacy Notice explains how we collect, use, and protect your information and explains the choices you have regarding that information. A summary of our privacy practices is below. We also encourage you to read the complete Privacy Notice following the summary

Types of Information Collected. You may provide us with certain personal information, like your contact information, social security number (SSN), driver's license, other government ID numbers, and/or financial information. We may also receive information from your Internet browser, computer and/or mobile device.	**How Information is Collected.** We may collect personal information directly from you from applications, forms, or communications we receive from you, or from other sources on your behalf, in connection with our provision of products or services to you. We may also collect browsing information from your Internet browser, computer, mobile device or similar equipment. This browsing information is generic and reveals nothing personal about the user.
Use of Your Information. We may use your information to provide products and services to you (or someone on your behalf), to improve our products and services, and to communicate with you about our products and services. We do not give or sell your personal information to parties outside of FNF for their use to market their products or services to you.	**Security Of Your Information**. We utilize a combination of security technologies, procedures and safeguards to help protect your information from unauthorized access, use and/or disclosure. We communicate to our employees about the need to protect personal information.
Choices With Your Information. Your decision to submit personal information is entirely up to you. You can opt-out of certain disclosures or use of your information or choose to not provide any personal information to us.	**When We Share Information.** We may disclose your information to third parties providing you products and services on our behalf, law enforcement agencies or governmental authorities, as required by law, and to parties with whom you authorize us to share your information.
Information From Children. We do not knowingly collect information from children under the age of 13, and our websites are not intended to attract children.	**Privacy Outside the Website.** We are not responsible for the privacy practices of third parties, even if our website links to those parties' websites.
Access and Correction. If you desire to see the information collected about you and/or correct any inaccuracies, please contact us in the manner specified in this Privacy Notice.	**Do Not Track Disclosures.** We do not recognize "do not track" requests from Internet browsers and similar devices.
The California Online Privacy Protection Act. Certain FNF websites collect information on behalf of mortgage loan servicers. The mortgage loan servicer is responsible for taking action or making changes to any consumer information submitted through those websites.	**International Use.** By providing us with your information, you consent to the transfer, processing and storage of such information outside your country of residence, as well as the fact that we will handle such information consistent with this Privacy Notice.
Your Consent To This Privacy Notice. By submitting information to us and using our websites, you are accepting and agreeing to the terms of this Privacy Notice.	**Contact FNF.** If you have questions or wish to contact us regarding this Privacy Notice, please use the contact information provided at the end of this Privacy Notice.

FNF respects and is committed to protecting your privacy. We pledge to take reasonable steps to protect your Personal Information (as defined herein) and to ensure your information is used in compliance with this Privacy Notice.

This Privacy Notice is only in effect for information collected and/or owned by or on behalf of FNF, including collection through any FNF website or online services offered by FNF (collectively, the "Website"), as well as any information collected offline (e.g., paper documents). The provision of this Privacy Notice to you does not create any express or implied relationship, nor create any express or implied duty or other obligation, between FNF and you.

Types of Information Collected

We may collect two types of information: Personal Information and Browsing Information.

Personal Information. The types of personal information FNF collects may include, but are not limited to:

- contact information (*e.g.*, name, address, phone number, email address);
- social security number (SSN), driver's license, and other government ID numbers; and
- financial account or loan information.

Browsing Information. The types of browsing information FNF collects may include, but are not limited to:

- Internet Protocol (or IP) address or device ID/UDID, protocol and sequence information;
- browser language;
- browser type;
- domain name system requests;
- browsing history;
- number of clicks;
- hypertext transfer protocol headers; and
- application client and server banners.

How Information is Collected

In the course of our business, we may collect *Personal Information* about you from the following sources:

- applications or other forms we receive from you or your authorized representative, whether electronic or paper;
- communications to us from you or others;
- information about your transactions with, or services performed by, us, our affiliates or others; and
- information from consumer or other reporting agencies and public records that we either obtain directly from those entities, or from our affiliates or others.

We may collect *Browsing Information* from you as follows:

- Browser Log Files. Our servers automatically log, collect and record certain Browsing Information about each visitor to the Website. The Browsing Information includes only generic information and reveals nothing personal about the user.
- Cookies. From time to time, FNF may send a "cookie" to your computer when you visit the Website. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. When you visit the Website again, the cookie allows the Website to recognize your computer, with the goal of providing an optimized user experience. Cookies may store user preferences and other information. You can choose not to accept cookies by changing the settings of your Internet browser. If you choose not to accept cookies, then some functions of the Website may not work as intended.

Use of Collected Information

Information collected by FNF is used for three main purposes:

- To provide products and services to you, or to one or more third party service providers who are performing services on your behalf or in connection with a transaction involving you;
- To improve our products and services;

and

- To communicate with you and to inform you about FNF's products and services.

When We Share Information

We may share your Personal Information (excluding information we receive from consumer or other credit reporting agencies) and Browsing Information with certain individuals and companies, as permitted by law, without first obtaining your authorization. Such disclosures may include, without limitation, the following:

- to agents, representatives, or others to provide you with services or products you have requested, and to enable us to detect or prevent criminal activity, fraud, or material misrepresentation or nondisclosure;
- to third-party contractors or service providers who provide services or perform other functions on our behalf;
- to law enforcement or other governmental authority in connection with an investigation, or civil or criminal subpoenas or court orders; and/or
- to other parties authorized to receive the information in connection with services provided to you or a transaction involving you.

We may disclose Personal Information and/or Browsing Information when required by law or in the good-faith belief that such disclosure is necessary to:

- comply with a legal process or applicable laws;
- enforce this Privacy Notice;
- investigate or respond to claims that any information provided by you violates the rights of a third party; or
- protect the rights, property or personal safety of FNF, its users or the public.

We make efforts to ensure third party contractors and service providers who provide services or perform functions on our behalf protect your information. We limit use of your information to the purposes for which the information was provided. We do not give or sell your information to third parties for their own direct marketing use.

We reserve the right to transfer your Personal Information, Browsing Information, as well as any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of our bankruptcy, reorganization, insolvency, receivership or an assignment for the benefit of creditors. You expressly agree and consent to the use and/or transfer of this information in connection with any of the above-described proceedings. We cannot and will not be responsible for any breach of security by any third party or for any actions of any third party that receives any of the information that is disclosed to us.

Choices With Your Information

Whether you submit your information to FNF is entirely up to you. If you decide not to submit your information, FNF may not be able to provide certain products or services to you. You may choose to prevent FNF from using your information under certain circumstances ("opt out"). You may opt out of receiving communications from us about our products and/or services.

Security And Retention Of Information

FNF is committed to protecting the information you share with us and utilizes a combination of security technologies, procedures and safeguards to help protect it from unauthorized access, use and/or disclosure. FNF trains its employees on privacy practices and on FNF's privacy and information security policies. FNF works hard to retain information related to you only as long as reasonably necessary for business and/or legal purposes.

Information From Children

The Website is meant for adults. The Website is not intended
or designed to attract children under the age of thirteen (13). We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

Privacy Outside the Website

The Website may contain links to other websites, including links to websites of third party service providers. FNF is not and cannot be responsible for the privacy practices or the content of any of those other websites.

International Users

Because FNF's headquarters is located in the United States, we may transfer your Personal Information and/or Browsing Information to the United States. By using our website and providing us with your Personal Information and/or Browsing Information, you understand and consent to the transfer, processing and storage of such information outside your country of residence, as well as the fact that we will handle such information consistent with this Privacy Notice.

Do Not Track Disclosures

Currently, our policy is that we do not recognize "do not track" requests from Internet browsers and similar devices.

The California Online Privacy Protection Act

For some websites which FNF or one of its companies owns, such as the Customer CareNet ("CCN"), FNF is acting as a third party service provider to a mortgage loan servicer. In those instances, we may collect certain information on behalf of that mortgage loan servicer, including:

- first and last name;
- property address;
- user name and password;
- loan number;
- social security number - masked upon entry;
- email address;
- security questions and answers; and
- IP address.

The information you submit is then transferred to your mortgage loan servicer by way of CCN. **The mortgage loan servicer is responsible for taking action or making changes to any consumer information submitted through this website. For example, if you believe that your payment or user information is incorrect, you must contact your mortgage loan servicer.**

CCN does not share consumer information with third parties, other than those with which the mortgage loan servicer has contracted to interface with the CCN application. All sections of this Privacy Notice apply to your interaction with CCN, except for the sections titled Choices with Your Information, and Access and Correction. If you have questions regarding the choices you have with regard to your personal information or how to access or correct your personal information, contact your mortgage loan servicer.

Access and Correction

To access your Personal Information in the possession of FNF and correct any inaccuracies, please contact us by email at privacy@fnf.com or by mail at:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

Your Consent To This Privacy Notice

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of information by FNF in compliance with this Privacy Notice. We reserve the right to make changes to this Privacy Notice. If we change this Privacy Notice, we will post the revised version on the Website.

Contact FNF

Please send questions and/or comments related to this Privacy Notice by email at privacy@fnf.com or by mail at:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

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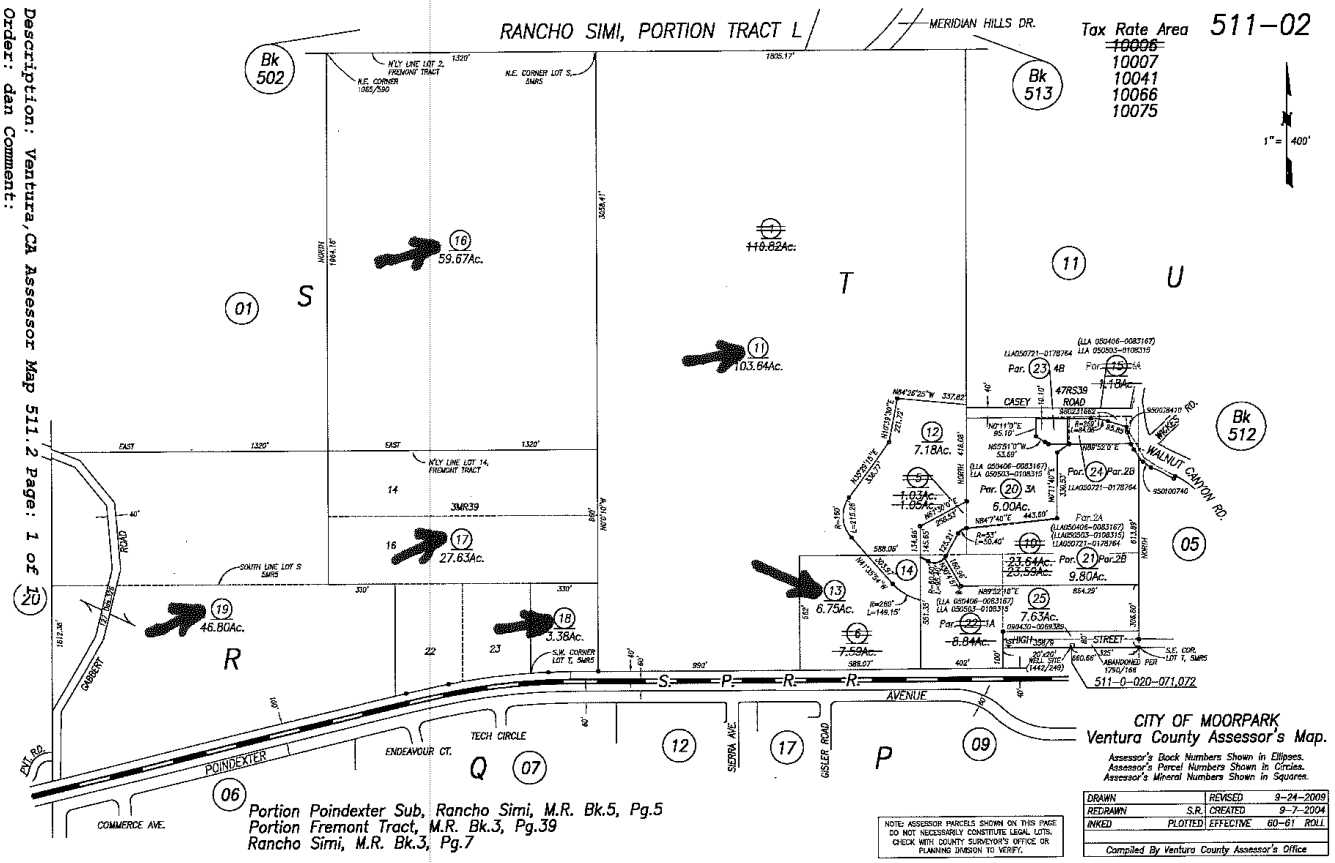
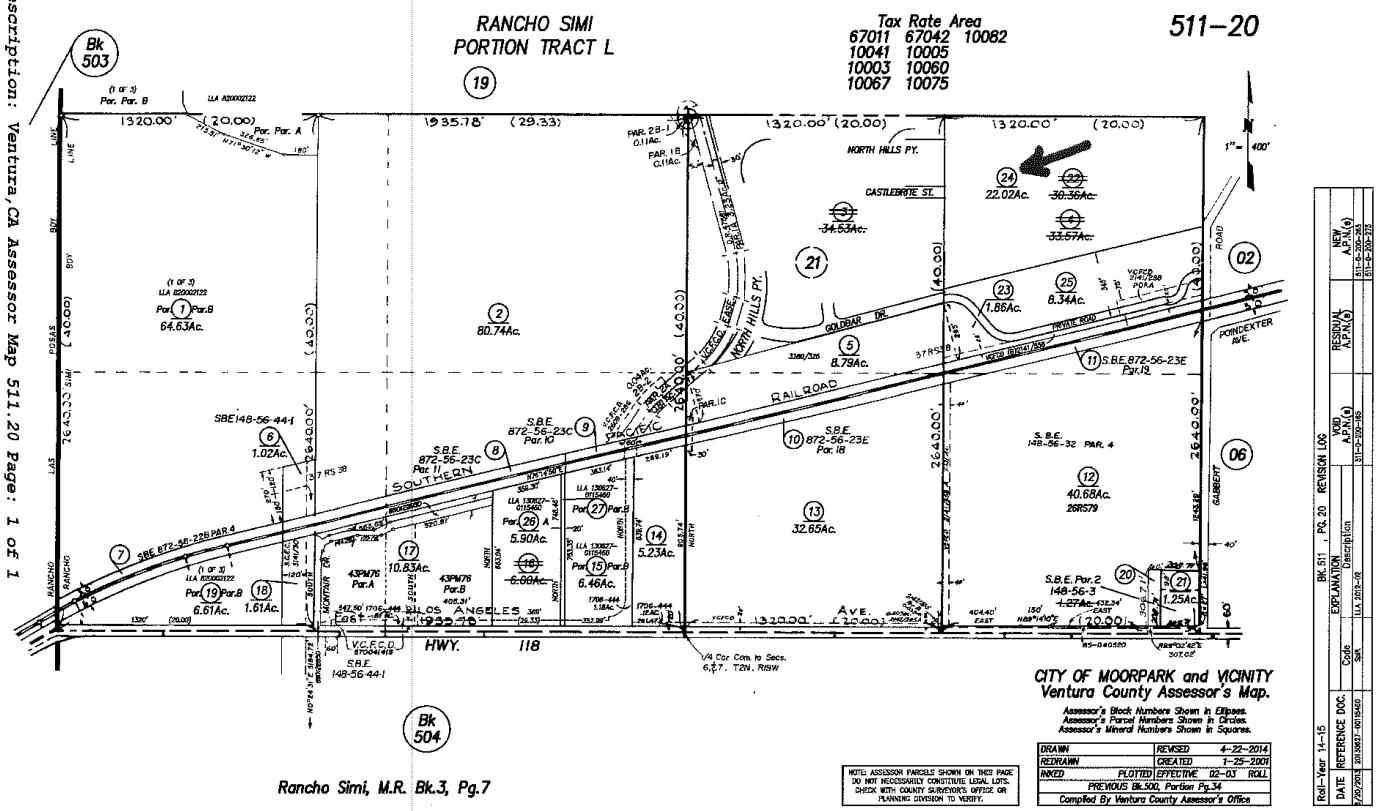
EFFECTIVE AS OF APRIL 1, 2016

Description: Ventura,CA Assessor Map 511.2 Page: 1 of 1
Order: dan Comment:



Description: Ventura,CA Assessor Map 511.20 Page: 1 of 1
Order: dan Comment:



Rancho Simi, M.R. Bk.3, Pg.7

APPENDIX B – EDR RADIUS, SANBORN MAPS, AERIAL PHOTOGRAPHS, TOPO, DIRECTORY

Hitch Ranch
Poindexter Avenue At Gabbert Road
Moorpark, CA 93021

Inquiry Number: 5131440.2s
December 07, 2017

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

POINDEXTER AVENUE AT GABBERT ROAD
MOORPARK, CA 93021

COORDINATES

Latitude (North):	34.2897040 - 34° 17' 22.93''
Longitude (West):	118.8922910 - 118° 53' 32.24''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	325830.9
UTM Y (Meters):	3795703.8
Elevation:	611 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5630753 MOORPARK, CA
Version Date:	2012
East Map:	5630771 SIMI VALLEY WEST, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140531
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
POINDEXTER AVENUE AT GABBERT ROAD
MOORPARK, CA 93021

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	ANNOTTI, A. D.	786 POINDEXTER AVE	UST	Lower	12, 0.002, South
2	VIKING ELECTRONICS I	5455 ENDEAVOUR CT	ENVIROSTOR, WDS	Lower	83, 0.016, SSW
A3	SOUTHLAND PAINTING	12160 POINDEXTER ST	RCRA-SQG, FINDS, ECHO	Lower	130, 0.025, SW
4	CASCADE SPRINKLER	177 POINDEXTER AVE	UST	Lower	149, 0.028, SE
5	SPADYS DISPOSAL SERV	11905 DARLENE LN	RCRA NonGen / NLR, FINDS, ECHO	Higher	216, 0.041, WNW
A6	DUROTECH CO	5397 COMMERCE AVE	RCRA NonGen / NLR, FINDS, ECHO, VENTURA CO. BWT,...	Lower	262, 0.050, SW
7	RODS TRANSMISSION	5401 TECH CIR	EDR Hist Auto	Lower	547, 0.104, South
8	WAVE PRECISION INC	5390 KAZUKO CT	RCRA-SQG, FINDS, ECHO, VENTURA CO. BWT	Lower	551, 0.104, South
9	TOYO INK. AMERICA LL	5360 N. COMMERCE AVE	RCRA-SQG, NPDES	Lower	553, 0.105, SSW
10	R C T	11855 DARLENE LN	RCRA NonGen / NLR, FINDS, ECHO	Lower	609, 0.115, WNW
B11	HUDSON PLATING WORKS	11941 HERTZ ST	RCRA-LQG, FINDS, ECHO	Lower	733, 0.139, SSW
12	PRUDENTIAL OVERALL S	5300 GABBERT RD	RCRA-SQG, LUST, UST, SWEEPS UST, HIST UST, CA FID...	Lower	752, 0.142, SW
B13	MOORPARK UNIFIED SCH	5297 MAUREEN LANE	RCRA-SQG, FINDS, ECHO, VENTURA CO. BWT, NPDES, WDS	Lower	893, 0.169, SSW
C14	LEVEL (3) COMMUNICAT	5245 KAZUKO CT	AST, VENTURA CO. BWT	Lower	1162, 0.220, South
C15	LEVEL 3 COMMUNICATIO	5245 KAZUKO CT	AST	Lower	1162, 0.220, South
16	UNOCAL #1696	18 HIGH ST	LUST, UST	Lower	1415, 0.268, ESE
D17	TEXACO STATION	347 MOORPARK AVE	LUST	Lower	1731, 0.328, SE
D18	TEXACO STATION	347 MOORPARK	LUST, VENTURA CO. BWT, HIST CORTESE	Lower	1731, 0.328, SE
19	ANTONIO M. PEREZ	1363 WALNUT CANYON R	SLIC	Higher	1816, 0.344, ENE
20	UNOCAL	506 LOS ANGELES AVE	LUST	Lower	1867, 0.354, SW
E21	GISLER RANCH	635 LOS ANGELES AVE	LUST, UST	Lower	1893, 0.359, SSW
E22	GISLER RANCH	635 LOS ANGELES AVE	LUST, HIST CORTESE	Lower	1893, 0.359, SSW
F23	CALTRANS - MOORPARK	512 LOS ANGELES AVE	LUST, HIST UST, HIST CORTESE	Lower	2022, 0.383, South
F24	CALTRANS - MOORPARK	512 LOS ANGELES AVE	LUST	Lower	2022, 0.383, South
F25	UNOCAL	506 LOS ANGELES AVE	LUST	Lower	2026, 0.384, South
F26	TOSCO - 76 SS #4945	506 LOS ANGELES AVE	LUST, HIST CORTESE	Lower	2026, 0.384, South
27	WALNUT CANYON TRACT	WALNUT CANYON RD-N O	ENVIROSTOR	Higher	2080, 0.394, NE
28	REPLANET LLC	101 W LOS ANGELES AV	SWRCY, VENTURA CO. BWT	Lower	2084, 0.395, SE
G29	SHELL SS - NEW LA AV	301 NEW LOS ANGELES	LUST, VENTURA CO. BWT	Lower	2250, 0.426, SSE
G30	PARK LANE CAR WASH	75 PARK LN	LUST, UST	Lower	2507, 0.475, SSE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ..... State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ..... Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST ..... Underground Storage Tank Listing
INDIAN UST ..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP ..... Voluntary Cleanup Program Properties
INDIAN VCP ..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS ..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ..... Waste Management Unit Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
ODI ..... Open Dump Inventory
IHS OPEN DUMPS ..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ..... Delisted National Clandestine Laboratory Register
HIST Cal-Sites ..... Historical Calsites Database
SCH ..... School Property Evaluation Program
CDL ..... Clandestine Drug Labs
Toxic Pits ..... Toxic Pits Cleanup Act Sites
US CDL ..... National Clandestine Laboratory Register

Local Land Records

LIENS ..... Environmental Liens Listing

LIENS 2 ---- CERCLA Lien Information
DEED ---- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
CHMIRS ---- California Hazardous Material Incident Report System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
FUSRAP ---- Formerly Utilized Sites Remedial Action Program
UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites
US AIRS ---- Aerometric Information Retrieval System Facility Subsystem
US MINES ---- Mines Master Index File
ABANDONED MINES ---- Abandoned Mines
FINDS ---- Facility Index System/Facility Registry System
UXO ---- Unexploded Ordnance Sites
DOCKET HWC ---- Hazardous Waste Compliance Docket Listing
ECHO ---- Enforcement & Compliance History Information
FUELS PROGRAM ---- EPA Fuels Program Registered Listing
CA BOND EXP. PLAN ---- Bond Expenditure Plan
VENTURA CO. BWT ---- Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
Cortese ---- "Cortese" Hazardous Waste & Substances Sites List
CUPA Listings ---- CUPA Resources List
DRYCLEANERS ---- Cleaner Facilities

EMI Emissions Inventory Data
ENF Enforcement Action Listing
Financial Assurance Financial Assurance Information Listing
HAZNET Facility and Manifest Data
ICE ICE
HWP EnviroStor Permitted Facilities Listing
HWT Registered Hazardous Waste Transporter Database
MED WASTE VENTURA Medical Waste Program List
MINES Mines Site Location Listing
MWMP Medical Waste Management Program Listing
NPDES NPDES Permits Listing
PEST LIC Pesticide Regulation Licenses Listing
PROC Certified Processors Database
Notify 65 Proposition 65 Records
UIC UIC Listing
WASTEWATER PITS Oil Wastewater Pits Listing
WDS Waste Discharge System
WIP Well Investigation Program Case List

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP EDR Proprietary Manufactured Gas Plants
EDR Hist Cleaner EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF Recovered Government Archive Solid Waste Facilities List
RGA LUST Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 09/13/2017 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
HUDSON PLATING WORKS	***11941 HERTZ ST***	***SSW 1/8 - 1/4 (0.139 mi.)***	***B11***	***27***

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 09/13/2017 has revealed that there are 5 RCRA-SQG sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SOUTHLAND PAINTING	***12160 POINDEXTER ST***	***SW 0 - 1/8 (0.025 mi.)***	***A3***	***10***
WAVE PRECISION INC	***5390 KAZUKO CT***	***S 0 - 1/8 (0.104 mi.)***	***8***	***16***
TOYO INK. AMERICA LL	***5360 N. COMMERCE AVE***	***SSW 0 - 1/8 (0.105 mi.)***	***9***	***18***
PRUDENTIAL OVERALL S	***5300 GABBERT RD***	***SW 1/8 - 1/4 (0.142 mi.)***	***12***	***31***
MOORPARK UNIFIED SCH	***5297 MAUREEN LANE***	***SSW 1/8 - 1/4 (0.169 mi.)***	***B13***	***39***

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 07/31/2017 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WALNUT CANYON TRACT Facility Id: 56490100 Status: No Further Action	WALNUT CANYON RD-N O	NE 1/4 - 1/2 (0.394 mi.)	27	66

Lower Elevation	Address	Direction / Distance	Map ID	Page
VIKING ELECTRONICS I	***5455 ENDEAVOUR CT***	***SSW 0 - 1/8 (0.016 mi.)***	***2***	***8***

Facility Id: 71003350
Status: Refer: Other Agency

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there are 13 LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PRUDENTIAL OVERALL S	***5300 GABBERT RD***	***SW 1/8 - 1/4 (0.142 mi.)***	***12***	***31***
Database: LUST REG 4, Date of Government Version: 09/07/2004 Database: VENTURA CO. LUST, Date of Government Version: 05/29/2008 Database: LUST, Date of Government Version: 09/11/2017 Status: Completed - Case Closed Facility Id: C-97042 Status: Case Closed Facility Id: 97042 Status: Case Closed Global Id: T0611101157 Global ID: T0611101157				
UNOCAL #1696	***18 HIGH ST***	***ESE 1/4 - 1/2 (0.268 mi.)***	***16***	***46***
Database: LUST REG 4, Date of Government Version: 09/07/2004 Database: VENTURA CO. LUST, Date of Government Version: 05/29/2008 Facility Id: C-93041 Status: Case Closed Facility Id: 93041 Status: Case Closed Global ID: T0611100863				
TEXACO STATION	347 MOORPARK AVE	SE 1/4 - 1/2 (0.328 mi.)	D17	48
Database: LUST REG 4, Date of Government Version: 09/07/2004 Database: VENTURA CO. LUST, Date of Government Version: 05/29/2008 Facility Id: C-88066 Status: Case Closed Facility Id: 88066 Status: Case Closed Global ID: T0611100313				
TEXACO STATION	***347 MOORPARK***	***SE 1/4 - 1/2 (0.328 mi.)***	***D18***	***49***
Database: LUST, Date of Government Version: 09/11/2017 Status: Completed - Case Closed Global Id: T0611100313				
UNOCAL	506 LOS ANGELES AVE	SW 1/4 - 1/2 (0.354 mi.)	20	51
Database: LUST, Date of Government Version: 09/11/2017 Status: Completed - Case Closed Global Id: T0611101179 Global Id: T0611100511				
GISLER RANCH	***635 LOS ANGELES AVE***	***SSW 1/4 - 1/2 (0.359 mi.)***	***E21***	***54***
Database: LUST REG 4, Date of Government Version: 09/07/2004 Database: VENTURA CO. LUST, Date of Government Version: 05/29/2008				

Facility Id: C-91087
Status: Case Closed
Facility Id: 91087
Status: Case Closed
Global ID: T0611100783

GISLER RANCH ***635 LOS ANGELES AVE*** ***SSW 1/4 - 1/2 (0.359 mi.)*** ***E22*** ***55***
Database: LUST, Date of Government Version: 09/11/2017
Status: Completed - Case Closed
Global Id: T0611100783

CALTRANS - MOORPARK ***512 LOS ANGELES AVE*** ***S 1/4 - 1/2 (0.383 mi.)*** ***F23*** ***56***
Database: LUST, Date of Government Version: 09/11/2017
Status: Completed - Case Closed
Global Id: T0611100157
Global Id: T0611101081

CALTRANS - MOORPARK 512 LOS ANGELES AVE S 1/4 - 1/2 (0.383 mi.) F24 62
Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: VENTURA CO. LUST, Date of Government Version: 05/29/2008
Facility Id: C-96005
Status: Preliminary site assessment workplan submitted
Facility Id: 96005
Status: Case Closed
Global ID: T0611101081

UNOCAL 506 LOS ANGELES AVE S 1/4 - 1/2 (0.384 mi.) F25 63
Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: VENTURA CO. LUST, Date of Government Version: 05/29/2008
Facility Id: C-89102
Status: Case Closed
Facility Id: 89102
Status: Case Closed
Global ID: T0611100511

TOSCO - 76 SS #4945 ***506 LOS ANGELES AVE*** ***S 1/4 - 1/2 (0.384 mi.)*** ***F26*** ***64***
Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: VENTURA CO. LUST, Date of Government Version: 05/29/2008
Facility Id: C-98021
Status: Pollution Characterization
Facility Id: 98021
Status: Case Closed
Global ID: T0611101179

SHELL SS - NEW LA AV ***301 NEW LOS ANGELES*** ***SSE 1/4 - 1/2 (0.426 mi.)*** ***G29*** ***68***
Database: VENTURA CO. LUST, Date of Government Version: 05/29/2008
Database: LUST, Date of Government Version: 09/11/2017
Status: Completed - Case Closed
Facility Id: 04030
Status: Post remedial action monitoring
Global Id: T0611123476

PARK LANE CAR WASH ***75 PARK LN*** ***SSE 1/4 - 1/2 (0.475 mi.)*** ***G30*** ***71***
Database: VENTURA CO. LUST, Date of Government Version: 05/29/2008
Database: LUST, Date of Government Version: 09/11/2017
Status: Completed - Case Closed
Facility Id: 04035
Status: Case Closed
Global Id: T0611137666

SLIC: Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the SLIC list, as provided by EDR, has revealed that there is 1 SLIC site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ANTONIO M. PEREZ	1363 WALNUT CANYON R	ENE 1/4 - 1/2 (0.344 mi.)	19	51
Database: SLIC, Date of Government Version: 09/11/2017 Facility Status: Completed - Case Closed Global Id: T10000000782				

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, has revealed that there are 3 UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ANNOTTI, A. D.	786 POINDEXTER AVE	S 0 - 1/8 (0.002 mi.)	1	8
Database: VENTURA CO. UST, Date of Government Version: 08/28/2017 Facility Id: D 505 Facility Status: inactive				
CASCADE SPRINKLER	177 POINDEXTER AVE	SE 0 - 1/8 (0.028 mi.)	4	11
Database: VENTURA CO. UST, Date of Government Version: 08/28/2017 Facility Id: D 1250 Facility Status: inactive				
PRUDENTIAL OVERALL S	***5300 GABBERT RD***	***SW 1/8 - 1/4 (0.142 mi.)***	***12***	***31***
Database: VENTURA CO. UST, Date of Government Version: 08/28/2017 Facility Id: D 1292 Facility Status: inactive				

AST: A listing of aboveground storage tank petroleum storage tank locations.

A review of the AST list, as provided by EDR, and dated 07/06/2016 has revealed that there are 2 AST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
LEVEL (3) COMMUNICAT	***5245 KAZUKO CT***	***S 1/8 - 1/4 (0.220 mi.)***	***C14***	***45***
LEVEL 3 COMMUNICATIO	5245 KAZUKO CT	S 1/8 - 1/4 (0.220 mi.)	C15	46

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 09/11/2017 has revealed that there is 1 SWRCY site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
REPLANET LLC	***101 W LOS ANGELES AV***	***SE 1/4 - 1/2 (0.395 mi.)***	***28***	***67***
Cert Id: RC155784.001				

Local Lists of Registered Storage Tanks

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there is 1 SWEEPS UST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PRUDENTIAL OVERALL S	***5300 GABBERT RD***	***SW 1/8 - 1/4 (0.142 mi.)***	***12***	***31***
Status: A				
Tank Status: A				
Comp Number: 1734				

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there is 1 HIST UST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PRUDENTIAL OVERALL S	***5300 GABBERT RD***	***SW 1/8 - 1/4 (0.142 mi.)***	***12***	***31***
Facility Id: 00000065732				

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there is 1 CA FID UST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PRUDENTIAL OVERALL S	***5300 GABBERT RD***	***SW 1/8 - 1/4 (0.142 mi.)***	***12***	***31***

Facility Id: 56002654
Status: A

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 09/13/2017 has revealed that there are 3 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SPADYS DISPOSAL SERV	***11905 DARLENE LN***	***WNW 0 - 1/8 (0.041 mi.)***	***5***	***11***
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
DUROTECH CO	***5397 COMMERCE AVE***	***SW 0 - 1/8 (0.050 mi.)***	***A6***	***13***
R C T	***11855 DARLENE LN***	***WNW 0 - 1/8 (0.115 mi.)***	***10***	***26***

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 5 HIST CORTESE sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PRUDENTIAL OVERALL S Reg Id: C-97042	***5300 GABBERT RD***	***SW 1/8 - 1/4 (0.142 mi.)***	***12***	***31***
TEXACO STATION Reg Id: C-88066	***347 MOORPARK***	***SE 1/4 - 1/2 (0.328 mi.)***	***D18***	***49***
GISLER RANCH Reg Id: C-91087	***635 LOS ANGELES AVE***	***SSW 1/4 - 1/2 (0.359 mi.)***	***E22***	***55***
CALTRANS - MOORPARK Reg Id: C-96005 Reg Id: C-86077	***512 LOS ANGELES AVE***	***S 1/4 - 1/2 (0.383 mi.)***	***F23***	***56***
TOSCO - 76 SS #4945 Reg Id: C-89102 Reg Id: C-98021	***506 LOS ANGELES AVE***	***S 1/4 - 1/2 (0.384 mi.)***	***F26***	***64***

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there is 1 EDR Hist Auto site within approximately 0.125 miles of the target property.

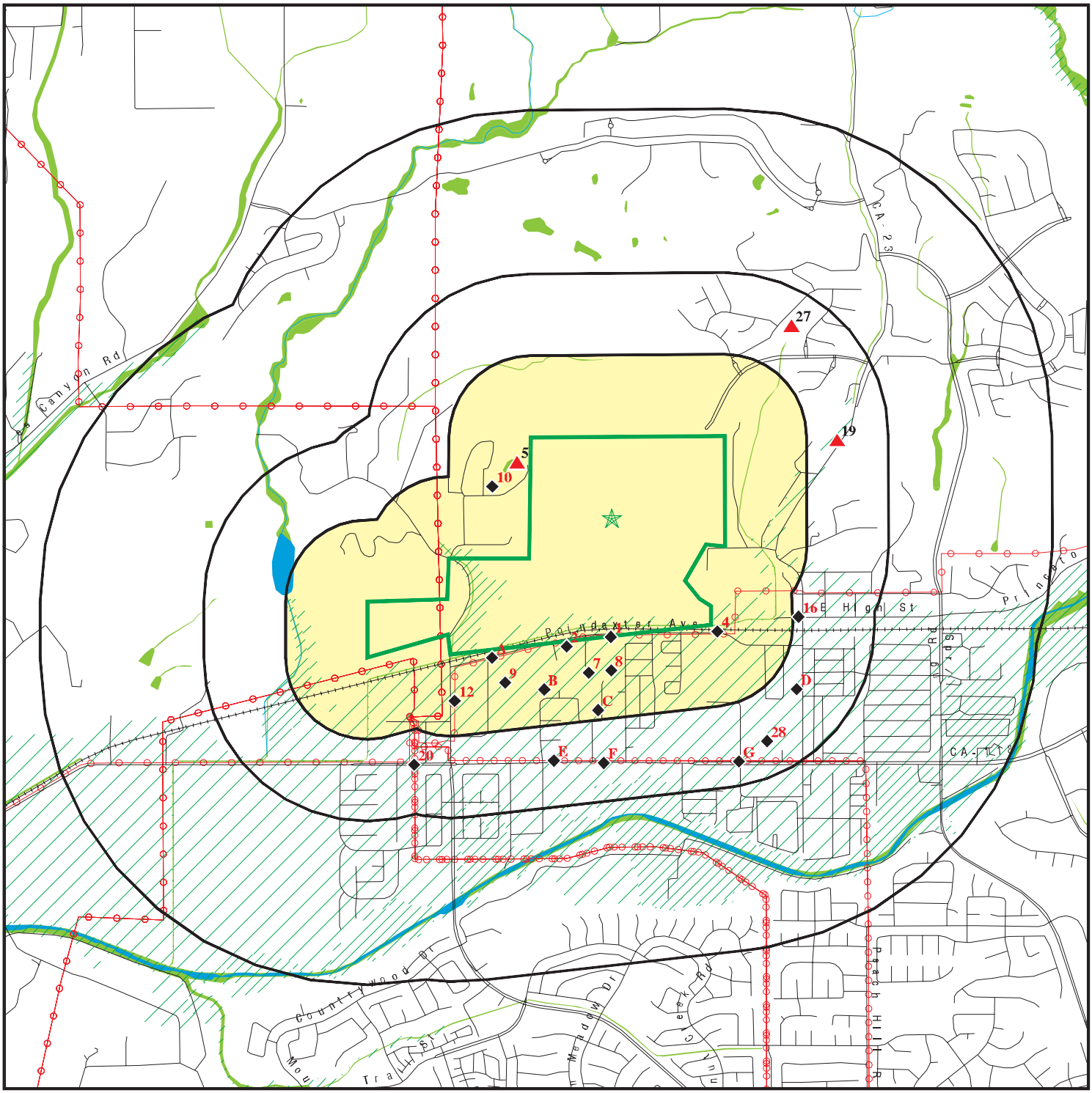
Lower Elevation	Address	Direction / Distance	Map ID	Page
RODS TRANSMISSION	5401 TECH CIR	S 0 - 1/8 (0.104 mi.)	7	15

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.

Site Name	Database(s)
UNION OIL CO SIMI OIL FLD	SEMS-ARCHIVE

OVERVIEW MAP - 5131440.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Upgradient Area
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Hitch Ranch	CLIENT: Amicus
ADDRESS: Poindexter Avenue At Gabbert Road Moorpark CA 93021	CONTACT: Markus Niebanck INQUIRY #: 5131440.2s
LAT/LONG: 34.289704 / 118.892291	DATE: December 07, 2017 3:47 pm

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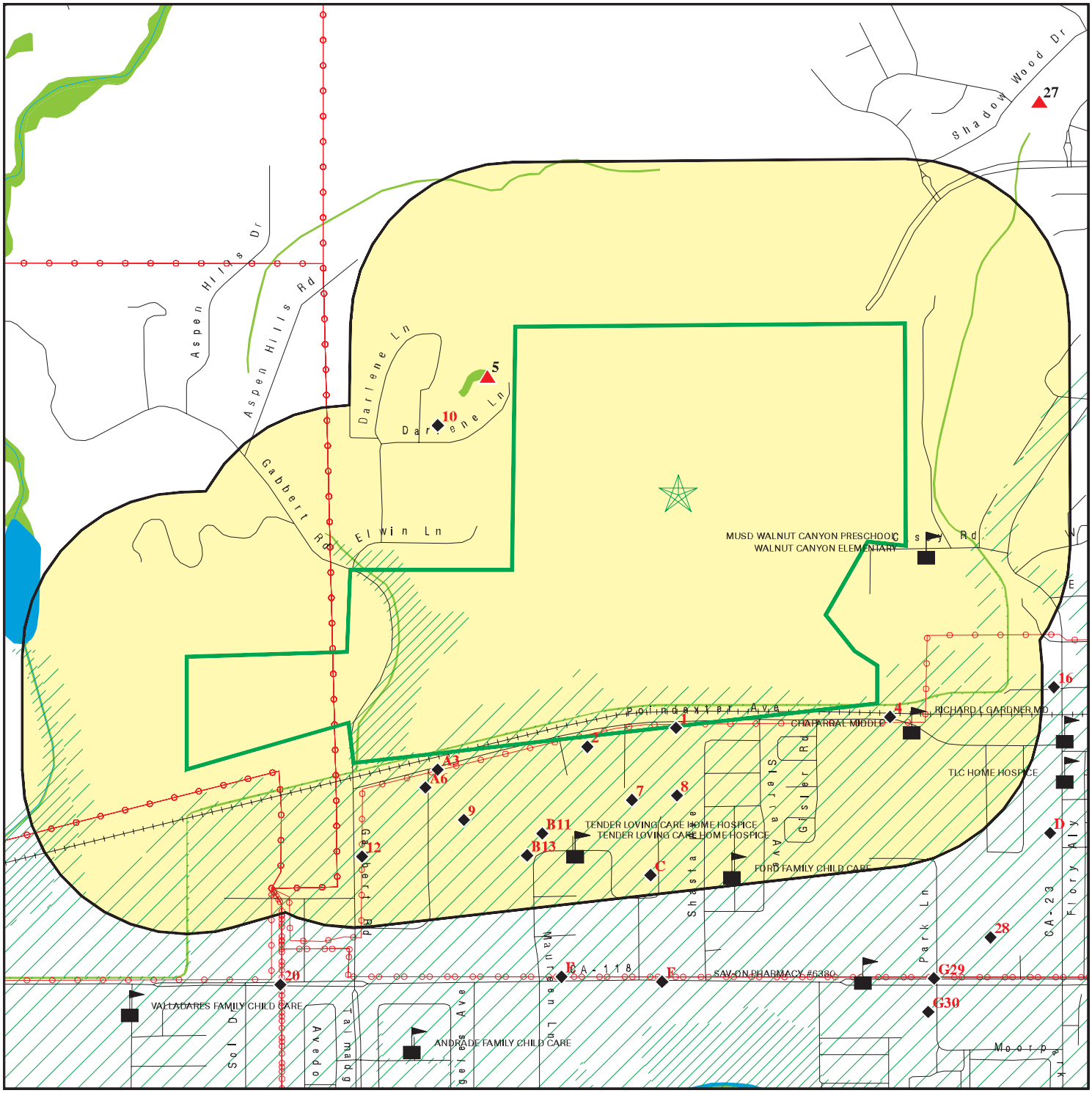
DETAIL MAP - 5131440.2S



0 1/8 1/4 1/2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Hitch Ranch	CLIENT:	Amicus
ADDRESS:	Poindexter Avenue At Gabbert Road Moorpark CA 93021	CONTACT:	Markus Niebanck
LAT/LONG:	34.289704 / 118.892291	INQUIRY #:	5131440.2s
		DATE:	December 07, 2017 3:50 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	1	NR	NR	NR	1
RCRA-SQG	0.250		3	2	NR	NR	NR	5
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		1	0	1	0	NR	2
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	1	12	NR	NR	13

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	1	NR	NR	1
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		2	1	NR	NR	NR	3
AST	0.250		0	2	NR	NR	NR	2
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	1	NR	NR	1
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	1	NR	NR	NR	1
HIST UST	0.250		0	1	NR	NR	NR	1
CA FID UST	0.250		0	1	NR	NR	NR	1
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		3	0	NR	NR	NR	3
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
VENTURA CO. BWT	0.001		0	NR	NR	NR	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	1	4	NR	NR	5
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MED WASTE VENTURA	0.001		0	NR	NR	NR	NR	0
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		1	NR	NR	NR	NR	1
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	10	11	19	0	0	40

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
South
< 1/8
0.002 mi.
12 ft.

ANNOTTI, A. D.
786 POINDEXTER AVE
MOORPARK, CA

UST **U002169367**
N/A

Relative:
Lower

Actual:
495 ft.

VENTURA CO. UST:
Facility ID: D 505
Facility Status: inactive

2
SSW
< 1/8
0.016 mi.
83 ft.

VIKING ELECTRONICS INC
5455 ENDEAVOUR CT
MOORPARK, CA 93021

ENVIROSTOR **S104579043**
WDS **N/A**

Relative:
Lower

Actual:
484 ft.

ENVIROSTOR:

Facility ID:	71003350
Status:	Refer: Other Agency
Status Date:	Not reported
Site Code:	Not reported
Site Type:	Tiered Permit
Site Type Detailed:	Tiered Permit
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Not reported
Division Branch:	Cleanup Chatsworth
Assembly:	44
Senate:	27
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	34.28387
Longitude:	-118.8948
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAL000140644
Alias Type:	EPA Identification Number
Alias Name:	71003350
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported

VIKING ELECTRONICS INC (Continued) **S104579043**

Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

WDS:
Facility ID: 4 56I014978
Facility Type: Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion: 4
Facility Telephone: 8055539655
Facility Contact: JUSTIN KILLGORE
Agency Name: VIKING ELECTRONICS INC
Agency Address: 5455 Endeavour Ct
Agency City,St,Zip: Moorpark 930211712
Agency Contact: JUSTIN KILLGORE
Agency Telephone: 8055539655
Agency Type: Private
SIC Code: 0
SIC Code 2: Not reported
Primary Waste Type: Not reported
Primary Waste: Not reported
Waste Type2: Not reported
Waste2: Not reported
Primary Waste Type: Not reported
Secondary Waste: Not reported
Secondary Waste Type: Not reported
Design Flow: 0
Baseline Flow: 0
Reclamation: Not reported
POTW: Not reported
Treat To Water: Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

A3 **SOUTHLAND PAINTING** **RCRA-SQG** **1000904981**
SW **12160 POINDEXTER ST** **FINDS** **CA0000233700**
< 1/8 **MOORPARK, CA 93021** **ECHO**
0.025 mi.
130 ft. **Site 1 of 2 in cluster A**

Relative:
Lower

Actual:
480 ft.

RCRA-SQG:

Date form received by agency:	04/18/1994
Facility name:	SOUTHLAND PAINTING
Facility address:	12160 POINDEXTER ST MOORPARK SELF STORAGE MOORPARK, CA 93021
EPA ID:	CA0000233700
Mailing address:	ALAMO ST UNIT D SIMI VALLEY, CA 93063
Contact:	CAROL GUERRERO
Contact address:	4565 ALAMO ST UNIT D SIMI VALLEY, CA 93063
Contact country:	US
Contact telephone:	805-579-8112
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	CAROL GUERRERO
Owner/operator address:	4565 ALAMO UNIT D SIMI VALLEY, CA 93063
Owner/operator country:	Not reported
Owner/operator telephone:	805-579-8112
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No

SOUTHLAND PAINTING (Continued) **1000904981**

Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002615858

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000904981
Registry ID: 110002615858
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002615858

4
SE
< 1/8
0.028 mi.
149 ft.

CASCADE SPRINKLER **UST** **U003142353**
177 POINDEXTER AVE **N/A**
MOORPARK, CA

Relative: Lower

Actual: 502 ft.

VENTURA CO. UST:
Facility ID: D 1250
Facility Status: inactive

5
WNW
< 1/8
0.041 mi.
216 ft.

SPADYS DISPOSAL SERVICE **RCRA NonGen / NLR** **1000195057**
11905 DARLENE LN **FINDS** **CAT080032428**
MOORPARK, CA 93021 **ECHO**

Relative: Higher

Actual: 637 ft.

RCRA NonGen / NLR:
Date form received by agency: 04/16/1981
Facility name: SPADYS DISPOSAL SERVICE
Facility address: 11905 DARLENE LN
MOORPARK, CA 93021
EPA ID: CAT080032428
Mailing address: PO BOX 484
MOORPARK, CA 93021
Contact: ENVIRONMENTAL MANAGER
Contact address: 11905 DARLENE LN
MOORPARK, CA 93021
Contact country: US
Contact telephone: 805-646-5577
Contact email: Not reported
EPA Region: 09

SPADYS DISPOSAL SERVICE (Continued) **1000195057**

Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: 415-555-1212
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: YASSINI MORTEZA GENL PARTNER
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: 415-555-1212
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: Yes
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002956775

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport,

SPADYS DISPOSAL SERVICE (Continued) **1000195057**

and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000195057
Registry ID: 110002956775
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002956775

A6 **DUROTECH CO** **RCRA NonGen / NLR** **1000886373**
SW **5397 COMMERCE AVE** **FINDS** **CA0000201160**
< 1/8 **MOORPARK, CA 93021** **ECHO**
0.050 mi. **VENTURA CO. BWT**
262 ft. **Site 2 of 2 in cluster A** **HAZNET**

Relative:
Lower

Actual:
480 ft.

RCRA NonGen / NLR:
Date form received by agency: 07/26/1995
Facility name: DUROTECH CO
Facility address: 5397 COMMERCE AVE
MOORPARK, CA 93021-1764
EPA ID: CA0000201160
Mailing address: COMMERCE AVE
MOORPARK, CA 93021-1764
Contact: ROBERT E LOLLEY
Contact address: 5397 COMMERCE AVE
MOORPARK, CA 93021-1764
Contact country: US
Contact telephone: 805-523-0211
Contact email: Not reported
EPA Region: 09
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: MIROSLAV LISKA
Owner/operator address: 5397 COMMERCE AVE
MOORPARK, CA 93021
Owner/operator country: Not reported
Owner/operator telephone: 805-523-0211
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No

DUROTECH CO (Continued) **1000886373**

Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110055753215

Environmental Interest/Information System
STATE MASTER

Registry ID: 110002615439

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000886373
Registry ID: 110002615439
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002615439

VENTURA CO. BWT:
Facility ID: HM 2644
Program: Not reported

Facility ID: FA0029493
Program: BUSINESS PLAN/HAZARDOUS WASTE GENERATOR

HAZNET:
envid: 1000886373
Year: 2001
GEPAID: CA0000201160
Contact: INACTIVE PER V96 FEES FORM
Telephone: 8055230211
Mailing Name: Not reported
Mailing Address: 5397 COMMERCE AVE
Mailing City,St,Zip: MOORPARK, CA 930210000

DUROTECH CO (Continued) **1000886373**

Gen County:	Not reported
TSD EPA ID:	CAT000613976
TSD County:	Not reported
Waste Category:	Liquids with halogenated organic compounds >= 1,000 Mg./L
Disposal Method:	Transfer Station
Tons:	0.4
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Ventura

envid:	1000886373
Year:	2000
GEPAID:	CA0000201160
Contact:	INACTIVE PER V96 FEES FORM
Telephone:	8055230211
Mailing Name:	Not reported
Mailing Address:	5397 COMMERCE AVE
Mailing City,St,Zip:	MOORPARK, CA 930210000
Gen County:	Not reported
TSD EPA ID:	CAT000613976
TSD County:	Not reported
Waste Category:	Liquids with halogenated organic compounds >= 1,000 Mg./L
Disposal Method:	Transfer Station
Tons:	0.06
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Ventura

envid:	1000886373
Year:	2000
GEPAID:	CA0000201160
Contact:	INACTIVE PER V96 FEES FORM
Telephone:	8055230211
Mailing Name:	Not reported
Mailing Address:	5397 COMMERCE AVE
Mailing City,St,Zip:	MOORPARK, CA 930210000
Gen County:	Not reported
TSD EPA ID:	CAT000613976
TSD County:	Not reported
Waste Category:	Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)
Disposal Method:	Transfer Station
Tons:	0.22
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Ventura

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7 **RODS TRANSMISSION** **EDR Hist Auto** **1021576878**
South **5401 TECH CIR** **N/A**
< 1/8 **MOORPARK, CA 93021**
0.104 mi.
547 ft.

Relative:
Lower

Actual:
487 ft.

EDR Hist Auto

Year:	Name:	Type:
2008	SOLIDA AUTO SERVICE INC	General Automotive Repair Shops
2009	DESERT TUNE AND LUBE INC	Automotive Repair Shops, NEC, NEC
2009	RODS TRANSMISSION	Automotive Transmission Repair Shops

RODS TRANSMISSION (Continued) **1021576878**

2010	DESERT TUNE AND LUBE INC	Automotive Repair Shops, NEC, NEC
2010	RODS TRANSMISSION	Automotive Transmission Repair Shops
2011	RODS TRANSMISSION	Automotive Transmission Repair Shops
2011	DESERT TUNE AND LUBE INC	Automotive Repair Shops, NEC, NEC
2012	DESERT TUNE AND LUBE INC	Automotive Repair Shops, NEC, NEC
2012	RODS TRANSMISSION	Automotive Transmission Repair Shops
2013	RODS TRANSMISSION	Automotive Transmission Repair Shops
2013	DESERT TUNE AND LUBE INC	Automotive Repair Shops, NEC, NEC
2014	DESERT TUNE AND LUBE INC	Automotive Repair Shops, NEC, NEC

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8 **WAVE PRECISION INC** **RCRA-SQG 1001217737**
South **5390 KAZUKO CT** **FINDS CAR000041251**
< 1/8 **MOORPARK, CA 93021** **ECHO**
0.104 mi. **VENTURA CO. BWT**
551 ft.

Relative:
Lower

Actual:
490 ft.

RCRA-SQG:

Date form received by agency:	07/12/2001
Facility name:	WAVE PRECISION INC
Facility address:	5390 KAZUKO CT MOORPARK, CA 93021-1790
EPA ID:	CAR000041251
Contact:	GENE LAPP
Contact address:	5390 KAZUKO CT MOORPARK, CA 93021-1790
Contact country:	US
Contact telephone:	805-529-3324
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	WAVE PRECISION INC
Owner/operator address:	5390 KAZUKO CT MOORPARK, CA 93021
Owner/operator country:	Not reported
Owner/operator telephone:	805-529-3324
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No

WAVE PRECISION INC (Continued) **1001217737**

On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

FINDS:

Registry ID: 110002922918

Environmental Interest/Information System
California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA

WAVE PRECISION INC (Continued) **1001217737**

program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
- Envid: 1001217737
- Registry ID: 110002922918
- DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002922918

VENTURA CO. BWT:
- Facility ID: FA0006650
- Program: HAZARDOUS WASTE GENERATOR/BUSINESS PLAN

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9 SSW < 1/8 0.105 mi. 553 ft.

Relative: Lower

Actual: 480 ft.

TOYO INK. AMERICA LLC **RCRA-SQG 1007989084**
5360 N. COMMERCE AVE. **NPDES CAR000160168**
MOORPARK, CA 93021

RCRA-SQG:
- Date form received by agency: 03/05/2012
- Facility name: TOYO INK. AMERICA LLC
- Facility address: 5360 N. COMMERCE AVE.
  MOORPARK, CA 93021
- EPA ID: CAR000160168
- Mailing address: N. COMMERCE AVE.
  MOORPARK, CA 93021
- Contact: TERRILL NEWKIRK
- Contact address: N. COMMERCE AVE.
  MOORPARK, CA 93021
- Contact country: US
- Contact telephone: 805-378-0033
- Contact email: TNEWKIRK@TOYOINK.COM
- EPA Region: 09
- Land type: Private
- Classification: Small Small Quantity Generator
- Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
- Owner/operator name: TOYO INK
- Owner/operator address: MALLORY COURT
  MALLORY FAMILY PARTNERS, CO 92880
- Owner/operator country: US
- Owner/operator telephone: Not reported
- Owner/operator email: Not reported
- Owner/operator fax: Not reported
- Owner/operator extension: Not reported
- Legal status: Private
- Owner/Operator Type: Operator

TOYO INK. AMERICA LLC (Continued) **1007989084**

Owner/Op start date: 04/01/2010
Owner/Op end date: Not reported

Owner/operator name: TOYO INK AMERICA LLC
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 04/01/2011
Owner/Op end date: Not reported

Owner/operator name: FLUID INK TECHNOLOGY
Owner/operator address: 5360 N COMMERCE AVE
MOORPARK, CA 93021
Owner/operator country: US
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/01/2001
Owner/Op end date: Not reported

Owner/operator name: TOYO INK
Owner/operator address: MALLORY COURT
MALLORY FAMILY PARTNERS, CO 92880
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 04/01/2010
Owner/Op end date: Not reported

Owner/operator name: FLUID INK TECHNOLOGY, INC
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 01/01/2001
Owner/Op end date: Not reported

Owner/operator name: MALLOY FAMILY PARTNERS LP
Owner/operator address: 20542 PASAL AVE

TOYO INK. AMERICA LLC (Continued) **1007989084**

LAKE FORESET, CA 92630
Owner/operator country: US
Owner/operator telephone: 949-458-7578
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 06/01/1996
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

Historical Generators:
Date form received by agency: 05/12/2011
Site name: TOYO INK AMERICA LLC
Classification: Small Quantity Generator

. Waste code: 213
. Waste name: Hydrocarbon solvents (benzene, hexane, Stoddard, etc.)

. Waste code: 272
. Waste name: Polymeric resin waste

. Waste code: D001
. Waste name: IGNITABLE WASTE

Date form received by agency: 03/03/2010
Site name: FLUID INK TECHNOLOGY, INC
Classification: Large Quantity Generator

. Waste code: 134
. Waste name: Aqueous solution with <10% total organic residues

. Waste code: 141
. Waste name: Off-specification, aged, or surplus inorganics

. Waste code: 213

TOYO INK. AMERICA LLC (Continued) **1007989084**

. Waste name: Hydrocarbon solvents (benzene, hexane, Stoddard, etc.)

. Waste code: 272
. Waste name: Polymeric resin waste

. Waste code: 343
. Waste name: Unspecified organic liquid mixture

. Waste code: 352
. Waste name: Other organic solids

. Waste code: 791
. Waste name: Liquids with pH < 2

. Waste code: D001
. Waste name: IGNITABLE WASTE

Date form received by agency: 07/01/2008
Site name: FLUID INK TECHNOLOGY, INC
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

Date form received by agency: 06/23/2006
Site name: FLUID INK TECHNOLOGY, INC
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

Date form received by agency: 01/28/2005
Site name: FLUID INK TECHNOLOGY INC
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 06/19/2014
Date achieved compliance: 06/20/2014
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 03/24/2010
Date achieved compliance: 04/12/2010

TOYO INK. AMERICA LLC (Continued) **1007989084**

Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 09/28/2009
Date achieved compliance: 10/20/2009
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/28/2009
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 12/22/2004
Date achieved compliance: 01/18/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/22/2004
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 06/19/2014
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 06/20/2014
Evaluation lead agency: State

Evaluation date: 09/04/2013
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/03/2013
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

TOYO INK. AMERICA LLC (Continued) **1007989084**

Evaluation date: 07/30/2013
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/24/2010
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 04/12/2010
Evaluation lead agency: State

Evaluation date: 09/28/2009
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 10/20/2009
Evaluation lead agency: State

Evaluation date: 12/26/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/22/2004
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 01/18/2005
Evaluation lead agency: State Contractor/Grantee

NPDES:

Npdes Number: Not reported
Facility Status: Not reported
Agency Id: Not reported
Region: 4
Regulatory Measure Id: 412299
Order No: Not reported
Regulatory Measure Type: Industrial
Place Id: Not reported
WDID: 4 56I023033
Program Type: Not reported
Adoption Date Of Regulatory Measure: Not reported
Effective Date Of Regulatory Measure: Not reported
Expiration Date Of Regulatory Measure: Not reported
Termination Date Of Regulatory Measure: 07/01/2015
Discharge Name: Not reported
Discharge Address: Not reported
Discharge City: Not reported
Discharge State: Not reported
Discharge Zip: Not reported
RECEIVED DATE: 02/23/2011
PROCESSED DATE: 02/23/2011
STATUS CODE NAME: Terminated
STATUS DATE: 07/21/2015
PLACE SIZE: 120000
PLACE SIZE UNIT: SqFt
FACILITY CONTACT NAME: Terrill Newkirk
FACILITY CONTACT TITLE: Not reported

TOYO INK. AMERICA LLC (Continued) **1007989084**

FACILITY CONTACT PHONE:	805-378-0033
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Toyo Ink America LLC
OPERATOR ADDRESS:	5360 N Commerce Ave
OPERATOR CITY:	Moorpark
OPERATOR STATE:	California
OPERATOR ZIP:	93021
OPERATOR CONTACT NAME:	Terrill Newkirk
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	805-378-0033
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Private Business
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	California
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	N
RECEIVING WATER NAME:	Arroyo Las Posas
CERTIFIER NAME:	Charleen Zoumalan
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	12-JUN-12
PRIMARY SIC:	3259-Structural Clay Products, NEC
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported
Npdes Number:	CAS000001
Facility Status:	Terminated
Agency Id:	0
Region:	4
Regulatory Measure Id:	412299
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported

TOYO INK. AMERICA LLC (Continued) **1007989084**

WDID:	4 56I023033
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	02/23/2011
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	07/01/2015
Discharge Name:	Toyo Ink America LLC
Discharge Address:	5360 N Commerce Ave
Discharge City:	Moorpark
Discharge State:	California
Discharge Zip:	93021
RECEIVED DATE:	Not reported
PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported
OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported

TOYO INK. AMERICA LLC (Continued) **1007989084**

CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

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10 WNW < 1/8 0.115 mi. 609 ft. **R C T** **RCRA NonGen / NLR** **1001967456**
11855 DARLENE LN **FINDS** **CAR000069286**
MOORPARK, CA 93021 **ECHO**

Relative: Lower

Actual: 593 ft.

RCRA NonGen / NLR:

Date form received by agency:	04/03/2000
Facility name:	R C T
Facility address:	11855 DARLENE LN MOORPARK, CA 93021
EPA ID:	CAR000069286
Contact:	RICCI FRANKLIN
Contact address:	11855 DARLENE LN MOORPARK, CA 93021
Contact country:	US
Contact telephone:	805-529-1443
Contact email:	Not reported
EPA Region:	09
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	RICCI FRANKLIN
Owner/operator address:	11855 DARLENE LN MOORPARK, CA 93021
Owner/operator country:	Not reported
Owner/operator telephone:	805-529-1443
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	Yes
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No

R C T (Continued) **1001967456**

Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002934512

Environmental Interest/Information System

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1001967456
Registry ID: 110002934512
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002934512

B11
SSW
1/8-1/4
0.139 mi.
733 ft.

Relative:
Lower

Actual:
482 ft.

HUDSON PLATING WORKS
11941 HERTZ ST
MOORPARK, CA 93021

RCRA-LQG **1019899346**
FINDS **CAL000290811**
ECHO

Site 1 of 2 in cluster B

RCRA-LQG:

Date form received by agency: 07/07/2016
Facility name: HUDSON PLATING WORKS
Facility address: 11941 HERTZ STREET
MOORPARK, CA 93021
EPA ID: CAL000290811
Mailing address: HERTZ STREET
MOORPARK, CA 93021
Contact: MARCIA L HUDSON
Contact address: HERTZ STREET
MOORPARK, CA 93021
Contact country: US
Contact telephone: 805-517-1222
Contact email: INFO@HUDSONPLATINGWORKS.COM
EPA Region: 09
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any

HUDSON PLATING WORKS (Continued) **1019899346**

calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	WILLIAM L HUDSON
Owner/operator address:	Not reported
	Not reported
Owner/operator country:	Not reported
Owner/operator telephone:	Not reported
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	11/02/2015
Owner/Op end date:	Not reported

Owner/operator name:	WILLIAM L HUDSON
Owner/operator address:	HERTZ STREET
	MOORPARK, CA 93021
Owner/operator country:	US
Owner/operator telephone:	805-517-1222
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	11/02/2015
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	Yes
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

HUDSON PLATING WORKS (Continued) **1019899346**

. Waste code: 121
. Waste name: Alkaline solution (pH >12.5) with metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc)

. Waste code: 132
. Waste name: Aqueous solution w/metals (< restricted levels and see waste code 121 for a list of metals)

. Waste code: 135
. Waste name: Unspecified aqueous solution

. Waste code: 181
. Waste name: Other inorganic solid waste

. Waste code: 211
. Waste name: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)

. Waste code: 711
. Waste name: Liquids with cyanides > 1000 mg/l

. Waste code: 726
. Waste name: Liquids with nickel > 134 mg/l

. Waste code: 792
. Waste name: Liquids with pH < 2 with metals

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D011
. Waste name: SILVER

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

HUDSON PLATING WORKS (Continued) **1019899346**

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F009
. Waste name: SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

Biennial Reports:

Last Biennial Reporting Year: 2017

Annual Waste Handled:

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
Amount (Lbs): 19593.9

Waste code: D007
Waste name: CHROMIUM
Amount (Lbs): 5598.2

Waste code: D008
Waste name: LEAD
Amount (Lbs): 3265.7

Waste code: D011
Waste name: SILVER
Amount (Lbs): 2799.1

Waste code: D039
Waste name: TETRACHLOROETHYLENE
Amount (Lbs): 466.5

Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 466.5

Waste code: F007
Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS
Amount (Lbs): 466.5

HUDSON PLATING WORKS (Continued) **1019899346**

Waste code: F008
Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS WHERE CYANIDES ARE USED IN THE PROCESS.
Amount (Lbs): 119.7

Waste code: F009
Waste name: SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS WHERE CYANIDES ARE USED IN THE PROCESS.
Amount (Lbs): 50.8

Waste code: U210
Waste name: ETHENE, TETRACHLORO-
Amount (Lbs): 466.5

Violation Status: No violations found

FINDS:

Registry ID: 110065697339

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1019899346
Registry ID: 110065697339
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110065697339

12
SW
1/8-1/4
0.142 mi.
752 ft.

Relative:
Lower

Actual:
474 ft.

PRUDENTIAL OVERALL SUPPLY
5300 GABBERT RD
MOORPARK, CA 93021

RCRA-SQG **1000187295**
LUST **CAD982025439**
UST
SWEEPS UST
HIST UST
CA FID UST
FINDS
ECHO
VENTURA CO. BWT
HAZNET
HIST CORTESE

RCRA-SQG:
Date form received by agency: 09/01/1996
Facility name: PRUDENTIAL OVERALL SUPPLY
Facility address: 5300 GABBERT RD
MOORPARK, CA 93021
EPA ID: CAD982025439

PRUDENTIAL OVERALL SUPPLY (Continued) **1000187295**

Contact:	Not reported
Contact address:	Not reported
	Not reported
Contact country:	US
Contact telephone:	Not reported
Contact email:	Not reported
EPA Region:	09
Land type:	Facility is not located on Indian land. Additional information is not known.
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	DON PATTON
Owner/operator address:	NOT REQUIRED
	NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	415-555-1212
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED
	NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	415-555-1212
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No

PRUDENTIAL OVERALL SUPPLY (Continued) **1000187295**

Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 03/27/1990
Site name: PRUDENTIAL OVERALL SUPPLY
Classification: Large Quantity Generator

Date form received by agency: 08/17/1987
Site name: PRUDENTIAL OVERALL SUPPLY
Classification: Large Quantity Generator

Facility Has Received Notices of Violations:
Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 05/05/1994
Date achieved compliance: 05/05/1999
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 04/13/1993
Date achieved compliance: 05/05/1994
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 05/05/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 05/05/1999
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 04/13/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 05/05/1994
Evaluation lead agency: State Contractor/Grantee

LUST:
Lead Agency: VENTURA COUNTY

PRUDENTIAL OVERALL SUPPLY (Continued) **1000187295**

Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0611101157
Global Id:	T0611101157
Latitude:	34.281689
Longitude:	-118.900335
Status:	Completed - Case Closed
Status Date:	07/30/2002
Case Worker:	Not reported
RB Case Number:	C-97042
Local Agency:	Not reported
File Location:	Not reported
Local Case Number:	97042
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

LUST:

Global Id:	T0611101157
Contact Type:	Regional Board Caseworker
Contact Name:	DANIEL PIROTTON
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN
Email:	dpirotton@waterboards.ca.gov
Phone Number:	2135766714

LUST:

Global Id:	T0611101157
Action Type:	ENFORCEMENT
Date:	07/30/2002
Action:	Closure/No Further Action Letter
Global Id:	T0611101157
Action Type:	Other
Date:	11/26/1997
Action:	Leak Discovery
Global Id:	T0611101157
Action Type:	Other
Date:	11/26/1997
Action:	Leak Reported

LUST:

Global Id:	T0611101157
Status:	Completed - Case Closed
Status Date:	07/30/2002
Global Id:	T0611101157
Status:	Open - Case Begin Date
Status Date:	10/22/1997
Global Id:	T0611101157
Status:	Open - Site Assessment
Status Date:	10/22/1997
Global Id:	T0611101157
Status:	Open - Site Assessment

PRUDENTIAL OVERALL SUPPLY (Continued) **1000187295**

Status Date: 11/26/1997

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-97042	
Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	97042	
Case Type:	Soil	
Abatement Method Used at the Site:		Excavate and Dispose
Global ID:	T0611101157	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	CLOS	
Date Leak Discovered:	11/26/1997	
Date Leak First Reported:		11/26/1997
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	11/26/1997	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		7/30/2002
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		6662.6870633177736425336024854
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		10/22/1997
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		15.5
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	PRUDENTIAL OVERALL SUPPLY	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.2817306 / -1	
Local Agency Staff:	DJE	
Beneficial Use:	Not reported	

PRUDENTIAL OVERALL SUPPLY (Continued) **1000187295**

Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 97042
Status: Case Closed

VENTURA CO. UST:
Facility ID: D 1292
Facility Status: inactive

SWEEPS UST:
Status: Active
Comp Number: 1734
Number: 9
Board Of Equalization: 44-030855
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 56-000-001734-000001
Tank Status: A
Capacity: 10000
Active Date: Not reported
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: 1

HIST UST:
File Number: Not reported
URL: Not reported
Region: STATE
Facility ID: 00000065732
Facility Type: Other
Other Type: INDUSTRIAL LAUNDRY
Contact Name: LARRY WEISMILLER PLT. SUPT.
Telephone: 8055290833
Owner Name: PRUDENITAL OVERALL SUPPLY
Owner Address: 1661 ALTON AVE.
Owner City,St,Zip: IRVINE, CA 92714
Total Tanks: 0001

Tank Num: 001
Container Num: 1
Year Installed: 1985
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: 1/4
Leak Detection: Sensor Instrument

PRUDENTIAL OVERALL SUPPLY (Continued) **1000187295**

CA FID UST:
Facility ID: 56002654
Regulated By: UTNKA
Regulated ID: CAD982025
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: Not reported
Mail To: Not reported
Mailing Address: 5300 GABBERT RD
Mailing Address 2: Not reported
Mailing City,St,Zip: MOORPARK 93021
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

FINDS:

Registry ID: 110002780893

Environmental Interest/Information System
California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000187295
Registry ID: 110002780893
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002780893

VENTURA CO. BWT:
Facility ID: FA0004872
Program: BUSINESS PLAN/HAZARDOUS WASTE GENERATOR

Facility ID: HM 2784
Program: Not reported

PRUDENTIAL OVERALL SUPPLY (Continued) **1000187295**

HAZNET:

envid:	1000187295
Year:	2010
GEPAID:	CAD982025439
Contact:	LEE TERRY-ENVIRO MGR/XT 262
Telephone:	9492504850
Mailing Name:	Not reported
Mailing Address:	1661 ALTON PKWY
Mailing City,St,Zip:	IRVINE, CA 926060000
Gen County:	Not reported
TSD EPA ID:	NVT330010000
TSD County:	Not reported
Waste Category:	Not reported
Disposal Method:	Not reported
Tons:	Not reported
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Ventura

envid:	1000187295
Year:	2010
GEPAID:	CAD982025439
Contact:	LEE TERRY-ENVIRO MGR/XT 262
Telephone:	9492504850
Mailing Name:	Not reported
Mailing Address:	1661 ALTON PKWY
Mailing City,St,Zip:	IRVINE, CA 926060000
Gen County:	Not reported
TSD EPA ID:	NVT330010000
TSD County:	Not reported
Waste Category:	Liquids with pH <= 2
Disposal Method:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	0.0417
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Ventura

envid:	1000187295
Year:	2010
GEPAID:	CAD982025439
Contact:	LEE TERRY-ENVIRO MGR/XT 262
Telephone:	9492504850
Mailing Name:	Not reported
Mailing Address:	1661 ALTON PKWY
Mailing City,St,Zip:	IRVINE, CA 926060000
Gen County:	Not reported
TSD EPA ID:	CAD008364432
TSD County:	Not reported
Waste Category:	Liquids with pH <= 2
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.025
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Ventura

PRUDENTIAL OVERALL SUPPLY (Continued) **1000187295**

envid: 1000187295
Year: 2010
GEPAID: CAD982025439
Contact: LEE TERRY-ENVIRO MGR/XT 262
Telephone: 9492504850
Mailing Name: Not reported
Mailing Address: 1661 ALTON PKWY
Mailing City,St,Zip: IRVINE, CA 926060000
Gen County: Not reported
TSD EPA ID: CAD980675276
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons: 8.428
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Ventura

envid: 1000187295
Year: 2010
GEPAID: CAD982025439
Contact: LEE TERRY-ENVIRO MGR/XT 262
Telephone: 9492504850
Mailing Name: Not reported
Mailing Address: 1661 ALTON PKWY
Mailing City,St,Zip: IRVINE, CA 926060000
Gen County: Not reported
TSD EPA ID: CAT080013352
TSD County: Not reported
Waste Category: Unspecified solvent mixture
Disposal Method: Fuel Blending Prior To Energy Recovery At Another Site
Tons: 0.005
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Ventura

Click this hyperlink while viewing on your computer to access
13 additional CA_HAZNET: record(s) in the EDR Site Report.

HIST CORTESE:
Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-97042

B13 **MOORPARK UNIFIED SCHOOL DIST** **RCRA-SQG** **1004676199**
SSW **5297 MAUREEN LANE** **FINDS** **CAR000082149**
1/8-1/4 **MOORPARK, CA 93021** **ECHO**
0.169 mi. **VENTURA CO. BWT**
893 ft. **Site 2 of 2 in cluster B** **NPDES**
WDS

Relative:
Lower

Actual:
481 ft.

RCRA-SQG:
Date form received by agency: 09/08/2000
Facility name: MOORPARK UNIFIED SCHOOL DIST
Facility address: 5297 MAUREEN LANE

MOORPARK UNIFIED SCHOOL DIST (Continued) **1004676199**

MOORPARK, CA 93021
EPA ID: CAR000082149
Contact: JANE LAVALLEE
Contact address: 5297 MAUREEN LANE
MOORPARK, CA 93021
Contact country: US
Contact telephone: 805-378-6316
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: MOORPARK UNIFIED SCH DIST
Owner/operator address: 5297 MAUREEN LANE
MOORPARK, CA 93021
Owner/operator country: Not reported
Owner/operator telephone: 805-378-6300
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Other
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D000
. Waste name: Not Defined

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE,

MOORPARK UNIFIED SCHOOL DIST (Continued) **1004676199**

2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

FINDS:

Registry ID: 110012183760

Environmental Interest/Information System

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

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STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1004676199
Registry ID: 110012183760
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110012183760

VENTURA CO. BWT:

Facility ID: HM 882
Program: Not reported

Facility ID: HM 3106
Program: Not reported

Facility ID: BP 2050
Program: Not reported

Facility ID: FA0004853
Program: BUSINESS PLAN/HAZARDOUS WASTE GENERATOR

NPDES:

Npdes Number: CAS000001
Facility Status: Active
Agency Id: 0
Region: 4
Regulatory Measure Id: 192829
Order No: 97-03-DWQ

MOORPARK UNIFIED SCHOOL DIST (Continued) **1004676199**

Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	4 56I017876
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	03/11/2003
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Moorpark Unified School District
Discharge Address:	5297 Maureen Ln
Discharge City:	Moorpark
Discharge State:	California
Discharge Zip:	93021
RECEIVED DATE:	Not reported
PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported
OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported

MOORPARK UNIFIED SCHOOL DIST (Continued) **1004676199**

CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported
Npdes Number:	Not reported
Facility Status:	Not reported
Agency Id:	Not reported
Region:	4
Regulatory Measure Id:	192829
Order No:	Not reported
Regulatory Measure Type:	Industrial
Place Id:	Not reported
WDID:	4 56I017876
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
RECEIVED DATE:	05/09/2008
PROCESSED DATE:	03/11/2003
STATUS CODE NAME:	Active
STATUS DATE:	03/11/2003
PLACE SIZE:	208896
PLACE SIZE UNIT:	SqFt
FACILITY CONTACT NAME:	Tony Briscoe
FACILITY CONTACT TITLE:	Director of Transportation
FACILITY CONTACT PHONE:	805-378-6300
FACILITY CONTACT PHONE EXT:	1452
FACILITY CONTACT EMAIL:	tbriscoe@mrpk.org
OPERATOR NAME:	Moorpark Unified School District
OPERATOR ADDRESS:	5297 Maureen Ln
OPERATOR CITY:	Moorpark
OPERATOR STATE:	California
OPERATOR ZIP:	93021
OPERATOR CONTACT NAME:	Jemal Chavez
OPERATOR CONTACT TITLE:	Transportation Supervisor
OPERATOR CONTACT PHONE:	805-378-6300
OPERATOR CONTACT PHONE EXT:	1452
OPERATOR CONTACT EMAIL:	jlchavez@mrpk.org
OPERATOR TYPE:	Other
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported

MOORPARK UNIFIED SCHOOL DIST (Continued) **1004676199**

DEVELOPER STATE:	California
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	805-378-6300
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	N
RECEIVING WATER NAME:	Pacific Ocean
CERTIFIER NAME:	Jemal Chavez
CERTIFIER TITLE:	Director of Transportation
CERTIFICATION DATE:	16-DEC-16
PRIMARY SIC:	4151-School Buses
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

WDS:

Facility ID:	4 56I017876
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	4
Facility Telephone:	Not reported
Facility Contact:	Gary Ventsam
Agency Name:	MOORPARK UNIFIED SCHOOL DIST
Agency Address:	5297 Maureen Ln
Agency City,St,Zip:	Moorpark 930217125
Agency Contact:	Gary Ventsam
Agency Telephone:	8053786300
Agency Type:	Special District (Includes districts established under general acts, sanitary districts, water districts irrigation districts, etc.)
SIC Code:	0
SIC Code 2:	Not reported
Primary Waste Type:	Not reported

MOORPARK UNIFIED SCHOOL DIST (Continued) **1004676199**

Primary Waste:	Not reported
Waste Type2:	Not reported
Waste2:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported
POTW:	Not reported
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

C14 **LEVEL (3) COMMUNICATIONS-MOORPARK** **AST** **S105511770**
South **5245 KAZUKO CT** **VENTURA CO. BWT** **N/A**
1/8-1/4 **MOORPARK, CA**
0.220 mi.
1162 ft. **Site 1 of 2 in cluster C**

Relative:
Lower

Actual:
487 ft.

AST:

Certified Unified Program Agencies:	Ventura
Owner:	LEVEL (3) COMMUNICATIONS
Total Gallons:	3200
CERSID:	Not reported
Facility ID:	Not reported
Business Name:	Not reported
Phone:	Not reported
Fax:	Not reported
Mailing Address:	Not reported
Mailing Address City:	Not reported
Mailing Address State:	Not reported
Mailing Address Zip Code:	Not reported
Operator Name:	Not reported
Operator Phone:	Not reported
Owner Phone:	Not reported
Owner Mail Address:	Not reported
Owner State:	Not reported
Owner Zip Code:	Not reported
Owner Country:	Not reported
Property Owner Name:	Not reported
Property Owner Phone:	Not reported
Property Owner Mailing Address:	Not reported
Property Owner City:	Not reported
Property Owner Stat :	Not reported
Property Owner Zip Code:	Not reported
Property Owner Country:	Not reported
EPAID:	Not reported

LEVEL (3) COMMUNICATIONS-MOORPARK (Continued) **S105511770**

VENTURA CO. BWT:
Facility ID: FA0006900
Program: BUSINESS PLAN/ABOVEGROUND PETROLEUM TANKS

C15 **LEVEL 3 COMMUNICATIONS - MRPKCACA** **AST** **A100421766**
South **5245 KAZUKO CT** **N/A**
1/8-1/4 **MOORPARK, CA 93021**
0.220 mi.
1162 ft. **Site 2 of 2 in cluster C**

Relative:
Lower

Actual:
487 ft.

AST:

Certified Unified Program Agencies:	Not reported
Owner:	LEVEL 3 COMMUNICATIONS, LLC
Total Gallons:	Not reported
CERSID:	10335724
Facility ID:	Not reported
Business Name:	Level 3 Communications
Phone:	(720) 888-1000
Fax:	Not reported
Mailing Address:	1025 ELDORADO BLVD
Mailing Address City:	BROOMFIELD
Mailing Address State:	CO
Mailing Address Zip Code:	80021
Operator Name:	Level 3 Communications - MRPKCACA
Operator Phone:	(720) 888-0676
Owner Phone:	(720) 888-1000
Owner Mail Address:	1025 ELDORADO BLVD
Owner State:	CO
Owner Zip Code:	80021
Owner Country:	United States
Property Owner Name:	Not reported
Property Owner Phone:	Not reported
Property Owner Mailing Address:	Not reported
Property Owner City:	Not reported
Property Owner Stat :	Not reported
Property Owner Zip Code:	Not reported
Property Owner Country:	Not reported
EPAID:	Not reported

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16 **UNOCAL #1696** **LUST** **U002169192**
ESE **18 HIGH ST** **UST** **N/A**
1/4-1/2 **MOORPARK, CA**
0.268 mi.
1415 ft.

Relative:
Lower

Actual:
515 ft.

LUST REG 4:

Region:	4
Regional Board:	04
County:	Ventura
Facility Id:	C-93041
Status:	Case Closed
Substance:	Waste Oil
Substance Quantity:	Not reported
Local Case No:	93041
Case Type:	Soil
Abatement Method Used at the Site:	Not reported

UNOCAL #1696 (Continued) **U002169192**

Global ID:	T0611100863	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	EF	
Date Leak Discovered:	11/11/1993	
Date Leak First Reported:		11/11/1993
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	11/11/1993	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		5/2/1994
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		5317.8868089805559719738061044
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		11/18/1993
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		11/18/1993
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	UNOCAL CERT	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.2854424 / -1	
Local Agency Staff:	EHD	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

VENTURA CO. LUST:

Region:	VENTURA
Facility ID:	93041
Status:	Case Closed

VENTURA CO. UST:

Facility ID:	D 1086

UNOCAL #1696 (Continued) **U002169192**

Facility Status: inactive

D17 **TEXACO STATION** **LUST** **S102438808**
SE **347 MOORPARK AVE** **N/A**
1/4-1/2 **MOORPARK, CA 93021**
0.328 mi.
1731 ft. **Site 1 of 2 in cluster D**

Relative:
Lower

Actual:
510 ft.

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-88066	
Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	88066	
Case Type:	Groundwater	
Abatement Method Used at the Site:		ETED
Global ID:	T0611100313	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	EF	
Date Leak Discovered:	6/2/1988	
Date Leak First Reported:		6/2/1988
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	7/1/1988	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		3/8/1996
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		6451.4414296236740957154828895
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		6/20/1988
Preliminary Site Assessment Began:		8/31/1990
Pollution Characterization Began:		8/31/1990
Remediation Plan Submitted:		10/19/1990
Remedial Action Underway:		6/9/1992
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		6/2/1988
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	TEXACO STATION	
RP Address:	Not reported	

TEXACO STATION (Continued) **S102438808**

Program: LUST
Lat/Long: 34.2823196 / -1
Local Agency Staff: EHD
Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 88066
Status: Case Closed

D18 **TEXACO STATION** **LUST** **S104994457**
SE **347 MOORPARK** **VENTURA CO. BWT** **N/A**
1/4-1/2 **MOORPARK, CA 93021** **HIST CORTESE**
0.328 mi.
1731 ft. **Site 2 of 2 in cluster D**

Relative:
Lower

Actual:
510 ft.

LUST:
Lead Agency: VENTURA COUNTY
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0611100313
Global Id: T0611100313
Latitude: 34.282202
Longitude: -118.88242
Status: Completed - Case Closed
Status Date: 03/08/1996
Case Worker: Not reported
RB Case Number: C-88066
Local Agency: Not reported
File Location: Not reported
Local Case Number: 88066
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: Not reported

LUST:
Global Id: T0611100313
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

LUST:
Global Id: T0611100313
Action Type: Other
Date: 06/02/1988
Action: Leak Reported

Global Id: T0611100313
Action Type: ENFORCEMENT

TEXACO STATION (Continued) **S104994457**

Date: 06/02/1988
Action: * Historical Enforcement

Global Id: T0611100313
Action Type: Other
Date: 06/02/1988
Action: Leak Discovery

LUST:
Global Id: T0611100313
Status: Completed - Case Closed
Status Date: 03/08/1996

Global Id: T0611100313
Status: Open - Case Begin Date
Status Date: 06/02/1988

Global Id: T0611100313
Status: Open - Remediation
Status Date: 10/19/1990

Global Id: T0611100313
Status: Open - Remediation
Status Date: 06/09/1992

Global Id: T0611100313
Status: Open - Site Assessment
Status Date: 06/20/1988

Global Id: T0611100313
Status: Open - Site Assessment
Status Date: 07/01/1988

Global Id: T0611100313
Status: Open - Site Assessment
Status Date: 08/31/1990

VENTURA CO. BWT:
Facility ID: BP 546
Program: Not reported

Facility ID: HM 914
Program: Not reported

Facility ID: HM 915
Program: Not reported

HIST CORTESE:
Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-88066

19
ENE
1/4-1/2
0.344 mi.
1816 ft.

ANTONIO M. PEREZ
1363 WALNUT CANYON ROAD
MOORPARK, CA 93021

SLIC **S103950371**
N/A

Relative:
Higher

Actual:
625 ft.

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	02/18/2009
Global Id:	T10000000782
Lead Agency:	VENTURA COUNTY
Lead Agency Case Number:	SR3146629
Latitude:	34.297798
Longitude:	-118.878046
Case Type:	Cleanup Program Site
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	Not reported
File Location:	Local Agency Warehouse
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

20
SW
1/4-1/2
0.354 mi.
1867 ft.

UNOCAL
506 LOS ANGELES AVE
MOORPARK, CA 93021

LUST **S103952686**
N/A

Relative:
Lower

Actual:
468 ft.

LUST:

Lead Agency:	VENTURA COUNTY
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0611101179
Global Id:	T0611101179
Latitude:	34.278911
Longitude:	-118.8740221
Status:	Completed - Case Closed
Status Date:	10/01/2004
Case Worker:	Not reported
RB Case Number:	C98021
Local Agency:	Not reported
File Location:	Local Agency Warehouse
Local Case Number:	98021
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

LUST:

Global Id:	T0611101179
Contact Type:	Regional Board Caseworker
Contact Name:	DANIEL PIROTTON
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN
Email:	dpirotton@waterboards.ca.gov
Phone Number:	2135766714

UNOCAL (Continued) **S103952686**

LUST:
Global Id: T0611101179
Action Type: ENFORCEMENT
Date: 10/07/2004
Action: Closure/No Further Action Letter

Global Id: T0611101179
Action Type: ENFORCEMENT
Date: 08/11/2003
Action: * No Action

Global Id: T0611101179
Action Type: Other
Date: 08/03/1998
Action: Leak Discovery

Global Id: T0611101179
Action Type: ENFORCEMENT
Date: 02/19/2004
Action: * Historical Enforcement - #L01

Global Id: T0611101179
Action Type: ENFORCEMENT
Date: 04/27/2009
Action: Staff Letter - #DueDil

Global Id: T0611101179
Action Type: Other
Date: 08/03/1998
Action: Leak Reported

Global Id: T0611101179
Action Type: RESPONSE
Date: 02/25/2009
Action: Correspondence

Global Id: T0611101179
Action Type: ENFORCEMENT
Date: 10/01/2004
Action: Technical Correspondence / Assistance / Other

LUST:
Global Id: T0611101179
Status: Completed - Case Closed
Status Date: 10/01/2004

Global Id: T0611101179
Status: Open - Case Begin Date
Status Date: 06/02/1998

Global Id: T0611101179
Status: Open - Site Assessment
Status Date: 06/02/1998

Global Id: T0611101179
Status: Open - Site Assessment

UNOCAL (Continued) **S103952686**

Status Date: 08/03/1998

Lead Agency: VENTURA COUNTY
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0611100511
Global Id: T0611100511
Latitude: 34.278911
Longitude: -118.8740221
Status: Completed - Case Closed
Status Date: 07/15/1993
Case Worker: Not reported
RB Case Number: C-89102
Local Agency: Not reported
File Location: Not reported
Local Case Number: 89102
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

LUST:
Global Id: T0611100511
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

LUST:
Global Id: T0611100511
Action Type: Other
Date: 07/26/1989
Action: Leak Reported

Global Id: T0611100511
Action Type: ENFORCEMENT
Date: 08/04/1989
Action: * Historical Enforcement

Global Id: T0611100511
Action Type: Other
Date: 07/26/1989
Action: Leak Discovery

LUST:
Global Id: T0611100511
Status: Completed - Case Closed
Status Date: 07/15/1993

Global Id: T0611100511
Status: Open - Case Begin Date
Status Date: 07/26/1989

Global Id: T0611100511
Status: Open - Remediation

UNOCAL (Continued) **S103952686**

Status Date: 06/15/1993

Global Id: T0611100511
Status: Open - Site Assessment
Status Date: 07/26/1989

Global Id: T0611100511
Status: Open - Site Assessment
Status Date: 10/15/1992

E21 **GISLER RANCH** **LUST U002244059**
SSW **635 LOS ANGELES AVE** **UST N/A**
1/4-1/2 **MOORPARK, CA**
0.359 mi.
1893 ft. **Site 1 of 2 in cluster E**

Relative:
Lower

Actual:
481 ft.

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-91087	
Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	91087	
Case Type:	Soil	
Abatement Method Used at the Site:		No Action Required
Global ID:	T0611100783	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	EF	
Date Leak Discovered:	8/26/1991	
Date Leak First Reported:		8/26/1991
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	8/26/1991	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		10/8/1991
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		7809.034293538680194767404536 9
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		8/26/1991
Preliminary Site Assessment Began:		10/8/1991
Pollution Characterization Began:		10/8/1991
Remediation Plan Submitted:		10/8/1991
Remedial Action Underway:		10/8/1991
Post Remedial Action Monitoring Began:		10/8/1991
Enforcement Action Date:		8/26/1991
Historical Max MTBE Date:		Not reported

GISLER RANCH (Continued) **U002244059**

Hist Max MTBE Conc in Groundwater: Not reported
Hist Max MTBE Conc in Soil: Not reported
Significant Interim Remedial Action Taken: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Organization: Not reported
Owner Contact: Not reported
Responsible Party: GISLER RANCH
RP Address: Not reported
Program: LUST
Lat/Long: 34.2790837 / -1
Local Agency Staff: EHD
Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 91087
Status: Case Closed

VENTURA CO. UST:
Facility ID: D 954
Facility Status: inactive

E22 **GISLER RANCH** **LUST S104164814**
SSW **635 LOS ANGELES AVE** **HIST CORTESE N/A**
1/4-1/2 **MOORPARK, CA 93021**
0.359 mi.
1893 ft. **Site 2 of 2 in cluster E**

Relative:
Lower

Actual:
481 ft.

LUST:
Lead Agency: VENTURA COUNTY
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0611100783
Global Id: T0611100783
Latitude: 34.2789574
Longitude: -118.8721674
Status: Completed - Case Closed
Status Date: 10/08/1991
Case Worker: Not reported
RB Case Number: C-91087
Local Agency: Not reported
File Location: Not reported
Local Case Number: 91087
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

LUST:
Global Id: T0611100783
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)

GISLER RANCH (Continued) **S104164814**

Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

LUST:
Global Id: T0611100783
Action Type: Other
Date: 08/26/1991
Action: Leak Discovery

Global Id: T0611100783
Action Type: Other
Date: 08/26/1991
Action: Leak Reported

Global Id: T0611100783
Action Type: ENFORCEMENT
Date: 08/26/1991
Action: * Historical Enforcement

LUST:
Global Id: T0611100783
Status: Completed - Case Closed
Status Date: 10/08/1991

Global Id: T0611100783
Status: Open - Case Begin Date
Status Date: 08/26/1991

Global Id: T0611100783
Status: Open - Site Assessment
Status Date: 08/26/1991

HIST CORTESE:
Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-91087

F23 **CALTRANS - MOORPARK** **LUST** **S103954579**
South **512 LOS ANGELES AVE** **HIST UST** **N/A**
1/4-1/2 **MOORPARK, CA 93021** **HIST CORTESE**
0.383 mi.
2022 ft. **Site 1 of 4 in cluster F**

Relative:
Lower

Actual:
486 ft.

LUST:
Lead Agency: VENTURA COUNTY
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0611100157
Global Id: T0611100157
Latitude: 34.2789139
Longitude: -118.8735035
Status: Completed - Case Closed
Status Date: 07/17/1991

CALTRANS - MOORPARK (Continued) **S103954579**

Case Worker: Not reported
RB Case Number: C-86077
Local Agency: Not reported
File Location: Not reported
Local Case Number: 86077
Potential Media Affect: Soil
Potential Contaminants of Concern: Diesel
Site History: Not reported

LUST:
Global Id: T0611100157
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

LUST:
Global Id: T0611100157
Action Type: Other
Date: 11/14/1986
Action: Leak Reported

Global Id: T0611100157
Action Type: ENFORCEMENT
Date: 11/17/1988
Action: * Historical Enforcement

Global Id: T0611100157
Action Type: Other
Date: 11/14/1986
Action: Leak Discovery

LUST:
Global Id: T0611100157
Status: Completed - Case Closed
Status Date: 07/17/1991

Global Id: T0611100157
Status: Open - Case Begin Date
Status Date: 11/14/1986

Global Id: T0611100157
Status: Open - Remediation
Status Date: 07/21/1987

Global Id: T0611100157
Status: Open - Site Assessment
Status Date: 06/29/1987

Global Id: T0611100157
Status: Open - Site Assessment
Status Date: 07/21/1987

Global Id: T0611100157

CALTRANS - MOORPARK (Continued) **S103954579**

Status: Open - Site Assessment
Status Date: 07/01/1988

Global Id: T0611100157
Status: Open - Verification Monitoring
Status Date: 07/15/1989

Lead Agency: VENTURA COUNTY
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0611101081
Global Id: T0611101081
Latitude: 34.2788677
Longitude: -118.8877205
Status: Completed - Case Closed
Status Date: 01/24/2007
Case Worker: Not reported
RB Case Number: C96005
Local Agency: Not reported
File Location: Local Agency Warehouse
Local Case Number: 96005
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

LUST:
Global Id: T0611101081
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

LUST:
Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 01/11/2006
Action: * Historical Enforcement - #P&A

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 09/27/2005
Action: * Historical Enforcement - #L11

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 03/27/2006
Action: * Historical Enforcement - #L13

Global Id: T0611101081
Action Type: Other
Date: 11/22/1995
Action: Leak Discovery

Global Id: T0611101081

CALTRANS - MOORPARK (Continued) **S103954579**

Action Type: ENFORCEMENT
Date: 06/08/2005
Action: * Historical Enforcement - #L10

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 04/16/2004
Action: * Historical Enforcement - #L04

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 06/16/2004
Action: * No Action

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 01/06/2004
Action: * Historical Enforcement - #L02

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 08/03/2004
Action: * Historical Enforcement - #L07

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 06/08/2004
Action: * Historical Enforcement - #L05

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 06/16/2004
Action: * Historical Enforcement - #L06

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 03/10/2004
Action: * Historical Enforcement - #L03

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 04/01/2005
Action: * Historical Enforcement - #L09

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 01/20/2005
Action: * Historical Enforcement - #L08

Global Id: T0611101081
Action Type: Other
Date: 11/22/1995
Action: Leak Reported

Global Id: T0611101081
Action Type: RESPONSE
Date: 10/25/2004

CALTRANS - MOORPARK (Continued) **S103954579**

Action: Monitoring Report - Quarterly

Global Id: T0611101081
Action Type: RESPONSE
Date: 01/30/2006
Action: Monitoring Report - Quarterly

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 05/10/2005
Action: * No Action

Global Id: T0611101081
Action Type: Other
Date: 11/23/1995
Action: Leak Stopped

Global Id: T0611101081
Action Type: RESPONSE
Date: 06/30/2006
Action: Unknown

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 04/20/2005
Action: * No Action

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 01/21/2005
Action: * No Action

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 06/16/2006
Action: Technical Correspondence / Assistance / Other - #L14

Global Id: T0611101081
Action Type: ENFORCEMENT
Date: 03/03/2006
Action: * Historical Enforcement - #L12

Global Id: T0611101081
Action Type: RESPONSE
Date: 06/25/2004
Action: Other Workplan

Global Id: T0611101081
Action Type: RESPONSE
Date: 01/30/2006
Action: Monitoring Report - Quarterly

Global Id: T0611101081
Action Type: RESPONSE
Date: 04/30/2004
Action: Monitoring Report - Quarterly

CALTRANS - MOORPARK (Continued) **S103954579**

Global Id: T0611101081
Action Type: RESPONSE
Date: 10/25/2004
Action: Other Report / Document

LUST:
Global Id: T0611101081
Status: Completed - Case Closed
Status Date: 01/24/2007

Global Id: T0611101081
Status: Open - Case Begin Date
Status Date: 11/22/1995

Global Id: T0611101081
Status: Open - Site Assessment
Status Date: 11/22/1995

Global Id: T0611101081
Status: Open - Site Assessment
Status Date: 01/01/2006

HIST UST:
File Number: 0002C503
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002C503.pdf
Region: Not reported
Facility ID: Not reported
Facility Type: Not reported
Other Type: Not reported
Contact Name: Not reported
Telephone: Not reported
Owner Name: Not reported
Owner Address: Not reported
Owner City,St,Zip: Not reported
Total Tanks: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

Click here for Geo Tracker PDF:

HIST CORTESE:
Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-96005

Region: CORTESE
Facility County Code: 56

CALTRANS - MOORPARK (Continued) **S103954579**

Reg By: LTNKA
Reg Id: C-86077

F24 **CALTRANS - MOORPARK** **LUST** **S105974845**
South **512 LOS ANGELES AVE** **N/A**
1/4-1/2 **MOORPARK, CA 93021**
0.383 mi.
2022 ft. **Site 2 of 4 in cluster F**

Relative:
Lower

Actual:
486 ft.

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-96005	
Status:	Preliminary site assessment workplan submitted	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	96005	
Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0611101081	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	None Taken	
Date Leak Discovered:	11/22/1995	
Date Leak First Reported:		11/22/1995
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	11/22/1995	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		Not reported
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		7814.64426315913785690394084 65
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		11/22/1995
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		4/1/2004
Hist Max MTBE Conc in Groundwater:		1.6
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	=	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	WILLIAM PERALES	

CALTRANS - MOORPARK (Continued) **S105974845**

RP Address: 120 SOUTH SPRING STREET
Program: LUST
Lat/Long: 34.2788677 / -1
Local Agency Staff: DCS
Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 96005
Status: Case Closed

F25 **UNOCAL** **LUST** **S104660374**
South **506 LOS ANGELES AVE** **N/A**
1/4-1/2 **MOORPARK, CA 93021**
0.384 mi.
2026 ft. **Site 3 of 4 in cluster F**

Relative:
Lower

Actual:
486 ft.

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-89102	
Status:	Case Closed	
Substance:	Regular Gasoline	
Substance Quantity:	Not reported	
Local Case No:	89102	
Case Type:	Soil	
Abatement Method Used at the Site:		Excavate and Dispose
Global ID:	T0611100511	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	EF	
Date Leak Discovered:	7/26/1989	
Date Leak First Reported:		7/26/1989
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	7/26/1989	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		7/15/1993
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		7858.650638350983492043148 3474
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		7/26/1989
Preliminary Site Assessment Began:		10/15/1992

UNOCAL (Continued) **S104660374**

Pollution Characterization Began:		10/15/1992
Remediation Plan Submitted:		6/15/1993
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		8/4/1989
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	UNOCAL CERT	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.2789207 / -1	
Local Agency Staff:	EHD	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

VENTURA CO. LUST:

Region:	VENTURA
Facility ID:	89102
Status:	Case Closed

F26 **TOSCO - 76 SS #4945** **LUST S103684164**
South **506 LOS ANGELES AVE** **HIST CORTESE N/A**
1/4-1/2 **MOORPARK, CA 93021**
0.384 mi.
2026 ft. **Site 4 of 4 in cluster F**

Relative:
Lower

Actual:
486 ft.

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-98021	
Status:	Pollution Characterization	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	98021	
Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0611101179	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	None Taken	
Date Leak Discovered:	8/3/1998	
Date Leak First Reported:		8/3/1998
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	6/2/1998	

TOSCO - 76 SS #4945 (Continued) **S103684164**

Date Leak Stopped: Not reported
Date Case Last Changed on Database: Not reported
Date the Case was Closed: Not reported
How Leak Discovered: Not reported
How Leak Stopped: Not reported
Cause of Leak: Not reported
Leak Source: Not reported
Operator: Not reported
Water System: Not reported
Well Name: Not reported
Approx. Dist To Production Well (ft): 7986.2178971267392866793212 36
Source of Cleanup Funding: F
Preliminary Site Assessment Workplan Submitted: 6/2/1998
Preliminary Site Assessment Began: 6/2/1998
Pollution Characterization Began: 8/3/1998
Remediation Plan Submitted: Not reported
Remedial Action Underway: Not reported
Post Remedial Action Monitoring Began: Not reported
Enforcement Action Date: Not reported
Historical Max MTBE Date: Not reported
Hist Max MTBE Conc in Groundwater: Not reported
Hist Max MTBE Conc in Soil: 1.4
Significant Interim Remedial Action Taken: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Organization: Not reported
Owner Contact: Not reported
Responsible Party: SHARI A. LONDON
RP Address: CONOCOPHILLIPS, P.O. BOX 25376
Program: LUST
Lat/Long: 34.2788727 / -1
Local Agency Staff: DCS
Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 98021
Status: Case Closed

HIST CORTESE:
Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-89102

Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-98021

27
NE
1/4-1/2
0.394 mi.
2080 ft.

WALNUT CANYON TRACT
WALNUT CANYON RD-N OF MOORPARK 32&33
MOORPARK, CA 93021

ENVIROSTOR **S100204264**
N/A

Relative:
Higher

Actual:
710 ft.

ENVIROSTOR:

Facility ID:	56490100
Status:	No Further Action
Status Date:	06/30/1991
Site Code:	300266
Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	350
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	* Mmonroy
Division Branch:	Cleanup Chatsworth
Assembly:	37
Senate:	27
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	34.31505
Longitude:	-118.8807
APN:	NONE SPECIFIED
Past Use:	ILLEGAL DUMPING
Potential COC:	Arsenic Asbestos Containing Materials (ACM Total Chromium (1:6 ratio Cr VI:Cr III Lead TPH-gas Aluminum Beryllium and compounds Cadmium and compounds
Confirmed COC:	30001-NO 30005-NO 30013-NO 30025-NO 30047-NO 30080-NO 30108-NO 40001-NO
Potential Description:	SOIL
Alias Name:	WALNUT CANYON ASSOCIATION
Alias Type:	Alternate Name
Alias Name:	300266
Alias Type:	Project Code (Site Code)
Alias Name:	56490100
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	10/27/1994
Comments:	CalSites Validation Program confirms NFA for DTSC.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	06/30/1991
Comments:	Based on the information provided in the PEA and the addendum reports, the contamination at the site may not constitute a threat to human health and environment. Therefore, the Dept concurs with the PEA recommendation that no further action is needed at the site at this time.

WALNUT CANYON TRACT (Continued) **S100204264**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	12/20/1990
Comments:	Did not address the surface water and groundwater targets, did not put in any monitoring wells. Residential house in proximity. Few groundwater wells within one mile radius. Did not address metal contamination and did not take any deep soil samples to confirm petroleum hydrocarbon migration Medium priority PEA recommended.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

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28 **REPLANET LLC** **SWRCY** **S107138148**
SE **101 W LOS ANGELES AVE** **VENTURA CO. BWT** **N/A**
1/4-1/2 **MOORPARK, CA 93021**
0.395 mi.
2084 ft.

Relative:
Lower

Actual:
504 ft.

SWRCY:

Reg Id:	155784
Cert Id:	RC155784.001
Mailing Address:	800 N Haven Ave Suite 120
Mailing City:	Ontario
Mailing State:	CA
Mailing Zip Code:	91764
Website:	http://www.replanet.com
Email:	Not reported
Phone Number:	(951) 520-1700
Grand Father:	N
Rural:	N
Operation Begin Date:	05/01/2012
Aluminium:	Y
Glass:	Y
Plastic:	Y
Bimetal:	Y
Agency:	N/A
Monday Hours Of Operation:	CLOSED
Tuesday Hours Of Operation:	10:00 am - 4:30 pm; Closed 1:00 pm - 1:30 pm
Wednesday Hours Of Operation:	10:00 am - 4:30 pm; Closed 1:00 pm - 1:30 pm
Thursday Hours Of Operation:	10:00 am - 4:30 pm; Closed 1:00 pm - 1:30 pm
Friday Hours Of Operation:	10:00 am - 4:30 pm; Closed 1:00 pm - 1:30 pm
Saturday Hours Of Operation:	10:00 am - 4:30 pm; Closed 1:00 pm - 1:30 pm
Sunday Hours Of Operation:	CLOSED
Organization ID:	151891
Organization Name:	rePlanet LLC

VENTURA CO. BWT:

Facility ID:	FA0022564
Program:	HAZARDOUS WASTE GENERATOR/BUSINESS PLAN

G29 **SHELL SS - NEW LA AVE** **LUST** **S106568385**
SSE **301 NEW LOS ANGELES AVE** **VENTURA CO. BWT** **N/A**
1/4-1/2 **MOORPARK, CA 93021**
0.426 mi.
2250 ft. **Site 1 of 2 in cluster G**

Relative:
Lower

Actual:
500 ft.

LUST:

Lead Agency:	VENTURA COUNTY
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0611123476
Global Id:	T0611123476
Latitude:	34.2792059
Longitude:	-118.8861292
Status:	Completed - Case Closed
Status Date:	09/16/2008
Case Worker:	GLT
RB Case Number:	C04030
Local Agency:	VENTURA COUNTY
File Location:	Local Agency
Local Case Number:	04030
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

LUST:

Global Id:	T0611123476
Contact Type:	Regional Board Caseworker
Contact Name:	DANIEL PIROTTON
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN
Email:	dpirotton@waterboards.ca.gov
Phone Number:	2135766714

Global Id:	T0611123476
Contact Type:	Local Agency Caseworker
Contact Name:	GINA TERESA
Organization Name:	VENTURA COUNTY
Address:	800 S. VICTORIA AVENUE
City:	VENTURA
Email:	gina.teresa@ventura.org
Phone Number:	Not reported

LUST:

Global Id:	T0611123476
Action Type:	ENFORCEMENT
Date:	09/14/2005
Action:	* Historical Enforcement - #12

Global Id:	T0611123476
Action Type:	ENFORCEMENT
Date:	01/26/2007
Action:	File review - #-

Global Id:	T0611123476
Action Type:	RESPONSE
Date:	09/15/2005
Action:	Electronic Reporting Submittal Due

SHELL SS - NEW LA AVE (Continued) **S106568385**

Global Id: T0611123476
Action Type: RESPONSE
Date: 01/31/2006
Action: Monitoring Report - Quarterly

Global Id: T0611123476
Action Type: RESPONSE
Date: 10/31/2006
Action: Monitoring Report - Quarterly

Global Id: T0611123476
Action Type: RESPONSE
Date: 04/30/2007
Action: Monitoring Report - Quarterly

Global Id: T0611123476
Action Type: RESPONSE
Date: 10/30/2007
Action: Monitoring Report - Quarterly

Global Id: T0611123476
Action Type: ENFORCEMENT
Date: 12/30/2005
Action: * Historical Enforcement - #13

Global Id: T0611123476
Action Type: Other
Date: 06/18/2004
Action: Leak Discovery

Global Id: T0611123476
Action Type: Other
Date: 06/28/2004
Action: Leak Reported

Global Id: T0611123476
Action Type: ENFORCEMENT
Date: 11/06/2006
Action: Technical Correspondence / Assistance / Other - #15

Global Id: T0611123476
Action Type: ENFORCEMENT
Date: 04/09/2008
Action: LOP Case Closure Summary to RB - #16

Global Id: T0611123476
Action Type: RESPONSE
Date: 12/02/2005
Action: Soil and Water Investigation Report

Global Id: T0611123476
Action Type: ENFORCEMENT
Date: 07/12/2005
Action: * Historical Enforcement - #11

Global Id: T0611123476
Action Type: Other

SHELL SS - NEW LA AVE (Continued) **S106568385**

Date: 06/19/2004
Action: Leak Stopped

Global Id: T0611123476
Action Type: REMEDIATION
Date: 06/18/2004
Action: Excavation

Global Id: T0611123476
Action Type: ENFORCEMENT
Date: 09/16/2008
Action: Closure/No Further Action Letter

Global Id: T0611123476
Action Type: ENFORCEMENT
Date: 12/14/2004
Action: * Historical Enforcement - #10

Global Id: T0611123476
Action Type: RESPONSE
Date: 02/15/2005
Action: Soil and Water Investigation Report

Global Id: T0611123476
Action Type: ENFORCEMENT
Date: 07/17/2006
Action: Technical Correspondence / Assistance / Other - #14

Global Id: T0611123476
Action Type: ENFORCEMENT
Date: 04/23/2008
Action: Technical Correspondence / Assistance / Other - #17

Global Id: T0611123476
Action Type: ENFORCEMENT
Date: 07/02/2008
Action: Staff Letter - #18

Global Id: T0611123476
Action Type: RESPONSE
Date: 09/12/2008
Action: Well Destruction Report

Global Id: T0611123476
Action Type: ENFORCEMENT
Date: 01/01/2008
Action: File review

Global Id: T0611123476
Action Type: RESPONSE
Date: 09/15/2005
Action: Soil and Water Investigation Workplan

LUST:
Global Id: T0611123476
Status: Completed - Case Closed
Status Date: 09/16/2008

SHELL SS - NEW LA AVE (Continued) **S106568385**

Global Id: T0611123476
Status: Open - Case Begin Date
Status Date: 06/18/2004

Global Id: T0611123476
Status: Open - Remediation
Status Date: 07/01/2004

Global Id: T0611123476
Status: Open - Site Assessment
Status Date: 09/01/2004

Global Id: T0611123476
Status: Open - Site Assessment
Status Date: 12/14/2004

Global Id: T0611123476
Status: Open - Site Assessment
Status Date: 09/09/2005

Global Id: T0611123476
Status: Open - Verification Monitoring
Status Date: 09/29/2006

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 04030
Status: Post remedial action monitoring

VENTURA CO. BWT:
Facility ID: HM 3755
Program: Not reported

G30 **PARK LANE CAR WASH** **LUST U003978807**
SSE **75 PARK LN** **UST N/A**
1/4-1/2 **MOORPARK, CA**
0.475 mi.
2507 ft. **Site 2 of 2 in cluster G**

Relative:
Lower

Actual:
499 ft.

LUST:
Lead Agency: VENTURA COUNTY
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0611137666
Global Id: T0611137666
Latitude: 34.278256
Longitude: -118.885918
Status: Completed - Case Closed
Status Date: 08/31/2005
Case Worker: DBW
RB Case Number: C04035
Local Agency: VENTURA COUNTY
File Location: Local Agency Warehouse
Local Case Number: 04035
Potential Media Affect: Soil
Potential Contaminants of Concern: Xylene
Site History: Not reported

PARK LANE CAR WASH (Continued) **U003978807**

LUST:
Global Id: T0611137666
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

Global Id: T0611137666
Contact Type: Local Agency Caseworker
Contact Name: DIANE B. WAHL
Organization Name: VENTURA COUNTY
Address: 800 S. VICTORIA AVE.
City: VENTURA
Email: diane.wahl@ventura.org
Phone Number: 8056545040

LUST:
Global Id: T0611137666
Action Type: RESPONSE
Date: 11/29/2004
Action: Other Report / Document

Global Id: T0611137666
Action Type: RESPONSE
Date: 02/28/2005
Action: Other Report / Document

Global Id: T0611137666
Action Type: RESPONSE
Date: 11/30/2004
Action: Other Report / Document

Global Id: T0611137666
Action Type: ENFORCEMENT
Date: 01/03/2005
Action: * Historical Enforcement - #2

Global Id: T0611137666
Action Type: ENFORCEMENT
Date: 11/03/2004
Action: * Historical Enforcement - #1

Global Id: T0611137666
Action Type: ENFORCEMENT
Date: 05/31/2005
Action: * Historical Enforcement - #3

Global Id: T0611137666
Action Type: Other
Date: 03/24/2004
Action: Leak Discovery

Global Id: T0611137666

PARK LANE CAR WASH (Continued) **U003978807**

Action Type: Other
Date: 03/25/2004
Action: Leak Reported

Global Id: T0611137666
Action Type: ENFORCEMENT
Date: 08/31/2005
Action: Closure/No Further Action Letter - #5

Global Id: T0611137666
Action Type: ENFORCEMENT
Date: 08/15/2005
Action: * Historical Enforcement - #4

Global Id: T0611137666
Action Type: ENFORCEMENT
Date: 01/01/2016
Action: File review

LUST:
Global Id: T0611137666
Status: Completed - Case Closed
Status Date: 08/31/2005

Global Id: T0611137666
Status: Open - Case Begin Date
Status Date: 03/24/2004

Global Id: T0611137666
Status: Open - Site Assessment
Status Date: 03/25/2004

Global Id: T0611137666
Status: Open - Site Assessment
Status Date: 01/01/2005

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 04035
Status: Case Closed

VENTURA CO. UST:
Facility ID: D 1503
Facility Status: inactive

Count: 1 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
SIMI	1003878606	UNION OIL CO SIMI OIL FLD	BET MOORPARK COMM COLL & SIMI	93021	SEMS-ARCHIVE

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 06/08/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 99

Source: EPA
Telephone: N/A
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 98

Source: EPA
Telephone: N/A
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 98

Source: EPA
Telephone: N/A
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/06/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/21/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 77

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/28/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 70

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/22/2017
Date Data Arrived at EDR: 06/13/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 94

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/08/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/10/2017
Date Data Arrived at EDR: 08/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/27/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/10/2017
Date Data Arrived at EDR: 08/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/27/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/18/2017
Date Data Arrived at EDR: 09/21/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 22

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/01/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 14

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/31/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/01/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 14

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/31/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/14/2017
Date Data Arrived at EDR: 08/17/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 35

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 58

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/07/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/07/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/13/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/24/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/26/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/01/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 58

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 57

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 10/01/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/02/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/25/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/14/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/01/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/13/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 78

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/26/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 71

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/01/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 14

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/31/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 09/21/2017
Date Data Arrived at EDR: 09/21/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 49

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/19/2017
Date Data Arrived at EDR: 06/20/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/20/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 9

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 05/31/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 76

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/09/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/30/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/20/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 07/13/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 30

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/28/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/01/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 14

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/31/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 08/18/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 34

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 07/13/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 30

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/28/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 06/02/2017
Date Data Arrived at EDR: 06/06/2017
Date Made Active in Reports: 08/25/2017
Number of Days to Update: 80

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 11/28/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/31/2017
Date Data Arrived at EDR: 09/05/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 64

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/26/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 09/05/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 63

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/21/2017
Date Data Arrived at EDR: 09/21/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 22

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 05/09/2017
Date Data Arrived at EDR: 07/26/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 57

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 58

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 58

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 10

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/22/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/11/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/17/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 05/10/2017
Date Data Arrived at EDR: 05/17/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 121

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/09/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/22/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/20/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/27/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/27/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 8

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2017
Date Data Arrived at EDR: 02/09/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 126
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 10/11/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 11/20/2017
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/08/2017
Next Scheduled EDR Contact: 12/18/2017
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 10/26/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/02/2017
Date Data Arrived at EDR: 10/05/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 8

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/05/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/31/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 78

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 11/20/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/11/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/02/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/22/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 05/30/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 98

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 11/03/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 07/31/2017
Date Data Arrived at EDR: 08/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 44

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/28/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 12/01/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 12/01/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/25/2017
Date Data Arrived at EDR: 09/26/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 24

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/06/2017
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/23/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 9

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 02/13/2017
Date Data Arrived at EDR: 02/15/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 261

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/21/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/02/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/20/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2016
Date Data Arrived at EDR: 06/02/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 133
Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/17/2017
Date Data Arrived at EDR: 08/17/2017
Date Made Active in Reports: 09/15/2017
Number of Days to Update: 29
Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/20/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6
Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 09/21/2017
Date Data Arrived at EDR: 09/21/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 22
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/02/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69
Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Annually

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 147
Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/22/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 08/18/2017
Date Data Arrived at EDR: 08/22/2017
Date Made Active in Reports: 10/24/2017
Number of Days to Update: 63

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 07/21/2017
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 84

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/15/2017
Date Data Arrived at EDR: 08/22/2017
Date Made Active in Reports: 10/25/2017
Number of Days to Update: 64

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/09/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/12/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 97

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 08/21/2017
Date Data Arrived at EDR: 08/22/2017
Date Made Active in Reports: 10/25/2017
Number of Days to Update: 64

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 11/20/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/21/2017
Date Data Arrived at EDR: 08/22/2017
Date Made Active in Reports: 10/25/2017
Number of Days to Update: 64
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/20/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/10/2017
Date Data Arrived at EDR: 10/10/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 7
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 11/01/2017
Number of Days to Update: 50
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 09/01/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 63
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 08/14/2017
Date Data Arrived at EDR: 08/17/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 61
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 09/05/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 63
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 10/18/2017
Number of Days to Update: 36
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 06/16/2017
Date Data Arrived at EDR: 06/20/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 119
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 01/20/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 50
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/13/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 09/22/2017
Date Data Arrived at EDR: 09/22/2017
Date Made Active in Reports: 10/10/2017
Number of Days to Update: 18

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/21/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 10/11/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 27

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 09/13/2017
Date Data Arrived at EDR: 09/15/2017
Date Made Active in Reports: 11/14/2017
Number of Days to Update: 60

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 10/23/2017
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 08/31/2017
Date Data Arrived at EDR: 09/05/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 64

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/05/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/17/2017
Date Data Arrived at EDR: 08/22/2017
Date Made Active in Reports: 10/25/2017
Number of Days to Update: 64

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/30/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 10/31/2017
Date Data Arrived at EDR: 11/01/2017
Date Made Active in Reports: 11/14/2017
Number of Days to Update: 13

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/25/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/18/2017
Date Data Arrived at EDR: 08/22/2017
Date Made Active in Reports: 10/24/2017
Number of Days to Update: 63

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 10/30/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/03/2017
Date Data Arrived at EDR: 10/06/2017
Date Made Active in Reports: 11/15/2017
Number of Days to Update: 40

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 10/25/2017
Date Data Arrived at EDR: 10/27/2017
Date Made Active in Reports: 11/15/2017
Number of Days to Update: 19

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/03/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 69

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 10/23/2017
Date Data Arrived at EDR: 10/24/2017
Date Made Active in Reports: 11/15/2017
Number of Days to Update: 22

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/08/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 56

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/08/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 44

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 09/22/2017
Date Data Arrived at EDR: 09/22/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 24

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 11/09/2017
Date Data Arrived at EDR: 11/10/2017
Date Made Active in Reports: 11/15/2017
Number of Days to Update: 5

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 07/24/2017
Date Data Arrived at EDR: 07/26/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 82

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 10/11/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 5

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/17/2017
Date Data Arrived at EDR: 07/18/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 65

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/17/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 04/21/2017
Date Made Active in Reports: 10/09/2017
Number of Days to Update: 171

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 06/21/2017
Date Data Arrived at EDR: 06/23/2017
Date Made Active in Reports: 10/30/2017
Number of Days to Update: 129

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 07/11/2017
Date Data Arrived at EDR: 07/14/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 69

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/10/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 10/26/2017
Date Data Arrived at EDR: 10/27/2017
Date Made Active in Reports: 11/06/2017
Number of Days to Update: 10

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/28/2017
Date Data Arrived at EDR: 10/05/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 34

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 10/02/2017
Date Data Arrived at EDR: 10/03/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 14

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 40

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 11/21/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 09/11/2017
Date Data Arrived at EDR: 09/15/2017
Date Made Active in Reports: 11/28/2017
Number of Days to Update: 74
Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 11/20/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/21/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 08/24/2017
Date Data Arrived at EDR: 08/25/2017
Date Made Active in Reports: 10/27/2017
Number of Days to Update: 63
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/21/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/07/2017
Date Made Active in Reports: 11/15/2017
Number of Days to Update: 8
Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/25/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/11/2017
Date Made Active in Reports: 10/11/2017
Number of Days to Update: 61
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/11/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 41
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/09/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 43
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/07/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/05/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 63
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 10/23/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 11/15/2017
Number of Days to Update: 12
Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/11/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 28
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 10/12/2017
Date Data Arrived at EDR: 10/12/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 27
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/18/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/02/2017
Date Data Arrived at EDR: 10/03/2017
Date Made Active in Reports: 10/06/2017
Number of Days to Update: 3

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/03/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/02/2017
Date Data Arrived at EDR: 10/03/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 44

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/03/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 11/01/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 11/17/2017
Number of Days to Update: 14

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 08/31/2017
Date Data Arrived at EDR: 09/19/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 58

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 11/06/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/05/2017
Date Data Arrived at EDR: 09/06/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 63

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/05/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 11/29/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 05/03/2017
Date Data Arrived at EDR: 05/08/2017
Date Made Active in Reports: 08/25/2017
Number of Days to Update: 109
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 10/03/2017
Date Data Arrived at EDR: 10/06/2017
Date Made Active in Reports: 10/10/2017
Number of Days to Update: 4
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 08/28/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 08/18/2017
Date Data Arrived at EDR: 08/22/2017
Date Made Active in Reports: 10/25/2017
Number of Days to Update: 64
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 09/15/2017
Date Data Arrived at EDR: 09/19/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 28
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/06/2017
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 09/15/2017
Date Data Arrived at EDR: 09/19/2017
Date Made Active in Reports: 11/09/2017
Number of Days to Update: 51
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/06/2017
Next Scheduled EDR Contact: 03/26/2018
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28
Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 12/01/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/10/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 67
Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 11/21/2017
Next Scheduled EDR Contact: 03/12/2018
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/15/2017
Date Made Active in Reports: 10/24/2017
Number of Days to Update: 70

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 09/26/2017
Date Data Arrived at EDR: 09/27/2017
Date Made Active in Reports: 11/10/2017
Number of Days to Update: 44

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/26/2017
Date Data Arrived at EDR: 09/27/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 42

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 09/25/2017
Date Data Arrived at EDR: 09/27/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 50

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/01/2018
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 10/03/2017
Date Data Arrived at EDR: 10/06/2017
Date Made Active in Reports: 11/10/2017
Number of Days to Update: 35

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/25/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 11/01/2017
Date Data Arrived at EDR: 11/10/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 6

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Varies

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 08/31/2017
Date Data Arrived at EDR: 09/05/2017
Date Made Active in Reports: 11/08/2017
Number of Days to Update: 64

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 12/01/2017
Next Scheduled EDR Contact: 03/19/2018
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA Facility List
Cupa facilities

Date of Government Version: 07/19/2017
Date Data Arrived at EDR: 08/11/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 66

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 10/23/2017
Date Data Arrived at EDR: 10/24/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

TULARE COUNTY:

CUPA Facility List
Cupa program facilities

Date of Government Version: 09/27/2017
Date Data Arrived at EDR: 09/28/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 18

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 12/01/2017
Next Scheduled EDR Contact: 02/19/2018
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 10/24/2017
Date Data Arrived at EDR: 10/25/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 22

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 06/26/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/16/2017
Number of Days to Update: 74

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/08/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 06/26/2017
Date Data Arrived at EDR: 08/03/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 75

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/23/2017
Next Scheduled EDR Contact: 02/05/2018
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/28/2017
Date Data Arrived at EDR: 09/12/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 9
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/12/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 09/27/2017
Date Data Arrived at EDR: 10/02/2017
Date Made Active in Reports: 11/14/2017
Number of Days to Update: 43
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/27/2017
Next Scheduled EDR Contact: 01/15/2018
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 11/08/2017
Date Data Arrived at EDR: 11/10/2017
Date Made Active in Reports: 11/16/2017
Number of Days to Update: 6
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 10/25/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/28/2017
Date Data Arrived at EDR: 08/18/2017
Date Made Active in Reports: 11/14/2017
Number of Days to Update: 88
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/14/2017
Next Scheduled EDR Contact: 02/26/2018
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 07/27/2017
Number of Days to Update: 107
Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/05/2017
Next Scheduled EDR Contact: 01/22/2018
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 10/01/2017
Date Data Arrived at EDR: 11/01/2017
Date Made Active in Reports: 11/13/2017
Number of Days to Update: 12

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/01/2017
Next Scheduled EDR Contact: 02/12/2018
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 09/25/2017
Number of Days to Update: 62

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/16/2017
Next Scheduled EDR Contact: 01/29/2018
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/16/2017
Next Scheduled EDR Contact: 03/05/2018
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/13/2017
Date Made Active in Reports: 07/14/2017
Number of Days to Update: 92

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/11/2017
Next Scheduled EDR Contact: 12/25/2017
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.
Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

HITCH RANCH
POINDEXTER AVENUE AT GABBERT ROAD
MOORPARK, CA 93021

TARGET PROPERTY COORDINATES

Latitude (North):	34.289704 - 34° 17' 22.93''
Longitude (West):	118.892291 - 118° 53' 32.25''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	325830.9
UTM Y (Meters):	3795703.8
Elevation:	611 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5630753 MOORPARK, CA
Version Date:	2012
East Map:	5630771 SIMI VALLEY WEST, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

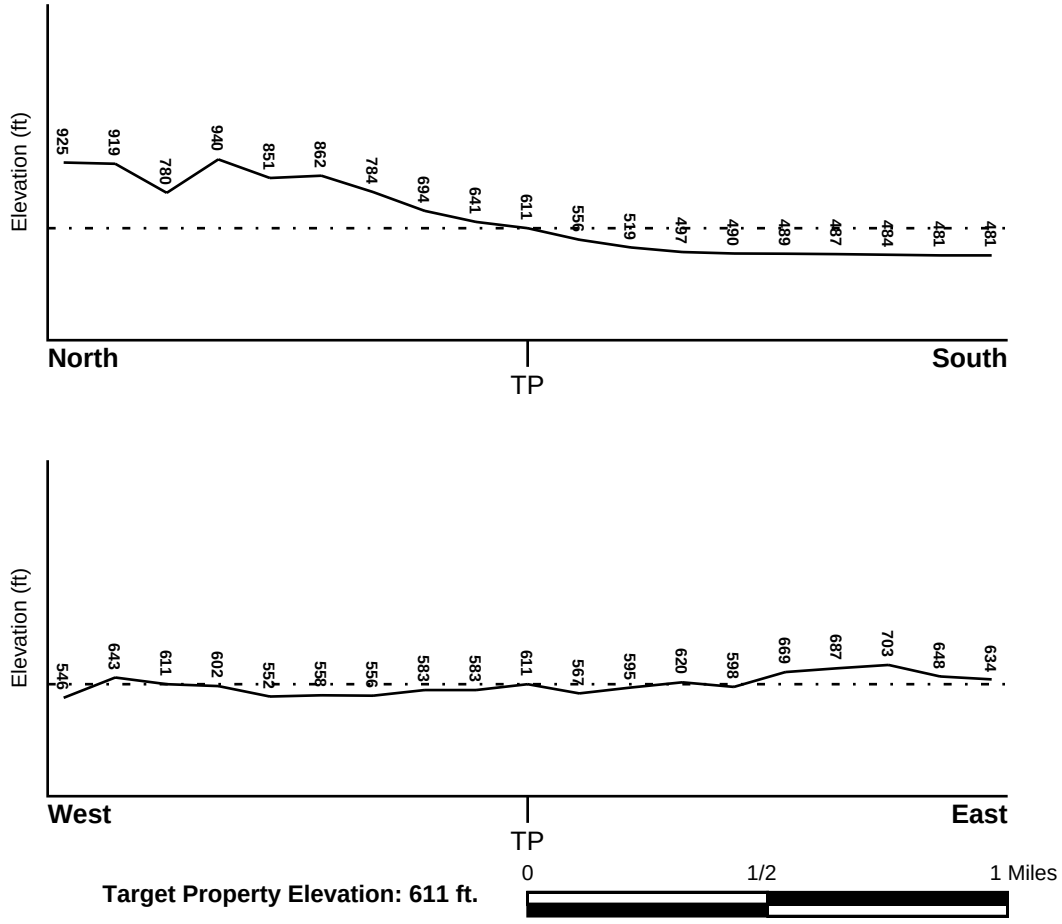
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General South

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06111C0817E	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06111C0816E	FEMA FIRM Flood data
06111C0836E	FEMA FIRM Flood data
06111C0818E	FEMA FIRM Flood data
06111C0819E	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MOORPARK	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

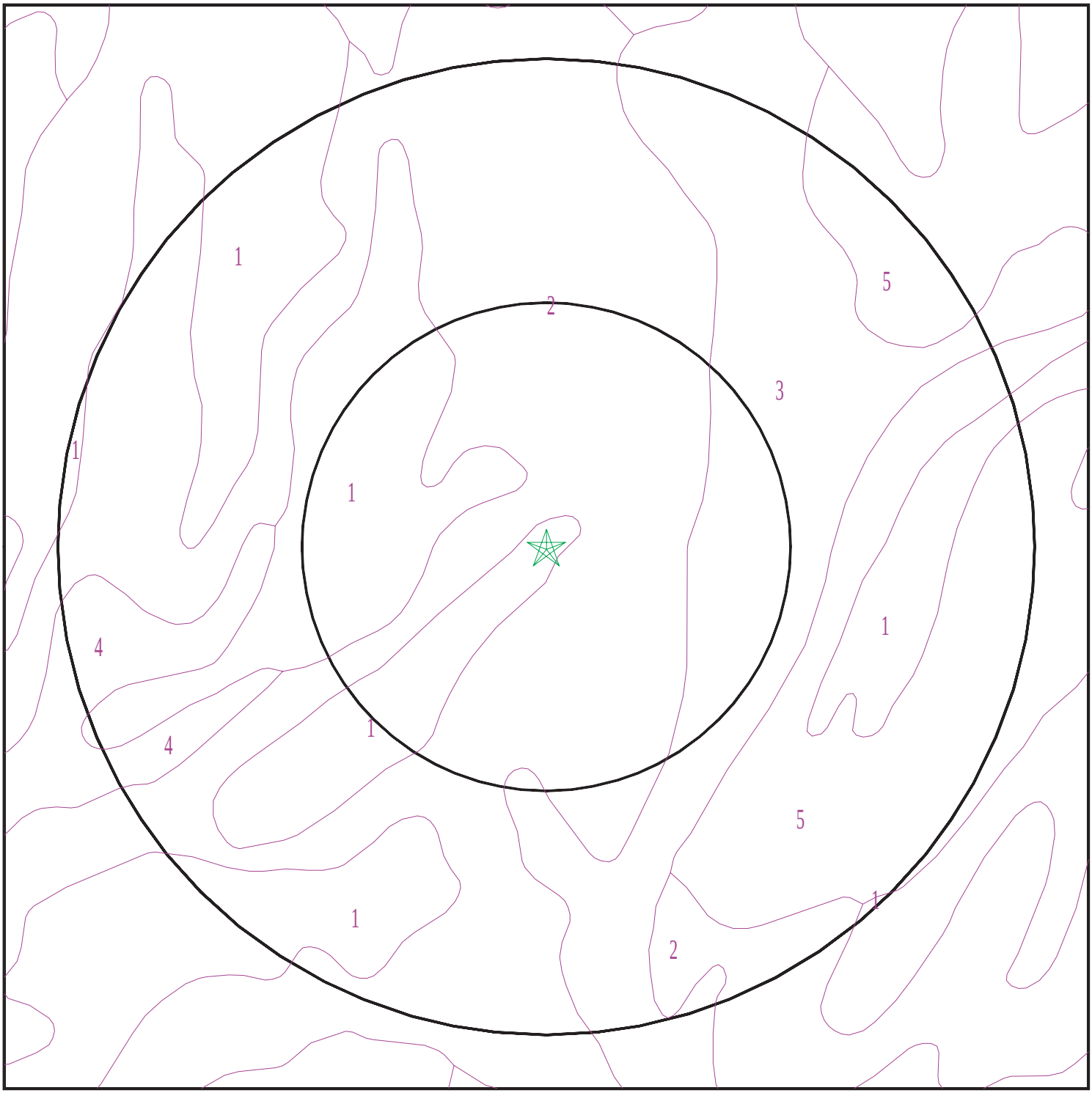
Era:	Cenozoic
System:	Tertiary
Series:	Pliocene
Code:	Tp *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5131440.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Hitch Ranch	CLIENT:	Amicus
ADDRESS:	Poindexter Avenue At Gabbert Road Moorpark CA 93021	CONTACT:	Markus Niebanck
LAT/LONG:	34.289704 / 118.892291	INQUIRY #:	5131440.2s
		DATE:	December 07, 2017 3:50 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: CHESTERTON

Soil Surface Texture: coarse sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 6.5 Min: 5.6
2	9 inches	25 inches	sandy clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 6.5 Min: 5.5
3	25 inches	35 inches	indurated	Not reported	Not reported	Max: Min:	Max: Min:
4	35 inches	59 inches	sandy loam	Not reported	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 4 Min: 1.4	Max: 7.8 Min: 7.4

Soil Map ID: 2

Soil Component Name: SAN ANDREAS

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	20 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 6.5 Min: 5.1
2	20 inches	37 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 5.6 Min: 5.1
3	37 inches	59 inches	loamy coarse sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 5.6 Min: 5.1

Soil Map ID: 3

Soil Component Name: GARRETSON

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	22 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 6.1
2	22 inches	59 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.8 Min: 6.1

Soil Map ID: 4

Soil Component Name: METZ

Soil Surface Texture: loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
2	7 inches	59 inches	stratified sand to sandy loam	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4

Soil Map ID: 5

Soil Component Name: SOPER

Soil Surface Texture: gravelly loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 6.5 Min: 5.6
2	11 inches	40 inches	very gravelly clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 7.8 Min: 6.1
3	40 inches	44 inches	weathered bedrock	Not reported	Not reported	Max: 0 Min: 0	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

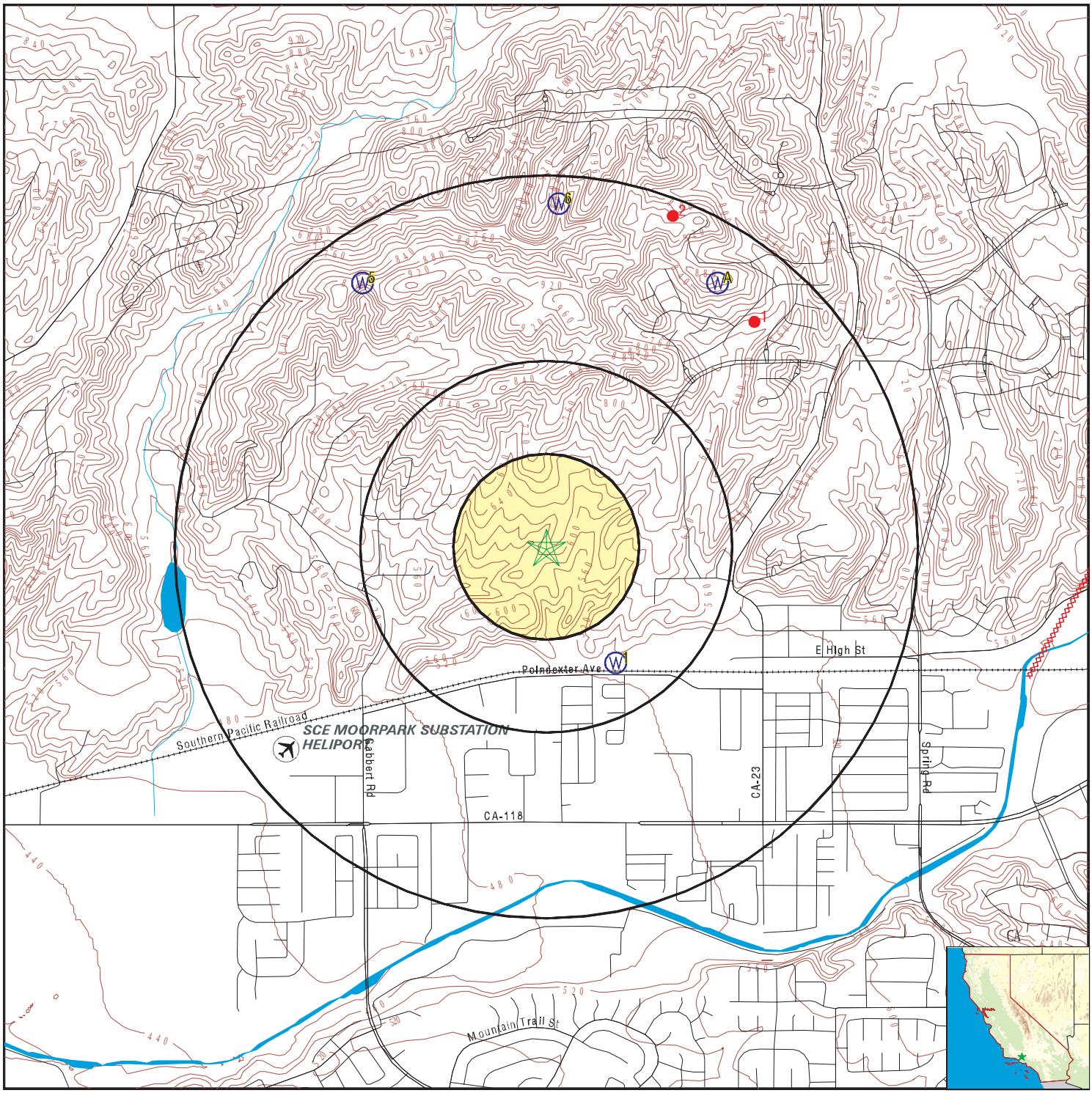
MAP ID	WELL ID	LOCATION FROM TP
1	CADW60000016854	1/4 - 1/2 Mile SSE
A2	3395	1/2 - 1 Mile NNE
A3	3396	1/2 - 1 Mile NNE
A4	3393	1/2 - 1 Mile NNE
5	3394	1/2 - 1 Mile NW
6	CADW60000032382	1/2 - 1 Mile North

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CAOG11000284968	1/2 - 1 Mile NE
2	CAOG11000284969	1/2 - 1 Mile NNE

PHYSICAL SETTING SOURCE MAP - 5131440.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Hitch Ranch	CLIENT:	Amicus
ADDRESS:	Poindexter Avenue At Gabbert Road Moorpark CA 93021	CONTACT:	Markus Niebanck
LAT/LONG:	34.289704 / 118.892291	INQUIRY #:	5131440.2s
		DATE:	December 07, 2017 3:50 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
SSE **CA WELLS** **CADW60000016854**
1/4 - 1/2 Mile
Lower

Objectid:	16854
Latitude:	34.28517
Longitude:	-118.88902
Site code:	342853N1188895W001
State well numbe:	02N19W05K001S
Local well name:	'02N19W05K01S'
Well use id:	3
Well use descrip:	Irrigation
County id:	56
County name:	Ventura
Basin code:	'4-8'
Basin desc:	Las Posas Valley
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000016854

A2
NNE **CA WELLS** **3395**
1/2 - 1 Mile
Higher

Water System Information:

Prime Station Code:	03N/19W-32G01 S	User ID:	TAP
FRDS Number:	5610018003	County:	Ventura
District Number:	06	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Abandoned
Source Lat/Long:	341800.0 1185300.0	Precision:	0.5 Mile (30 Seconds)
Source Name:	WELL 09 - ABANDONED		
System Number:	5610018		
System Name:	VENTURA CWWD NO. 1 - MOORPARK		
Organization That Operates System:			
	P O BOX 250		
	MOORPARK, CA 93020-0250		
Pop Served:	28049	Connections:	7751
Area Served:	MOORPARK, DIST NO 1		

A3
NNE **CA WELLS** **3396**
1/2 - 1 Mile
Higher

Water System Information:

Prime Station Code:	03N/19W-33P02 S	User ID:	TAP
FRDS Number:	5610018001	County:	Ventura
District Number:	06	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	341800.0 1185300.0	Precision:	0.5 Mile (30 Seconds)
Source Name:	WELL 05		

System Number: 5610018
System Name: VENTURA CWWD NO. 1 - MOORPARK
Organization That Operates System:
P O BOX 250
MOORPARK, CA 93020-0250
Pop Served: 28049 Connections: 7751
Area Served: MOORPARK, DIST NO 1

A4
NNE **CA WELLS** **3393**
1/2 - 1 Mile
Higher

Water System Information:

Prime Station Code:	03N/19W-32A01 S	User ID:	TAP
FRDS Number:	5610018002	County:	Ventura
District Number:	06	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Abandoned
Source Lat/Long:	341800.0 1185300.0	Precision:	0.5 Mile (30 Seconds)
Source Name:	WELL 08 - ABANDONED		
System Number:	5610018		
System Name:	VENTURA CWWD NO. 1 - MOORPARK		
Organization That Operates System:			
	P O BOX 250		
	MOORPARK, CA 93020-0250		
Pop Served:	28049	Connections:	7751
Area Served:	MOORPARK, DIST NO 1		

5
NW **CA WELLS** **3394**
1/2 - 1 Mile
Higher

Water System Information:

Prime Station Code:	03N/19W-32D01 S	User ID:	TAP
FRDS Number:	5610018004	County:	Ventura
District Number:	06	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	341800.0 1185400.0	Precision:	0.5 Mile (30 Seconds)
Source Name:	WELL 10		
System Number:	5610018		
System Name:	VENTURA CWWD NO. 1 - MOORPARK		
Organization That Operates System:			
	P O BOX 250		
	MOORPARK, CA 93020-0250		
Pop Served:	28049	Connections:	7751
Area Served:	MOORPARK, DIST NO 1		

6
North **CA WELLS** **CADW60000032382**
1/2 - 1 Mile
Higher

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Objectid:	32382
Latitude:	34.3031
Longitude:	-118.8917
Site code:	343031N1188917W001
State well numbe:	03N19W32G001S
Local well name:	''
Well use id:	6
Well use descrip:	Unknown
County id:	56
County name:	Ventura
Basin code:	'4-8'
Basin desc:	Las Posas Valley
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000032382

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
NE
1/2 - 1 Mile

OIL_GAS **CAOG11000284968**

District nun:	2	Api number:	11100864
Blm well:	N	Redrill can:	No
Dryhole:	Y	Well status:	P
Operator name:	Petan Co.		
County name:	Ventura	Fieldname:	Moorpark (ABD)
Area name:	Any Area	Section:	33
Township:	03N	Range:	19W
Base meridian:	SB	Elevation:	Not Reported
Gissourcec:	gps		
Comments:	Not Reported		
Leasename:	Not Reported	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	31-MAY-60
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Not Directionally drilled	Gissymbol:	PDH
Site id:	CAOG11000284968		

2
NNE
1/2 - 1 Mile

OIL_GAS **CAOG11000284969**

District nun:	2	Api number:	11100865
Blm well:	N	Redrill can:	No
Dryhole:	Y	Well status:	P
Operator name:	Terry Drilling Co.		
County name:	Ventura	Fieldname:	Moorpark (ABD)
Area name:	Any Area	Section:	32
Township:	03N	Range:	19W
Base meridian:	SB	Elevation:	Not Reported
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Joyner	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Not Directionally drilled	Gissymbol:	PDH
Site id:	CAOG11000284969		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
93021	255	11

Federal EPA Radon Zone for VENTURA County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 93021

Number of sites tested: 4

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.625 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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Hitch Ranch

Poindexter Avenue At Gabbert Road

Moorpark, CA 93021

Inquiry Number: 5131440.3

December 07, 2017

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

12/07/17

Site Name:

Hitch Ranch
Poindexter Avenue At Gabbert
Moorpark, CA 93021
EDR Inquiry # 5131440.3

Client Name:

Amicus
580 Second Street
Oakland, CA 94607
Contact: Markus Niebanck

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Amicus were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # F7F4-46A1-AA0E

PO # NA

Project Hitch Ranch

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: F7F4-46A1-AA0E

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Hitch Ranch

Poindexter Avenue At Gabbert Road

Moorpark, CA 93021

Inquiry Number: 5131440.10

December 12, 2017

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

12/12/17

Site Name:

Hitch Ranch
Poindexter Avenue At Gabbert
Moorpark, CA 93021
EDR Inquiry # 5131440.10

Client Name:

Amicus
580 Second Street
Oakland, CA 94607
Contact: Markus Niebanck

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2012	1"=875'	Flight Year: 2012	USDA/NAIP
2010	1"=875'	Flight Year: 2010	USDA/NAIP
2009	1"=875'	Flight Year: 2009	USDA/NAIP
2005	1"=875'	Flight Year: 2005	USDA/NAIP
1994	1"=875'	Acquisition Date: June 01, 1994	USGS/DOQQ
1985	1"=875'	Flight Date: September 12, 1985	USDA
1978	1"=875'	Flight Date: September 21, 1978	USDA
1969	1"=875'	Flight Date: July 25, 1969	USGS
1959	1"=875'	Flight Date: October 04, 1959	USDA
1952	1"=875'	Flight Date: December 22, 1952	USGS
1947	1"=875'	Flight Date: August 20, 1947	USGS
1938	1"=875'	Flight Date: May 09, 1938	USDA

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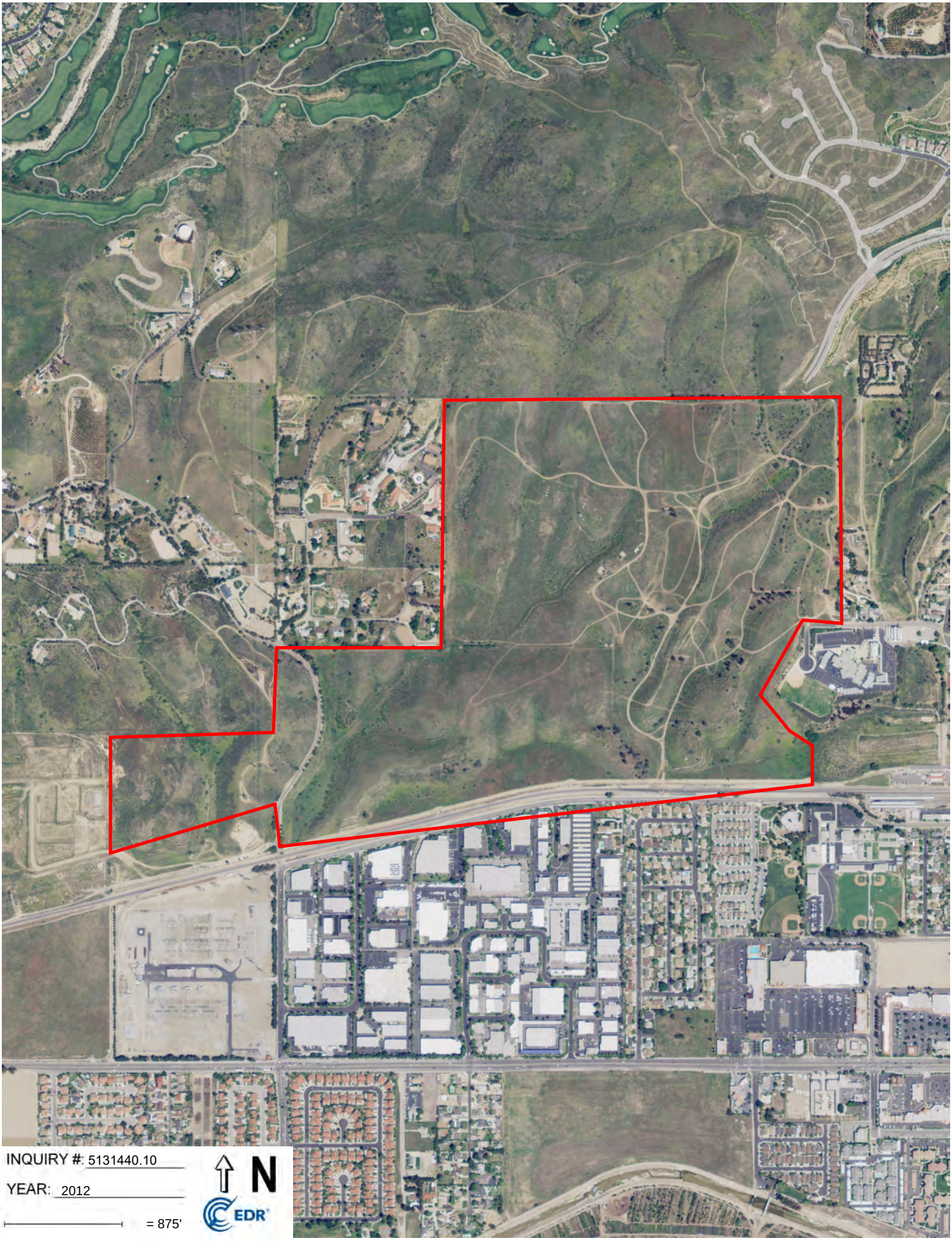
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EDR


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YEAR: 2010
= 875'
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EDR


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YEAR: 2009
= 875'
N
EDR


INQUIRY #: 5131440.10
YEAR: 2005
= 875'
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EDR


INQUIRY #: 5131440.10
YEAR: 1994
= 875'
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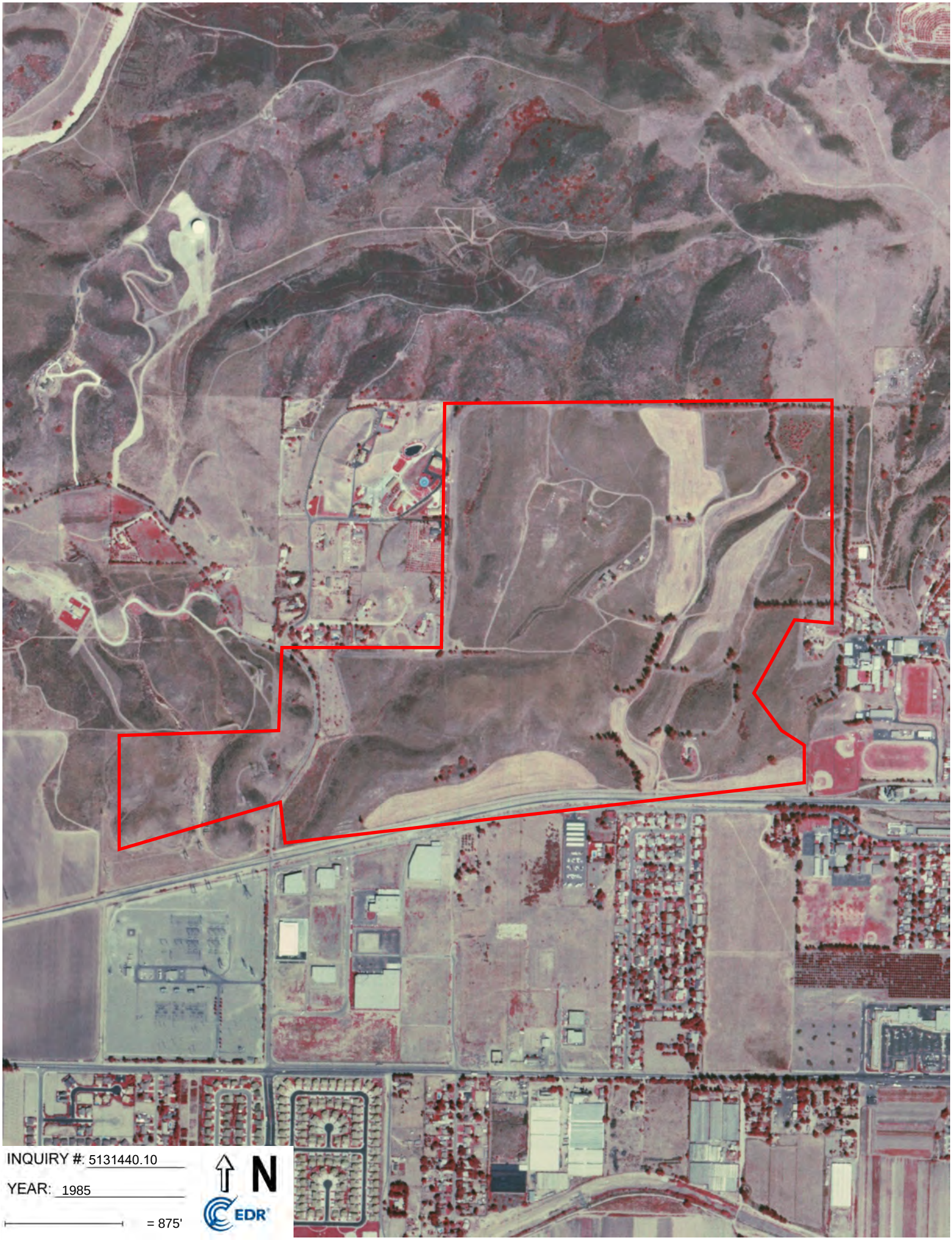
EDR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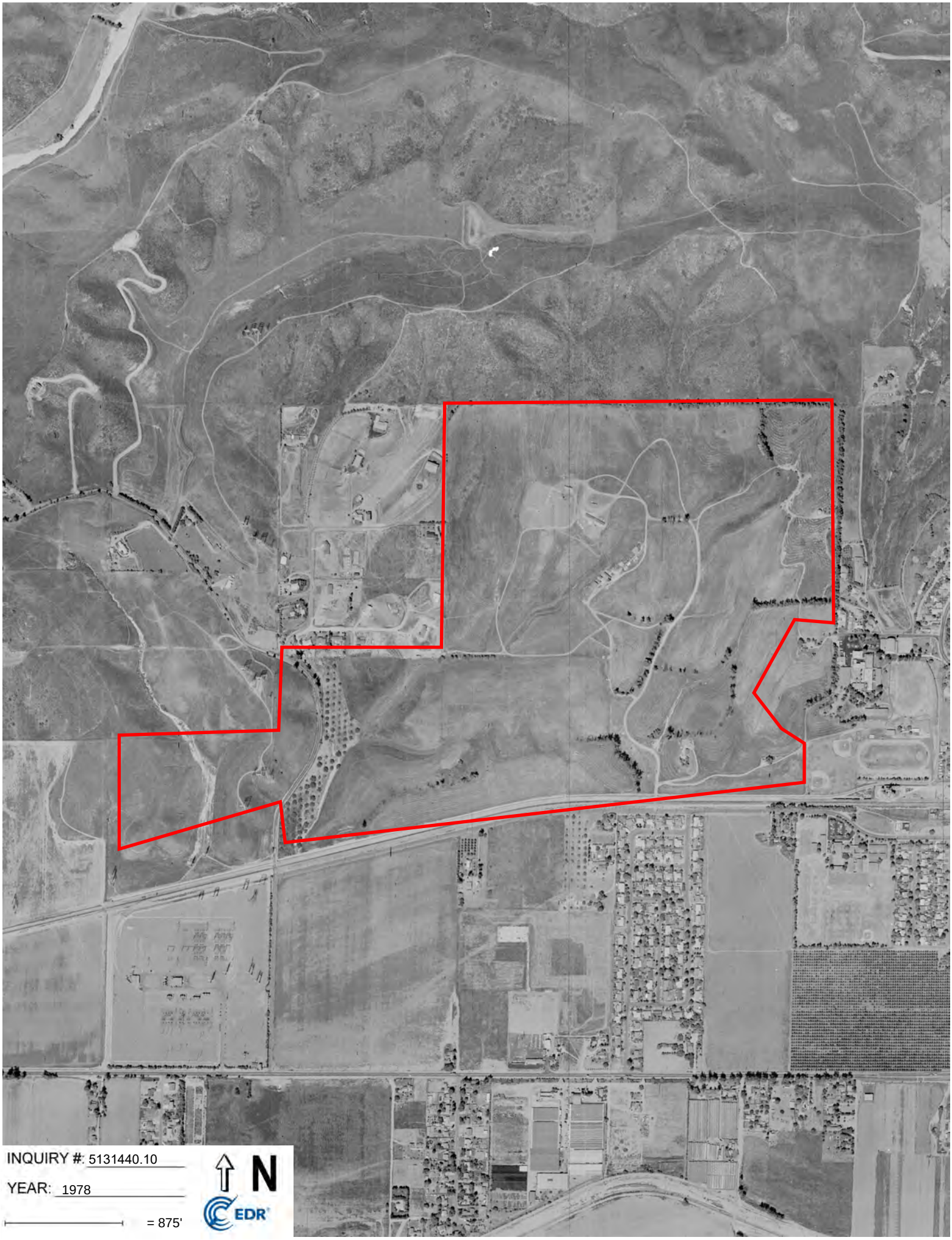
EDR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YEAR: 1969
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EDR


INQUIRY #: 5131440.10
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EDR


INQUIRY #: 5131440.10
YEAR: 1952
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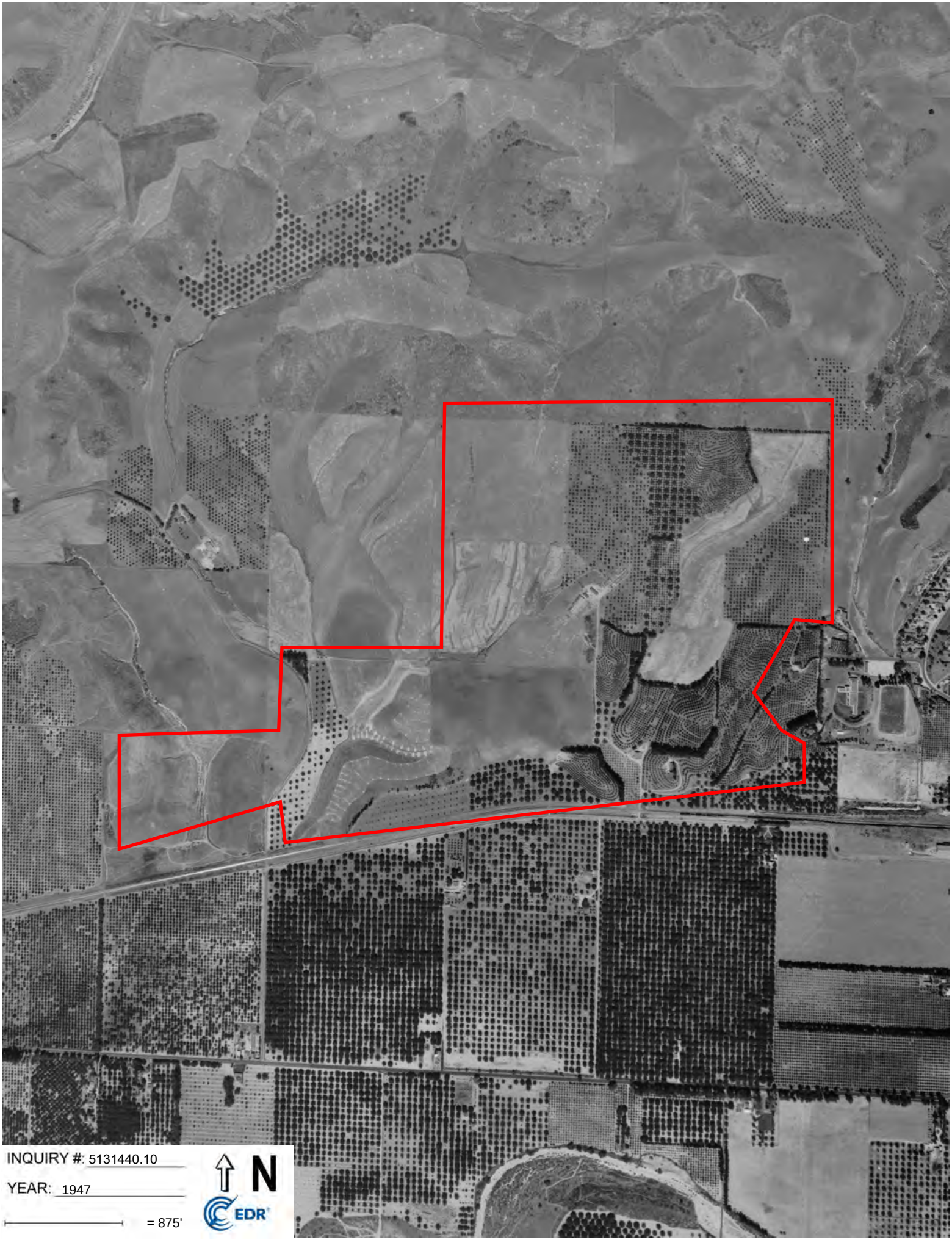
EDR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YEAR: 1947
= 875'
N
EDR



INQUIRY #: 5131440.10

YEAR: 1938

= 875'

N

EDR

Hitch Ranch

Poindexter Avenue At Gabbert Road

Moorpark, CA 93021

Inquiry Number: 5131440.4

December 07, 2017

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

12/07/17

Site Name:	Client Name:
Hitch Ranch	Amicus
Poindexter Avenue At Gabbert	580 Second Street
Moorpark, CA 93021	Oakland, CA 94607
EDR Inquiry # 5131440.4	Contact: Markus Niebanck

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Amicus were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:		*Coordinates:*	
P.O.#	NA	**Latitude:**	34.289704 34° 17' 23" North
Project:	Hitch Ranch	**Longitude:**	-118.892291 -118° 53' 32" West
		UTM Zone:	Zone 11 North
		UTM X Meters:	325834.84
		UTM Y Meters:	3795899.20
		Elevation:	609.91' above sea level

Maps Provided:

2012
1974
1969
1951
1944
1941
1921
1903

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Moorpark
2012
7.5-minute, 24000



Simi Valley West
2012
7.5-minute, 24000

1974 Source Sheets



Moorpark
1974
7.5-minute, 24000
Aerial Photo Revised 1969

1969 Source Sheets



Simi
1969
7.5-minute, 24000
Aerial Photo Revised 1947



Moorpark
1969
7.5-minute, 24000
Aerial Photo Revised 1969



Simi Valley West
1969
7.5-minute, 24000
Aerial Photo Revised 1969

1951 Source Sheets



Simi
1951
7.5-minute, 24000
Aerial Photo Revised 1947



Moorpark
1951
7.5-minute, 24000
Aerial Photo Revised 1947

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1944 Source Sheets



PIRU
1944
15-minute, 62500

1941 Source Sheets



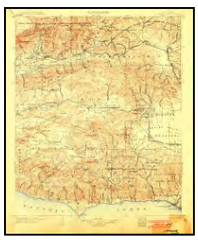
Piru
1941
15-minute, 62500

1921 Source Sheets

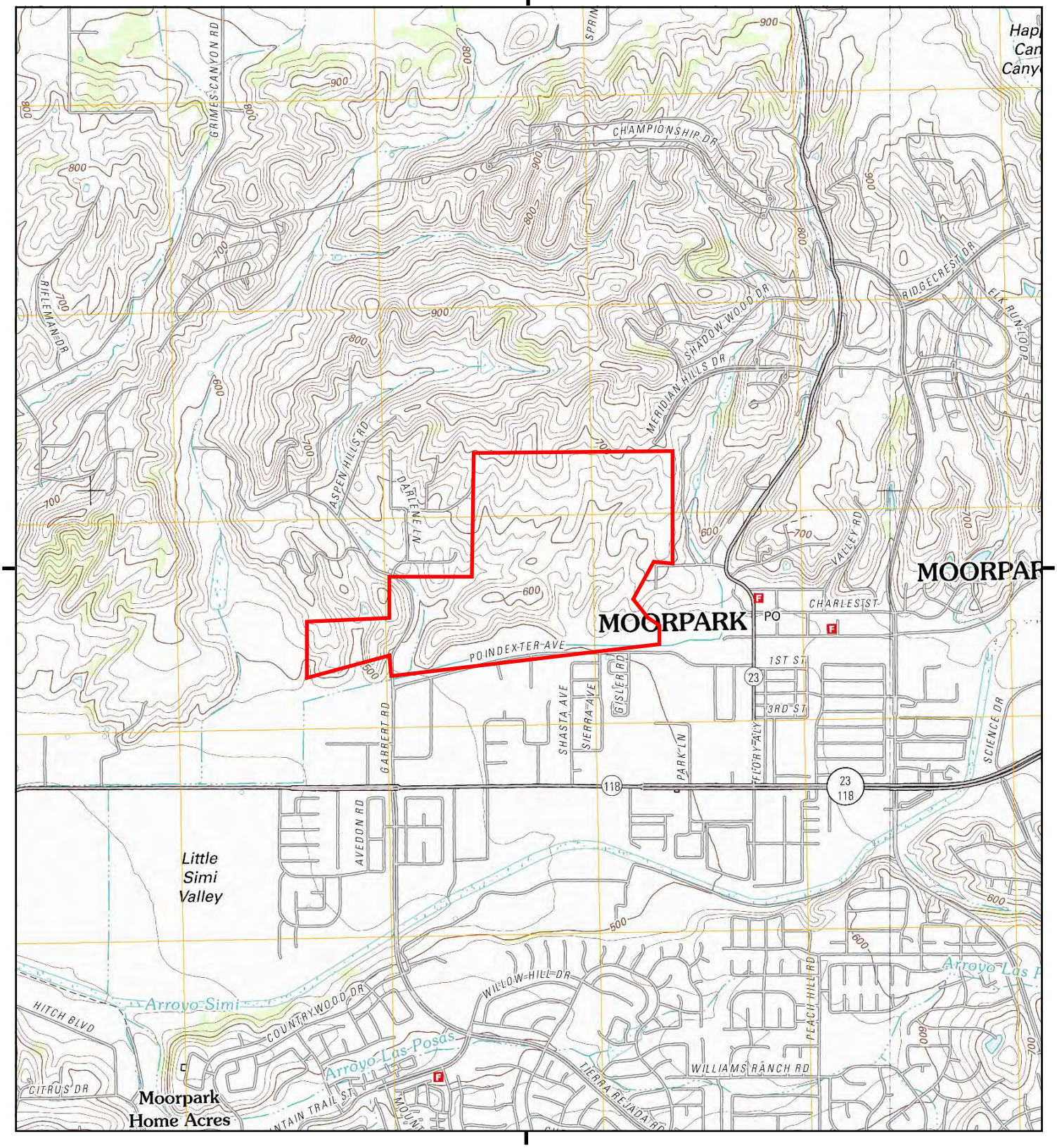


Piru
1921
15-minute, 62500

1903 Source Sheets



Camulos
1903
30-minute, 125000



This report includes information from the following map sheet(s).

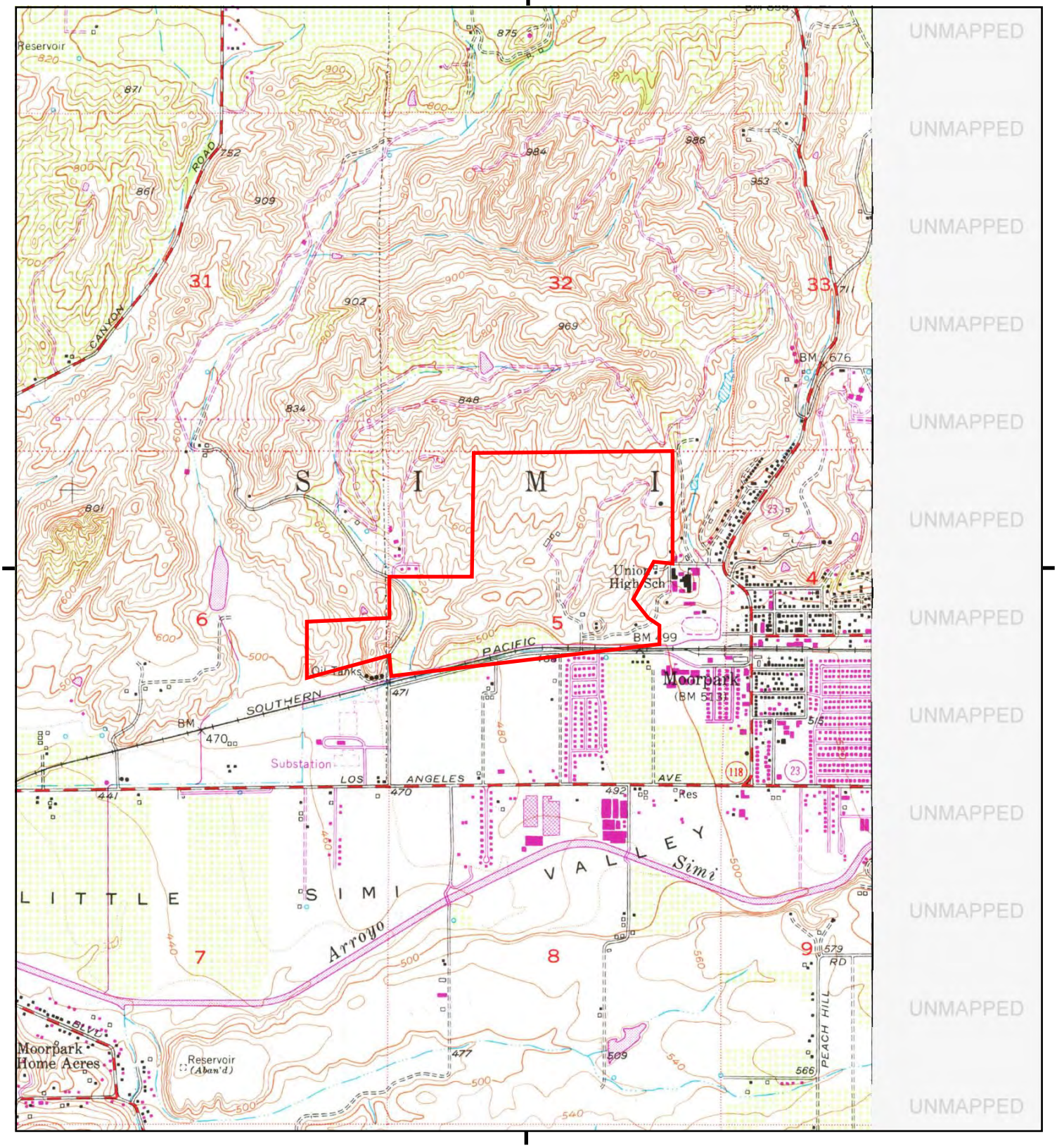
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Moorpark, 2012, 7.5-minute
E, Simi Valley West, 2012, 7.5-minute

SITE NAME: Hitch Ranch
ADDRESS: Poindexter Avenue At Gabbert Road
Moorpark, CA 93021
CLIENT: Amicus

N



This report includes information from the following map sheet(s).

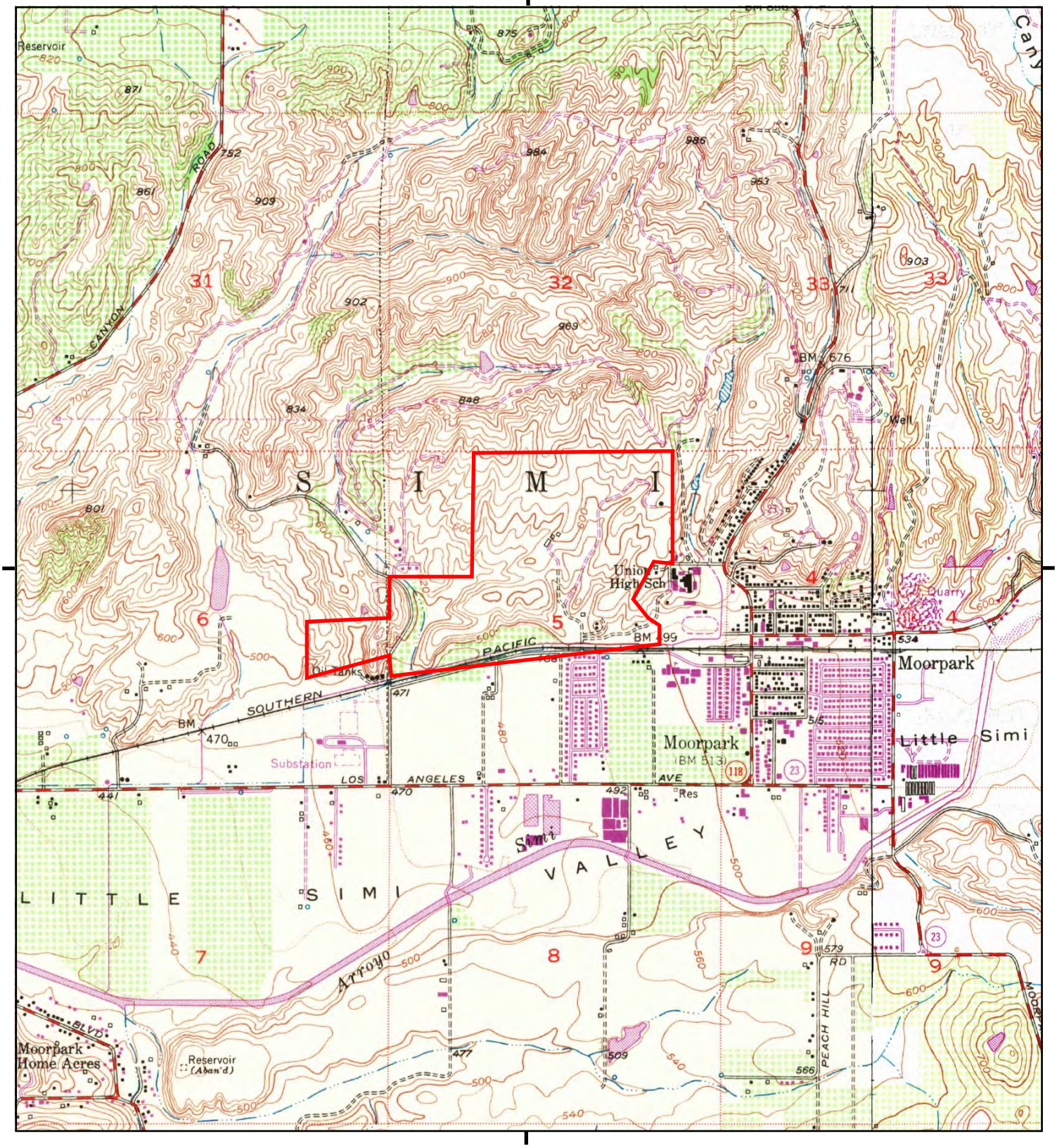
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Moorpark, 1974, 7.5-minute

SITE NAME: Hitch Ranch
ADDRESS: Poindexter Avenue At Gabbert Road
Moorpark, CA 93021
CLIENT: Amicus

N



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0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

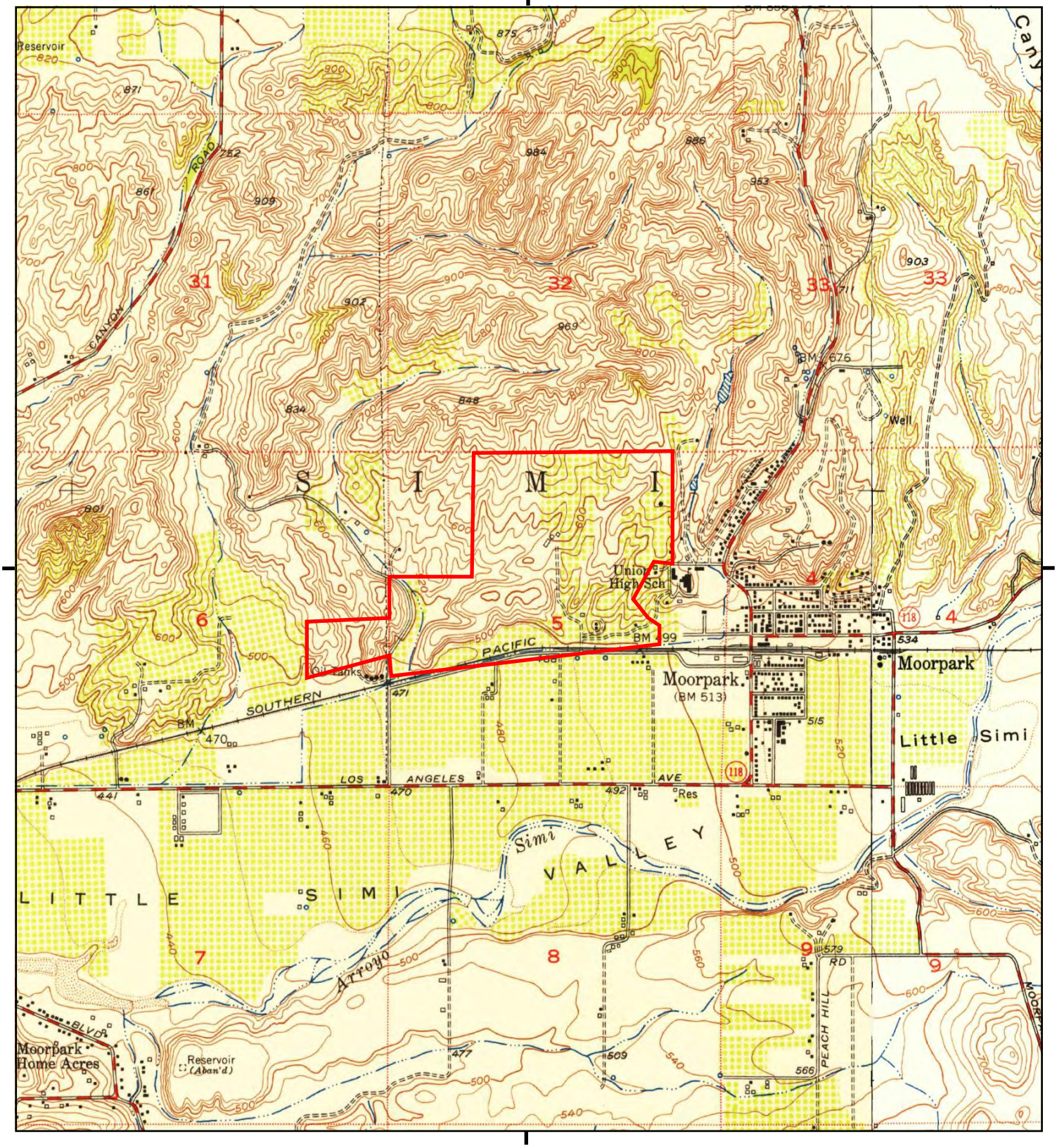
TP, Moorpark, 1969, 7.5-minute
E, Simi, 1969, 7.5-minute
E, Simi Valley West, 1969, 7.5-minute

SITE NAME: Hitch Ranch
ADDRESS: Poindexter Avenue At Gabbert Road
Moorpark, CA 93021
CLIENT: Amicus

N

Historical Topo Map

1951



This report includes information from the following map sheet(s).

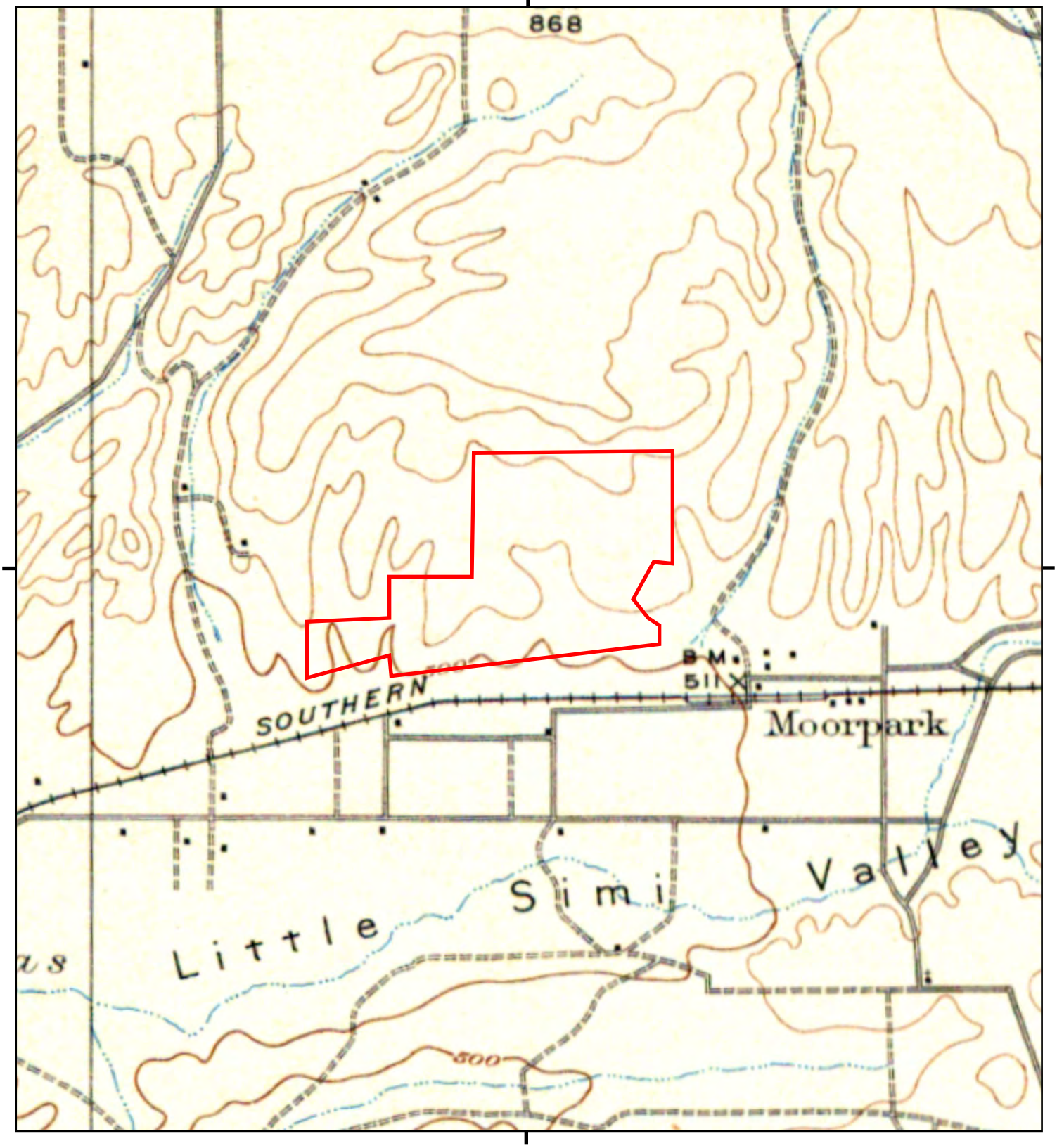
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Moorpark, 1951, 7.5-minute
E, Simi, 1951, 7.5-minute

SITE NAME: Hitch Ranch
ADDRESS: Poindexter Avenue At Gabbert Road
Moorpark, CA 93021
CLIENT: Amicus

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

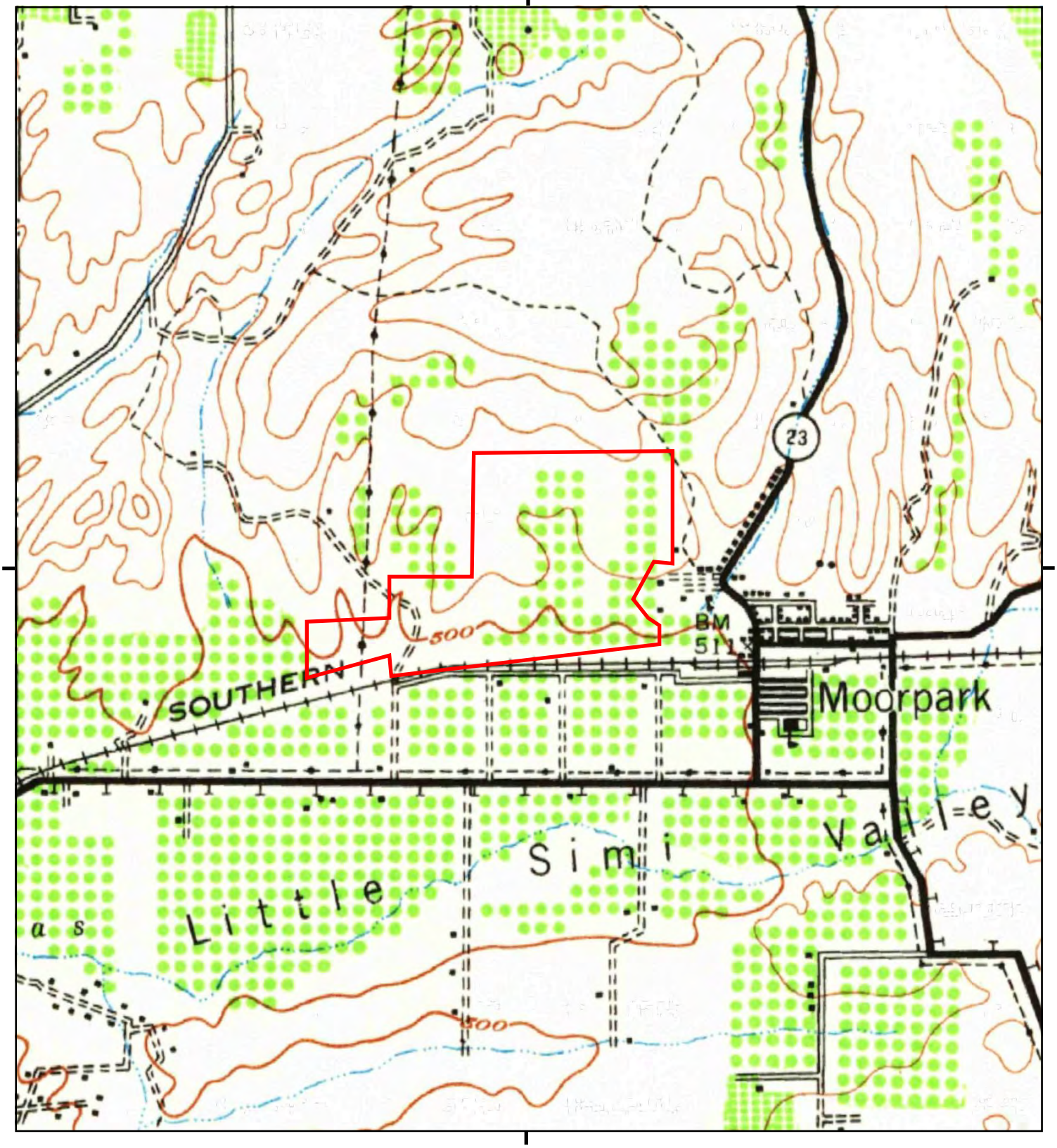
TP, PIRU, 1944, 15-minute

SITE NAME: Hitch Ranch
ADDRESS: Poindexter Avenue At Gabbert Road
Moorpark, CA 93021
CLIENT: Amicus

N

Historical Topo Map

1941



This report includes information from the following map sheet(s).

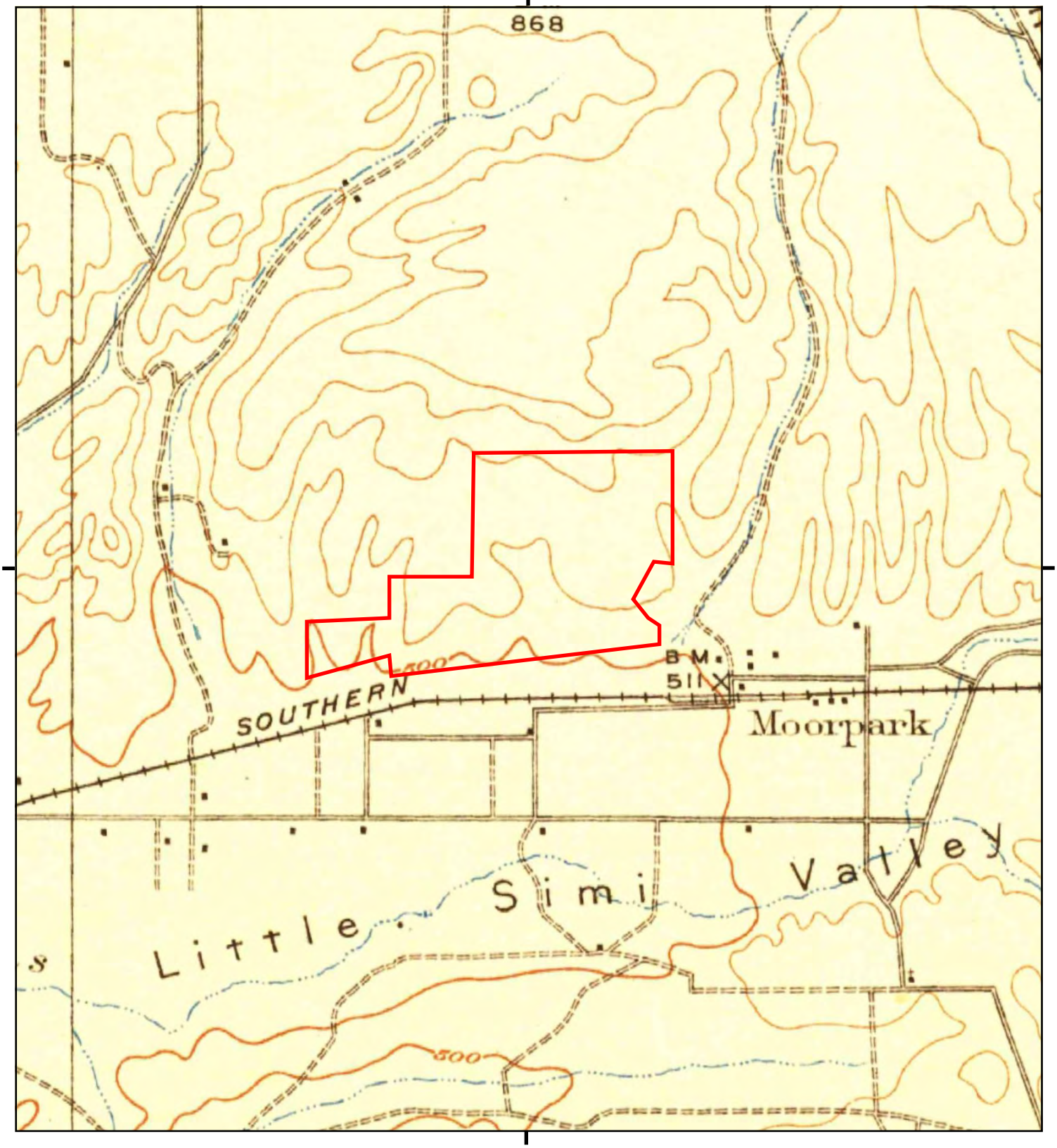
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Piru, 1941, 15-minute

SITE NAME: Hitch Ranch
ADDRESS: Poindexter Avenue At Gabbert Road
Moorpark, CA 93021
CLIENT: Amicus

N



This report includes information from the following map sheet(s).

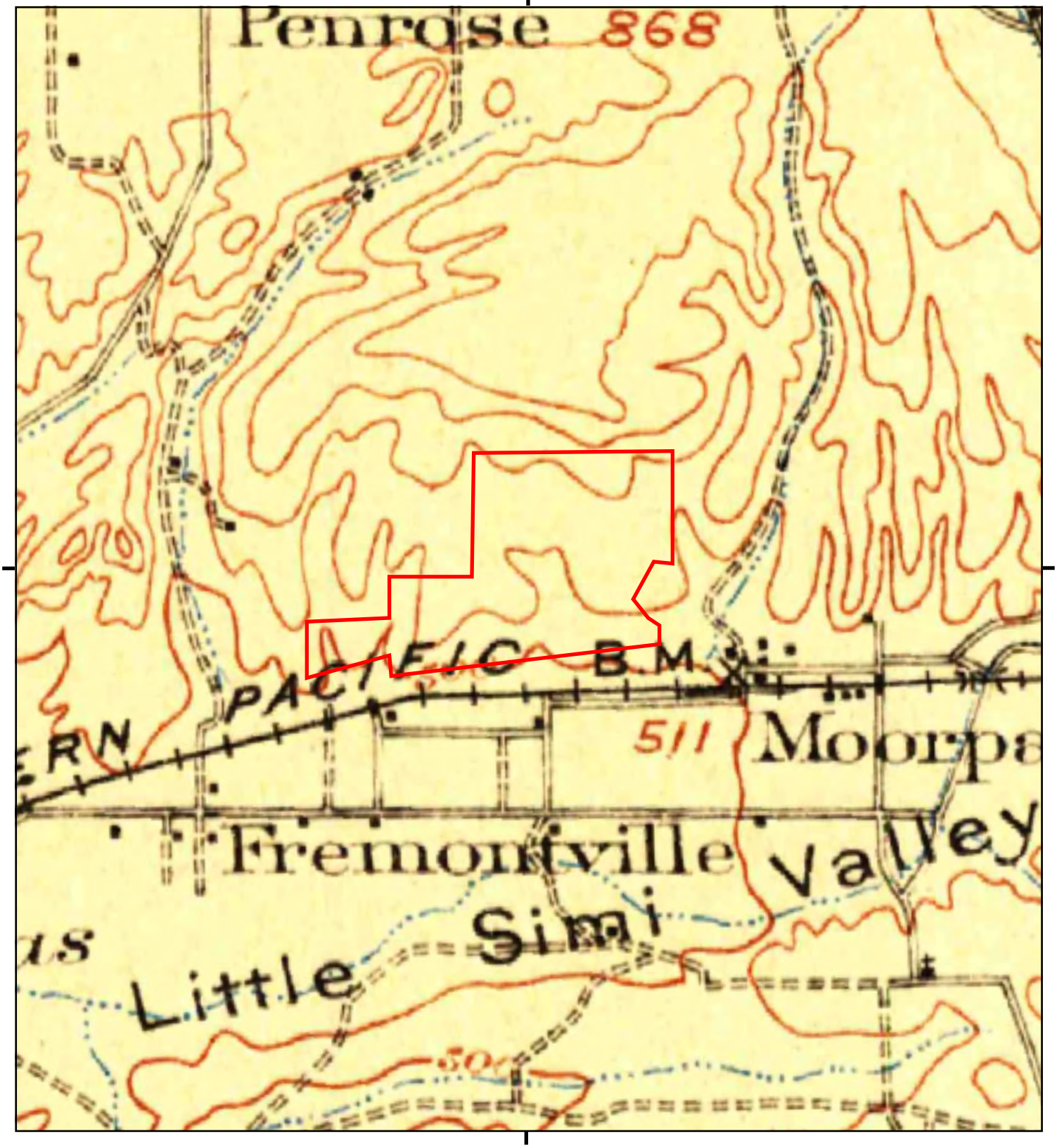
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Piru, 1921, 15-minute

SITE NAME: Hitch Ranch
ADDRESS: Poindexter Avenue At Gabbert Road
Moorpark, CA 93021
CLIENT: Amicus

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Camulos, 1903, 30-minute

SITE NAME: Hitch Ranch
ADDRESS: Poindexter Avenue At Gabbert Road
Moorpark, CA 93021
CLIENT: Amicus

N

Hitch Ranch
Poindexter Avenue At Gabbert Road
Moorpark, CA 93021

Inquiry Number: 5131440.6
December 07, 2017

The EDR-City Directory Abstract

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
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Findings

City Directory Images

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with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1926 through 2014. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2014	EDR Digital Archive	-	-	-	-
2010	EDR Digital Archive	-	-	-	-
2005	EDR Digital Archive	-	-	-	-
2002	Haines & Company, Inc.	-	X	X	-
2000	Pacific Bell Telephone Co	-	-	-	-
1996	Pacific Bell	-	X	X	-
1993	GTE	-	X	X	-
1986	Pacific Bell	-	X	X	-
1985	Pacific Telephone Co	-	X	X	-
1980	Polk	-	-	-	-
1976	R. L. Polk & Co.	-	-	-	-
1975	Pacific Telephone Co	-	-	-	-

EXECUTIVE SUMMARY

Year	Source	TP	Adjoining	Text Abstract	Source Image
1971	B&G Publications	-	-	-	-
1970	General Telephone Company of California	-	-	-	-
1968	B&G Publications	-	-	-	-
1965	Polk	-	-	-	-
1964	Pacific Telephone Co	-	-	-	-
1961	R. L. Polk & Co.	-	-	-	-
1957	R. L. Polk & Co.	-	-	-	-
1953	R. L. Polk & Co. of California	-	-	-	-
1949	Los Angeles Directory Co.	-	-	-	-
1940	Southern California	-	-	-	-
1930	Los Angeles Directory Co.	-	-	-	-
1926	Los Angeles Directory Co.	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

Poindexter Avenue At Gabbert Road
Moorpark, CA 93021

FINDINGS DETAIL

Target Property research detail.

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

COMMERCE AVE N

5301 COMMERCE AVE N

Year	Uses	Source
1996	F LABYRINTH GROUP	Pacific Bell
	G KODIAK COMMUNICATIONS INC	Pacific Bell
	H TERRAMAR GRAPHICS	Pacific Bell
	1 GAL WEST COMPUTER SUPPLY	Pacific Bell
	C ARMSTRONG INTERIORS CONSTRUCTION	Pacific Bell
	3 SPECTRUM SCREEN PRINTING CO	Pacific Bell
	D EAGLE PROPERTY MANAGMENT INC	Pacific Bell
	D LONDON & KIRK	Pacific Bell
	2 CREATIVE SOLUTIONS IN COMPUTERS	Pacific Bell

5325 COMMERCE AVE N

Year	Uses	Source
1996	1 C & W FIBER OPTICS	Pacific Bell
	5 ARTS ARRAY GFL	Pacific Bell
	5 GAMES FOR LESS	Pacific Bell
	3 FINISHING EQUIPMENT CO INC	Pacific Bell
	SYSTEMS	Pacific Bell

5345 COMMERCE AVE N

Year	Uses	Source
1996	DISPENSING TECHNOLOGY CORP	Pacific Bell

5360 COMMERCE AVE N

Year	Uses	Source
1996	TRENCH SHORING CO	Pacific Bell
	FLUID INK TECHNOLOGYINC	Pacific Bell

5397 COMMERCE AVE N

Year	Uses	Source
1996	DUROTECH	Pacific Bell
	DUROTECH	Pacific Bell

FINDINGS

5400 COMMERCE AVE N

Year	Uses	Source
1996	FUTURE AUTOMATION INC	Pacific Bell

GABBERT RD

5300 GABBERT RD

Year	Uses	Source
1996	PRUDENTIAL OVERALL SUPPLY	Pacific Bell
1993	Prudential Securities Incorporate	GTE
	Prudential Overall Supply Dust Control L Division	GTE
	I Prudential Overall Supply	GTE
	Prudential Overall Supply Dust Control L Division	GTE
	I Prudential Overall Supply	GTE
	PRUDE N TIAL MITCHE LL COMPANZ RE ALTORS	GTE
1986	Prudhomme Jos	Pacific Bell
	Prudhomme Joseph & Winnie	Pacific Bell
	Prudhomme Jos & Joan	Pacific Bell
	Prudential Overal Supply	Pacific Bell

5350 GABBERT RD

Year	Uses	Source
2002	MECHANICAL	Haines & Company, Inc.
	PRECISION PLUMBING	Haines & Company, Inc.
	BAS 00 MJohn 00 I	Haines & Company, Inc.

5380 GABBERT RD

Year	Uses	Source
2002	LISKAMrrsla	Haines & Company, Inc.
1996	MARPLAST INC	Pacific Bell

5390 GABBERT RD

Year	Uses	Source
2002	PRUDENTIAL OVERALL	Haines & Company, Inc.
	SUPPLY	Haines & Company, Inc.
	X 0 XXX	Haines & Company, Inc.

FINDINGS

5427 GABBERT RD

Year	Uses	Source
2002	XXXX	Haines & Company, Inc.

N COMMERCE AVE

5301 N COMMERCE AVE

Year	Uses	Source
2002	ADJSTm ER COM	Haines & Company, Inc.
	BUILDING	Haines & Company, Inc.
	ARMASTRONG	Haines & Company, Inc.
1993	Digital Energy	GTE
	Digital Equipment Corp @Point Mugu	GTE
	Digitext Inc	GTE
	Digiulio Catherine @Thousand Oaks	GTE
	Kirk & London CPA	GTE
	London & Kirk CPA	GTE
	Spectrum Screen Printing Co	GTE
	Spectrum Sign Co	GTE
	West Intemati	GTE
	Wolf Franz Jr geni contr i	GTE
	Advanced Projects Research Inc	GTE
	Wolf Franz Jr geni contr i	GTE
	West Intemati	GTE
	Spectrum Sign Co	GTE
	Spectrum Screen Printing Co	GTE
	London & Kirk CPA	GTE
	Kirk & London CPA	GTE
	Digitext Inc	GTE
	Digital Energy	GTE
	CRE ATIVE S OLUTION S IN COMPUTE RS	GTE
	Advanced Projects Research Inc	GTE
	CRE ATIVE S OLUTION S IN COMPUTE RS	GTE

5325 N COMMERCE AVE

Year	Uses	Source
2002	COIBINE UTILITIES BOX SYST INC D WAY FRE	Haines & Company, Inc.
	INSPECTION SRV	Haines & Company, Inc.

FINDINGS

Year	Uses	Source
2002	FINISHING EUIPMENT	Haines & Company, Inc.
	COIMC:	Haines & Company, Inc.
	FRAEPLACE NVSTGN RSRCH&EDU SV PAr CIFCC	Haines & Company, Inc.
	SYSTEMS	Haines & Company, Inc.
	SPORTSCOACHCOM 6 805 553 S	Haines & Company, Inc.
	THESPORTSCOACHM	Haines & Company, Inc.
1993	Diamond Cut Woodwork	GTE
	Diamond DE	GTE
	East West Unlimited	GTE
	East West Unlimited Systems Division	GTE
	Games For Less	GTE
	Smart Systems Inc	GTE
	Woodworth & Associates	GTE
	Woodworth C @Thousand Oaks	GTE
	Diamond Cut Woodwork	GTE
	East West Unlimited	GTE
	East West Unlimited Systems Division	GTE
	Games For Less	GTE
	Smart Systems Inc	GTE
	Woodworth & Associates	GTE

5345 N COMMERCE AVE

Year	Uses	Source
2002	INTRNATL	Haines & Company, Inc.
	MADE 1 NTHESHAOE	Haines & Company, Inc.
	TECHNOLOGY CORP	Haines & Company, Inc.
	BARBETTA 805 S MANUFACTURING DISPENSING 80 S	Haines & Company, Inc.
	SERVICES	Haines & Company, Inc.
	SOUTH COAST 805 832 1225 E	Haines & Company, Inc.
	TECHNOLOGY	Haines & Company, Inc.
	TERRAMAR GRAPHICS 81 S S 2 S	Haines & Company, Inc.
	S 360 FLUCIDIK 8MT	Haines & Company, Inc.
	TECHNOLOGY 1m	Haines & Company, Inc.
	AUTOMTD IG	Haines & Company, Inc.
1993	KMA Electronics Inc	GTE
	I S S	GTE
	Dispensing Technology Corp	GTE
	Flightline Systems Inc	GTE

FINDINGS

Year	Uses	Source
1993	I S S	GTE
	KMA Electronics Inc	GTE
	Southwest Equipment Company	GTE
	Dispensing Technology Corp	GTE
	Disposal Control Service Inc No Charge To Calling Party	GTE
	Dispute Resolution Center	GTE
	Diss Gordon @Newbury Park	GTE
	Flightline Systems Inc	GTE
	Southwest Equipment Company	GTE

5360 N COMMERCE AVE

Year	Uses	Source
1993	Lagomarsino Distributing Co	GTE
	Lagomarsino Distributing Co	GTE
	Lagomarsino Distributing Co	GTE
1986	Lagomarsinos Wholesale Liquor	Pacific Bell
	From Saticoy Telephones Call	Pacific Bell
1985	Lagomarsinos Wholesale Liquor	Pacific Telephone Co

5397 N COMMERCE AVE

Year	Uses	Source
2002	DUBOTECH 805 S	Haines & Company, Inc.
	AHt L	Haines & Company, Inc.
1993	I Durotech	GTE
	Airlessco	GTE
	Duron L M	GTE
	Airlessco	GTE
	I Durotech	GTE

5400 N COMMERCE AVE

Year	Uses	Source
2002	FUTURRE AUTOM	Haines & Company, Inc.
1993	CAL U RE N T IN C	GTE
	West Computer Supply	GTE
	i	GTE
	i	GTE
	Tayco Business Forms	GTE
	West Computer Supply	GTE
	Calif Computer Supply	GTE

FINDINGS

Year	Uses	Source
1993	Calif Computer Supply	GTE

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
Poindexter Avenue At Gabbert Road	2014, 2010, 2005, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched	Address Not Identified in Research Source
5300 GABBERT RD	2014, 2010, 2005, 2002, 2000, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5301 COMMERCE AVE N	2014, 2010, 2005, 2002, 2000, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5301 N COMMERCE AVE	2014, 2010, 2005, 2000, 1996, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5325 COMMERCE AVE N	2014, 2010, 2005, 2002, 2000, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5325 N COMMERCE AVE	2014, 2010, 2005, 2000, 1996, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5345 COMMERCE AVE N	2014, 2010, 2005, 2002, 2000, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5345 N COMMERCE AVE	2014, 2010, 2005, 2000, 1996, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5350 GABBERT RD	2014, 2010, 2005, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5360 COMMERCE AVE N	2014, 2010, 2005, 2002, 2000, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5360 N COMMERCE AVE	2014, 2010, 2005, 2002, 2000, 1996, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5380 GABBERT RD	2014, 2010, 2005, 2000, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5390 GABBERT RD	2014, 2010, 2005, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5397 COMMERCE AVE N	2014, 2010, 2005, 2002, 2000, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5397 N COMMERCE AVE	2014, 2010, 2005, 2000, 1996, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5400 COMMERCE AVE N	2014, 2010, 2005, 2002, 2000, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5400 N COMMERCE AVE	2014, 2010, 2005, 2000, 1996, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926

FINDINGS

Address Researched	Address Not Identified in Research Source
5427 GABBERT RD	2014, 2010, 2005, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926

B

1998 Phase I Environmental Site Assessment

GRADIENT
ENGINEERS INC.
Construction Management and
Environmental Services

PHASE I ENVIRONMENTAL SITE ASSESSMENT
HITCH RANCH
MOORPARK SPECIFIC PLAN NO. 1
MOORPARK, CALIFORNIA, 93021

Project No. 983034-001

February 13, 1998

Prepared For:
Impact Sciences
30343 Canwood Street, Suite 210
Agoura Hills, California 91301

31344 Via Colinas, #104, Westlake Village, CA 91362

(818) 707-8327
FAX (818) 707-7280

GRADIENT ENGINEERS INC.
Construction Management and Environmental Services

February 13, 1998

Project No. 983034-001

To: Impact Sciences
30343 Canwood Street, Suite 210
Agoura Hills, California 91301

Attention: Paul Calderwood, Senior Project Manager

Subject: Phase I Environmental Site Assessment, Hitch Ranch, Moorpark Specific Plan No. 1, Moorpark, California 93021

Gradient Engineers, Inc. (Gradient), completed this Phase I Environmental Site Assessment (ESA) for the subject property. The work was performed in accordance with our proposal of January 21, 1998, and your written authorization of March 11, 1998. The report was formatted in accordance with section X2 of ASTM Practice E 1527-97.

We appreciate the opportunity to continue to serve your environmental needs. If you have any questions regarding this report, please do not hesitate to contact me at your convenience.

Respectfully submitted,

GRADIENT ENGINEERS, INC.

Michael S. Catton
Senior Staff Geologist

Gregory R. Millikan
Project Manager

QA/QC

MSC/GRM/msc

Distribution: 3 (addressee)
Impact Sciences - Hitch Ranch

31344 Via Colinas, #104, Westlake Village, CA 91362

(818) 707-8327
FAX (818) 707-7280

EXECUTIVE SUMMARY

Gradient Engineers, Inc. (Gradient) performed a Phase I Environmental Site Assessment (ESA) at the subject site. The ESA was performed for Impact Sciences, Inc. (Impact Sciences). The purpose of this ESA was to identify recognized environmental conditions on the site. The scope of work for this assessment included records review, site reconnaissance, interviews, and report. The report was formatted in accordance with section X2 of ASTM Practice E 1527-97.

The site consists of approximately 282 acres (Moorpark Specific Plan Number 1) of undeveloped, hilly land (Figure 2 – Site Map). Site elevations range from 470 feet above mean sea level in the southwest to 720 feet in the north. A north/south trending paved road, Gabbert Road, crosses the west portion of the site. The site is covered with a moderate to thick growth of, grasses, bushes, pepper trees, and eucalyptus trees. Several south trending ephemeral streams drain into the flood control culvert at the south of the site.

The site is bounded on the north by an eucalyptus tree line, fence line, and undeveloped land. The site is bounded on the east by an eucalyptus tree line, a fence line, residential property, a construction site, and undeveloped land. The site is bounded on the south by a storm culvert, railroad tracks, and Poindexter Avenue. The site is bounded on the southwest by a storm culvert, railroad tracks, and a Southern California Edison substation. There are commercial and industrial properties located to the south of Poindexter Avenue. The site is bounded to the northwest by homes and horse ranches. The site is bounded on the west by agricultural, residential, and undeveloped land.

Based on information obtained during this assessment from sources including aerial photographs, topographic maps, and interviews, the past site usage was as apricot and lemon orchards; a hog farm; a horse farm; and for dairy cow grazing.

The review of environmental database records indicates that 19 mapped sites were found in the appropriate ASTM search of available ("reasonably ascertainable") government records either on the subject property or within the ASTM search radius around the subject property. None of the mapped sites are likely to have a negative impact on the subject site except Site #3, Agrow Co., located approximately 1000 feet north of the western side of the subject property. This up-gradient site may have the potential to adversely impact groundwater and soils at the subject site.

Based upon the findings of the ESA, Gradient recommends the following:

- Before the buildings are removed, suspect building materials and painted surfaces should be checked for asbestos and lead based paint;
- Empty identifiable and unidentifiable containers located in and around structures at the site should be removed and disposed of properly, and the underlying areas checked for contamination;
- Empty paint, an automotive car battery, and other debris located in wash east of Gabbert Road, should be disposed of properly and verified to not have leaked and contaminated the surrounding area;
- Horticultural and landscaping debris dumped in wash west of Gabbert, should be disposed of properly and verified to not have impacted the surrounding area;
- Pile of orchard heaters in southern portion of site, should be disposed of properly and the underlying area checked for contamination;

- The area around and under the pile of orchard heaters should be checked carefully for evidence of propellants and projectiles from gunfire, if evidence of gunfire is found the area should be checked for lead contamination;
- The area of the former AST's, should be closely inspected during the Casey Road extension, for evidence of contamination from smudge pot oil;
- Abandoned vehicles on site should be removed so that the contents of their fuel and or storage tanks do not contaminate the site. As they are being removed the underlying area should be inspected for contamination;
- The location of the construction fuel AST should be identified as to whether it is on the subject property or not. The AST should be bermed to contain any spillage and the protected soil covered with plastic to avoid contamination from spillage.
- Abandoned agricultural equipment should be removed so that the contents of their fuel and or storage tanks does not contaminate the site. As they are being removed the underlying area should be inspected for contamination;
- The contents of the former septic tank, should be identified prior to its removal.
- Prior to grading in areas used as orchards or for farming, all valley and level areas, and the northeast and east portions of the site, samples should be collected and screened for herbicides and pesticides.

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FIGURES

Figure 1 – Site Location Map	behind text
Figure 2 – Site Map	behind text

APPENDICES

Appendix A – References and Aerial Photographs
Appendix B – Vista Report, dated March 9, 1998
Appendix C – Phase I Environmental Site Assessment Transaction Screen Questionnaire

1. INTRODUCTION

1.1 Authorization

Gradient Engineers, Inc. (Gradient) completed a Phase I Environmental Site Assessment (ESA) at the subject site. This work was performed in accordance with the scope, terms and conditions of our proposal, No. P98300-012 dated January 21, 1998. This report is formatted in accordance with section X2 of ASTM Practice E 1527-97.

1.2 Purpose

The standard purpose of a Phase I ESA is to identify recognized environmental conditions on a site. The term *recognized environmental conditions* is defined by ASTM Standard E 1527-97 as "The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property, or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."

1.3 Scope of Work

The scope of work was performed in accordance with Gradient's proposal and included the following tasks:

- Record Review;
- Site Reconnaissance;
- Interviews; and
- Report.

This assessment did not include subsurface or geotechnical evaluation of the site; air, soil, and/or ground-water sampling and analysis; consideration of possible future contamination of the site from adjacent or surrounding facilities or properties; or investigations for asbestos, lead, or radon.

1.4 Limitations and Exceptions

The findings and professional opinions presented in this report are based on the information made available to Gradient (in most cases from previous reports and from public records) and could change if additional information becomes available. In performing our professional

services, Gradient applied present engineering and scientific judgment and used a level of effort consistent with the standard of practice measured on the date of this report and in the vicinity of the project site for projects of similar scope. Gradient makes no warranties, either express or implied, concerning the completeness of the data made available to us for this study. Gradient specifically withholds certification of any type concerning the absence of contamination at the site.

1.5 Limiting Conditions and Methodology

The methodology used during this assessment conforms with current standard of care in the performance of Phase I ESAs in southern California. The list of references used for this study is included as Appendix A. Gradient, using Vista Information Solutions, Inc.'s, Starview™ Real Estate software, version 2.5.1, conducted a search of available environmental records. A copy of the database report is included as Appendix B.

Government records documenting the history of hazardous materials in this area are generally reliable for only the past ten years or less; therefore, undocumented sites or events may exist, and early records of the site may not have been made available by the agencies for review.

The scale of the historic aerial photographs preclude detailed observations of small-scale features on the site.

The following conditions at the property during the site reconnaissance limited our observations of the property:

- The thick vegetation limited our range of reconnaissance.

2. SITE DESCRIPTION

2.1 Site Location

The site is undeveloped land located to the northwest of the intersection of Poindexter Avenue and Walnut Canyon Road, in Moorpark, California (Figure 1 - Site Location Map). The site is located in the western portion of the former Rancho Simi land grant area. The site is located in the southern half of the southeast ¼ of Section 6, T2N and R19W, and the North ½ of Section 5, T2N, R19W, of the San Bernardino Baseline and Meridian, in the former Rancho Simi.

2.2 Site and Vicinity Characteristics

The site consists of approximately 282 acres (Moorpark Specific Plan Number 1) of undeveloped land with rolling hills and valleys (Figure 1 – Site Location Map). Site elevations range from 470 feet above mean sea level in the southwest to 720 feet in the north. A north/south trending paved road, Gabbert Road, crosses the west portion of the site. The site is covered with a moderate to thick growth of, grasses, bushes, pepper trees, and eucalyptus trees. Several south trending ephemeral streams drain into the flood control culvert at the south of the site.

The site is bounded on the north by an eucalyptus tree line, fence line, and undeveloped land. Further to the north, off of Broadway, are citrus and avocado orchards. The site is bounded on the east by an eucalyptus tree line a fence line, some residential property, a construction site, and undeveloped land. The site is bounded on the south by a storm culvert, railroad tracks, and Poindexter Avenue. The site is bounded on the southwest by a storm culvert, railroad tracks, and a Southern California Edison substation. There are commercial and industrial properties located to the south of Poindexter Avenue. The site is bounded to the northwest by homes and horse ranches. The site is bounded on the west by agricultural, residential, and undeveloped land.

- The site is covered with a moderate to thick growth of grasses, bushes, pepper trees, and eucalyptus trees.

The vicinity is of similar topography and consists of ranches, agricultural, orchards, and undeveloped land.

2.3 Onsite Structures and Improvements

A paved north/south trending road, Gabbert Road, is present in the west portion of the site. Gabbert Road originates at Los Angeles Avenue and crosses the site to the north. A storm water culvert runs along the entire south property line.

A gated, dirt, north/south trending road, is present in the central portion of the site. The road originates at Poindexter Avenue and crosses the railroad tracks to a locked gate, driveway, and beyond to the northeast portion of the site. Several dirt roads are located on the site most of which originate from the dirt road off of Poindexter Avenue.

Utilities on site are:

- Electricity - service is provided by Southern California Edison;
- Potable Water - supplied by the Callegus Municipal Water District; and
- Natural Gas - provided by the Gas Company.

The structures located on site include:

- A workshop, three wooden structures, animal staging area and a corral are located in the middle of the easterly portion;
- A single family home, 537 Poindexter Avenue; and
- Two water well shelters (one in the northwest, one in the southeast), and an Above Ground Storage Tank (AST) for water in the northeast corner;

Evidence of several other structures were identified on the central and eastern portions of the site:

- Footings and concrete slabs; and
- Piles of timber

2.4 Current Uses of the Property

The property is currently undeveloped, however, the house at 537 Poindexter Avenue is occupied. The property has reportedly been fallow since the early 1980's.

2.5 Past Uses of the Property

Based on information obtained during this assessment from sources including aerial photographs, topographic maps, and interviews, the site was predominately used as:

- An apricot orchard;
- Lemon orchard;
- Wheat farming;
- Hog farm;
- Horse training; and
- Dairy cow grazing.

2.6 Current and Past Uses of Adjoining Properties

The property to the north is undeveloped. Further north over the hill the land is being used as citrus orchards. Properties to the northwest are residential and horse ranches. West of the site are orchards and a composting facility. South of the site is a mixed industrial/commercialarea. South and southeast of the site is residential. Northeast of the site are several ranches and east of the site is a school.

The surrounding area has been predominately undeveloped or used for agricultural purposes since the early 1900's. The area to the south and southeast has become increasingly more residential. The areas further to the west and north are still being used as orchards or remain undeveloped.

3. RECORDS REVIEW

3.1 Standard Environmental Record Sources

Gradient, using Vista Information Solutions, Inc.'s Starview™ Real Estate software, version 2.5.1, conducted a search of available environmental records. The search met the specific requirements of ASTM Standard E1527-97 associated with government databases, search distances, and data currency. The review of environmental database records indicates that 19 mapped sites were found in the appropriate ASTM search of available ("reasonably ascertainable") government records either on the subject property or within the ASTM search radius around the subject property. A copy of the database report is included as Appendix B. None of the mapped sites are likely to have a negative impact on the subject site except possibly the following:

- *Agrow Co.*, Map ID #3, is listed in the Emergency Response Notification System database.. The substances reported spilled are "GASOLINE, 10.00 (GAL); OIL, 30.00 (GAL)." The affected media was reported as a "Land Release." The site is located approximately 1,000 feet north of the western side of the subject property. This suspected up-gradient site may have the potential to adversely impact groundwater and soils beneath the subject site.

The Unmapped Sites List describes 20 sites that, due to poor or inadequate address information (incorrect zip code, etc.) can not be plotted on the map; the unmapped sites do not appear to currently represent any potential environmental concerns to the subject site.

3.2 Physical Setting

The U.S.G.S. 7.5-Minute topographic map, Moorpark, California Quadrangle, 1951 (photorevised 1969, photoinspected 1974) was reviewed. This U.S.G.S. map is used as the base map for Figure 1 - Site Location Map. Site topography, elevations, and certain cultural features are depicted in Figure 1.

The following items were noted on the map as of 1951:

- Structures are mapped on the site;
- Four "Oil Tanks" are located west of Gabbert Road;
- An AST is located in the northeast portion of the site; and
- Several unimproved dirt roads to the center and east portions of the site.

The 1969 photorevision showed the following changes:

- Extension of the unimproved dirt roads to the north and northeast.

The 1974 photoinspection showed the following changes:

- "No major culture or drainage changes observed."

Based on the topographic map review, no environmental concerns on the site or in the immediate vicinity of the site were noted except the following:

- On the southwest corner of the site, the topographic map shows four "Oil Tanks."

3.3 Historical Use Information - Aerial Photographs

Selected years of aerial photographs were examined to develop a history of the previous uses of the property and surrounding area, in order to help identify the likelihood of past uses having led to recognized environmental conditions in connection with the property. Aerial photographs were reviewed for the following years: 1938, 1952, 1981, 1993 (Appendix A).

1938

The site is being used for agricultural purposes and as an orchard. There are several buildings located directly north of Poindexter Avenue and several structures off of Casey Road. There are several AST's, two on the western side of the site just north of the railroad tracks, and one on the northeastern side. The surrounding areas and vicinity are being used as ranches and orchards. Several locations are being prepared for use as an orchard.

1952

The site is still being used for agricultural purposes and as an orchard. Several structures have been constructed in the center of the property. An intricate irrigation system has been added, including two water wells and an AST for water. Most of the level surfaces of the property have now been converted into an orchard. The wash, east of Gabbert Road, had an orchard planted in it. Several AST's have been relocated near the orchard areas. The AST's near Gabbert Road are in the same location as 1938.

1981

The property is no longer being used as an orchard. The west side AST's are no longer visible. A stable and riding area are now present in the northwest portion of the site. There are several structures on the western portion of the site. High tension power lines are visible originating from the substation to the south and continuing north over the site. A storm culvert is visible just north of the railroad tracks.

1993

The property appears undeveloped. A commercial or industrial park is visible south of the site.

3.4 Oil Field Records

A review of oil field maps (DOGGR, 1997) indicates that the closest documented oil wells is over 2,000 feet from the site.

3.5 Previous Reports

Gradient requested copies of any environmental related reports from Impact Sciences and the property owner. Paul Calderwood, Impact Sciences, stated "we have no reports which document environmental concerns at the site." The property owner, A. A. Milligan, stated "I know of no past reports."

4. SITE RECONNAISSANCE

On March 10, 1998, Gradient visited the site to assess current site utilization, to locate possible surface contamination source areas, and to look for indications of potential subsurface contamination.

4.1 Hazardous Substances in Connection with Identified Uses

We observed no evidence of potentially hazardous substances in connection with identified uses.

4.2 Hazardous Substances Containers and Unidentified Substance Containers

We observed two automotive batteries dumped on the site. One was in the wash, east of Gabbert Road, the other battery was in the former accounting building at the center of the site.

We observed approximately 20-25 unmarked empty containers near or around the buildings in the central portion of the site.

4.3 Storage Tanks

No Underground Storage Tanks (UST's) or evidence of former UST's were observed on the site.

There is currently one AST on the northeastern portion of the site. We observed this AST to be a water AST.

4.4 Polychlorinated Biphenyls (PCBs)

We observed no evidence of PCB-containing pad or pole mounted transformers, fluorescent light ballasts, or other PCB-containing equipment.

4.5 Indications of Solid Waste Disposal

Three locations on the site show evidence of dumping:

- We observed an empty gallon paint can, an automotive battery, and a couch dumped in the wash, east of Gabbert Road;
- We observed piles containing PVC pipes, automobile tires, and plant flats, dumped in the wash, west of Gabbert; and
- We observed approximately 30-40 orchard heaters in southern portion of site, north of Poindexter Avenue and west of the central dirt road.

5. INTERVIEWS

On February 23, 1998, Gradient spoke with Paul Calderwood, Senior Project Manager with Impact Sciences, Inc. Calderwood stated "in order to get the name and phone number of the current owner of the site you should call Gordon Jenewein, Development Planning Services." Gradient asked Calderwood if any previous reports regarding environmental concerns have been produced. Paul Calderwood stated "there are no previous reports."

On March 9, 1998, Gradient spoke with Jenewein about the Phase I ESA Transaction Screen Questionaire, he stated "that all correspondence to the property owner be directed through me."

On March 11, 1998, Gradient spoke with Gordon Jenewein, Development Planning Services, he stated "you can contact A. A. Milligan, the property owner, directly, and fax him the questionnaire."

On March 11, 1998, Gradient faxed Milligan the Phase I ESA Transaction Screen Questionaire.

On March 11, 1998, Gradient spoke with Shauna Perry, Senior Fire Inspector with the Ventura County Fire Department, Fire Prevention (VCFD). Gradient described the site to Perry as "Hitch Ranch, Moorpark Specific Plan No. 1, 537 Poindexter Avenue, anything on Poindexter Avenue, Gabbert Road, or Casey Road." Perry stated "that VCFD has no records or permits for any hazardous materials storage, spills, UST's, and AST's at that site." Perry stated "I am not aware of any permits for an AST in the nearby area." Perry reported that "structures on Casey Road had been destroyed in a VCFD training exercise."

On March 11, 1998, Gradient spoke with Heather Colbern, Records Search Coordinator with the Ventura County Health Department (VCHD). Gradient described the site to Colbern as "Hitch Ranch, Moorpark Specific Plan No. 1, 537 Poindexter Avenue, anything on Poindexter Avenue, Gabbert Road, or Casey Road." Colbern stated "VCHD has no records of any hazardous materials storage or spills at the site." Colbern stated "VCHD has records for 5300 and 5027 Gabbert Road." Colbern replied "the site at 5027 Gabbert Road has had case closure and the site at 5300 Gabbert Road is still open."

On March 12, 1998, a Phase I Environmental Site Assessment Questionnaire was completed by Mr. Milligan. A copy of the completed questionnaire is included as Appendix C.

On March 12, 1998, Gradient spoke with Mr. Milligan, Owner of the site. He Sated the following:

- Around 1940 the site was deeded to my Uncle from the Hitch family
- The Hitch's continued lease the land from us and worked it until the 1970's;
- The site was used as an apricot orchard from the 1930's to sometime around 1948;
- The apricots were removed in 1948 and lemons planted lemon orchard from 1948 to around 1970;
- We put the water wells and water lines in for the lemon trees, sometime around 1948;
- The tank were used for fuel storage by the Hitch family;
- The tanks were removed sometime around 1960; and
- To the best of my knowledge no pesticides or herbicides were used at the site.

Milligan stated "I know of no adverse environmental conditions at the site." Milligan recommended we contact Lowell Withington who still leased a portion of the property.

On March 12, 1998, Gradient spoke with Lowell Withington, leasee of the site. Withington stated the following:

- Apricot orchard from the 1930's to 1948-49;
- Hogs were penned from the 1930's until sometime in the 1960's;
- Lemon orchard from 1948-49 to the 1970's;
- Three water wells drilled: one on the northwest (~600'), one on the southeast(~700'), and one on the northeast (~1400');
- The well on the northeast was unsuitable for their purposes; and
- To the best of his knowledge no pesticides or herbicides were used at the site.

He described what the existing buildings located on site were used for:

- The large building on the site map was for pitting apricots;
- The wooden building east of it was used for drying the apricots with sulfur compounds;
- The sheetmetal building was the shop;
- The wooden building east of the shop was used for dried fruit storage; and
- The metal and wood building south of the shop was for accounting purposes.

Withington stated "that the concrete and brick structures were used for hog farming, and the existing corral was one of many hog pens." Withington also stated "the area northwest of the buildings had been used for horses." Withington remarked that the site was used as pasture land for dairy cows from the 1970's to the 1990's. gradient asked Withington "if he knew of any herbicides or pesticides used on the site?" Withington responded "I am not a bug man, I know of no past or present use of those things at the site."

On March 12, 1998, Gradient spoke with Fire Engineer Magdalena, Ventura County Fire Department, Station 42. Magadalena communicated "in my 25 years with the department, I do not recall any unusual activities at the site, other then the training exercises."

6. FINDINGS AND RECOMMENDATIONS

6.1 Findings

Gradient identified the following environmental concerns at the subject site (see Figure 2 for corresponding locations):

- Suspect building materials used in structures located on site (location #1).

All structures located on the site have been identified to have been constructed before 1978, most have been constructed before 1948. These structures may contain asbestos building materials and have been painted with lead based paint.

- Empty identifiable and unidentifiable containers located in and around structures at the site (location #2).

The buildings in the central portion of the site contained several empty identifiable and unidentifiable containers: Empty oil containers and one empty hydraulic drum labeled "Shell Spirax HD SAE 85W/140;" Empty container of "Lexol," a leather preservative; Several empty plastic bottles of "Prepodyne Solution," a livestock antibacterial solution; Automotive battery; Used automotive oil filters; and many unidentifiable metal and plastic containers. The well shelter located on the southeast portion of the site has a fifty five gallon drum of "Chevron O. C. Turbine Oil," the drum was on its side and appeared to be empty.

- Empty paint, automotive car battery, and other debris located in wash east of Gabbert Road (location 3#).

In the wash, east of Gabbert Road, an empty paint can, automotive battery, and a couch have been dumped or washed down out of the canyon northwest of the site.

- Horticultural and landscaping debris dumped in wash west of Gabbert (location #4).

In the wash on the westerly portion of the site, piles of debris dumped in the wash contained PVC pipes, automobile tires, plant flats, and possibly other materials which could not be seen on the surface.

- Pile of orchard heaters in southern portion of site (location #5).

North of Poindexter Avenue and west of the central dirt road was a pile of "Riverside Sheet Metal Works" orchard heaters, these originally contained smudge pot oil.

- Bullet holes in orchard heaters located in southern portion of site (location #6).

May have led to a release of smudge pot oil to the environment, and lead contamination to surrounding areas.

- Former location of AST's, as identified on U.S.G.S. topographic map (location #7).

AST's reportedly containing smudge pot oil were removed around 1960 with no records or regulatory agency interface. AST's were reportedly shot at and released smudge pot oil to the environment sometime in the 1950's.

- Abandoned vehicles on site (location #8).

On the central dirt road a four door International pick up type truck has been abandoned, the fuel tank still had an odor of gasoline. On the westerly portion of the site there are pieces of an automobile strewn about, potentially releasing chemicals to the environment.

- Diesel Fuel AST (location #9).

On the east portion of the site, off of Casey Road, is a five hundred gallon construction diesel fuel AST. The AST is not properly bermed for containment or permitted per Ventura County Fire Department Guidelines. The AST was observed to have leaked as staining was still visible. It was not evident if this tank is on the subject property.

- Abandoned Agricultural Equipment (location #10).

Several kinds of agricultural equipment have been abandoned or stored on the site. This equipment includes three dozers, several mobile tanks, spreaders, and a till. Vegetation has completely grown around this equipment and staining was not observed.

- Former Septic Tank (location #11).

A septic tank has been reported to be in the vicinity of the buildings in the central portion of the site, its location contents should be identified.

- The site has been used for many different agricultural and orchard purposes.

Properties used as orchards and farm land may contain herbicides and or pesticides, such as DDT.

6.2 Recommendations

Gradient recommends the following in regards to our findings:

- Suspect building materials used in structures located on site.

Before the buildings are removed suspect building materials and painted surfaces should be checked for asbestos and lead based paint.

- Empty identifiable and unidentifiable containers located in and around structures at the site.

These containers should be removed and disposed of properly, and the underlying areas checked for contamination.

- Empty paint, automotive car battery, and other debris located in wash east of Gabbert Road.

These items should be disposed of properly and verified to not have leaked and contaminated the surrounding area. As the area is cleared, caution should be exercised as more containers may be located within the wash.

- Horticultural and landscaping debris dumped in wash west of Gabbert.

These items should be disposed of properly and verified to not have leaked. As the area is cleared, caution should be exercised as more containers may be located within the wash.

- Pile of orchard heaters in southern portion of site.

The orchard heaters should be disposed of properly and the underlying area checked for contamination.

- Bullet holes in orchard heaters located in southern portion of site.

The area around and under the pile of orchard heaters should be checked carefully for evidence of propellants and projectiles from gunfire. If evidence is found the area should be checked for lead contamination.

- Former location of AST's, as identified on U.S.G.S. topographic map.

The area where the former AST's, as shown on Figure 1, should be closely inspected during the Casey Road extension, for evidence of contamination from the smudge pot oil.

- Abandoned vehicles on site.

The vehicles should be removed so that the contents of their fuel and or storage tanks do not contaminate the site. As they are being removed the underlying area should be inspected for contamination.

- Diesel Fuel AST.

The location of the construction fuel AST should be identified as to whether it is on the subject property or not. The AST should be bermed to contain any spillage and the protected soil covered with plastic to avoid contamination from spillage.

- Abandoned Agricultural Equipment.

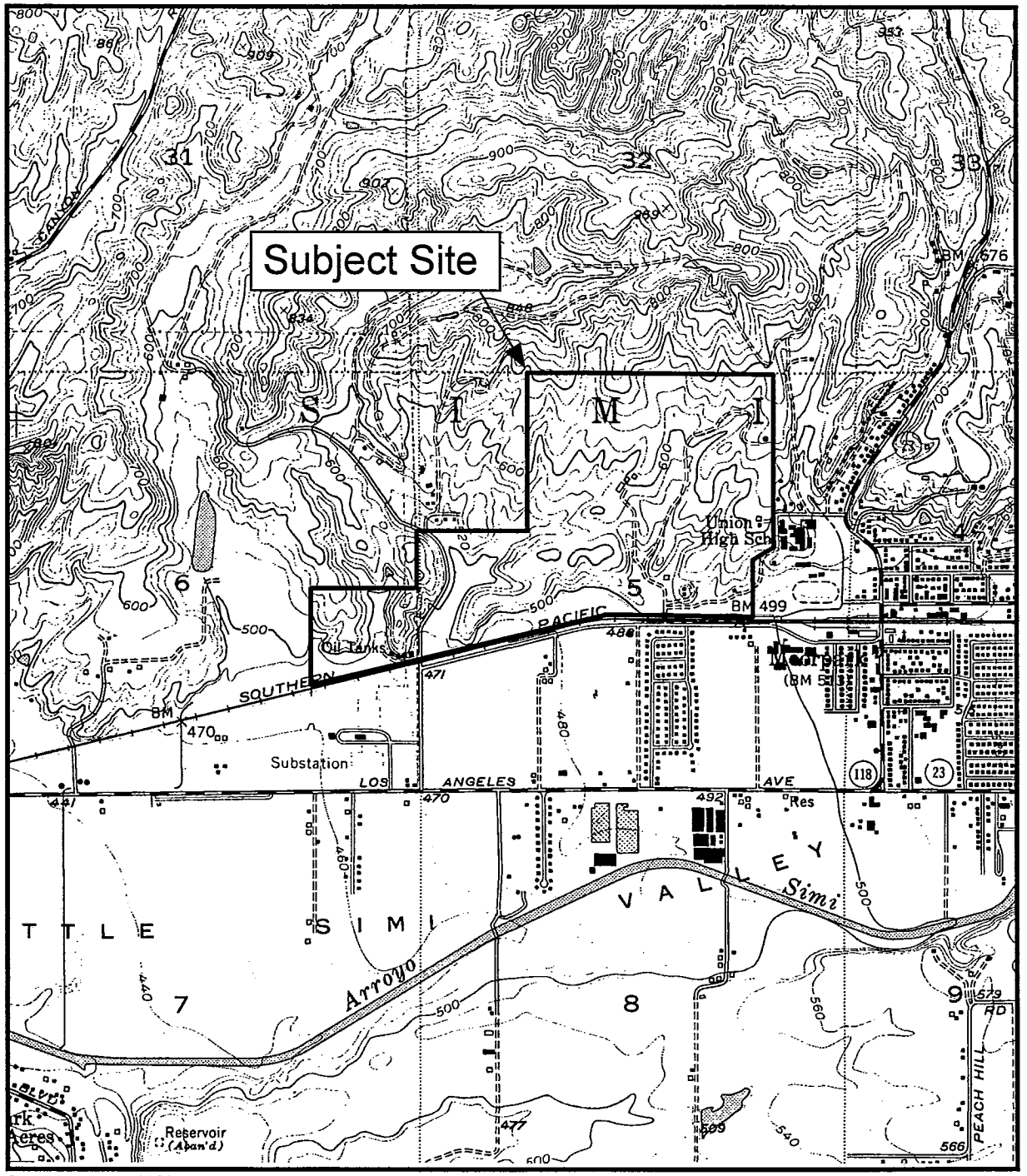
The equipment should be removed so that the contents of their fuel and or storage tanks does not contaminate the site. As they are being removed the underlying area should be inspected for spills.

- Former Septic Tank.

The contents of the former septic tank, should be identified prior to its removal.

- The site has been used for many different agricultural and orchard purposes.

Prior to grading in areas used as orchards or for farming, all valley and level areas, and the northeast and east portions of the site, samples should be collected and screened for herbicides and pesticides.



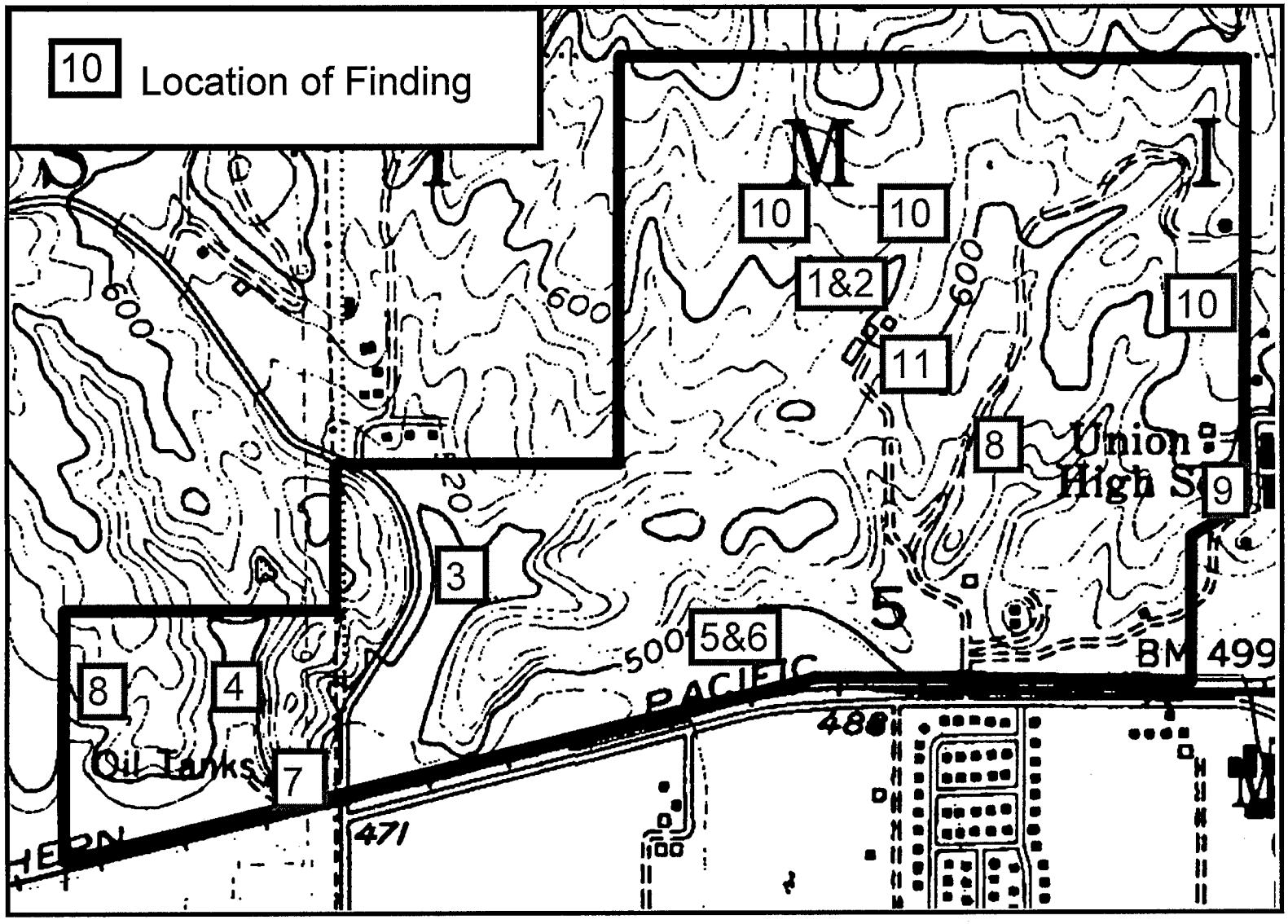
SITE LOCATION MAP

Base Map; U.S.G.S. 7.5 Minute Moorpark Quadrangle, 1951 (photorevised 1969 photoinspected 1974)

Hitch Ranch
Moorpark Specific Plan No. 1
Moorpark, California

Figure No.: 1
Drafted By: MSC
Project No.: 983034-001

GRADIENT ENGINEERS INC.
Construction Management & Environmental Services



SITE MAP

0 1000 2000

Scale (feet)

Base Map; U.S.G.S. 7.5 Minute Moorpark Quadrangle, 1951 (photorevised 1969 photoinspected 1974)

Hitch Ranch, Moorpark Specific Plan No. 1
Moorpark, California

Figure No.: 2
Drafted By: MSC
Project No.: 983034-001

GRADIENT ENGINEERS INC.
Construction Management & Environmental Services

APPENDIX A

REFERENCES

American Society for Testing and Materials, 1997, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E1527-97, dated 1997.

State of California Department of Conservation, 1997, Division of Oil, Gas, and Geothermal Resources, Regional Wildcat Map, Ventura and Los Angeles Counties Regional Wildcat Map W2-1, June 12, 1986, Revised July 26, 1997.

United States Geological Survey, 7.5 Minute Newhall, California Quadrangle, 1951 (photorevised 1969, photoinspected 1974).

Vista, 1998, Vista Information Solutions, Inc., Site Assessment Report, Mayfair, Tract Number 46389-14, Santa Clarita, California, 91354, dated January 31, 1998.

AERIAL PHOTOGRAPHS

Date	Flight	Photo	Scale	Agency	Source
5-9-38	AXI	19-77, 78	1:20,000	NA	Gradient Library
12-23-52	AXI	K-90, 91	1:20,000	USDA	Gradient Library
6-15-81	PW VEN 3	141,142	1"=2000'	American Aerial	Gradient Library
5-7-93	Hidden Creek 3		NA	Mitchell Photo	Gradient Library

SITE ASSESSMENT REPORT
(PROPERTY BOUNDRY EXTENDED 1/2 MILE)

PROPERTY INFORMATION	CLIENT INFORMATION
Project Name/Ref #: P98300-012 Hitch Ranch-282 Acre Site Northeast of Gabbert Rd Poindexter Ave Moorpark, CA 93021 Latitude/Longitude: (34.288478, 118.894222)	Paul Calderwood Impact Sciences 30343 Canwood Street, #210 Agoura Hills, CA 91301

Site Distribution Summary Agency / Database - Type of Records			*within 1/8 mile*	*1/8 to 1/4 mile*	*1/4 to 1/2 mile*	*1/2 to 1 mile*
A) Databases searched to 1 mile:						
US EPA	NPL	National Priority List	0	0	0	0
US EPA	CORRACTS (TSD)	RCRA Corrective Actions and associated TSD	0	0	0	0
STATE	SPL	State equivalent priority list	0	0	0	0
STATE	SCL	State equivalent CERCLIS list	0	0	0	0
B) Databases searched to 1/2 mile:						
US EPA	CERCLIS / NFRAP	Sites currently or formerly under review by US EPA	0	0	0	-
US EPA	TSD	RCRA permitted treatment, storage, disposal facilities	0	0	0	-
STATE	LUST	Leaking Underground Storage Tanks	0	2	6	-
STATE	SWLF	Permitted as solid waste landfills, incinerators, or transfer stations	0	0	1	-
C) Databases searched to 1/4 mile:						
STATE	UST	Registered underground storage tanks	1	3	-	-
STATE	AST	Registered aboveground storage tanks	0	0	-	-

Site Distribution Summary Agency / Database - Type of Records			within 1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	1/2 to 1 mile
D) Databases searched to 1/8 mile:						
US EPA	ERNS	Emergency Response Notification System of spills	1	-	-	-
US EPA	LG GEN	RCRA registered large generators of hazardous waste	2	-	-	-
US EPA	SM GEN	RCRA registered small generators of hazardous waste	5	-	-	-

This report meets the ASTM standard E-1527 for standard federal and state government database research in a Phase I environmental site assessment. A (-) indicates a distance not searched because it exceeds these ASTM search parameters.

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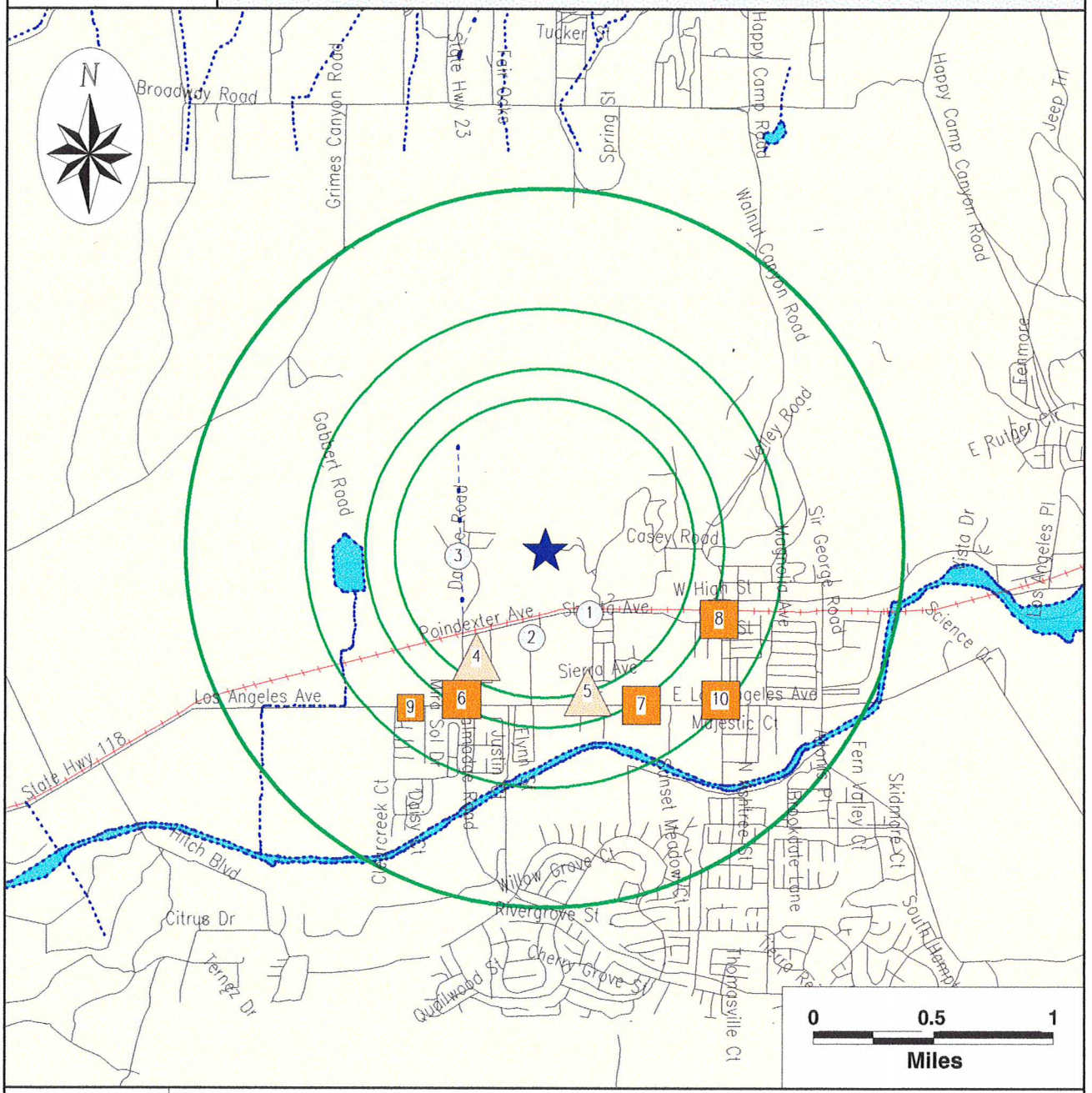
NOTES

SITE ASSESSMENT REPORT
(PROPERTY BOUNDRY EXTENDED 1/2 MILE)

Map of Sites within 1 Mile



Subject Site	Category:	A	B	C	D
★	Databases Searched to:	1 mi.	1/2 mi.	1/4 mi.	1/8 mi.
	Single Sites	◆	■	▲	○
	Multiple Sites	◆	■	▲	○
		NPL, SPL, CORRACTS (TSD), SCL	CERCLIS\ NFRAP, TSD, LUST, SWLF	UST	ERNS, GENERATORS

Highways and Major Roads
Roads
Railroads
Rivers or Water Bodies
Utilities

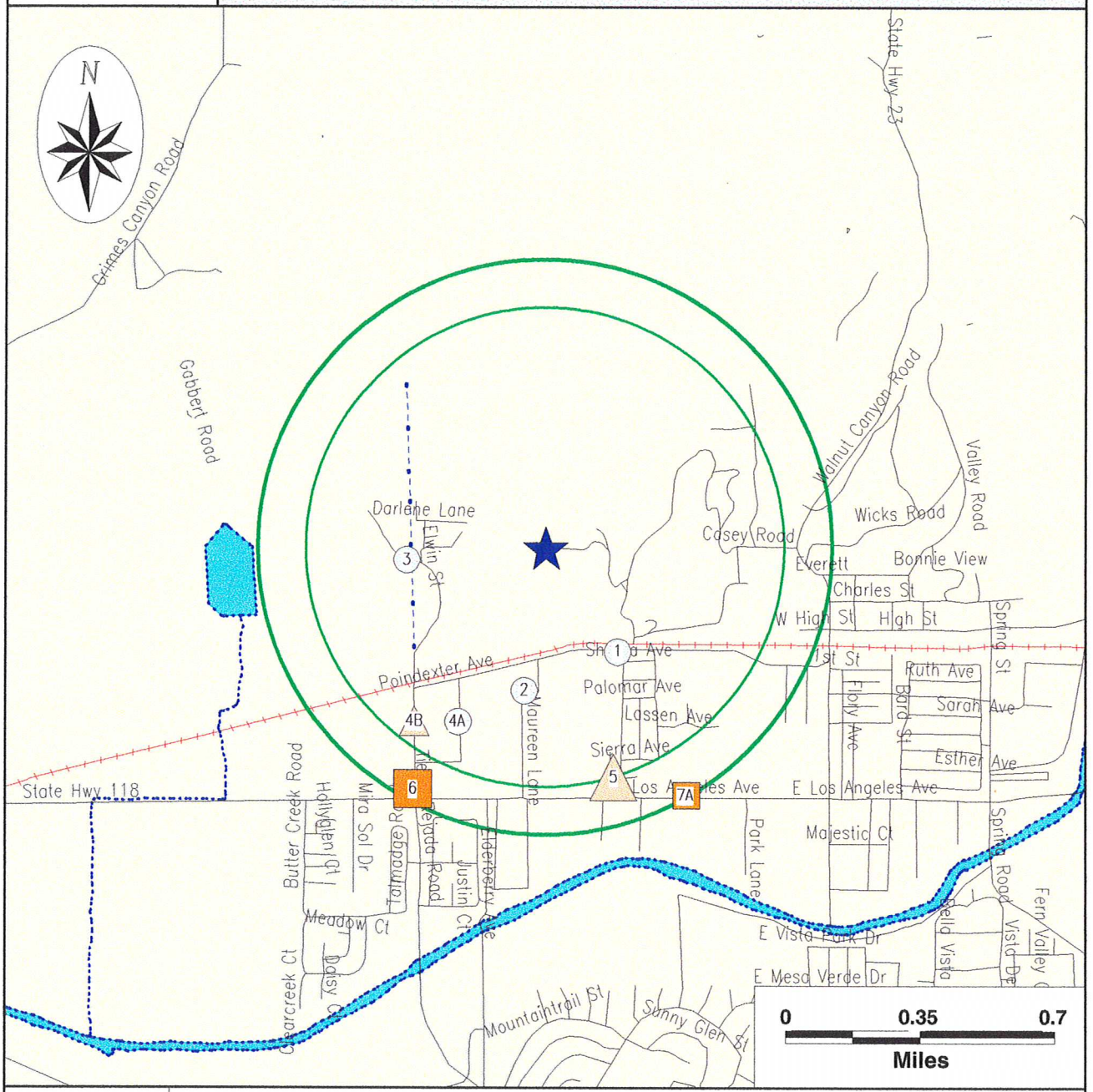
For More Information Call VISTA Information Solutions, Inc. at **1 - 800 - 767 - 0403**

Report ID: **998300012**

Date of Report: **March 9, 1998**

SITE ASSESSMENT REPORT
(PROPERTY BOUNDRY EXTENDED 1/2 MILE)

Map of Sites within 1/4 Mile



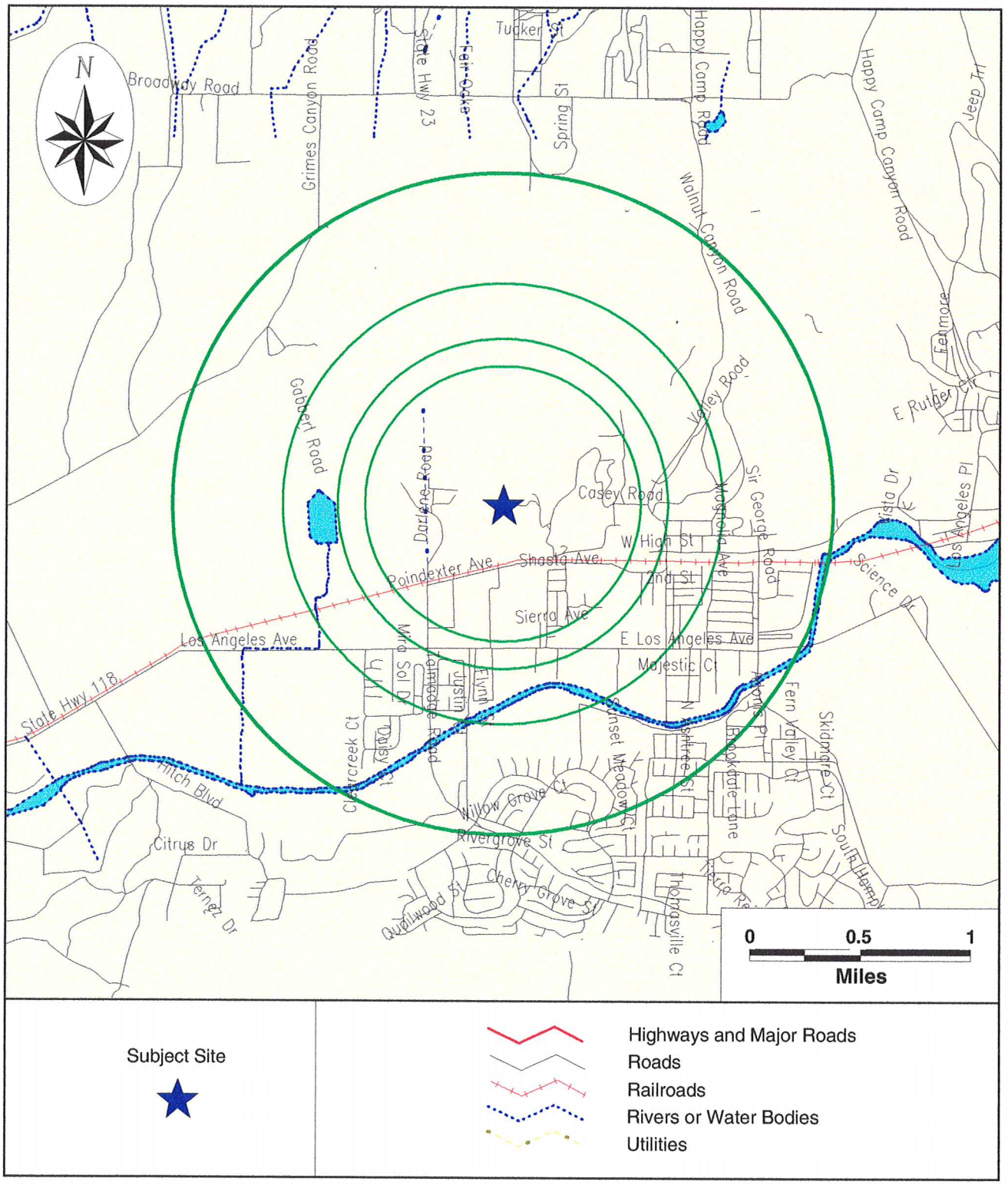
Subject Site	Category: / Databases Searched to:	A 1 mi.	B 1/2 mi.	C 1/4 mi.	D 1/8 mi.
★	Single Sites	◆	■	△	○
	Multiple Sites	◆	■	△	○
		NPL, SPL, CORRACTS (TSD), SCL	CERCLIS\ NFRAP, TSD, LUST, SWLF	UST	ERNS, GENERATORS

Highways and Major Roads
Roads
Railroads
Rivers or Water Bodies
Utilities

For More Information Call VISTA Information Solutions, Inc. at **1 - 800 - 767 - 0403**
Report ID: **998300012**
Date of Report: **March 9, 1998**

SITE ASSESSMENT REPORT
(PROPERTY BOUNDRY EXTENDED 1/2 MILE)

Street Map



SITE ASSESSMENT REPORT
(PROPERTY BOUNDRY EXTENDED 1/2 MILE)

SITE INVENTORY

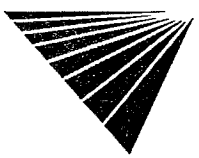
MAP ID	PROPERTY AND THE ADJACENT AREA (within 1/8 mile)	VISTA ID / DISTANCE / DIRECTION	A				B				C		D		
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	UST	AST	ERNS	LG GEN	SM GEN
1	SOUTHLAND PAINTING 12160 POINDEXTER ST MOORPARK, CA 93021	*5209784* *0.00 MI* *SE*													X
2	VILLAGE MEWS THE 5165 MAUREEN LANE MOORPARK, CA 93021	*1601118* *0.00 MI* *S*												X	
3	AGROW CO. 6061 GABBER MOORE PARK, CA 93021	*200085909* *0.00 MI* *W*											X		
4A	DUROTECH CO 5397 COMMERCE AVE MOORPARK, CA 93021	*5182253* *<0.01 MI* *SW*													X
4B	PRUDENTIAL OVERALL SUPPLY 5300 GABBERT RD MOORPARK, CA 93021	*341395* *0.07 MI* *SW*									X			X	
5	PACIFIC COAST AUTOBODY 5162 GOLDMAN AVE MOORPARK, CA 93021	*316240* *0.11 MI* *S*													X
5	MORNING STAR LABORATORIES INC 5158 G GOLDMAN AVE MOORPARK, CA 93021	*284047* *0.11 MI* *S*													X
5	SEMICONDUCTOR EQUIPMENT CORP 5154 GOLDMAN AVE MOORPARK, CA 93021	*373969* *0.11 MI* *S*													X

MAP ID	SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)	VISTA ID / DISTANCE / DIRECTION	A				B				C		D		
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	UST	AST	ERNS	LG GEN	SM GEN
5	AMERICAN HI-LIFT 875 W LOS ANGELES MOORPARK, CA 93021	*19147* *0.17 MI* *S*									X				

MAP ID	SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)	VISTA ID DISTANCE DIRECTION	A				B				C		D		
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	UST	AST	ERNS	LG GEN	SM GEN
6	SO CAL EDISON-MOORPARK SUBSTATN 5027 GABBERT RD MOORPARK, CA	6672871 0.22 MI SW									X				
6	SOUTHERN CALIFORNIA EDISION 5027 GABERT RD MOORPARK, CA 93021	1187811 0.22 MI SW							X		X				
7A	GISLER RANCH 635 LOS ANGELES AVE MOORPARK, CA 93021	2748762 0.24 MI SE							X						

MAP ID	SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)	VISTA ID DISTANCE DIRECTION	A				B				C		D		
			NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	UST	AST	ERNS	LG GEN	SM GEN
7	S.K. EGG CITY 550 W. LOS ANGELES AVE. MOORPARK, CA 93021	5813254 0.28 MI SE								X					
7	CALTRANS MOORPARK MAIN STATION 512 LOS ANGELES AVE MOORPARK, CA 93021	3777414 0.28 MI SE							X						
8	UNOCAL #1696 18 HIGH ST W MOORPARK, CA 93021	5209517 0.25 MI E							X						
8	TEXACO 347 MOORPARK AVE MOORPARK, CA 93021	938285 0.32 MI E							X						
9	SOUTHERN CA EDISON CO 11650 LOS ANGELES AVE MOORPARK, CA 93021	938283 0.37 MI SW							X						
10	HARRY MEAD 50 LOS ANGELES AVE W MOORPARK, CA 93021	1148238 0.46 MI SE							X						
10	MOORPARK UNIFIED SCHOOL DIST. 30 FLORY AVE MOORPARK, CA 93021	1240233 0.48 MI SE							X		•				

MAP ID	SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)	A				B				C		D		
	VISTA ID DISTANCE DIRECTION	NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	UST	AST	ERNS	LG GEN	SM GEN
No Records Found														



X = search criteria; • = tag-along (beyond search criteria).
For more information call VISTA Information Solutions, Inc. at **1 - 800 - 767 - 0403.**

UNMAPPED SITES	VISTA ID	A				B				C		D		
		NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	UST	AST	ERNS	LG GEN	SM GEN
P. W. GILLIBRAND CO. BENNETT RD SIMI VALLEY, CA	4020049									X				
MOORPARK (DISTRICT 7) MOORPARK, CA	6612730										X			
SIMI VALLEY ROYAL AVE. 1962 NORTH OF COURRIER A SIMI VALLEY, CA	6831144				•				X					
CANON DE LA BREA (CDLB) SIMI VALLEY, CA	3999927										X			
1958 1000 BLOCK OF L.A. AVE. MOORPARK MOORPARK, CA	5812905								X					
SANTA SUSANA TAPO ROAD 1962 CITY OF SIMI VALLEY SIMI VALLEY, CA	5813470								X					
NATIONAL CONVENIENCE STORES LOS ANGELES AVE SIMI VALLEY, CA 93065	938495							X						
UNION OIL CO SIMI OIL FLD BET MOORPARK COMM COLL SIMI MOORPARK, CA 93021	440966					X								
THE WORM CONCERN 1450 TIERRA RAJADA ROAD MOORPARK, CA	5338289								X					
SHELL 204-5142-02-MOORPARK 301 W NEW LOS ANGELES AVE MOORPARK, CA	6676762									X				
WALNUT CANYON TRACT WALNUT CANYON RD-N OF MOORPARK 3233 MOORPARK, CA 93021	3070438				X									
COUNTY YARD SITE 1962 N OF LA AVE. IS BISECTED BY VISTA MOORPARK, CA	7240456								X					
WMC CONSTRUCTION-PODESTA ABBOTT CHESTER MOORPARK, CA 93020	4017684									X				
PEACH HILLS SOIL INTERSECTION OF GABBERT AND POINDEXT MOORPARK, CA	7240639								X					
CAMARILLO (DISTRICT 7) CAMARILLO, CA	6612688										X			
CAMARILLO ANTI-LITTER STATION PLEASANT VALLEY ROAD CAMARILLO, CA	5338266								X					
VENTURA CO SUPERINTENDENT/SCHOOL 525 HORIZON CR CAMARILLO, CA	6947383									X				

UNMAPPED SITES	VISTA ID	A				B				C		D		
		NPL	CORRACTS(TSD)	SPL	SCL	CERCLIS/NFRAP	TSD	LUST	SWLF	UST	AST	ERNS	LG GEN	SM GEN
THOUSAND OAKS COUNTY 1962 S OF HWY 101 LIVE OAKS THOUSAND OAKS, CA	7240514								X					
CALLEGUAS MUNICIPAL WATER DIST THOUSAND OAKS, CA	5349402										X			
CAMARILLO DUMP APPROX. 1/2 MI N OF OLD CAMARILLO RD CAMARILLO, CA	5812834								X					

SITE ASSESSMENT REPORT
(PROPERTY BOUNDRY EXTENDED 1/2 MILE)

DETAILS

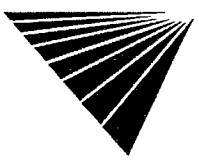
PROPERTY AND THE ADJACENT AREA (within 1/8 mile)

VISTA Address*:	**SOUTHLAND PAINTING** **12160 POINDEXTER ST** **MOORPARK, CA 93021**	VISTA ID#: Distance/Direction: Plotted as:	5209784 0.00 MI / SE Point	Map ID **1**
RCRA-SmGen - RCRA-Small Generator / SRC# 4244		EPA ID:	CA0000233700	
Agency Address:	*SAME AS ABOVE*			
Generator Class:	*Generates 100 kg./month but less than 1000 kg./month of non-acutely hazardous waste*			

VISTA Address*:	**VILLAGE MEWS THE** **5165 MAUREEN LANE** **MOORPARK, CA 93021**	VISTA ID#: Distance/Direction: Plotted as:	1601118 0.00 MI / S Point	Map ID **2**
RCRA-LgGen - RCRA-Large Generator / SRC# 4244		EPA ID:	CAD982431850	
Agency Address:	*SAME AS ABOVE*			
Generator Class:	*Generates at least 1000 kg./month of non-acutely hazardous waste (or 1 kg./month of acutely hazardous waste).*			

VISTA Address*:	**AGROW CO.** **6061 GABBER** **MOORE PARK, CA 93021**	VISTA ID#: Distance/Direction: Plotted as:	200085909 0.00 MI / W Point	Map ID **3**
ERNS - Emergency Response Notification System / SRC# 4144		Agency ID:	90-8599	
Agency Address:	*SAME AS ABOVE*			
Spill Date Time:	*JULY 11, 1990 UNKNOWN*			
Case Number:	*90-8599*			
Spill Location:	*6061 GABBER*			
Source Agency:	*E*			
Discharger Org:	*AGROW CO.*			
Material Spilled:	*GASOLINE, 10.00 (GAL)*			
Material Spilled:	*OIL, 30.00 (GAL)*			
Waterway Affected:	*NONE*			
Fields Not Reported:	*Discharger Name, Discharger Phone*			

Air Release:	Land Release:	Water Release:	Ground Release:	Facility Release:	Other Release:
NO	*YES*	*NO*	*NO*	*NO*	*NO*



VISTA Address*:	DUROTECH CO 5397 COMMERCE AVE MOORPARK, CA 93021	VISTA ID#:	5182253	Map ID
		Distance/Direction:	<0.01 MI / SW	4A
		Plotted as:	Point	

RCRA-SmGen - RCRA-Small Generator / SRC# 4244	EPA ID:	CA0000201160

Agency Address:	*DUROTECH CO* *5397 COMMERCE AVE* *MOORPARK, CA 930211764*
Generator Class:	*Generates less than 100 kg./month of non-acutely hazardous waste.*

VISTA Address*:	PRUDENTIAL OVERALL SUPPLY 5300 GABBERT RD MOORPARK, CA 93021	VISTA ID#:	341395	Map ID
		Distance/Direction:	0.07 MI / SW	4B
		Plotted as:	Point	

RCRA-LgGen - RCRA-Large Generator / SRC# 4244	EPA ID:	CAD982025439

Agency Address:	*SAME AS ABOVE*
Generator Class:	*Generates at least 1000 kg./month of non-acutely hazardous waste (or 1 kg./month of acutely hazardous waste).*

STATE UST - State Underground Storage Tank / SRC# 1612	EPA/Agency ID:	N/A

Agency Address:	*PRUDENTIAL OVERALL SUPPLY* *5300 GABBERT* *MOORPARK, CA 93021*
Underground Tanks:	*1*
Aboveground Tanks:	*NOT REPORTED*
Tanks Removed:	*NOT REPORTED*

Tank ID:	*1U*	Tank Status:	*ACTIVE/IN SERVICE*
Tank Contents:	*UNKNOWN*	Leak Monitoring:	*UNKNOWN*
Tank Age:	*NOT REPORTED*	Tank Piping:	*BARE STEEL*
Tank Size (Units):	*10000 (GALLONS)*	Tank Material:	*UNKNOWN*

STATE UST - State Underground Storage Tank / SRC# 4417	Agency ID:	056-000-000438

Agency Address:	*PRUDENTIAL OVERALL SUPPLY* *5300 GABBERT RD* *MOORPARK, CA*
Underground Tanks:	*NOT REPORTED*
Aboveground Tanks:	*NOT REPORTED*
Tanks Removed:	*NOT REPORTED*

VISTA Address*:	PACIFIC COAST AUTOBODY 5162 GOLDMAN AVE MOORPARK, CA 93021	VISTA ID#:	316240	Map ID
		Distance/Direction:	0.11 MI / S	5
		Plotted as:	Point	

RCRA-SmGen - RCRA-Small Generator / SRC# 4244	EPA ID:	CAD981977960

Agency Address:	*SAME AS ABOVE*
Generator Class:	*Generates 100 kg./month but less than 1000 kg./month of non-acutely hazardous waste*

PROPERTY AND THE ADJACENT AREA (within 1/8 mile) CONT.

VISTA Address*:	MORNING STAR LABORATORIES INC 5158 G GOLDMAN AVE MOORPARK, CA 93021	VISTA ID#:	284047	Map ID
		Distance/Direction:	0.11 MI / S	5
		Plotted as:	Point	
RCRA-SmGen - RCRA-Small Generator / SRC# 4244		EPA ID:	CAD982508236	

Agency Address:	*MORNING STAR LABORATORIES INC 5158 G GOLDMAN AVE MOORPARK, CA 93201*
Generator Class:	*Generates 100 kg./month but less than 1000 kg./month of non-acutely hazardous waste*

VISTA Address*:	SEMICONDUCTOR EQUIPMENT CORP 5154 GOLDMAN AVE MOORPARK, CA 93021	VISTA ID#:	373969	Map ID
		Distance/Direction:	0.11 MI / S	5
		Plotted as:	Point	
RCRA-SmGen - RCRA-Small Generator / SRC# 4244		EPA ID:	CAD981997620	

Agency Address:	*SAME AS ABOVE*
Generator Class:	*Generates 100 kg./month but less than 1000 kg./month of non-acutely hazardous waste*

SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)

VISTA Address*:	AMERICAN HI-LIFT 875 W LOS ANGELES MOORPARK, CA 93021	VISTA ID#:	19147	Map ID
		Distance/Direction:	0.17 MI / S	5
		Plotted as:	Point	
STATE UST - State Underground Storage Tank / SRC# 1612		EPA/Agency ID:	N/A	

Agency Address:	*SAME AS ABOVE*
Underground Tanks:	*1*
Aboveground Tanks:	*NOT REPORTED*
Tanks Removed:	*NOT REPORTED*

Tank ID:	*1U*	Tank Status:	*ACTIVE/IN SERVICE*
Tank Contents:	*UNKNOWN*	Leak Monitoring:	*UNKNOWN*
Tank Age:	*NOT REPORTED*	Tank Piping:	*BARE STEEL*
Tank Size (Units):	*2000 (GALLONS)*	Tank Material:	*UNKNOWN*

VISTA Address*:	SO CAL EDISON-MOORPARK SUBSTATN 5027 GABBERT RD MOORPARK, CA	VISTA ID#:	6672871	Map ID
		Distance/Direction:	0.22 MI / SW	6
		Plotted as:	Point	
STATE UST - State Underground Storage Tank / SRC# 4417		Agency ID:	056-000-001179	

Agency Address:	*SAME AS ABOVE*
Underground Tanks:	*NOT REPORTED*
Aboveground Tanks:	*NOT REPORTED*
Tanks Removed:	*NOT REPORTED*

SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile) CONT.

VISTA Address*:	SOUTHERN CALIFORNIA EDISION 5027 GABERT RD MOORPARK, CA 93021	VISTA ID#:	1187811
		Distance/Direction:	0.22 MI / SW
		Plotted as:	Point

Map ID **6**

STATE LUST - State Leaking Underground Storage Tank / SRC# 4324	Agency ID:	C-86031

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*SOIL/LAND/SAND*
Substance:	*OTHER VEHICLE FUELS,OILS,FLUIDS*
Leak Cause:	*UNAVAILABLE*
Leak Source:	*NOT AVAILABLE*
Remedial Action:	*EXCAVATE TREAT*
Remedial Status 1:	*CASE CLOSED/CLEANUP COMPLETE*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units)*

STATE UST - State Underground Storage Tank / SRC# 1612	EPA/Agency ID:	N/A

Agency Address:	*SOUTHERN CALIF EDISON* *5027 GABBERT* *MOORPARK, CA 93021*
Underground Tanks:	*1*
Aboveground Tanks:	*NOT REPORTED*
Tanks Removed:	*NOT REPORTED*

Tank ID:	*1U*	**Tank Status:**	*ACTIVE/IN SERVICE*
Tank Contents:	*UNKNOWN*	**Leak Monitoring:**	*UNKNOWN*
Tank Age:	*NOT REPORTED*	**Tank Piping:**	*FIBERGLASS*
Tank Size (Units):	*2500 (GALLONS)*	**Tank Material:**	*UNKNOWN*

VISTA Address*:	GISLER RANCH 635 LOS ANGELES AVE MOORPARK, CA 93021	VISTA ID#:	2748762
		Distance/Direction:	0.24 MI / SE
		Plotted as:	Point

Map ID **7A**

STATE LUST - State Leaking Underground Storage Tank / SRC# 4324	Agency ID:	C-91087

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*SOIL/LAND/SAND*
Substance:	*GASOLINE (UNSPECIFIED)*
Leak Cause:	*UNAVAILABLE*
Leak Source:	*NOT AVAILABLE*
Remedial Action:	*NOT AVAILABLE*
Remedial Status 1:	*CASE CLOSED/CLEANUP COMPLETE*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units)*

SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)

VISTA Address*:	S.K. EGG CITY 550 W. LOS ANGELES AVE. MOORPARK, CA 93021	VISTA ID#:	5813254	Map ID 7
		Distance/Direction:	0.28 MI / SE	
		Plotted as:	Point	
STATE SWLF - Solid Waste Landfill / SRC# 4424		Agency ID:	56-CR-0040	

Agency Address:	*S.K. EGG CITY 550 W. LOS ANGELES AVE. MOORPARK, CA*
Facility Type:	*SOLID WASTE DISPOSAL FACILITY*
Facility Status:	*CLOSED*
Facility Life:	*NOT REPORTED*
Permit Status:	*UNDER REVIEW*
Waste:	*NOT REPORTED*

VISTA Address*:	CALTRANS MOORPARK MAIN STATION 512 LOS ANGELES AVE MOORPARK, CA 93021	VISTA ID#:	3777414	Map ID 7
		Distance/Direction:	0.28 MI / SE	
		Plotted as:	Point	
STATE LUST - State Leaking Underground Storage Tank / SRC# 4324		Agency ID:	C-96005	

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*SOIL/LAND/SAND*
Substance:	*GASOLINE (UNSPECIFIED)*
Leak Cause:	*UNAVAILABLE*
Leak Source:	*NOT AVAILABLE*
Remedial Action:	*NOT AVAILABLE*
Remedial Status 1:	*PRELIMINARY ASSESSMENT*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units)*

VISTA Address*:	UNOCAL #1696 18 HIGH ST W MOORPARK, CA 93021	VISTA ID#:	5209517	Map ID 8
		Distance/Direction:	0.25 MI / E	
		Plotted as:	Point	
STATE LUST - State Leaking Underground Storage Tank / SRC# 4324		Agency ID:	C-93041	

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*SOIL/LAND/SAND*
Substance:	*WASTE OIL*
Leak Cause:	*UNAVAILABLE*
Leak Source:	*NOT AVAILABLE*
Remedial Action:	*NOT AVAILABLE*
Remedial Status 1:	*CASE CLOSED/CLEANUP COMPLETE*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units)*

SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

VISTA Address*:	TEXACO 347 MOORPARK AVE MOORPARK, CA 93021	VISTA ID#:	938285	Map ID 8
		Distance/Direction:	0.32 MI / E	
		Plotted as:	Point	
STATE LUST - State Leaking Underground Storage Tank / SRC# 4324		Agency ID:	C-88066	

Agency Address:	SAME AS ABOVE
Tank Status:	NOT AVAILABLE
Media Affected:	GROUNDWATER
Substance:	GASOLINE (UNSPECIFIED)
Leak Cause:	UNAVAILABLE
Leak Source:	NOT AVAILABLE
Remedial Action:	EXCAVATE DISPOSE
Remedial Status 1:	CASE CLOSED/CLEANUP COMPLETE
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Discovery Date, Quantity (Units)

VISTA Address*:	SOUTHERN CA EDISON CO 11650 LOS ANGELES AVE MOORPARK, CA 93021	VISTA ID#:	938283	Map ID 9
		Distance/Direction:	0.37 MI / SW	
		Plotted as:	Point	
STATE LUST - State Leaking Underground Storage Tank / SRC# 4324		Agency ID:	930210043	

Agency Address:	SAME AS ABOVE
Tank Status:	NOT AVAILABLE
Media Affected:	GROUNDWATER
Substance:	NOT AVAILABLE
Leak Cause:	UNAVAILABLE
Leak Source:	NOT AVAILABLE
Remedial Action:	NOT AVAILABLE
Remedial Status 1:	CONTAMINATION ASSESSMENT
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Discovery Date, Quantity (Units)

VISTA Address*:	HARRY MEAD 50 LOS ANGELES AVE W MOORPARK, CA 93021	VISTA ID#:	1148238	Map ID 10
		Distance/Direction:	0.46 MI / SE	
		Plotted as:	Point	
STATE LUST - State Leaking Underground Storage Tank / SRC# 4324		Agency ID:	C-88198	

Agency Address:	SAME AS ABOVE
Tank Status:	NOT AVAILABLE
Media Affected:	SOIL/LAND/SAND
Substance:	WASTE OIL
Leak Cause:	UNAVAILABLE
Leak Source:	NOT AVAILABLE
Remedial Action:	NOT AVAILABLE
Remedial Status 1:	CASE CLOSED/CLEANUP COMPLETE
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Discovery Date, Quantity (Units)

SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile) CONT.

VISTA Address*:	MOORPARK UNIFIED SCHOOL DIST. 30 FLORY AVE MOORPARK, CA 93021	VISTA ID#: Distance/Direction: Plotted as:	1240233 0.48 MI / SE Point

Map ID **10**

STATE LUST - State Leaking Underground Storage Tank / SRC# 4324	Agency ID:	C-97012

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*SOIL/LAND/SAND*
Substance:	*DIESEL*
Leak Cause:	*UNAVAILABLE*
Leak Source:	*NOT AVAILABLE*
Remedial Action:	*NOT AVAILABLE*
Remedial Status 1:	*CASE CLOSED/CLEANUP COMPLETE*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units)*

SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)

No Records Found

VISTA Address*:	SIMI VALLEY ROYAL AVE. 1962 NORTH OF COURRIER A SIMI VALLEY, CA	VISTA ID#:	6831144
STATE SWLF - Solid Waste Landfill / SRC# 4424		Agency ID:	56-CR-0029

Agency Address:	*SAME AS ABOVE*
Facility Type:	*SOLID WASTE DISPOSAL FACILITY*
Facility Status:	*CLOSED*
Permit Status:	*UNDER REVIEW*

VISTA Address*:	1958 1000 BLOCK OF L.A. AVE. MOORPARK MOORPARK, CA	VISTA ID#:	5812905
STATE SWLF - Solid Waste Landfill / SRC# 4424		Agency ID:	56-CR-0025

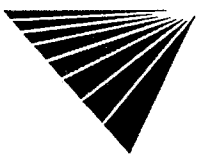
Agency Address:	*SAME AS ABOVE*
Facility Type:	*SOLID WASTE DISPOSAL FACILITY*
Facility Status:	*OTHER*
Permit Status:	*OTHER*

VISTA Address*:	SANTA SUSANA TAPO ROAD 1962 CITY OF SIMI VALLEY SIMI VALLEY, CA	VISTA ID#:	5813470
STATE SWLF - Solid Waste Landfill / SRC# 4424		Agency ID:	56-CR-0030

Agency Address:	*SAME AS ABOVE*
Facility Type:	*SOLID WASTE DISPOSAL FACILITY*
Facility Status:	*OTHER*
Permit Status:	*UNDER REVIEW*

VISTA Address*:	NATIONAL CONVENIENCE STORES LOS ANGELES AVE SIMI VALLEY, CA 93065	VISTA ID#:	938495
STATE LUST - State Leaking Underground Storage Tank / SRC# 4324		Agency ID:	C-93065

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*GROUNDWATER*
Substance:	*GASOLINE (UNSPECIFIED)*
Remedial Action:	*NOT AVAILABLE*
Remedial Status 1:	*CASE CLOSED/CLEANUP COMPLETE*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date*



VISTA Address*:	UNION OIL CO SIMI OIL FLD BET MOORPARK COMM COLL SIMI MOORPARK, CA 93021	VISTA ID#:	440966
NFRAP / SRC# 4458		EPA ID:	CAD980695738

Agency Address:	*UNION OIL CO SIMI OIL FLD BET MOORPARK COMM COLL SIMI SIMI, CA 93021*
EPA Region:	*9*
Congressional District:	*20*
Federal Facility:	*NOT A FEDERAL FACILITY*
Facility Ownership:	*UNKNOWN*
Site Incident Category:	*unknown*
Federal Facility Docket:	*SITE IS NOT INCLUDED ON THE DOCKET*
NPL Status:	*NOT ON NPL*
Incident Type:	*Unknown*
Proposed NPL Update #:	*0*
Final NPL Update #:	*0*
Financial Management System ID:	*09*
Latitude:	*3421370*
Longitude:	*11902310*
Lat/Long Source:	*RESEARCHED BY THE REGION AND MANUALLY ENTERED*
Lat/Long Accuracy:	*Unknown*
Dioxin Tier:	*Unknown*
USGS Hydro Unit:	*18070103*
RCRA Indicator:	*Unknown*
Unit Id:	*0*
Unit Name:	*ENTIRE SITE*

Type:	*DISCOVERY*	**Lead Agency:**	
Qualifier:	*UNKNOWN*	**Category:**	*Unknown*
Name:	*DISCOVERY*	**Actual Start Date:**	*NOT REPORTED*
Plan Status:	*Unknown*	**Actual Completion Date:**	*UNKNOWN*

Type:	*PRELIMINARY ASSESSMENT*	**Lead Agency:**	
Qualifier:	*NO FURTHER REMEDIAL ACTION PLANNED*	**Category:**	*Unknown*
Name:	*PRELIMINARY ASSESSMENT*	**Actual Start Date:**	*NOT REPORTED*
Plan Status:	*Unknown*	**Actual Completion Date:**	*UNKNOWN*

VISTA Address*:	THE WORM CONCERN 1450 TIERRA RAJADA ROAD MOORPARK, CA	VISTA ID#:	5338289
STATE SWLF - Solid Waste Landfill / SRC# 4424		Agency ID:	56-AA-0126

Agency Address:	*SAME AS ABOVE*
Facility Type:	*COMPOSTING FACILITY*
Facility Status:	*CLOSED*
Permit Status:	*UNPERMITTED/UNLICENSED*

VISTA Address*:	VISTA ID#:	3070438
WALNUT CANYON TRACT **WALNUT CANYON RD-N OF MOORPARK 3233** **MOORPARK, CA 93021**		
SCL - State Equivalent CERCLIS List / SRC# 4232	Agency ID:	56490100

Agency Address:	*SAME AS ABOVE*
Status:	*UNKNOWN*
Facility Type:	*NOT AVAILABLE*
Lead Agency:	*NOT AVAILABLE*
State Status:	*NO FURTHER ACTION FOR DTSC*
Pollutant 1:	*UNKNOWN*
Pollutant 2:	*UNKNOWN*
Pollutant 3:	*UNKNOWN*

VISTA Address*:	VISTA ID#:	7240456
COUNTY YARD SITE 1962 **N OF LA AVE. IS BISECTED BY VISTA** **MOORPARK, CA**		
STATE SWLF - Solid Waste Landfill / SRC# 4424	Agency ID:	56-CR-0023

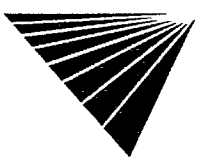
Agency Address:	*SAME AS ABOVE*
Facility Type:	*SOLID WASTE DISPOSAL FACILITY*
Facility Status:	*CLOSED*
Permit Status:	*UNDER REVIEW*

VISTA Address*:	VISTA ID#:	7240639
PEACH HILLS SOIL **INTERSECTION OF GABBERT AND POINDEXT** **MOORPARK, CA**		
STATE SWLF - Solid Waste Landfill / SRC# 4424	Agency ID:	56-AA-0136

Agency Address:	*SAME AS ABOVE*
Facility Type:	*COMPOSTING FACILITY*
Facility Status:	*ACTIVE*
Permit Status:	*OTHER*

VISTA Address*:	VISTA ID#:	5338266
CAMARILLO ANTI-LITTER STATION **PLEASANT VALLEY ROAD** **CAMARILLO, CA**		
STATE SWLF - Solid Waste Landfill / SRC# 4424	Agency ID:	56-AA-0001

Agency Address:	*SAME AS ABOVE*
Facility Type:	*TRANSFER STATION*
Facility Status:	*OTHER*
Permit Status:	*PERMITTED/LICENSED*

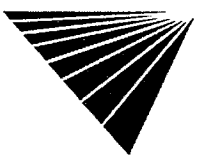


VISTA Address*:	THOUSAND OAKS COUNTY 1962 S OF HWY 101 LIVE OAKS THOUSAND OAKS, CA	VISTA ID#:	7240514
STATE SWLF - Solid Waste Landfill / SRC# 4424		Agency ID:	56-CR-0033

Agency Address:	*SAME AS ABOVE*
Facility Type:	*SOLID WASTE DISPOSAL FACILITY*
Facility Status:	*CLOSED*
Permit Status:	*UNDER REVIEW*

VISTA Address*:	CAMARILLO DUMP APPROX. 1/2 MI N OF OLD CAMARILLO RD CAMARILLO, CA	VISTA ID#:	5812834
STATE SWLF - Solid Waste Landfill / SRC# 4424		Agency ID:	56-CR-0046

Agency Address:	*SAME AS ABOVE*
Facility Type:	*SOLID WASTE DISPOSAL FACILITY*
Facility Status:	*OTHER*
Permit Status:	*UNDER REVIEW*



SITE ASSESSMENT REPORT
(PROPERTY BOUNDRY EXTENDED 1/2 MILE)

DESCRIPTION OF DATABASES SEARCHED

A) DATABASES SEARCHED TO 1 MILE

NPL
SRC#: 3622

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for NPL was January, 1998.

The National Priorities List (NPL) is the EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site, or meet three specific criteria set jointly by the US Dept of Health and Human Services and the US EPA in order to become an NPL site.

SPL
SRC#: 4233

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for Calsites Database: Annual Workplan Sites was October, 1997.

This database is provided by the Cal. Environmental Protection Agency, Dept. of Toxic Substances Control. The agency may be contacted at: 916-323-3400.

SCL
SRC#: 4232

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for Calsites Database: All Sites except Annual Workplan Sites (incl. ASPIS) was October, 1997.

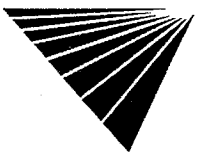
This database is provided by the Department of Toxic Substances Control. The agency may be contacted at: .

The CalSites database includes both known and potential sites. Two- thirds of these sites have been classified, based on available information, as needing "No Further Action" (NFA) by the Department of Toxic Substances Control. The remaining sites are in various stages of review and remediation to determine if a problem exists at the site. Several hundred sites have been remediated and are considered certified. Some of these sites may be in long term operation and maintenance.

CORRACTS
SRC#: 4244

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for HWDMS/RCRIS was October, 1997.

The EPA maintains this database of RCRA facilities which are undergoing "corrective action". A "corrective action order" is issued pursuant to RCRA Section 3008 (h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility's boundary and can be required regardless of when the release occurred, even if it predates RCRA.



B) DATABASES SEARCHED TO 1/2 MILE

CERCLIS
SRC#: 4457

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for CERCLIS was January, 1998.

The CERCLIS List contains sites which are either proposed to or on the National Priorities List(NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL. The information on each site includes a history of all pre-remedial, remedial, removal and community relations activiies or events at the site, financial funding information for the events, and unrestricted enforcement activities.

NFRAP
SRC#: 4458

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for CERCLIS-NFRAP was January, 1998.

NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

RCRA-TSD
SRC#: 4244

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for HWDMS/RCRIS was October, 1997.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA TSDs are facilities which treat, store and/or dispose of hazardous waste.

SWLF
SRC#: 4424

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Ca Solid Waste Information System (SWIS) was January, 1998.

This database is provided by the Integrated Waste Management Board. The agency may be contacted at: 916-255-4021.

The California Solid Waste Information System (SWIS) database consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations pursuant to the Solid Waste Management and Resource Recovery Act of 1972, Government Code Section 2.66790(b). Generally, the California Integrated Waste Management Board learns of locations of disposal facilities through permit applications and from local enforcement agencies.

LUST
SRC#: 4231

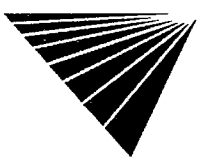
VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Region #3-Central Coast Region SLIC List was November, 1997.

This database is provided by the Regional Water Quality Control Board, Region #3. The agency may be contacted at: 805-542-4639.

LUST
SRC#: 4319

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Region #4-SLIC List was November, 1997.

This database is provided by the Regional Water Quality Control Board, Region #4. The agency may be contacted at: 916-266-7582.



LUST
SRC#: 4324

VISTA conducts a database search to identify all sites within 1/2 mile of your property. **The agency release date for Lust Information System (LUSTIS) was October, 1997.**

This database is provided by the California Environmental Protection Agency. The agency may be contacted at: 916-445-6532.

C) DATABASES SEARCHED TO 1/4 MILE

UST's
SRC#: 573

VISTA conducts a database search to identify all sites within 1/4 mile of your property. **The agency release date for Fullerton Underground Storage Tank List was June, 1992.**

This database is provided by the Fullerton Fire Department. The agency may be contacted at: ; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

UST's
SRC#: 1612

VISTA conducts a database search to identify all sites within 1/4 mile of your property. **The agency release date for Underground Storage Tank Registrations Database was January, 1994.**

This database is provided by the State Water Resources Control Board, Office of Underground Storage Tanks. The agency may be contacted at: 916-227-4337; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

UST's
SRC#: 3945

VISTA conducts a database search to identify all sites within 1/4 mile of your property. **The agency release date for Alameda County UST List was June, 1997.**

This database is provided by the Department of Environmental Health. The agency may be contacted at: 510-567-6713; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

UST's
SRC#: 4415

VISTA conducts a database search to identify all sites within 1/4 mile of your property. **The agency release date for San Bernardino County UST List was December, 1997.**

This database is provided by the San Bernardino County Fire Department, Hazardous Materials Division. The agency may be contacted at: 909-387-3200; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

UST's
SRC#: 4417

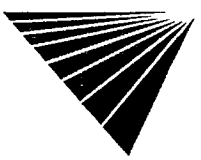
VISTA conducts a database search to identify all sites within 1/4 mile of your property. **The agency release date for Ventura County "BWT" (Business, Waste, Tanks) List was November, 1997.**

This database is provided by the Ventura County Environmental Health Division. The agency may be contacted at: 805-654-2813; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

UST's
SRC#: 4418

VISTA conducts a database search to identify all sites within 1/4 mile of your property. **The agency release date for San Francisco Current Active UST List was December, 1997.**

This database is provided by the San Francisco Department of Health. The agency may be contacted at: 415-252-3900; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.



UST's
SRC#: 4419

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for Sutter County UST Owner List was November, 1997.

This database is provided by the Sutter County Agricultural Department. The agency may be contacted at: 916-822-7504; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

UST's
SRC#: 4431

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for Riverside County UST List was January, 1998.

This database is provided by the Riverside County Environmental Health. The agency may be contacted at: 909-358-5055; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

UST's
SRC#: 4434

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for Kern County Sites and Tanks Listing was December, 1997.

This database is provided by the Kern County Environmental Health Department. The agency may be contacted at: 805-862-8700; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

UST's
SRC#: 4441

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for Los Angeles County UST "Street Number" Book was November, 1997.

This database is provided by the Los Angeles County Department of Public Words, Environmental Programs. The agency may be contacted at: 818-458-3514; Caution-Many states do not require registration of heating oil tanks, especially those used for residential purposes.

AST's
SRC#: 4320

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for Aboveground Storage Tank Database was December, 1997.

This database is provided by the State Water Resources Control Board. The agency may be contacted at: 916-227-4364.

D) DATABASES SEARCHED TO 1/8 MILE

ERNS
SRC#: 4144

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for was September, 1997.

The Emergency Response Notification System (ERNS) is a national database used to collect information on reported releases of oil and hazardous substances. The database contains information from spill reports made to federal authorities including the EPA, the US Coast Guard, the National Response Center and the Department of transportation. A search of the database records for the period October 1986 through September 1997 revealed information regarding reported spills of oil or hazardous substances in the stated area.

RCRA-LgGen
SRC#: 4244

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for HWDMS/RCRIS was October, 1997.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Large Generators are facilities which generate at least 1000 kg./month of non-acutely hazardous waste (or 1 kg./month of acutely hazardous waste).

RCRA-SmGen
SRC#: 4244

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for HWDMS/RCRIS was October, 1997.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Small and Very Small generators are facilities which generate less than 1000 kg./month of non-acutely hazardous waste.

End of Report

PHASE I ENVIRONMENTAL SITE ASSESSMENT TRANSACTION SCREEN QUESTIONNAIRE				
Site Name: Hitch Ranch (Moorpark Specific Plan No. 1)				**Project Number:**
Site Address: 537 Poindexter Avenue				
City: Moorpark	**State: CA 93021**			
QUESTION	**YES**	**NO**	**UNK**	**COMMENTS**
1. Is the *property* or any *adjoining property* used for an industrial use?		X		
2. To the best of your knowledge, has the *property*, or any *adjoining property* been used for an industrial use in the past?		X		
3. Is the *property* or any *adjoining property*, used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility?		X		
4. To the best of your knowledge has the *property*, or any *adjoining property* been used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility?		X		
5. Are there currently, or to the best of your knowledge, have there been previously, any damaged or discarded automotive or industrial batteries, or pesticides, paints, or other chemicals in individual containers of greater than 5 gal (19 ℓ) in volume or 50 gal (190 ℓ) in the aggregate, stored on or used at the *property* or at the facility?		X		
6. Are there currently, or to the best of your knowledge, have there been previously, any industrial *drums* (typically 55 gal. (208 ℓ)) or sacks of chemicals located on the property or at the facility?		X		
7. Has *fill dirt* been brought onto the property that originated from a contaminated site or that is of an unknown origin?		X		
8. Are there currently, or to the best of your knowledge have there been previously, any *pits, ponds, or lagoons* located on the *property* in connection with waste treatment or waste disposal?		X		

(continued from page 1)

QUESTION	YES	NO	UNK	COMMENTS
9. Is there currently, or to the best of your knowledge, has there been previously, any stained soil on the *property*		X		
10. Are there currently, or to the best of your knowledge, have there been previously, any registered or unregistered storage tanks (above or underground) located on the *property?*	X			WEST OF GABBERT ROAD, TANKS FOR FUEL FOR FARMING TRACTORS (GONE SINCE ABOUT 1960)
11. Are there currently, or to the best of your knowledge, have there been previously, any vent pipes, fill pipes, or access ways indicating a fill pipe protruding from the ground on the *property* or adjacent to any structure located on the *property.*		X		
12. Are there currently, or to the best of your knowledge, have there been previously, any flooring, drains, or walls located within the facility that are stained by substances other than water or are emitting foul odors?		X		
13. If the *property* is served by a private well or non-public water system, have contaminants been identified in the well or system that exceed guidelines applicable to the water system or has the well been designated as contaminated by any government environmental/health agency?		X		
14. Does the *owner or occupant* of the *property* have any knowledge of *environmental liens* or governmental notification relating to past or recurrent violations of environmental laws with respect to the *property* or any facility located on the *property*		X		
15. Has the *owner or occupant* of the *property* been informed of the past or current existence of *hazardous substances or petroleum products* or environmental violations with respect to the *property* or any facility located on the *property*		X		

(continued from page 2)

QUESTION	YES	NO	UNK	COMMENTS
16. Does the *owner or occupant* of the *property* have any knowledge of any *environmental site assessment* of the *property or facility* that indicated the presence of *hazardous substances or petroleum products on,* or *contamination of,* the *property* or recommended further assessment of the *property*		✓		
17. Does the *owner or occupant* of the *property* know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any *hazardous substance or petroleum products* involving the *property* by any owner or occupant of the *property?*		X		
18. Does the *property* discharge waste water on or adjacent to the *property* other than storm water into a sanitary sewer system?		X		
19. To the best of your knowledge, have any *hazardous substances or petroleum products,* unidentified waste materials, tires, automotive or industrial batteries or any other waste materials been dumped above grade, buried and/or burned on the *property?*		X		
20. Is there a transformer, capacitor, or any hydraulic equipment for which there are any records indicating the presence of PCBs?		X		

UNK = Unknown
Table is based on ASTM Standard E 1528-93.

(continued from page 3)

Do you know if any of the following documents exist and, if so, can and will copies be provided?

Check		*Check*	
	Environmental Site Assessment Reports;		Safety Plans, Spill Prevention; etc.
	Environmental Audit Reports;		Reports regarding site hydrogeologic conditions;
	Environmental Permits;		Hazardous Waste Generator notices or reports;
	Registration for USTs and ASTs;		Geotechnical Studies.
	Material Safety Data Sheets;		Community Right-to-Know Plan;
	Notices or correspondence relating to violations of environmental laws or environmental liens;		

Additional Comments: NONE OF THE ABOVE TO THE BEST OF MY KNOWLEDGE.

(Please attach additional pages if required.)

This questionnaire was completed by:

Name: **A. A. Milligan**

Title:

Firm:

Address: 300 HOT SPRINGS RD, #169
SANTA BARBARA CA 93108

Phone Number: (805) 969-8227 Fax: (805) 969-9022

Preparer presents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's actual knowledge no material facts have been suppressed or misstated.

A. A. Milligan
Signature

March 12, 1998
Date

C

2000 Addendum to Phase I Environmental Site Assessment

GRADIENT
ENGINEERS INC.
Construction, Engineering ?0
Environmental Services

February 14, 2000

Project No. 983034-002
983034-003

To: Impact Sciences, Inc.
30343 Canwood Avenue, Suite 210
Agoura Hills, California 91301

Attention: Mark Austin

Subject: Addendum to Phase I Environmental Site Assessment, Hitch Ranch, Moorpark Specific Plan No. 1, Moorpark, California 93021.

Introduction

February 1998 Impact Sciences, Inc. retained Gradient Engineers, Inc. (Gradient) to provide a Phase I Environmental Site Assessment (ESA) for the subject property (Gradient, 1998).

August 5, 1999, Impact Sciences received a memorandum from John Libiez, City of Moorpark Community Development Department, listing "special concerns we need to address:"

I. 0 Map undergroundfitel tank location. Determine impacts to development site.
2. 0 Investigate, verify, map and quantify the suspected illegal/abandoned solid waste disposal site. Map extent, verifyfills, determine ifhazardous materials were dumped there, assess impacts, and recommend mitigation.
3. 0 lyfap the water wells and determine mitigationfor them.

Impact Sciences authorized Gradient, November 16, 1999, to address the above "special concerns."

1.0 UNDERGROUND FUEL TANK LOCATION AND IMPACTS

The Underground Storage Tank (UST) of concern was identified as Prudential Overall Supply (POS) at 5300 Gabbert Road. The POS site was identified previously in Gradient's ESA (Gradient 1998) as part of the Vista Site Assessment Report (Report ID 998300-012, dated March 9, 1998). The Vista Report listed the site (Map ID 4B) as having one registered 10,000 gallon UST. As of the date of the Vista Report, March 9, 1998, the POS site was not reported as having had a release.

17781 Cowan, Suite 140, Irvine, CA 92614
Lie.# A734297
(949) 477-0555
FAX (949) 250-1114
e-mail: gradient@gradient.com

The Ventura County Environmental Health Division (VCEHD), Underground Tank Closed Sites List, dated August 26, 1999, lists the POS site as closed. A copy of the VCEHD Underground Tank Closed Sites List is included as Attachment 1. The Vista Report map showing the location of the POS site is included as Figure 2.

2.0 INVESTIGATE IMPACT OF WALNUT CANYON TRACT LANDFILL

November 16, 1999, Mark Austin, Impact Sciences, and Michael S. Catton, Gradient, traveled to the County of Ventura, Environmental Health Department (VCEHD), to review department files on the Walnut Canyon Tract Landfill. A copy of the VCEHD file is included as Attachment 2. The file indicated that:

> *Since the LEA (VCEHD) does not have regulatory authority for cleanup or for soil from contaminated sites, we are referring this case to the California Department of Health Services.*

December 1, 1999, Gradient interviewed Barry Marczuk (BM), VCEHD. BM stated that the county gave closure only in regards to non-hazardous solid waste. BM stated that the area of concern was not extensive and was located right next to the highway (State Highway 23). BM stated that he personally witnessed the cleanup of non-hazardous solid waste and that the site was cleaned up satisfactorily.

December 1, 1999, Gradient Contacted the California Department of Toxic Substances Contr l\DTSC), formerly the California Department of Health Services Toxic Substances Control Program, regarding the Walnut Canyon Tract Landfill. December 6, 1999, Glen Castillo, Office Technician Public Records Office DTSC, informed Gradient that "After a thorough review of our files, we have found that we have records pertaining to some of the sites/facilities referenced in your request. Those records are being reviewed by staff for confidential status. Upon completion of the review, you will be contacted to set an appointment for review at our office."

December 10, 1999, Gradient reviewed DTSC's file regarding the Walnut Canyon Tract Landfill. A copy of portions of the DTSC file is included as Attachment 3. Reports in the file reviewed included the following:

- Harding Lawson Associates, 1990, Closure Report, Walnut Canyon Tract, Moorpark California, dated October 19, 1990.
- Department of Health Services Toxic Substances Control Program, 1991, Preliminary Endangerment Assessment Report Review for Walnut Canyon Tract, Moorpark, California, dated May 31, 1991.
- Harding Lawson Associates, 1991, Preliminary Endangerment Assessment Closure Report, Walnut Canyon Tract Site, Moorpark California, dated July 15, 1991.
- Harding Lawson Associates, 1991, PEA Closure Report Addendum PEA Screening Calculations, Walnut Canyon Tract, Moorpark California, dated July 24, 1991.
- Department of Toxic Substances Control, 1991, Preliminary Enqangerment Assessment Report - Walnut Canyon Tract, Moorpark, California, dated August 14, 1991.

DTSC reviewed the Closure and Preliminary Endangerment Assessment (PEA) Reports, as submitted by Harding Lawson and Associates, and issued the following:

The Department of Toxic Substances Control (Department) has completed the review of the Preliminary Endangerment Assessment (PEA) Report of the site Walnut Canyon Tract, Moorpark, California.

Based on the information provided, the site shows no evidence of contamination that may pose a threat to human health and the environment. Therefore, the Department concurs with your recommendation that No Further Action is appropriate at the subject site.

Based on the review of the VCEHD and DTSC files it is Gradients opinion that the Walnut Canyon Tract Landfill poses no environmental concern at this time.

3.0 SITE WATER WELLS

November 16, 1999, Gradient contacted Glen Luscombe (GL), County of Ventura Water Resources (VCWR) about the status of water wells on the subject site. GL stated that there are many wells on the site and that he would make the records available for review but would not issue conditions for well destruction at that time. December 1, 1999, a Gradient representative reviewed the VCWR records. February 14, 2000, a Gradient Representative revisited VCWR to obtain minimum abandonment requirements for the wells listed below:

Water Well ID	Total Depth	Current Status	Mitigation
5A-1	1450	Abandoned 7/10/50	None
5B-1	764	Unknown	See 3.1
5B-2	743	Abandoned 10/3/50	None
5B-3	Unknown	Unknown	See 3.1
SC-2	Unknown	Unknown	See 3.1
5E-1	506	Unknown	See 3.1
5E-2	Unknown	Unknown	See 3.1
5E-3	365	Abandoned 5/6/65	None
5F-1	Unknown	Unknown	See 3.1
5F-2	647	Unknown	See 3.1
5F-3	253	Unknown	See 3.1
50-1	Unknown	Unknown	See 3.1
5J-3	500	Unknown	See 3.1
5K-1	Unknown	Unknown	See 3.1
5K-2	250	Unknown	See 3.1

VCWR did not have records for wells 5B-3, 5C-2, 5E-2, 5F-1, 50-1, and 5K-1, however, VCWR did issue minimum conditions for well destruction (See Section 3.1). The VCWR map showing the location of the above water wells is included as Figure 3.

3.1 Water Well Mitigation

Glen Luscombe, VCWR, issued the following minimum conditions for well destruction:

1. Pump and motor shall be removed, and the interior of the well shall be filled with inert material (clean sand or gravel) from total depth to within 40 feet of ground surface or remove debris in well casing to a depth of 40 feet.

2. Well casing shall be perforated at least every foot opposite the sealing zone from a depth of 40 feet to within 10 feet of finish grade. Perforations shall be placed on alternating sides of the casing.

3. Neat cement sealing material shall be applied from a depth of 40 feet to within 5 feet of finish grade by means of a grout pipe placed within 2 feet of the base of the sealing zone. If static water level is deeper than 40 feet, grout pipe is not necessary.

4. Casing shall be removed to a depth of 5 feet below finish grade, and work area backfilled with native materials.

5. County of Ventura Public Works Inspector shall be present during casing perforation work and placement of all sealing material. 24 hour advance notice is required for Public Works Inspections.

6. All work shall be performed by a well contractor licensed in the State of California and registered with the County of Ventura.

we appreciate this opportunity to continue to serve your environmental needs. If you have any questions, please contact me at your convenience.

Respectfully submitted,

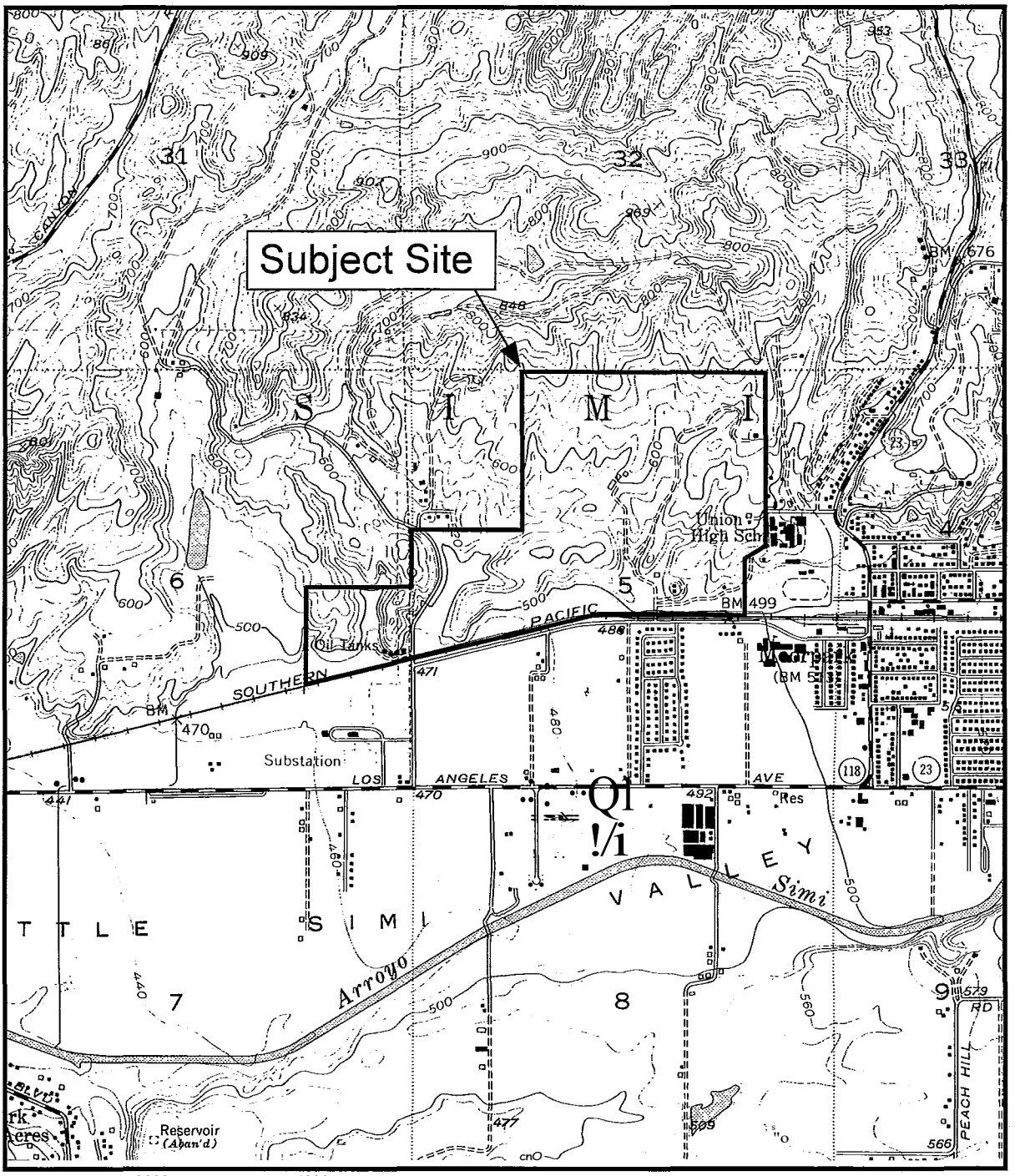
GRADIENT ENGINEERS, INC.

Michael S. Catton
Project Manager

QA/QC lw
MSC/m

Figure 1 - Site Location Map
Figure 2 - Vista Site Assessment Report Map of Sites within ¼ Mile, dated March 9, 1998
Figure 3 - Ventura County Water Resources Water Well Location Map

Attachment 1 - Ventura County Environmental Health Division, Underground Tank Closed Sites List, Dated August 26, 1999
Attachment 2 - Copies from Ventura County Environmental Health Division File Regarding the Walnut Canyon Tract Landfill.
Attachment 3 - Copies from the California Department of Toxic Substances Control File Regarding the Walnut Canyon Tract Landfill.



SITE LOCATION MAP

Base Map; U.S.G.S. 7.5 Minute Moorpark Quadrangle, 1951 (photo-revised 1969, photo-inspected 1974)

Hitch Ranch
Moorpark Specific Plan No. 1
Moorpark, California

Figure No.: 1
Drafted By: MSC
Project No.: 983034-002

GRADIENT ENGINEERS1Nc.
Construction Management .pl
Environmental Services

SITE ASSESSMENT REPORT
(PROPERTY BOUNDRY EXTENDED 1/2 MILE)

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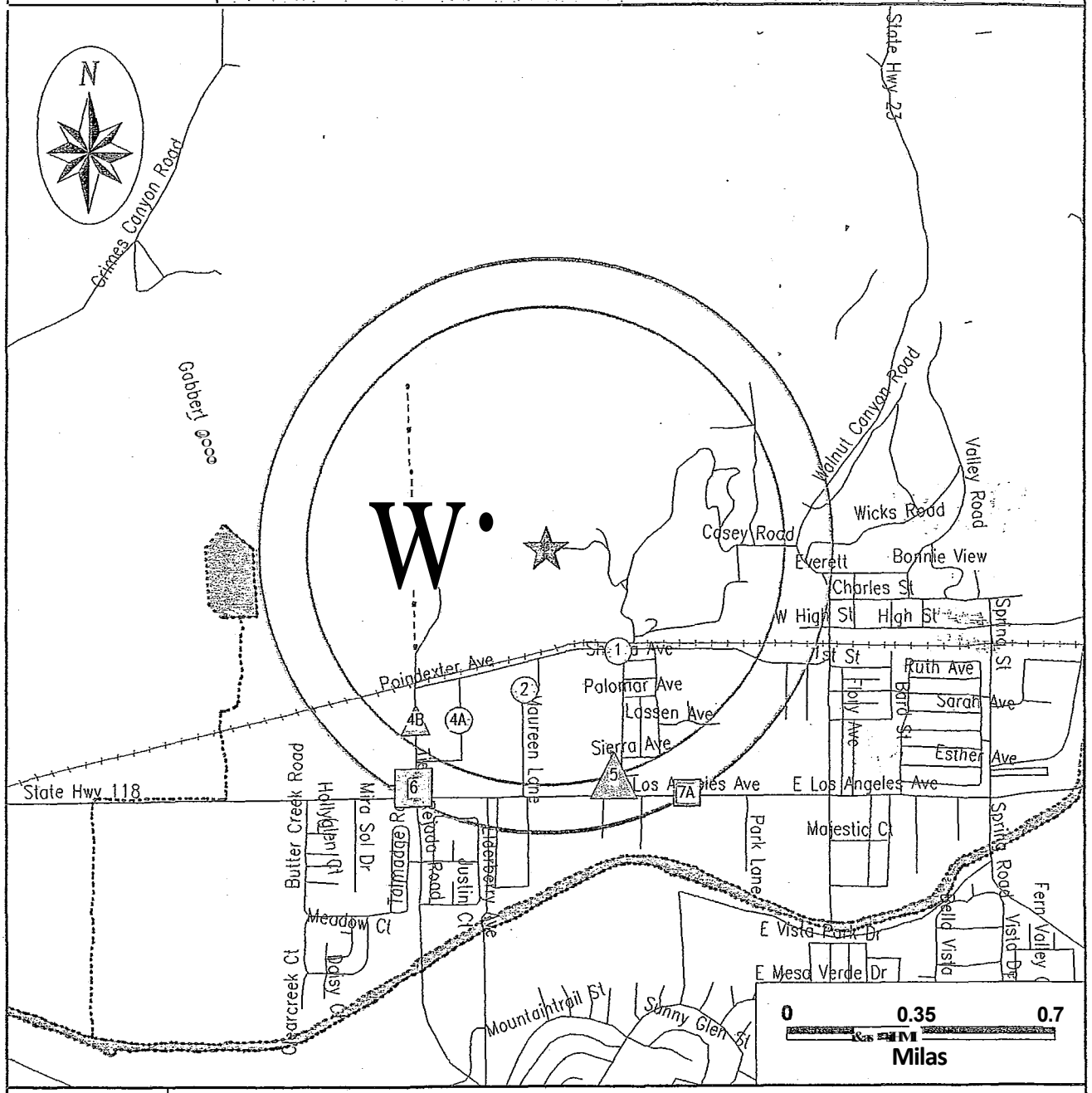
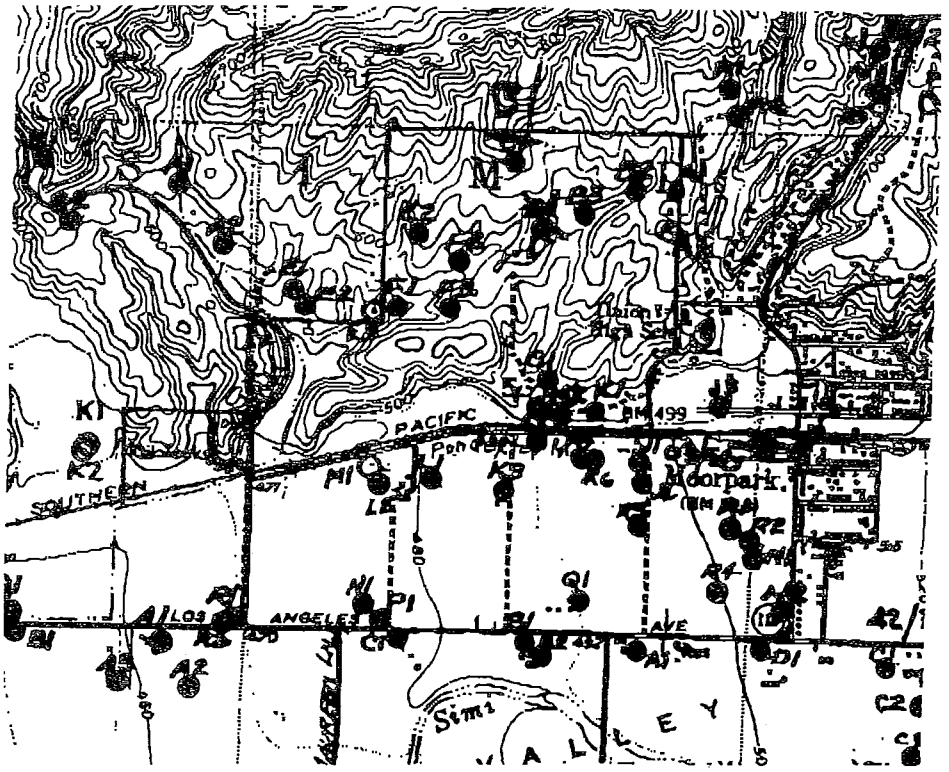


Subject Site	Category:	A	B	C	D
	Databases Searched to:	1 mi.	1/2 mi.	1/4 mi.	1/8 mi.
	Single Sites	◇	[II	△	O
	Multiple Sites	◇		△	O
Highways and Major Roads Roads Railroads Rivers or Water Bodies Utilities		NPL, SPL, CORRACTS (TSO), SCL	CERCLIS\ NFRAP, TSO, LUST, SWLF	UST	ERNS, GENERATORS

For More Information Call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403
Report ID: 998300012 Date of Report: March 9, 1993

Figure 2





Post-it Fax Note 7671	Date 11/16/99	# of pages ▶ 1
To Michael Cotton	From Glen Luscombe	
Co./Dept. Gradient Engr.	Co. County of Ventura	
Phone#	Phone # 805-654-2904	
Fax # 818-707-8649	Fax #	

Figure 3 - Ventura County Water Resources Water Well Location Map

VENTURA COUNTY
ENVIRONMENTAL HEALTH DIVISION

805/654-2813

UNDERGROUND TANK CLOSED SITES LIST

LIST OF OPERATING UGT SITES
WHICH HAVE BEEN CLOSED
(ALPHA BY STREET ADDRESS)

PRICE:

$	1.77
	.13 tax
	1.90
	4.00 - if mailed
$	5.90

UNDERGROUND TANKS INACTIVE FILES LIST

RUN DATE: 08/26/99

LOC	ID	SITE NAME	NUMBER	ADDRESS	CITY
y	D 813	CITY OF SANTA PAULA	114	S 10TH STREET	SANTA PAULA
y	D 814	SANTA PAULA CITY-POLICE SIN.	214	S 10TH STREET	SANTA PAULA
y	D 812	ESTATE OF DELTA MAE ROLLS	512	N 1,OIH STREET	SANTA PAULA
y	D 815	STANLEY D. HARVEY	142	N 11TH STREET	SANTA PAULA
y	D 816	UNION OIL COMPANY	210	N 12TH STREET	SANTA PAULA
y	D 817	RAIN FOR RENT	333	S 12TH STREET	SANTA PAULA
	D1150	COMPTON, JIM	532	N 13TH ST	SANTA PAULA
y	D 777	OXNARD PLUMBING & HEATING	137	W .1ST STREET	OXNARD
y	D 778	JIM & RITA CHATTERLEY	411	1ST STREET	FILLMORE
y	D 779	FILLMORE UNIFIED SCHOOL DIST.	661	1ST STREET	FILLMORE
y	D 781	MARK C. BLOOME TIRE	2135	1ST STREET	SIMI VALLEY.
y	D 782	KEMIK AUTO SCRUBBER	2155	1ST STREET	SIMI VALLEY
y	D 783	SOUTHERN PACIFIC MILLING CO.	2260	1ST STREET	SIMI VALLEY
y	D 784	PACIFIC BELL	2383	1ST STREET	SIMI VALLEY
y	D 785	BUD'S TUNE UP, INC.	120	W 2ND STREET	OXNARD
y	D 786	DOROTHY MCCREERY	339	2ND STREET	FILLMORE
y	D 787	OXNARD UNION HIGH SCHOOL	1100	W 2ND STREET	OXNARD
	D1277	MAZDA MOTORS OF AMERICA		32ND & TRACK 13 RD AVE B	PORT HUENEME
y	D 789	SEABOARD LEMON ASSOCIATION	300	E 3RD STREET	OXNARD
y	D 790	LEONARD HORTON	403	3RD STREET	FILLMORE
y	D 791	CAL PET	804	E 3RD STREET	OXNARD
y	D 792	ELKINS TRUCKING	900	W 3RD STREET	FILLMORE
y	D 793	TERMINAL FREEZER	908	E 3RD STREET	OXNARD
y	D 247	OXNARD UNION HIGH SCHOOL DIST.	935	W 3RD STREET•	OXNARD
y	D 794	VENTURA COUNTY FRUIT GROWERS	960	3RD STREET	FILLMORE
y	D 795	DEL MONTE USA	1500	E 3RD STREET	OXNARD
y	D 796	MING Y. WANG	120	S 4TH STREET	SANTA PAULA
y	D 808	INTERSTATE BRANDS CORP.	3121	W 5TH AVENUE	OXNARD
	D1059	CONSTANTINO GABRIE	136	E 5TH ST	OXNARD
	D1347	SIMI 10-MINUTE LUBE	1940	5TH ST	SIMI VALLEY
	D 980	APS SYSTEMS	3535	W 5TH ST	OXNARD
y	D 798	CATLIN INVESTMENT COMPANY, INC	235	E 5TH STREET	OXNARD
y	D 799	T & T ENERGY SERVICES, INC.	805	5TH STREET	FILLMORE
y	D 804	LEE PHARMACEUTICALS	815	W 5TH STREET	FILLMORE
y	D 800	MARTIN V. SMITH & ASSOCIATES	850	E 5TH STREET	OXNARD
y	D 801	OXNARD HIGH SCHOOL	937	W 5TH STREET	OXNARD
y	D 802	MASTER AUTO WORKS	1226	E 5TH STREET	OXNARD
y	D 803	EDWIN & MILTON DIEDRICH	1982	E 5TH STREET	OXNARD
y	D 806	SHARPE, ANNETTE	2951	W 5TH STREET	OXNARD
y	D 807	R.E. MACK PLUMBING	3021	W 5TH STREET	OXNARD
y	D 809	ABEX CORPORATION	3151	W. 5TH STREET	OXNARD
	D1334	AUTO SHOP-SANTA PAULA HIGH SCH	404	N 6TH ST	SANTA PAULA
y	D 810	SANTA PAULA UNION H.S. DIST.	404	N 6TH STREET	SANTA PAULA
	D1066	ORTIZ BROTHERS	310	N A ST	FILLMORE

LOC	ID	SITE NAME	NUMBER	ADDRESS	CITY
y	D 189	OJAI RUBBISH DISPOSAL	310	S FULTON AVENUE	OJAI
y	D 187	NORDHOFF FOREIGN AUTO CARE	309	S FULTON AVENUE, B	OJAI
y	D 188	LEN MANN	309	S FULTON AVENUE, C	OJAI
	D1292	PRUDENTIAL OVERALL SUPPLY	5300	GABBERT RD	MOORPARK
	D1271	HARRIS, MICHAEL	6086	GABBERT RD	MOORPARK
	D1353	UNITED STATES POSTAL SERVICE	2551	N GALENA AVE	SIMI VALLEY
y	D 191	R & N EQUIPMENT YARD	240	S GLENN DRIVE	CAMARILLO
	IY1001	CITY OF CAMARILLO	283	S GiiENN DRIVE	CAMARir.LO.
y	D 193	VENTURA COASTAL' CORP.	2595	GOLF COURSE ROAD	MONTALVO
	D1236	SCOTT BORCHARD	701	E GONZALES RD	OXNARD
	D1342	SISTER SERVANTS OF MARY	3779	W GONZALES RD	OXNARD
	D 970	SHELL	411	GONZALES ROAD	OXNARD
y	D 194	EDWARD BORCHARD RANCH	701	E GONZALES ROAD	OXNARD
y	D 195	JOHN MCGRATH RANCH	1732	E GONZALES ROAD	OXNARD
	D 919	STANDARD PACIFIC OF VENTURA	2550	W GONZALES ROAD	OXNARD
y	D 196	HUGO MCGRATH ASSOC.	5701	W GONZALES ROAD	OXNARD
	D 862	CHEVRON USA	5713	W GONZALES ROAD	OXNARD
	D1257	RILEY RANCH	3022	GOODENOUGH RD	FILLMORE
y	D 197	HEADLEY RANCH	2612	GOODENOUGH ROAD	FILLMORE
	D1309	HANSCOM FAMILY TRUST	1793	GRAND AVE	FILLMORE
	D1065	HALPERN TRUST (SPACE METALS)	3559	GRAND AVE	OJAI
y	D 198	E. SYDNEY MERCER	1175	GRAND AVENUE	OJAI
y	D 199	WILLIAM E. RIFE	1243	GRAND AVENUE	FILLMORE
y	D 200	MAX GRANT	201	GRANDVIEW CIRCLE	CAMARILLO
	D1302	OJAI LAND CO	2645	GRIDLEY RD	OJAI
	D 850	DON HALL	7888	GRIMES CANYON RD.	MOORPARK
y	D 201	LEONARD & MARGARET WALLACE	3720	GROVES PLACE	SOMIS
	D1023	KAZUFUMI OKAMURA	3900	GROVES PLACE	SOMIS
y	D 202	WILLOW GROVE RANCH CO.	529	E GUIBERSON ROAD	FILLMORE
	D1003	WILLIAM SHIELLS CO	1100	GUIBERSON ROAD	FILLMORE
y	D 203	HERRINGTON RANCH	3451	E GUIBERSON ROAD	FILLMORE
y	D 204	EL RANCHO DE SUENO HERMOSO	3536	E GUIBERSON ROAD	FILLMORE
y	D 206	REITER BROS.	3150	HAILES ROAD	OXNARD
	D1181	STRICKLAND RANCH	735	HALL RD	SANTA PAULA
y	D 207	GARY BALL	115	HALL ROAD	FILLMORE
	D1076	LEMONWOOD INDUSTRIAL PARK	250	S HALLOCK DR	SANTA PAULA
y	D 209	H & H OIL TOOL CO., INC.	201	S HALLOCK DR.	SANTA PAULA
y	D 210	K-MART CORP.	325	HAMPSHIRE ROAD	THOUSAND OAKS
y	D 833	RESIDENCE	905	HAMPSHIRE ROAD	THOUSAND OAKS
y	D 362	B-K RANCH		HARBOR BL & OLIVAS PARK D	VENTURA
	D1204	SOUTHERN CALIFORNIA EDISON	393	N HARBOR BLVD	OXNARD
	D1194	SATICOY LEMON ASSOC.	600	N HARRISON ST	OXNARD
y	D 211	M-STAR	101	HARRISON STREET	OXNARD
y	D 212	SEABOARD LEMON ASSOCIATION	600	N HARRISON STREET	OXNARD
	D1290	GOULD TRUST, KATHRYN J	221	W HARVARD	SAN
	D1273	SANTA PAULA CHEVROLET	101	W HARVARD BL	
	D1045	SP EQUP RENTAL-MARY ANN SORRIC	614	E HARVARD BL	SANTA PAULA
y	D 213	DOB'S TIRE & AUTO	108	E HARVARD BLVD.	SANTA PAULA
y	D 214	WM. C. CORNITIUS	243	HARVARD BLVD.	SANTA PAULA
y	D 215	TONY'S CAR WASH	315	W HARVARD BLVD.	SANTA PAULA
y	D 216	VACANT FACILITY	603	HARVARD BLVD.	SANTA PAULA

RESOURCE MANAGEMENT AGENCY
county of ventura

Environmental Health Department
Donald W. Koepp
Director

March 8, 1990

Richard L. Fausset
1701 Pacific Avenue, Suite 200
Oxnard, CA 93033

WALNUT CANYON TRACT, MOORPARK SITE CHARACTERIZATION AND REMEDIAL ACTION PLAN

This Division, as the Local Enforcement Agency (LEA), cannot approve Section 4.2 of the Remedial Action Plan dated January 25, 1990, as it applies to the bioremediation of contaminated soil.

Approval is granted for the disposal options of nonhazardous solid waste, as delineated in Sections 4.1 and 4.2 of the Remedial Action Plan.

Since the LEA does not have regulatory authority for cleanup or for soil from contaminated sites, we are referring this case to the California DeparJment of Health Services. Their address is:

Department of Health Services
Toxic Substances Control Division (Region 3)
Site Mitigation Unit
1405 N. San Fernando Blvd., Suite 300
Burbank, CA 91504
(818) 567-3000

The LEA will work closely with you for the remediation of nonhazardous solid waste.

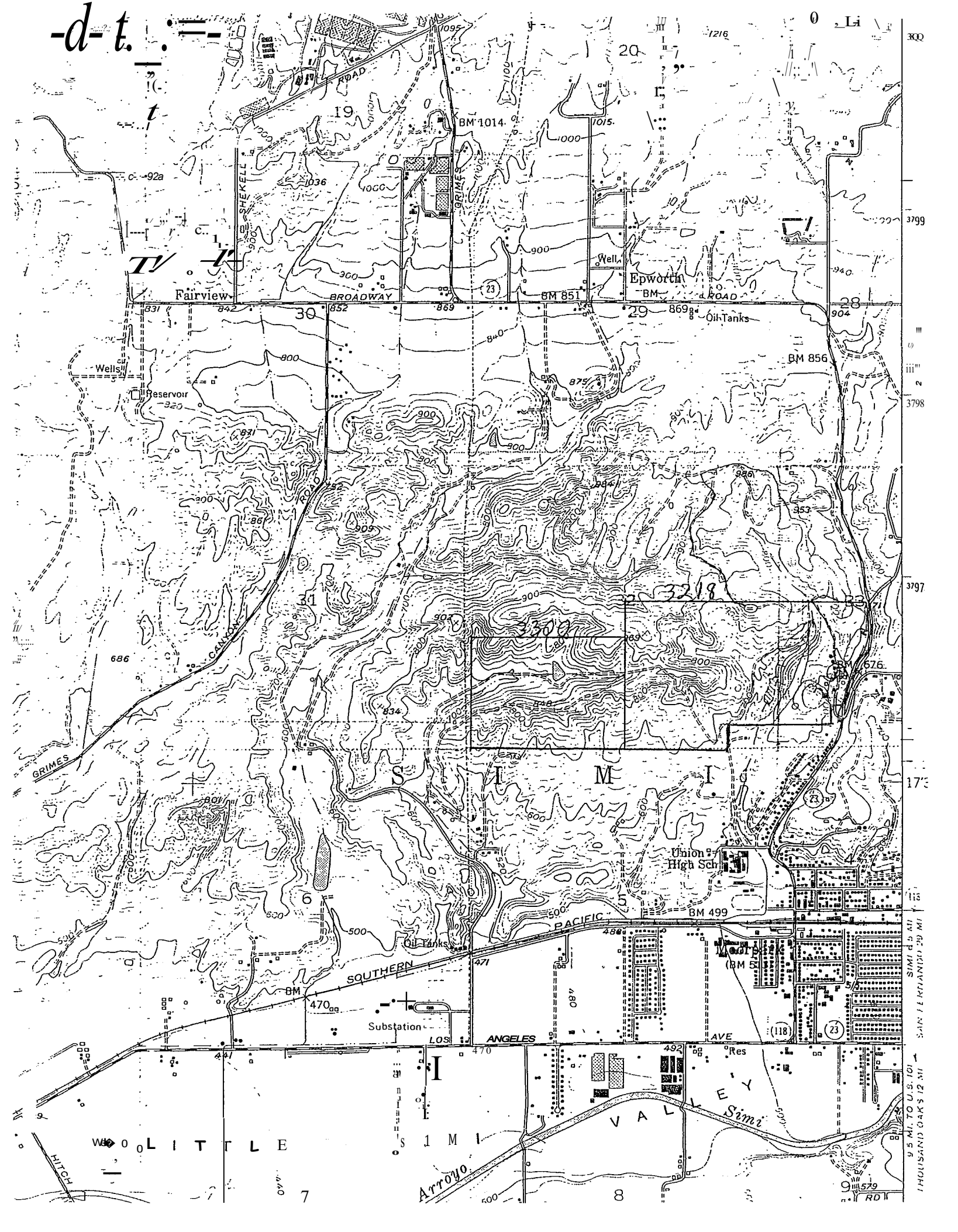
If you have any questions, you may call Barry Marczuk at 654-2859.

Terrence Gilday

TERRENCE GILDAY, MANAGER
TECHNICAL SERVICES SECTION
ENVIRONMENTAL HEALTH DIVISION

TG: lb/C32

cc: Site Mitigation Unit, DRS - Burbank
-Reem Dajani, EHD
Steve Shestag, H.L.A.
Winnie Wilson, City of Moorpark
Don Koepp, EHD



Fairview
BROADWAY
ROAD
SHEKELL
GRIMES
BM 1014
BM 851
Epworth
Well
Oil Tanks
BM 856
Wells
Reservoir
CANYON
GRIMES
3218
3300
S I M I
Union High Sch
BM 499
Oil Tanks
SOUTHERN
PACIFIC
Substation
LOS
ANGELES
AVE
Res
Simi
Arroyo
VALLEY
LITTLE
HITCH

February 26, 1990

19513,001.16

County of Ventura
Environmental Health Department -
Solid Waste Division
Ventura, California 93003

Attention: Mr. Barry Marczek

Gentlemen:

Attached for your review are the analytical results for the four soil samples collected on February 16, 1990 at the Walnut Canyon site in Moorpark, California. Samples were collected from areas containing the most visibly contaminated soils at the northern (S-23, S-24) and southern (S-25, S-26) concrete pads located in the former vehicle maintenance[1] area on the property. Our client is currently considering clean-up alternatives for the site. We will notify you of the planned remediation upon selection of the most viable alternative.

If you have any questions, please call.

Very truly yours,

HARDING LAWSON ASSOCIATES

Jiuk

Steven L. Shestag
Senior Geologist

SLS/bic
19513.001

cc: Mr. Richard Fausset - Walnut Canyon Associates
Mr. Curt Uritz - Fairfield, McDonald, Sullard & Strauss

?1 AnalyticalTechnologies,Inc. Corporate Offices: 5550 Morehouse Drive San Diego, CA 92121 (619) 458-9141

ATI I.D. 002230

February 22, 1989

Harding Lawson Associates
2804 Camino Dos Rios, Suite #207
Newbury Park, California 91320

Project Name: Walnut Canyon/Moorpark

Project No.: 19513,001.16

Attention: S. Shestag

on February 17, 1990, Analytical Technologies, Inc. received four soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The symbol for "less than" indicates a value below the reportable detection limit. Please see the attached sheet for the sample cross reference.

The results of this analysis and the quality control qata are enclosed.

Z(!I#
Inorganics Supervisor

Richard M. Amano
Laboratory Manager

TJF:em

AAnalyticalTechnologies,lnc.

ATI I.D. 002230

ANALYTICAL SCHEDULE

CLIENT: HARDING LAWSON ASSOCIATES PROJECT NO.: 19513,001.16
PROJECT NAME: WALNUT CANYON/MOORPARK

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
PETROLEUM HYDROCARBONS.	IR	EPA 418.1 (MODIFIED)

AAnalyticalTechnologies,Inc.

CLIENT : HARDING LAWSON-NEWBURY PARK
PROJECT# : 19513,001.16
PROJECT NAME: WALNUT CANYON/MOORPARK
ATI I.D. : 002230

DATE RECEIVED : 02/17/90
REPORT DATE : 02/22/90

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	S-23	SOIL	02/16/90
02	S-24	SOIL	02/16/90
03	S-25	SOIL	02/16/90
04	S-26	SOIL	02/16/90

-----TOTALS-----

MATRIX	# SAMPLES
SOIL	4

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

4 Analyticallechnologies,lnc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 002230

CLIENT : HARDING LAWSON-NEWBURY PARK
PROJECT# : 19513,001.16
PROJECT NAME ; WALNUT CANYON/MOORPARK

DATE RECEIVED : 02/17/90
REPORT DATE : 02/22/90

PARAMETER	UNITS	01	02	03	04
PETROLEUM HYDROCARBONS, IR	MG/KG	35000	44000	25000	35000

Analytical Technologies, Inc.

CHEMISTRY - QUALITY CONTROL

CLIENT : HARDING LAWSON-NEWBURY PARK
PROJECT# : 19513,001.16
PROJECT NAME : WALNUT CANYON/MOORPARK ATI I.D. : 002230

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
PETROLEUM HYDROCARBONS	MG/KG	00222103	1300	1300	0	**	**	**

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

** Due to the necessary dilution of the sample, result was not attainable

Harding Lawson Associates
2804 Camino Dos Rios, Suite 207
Newbury Park, California 91320
805/499-9199
Telecopy: 805/498-2506

CHAIN OF CUSTODY FORM

Lab: A-,+ G):)..{:)

Job Number: (q5l 3, do I.1 6 ..

Name/Location: (")a\ n1 d Co (i ycJll //i-:?a

Project Manager: S l (0) 1,

Samplers: -_i C) LQ Y/J r r.

Rec♦or♦der: 1{ //·, .)lt-)7-,)
i)pnature Fle_quired)

	MATRIX	#CONTAINEHS & PRESERV.	SAMPLE NUMBER OR LAB NUMBER	DATE	STATIO♦ DESCRIPTION/ NOTES	ANALYSIS REQUESTED
			Yr Wk Seq	Yr Mo Dy Tim		
	Y	X				
	X	\				X
	Z	X				
	Y					X

LAB NUMBER	DEPTH IN FEET:	COL MTD CO	QA CODE	MISCELLANEOUS
Yr Wk Seq				
				J)1i<, H - I i..JJ
				-t ()1 J) A(i.t:..x) N "1::>
				-1·)Tt ' -··n-\ Sf A(l.E
				1 (.)(.) 1=I I v\ (\ TIC>AJ Sr\ fH f<i:
				fa2 I)/ -+-J Ye I),n lEb
				:,:) I 1,-.1.b r,,, vY& A h•"nfl-•\
				•i L (J/,,·:/)··, ···

CHAIN OF CUSTODY RECORD

RELI♦9N,1SHE:>, B'(-♦S'.fnature)	RECEIVED B'(: (Signature)	DATE/TIME
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RE LINOUISHED BY: (Sig'natur♦1'	♦-♦♦♦IVED BY: rst1,ure)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: {Si,qnatpre)	DATE/TIME

ENVIRONMENTAL HEALTH DEPARTMENT

PROPOSITION 65 REPORT FORM

DA◆REr?T 70'(| nMi?:◆r ,4.-M | LOG NUMIIfR:

NAME OF PERS<1N TAKING THE REPORT: BAt'"" (111.fl<€c2 c,(

NAME OF PERSON REPORTING: (3A-R. (e "t jA A-14.C c

JOB TTnE/POSITION: /311 {/. r/e. H4 S; c:-771--

AGENCYc◆◆ N r ; rP-f- I/.P"1 t;;vv "

AGENCY/COMPANY PtiONE NUMW:A:

AGENCY/COMPANY AOORESS: 'Boo 5, Vie. iPH /fve. qgo e> 4:

DATE r;.NCIOEHT: ; fc:"ttHV"\

TIME OF INCIDENT: I u.../C"1 .. - ....

NAME/DESCRIPTION OF "SUSPECTED" MATERIAL INVOLVED: Col,ti?f'1.i-t) , (..,; , 5P¥•r

7&)—14 t/t.r"f;-;; (-if c.,.,- L/ yJl,o rc.. 6,

C&l.1 c ...-/lr ... -h "" s.

AMOUNT: c ewe 300 yd

PHYSICAL STATE:
;Z:Solid
CJ Liquid
: Gas
: Other:

HOW DID THIS INCIDENT HAPPEN? LLV\,, leb\o- ...

ADDRESS/LOCATION OF INCIDENT: tA.J It-\,\,..., r "val,{ 11..-4.e.-7 ;1.A0ov e " L Cc; (,s fo, .. ;

3 v,,,"'k s. 'Iv. Of L. A-,, A e I 21o.:::,o -f.e.e-f E. of w-. Mi i:Jcc"-t.- KJ.

ACTION TAKEN: lV' J..t,, I" v-1 s h'J ....+,; o ""

CC: C EH ☐ District Services
C EH ☐ Haz. Mat. Specialist: ----------

1/16/90

BM —

STEVE SHESTAG CALLED FROM
HARD ... / LAWSON 4:45

805 - 499 - 9199

HE'S RETURNING YOUR CALL

set appt.

Harding Lawson Associates

January 25, 1990

19513,001.16

County of Ventura
Environmental Health Department -
Solid Waste Division
Ventura, California 93009

Attention: Mr. Terry Gilday

Gentlemen:

Site Characterization
and Remedial Action Plan
Walnut Canyon Tract
Moorpark, California

Enclosed are 3 copies of the Site Characterization and Remedial Action Plan for the Walnut Canyon Tract located approximately one-half mile north of Moorpark, California. This report has been prepared by Harding Lawson Associates (HLA) on behalf of Walnut Canyon Associates in order to obtain a land reclamation/closure permit for the property. The attached report presents a summary of HLA's site characterization activities and the remedial action plan developed from the subsequent findings.

Land clearing is currently in progress to remove, segregate and dispose of debris located in one of the two canyons onsite. In the other canyon, a proposed remediation program has been developed for the excavation and bioremediation of approximately 300 cubic yards of hydrocarbon contaminated soils. Miscellaneous debris, vehicles, oil containers, and drums are also scheduled for removal and disposal. Following completion of the site remediation, an assessment will be performed to confirm completion of the remediation activities. A closure report will be issued documenting the remediation activities, volumes and types of debris removed, method(s) of treatment and/or disposal, and associated analytical results.

The property is currently in escrow. The transfer cannot be completed until remediation is complete. Your timely response would be greatly appreciated in order to expedite the remediation program and complete the transfer of the property.

We trust that this document provides sufficient information concerning the remediation activities proposed to issue land remediation/closure permits for this property. If you have any questions, please call.

Very truly yours,

HARDING LAWSON ASSOCIATES

Steven L. Shestag
Senior Geologist

Managing Principal Engineer

SLS/GLA/bic
F003.RPT

- Shelag Walnut Canyon Rd.

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-z. kc...(

,,- - (Y

- HC { owh, [illegible] i l l l

TP Hydrant 4"

Hydrol

2 areas 3,000 cu ft./each

27 - 30

T

29

30

1

CPR

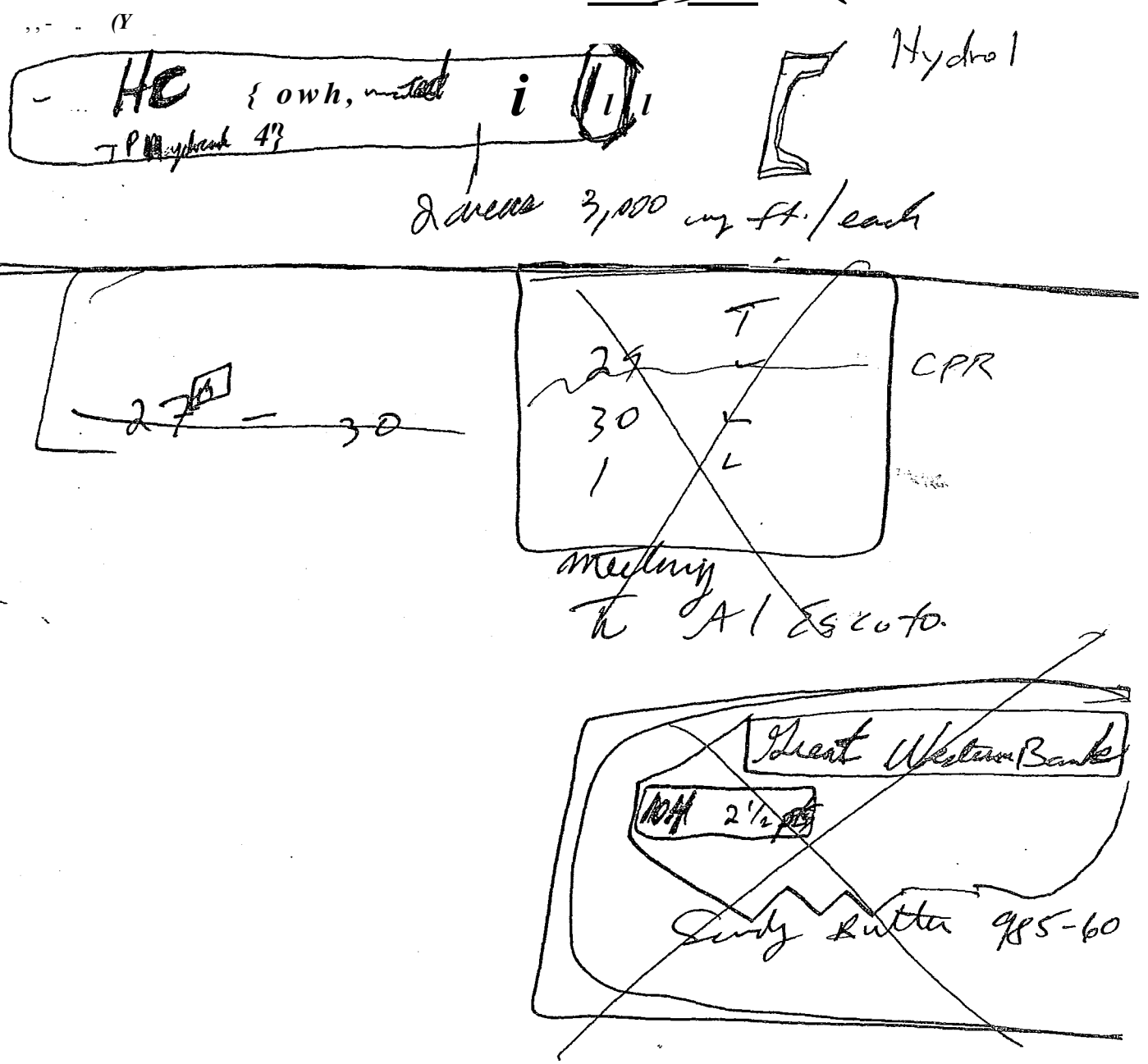
meeting

w Al Escoto.

Great Western Bank

10H 2½ pts

Sandy Butler 985-60



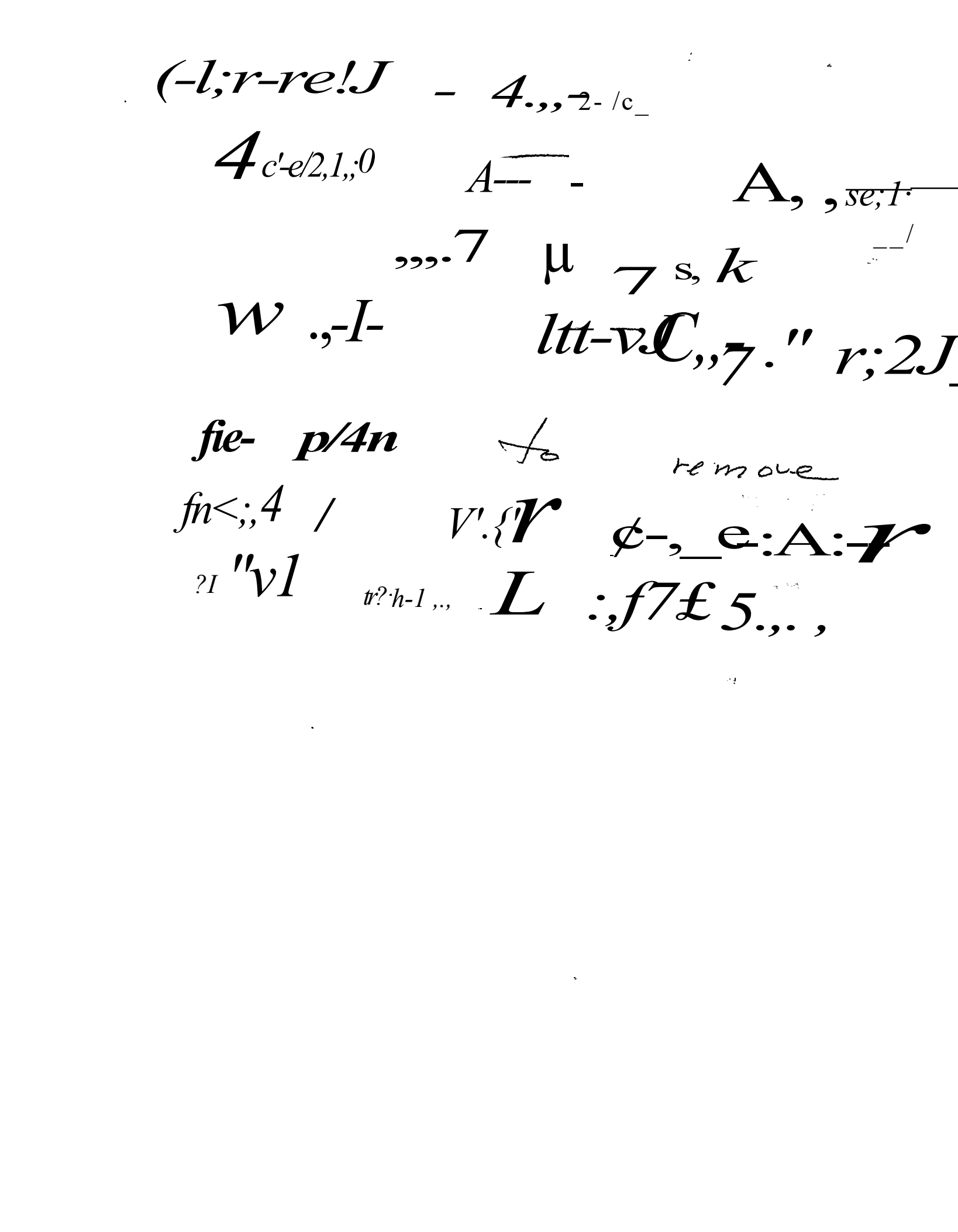
No Street address for above parcels

7345 Walnut Canyon Rd

7206 Walnut Canyon Rd 500-0-270-115

7340 Walnut Canyon Rd 500-0-240-155

7177 Walnut Canyon Rd 500-0-230-165



A Report Prepared for

Walnut Canyon Associates
1701 Pacific Avenue, Suite 200
Oxnard, California 93033

SITE CHARACTERIZATION AND REMEDIAL ACTION PLAN WALNUT CANYON TRACT MOORPARK, CALIFORNIA

HLA Job No. 19513,001.16

by

Steven L. Shestag
Senior Geologist

George L. Armstrong
Geotechnical Engineer - 2002



Harding Lawson Associates
2804 Camino Dos Rios, Suite 207
Newbury Park, California 91320
805/499-9199

January 25, 1990

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EXECUTIVE SUMMARY

Harding Lawson Associates (HLA) conducted a Site Characterization Investigation and prepared a Remedial Action Plan (RAP) on behalf of Walnut Canyon Associates, owners of a 350-acre parcel located approximately one-half mile north of Moorpark, California. The investigation was conducted to evaluate the types, character, and extent of waste materials; research locations, and abandonment techniques of the on-site water and oil wells; and to formulate a RAP based on the above findings.

The site characterization plan was based on a review of readily available aerial photographs, review of pertinent reports, discussions with selected individuals, a review of governmental agency records, a site reconnaissance, limited subsurface exploration, and limltecFsoil and construction debris sampling and analyses. This information has been used to develop the RAP.

The Canyon 1 and Canyon 2 areas have been subject to unauthorized dumping activities for at least 10 years. The deeply incised Canyon 1 area has been found to contain an estimated 1,200 to 2,000 cubic yards of debris which primarily consists of landscape debris and demolition debris (lumber, plasterboard, and piping) with lesser amounts of broken concrete and asphaltic concrete, automobile parts, tires, and household-type rubbish. This material is currently being excavated for transport and disposal at a Class III municipal landfill.

A limited amount of asbestos containing materials (ACM) were identified in the Canyon 1 area. The ACM was detected in transite piping. Because of the non-friable condition of the piping and the limited amount on-site (approximately 25 to.50 pounds), it is our opinion that the ACM does not present a significant obstacle to the proposed development. However, the ACM will require careful and specialized handling and disposal procedures.

The Canyon 2 area contains a limited amount of landscape and demolition debris reportedly from the destruction of several buildings that previously existed in the area. More recently, however, a portion of the area was apparently used for vehicle and truck maintenance. Several 55-gallon motor oil drums and 5-gallon freon cans, some empty and some partially full, as well as several 5-gallon buckets of spent motor oil were located in the maintenance area. An area of approximately 2,700 square feet of hydrocarbon-stained soil has also been delineated at the surface. Laboratory analysis of soil samples obtained from the backhoe trenches detected total petroleum hydrocarbons (TPH), and lesser concentrations of various solvents including methylethylketone (MEK), methyl isobutyl ketone (MIBK), and trichloroethane (TCA). The laboratory data and field evidence suggest that the majority of the hydrocarbon contaminated soils are limited to within 1 foot of the surface, lesser contamination was detected in samples at a depth of 1.5 and 3 feet. Samples at a depth of 5 feet contained nondectable concentrations of TPH. Based on the field and lab.ci'fdtor1 data, the estimated depth of contaminants range from approximately 1 to 3 feet based on observations of several test pits excavated in the area. An approximate volume of 300 cubic yards of hydrocarbon contaminated soil is estimated for remediation purposes! A program has been developed for the removal of the debris, oil and freon containers, and remediation of hydrocarbon contaminated soils.

Six abandoned water wells and one abandoned oii exploration test hole are located on the site. The six water wells have been located. Attempts to locate and expose the abandoned oil exploration test hole as required by California Department of Oil and Gas (DOG) regulations have been unsuccessful to date. Documents obtained from the DOG indicate that the well was abandoned as approved by the DOG in June 1960. Destruction of the water wells and confirmation of the proper abandonment of the oil exploration test well, is beyond the scope of the remediation plan. It *is* anticipated that these will be completed at a later time as part of the building permit process.

1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

Harding Lawson Associates (HLA) has conducted a site characterization investigation and prepared a Remedial Action Plan (RAP) on behalf of Walnut Canyon Associates, the owners of a 350-acre parcel located one-half mile north of Moorpark, California (Plate 1). HLA's services were authorized by Mr. Richard Fausset of Walnut Canyon Associates on September 26, 1989. As discussed during our telephone conversations with Mr. Barry Marczuk of the County of Ventura Environmental Health Department (VERD), we have prepared this preliminary report documenting the findings of our site characterization and presenting a RAP for review by VERD.

This preliminary report provides a brief description of the project background, site reconnaissance findings, subsurface exploration, and laboratory analytical results. This information has been used *to* develop the RAP for the remediation of the Walnut Canyon Tract. After remediation of the site, HLA will prepare a final report documenting remediation for the entire project.

1.2 BACKGROUND

The Walnut Canyon Tract is located just north of Moorpark within Sections 32 and 33 of Township 3 North, Range 19 West, San Bernadina Baseline and is bounded on the east by Walnut Canyon Road (Plate 1). The 350-acre parcel of property consists of hilly terrain with two north-south trending canyons representing the major topographical features. The larger of the two canyons, designated herein as Canyon 1, is located in the central area of the parcel; Canyon 2 is located along the eastern boundary of the property. A siltation basin is located

in Canyon 1 near the southern property boundary. Canyon 1 also contains an intermittent stream with an earthen dam. However, no evidence of flowing or standing water was observed on the site during the site reconnaissance.

The property remains undeveloped and is covered by chaparral and natural grasses. Vegetation in the canyon bottoms is dominated by scrub willow. Pepper trees and eucalyptus trees have been planted along Walnut Canyon and the southern property boundary.

The Canyon 1 and Canyon 2 areas have been the site of unauthorized rubbish and debris disposal since at least 1978. The Canyon 1 area is an incised canyon area in which primarily landscape and demolition debris have been discarded along with lesser amounts .of rubbish, tires, abandoned vehicles, and appliances. The Canyon 2 area is the site of discarded rubbish, demolition and landscape debris, and an abandoned vehicle maintenance area.

1.3 SCOPE OF WORK

The objective of HI.A's services was to evaluate the site conditions and subsequently develop a RAP for the affected areas. Four phases of activities were identified to accomplish this objective. The activities for each of the phases are described in the following sections:

1.3.1 Phase 1

Phase 1 included the characterization of the site to evaluate the types, character, and extent of waste materials, and to research the locations and abandonment techniques of the water and oil wells. Activities included:

- Performing a background search of available geologic, and ground-water information,
- Collecting available information to locate one abandoned oil well and several unused water wells reported to be onsite,
- Performing a detailed site reconnaissance to estimate the extent, volume, and character of wastes at each of the two areas,
- Performing limited subsurface exploration to further evaluate character and volume of wastes in both areas and to obtain soil samples for chemical analysis in the Canyon 2 area,
- Collecting representative samples of potential asbestos containing material (ACM) and analyzing for asbestos content, and
- Preparing a report documenting our findings.

A review of site history which typically consists of historical aerial photograph review, review of public agency files, and discussions with persons knowledgeable of the site, was previously conducted by another consultant. This information was reviewed and used to develop the scope of work for the project.

1.3.2 Phase 2

Phase 2 included development of a RAP based on the information collected during the Phase 1 Site Characterization. The RAP, presented in Section 4.0 herein, provides a description of the site remediation techniques and is presented to appropriate regulatory agencies for their approval.

1.3.3 Phases 3 and 4

Phase 3 consists of site remediation and monitoring, while Phase 4 consists of the confirmation assessment to properly document site remediation. Waste removals will be observed and wastes classified for proper disposal/treatment alternatives. The confirmation site assessment will consist of collecting and analyzing representative soil samples exposed in the bottom of the excavations to check for the presence of hazardous/toxic materials at the sampling locations. Phase 3 and 4 activities and results will be documented in a formal report for submittal to regulatory agencies.

2.0 INVESTIGATION

HLA's investigation began August 18, 1989, and was directed towards evaluating site conditions and developing a RAP. The following sections describe the site characterization program.

2.1 REVIEW OF EXISTING DATA

The following County and State agencies were contacted for background information regarding the site:

- California Department of Conservation, Division of Oil and Gas (DOG) Ventura Branch Office - information regarding an abandoned oil exploration test hole well located on the property and proper well abandonment requirements;
- Ventura County Public Works Department, Flood Control and Water Resource Division (VCFCD) - information regarding on-site water wells and ground water information for the area,
- The California Department of Water Resources (DWR) - supplemental information on the existence and location of the six on-site water wells and regional ground water information,
- Ventura County Public Works Agency - review of black and white aerial photographs dated 1962 and 1945,
- U.S. Geological Survey (USGS) - topographic map.

Background geologic information was obtained through review of published and consultant reports. Additional background information collected by a prior consultant was acquired from Walnut Canyon Associates. A list of references is attached.

2.2 FIELD EXPLORATION

HLA conducted a site reconnaissance, a well location survey, and subsurface exploration between October 11 and 17, 1989. Additional soil samples were collected and analyzed on December 20, 1989. Activities for each area are described below.

2.2.1 Canyon 1 Area

The field investigation of the Canyon 1 area included the following activities:

- Conducting a site reconnaissance,
- Mapping the estimated extent of debris on a base map at a scale of inch equals 100 feet,
- Excavating nine backhoe trenches and performing an electromagnetic geophysical (EM-31) survey to estimate the extent of the partially buried concrete and metallic debris at the north end of the main canyon,
- Estimating the volumes of various types of debris within and adjacent to the canyon, and
- Collecting eight samples of potential ACM and submitting five for analysis of asbestos content.

Nine backhoe trenches were excavated at the locations shown on Plate 2 to evaluate the extent of partially buried wastes along the western fringe of the northern end of the canyon. The trenches were excavated to depths of 3 to 4 feet below ground surface and were logged by an HLA geologist. The materials encountered are summarized in the trench logs presented in Appendix C.

The electromagnetic geophysical survey was performed along the flat area near the northwest end of the canyon to investigate the presence of either the steel well casing, cellar or drilling mud sumps which may be associated with oil exploration test well. A description of the geophysical program is included in the Appendix A

Four samples of potential ACM were selected for asbestos analysis from the Canyon 1 area. The materials collected included plasterboard containing fibrous material (ASB-2), roofing paper (ASB-3), nonfibrous plasterboard and insulation material (ASB-4), and transite piping (ASB-7). Sample ASB-1 was obtained from the Walnut Canyon area; samples ASB-5, ASB-6, and ASB-8 consisted of plasterboard samples similar to samples ASB-2 and ASB-4 and were not submitted for analysis. The samples submitted for testing were judged to be representative of the varying types of exposed on-site materials suspected of containing asbest?s. Samples were collected under the guidance of an engineer and industrial hygienist trained 'irf asbestos management. Samples were placed in polyethylene bags which were sealed, labeled, and transported to a State-certified laboratory under chain-of-custody protocol for analyses. The asbestos test results are presented in Appendfa: B.

2.2.2 Canvon 2 Area

The field investigation of the Canyon 2 area included the following activities:

- Conducting a site reconnaissance,
- Mapping the estimated extent and location of debris on a base map at a scale of 1 inch equals 100 feet,
- Collecting soil samples from backhoe trenches for analysis of hydrocarbons in an area previously used for vehicle maintenance,
- Collecting a sample of suspected ACM and analyzing for asbestos, and
- Estimating the volumes of various types of debris, within and adjacent to the area.

Subsurface exploration in the Canyon 2 area included the initial collection and analysis of 10 soil samples from 8 backhoe-excavated trenches ranging from 3 to 5 feet in depth. Trenches were logged for general information including soil type and evidence of hydrocarbons. A second field program was performed to collect and analyze an additional 13 soil samples at 16 trench locations. The second sampling program was conducted to evaluate the extent of hydrocarbons in soils in a vehicle maintenance area. The trenches were backfilled with the excavated material if it appeared free of hydrocarbon staining. Otherwise, they were backfilled with clean native material and the excavated material was stockpiled on plastic sheeting on a concrete pad in the area. Trench locations are shown on Plate 3 and trench logs, including a catalog of soil samples collected for chemical analyses, are presented in Appendix C.

The soil samples were collected in 100 milliliter glass jars. The samples were scanned for the presence of volatile organic vapors with a photoionization detector (PID). The containers were capped with aluminum foil-lined caps, and sealed with electrical tape. Samples were stored in an ice-chilled cooler for transport to a State-certified analytical laboratory under chain-of-custody protocol. The laboratory analytical program is described in Section 2.3.

A single sample (ASB-1) of suspected ACM (fiberglass cloth) was selected for asbestos analysis (Plate 2). The sample was collected under the guidance of an engineer trained in asbestos management using the sample procedures detailed in Section 2.2.1. The samples were transported to a State-certified laboratory under chain-of-custody protocol.

2.2.3 Abandoned Oil Exploration Test Hole

Available information regarding the abandoned oil exploration test hole was acquired from the DOG (Appendix D). The location coordinates provided on the DOG well log were surveyed by a licensed surveyor in an attempt to locate the drill site. The location coordinates

correspond to a point on the hillside west of the main valley. The reported location coordinates are not considered valid because of physical constraints imposed by the topography of the location.

The available information, including the DOG well site map and the reported wellhead elevation, indicates that the drill site was located approximately as shown on Plate 2; however, no surface expression of the test hole has been found. The area around the location noted has been leveled and a road graded to provide access from the south (Plate 2). Further attempts to locate the actual survey plat or contact knowledgeable sources at the drilling company were unsuccessful.

An electromagnetic (EM-31) geophysical survey was performed in the leveled a<q µear the location shown on Plate 2 in an attempt to locate the metal casing or evidence of a drilling mud sump. The geophysical methods, which are described in Appendix A, were inconclusive apparently as a result of interference from buried debris in the Canyon 1 area. A magnetometer sur,ey was also performed but was unsuccessful due to interference from the buried metallic debris in the area and from solar activity as explained in Appendix A As previously noted, additional attempts to locate the abandoned oil exploration test hole are not within the scope of this investigation.

2.2.4 Water Wells

The DWR and VCFCD were contacted to obtain information regarding water wells located on the property. Six wells and a dry hole (which was not completed as a well) were found to be located on the property (Plate 2). Information acquired included locations, well lgs for all but one of the wells, and water quality data for seve°ral of the wells. The available information is compiled in Appendfa: E.

After review of the information obtained from the DWR and VCFCD, the well locations were verified in the field. The area was also reconnoitered to locate unreported wells. Each well was observed anq sounded to evaluate whether pumps were still in place and to check the open depth of the well. All but one well was plugged (3N/19W-33Ml) near the surface. The one open well was sounded and found to be open to a depth of 72 feet and dry.

2.3 LABORATORY TESTING

2.3.1 Soils

Ten soil samples collected on October 17, 1989 from the Canyon 2 area were submitted for analysis of total petroleum hydrocarbons (TPH) using EPA Test Method 418.1. .The sample estimated to contain the highest level of contamination, based on physical evidence, was selected from each of the three areas for analysis of volatile organic compounds (VOCs) using EPA Test Method 8240. Samples were transported to CRL-Enseco Analytical Laboratories in Ventura, California for analysis.

Based on the results of the initial analytical results, additional soil samples were collected at the former vehicle maintenance area iri Canyon 2 to further evaluate the horizontal and vertical extent of hydrocarbons in soils and the nature of the contamination. Thirteen soil samples were submitted for analysis of TPH; 2 samples were submitted for analysis of California Code of Regulations Title 26 metals; and 3 samples were submitted for analysis of VOCs. These samples were submitted to Del Mar Analytical in Irvine, California for analysis.

Laboratory analytical results are summarized in Table 1. The laboratory reports and chain-of-custody forms are presented in Appendix B-1.

2.3.2 Asbestos Testing Program

The samples of suspect ACM were transported to Applied Petrography, Inc. of Santa Fe Springs, California. Samples were analyzed using PLM with dispersion staining in accordance with the EPA "Interim Method of the Determination of Asbestos in Bulk Insulation Samples" (40 CFR 763). The laboratory test reports and chain-of-custody documents are presented in Appendix B-2.

3.0 SITE CONDITIONS

3.1 SITE HISTORY

Available background information indicates that the site has primarily been used for livestock (cattle and horses) grazing from at least 1945 to the present. Orchards were noted in 1945 aerial photographs in the valleys and along hillsides throughout most of the property. Conversations with Mr. Peters, adjacent property owner, confirmed the presence of the "apricot" orchards in the area. Mr. Peters stated that the orchards were abandoned over 20 years ago. This claim is substantiated by the absence of the orchards in the 1962 aerial photographs. Mr. Peters also stated that the valley and hillsides west of Canyon 1 were graded for planting rye for horse feed; however, this crop was unsuccessful. He·,r'rHt?rts that dumping in the Canyon 1 area has been occurring for over 20 years, evidence of dumping was not apparent in the 1962 aerial photographs.

Two rectangular buildings and one large circular aboveground tank (believed to be a water tank) in the Canyon 2 area were observed in the 1945 aerial photographs. These structures were located on the southeast fringe of the property. The western-most building appears to be a house and the other a barn. The structures do not appear in the 1962 aerial and are not present today. Concrete slabs and debris are· the only remaining evidence of their existence.

Presently most of the site remains in its natural state. Exceptions are the Canyon 1 area in which unauthorized dumping has reportedly occurred for 10 to 20 years. The debris includes landscape and demolition debris with lesser amounts of household-type paper and plastic rubbish. The results of a detailed reconnaissance are described in Section 3.3.1.

A portion of the Canyon 2 area has more recently been used for vehicle maintenance, limited dumping of debris, and storage of miscellaneous items including tractor trailers, water trucks, a boat and boat mold, and tractor implements. Associated with the maintenance activities is

the presence of numerous 5-gallon and 55-gallon motor oil drums, aboveground transmission fluid storage tanks, freon cans, and other miscellaneous containers. A 4-inch-diameter steel pipe, believed to be an abandoned water line, also runs through the area. A limited area of hydrocarbon contaminated soils has also been observed in the area. The contents of the area are described in Section 3.3.2.

Six water wells and a dry water well boring, which was never completed as a well, are located in the Canyon 2 area as shown on Plate 2. In addition, two wells are reported just south of the property line in Canyon 2 and two other wells are located south of the property along the southern extension of Canyon 1 (Plate 2). An abandoned oil exploration test hole, drilled in June 1960 by the Petan Company is located approximately in the area indicated on Plate 2. Documents obtained from the DOG indicate that the well was drilled to 4,200 feet but did not encounter productive zones. The well was subsequently abandoned according to specifications of the DOG, who authorized the abandonment in a document dated June 16, 1960 (Appendix D). Attempts by HLA to contact knowledgeable parties at the Petan Company found that they no longer had any records of the oil exploration operations and that portion of their business was sold several years ago.

3.2 GEOLOGIC AND GROUND-WATER CONDITIONS

3.2.1 Site Geology

The site lies within the eastern portion of the Ventura Basin within the Western Transverse Ranges geomorphic province of southern California (Dibblee, 1982). The property is underlain by older alluvium (Qoal) consisting of yellow-brown to dark brown sand with varying percentages of clay and silt (Gorian, 1978). Cobble-sized gravels are also present over most of the ground surface. The site lies on the southeast side of the Moorpark anticline which is inferred from oil well log data (CDMG, 1973). The older alluvium is, however, mostly structureless and massive with no distinct bedding orientation (Gorian, 1978).

3.2.2 Ground-Water Occurrence

Ground-water information for the Canyon 1 and Canyon 2 areas was obtained from DWR and VCFCD files. According to the drillers' logs, ground water was typically encountered at 95 to 140 feet below ground surface in the Canyon 2 area at the time of drilling (1946 to 1949). Similarly, water levels at the south end of Canyon 1 were reported at approximately 110 feet when the wells were installed in December 1949. The open well (3N/19W-33M1) was sounded to a total depth of 75 feet and found to be dry. The offsite wells were not sounded.

3.3 INVENTORY OF ON-SITE MATERIALS

3.3.1 Canyon 1 Area

The estimated extent of debris within the Canyon 1 area is shown on Plate 2. The site characterization activities indicate that the majority of debris consists of landscape debris (wood chippings, tree cuttings, and tree stumps). In addition to the landscape debris, a large volume of demolition debris is located in the canyon. This includes old lumber, plasterboard, asphalt and concrete, roofing paper, PVC and metal piping, and wire. Lesser amounts of rubbish, appliances, furniture, and automobile bodies, parts, and tires are also scattered throughout the canyon. Based upon our visual observations, approximate estimates of the volumes of various types of debris are presented in Table 2. These volumes represent estimated bulk volumes to be stockpiled for processing and/or disposal off site. Equivalent tonnage is estimated at 1 ton per cubic yard average.

A small area of partially buried construction debris has been identified at the northern end of the canyon (Plate 2). This area appears to primarily contain broken concrete debris with minor amounts of asphaltic concrete, plasterboard, metal piping, and plastic debris. Along the

western edge of this area, the materials were found to extend to a depth of approximately 2 to 4 feet. The total depth within the central portion of the area was found to range from approximately 5 to 15 feet during excavation.

3.3.2 Canvon 2 Area

The site characterization activities indicate the debris in the Canyon 2 area includes an abandoned boat, abandon motor vehicles, containers of various types and sizes, corrugated siding, culvert piping, furniture, miscellaneous auto parts, and other miscellaneous items. The containers included 5- and 55-gallon drums motor oil, 1-gallon or 1-quart antifreeze containers, and 5-gallon cans of freon. Most of the drums and containers were sound to be empty, however, some were found *to* contain spent motor oil or water which collected in the open containers. Lesser amounts of construction debris (concrete, lumber, concrete and cinder block bricks) and landscaping debris (branches and clippings) are also scattered throughout the Canyon 2 area. Most of the debris is located along the side canyon as shown on Plate 2. The extent of debris in the Canyon 2 area itself is not shown on Plate 2, however, it is generally restricted to the areas near the concrete pads. Based upon visual observations, HLA estimated approximate volumes of the various types of debris are presented in Table 3. The volumes in Table 3 represent estimated bulk volumes of surficial landscape and construction debris to be stockpiled for disposal off site. Equivalent tonnage is estimated at 1 ton per. cubic yard average. The underground pipeline is believed to be a former water line which connected the various water wells to the former water tank.

3.4 SOIL SAMPLING RESULTS

Chemical analysis of the selected soil samples from the Canyon 2 area indicate that hydrocarbons are present in the near-surface soils adjacent to the two concrete pads and the aboveground storage tanks. In general, high concentrations of TPH were detected in the surface samples, where the soil was noticeably stained with hydrocarbons within 3 to 6 inches

of the ground surface. In general, samples analyzed at a depth of 1.5 to 5 feet below ground surface, where no visual evidence was noted, contained low to nondetectable levels of hydrocarbons. A summary of the analytical results is presented on Table 1 with the complete results contained in Appendix B-1. Trench locations are shown on Plate 3.

3.4.1 Northern Concrete Pad

Hydrocarbon-stained surficial soils were observed in a 5 to 15 foot wide perimeter around the northern concrete pad (Plate 2). Backhoe trenches around the perimeter indicated dark brown, slightly odorous (hydrocarbon) stained soils were restricted to within 3 to 6 inches of the surface. The underlying soils, which consisted of hard cemented sands with silt, displayed no noticeable physical evidence of contamination.

Monitoring with the PID did not detect volatile organic vapors in the surficial or underlying soils. TPH concentrations ranging from 8,700 to 43,000 milligrams per kilogram (mg/kg) were detected at the surface (3- to 6-inch sample depth) in samples collected from Trenches T-WC1 through T-WC3 along the east and west sides. of the northern concrete pad. .A.nalysis of the sample from Trench T-WC3 (S-3), collected just below the surface (3 inch depth) southeast of the northern concrete pad, also detected carbon disulfide (230 micrograms per kilogram (ug/k:g]) and toluene (9 ug1kg). Samples collected at a depth of 1.5 feet below the surface from Trenches T-WC1 and T-WC3, located immediately west and east of the northern concrete pad, had TPH concentrations of 8 and 520 mg/kg, respectively.

Analyses of near-surface samples from Trenches T-WC9, T-WClO, T-WC13, and T-WC15 detected TPH at concentrations ranging from 100 to 130 mg/kg. Sample NSB-1, collected at a depth of 3-inches adjacent to the Sample S-3 (Trench T-WC3), detected TPH at 520 mg/kg and toluene at 0.75 mg/kg; no other volatile organics were detected. Analysis of a sample

collected at a depth of 3 feet from Trench T-WC11 detected 6.4 mg/kg TPH, analysis of a sample from a depth of 5 feet in this trench found non-detectable concentrations of TPH and VOCs.

Sample S-14 was collected in an area where several full 5-gallon containers and an empty 55-gallon motor oil container was located. A TPH concentration of 12 mg/kg was detected.

The analysis of sample NSB-1 for Title 26 metals indicated that none of the constituents exceeded the Total Threshold Limit Concentration (TTLC) established by Title 26, Section 66699, California Code of Regulations.

3.4.2 Aboveground Storage Tanks

Lightly stained soils were detected in the upper 3 inches of Trench T-WC6 near the location of the three aboveground 350 gallon tanks (Plate 2) while the underlying soils showed no physical evidence of hydrocarbons. Analyses of samples from this trench detected TPH concentrations of 41,000 mg/kg at the surface and 55 mg/kg at a depth of 1.5 feet. In addition, analysis of the near-surface sample detected trichloroethane (TCA), 4-methyl-2-pentanone (MIBK), 2-butanone (MEK), benzene, toluene, ethylbenzene, and total xylenes.

Analysis of near-surface samples from Trenches T-WC16, T-WC17, and T-WC18 detected TPH at concentrations 7.5, 25, and 98 mg/kg, respectively.

3.4.3 Southern Concrete Pad

Stained soils were noted along the west, north and east sides of the southern-most concrete pad as shown on Plate 2. The stained soils along the west and north sides are approximately 6 inches thick and overlie the pad itself. Along the east edge, a thin band of stained soils approximately 5 feet wide and several inches deep was observed.

Samples collected form Trenches T-WC7 and T-WC7A at depths of 0.25 feet were found to contain appreciable quantities of TPH (23,000 to 29,000 mg/kg). Analysis of VOCs in the sample from Trench T-WC7 detected carbon disulfide, toluene, and xylene. Analyses of near-surface sample NSB-2 detected TPH at 480 mg/kg and toluene at 1.30 mg/kg; no other VOCs were detected. A sample from Trench T-WC20 at a depth of 0.5 feet was found to contain 430 mg/kg TPH; analysis of samples at the same depth from Trenches T-WC19 and T-WC21 detected 58 and 13 mg/kg TPH, respectively. No physical evidence of hydrocarbons was detected visually or with the PID in Trenches T-WC5 and T-WC22.

The analysis of Sample NSB-2 for Title 26 metals indicated that none of the constituents exceeded the TTLC.

A narrow band of darkly stained soils (approximately 1 feet wide and 10 foot long) was found immediately east of the southern concrete pad. Stained soils were observe to extend to a depth of approximately 1.5 feet in Trench T-WC4 in this area. Analysis of a sample was collected at a depth of approximately 1 foot below the ground surface from this trench detected 28,000 mg/kg TPH.

Trench T-WC22 was excavated in a shallow depression southeast of the concrete pad. No evidence of hydrocarbons was noted and consequently a sample was not submitted for analysis.

3.5 ABANDONED OIL EXPLORATION TEST HOLE

According to records obtained from the DOG (Appendix D), Petan Company drilled an exploratory well in the vicinity of Canyon 1 in April of 1960. However, the well never produced, and it was reportedly abandoned as directed by the DOG. Evidence of this well was not located during the site investigation. Additional attempts to locate the well are beyond the scope of this investigation.

3.6 GROUND-WATER WELLS

Six ground-water wells and one dry well were identified from information on file at the VCFCD and located onsite (Plate 2). Additional wells are located south of the southern property boundary. The field check of these wells found that most are filled within a few feet of the ground surface with debris. One well (designated as 3N/19W-33M3, Plate 2) was found open to a depth of 75 feet.

3.7 ACM TEST RESULTS

Analysis of the resinated fiberglass (ASB-1), two samples of plasterboard (ASB-2, ASB-4) and roofing paper (ASB-3) for ACM were negative. The sample of the transite pipe (ASB-7) tested positive for asbestos. Approximately 25 to 50 pounds of nonfriable transite pipe were located in the Canyon 1 area and have been segregated for disposal.

4.0 REMEDIAL ACTION PLAN

4.1 CANYON 1 AREA

Reclamation of the Canyon 1 area will include the removal and segregation of waste types from the canyon area. Material will be removed using track-mounted loaders, segregated, and then either loaded into end dumps for transport offsite, or stockpiled on the level ground surface west of the canyon or near the dam at the south end of the canyon (Plate 1). The partially buried demolition debris will be excavated by loaders or bulldozers. Manual segregation may be necessary to separate small or individual pieces of debris. Materiar will be segregated according to the following general groups based on disposal options:

1. Landscape debris including wood chips, leaf piles, tree cuttings, large stumps, and lumber,
2. Aggregate demolition debris including broken concrete, asphaltic concrete, and bricks,
3. **Tires,**
4. Miscellaneous debris and trash including demolition debris (metal piping, loose rebar, asphaltic roofing paper and shingles, dry wall, wire, etc.), refuse (paper and plastic), appliances, furniture, and amomobile bodies and pans, and
5. Transite piping (ACM).

Debris Type 2 will be temporarily stockpiled on site for processing and possibly for placement within specified fills. Waste Types 1, 3, and 4 will be excavated for disposal at a Class 3 landfiil. Non-friable Type 5 waste will be transported to the Ventura Regional Sanitation District Toland Road landfill for disposal pending authorization from the Ventura County Sanitation District. Potentially hazardous materials(including friable ACM), if exposed during

removal operations, will be handled and disposed as appropriate. Periodic site visits will be performed by HLA to observe operations and monitor the types of wastes exposed during removal for potentially hazardous materials.

Depending upon the development plans, and with the approval of the design geotechnical engineer, we believe that some of the Type 2 debris can be either processed and incorporated in fill placed on site in areas that will be designated as open space and not support structures. In addition, with processing, some of these materials might be suitable for incorporation into engineered fill. The design geotechnical engineers should be consulted regarding suitable areas for placement and allowable limits of organics, particle size, etc. of materials for use in engineered fill. They should also approve the specific materials prior to incorporation within engineered fill.

4.2 CAtWON 2 AREA

Based upon the results of our site assessment, the apparent correlation between contaminant and TPH levels, and the anticipated development of the site for residential use, we propose that soils be remediated to 100 mg/kg TPH as measured by EPA Test Method 418.1 and to levels below detection for the VOCs. It is estimated that approximately 300 cubic yards of scil will require remediation. Considering the types and levels of contaminants identified, and the estimated volume of soils requiring remediation, on-site bioremediation has been selected to remediate the hydrocarbons in soils.

The miscellaneous debris, equipment, vehicles and containers will be removed from the site. The debris, including broken concrete, lumber, landscape debris, plastic and paper rubbish, and miscellaneous demolition debris will be disposed at a licensed Class 3 landfill as described for the Canyon 1 area. Vehicles and equipment will be removed by the responsible persons.

Empty containers will be crushed for disposal along with the debris; partially full containers will be emptied and flushed prior to disposal. A waste oil service company will be contacted for disposal of waste oil fluids.

4.2.1 Bioremediation

The available data indicates that bioremediation can be performed to remediate hydrocarbon-containing soils. We recommend that the contaminated material be excavated and bioremediated in a temporary treatment area constructed on-site. The bioremediation process will consist of the following:

- Collect and analyze samples to evaluate appropriate microbial-enriching "nutrients to be applied.
- Construct a treatment area nearby consisting of a low permeability liner (Visqueen or similar) covered with a protective layer of sand and rimmed by a minimum 3 foot-high earthen dike.
- E1:cavate and spread contaminated soils on to treatment pad to an approximate thickness of 1 foot.
- Collect and analyze soils samples from the excavation to confirm that the soils with TPH levels above 100 mg/kg have been removed.
- Add and mix nutrients into the soil for treatment on a regular (2 to 3 times per week) basis, as required. Mixing will be accomplished with disks, hand operated rototillers, or with shovels.
- Periodically monitor soils with a PID and perform laboratory analyses to check the bioremediation progress.
- Upon completion of treatment (3 to 4 month) collect one sample for each 50 cubic yards of remediated soils and analyze for TPH using EPA Test Method 418.1 and volatile organics by EPA Test Method 8240 to check the results of treatment.

- o Upon removal of the treatment pad, collect one sample of soil underlying the treatment pad for each 2,000 square feet of treatment area and analyze for TPH and volatile organics to evaluate potential leakage of the liner.

Following completion, the soils subjected to bioremediation will be used to backfill the onsite excavations unless laboratory analyses indicate detectable concentrations of TPH and volatile organics. If detected, the affected soils will be transported and disposed off site at a permitted facility and either imported soils or soils borrowed from the site will be used for backfill. Backfill will be compacted to at least 90 percent relative compaction referencing the maximum dry density determined by ASTM D1557 (Modified Proctor) test procedures. All work will be performed in compliance with applicable California OSHA regulations.

4.3 ABAL'IDONED OIL EXPLORATION TEST HOLE

Available records (Appendix D) indicate that the oil exploration test hole was abandoned and that the abandonment was approved by the DOG in June 1960. Abandonment reportedly included cementing the lower portion of the 10-3/4-inch-diameter steel casing at a depth of 515 to 473 feet, placing a 10-foot cement plug at the surface, and welding a 3/8-inch-thick steel plate on top of the casing. The top of the casing is believed to be approximately 4 feet beneath present grade. Additional attempts to locate the test well in compliance with DOG requirements is not within the scope of this investigation and will be performed at a later date.

4.4 WATER WELLS

Si,'{ abandoned water wells have been located in the Canyon 2 area. These wells will need to be abandoned according to Ventura County requirements, h9wever, this will be addressed at a later date.

5.0 CONFIRMATION PROGRAM

5.1 CANYON 1 AREA

After removal of the debris from the canyon, HLA will observe the exposed soils and collect soil samples for confirmation chemical analysis. We anticipate that the sampling program, which will be adjusted if necessary based on the findings during removal, will include the following analyses:

- o TPH by EPA Method 418.1; five samples estimated,
- o If TPH concentrations are detected above 100 mg/l then analyze selected soil samples for volatile organic compounds by EPA Method 8240,
- o Title 26, California Code of Regulations (CCR), metals; five samples estimated, and
- o Asbestos by PLM; five samples estimated.

If total metals concentrations exceed the Soluble Threshold Limit Concentrations (STLCs) specified in Title 26, then extraction tests will be conducted to evaluate the concentrations of soluble metals. If any free liquids or leachate are encountered, then samples will be collected and analyzed as appropriate.

Samples will be collected by hand augering or backhoe trenching to depths of 5 to 10 feet. Samples will be selected from the near surface and below the vertical extent of suspected contamination. Appropriate decontamination, sample collection and storage, and chain-of-custody procedures will be implemented.

The analytical results will be reviewed prior to backfilling within the canyon. The detection of elevated concentrations of petroleum hydrocarbons, VOCs, metals or asbestos will be evaluated and the need for remediation addressed.

5.2 CANYON 2 AREA

The confirmation program for the Canyon 2 area will consist of collecting and analyzing samples from the base of the excavation to evaluate whether hydrocarbon concentrations above the designated remediation levels remain. The soils subject to bioremediation treatment will be analyzed to evaluate whether the process has been completed to the accepted levels. In addition, soils samples from beneath the treatment pad will be analyzed to evaluate potential leakage.

In all cases, samples will be collected using a drive sampler or by grab sampling. Appropriate decontamination, sample handling and chain-of-custody protocol will be impl U]-ented. Samples will be analyzed for TPH (EPA Test Method 418.1) and volatile organics (EPA Test Method 8240).

5.3 FINAL REPORT

Upon completion of the various remediation programs and confirmation sampling, a final report will be issued. The report will document the site characterization activities, volume and types of debris removed, method of disposal, remediation activities, and analytical results.

LIST OF REFERENCES

California Division of Mines and Geology, 1973, Geology and Mineral Resources Study of the Southern Ventura County, California, Preliminary Report 14.

Dibblee, T.W., 1982, Regional Geology of the Transverse Ranges Province of Southern California, in Geology and Mineral Wealth of the California Transverse Ranges, South Coast Geological Society.

Gorian and Associates, 1978, Geologic Feasibility and Percolation Investigation, Proposed 83 Lot Subdivision, Moorpark Section, Ventura County.

Marshak, J.B., 1986, California Regional Water Quality Control Board, Water Quality Goals, Hazardous Criteria, and Designated Level Examples for Chemical Constituents.

Ventura County Department of Public Works, Flight: 9800, Frame: 37, Flown: 1945; Flights: E and F, Frames: U12 and V12, Flown: 1962.

U.S. Geological Survey, Topographic Map, Moorpark Quadrangle, 1951 edition, photorevised 1969, photoinspected 1974, scale 1:24,000.

Table 1. Summary of Laboratory Analytical Results - Canyon 2 Area

Trench Number	Sample Number	Depth (feet)	Total Petroleum Hydrocarbons (mg/kg) EPA 418.1	Purgeable Organics EPA 8240 (ug/kg) Benzene	Toluene	Ethyl-benzene	Xylenes	1, 1, 1-Tri-chloroethane	4-methyl-2-pentanone	Carbon Disulfide	Chloroform	2-Butanone
T-WC1	S-1	0.25	8,700	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC1	S-1A	1.5	8	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC2	S-2	0.25	32,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC3	S-3	0.25	43,000	ND	9	ND	ND	ND	ND	230	ND	ND
T-WC3	S-3A	1.5	520	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC4	S-4	1.0	28,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC6	S-6	0.0	41,000	5	220	6	34	8	77	ND	10	80
T-WC6	S-6A	1.5	55	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC7	S-7	0.25	23,000	ND	95	ND	55	ND	ND	1500	ND	ND
T-WC7A	S-7A	0.25	29,000	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: ND = Not detected
NA = Not analyzed
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
Analytical results for methylene chloride and acetone detected in samples S-6 and S-7 are not reported as noted in the laboratory analytical data (Appendix B).

Tahlc 1. Summary of Laboratory Annlytical Results - Canyon 2 Area (continued)

Trench Number	Sample Ntlmbr	Depth {feet)	Total Petroleum Hydrocarbons (mg/kg) EPA 418.1	Purgeable Organics EPA 8240 (ug/kg) Benzene	Toluene	Elhyl-benzene	Xylenes	1,1,1-Tri-chloroethane	4-methyl-2-pentanone	Carbon Disulfid	Chlornform	2-Butanone
T-WC9	S-9	0.5	130	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC10	S-10	0.5	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WCll	S-llA	3.0	6.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WCll	S-llB	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T-WC13	S-13	0.5	110	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC14	S-14	0.25	12	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC15	S-15	0.5	110	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC16	S-16	0.5	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC17	S-17	0.5	7.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC18	S-18	0.5	98	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC19	S-19	0.5	58	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC20	S-20	0.5	430	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-WC21	S-21	0.5	13	NA	NA	NA	NA	NA	NA	NA	NA	NA
	NSB-1		520	ND	750	ND	ND	ND	ND	ND	ND	ND
	NSB-2		480	ND	1,300	ND	ND	ND	ND	ND	ND	ND
Detection Limit			5	5	5	5	5	5	10	5	5	10

Notes: ND = Not detected
NA = Not analyzed
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
Analytical results for methylene chloride and acetone de!ccted in samples S-6 and S-7 are not reported as no!ed in the laboratory analy1ical data (Appendix B).

Table 2. Estimated Volume of Debris - Canyon 1 Area

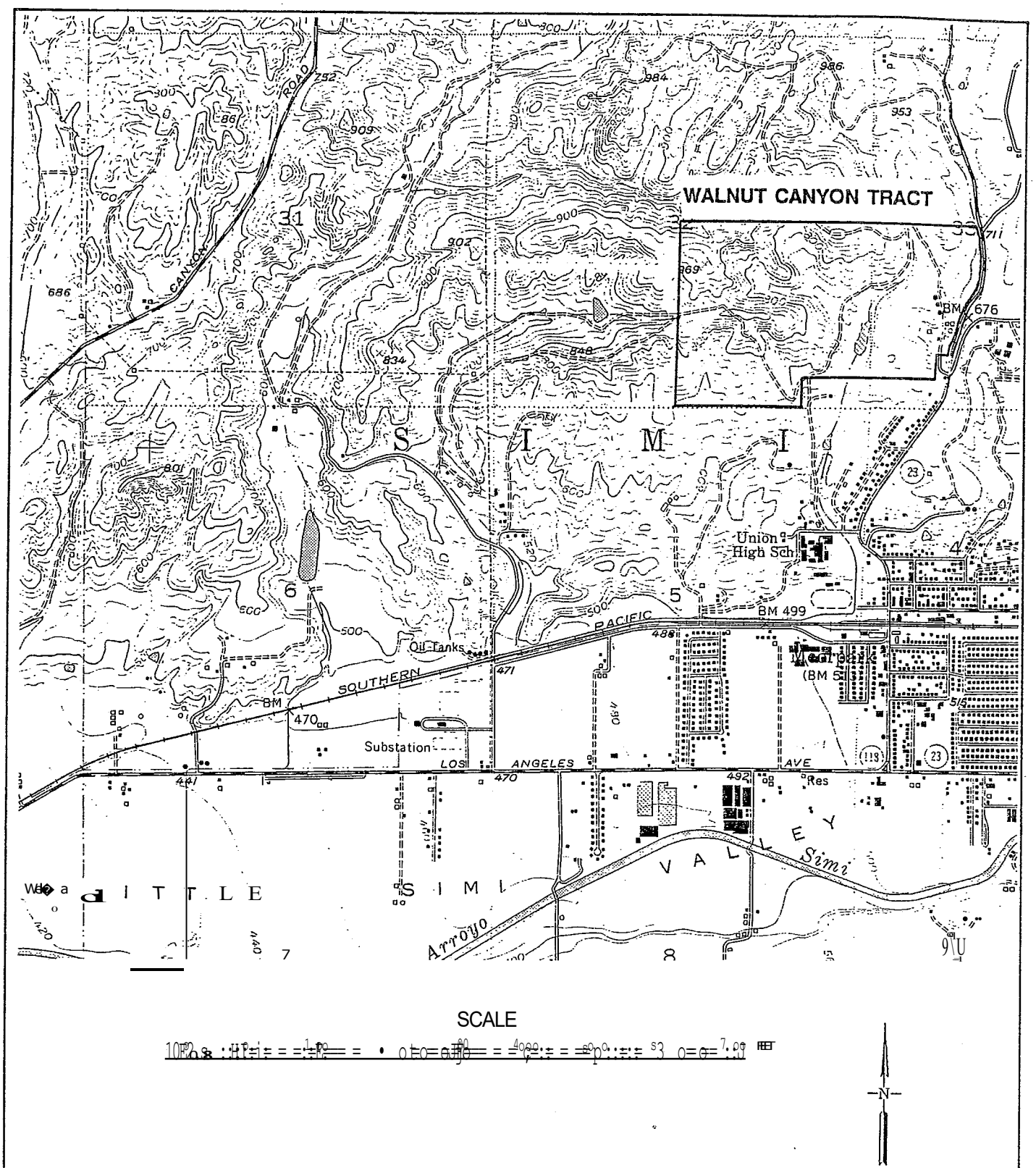
	Debris Type	Estimated Volume
1.	Landscaping Debris	500 - 800 cubic yards
2.	Aggregate Demolition Debris	100 - 200 cubic yards
3.	Tires	30 - 50 tires
4.	Miscellaneous Debris	600 - 1,000 cubic yards
	Total Volume:	1,200 - 2,000 cubic yards
		30 - 50 tires

Table 3. Inventory of On Site Materials Canyon 2 Area

	Quantity
Motor Oil Containers (plastic)	
- 5 gallons partially full	2
- 5 gallons full	1
- 5 gallons empty	4
- quart.	scattered
Freon Cans (metal)	
- 5 gallons full	1
- 5 gallons partially full	1
- 5 gallons empty	2
- quart	scattered
55 Gallon Drums (metal)	
- trace amounts	1
- empty	8
Miscellaneous Containers (empty)	
- 1 gallon	5
Gerry Can (empty) - 5 gallons	1
Auto Fuel Tank (empty) - 7 gallons	1
Tires	6
Motor Vehicles and Motorcycle	6
Engine Block	1
Miscellaneous Auto Parts	
Boat Hull Mold	1
Boat with Engine	1
Water Trough	1
Culvert Piping	
- 2 ft diameter/20 ft length	1
- 3 ft diameter/6 ft length	1

Table 3. Inventory of On-Site Materials - Canyon 2 Area (continued)

	Quantity
Farming or Grading Implements	7
2 Inch-Diameter Water Hose	10 - 15 ft
Metal Piping	scattered
Corrugated Siding	scattered
Mattress	1
Construction debris (25% landscaping, 75% lumber)	±100 cy
Concrete	±2 cy



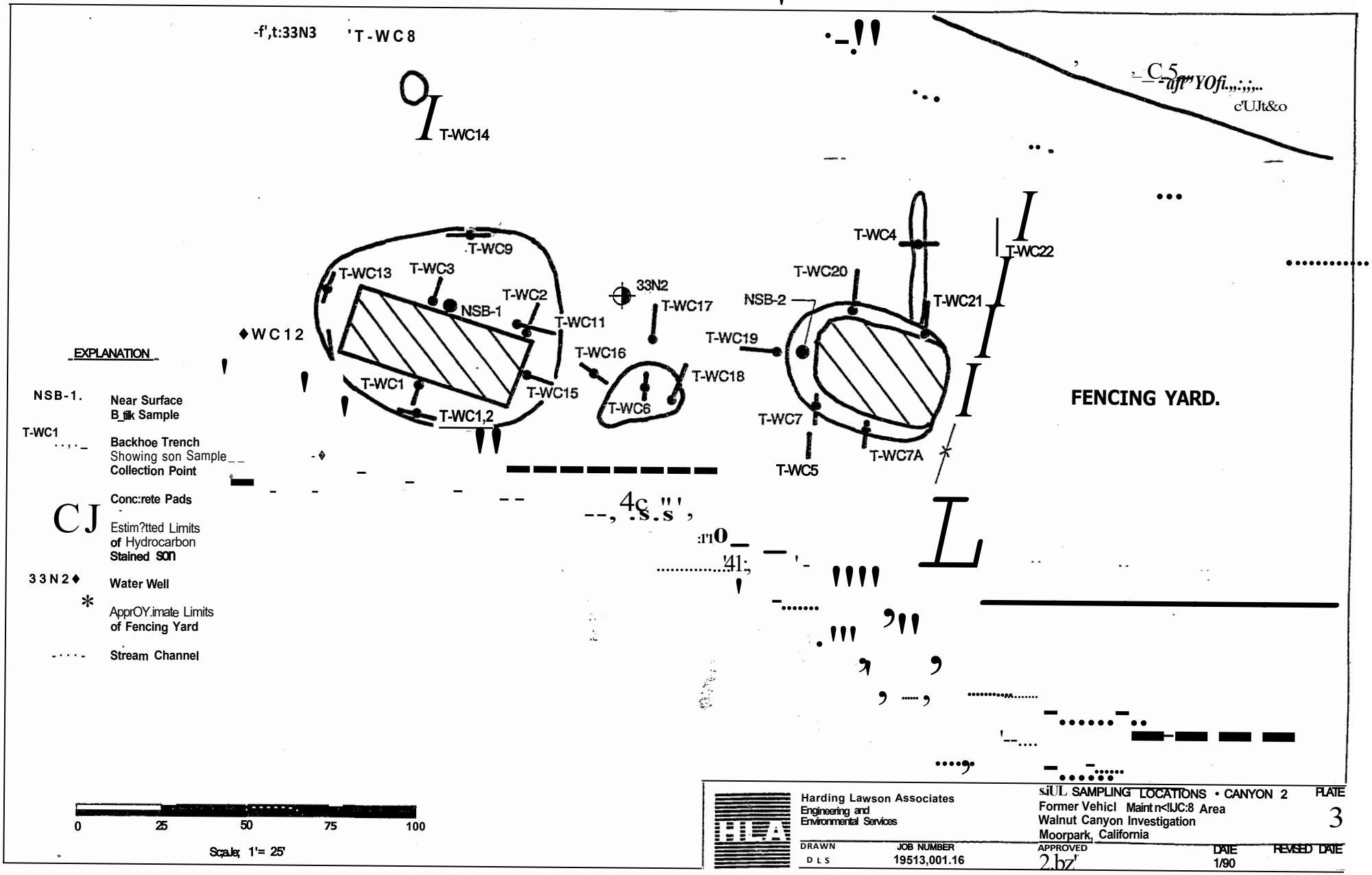
Reference: USGS 7.5-minute quadrangle, Moorpark, California (photorevised 1969)

Harding Lawson Associates
Engineering and
Environmental Services

VICINITY MAP
Walnut Canyon Investigation
Moorpark, California

PLATE
1

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
ds	19513,001.16	.::SC,5	11/89	


T-WC14
T-WC9
T-WC13
T-WC3
T-WC2
NSB-1
T-WC11
T-WC12
T-WC1
T-WC15
T-WC1,2
33N2
T-WC17
T-WC16
T-WC18
T-WC6
T-WC4
T-WC22
T-WC20
NSB-2
T-WC21
T-WC19
T-WC7
T-WC7A
T-WC5
FENCING YARD.
EXPLANATION
NSB-1. Near Surface Bulk Sample
T-WC1 Backhoe Trench Showing son Sample Collection Point
Conc:rete Pads
Estim?tted Limits of Hydrocarbon Stained SOn
33N2 Water Well
ApprOY.imate Limits of Fencing Yard
Stream Channel
0 25 50 75 100
Scale; 1'= 25'
Harding Lawson Associates
Engineering and Environmental Services
SOIL SAMPLING LOCATIONS • CANYON 2
Former Vehicl Maintn<!UC:8 Area
Walnut Canyon Investigation
Moorpark, California
PLATE 3
DRAWN DLS
JOB NUMBER 19513,001.16
APPROVED
DATE 1/90
REVISED DATE

APPENDIX A

GEOPHYSICAL SURVEY

APPENDIX A
GEOPHYSICAL SURVEY

GEOPHYSICAL METHODS

HLA used two geophysical methods during this investigation: Electromagnetics (EM), and magnetics.

The electromagnetic method involves transmitting a primary signal that is inductively coupled to the earth. Secondary signals are generated in the ground, and both the primary and secondary fields are detected by the EM receiver. The ratio of the two signal strengths yields information on soil conductivity and the presence of buried conductors. Metal pbjects, such as a steel well casing, are electrically conductive as compared to native soil and ',therefore produce anomalous readings in measured conductivity values.

A Geonic Model EM31-D terrain conductivity meter, which can inductively rheiasure subsurface conditions to a depth of approximately 20 feet, was used in this investigation. Two components of the EM signal can be measured: the quadrature component, which is sensitive to changes in soil conductivity, and the in-phase component, which is insensitive to changes in soil conductivity but is ver-; sensitive to the presence of buried metal.

The magnetic method uses a proton precession magnetometer to measure the total intensity of the earth's magnetic field in gammas. The magnetic sensor is a vessel filled with a proton-rich source such as kerosene or decane. Protons behave as small spinning magnets that orient themselves parallel to the earth's magnetic field. A reading is initiated when electrical current is passed through a wire coil around the vessel. Tne current generates its own magnetic field and the protons readily align themselves with the new field. The polarization is instantaneous, after which the applied field is removed, causing the protons to precess about the direction of

the magnetic field much like a spinning top precesses about the gravity field. This proton precession generates a small electrical signal in the sensor coil and the frequency of that signal is proportional to the earth's total magnetic field intensity.

The total magnetic field is simply the ambient field at each measurement location. The ambient field, in turn, is the net effect (vector sum) of several factors, which include: 1) the earth's magnetic field at the latitude of the survey work, and 2) the regional geology of the area (structure of subsurface rocks). It may also contain the effect of iron-bearing rocks (primarily magnetite), the presence of nearby ferrous metallic metal objects, and the periodic fluctuations in the earth's field, such as diurnal drift and magnetic storms caused by solar flares.

For the purposes of this survey, distortions in the magnetic field can be assumed to be caused by the presence of ferrous metal objects. Magnetic anomalies due to nearby concentrations of buried metal, such as a steel well casing, have a much larger amplitude and a narrower "width" than what we would expect from geologic variations. Our experience has shown that an isolated steel well casing buried at a depth of 10 feet can produce an anomaly of approximately 100 gammas over a width of about 50 feet. The magnetometer employed in this investigation is an EG & G Geometrics, Inc., Model G-856, with a sensitivity of 1 gamma.

FIELD PROCEDURES

After a walking reconnaissance of the area of investigation, the following work tasks were performed:

1. An extensive walkaround EM survey was performed over the area of investigation and on the hillside where the report place the well. Survey spacing was approximately 10 feet. Transects were oriented in both north-south and east-west directions. The survey was performed twice to observe the instrument response for both the conductivity and in-phase modes.

2. A magnetometer survey was conducted along a 350-foot baseline transect established down the centerline of an unpaved road passing through the site. Total magnetic field measurements were taken every 10 feet along this transect. Twenty additional readings were obtained along two 100-foot cross lines at either end of the baseline transect.

RESULTS

EM survey data indicate that the average conductivity of subsurface materials at the site is approximately 40 millimhos per meter (mmhos/m). This moderately high value is typical for silty and clayey soils.

Tne in-phase component of the EM signal was carefully monitored during the EM31-D survey to detect indications of buried metal. High-amplitude responses, indicative of buried metal, were observed along the central portion of the edge of the canyon. Isolated anomalous in-phase responses indicative of buried metal were observed in the flat level area north of the canyon. The locations of these anomalies were marked with red paint sprayed on the ground surface and on nearby vegetation.

The magnetometer survey was unable to locate concentrations of ferrous metal. Persistent high amplitude (100 gammas or more) variations in the total magnetic field measurements were observed in repeated readings taken at the same location. Likely causes were deemed to be instrument malfunction or fluctuations in the earth's magnetic field caused by solar flares. As either possibility would render a magnetometer survey meaningless, the magnetometer survey was abandoned. Later tests showed the magnetometer to be in good working order, and queries to staff at Geometrics, Inc., who maintain a magnetometer base station at their office in Sunnyvale, California, revealed that there were disturbans;es in the earth's magnetic field on October 21, 1989, the day our magnetic survey was attempted.

CONCLUSIONS

The magnetometer was not an effective tool for locating the abandoned well. A magnetic storm on Saturday October 21, 1989, the day the magnetic survey was attempted, produced large fluctuations in magnetic measurements that masked the effects of any nearby buried ferrous metal objects.

The EM survey was successful in locating several areas showing indications of buried and/or surface metal. It was not possible, however, to discriminate between these anomalous areas in order to identify the location of the abandoned well.

APPENDIX B

LABORATORY ANALYTICAL RESULTS

APPENDIX B-1

LABORATORY ANALYTICAL RESULTS - SOILS

ENSECO-CRL/Ventura
810 Bunsen Ave. Unit A • Ventura, CA 93003
(805) 650-0546 @ FAX: (805) 650-0756

RECEIVED
NOV 7 1989

Harding Lawson Associates
2804 Camino Dos Rios Ste# 207
Newbury Park, CA. 91320
FAX (805)498-2506

11/16/89

Attn: Steve Shestag
805/499/9199

Job #:19513,001.16
Fausset-Walnut Cyn./Moorpark

Sample#: 9291131401 Collector: Client
Received: 10/18/89 Sampling Date & Time: 10/17/89, 0853
Type: Soil Method: Grab

I.D.: S-1

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Totl.Recov.Petrol.Hydrocarbons	EPA 418.1	8700	m;jk.g	5

Sample#: 9291131402 Collector: Client
Received: 10/18/89 Sampling Date & Time: 10/17/89', P907
Type: Soil Method: Grab

I.D.: S-lA

Totl.Recov.Petrol.Hydrocarbons	EPA 418.1	8	m;jk.g	5

Sample#: 9291131403 Collector: Client
Received: 10/18/89 Sampling Date & Time: 10/17/89, 0902
Type: Soil Method: Grab

I.D.: S-2

Totl.Recov.Petrol.Hydrocarbons	EPA 418.1	32000	m;/kg	5

Sample#: 9291131404 Collector: Client
Received: 10/18/89 Sampling Date & Time: 10/17/89, 0906
Type: Soil Method: Grab

I.D.: S-3

Toti.Recov.Petrol.Hydrocarlxms	EPA 418.1	43000	m;/kg	5

[ND= None Detected; (G) = Grab{· MDL= Minimum Detection limit]
The Report Cover Letter is an Integralpar of this report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name tor advertising or publicity purposes without authorization is prohibited.

r----------= · Enseco

ENSECO-CRL/Ventura
:2810 Bunsen Ave. Unit A@ Ventura, CA 93003
(805) 650-0546 ct FAX: (805) 650-0756

====CONSTITUENT===	=MEIHOD==	==RFSUIJD=	==UNIT=	=MDL===
EPA :Method 624/8240			See Attached	

Sample#: 9291131405 Collector: Client
Received: 10/18/89 Sampling Date & Time: 10/17/89, 0910
Type: Soil Method: Grab

I. D.: S-3A

Toti. Recov. Petrol. Hydrocarbons	EPA 418 .1	520 mg/kg	5

Sample#: 9291131406 Collector: Client
Received: 10/18/89 Sampling Date & Time: 10/17/89, 1020
Type: Soil Method: Grab

I. D.: S-4

Totl.Recov.Petrol.Hydrocarbons	EPA 418.1	28000 mgjkg	5

Sample#: 9291131407 Collector: Client
Received: 10/18/89 Sampling Date & Time: 10/17/89, 0917
Type: Soil Method: Grab

I.D.: S-6

Totl.Recov.Petrol.Hydrocarbons	EPA 418.1	41000 mg/kg	5
EPA Methcxi 624/8240		See Attached	

Sample#: 9291131408 Collector: Client
Received: 10/18/89 Sampling Date & Time: 10/17/89, 0945
Type: Soil Method: Grab

I. D.: S-6A

Totl.Recov.Petrol.Hydrocarbons	EPA 418.1	55 mg/kg	5

[ND =h N one Detectecy (G), = Grab(· MD◊ = Minimum Detection LimitJ
T e Report Covar Leiter is an mtegra par of this report.

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ENSECO-CRL/Ventura
2810 Bunsen Ave. Unit A 18 Ventura, CA 93003
(805) 650-0546 s FAX: (805) 650-0756

Enseco

Sample#: 9291131409 Collector: Client
Received: 10/18/89 Sampling Date & Time: 10/17/89, 0918
Type: Soil Method: Grab

I.D.: S-7

====OJNSTI'IUENT=	=METHOD==	==RFSUIJr-=	==UNIT=	=MDL===
~~Totl.Recov.Petrol.Hydrocarbons~~	EPA 418.1	23000	ngjk.g	5
EPA Method 624/8240		See Attached		

Sample#: 9291131410 Collector: Client
Received: 10/18/89 Sampling Date &.Time: 10/17/89, 0952
Type: Soil Method: Grab

I.D.: S-7A

Totl.Recov.Petrol.Hydrocarbons	EPA 418.1	29000	:rrgjkg	5

Reviewed

Approved

[ND= None Detected; CG)= Grab; MDL= Minimum Detection Limit]
The Report Cover letter is an integral par! of this report.

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Enseco - CRL / South Coast
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 ° (800) LAB-1-CRL
FAX: (714) 891-5917

Enseco

November 13, 1989

ENSECO CRL VENTORA
2810 BUNSEN AVE., UNIT A
VENTURA, CA 93003
ATTN: MR. LEO RAAB

Analysis No.: G-8929312-001/003
Date Sampled: 17-0CT-1989
Date Sample Rec'd: 20-0CT-1989
Project: (92911314) HARDING IAWSON ASSOCIATES

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: G-8929312-001/003 shown above.

The samples were received by CRL in a chilled state, intact and with the chain of-custody record attached.

Please note that ND() means not detected at the detection limit expressed within the parentheses.

Solid samples are reported on "as received" basis.

Reviewed

Approved

The Report Cover Letter is an integral part of this report.
This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report oruse of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Enseco - CRL / South Coast
7440 Lincoln Way ▫ Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 891-5917

Laboratory Report

ENSECO CRL VENTURA
2810 BUNSEN AVENUE, UNIT A
VENTURA, CA 93003
ATTN: MR. LEO RAAB

Analysis No.: G-8929312-001
Date Sampled: 17-0CT-1989
Date Sample Rec'd: 20-0CT-1989
Date Analyzed: 31-0CT-1989
Sample Type: SOLID

Project: (92911314) HARDING LAWSON ASSOCIATES
Sample ID: (92911314-04) S-3

Purgeable Organics, EPA 8240

Units: ug/kg

Parameter	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Brornomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	ND	ND	5
Acetone	ND	ND	10
Carbon Disulfide	230.	ND	5
1,1-Dichloroethene	ND	ND	5
1,1-Dichloroethane	ND	ND	5
trans-1,2-Dichloroethene	ND	ND	5
Chloroform	ND	ND	5
1,2-Dichloroethane	ND	ND	5
2-Butanone	ND	ND	10
1,1,1-Trichloroethane	ND	ND	5
Carbon Tetrachloride	ND	ND	5
Vinyl Acetate	ND	ND	10
Bromodichloromethane	ND	ND	5
1,2-Dichloropropane	ND	ND	5
trans-1,3-Dichloropropene	ND	ND	5
Trichloroethene	ND	ND	5
Dibromochloromethane	ND	ND	5
1,1,2-Trichloroethane	ND	ND	5
Benzene	ND	ND	5
cis-1,3-Dichloropropene	ND	ND	5
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	5
4-Methyl-2-pentanone	ND	ND	10
2-Hexanone	ND	ND	10
Tetrachloroethene	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	5
Toluene	9.	ND	5
Chlorobenzene	ND	ND	5
Ethylbenzene	ND	ND	5
Styrene	ND	ND	5
Xylenes, Total	ND	ND	5

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Enseco - CRL / South Coast
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FA)C: (714) 891-5917

Laboratory Report

ENSECO CRL VENTURA
2810 BUNSEN AVENUE, UNIT A
VENTURA, CA 93003
ATTN: MR. LEO RAAB

Analysis No.: G-8929312-002
Date Sampled: 17-0CT-1989
Date Sample Rec'd: 20-0CT-1989
Date Analyzed: 2-NOV-1989
Sample Type: SOLID

Project: (92911314) HARDING LAWSON ASSOCIATES
Sample ID: (92911314-07) S-6

Purgeable Organics, EPA 8240

Units: ug/kg

Parameter	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	7.*	ND	5
Acetone	76.	ND	10
Carbon Disulfide	ND	ND	5
1,1-Dichloroethene	ND	ND	5
1,1-Dichloroethane	ND	ND	5
trans-1,2-Dichloroethene	ND	ND	5
Chloroform	10.	ND	5
1,2-Dichloroethane	ND	ND	5
2-Butanone	80.	ND	10
1,1,1-Trichloroethane	8.	ND	5
Carbon Tetrachloride	ND	ND	5
Vinyl Acetate	ND	ND	10
Bromodichloromethane	ND	ND	5
1,2-Dichloropropane	ND	ND	5
trans-1,3-Dichloropropene	ND	ND	5
Trichloroethene	ND	ND	5
Dibromochlorornethane	ND	ND	5
1,1,2-Trichloroethane	ND	ND	5
Benzene	5.	ND	5
cis-1,3-Dichloropropene	ND	ND	5
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	5
4-Methyl-2-pentanone	77.	ND	10
2-Hexanone	ND	ND	10
Tetrachloroethene	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	5
Toluene	220.	"ND	5
Chlorobenzene	ND	ND	5
Ethylbenzene	6.	ND	5
Styrene	ND	ND	5
Xylenes, Total	34.	ND	5

* The analytical results for Methylene Chloride should not be considered reliable unless the concentration in the sample exceeds five times the detection limit.

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FAX: (714) 891-5917

Laboratory Report

ENSECO CRL VENTURA
2810 BUNSEN AVENUE, UNIT A
VENTURA, CA 93003
ATTN: MR. LEO RAAB

Analysis No.: G-8929312-003
Date Sampled: 17-0CT-1989
Date Sample Rec'd: 20-0CT-1989
Date Analyzed: S-NOV-1989
Sample Type: SOLID

Project: (92911314) HARDING LAWSON ASSOCIATES
Sample ID: (92911314-09) S-7

Purgeable Organics, EPA 8240

Units: ug/kg

Parameter	Result	Blank	Detection Limit
Chloromethane	ND	ND	SO
Bromomethane	ND	ND	SO
Vinyl Chloride	ND	ND	SO
Chloroethane	ND	ND	50
Methylene Chloride	55.*	ND	20
Acetone	50.*	ND	50
Carbon Disulfide	1,500.	ND	20
1,1-Dichloroethene	ND	ND	20
1,1-Dichloroethane	ND	ND	20
trans-1,2-Dichloroethene	ND	ND	20
Chloroform	ND	ND	20
1,2-Dichloroethane	ND	ND	20
2-Butanone	ND	ND	SO
1,1,1-Trichloroethane	ND	ND	20
Carbon Tetrachloride	ND	ND	2
Vinyl Acetate	ND	ND	SO
Bromodichloromethane	ND	ND	20
1,2-Dichloropropane	ND	ND	20
trans-1,3-Dichloropropene	ND	ND	20S
Trichloroethene	ND	ND	20
Dibromochloromethane	ND	ND	20
1,1,2-Trichloroethane	ND	ND	20
Benzene	ND	ND	20
cis-1,3-Dichloropropene	ND	ND	20
2-Chloroethylvinyl ether	ND	ND	SO
Bromoform	ND	ND	20
4-Methyl-2-pentanone	ND	ND	50
2-Hexanone	ND	ND	SO
Tetrachloroethene	ND	ND	20
1,1,2,2-Tetrachloroethane	ND	ND	20
Toluene	95.	ND	20
Chlorobenzene	ND	ND	20
Ethylbenzene	ND	ND	20
Styrene	ND	ND	20
Xylenes, Total	55.	ND	20

* The analytical results for Methylene Chloride, and Acetone should not be considered reliable unless the concentration in the sample exceeds five times the detection limit

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FAX: (714) 891-5917

Laboratory Report

ENSECO CRL VENTURA
2810 BUNSEN AVENUE, UNIT A
VENTURA, CA 93003
ATTN: MR. LEO RAAB
Project: (92911314) HARDING LAWSON ASSOCIATES

Analysis No.: G-8929312-001/003
Date Sampled: 17-0CT-1989
Date Sample Rec'd: 20-0CT-1989
Sample Type: SOLID

QA/QC Summary

Date	Parameter (Method)	QC Type	Average Spike Recovery	Acceptable Range	Relative Percent Difference	Acceptable Range
7-NOV-1989	1,1-DICHLOROETHENE (EPA 8240)	L	104	54-134	11.	25
31-0CT-1989	1,1-DICHLOROETHENE (EPA 8240)	L	100	54-134	8.	25
5-NOV-1989	1,1-DICHLOROETHENE (EPA 8240)	L	97	54-134	6.	25
31-0CT-1989	TRICHLOROETHENE (EPA 8240)	L	99	67-124	6.	21
7-NOV-1989	TRICHLOROETHENE (EPA 8240)	L	116	67-124	12.	21
S-NOV-1989	TRICHLOROETHENE (EPA 8240)	L	101	67-124	2.	21
7-NOV-1989	BENZENE (EPA 8240)	L	111	62-126	7.	24
31-0CT-1989	BENZENE (EPA 8240)	L	106	62-126	4.	24
5-NOV-1989	BENZENE (EPA 8240)	L	102	62-126	0.	24
31-0CT-1989	TOLUENE (EPA 8240)	L	98	66-126	4.	22
7-NOV-1989	TOLUENE (EPA 8240)	L	109	66-126	10.	22
5-NOV-1989	TOLUENE (EPA 8240)	L	104	66-126	4.	22
7-NOV-1989	CHLOROBENZENE (EPA 8240)	L	114	67-124	8.	22
31-0CT-1989	CHLOROBENZENE (EPA 8240)	L	105	67-124	6.	22
5-NOV-1989	CHLOROBENZENE (EPA 8240)	L	108	67-124	4.	22

M = Matrix Spike
L = Laboratory Control Sample Spike

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2804 Camino Dos Rios, Suite 207
Newbury Park, California 91320
805/499-9199
Telecopy: 805/498-2506

LMAI u·f (,udT0u Y f-UfIM

Lab: C /2.L. - EN5 ECo

Samplers: Shes·h ..1 j:Sli;=1Tin j Medle'"

Job Number: Iqs--1 3, 001, I b

Name/Location: To1J5>d::-WgJn,d:C1., /'I<iopj.J:

Project Manager: -- h f\

Recorder: ;J/.14fL (Signature Required)

Matrix	#Containers & Preserv.	Sample Number or Lab Number (Yr Wk Seq)	Date (Yr Mo Dy Time)	Station Description/ Notes	Analysis Requested
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Lab Number (Yr Wk Seq)	Depth in Feet	Col Mtd .co	QA Code	Miscellaneous
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Chain of Custody Record

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RE LINOUISHED BY: (Sig,aturc)	RECEIVED BY: (Signature)	DATE/TIME
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DISPATCHED BY: (Signature) DATE/TIME	RECEI ED FOR LAB BY: (Signat re)	DATE/TIME
METHOD OF SHIPMENT.,g'..4-1(t) I'MIZ7ZY		

Laboratory Copy White — f'rojnct Office Copy Yellow — Fi&ld or Office Copy Pink

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Del Mar Analytical

18102 Sky Park South, Suite F • Irvine, CA 92714
(714) 261-1022 • FAX (714) 261-1228

Harding Lawson Associates
2804 Camino Dos Rios,. Suite 207
Newbury Park, CA 91320

Date Sampled: 12/20/89
Date Received: 12/27/89
Date Analyzed: 12/29/89
Date Reported: 01/04/90

Attention: Steve Shastag

Project: 19513,001.16, Walnut Canyon

Analysis: Total Recoverable Petroleum Hydrocarbons:
Soil Samples

Sample Descri:Otion	Sample Number	Detection Limits ppm	Sample Results ppm
S-9	9121039	5	130
S-10	9121040	5	100
S-llA@ 3'	9121041	5	6.4
S-llB @ 5'	9121042	5	N.D.
S-13	9121043	5	110
S-14	9121044	5	12

N.D. = None Detected above stated Detection Limit

This analysis was performed by extracting the sample with Freon 113 and using EPA method 418 .1 for hydrocarbon detection-" (IR absorbtion).

Del M-.:J!flytical

G:;r Steube
Laboratory Director

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Date Received: 12/27/89
Date Analyzed: 12/29/89
Date Reported: 01/04/90

Attention: Steve Shastag

Project: 19513,001.16, Walnut Canyon

Analysis: Total Recoverable Petroleum Hydrocarbons:
Soil Samples

Sample Descri12tion	Sample Number	Detection Limits ppm	Sample Results ppm
S-15	9121045	5	110
S-16	9121046	5	25
S-17	9121047	5	7.5
S-18	9121048	5	98
S-19	9121049	5	58
S-20	9121050	5	430
S-21	9121051	5	13

N.D. = None Detected above stated Detection Limit

This analysis was performed by extracting the sample with.Freon 113 and using EPA method 418.1 for hydrocarbon detection (IR absorbtion).

Dev .m=ytical,

Steube
Laboratory Director

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Newbury Park, CA 91320

Date Sampled: 12/20/89
Date Received: 12/27/89
Date Analyzed: 12/29/89
Date Reported: 01/04/90

Attention: Steve Shastag

Project: 19513,001.16, Walnut Canyon

Analysis: Total Petroleum Hydrocarbons : Soil Samples

Sample Description	Sample Number	Detection Limits ppm	Sample Results ppm
NSB-1	9121052	5	520
NSB-2	9121053	5	480

N.D. = None Detected above stated Detection Limit

This analysis was performed using EPA methods 3550 with 8015 for hydrocarbon detection. Method 8015 was modified to meet the specifications of the California LUFT Manual.

Del Ma tical

cl-Steube
: fatory Director

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Newbury Park, CA 91320

Date Sampled: 12/20/89
Date Received: 12/27/89
Date Analyzed: 01/03/90
Date Reported: 01/04/90

Attention: Steve Shastag

Project: 19513,001.16, Walnut Canyon

Sample Description: Soil Sample NSB-1

Sample Number: 9121052

Analysis	*EPA Method	STLC Limit mg/L	TTLC Limit mg/Kg	Detection Limits mg/Kg	Sample Result TTLC mg/Kg
Antimony	(7040)	15	500	5.0	N.D.
Arsenic	(7060)	5.0	500	1.0	N.D.
Barium	(7080)	100	10000	0.1	46
Beryllium	(7090)	0.75	75	0.1	N.D.
Cadmium	(7130)	1.0	100	0.05	0.44
Chromium	(7191)	560	2500	0.05	7.6
Chromium+6	(7197)	5	500	1.0	N.D.
Cobalt	(7200)	80	8000	1.0	2.7
Copper	(7210)	25	2500	0.1	9.2
Lead	(7420)	5.0	1000	1.0	17
Mercury	(7471)	0.2	20	0.01	N.D.
Molybdenum	(7480)	350	3500	1.0	N.D.
Nickel	(7520)	20	2000	0.5	6.0
Selenium	(7740)	1.0	100	1.0	N.D.
Silver	(7760)	5	500	1.0	2.5
Thallium	(7840)	7.0	700	5.0	N.D.
Vanadium	(7910)	24	2400	1.0	12
Zinc	(7950)	250	5000	0.1	60

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N.D. = None Detected

Steube
Laboratory Director

*SW-846 3rd Ed.

! u .! f !!!?Q
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Newbury Park, CA 91320

Date Sampled: 12/20/89
Date Received: 12/27/89
Date Analyzed: 01/03/90
Date Reported: 01/04/90

Attention: Steve Shastag

Project: 19513,001.16, Walnut Canyon

Sample Description: Soil Sample NSB-2
Sample Number: 9121053

Analxsis	*EPA Method	STLC Limit mg/L	TTLG Limit mg/Kg	Detection Limits mg/Kg	Sample Result TTLC mg/Kg
Antimony	(7040)	15	500	5.0	N.D.
Arsenic	(7060)	5.0	500	1.0	4.1
Barium	(7080)	100	10000	0.1	150
Beryllium	(7090)	0.75	75	0.1	N.D.
Cadmium	(7130)	1.0	100	0.05	1. 2
Chromium	(7191)	560	2500	0.05	10
Chromium^{+6}	(7197)	5	500	1.0	N.D.
Cobalt	(7200)	80	8000	1.0	3.3
Copper	(7210)	25	2500	0.1	13
Lead	(7420)	5.0	1000	1.0	32
Mercury	(7471)	0.2	20	0.01	N.D.
Molybdenum	(7480)	350	3500	1.0	N.D.
Nickel	(7520)	20	2000	0.5	9.2
Selenium	(7740)	1.0	100	1.0	N.D.
Silver	(7760)	5	500	1.0	N.D.
Thallium	(7840)	7.0	700	5.0	N.D.
Vanadium	(7910)	24	2400	1.0 ..	17
Zinc	(7950)	250	5000	0.1	130

Del Mar Analytical

N.D. = None Detected

sf.P.:-
Laboratory Director

*SW-846 3rd Ed.

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Newbury Park, CA 91320

Date Sampled: 12/20/89
Date Received: 12/27/89
Date Analyzed: 01/03/90
Date Reported: 01/04/90

Attention: Steve Shastag

Project: 19513,001.16, Walnut Canyon

Sample Description	Sample Number
Soil Sample S-11B@ 5	9121042

Volatile Organics by **Mass** Spectrometry

	Detection Limit ug/Kg	Sample Results ug/Kg
Tetrachloroethene	50	N.D.
1,1,1-Trichloroethane	50	N.D.
Trichloroethene	50	N.D.
1,1-Dichloroethane	50	N.D.
1,2-Dichloroethane	50	N.D.
1,1-Dichloroethene	50	N.D.
trans-1,2 Dichloroethene	50	N.D.
Methylene Chloride	50	N.D.
Chloroform	50	N.D.
Bromodichloromethane	50	N.D.
Dibromochloromethane	50	N.D.
Bromoform	50	N.D.
Bromomethane	50	N.D.
Chloromethane	50	N.D.
Chloroethane	50	N.D.
Vinyl Chloride	50	N.D.
1,2-Dichloropropane	50	N.D.
1,3-Dichloropropenes	50	N.D.
Carbon Tetrachloride	50	N.D.
Trichlorofluoromethane	250	N.D.
1,1,2-Trichloroethane	50	N.D.
1,1,2,2-Tetrachloroethane	50	N.D.
2-Chloroethylvinyl ether	50	N.D.

N.D. = None Detected above stated Detection Limit

Del Mar Analytical — Method of Analysis: EPA 8240

';1steube
Laboratory Director

Del Mar Analytical
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Newbury Park, CA 91320

Date Sampled: 12/20/89
Date Received: 12/27/89
Date Analyzed: 01/03/90
Date Reported: 01/04/90

Attention: Steve Shastag

Project: 19513,001.16, Walnut Canyon

Sample Description	Sample Number
Soil Sample S-11B@ 5	9121042

Volatile Organics by Mass Spectrometry

	Detection Limit ug/Kg	Sample Results ug/Kg
Benzene	50	N.D.
Toluene	50	N.D.
Ethylbenzene	50	N.D.
Chlorobenzene	50	N.D.
Xylenes (sum of 3 isomers)	50	N.D.
Acetone	250	N.D.
2-Butanone	250	N.D
Carbon Disulfide	100	N.D.
Vinyl Acetate	100	N.D.
4-Methyl-2-pentanone	100	N.D.
2-Hexanone	100	N.D ..
Styrene	100	N.D.

N.D. = None Detected above stated Detection Limit

Surrogate Recovery:

1,2-Dichloroethane-d4	80 %
Toluene-dB	102 %
4-Bromofluorobenzene	107 %

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Method of Analysis: EPA 8240

;:, Steube
Laboratory Director

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Newbury Park, CA 91320

Date Sampled: 12/20/89
Date Received: 12/27/89
Date Analyzed: 01/03/90
Date Reported: 01/04/90

Attention: Steve Shastag

Project: 19513,001.16, Walnut Canyon

Sample Description	Sample Number
Soil Sample NSB-1	9121052

Volatile Organics by Mass Spectrometry

	Detection Limit ug/Kg	Sample Results ug/Kg
Tetrachloroethene	50	N.D.
1,1,1-Trichloroethane	50	N.D.
Trichloroethene	50	N.D.
1,1-Dichloroethane	50	N.D.
1,2-Dichloroethane	50	N.D.
1,1-Dichloroethene	50	N.D.
trans-1,2 Dichloroethene	50	N.D.
Methylene Chloride	50	N.D.
Chloroform	50	N.D.
Bromodichloromethane	50	N.D.
Dibromochloromethane	50	N.D.
Bromoform	50	N.D.
Bromomethane	50	N.D.
Chloromethane	50	N.D.
Chloroethane	50	N.D.
Vinyl Chloride	50	N.D.
1,2-Dichloropropane	50	N.D.
1,3-Dichloropropenes	50	N.D.
Carbon Tetrachloride	50	N.D.
Trichlorofluoromethane	250	N.D.
1,1,2-Trichloroethane	50	N.D.
1,1,2,2-Tetrachloroethane	50	N.D.
2-Chloroethylvinyl ether	50	N.D.

N.D. = None Detected above stated Detection Limit

Del Mar Analytical

Method of Analysis: EPA 8240

Laboratory Director

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Newbury Park, CA 91320

Date Sampled: 12/20/89
Date Received: 12/27/89
Date Analyzed: 01/03/90
Date Reported: 01/04/90

Attention: Steve Shastag

Project: 19513,001.16, Walnut Canyon

Sample Description	Sample Number
Soil Sample NSB-1	9121052

Volatile Organics by Mass Spectrometry

	Detection Limit ug/Kg	Sample Results ug/Kg
Benzene	50	N.D.
Toluene	50	750
Ethylbenzene	50	N.D.
Chlorobenzene	50	N.D.
Xylenes (sum of 3 isomers)	50	N.D.
Acetone	250	N.D.
2-Butanone	250	N.D
Carbon Disulfide	100	N.D.
Vinyl Acetate	100	N.D.
4-Methyl-2-pentanone	100	N.D.
2-Hexanone	100	N.D.
Styrene	100	N.D.

N.D. = None Detected above stated Detection Limit

Surrogate Recovery:

1,2-Dichloroethane-d4	80 %
Toluene-dB	102 %
4-Bromofluorobenzene	106 %

DelME-lytical

Method of Analysis: EPA 8240

Steube
Laboratory Director

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Harding Lawson Associates
2804 Camino Dos Rios,. Suite 207
Newbury Park, CA 91320

Date Sampled: 12/20/89
Date Received: 12/27/89
Date Analyzed: 01/03/90
Date Reported: 01/04/90

Attention: Steve Shastag

Project: 19513,001.16, Walnut Canyon

Sample Description	Sample Number
Soil Sample NSB-2	9121053

Volatile Organics by Mass Spectrometry

	Detection Limit ug/Kg	Sample Results ug/Kg
Tetrachloroethene	50	N.D.
1,1,1-Trichloroethane	50	N.D.
Trichloroethene	50	N.D.
1,1-Dichloroethane	50	N.D.
1,2-Dichloroethane	50	N.D.
1,1-Dichloroethene	50	N.D.
trans-1,2 Dichloroethene	50	N.D.
Methylene Chloride	50	N.D.
Chloroform	50	N.D.
Bromodichloromethane	50	N.D.
Dibromochloromethane	50	N.D.
Bromoform	50	N.D.
Bromomethane	50	N.D.
Chloromethane	50	N.D.
Chloroethane	50	N.D.
Vinyl Chloride	50	N.D.
1,2-Dichloropropane	50	N.D.
1,3-Dichloropropenes	50	N.D.
Carbon Tetrachloride	50	N.D.
Trichlorofluoromethane	250	N.D.
1,1,2-Trichloroethane	50	N.D.
1,1,2,2-Tetrachloroethane	50	N.D.
2-Chloroethylvinyl ether	50	N.D.

N.D. = None Detected above stated Detection Limit

Del
ytical
Steube
Laboratory Director

Method of Analysis: EPA 8240

Del Mar Analytical
18102 Sky Park South, Suite F • Irvine, CA 92714
(714) 261-1022 • FAX (714) 261-1228

Harding Lawson Associates
2804 Camino Dos Rios,. Suite 207
Newbury Park, CA 91320

Date Sampled: 12/20/89
Date Received: 12/27/89
Date Analyzed: 01/03/90
Date Reported: 01/04/90

Attention: Steve Shastag

Project: 19513,001.16, Walnut Canyon

Sample Description	Sample Number
Soil Sample NSB-2	9121053

Volatile Organics by Mass Spectrometry

	Detection Limit ug/Kg	Sample Results ug/Kg
Benzene	50	N.D.
Toluene	50	1300
Ethylbenzene	50	N.D.
Chlorobenzene	50	N.D.
Xylenes (sum of 3 isomers)	50	N.D.
Acetone	250	N.D.
2-Butanone	250	N.D
Carbon Disulfide	100	N.D.
Vinyl Acetate	100	N.D.
4-Methyl-2-pentanone	100	N.D.
2-Hexanone	100	N.D.
Styrene	100	N.D.

N.D. = None Detected above stated Detection Limit

Surrogate Recovery:

1,2-Dichloroethane-d4	80 %
Toluene-dB	104 %
4-Bromofluorobenzene	106 %

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Steube
Laboratory Director

Method of Analysis: EPA 8240

Del Mar Analytical
18102 Sky Park South, Suite F • Irvine, CA 92714
(714) 261-1022 • FAX (714) 261-1228

QC DATA REPORT

ANALYSIS: EPA Method 624

DATE OF ANALYSIS: 12/29/89

SAMPLE NUMBER: "9120512

Analyte	Rl	Sp	MS	MSD	PRl	PR2	RPD	MEAN PR
	ppb	ppb	ppb	ppb	%	%	%	%
1, 1-Dichloroethene	0	SO	55	55	110	110	0.0	110.0
Trichloroethene	0	SO	50	49	100	98	2.0	99.0
Chlorobenzene	0	50	50	49	100	98	2.0	99.0
Benzene	0	50	43	42	86	84	2.4	85.0
Toluene	0	SO	51	50	102	100	2. 0	101.0

Definition of Terms:

Rl ..... . Result of Sample Analysis

Sp ..... . Spike Concentration Added to Sample

MS ..... . Matrix Spike Result

MSD ..... . Matrix Spike Duplicate Result

PRl. ..... . Percent Recovery of MS; (MS-Rl) / S P X 100

PR2 ..... . Percent Recovery of MSD; (MSD-Rl) / S P X 100

RPD ..... . Relative Percent Difference; ((MS-MSD)/(MS+MSD)/2)) x 100

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Laboratory Director

Jeanine Salustri
Quality Assurance Officer

Del Mar Analytical
18102 Sky Park South, Suite F • Irvine, CA 92714
(714) 261-1022 • FAX (714) 261-1228

QC DATk REP_ditf-

ALYS J;S a. EPA Metho<;i 8015 by Extractions, Soils

- XtE..o<" srs- -01jo2/QO.

SAMPLE _NUMBER: 9121162

Analyte	Rl	SP	MS	MSb	PRl	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	
Hydrocarbons.		100	110	130	110.0	130.0	16.7	120.0

Definition of Terms:

Rl	Result of Sample Analysis
SP	Spike Concentration added to Sample
MS	Matrix Spike Result
MSD	Matrix Spike Duplicate Result
PRl	Percent Recovery of MS; (MS-Rl) / SP x 100
PR2	Percent Recovery of MSD; (MSD-Rl) / SP x 100
RPD	Relative Percent Difference; ((MS-MSD/(MS+MSD)/2)) x 100

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Laboratory Director

Jeanine Salustri
Quality Assurance Officer

Del Mar Analytical
18102 Sky Park South, Suite F • Irvine, CA 92714
(714) 261-1022 • FAX (714) 261-1228

QC DATA RE S)RT

ANALYSIS: EPA Meth d- - 418.1 Soil

DATE OF-ANALYSIS .12/2- (89

SAMPLE- 912108_1;

Analyte	Rl	SP	MS	MSD	PRl	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Hydrocarbons	.,50	.200	280:	260	115.0	105.0	7.4	1:).0.0

Definition of Terms:

Rl .... Result of Sample Analysis

SP ..... Spike Concentration added to Sample

MS ..... Matrix Spike Result

MSD ..... Matrix Spike Duplicate Result

PRl ..... Percent Recovery of MS; (MS-Rl) / SP x 100

PR2 ..... Percent Recovery of MSD; (MSD-Rl) / SP x 100

RPD ..... Relative Percent Difference; ((MS-MSD/(MS+MSD)/2)) x 100

Del M cal

drsteube
Laboratory Director

Jeanine Salustri
Quality Assurance Officer

Del Mar Analytical
18102 Sky Park South, Suite F • Irvine, CA 92714
(714) 261-1022 • FAX (714) 261-1228

QC DATA REPORT

ANALYSIS: }):eta.ls Analyses SoiI -Sc!!!!Ples-'-

DATE--◊- '.A:N SI-S : 91/03/90

.SAMPLE NUMBER: 9120976

Analy -e- -1; 2./ R.sp MS MSD P-R 1 R2 t.nup MEANP R

	ppb	ppb	pb	ppb	%	%	%	%
Antimony	54	1000	1039	1022	98.5	96.8	1.6	97.7
Arsenfo	65	1000	1060	1011	99;5	94 6	4.7	97.1
Barium	939	1000	.1937	1920	99.8	98.1	0.9	99.0
Beryllium		1000	1016	1007	101.3	100 4	0.9	100.9
Cadmium		1000	1049	106-L	1-0:36	104.8	L 1	104.2
cbroini /i		Zjlo.on	1466	14i1	iocf"3	tli'.1;i; 4	fg 7	1:oo 9
Cobalt	107	1000	1064	.1064	95.T	95 i"	0.0	95.7
Copper	309	1000	1282	1265	97.3	95.6	1.3	96.5
Lead	13	1000	1012	1005	99.9	99.2	0.7	99.6
Molybdenum	19	1000	1093	1073	107.4	105.4	1.8	106.4
Nickel	374	1000	1318	1369	94.4	99.5	3.8	97.0
Selenium	59	1000	1080	1067	102.1	100.8	1.2	101.5
Silver	37	1000	1013	1014	97.6	97.7	0.1	97.7
Thallium	32	1000	934	977	90.2	94.5	4.5	92.4
Vanadium	463	1000	1454	1461	99.1	99.8	0.5	99.5
Zinc	823	1000	1729	1684	90.6	86.1	2.6	88.4

Definition of Terms:

Rl ..... Result of Sample Anaiysis

SP..... Spike Concentration added to Sample

MS ..... Matrix Spike Result

MSD ..... Matrix Spike Duplicate Result

PRl ..... Percent Recovery of MS; (MS-Rl) / SP x 100

FR2 ..... Percent Recovery of MSD; (MSD-Rl) / SP x 100

RPD ..... Relative Percent' Difference; ((MS-MSD/(MS+MSD)/2)) x 100

Del Mar Analytical

Gary Steube
Laboratory Director

Jeanine Salustri
Quality Assurance Officer

:ling I n ii.st es
2804 Camino Dos Rios, Suite 207
Newbury Park, California 91320
805/499-9199
Telecopy: 805/498-2506

CnnIN v-,- CuoTGu ; FvnM

lab;_.M [P'La1 //hiL{lf/r/r-·\

Samplers: _◆_

Job Number: _ljSt', (UOl lf,..

Name/location:_\fV◆ _◆ITT

Project Manager: SL SP-w4l:iw/

Recorder: tJ/ofl (Sfe R quired) (;,kkb

ANALYSIS REQUESTI;D

MATRIX	#CONTAINERS & PRESE_RV.	SAMPLE NUMBER OR LAB 'NUMBER	DATE	STATION DESCRIPTION/ NOTES
W G a:w So Cl) ( ) Soil Sediment Oil Other	Cl) Cl) Cl)

[illegible] La Ass[illegible] 1
so11 Camino Obs Hios, Su1fe 207
Newbury Park, California 91320
805/499-9199
Telecopy: 805/498-2506.

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lab; W\ {Via_r f\ vt t b_ r.

Samplers: /vV& k?ltt1b&-

Job Number: i15 1\ 001 ((

Name/Location: Wkd ◆#1,

Project Manager: 51PA' a

Recorder.. B
(Signature Required)

ANALYSIS REQUESTED

MATRIX	#CONTAINERS & PRESEIW.	SAMPIE NUMBER OR LAB NUMBER	DATE	STATION DESCRIPTION/ NOTES
		Yr Wk Seq	Yr Mo Dy Time	
4 1	X	S- 1o	0 9 2.5	@ 'Th.+
		5- I/n	0 q /	@ e'nl (C-1/- P,)
		C - I	r q) c	
		f S - I /	q q S	
		S I	1 t a	
		5- I	1 0	
		5- IS	1 o n	
		C = 16	1 1 2 0	
		S - I	1 1 2.	

LAB NUMBER Yr	Wk	Seq	DEPTH IN ·FEET-	COL MTD 'CD.	QA CODE	MISCELLANEOUS

· CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signa(uref	RECEIVED BY: (Signature)	DATE/TIME
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RELINQUISHED BY:JSfgnatu(e)	I/AECEIVED BY: (Signature)	DATE/TIME
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RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
·ZA TCHi!:x (Signature) D,1,/TIME 11Z '11	RECEIVED (Signaturr, J	DATE/TIME 12/2717•J(J
METHOD Of s_11ENT -1 T		

Laboratory Copy White | Project Office Copy Yellow | Fi&ld or Oftice Copy Pink

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APPENDIX B-2

LABORATORY ANALYTICAL RESULTS - POTENTIAL ASBESTOS CONTAINING MATERIAL

Applied Petrography, Inc

November 3, 1989

Harding Lawson Associates
2804 Camino Dos Rios, Suite 207
Newberry Park, CA. 91320

Dear Janis Medler:

As per your phone conversation with James Haskins in reference to Job #19513001.16 on 11/2/89 the sample numbers have been, changed as follows;

9291124201-07	has been	changed to	9291124201-07	(AS871)
9291124202-07	has been	changed to	9291124202-07	(ASB-2)
9291124203-07	has been	changed to	9291124203-07	(ASB-3)
9291124204-07	has been	changed to	9291124204-07	(ASB-4)

We apologize for any inconvience this may have caused you.

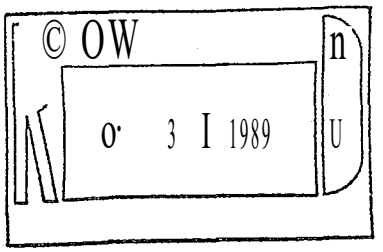
Sincerely Yours,



Tom Hibner
Laboratory Analyst

Enseco

ENSECO-CRL/Ventura
2810 Bunsen Ave. Unit A • Ventura, CA 93003
(805) 650-0546 o FAX: (805) 650-0756



Harding Lawson Associates
2804 Camino Dos Rios Ste# 207
Newbury Park, CA. 91320
FAX (805)498-2506

10/28/89

Attn: Evelyn Rudek
805/499/9199

*Job #:19513,001.16
*Fausset-Walnut Cyn./Moorpark

Sample #: 92911242
Received: 10/18/89
Type: Solid

Collector: Client
Method: Grab

Asbestos

#	Sampling Date	Time	ID Sample	Result	Unit
01	10/11/89	****	ASB-1	See Attached	
02	10/11/89	****	ASB-2	See Attached	
03	10/17/89	****	ASB-3	See Attached	
04	10/17/89	****	ASB-4	See Attached	

Reviewed

L/ (pproved

[ND=None Detected;(G)=Grab;MDL=Minimun Detection LimitJ

Tha Rennrt r.nver I eller is an inlenral n rt nf thi rnnnrl.

Applied Petrography, IncQ

8520-E Sorensen Ave• Santa Fe Springs, CA 90670 • (213) 945-3468

Enseco / CRL
2810 Bunsen Avenue, Unit A
Ventura, CA 93003

Attention: Leo Raab

Subject: Asbestos Bulk Sample Analysis

Purchase Order Number: E-7155

Laboratory Number: 910122

Date: 10/24/89

4 samples of suspected asbestos-containing material from Job#HARDING LAWSON ASSOC were submitted to the laboratory for analysis. The analyses were performed using the polarized-light microscopy method described in 40 CFR, Chapter 1, part 763, subpart F, Appendix A. The laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NV P #1730) for the analysis of fri<;:tble bulk asbestos samples. The results of the analyses are enclosed.

We appreciate the opportunity to perform analytical work for you. If you have any questions, please call.

Respectfully submitted,
APPLIED PETROGRAPHY, INC.

Marian Wrage

Marian Wrage
Laboratory Director

APPLIED PETROGRAPHY, INGi

Asbestos Bulk Sample Analysis

LABORATORY REPORT NO. 910122

SITE: Harding Lawson Associates
Job #19513001.16
Fausset-Walnut Cyn./Moorpark,

DATE RECEIVED: 10/20/89

SAMPLE NUMBER: 9291124201-07

DATE EXAMINED: 10/23/89

LOCATION:

DESCRIPTION: Green tile with white fibers

MICROSCOPIC ANALYSIS

Asbestos Content

Type	Percent
CHRYSOTILE	0
AMOSITE	0
CROCIDOLITE	0

TOTAL ASBESTOS PRESENT: None Detected

Non-Asbestos Fiber Content
and Percent
Fibe glass - 80

Non-Fibrous Materials Present

Granular Minerals

Analyst: A. Timmons /JJ

Analysis by Polarized Light Microscopy with Dispersion Staining in accordance with the EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples (40 CFR 763, Appendix A). The laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP) for the analysis of friable bulk asbestos samples. The limit of detection for this method is approximately one percent asbestos. Quantitation by visual estimate of area percentage.

APPLIED PETROGRAPHY. INC.

Asbestos Bulk Sample **Analysis**

LABORATORY REPORT NO. 910122

SITE: Harding Lawson Associates
Job #19513001.16
Fausset-Walnut Cyn./Moorpark,

DATE RECEIVED: i 0/20/89

SAMPLE NUMBER: 9291124202-07

DATE EXAMINED: 10/23/89

LOCATION:

DESCRIPTION: White, lumpy

MICROSCOPIC ANALYSIS

Asbestos Content

Type	Percent
CHRYSOTILE	**0**
AMOSITE	**0**
CROCIDOLITE	**0**

TOTAL ASBESTOS PRESENT: None Detected

Non-Asbestos Fiber Content and Percent

Fiberglass - 15

Non-Fibrous Materials Present

Granular Minerals

Analyst: A. Timmons &v

Analysis by Polarized Light Microscopy with Dispersion Staining in accordance with the EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples (40 CFR 763, Appendix A). The laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP) for the analysis of friable bulk asbestos samples. The limit of detection for this method is approximately one percent asbestos. Quantit'ation by visual estimate of area percentage.

APPLIED PETROGRAPHY. INC.

Asbestos Bulk Sample Analysis

LABORATORY REPORT NO. 910122

SITE: Harding Lawson Associates
Job #19513001.16
Fausset-Walnut Cyn./Moorpark,

DATE RECEIVED: i 0/20/89

SAMPLE NUMBER: 9291124203-07

DATE EXAMINED: 10/23/89

LOCATION:

DESCRIPTION: White, lumpy with red & white fibers

MICROSCOPIC ANALYSIS

Asbestos Content

Type	Percent
CHRYSOTILE	**0**
AMOSITE	**0**
CROCIDOLITE	**0**
TOTAL ASBESTOS PRESENT:	**None Detected**

Non-Asbestos Fiber Content and Percent

Fiberglass, Glass Wool - 50

Non-Fibrous Materials Present

Granular Minerals, Resin

AnaJyst: A. Timmons *J,(J:*

Analysis by Polarized Light Microscopy with Dispersion Staining in accordance with the EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples (40 CFR 763, Appendix A). The laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP) for the analysis of friable bulk asbestos samples. The limit of detection for this method is approximately one percent asbestos. Quantitation by visual estimate of area percentage.

APPLIED PETROGRAPHY, INC.

Asbestos Bulk Sample Analysis

LABORATORY REPORT NO. 910122

SITE: Harding Lawson Associates
Job #19513001.16
Fausset-Walnut Cyn./Moorpark,

DATE RECEIVED: 10/20/89

SAMPLE NUMBER: 9291124204-07

DATE EXAMINED: 10/23/89

LOCATION:

DESCRIPTION: Black, lumpy

MICROSCOPIC ANALYSIS

Asbestos Content

Type	Percent
CHRYSOTILE	0
AMOSITE	0
CROCIDOLITE	0

TOTAL ASBESTOS PRESENT: None Detected

Non-Asbestos Fiber Content and Percent

Cellulose, Synthetic 45

Non-Fibrous Materials Present

Granular Minerals, Asphalt

Analyst: A. Timmons

Analysis by Polarized Light Microscopy with Dispersion Staining in accordance with the EPA Interim Method of ibg Determination of Asbestos in Bulk Insulation Samples (40 CFR 763, Appendix A). The laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP) for the analysis of friable bulk asbestos samples. The limit of detection for this method is approximately one percent asbestos. Quantitation by visual estimate of area percentage.

Applied Petrography, Inc

8520-E Sorensen Ave• Santa Fe Springs, CA 90670 • (213) 945-3468

Harding Lawson Associates
15621 Redhill Avenue
Tustin, CA 92680

Attention: Janis Medler

Subject: Asbestos Bulk Sample Analysis

Purchase Order Number: 19513,001.16

Laboratory Number: 911017

Date: 11/6/89

1 sample of suspected asbestos-containing material from Job#19513,001 .16. Was submitted to the laboratory for analysis. The analysis was performed using the polarized-light microscopy method described in 40 CFR, Chapter 1, part 763, subpart F, Appendix A. The laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP #1730) for the analysis of friable bulk aspestos samples. The result of the analysis is enclosed.

We appreciate the opportunity to perform analytical work for you. If you have any questions, please call.

Respectful1y submitted,
APPLIED PETROGRAPHY, INC.

Arlene Timmons

Arlene Timmons
Registered Analyst

APPLIED PETROGRAPHY, INC.

Asbestos Bulk Sample Analysis

LABORATORY REPORT NO. 911017

SITE: Job # 19513,001.16
Fausset•Walnut Cyn.

DATE RECEIVED: 11/3/89

SAMPLE NUMBER: Ass.ol S:-

DATE EXAMINED: 11/4/89

LOCATION:

DESCRIPTION: Gray, cementitious

MICROSCOPIC ANALYSIS

Asbestos Content

Type	Percent
CHRYSOTILE	20
AMOSITE	0
CROCIDOLITE	25
TOTAL ASBESTOS PRESENT:	45%

Non-Asbestos Fiber Content and Percent

None - 0

Non-Fibrous Materials Present

Granular Minerals

Analyst: A. Timmons

Analysis by Polarized Light Microscopy with Dispersion Staining in accordance with the EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples (40 CFR 763, Appendix A). The laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP) for the analysis of friable bulk asbestos samples. The limit of detection for this method is approximately one percent asbestos. Quantitation by visual estimate of area percentage.

15621 Redhill Avenue, Suite 100
Tustin, California 92680
714/259-7992
Telecopy:714/259-1378

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Lab: / r) pl i ...r{ p(° tv::oc)((r. {I:\

Samplers: ...)L, / , Jh\'(Y\

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>ject Manager: "--5\c\JE? / 0hf5h. I1

Recorder: (<L_-\\...> C:c\ e. ..L

(Signature Required)

ANALYSIS REQUESTED

MATRIX	#CONTAINERS & PRESERV.	SAMPLE NUMBER OR LAB NUMBER (Yr / Wk / Seq)	DATE (Yr / Mo / Dy / Time)	STATION DESCRIPTION/ NOTES	ANALYSIS REQUESTED
X	X		1 1 0	tl-S:t3-)'9-"' Os-.	X

LAB NUMBER (Wk / Seq)	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS

CHAIN OF CU_STODY RECORD

RE/qNO◇ ISHED BY: (Signature)	RECI:;}V◇D BY: (Signatur)	DATE/TIME
RELINQUISHED BY: (Signature)	RECE,IVED BY: (Signature)	DATE/TIME
I:IELINOUISHED BY: (Signature}	RECEIVED BY: (Signature)	DATE/TIME
RELINOUISHE◇:◇Y: {Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
METHOD OF SHIPMENT		

Laboratory Copy White — Projcict Office Copy Yellow — f'kld or Office Copy Pink

6533

APPENDIX C

TRENCH LOGS

Table C-1.
Summary of Materials Encountered in Exploratory Trenches -
Canyon 1 Area

Trench Number	Depth (feet)	Materials Encountered
T-1	0 - 4	Native Soil - dark brown silty sand with gravel, dense, dry
T-2	0 - 2	Trash Fill - decomposed plasterboard, concrete, soil
	2 - 3	Native Soil - dark red-brown silty sand, dense, dry
T-3	0 - 2.5	Trash Fill - asphaltic concrete, miscellaneous rubbish including, plastic, pipe, wood, plasterboard
	2.5 - 4	Native Soil - dark red-brown silty sand, dense, dry
T-4	0 - 4	Trash Fill - concrete, rubbish, pipes rebar, wood. Refusal at 4 feet on concrete block
T-5	0 - 4	Trash Fill - concrete, plastic, pipe, dry wall, miscellaneous rubbish. Refusal at 4 feet
T-6 through T-9	0 - 4	Native Soil - red-brown silty sand, dense, dry

Table C-2
Summary of Materials Encountered in Exploratory Trenches - Canyon 2 Area

Trench Numher	Depth (feet)	Materials Encountered	Sample Number	Sample Depth (feet)
T-WC1	0 - 2	Dark brown to light gray brown SILTY SAND, very dense, dry. Hydrocarbon (HC) staining from O to 6 inches, none to slight odor, no Voes detected by PIO. Decayed organic matter at surface.	S-1 S-1A	0.25 1.5
	2 - 3	Brown, CLAYEY SAND, very dense, slightly moist, no BC staining or odor.		
T-WC2	0 - 0.25	Dark hrown, SILTY SAND, very dense, dry. Slight HC staining, no volatile organic compounds (VOCs) detected with photoionization detector (PID).	S-2	0.25
	0.25 - 2.0	Gray brown to dark brown, SILTY SAND, very dense, slight moist. No HC staining or odor.		
T-WC3	0 - 0.25	Dark brown, SILTY SAND, very dense, slightly moist. Slight HC staining, slight to no odor. No voes detected by PID. Decaying organics.	S-3	0.25
	0.25 - 2.25	Light gray brown, SILTY SAND with gravels, dense, dry, cemented. No HC stain ,or odor.	S-3A	1.50
	2.25 - 3.0	Dark brown CLAYEY SAND with gravels, very dense, dry. No HC odor or staining.		

Table C-2
Summary of Mate.rials Encountered in Exploratory Trenches - Canyon 2 Al·ea (continued)

Trench Numher	Depth (feet)	Materials Encountered	Sample Number	Sample Depth (feet)
T-WC4	0 - 1.5	Brown, SAND, loose to medium dense, dry. HC staining and slight odor. No VOCs detected with PID.	S-4	1.0
	1.5 - 3.5	Gray, SAND, loose to medium dense, dry. No HC stain or odor.		
T-WC5	0 - 4.0	Light brown, SILTY SAND, medium dense, d_{ry}. No HC staining or odor. No VOCs detected.		
T-WC6	0 - 0.25	Brown, SILTY SAND, very dense, dry. HC staining, slight to· no odor. No VOCs detected with PID.	S-6	0
	0.25 - 3	Light gray brown, SILTY SAND, very dense, dry. No HC stain or odor.	S-6A	1.5
T-WC7	0 - 0.5	Brown, SILTY SAND, loose, d_{ry}. Dark I-IC staining, slight odor, No VOCs detected.	S-7	0.25
	0.5	Concrete pad.		
T-WC7A	0 - 0.5	Brown, SILTY SAND, Jpose, dry. Dark HC staining, slight odor. No VOCs detected.	S-7A	0.25
T-WC8	0 - 1	Brown, SILTY SAND, medium dense, no HC staining or odor, no trash fill encountered.		

Table C-2
Summary of Materials Encountered in Exploratory Trenches - Canyon 2 Area (continued)

Trench Number	Depth (feet)	Materials Encountered	Sample Number	Sample Depth (feet)
T-WC9	0 - 3.0	Drown, SILTY SAND, dense, dry. Laminated in upper 1 feet, with roots to 9". No VOCs detected with PID. No HC stain or odor. Color changes to dark brown at the bottom of the trench.	S-9	0.5
T-WClO	0 - 1.0	Brown GRAVELLY SAND, medium dense, dry. Laminated silty zone with buried lrash. No VOCs detected with **PIO.**	S-10	**0.5**
	1.0 - 2.5	Dark Brown, SILTY SAND, dense, dry. No HC stain or odor.		
T-WC11	0 - 1.0	Dark Brown SILTY SAND, loose, dry. No VOCs detected with PID.		
	1.0 - 5	Brown SILTY SAND, dense, dry with clayey zones, roots and some gravel. No VOCs detected with PID. No odor on samples but slight odor in trench. No HC stain.	S-11A S-11B	3.0 5.0
T-WC12	0 - 1.0	Light Brown to Brown ilty SAND, loose, dly with roots and some gravel. No VOCs detected with PID.	S-12	**0.5**
	1.0 - 2.0	Brown SILTY SAND, dense, dry, with fine sand. No HC stain or odor.		

Table C-2
Summary of Materials Encountered in Exploratory Trenches - Canyon 2 Area (continued)

Trench Number	Depth (feet)	Materials Encountered	Sample Number	Sample Depth (feet)
T-WC13	0 - 0.5	Brown SILTY SAND, dense, dry, with roots and some gravel. No VOCs detected with PID. HC staining. No odor.	S-13	0.5
	0.5 - 2.0	Brown SILTY SAND, dense, dry. No HC stain or odor.		
T-WC14	0 - 2	Light Drown SANDY SILT, moderately stiff, dry. No VOCs detected with PID. No odor. I-IC staining from 0.25 - 0.5.	S-14	0.25
	2.0 - 2.5	Light Brown SAND with some silt, loose, dly. No HC staining or odor.		
T-WC15	0 - 3.0	Brown Silly SAND medium dense, dry, with trace gravel. No VOCs detected with PID. No I-IC staining or odor.	S-15	0.5
T-WC16	0 - 3.0	Brown lo Dark Brown SILTY SAND, dense, dry. No VOCs.		
T-WC17	0 - 3.0	Brown SILTY SAND, d!:!nse, dry with gravel. No VOCs detected with-PIO. No HC staining or odor.	S-17	0.5

Table C-2
Summary of Materials Encountered in Exploratory Trenches - Canyon 2 Area (continued)

Trench Number	Depth (feet)	Materials Encountered	Sample Number	Sample Depth (feet)
T-We18	0 - 3.0	Brown SILTY SAND, dense, d_{ry} with some gravel and roots. No voes detected by PID. No He staining or odor.	S-18	0.5
T-We19	0 - 0.5	Brown SILTY SAND loose, dry. No voes detected by PID.	S-19	0.5
	0.5 - 1.5	Light Brown GRAVELLY SAND with sill, loose, d_{ry}. No HC staining or odor.		
	1.5 - 3.0	Dark Brown SILTY SAND with some gravel, dense, dry. No He staining or odor.		
T-WC20	0 - 3.0	Trash Fill: Brown SILTY SAND, loose, dry. Pieces of cut lumber and concrete throughout. No VOes detected with PID. No He staining or odor.	S-20	0.5
T-We21	0 - 2.5	Brown SILTY SAND, loose, moist with some gravel. No VOes detected with PIO. No He staining or odor.	S-21	0.5

'Tuble C-2
Sumnuu·y of' I\fatei-ials Encountered in Exploratory Trenches - Canyon 2 Area (continued)

Trench Number	Depth (feet.)	Materials Encountered	Sample Number	Sample Depth (feet)
T-WC22	0 - 1.0	Brown SfLTY SAND, loose, dry. No VOCs detected with PID.	S-22	3.0
	1.0 - 3.5	Light Brown SAND with some gravel, loose, dry, laminated. No J-fC staining or odor.		
	3.5 - 4.0	Brown SANDY SILT, dense, moist. No HC staining or odor.		

APPENDIX D

ABANDONED OIL WELL RECORDS

JJI-00f L/

Notice of Intention to Drill New Well

DIVISION OF OIL AND GAS

.....!:!.'..1.1:c.:-:::.C.!.c:J.d. .....C..lir.. A p r l l ..l.a.....,.u.... J(:,}J? f" - "l-.'t;i

In compliance with Section **3203,** Division **III,** Article **4,** Public Resources Code, notice **is hereby given th:ic ic is** our intention to commence the work of drilling well No .. **-i!e-t n:;;;ro-_.il..** .....-----• Sec.-3..J_·--, T..3U.-----• R...lS'l:L....., ...S....B.....B. & M., ----------Field,-----'il. .nt..-w.;-.?:.,_ _ _ _ .._.C-Ouncy.

Legal description of mineral right lease, consisting of.....53.....acres, is as follows: .. Ja19?t ..L.5. .SJ:lQ. .. Dortion ... (Acu.ch map or plac ca sc.11e)

..of Lot 39 lying West of Halnut Canyon lload, Vallette Tract -- 2 *1lfit;,,-1..:r:/* j,i.i f

Do mineral and surface leases coincide? Yes.....X..... No ---------. If answer is no, attach legal description of both surface and mineral leases, and map or plat to scale.

Location of Well: ..•_.J.9.QQ.!_·-------:.:..feet.....NQr.°th ..... along = i n e and._....l8Da.1 _ _ __feet3-.1if3L._ _ (Direction) (Dirc-cclon)

ac right angles to said line from the..·----------i:i· !:' ! JPX:Opelq .....- .....corner of section___JJ,___ _....

.....-----.....---_____...·.__.....__··____.__-_ _ _ _

DIVISION OF OIL AND GAS

f<.r1>ort. <n l• rc,po.-→ I c._>,-.-_.,_.,_ o.

Company

Page 2

\Vifell No. J: _____, Section }J , T. 3r!.-----, R, JSW , S.•:: B. & r,

.. :. pccial c!·i: 1enti.tifor plur—r:·in;= .or tl;e p1-ot-.ction of 1resh t·1:J.tc1s r:.iayoo i·eqtLi.?-d at t.r:'i.s i;ell in the event of r-.mning casin;.:., otl:or t::n the 10-3/4 11, or of aba:.1don::1ent. '!:!TS m:_, ::ST•;.. SiiALL .•, c.;t;s LTK.Ji in ei:1-;e::r cnse•

6. T'S DIVISI·· S:ALL ... ·· ·· ··

DIVISION OF OIL AND GAS

REPC>R.'r C>N 1'H..<..)P<..)SEI.> <>l'l'.H. ,\."t"l-t>N.

N<,. !> 2Li:..;-J.:t<J

Mr.....

Agent ior .....

Santa Paula c lif.

DE-1.R Sue

Your ..... Proposalto- ..... i:?-1il.. ..... el1:No\Yf] .....

Section..... T ..rL..., R ..L .:. . .B. & M., ... Field, g :} ':.....(:.,nty,

dated A:ril 1? 1960, received Nov 3 1960., has been examined in conjunction wich records filedin chis ,,/ficc.

Presem: conditions as shown by the records and the proposal are as follows:

THE [illegible]:

;::-1"-l;tior of ;::ineral richt lease, conslsti::;_ of 5 c1 res, s as .follo;::1:
Lot 3 :· ·:(:_;J::-irt. .ccf Lot 39 lJ il'lf':cst or ·,alrP.1.t C:u;1(-JrI 1-:-i.o]d;- le tt.e !1ract ---:, e
att...:—.::(-l -t.
Fo ml·.:.:l and surface leases coincide? Yes
Loc<-r,.;:::,o:f :; ,11: 1?O:J' forth alm111 section line awi 2c0' i a.3t a,c r:iiht .!n,lE; to
net < 1: ll: . .'r···tH-le so-;.1t!11vcst corner of fJectiun 33.
ElcYc:i,. y; of i'.round above sea level 710 fE: et '.i:'qpo.:la.tur;1.
All ,:'.':'mri:: ,a:,-ure:-::entsaken fro::: to of Kelly }kshi,ig- which is lCJ' above gr:JUn<'.ff..

PR•.:f=: r-:..:1: PROFOSED CASTNG PROGRAM

n;lizf: ci c,: 3 ;-	'.t;i:-ht	r:r C (!.::; :t-t"Lt	'ro	·: 1ott01a	Celnenti.n;· L-er.:t!
1:J-J/L,11 7 11	:,2 23	Ji-l.'":C J-:c	G 0	;)QO IOOC)	.5.,-01 li200'
!?.... 1:.2::-	:15'1)	:J'..:-:'.:T.:.:::..::.:C3C'.:..J		.:.h::.:2:.::00::,:: -:..f::.s:: 1e,"1.:: ..	

Int;:-,;,.ct. -:,o.;cnr zon;;s of cmplctirn,: Scspe , l10DO-Lr2G0[1], j)ept:1, t0p an(:. botLrr. ..
"_=+-:,_i(00 1:1 1.1 1:1Qn-l-l1 ["Jk',I .
It is :_;_n,:erstnod that if c11anges ir! t -lis plan bE:CG!:;e nece .s:rry· t,.ye<2re to notif " Vt"Jll
before r:.tnni.n{: cn:;i!lf.n

DECT: ·)T ,:-::
T:: P.J.:SAL IS APPRN'T PROVIDH THAT:

1. ~- 7(0. J,Jr" casirlg s!'lall be cerlented 1D.tt1 s11fficient cement to fill all of ·.·.s spa bc:.c -:of the ca.sir...;-.
2. T"'' hc:-le is, at 2.ll t. m.es, kert full of drilli!1r fluic. of proper weight ar.[: ru a l i ' -t. prevent 1J10"' outs.
3. :-,;::,T.1at.e:::lowout pn, ·vention cqu:ipi:,cnt shtll !:-,ai,rn:italle(i. a: o naintaincc: r(::,::-:,· i"or "li 1:at rill ti. es.
4. J;.1-:hole pone: rntil1;' rm oil or ;:Fas zone, to be sleetracked, shall be ;d:. ·.·.· with c:::..;r -1 Go.:9 .r 3 ossi _le.

E. H. MUSSER, State Oil and *Gos* Supervisor

By ..... . puty

-..7 ##1 OM SPO

DIVISION OF OIL ANU GA:::,

Special Report on Operations Witncssed

No. 'T' 260-1119

.Mr E P Furman
p O Box 3YO
Snnt B rbara California
Agent for Petun Company

Santa Paula
----J,.,,un.e"""""-13'J,"9-6'0-----C:1lif.

DEAR Sm:

Operations at well No.-2: , Sec—, T.J. ------., R. J9W , S.B. B & \[.
Field, in Ventm:.1. Co unty, were wlcnesse d
on run:-r-nr;-TI-60 . Mr John llardoin , re resentative of the supervisor was present
from IT:1 f:'4 There were also present C. C. Coo-:, Drillin a 'Foreman and
W..E. Asuwood, Driller

Present condition of well: 10-3/4" cem. 495 i T.D. JJU.G-:fJ Un 8+)

The operations were performed for the purpose of-1.n.sp.e,:ting hlo.!ro.ut p:reYention equipment and
1.nstalfotion.

Mr. ;eported:

THE BLOWOUT :PP.EVENTiml EQUmlln1T AND INSTALLATION ARE Afl'ROvti>.

E. H. MUSSER

b
CC -Operator

su ::.Z?- d=2- Deput

89949 1-59 15M © SPO

DIVISION OF OIL AND GAS

Notice of Intention to Abandon Well

This notice must be given at least five days before work is to begin; one copy only

SANTA PAULA, CALIFORNIA

B ak1;rsfield ..... Calif. .June . 13.. 19 60

DIVISION OF OIL AND GAS

In compliance with Division 3, Public Resources Code, notice is hereby given that: it is our intention to abandon

Well No. Peta frJ Sec. 13, T)N

R, 19W, S B B. & M., field, Ventura Coull cy.

commencing work on June 13 19.60

THE PRESENT CONDITIOX OF THE WELL IS:

1. Total Depth: 4500 r

2. Complete casing record, including plugs:

10-3/4" C -495'

3. Last Produced Never 11
(Duo) (Oil, B/D) (Water, B/D)

ADDITIONAL DATA FOR DRY HoLE

4. Oil or Gas showings :ind results of tests:

No showings

5. Stratigraphic markers rid ;depths:

Top Sespe above 495'

6. Geologic age ac·b;tcom: Sespe

7. Base of fresh wat:er sands: above 495'

THE PROPOSED WORK IS

1) Fill hole with heayy mud

2) Plug 515 to 475' with cement - Division of Oil and Gas to witness location and hardness.

3) Place 10' cement plug at cellar floor. Division of Oil & Gas to witness placement.

MAP	MAP BoOK	CARDS	BOND	FO# 114
		✓	13-830-60 4-25-60	✓

1731-28th S t.
(Address)

Petan Company
(Name of Operator)

F1' 5 003 8
(Telephone No.)

By Petroleum Engineer

ADDRESS ONE Copy OF NOTICE TO DIVISION OF OIL AND GAS IN DISTRICT WHERE WELi.. Is LOCATED

DIVISION OF OIL AND GAS

RE.POP'-1· ON **PROPOSED 01'1:.Ri\.TIONS**

I 260-227

Mr. !.. F1 r"":; Z

Santa Paula C

June 16 1960

Agent for..;:c.t rr1..C.c..;;z_.1aJ....•

DEM, Sm:

Your .....proposal co.....Aba.ncion.....\Vell N0.....1.....

Secci,,n J }....., T..}J.!. ..., R...! ..., ...!.B. & M., ... field, _J_<?. .t.. .....Cou:

dated ,i..a; 1 3 1 1)60.., receivd- June 16 1960 has becn exammed m con1unct10n with records filed in ch'ls or

Pn:.\cnt conditions as shown by the records and the proposal are as follows:

7--f.E;: ;TJCES 'fAT i;S:

"ir'it;-£ ent concition of the well is: Total fepth: 4500[1]. Complete casing recor incl-.c..iln plugs: 10 3/4" C -495[1].

Last :'rrxl..:tc8d: Never.

Oil 0:r —;!s,s"10 -inisand results .of tests: i"Ios!1owings.

Strnti.:'i:-:-"::; ::.c r:1arkcr3 c?.nd depths: Top Sespe above l195r

::co}.o,;:i.c ace ;;.t bot.tor.i: Sespe

J;,se nf fresh water sands: Above h95'."

PK(iPGSft.!.1:

"The nr00osec work is;

L F.11 · hole v;ifa heavy mud.

2. i.J;_ 515 to L75' ,,-;ith cement - Division o:f Oil and Gas to witncss location an<l

3.. ?l r.r.:e 1: [1] cc:en plue .:it cellar floor. Divisio11 of Oil ,, Ges to v."itness place:.1

DECISION:

Tifr; .F-t, ;;< SAL, COVEB.IUG WCEK .ALRE..WI CC!-1PLETED rn ACCORDANCE; 'dITH HiI UR Acm:;.EJ·Sffl' I.S APPf-! OV T •

Bond No. 13-830-60
Dated: ril 25 1960
SHR:a
CC: rator

E. H. MUSSER, State Oil and Gas Supervisor

By S H Rook, Dep

DIVISION OF OIL AND GAS

Special Report on Operations Witnessed

No.T 260-19

:Mr, E r- 1-:l.r;.·.an
F 'tl cox 390
Sant.a 1.,arbara Galifor::ia

Santa Paula
Tune 16 3 1960 Ca

Agent for Pctan Gcr,manv

DEAR Sm.:

Opemions ac well No,.....J.....-:....., Sec.. ..)).., T.....JN....., R.....:g? -, ...!. B & ..... Field, in... Ventura County, were witnes On-r June ll.:, 1 ,Q J.fr. C. H. Schu.ltz, re:es;nta1;1ve of thc supervisor was pre. from. J,, "' "5. c ; 2,) ... !..... There were also present C C Cook, ...,-r.llling l"oreman anrl 1•,07112 1-\S!1w-ooc:, Driller

PreseilC cop.dition of well: 10 3/l.'l ce.r.i 1:95', T.D. 45°0:)', Plugged With cement 515' - u7; and l!.:'- 11'

The 0£eratio;15 'le e performed for the purpose of Plugging the hole in the process of .,b;::mcorr.cnt.

Mr. Cook reported:

1. A 8 J/4" hole "-as drilled frcm 3810' to 4500' (total depth).,,,
2. No commercial oil or gas shows were encountered in drilling t!ie' well.
3. The hole 'tmS left .full of 77 lb. drillinB fluid.
4. On Tune 13, 1960, 50 sacks of cement -was pur.tped into t.'le hole through 4 1/2" drill pipe hanginr:; at 515", filling to 1.t73'.

'l'he Enginscr noted that the cenent ;_)lug at the reported depth o:f 473' supported 4 points of the 1-v-e:lsht of the drill pipe.

On June lh, 1960 Hr. Cook reported by telephone:

1. The hole ;.iasbridged w:it..'pli;ler sacks 10' below the cellar floor.
2. D'i.1.lk cer-::ent was dumped on the bridge, filling the 10 3/4n casing to the cellar floor, -which is lt' below ground level.
3. A steel plate was r.--elde<l at the cellar floor.

THE PL;JGGn G OPF:lATIO".IS AS Rf:PDRTr:.D AND 1117ITNESSfil> ARE APPROVED.

a.
cc-0;:";cr-{-1tcir

E. H. MUSSER
State Oil and Gas Supervisor

By S H Cook Depu

DIVISION OF OIL AND GAS

1-1.ist:ory of Oil 0[' Gas Well

OPERATOR Petan Company FIELD

Well No. Pet ttm..11 Sec. 33, T. 2N, R. 19E, S.B. B.

Date. [illegible] 19 j Signed [illegible]

1231-J:th S. (Addrcu) (Tclcrhonc Numlicr) Tidc 1-u! tr; l-Jt—mai;;:-F:31, (President. Sccrc.ury or A;,,

It is of the g catest import2nce to h1ve 1 complete hi.,wry nf chc welt. U<c his form to re!"'rt a full Jccounc o! 2ll imporunc operations J.,.,: drilling 2nd testing of the well or during rc-drillin.. l:tcrin oi CJlini;, plugging, or ,h,ncl,,n:nenc widl cha ,bees ,hereof. Be sure to include .<l:; 1s hole size, form•cion test dcuils, amounts of cement used. to!' 1nd bottom of plugs, p<cforJtion detlils, sidetracked junk, b2iling tests, shGO::. inithl production d2t:,.

Dtt	fs;tj1	Description of Work Performed
5/J1	2–]0f	roV1!.:!j tn \1ttt J/• t. tus:-J" Ine. dr-illLt:.g -ui;:ltqf P-det at 1.2:JC P., and crilled 10-5/3"1 tole to 29,')'.
6/1	49;t	Continued drilling 10-3/4" hole to 495'. Opened 10-3/4" hole surface to 495' with 15-½" hole opening bit. Cemented 10-3/4" J3.7#, New T.& C. casing at 495', including Baker Guide Shoe, bottom and two Baker Centralizers on bottom 80' with 325 sacks Permanente Type "A" cement, premixed with 325 cubic feet of Sealite and 3 sacks of Jel, all treated with 2% calcium chlor. Cement returned to surface. Let stand 3 hours. Installed 12 Series 900 casing head and double hydraulic shaffer B.O.P.
6/a	•	Ttoo tff!11 i- m-A B.O.P. u:l.Ui 1500 P.S9Iu Drilled C,rt,. ;;12 -pl!i s to 49, • ti-rilled B-:3/4: rol11l .
6/4	2115•	Cooti.m t)rill!ng B–')/4 3 rote . Irart 11ee H.&H.w;lJ. :. 5-:-'"1 e at .0.."0' •
,/1"„	4500' Plug 490-1	Dr-11im! iJ-J/-4 holtl to /4500• • lot.al bi.ts used .. :N.. ¥tm S-l'Jhlt;T I. .S • 44% • to 495 ,. let& d:r;ill ni;,;- LD.frog Pr="fl lk i- d;tl11 piP9 t, 211' {JU O'fl in fJAA ti. m& I ffn" n ttgg Yitll :// Ml.qjsq,-„l:p-;-j,l moo.*.r wN,l-f.lsWts. ti.til:Ja <!1'U12mrt&ti 19"!!.-= •
6/14	4500' Plug surface	fi 4ijt g;-ill mm ,:t .r&' f;M tn g lQ liWPW:ifl-l:t: §?:- jaoo loc;;rte,d m: gg-14pj, Slu 7 S' '!f&fUi.ro Qnd-;m;—l": f;Q,Q. Plaaoo. lor- c pl et see oi' hr:-l eal.ed JJS. 'Urel pla on tcp- 01 lO-J/,4tt o Pls:@7- 0nttl, Vli+r egi–l,kL,l?, 40,Q. Kole uomplf.l'tely c tlt Jtoo 14, lg{D„

vF CALIFOR
DEPARTMENT OF NATUR ;::iOURCES
DIVISION OF OIL AND GAS

REPORT OF WELL ABANDONMENT

--------=S@t. _f2:.. J.g ___ California

---__.._Juna.J..Ll.9..6.""'0 _____ _

Mr.___ E P Fun
--- P=.....cacO __}I0X. 3 0 _____ _
____ S_gntJL»gx.'blu·_a_c_g_l_i_fo:rn::-a.___ _
Agent for- .S.:91.{F..&1.Y --------

DEAR SIR:

Your report of abandonment of Well No.__ .l_____ _ ,

Sec._1:L_, TO'3=r 1--, R.J..9..R__, _s_.._n,_B, & M.,____:.._-_____ field,

_____ Ven'"'tu-r-a_____ County, dated_ _J.un.e_l 7, J.96Q___ ___ has been

examined m conjunction with records filed in this office.

A review of the reports and ecords shows that the requirements of this Division, which are based on all information filed with it, have been fulfilled.

I'd ...,. I MAP scor< l cr.;;os l sorm I-11 ; ; ? -
--.-!...., ----.

v t,_ c-c.al ___ f..
\ Sti'o {o.\""\·\a o

b
CC - Operator
Cons, Committee

E.H.MussER
State Oil and Gas Supervisor

By ff ff/}, J
Deputy Supervisor

8,1A,(2 C1-58 10M SPO

SUBMIT IN DUPLICATE

Operator p. t M'l'--:;l½s. = !lJ. Well No. ---'-h--'- --'-/--'" - - - - - - - -

Sec.)-J - - - - , T. JN R. l :ay , :;.,s. B.&M. Field Ventura

Location t,Jt=o ti .rri!'l ar.d .tr-0' tug t'twt t e.w of Section 3

(Gin loc:uion from property or $00i corner, or nrcct center lines)

Elevation of ground above sea lcve. J , (fee:

All depth measurements taken from top of r.. ll;, -lt*t which i. tC feec ab

(Durick Floor, Rotary T blc or Kelly Bushing)

In compliance wich Sec. 3215, of the Public Resources Code, the information given herewith is a complete and correc present condition of the well and all work done thereon, so far as can be determined fvozn.. alY,vailaDle r<r5"ords.

Dat, Jt,<1l' 'l.' l *,,{} Sighed. 7.n.ccr fr:- ,,y', }: 1, ti

K. R. Evans Title Petroleum Engineer

(Engineer o it (Supuintcndcnt) (Prc-sidt'm:, Sccrcury or Ag<nt)

Commenced drilling }hly J1" 110

Completed drillin t:.-- J - : l ,$ - l -, J

Tocal depth "t- .rv, Plugged depth ,00. ,

Jun,k-

GEOLOGICAL MARKERS

Scope	above

Abandoned

Commencect procfucing 6/14/idJ (Date) ::ll ;; :;:flowmg/ gas !ire/pumping (Cross out unnccuuy word.s) :;:la-:m

Geologic age at total depth: - - - - - - -

Name of producing zon'ce- - - - - - - - - - - -

	Cle2n Oil bbl. per d,y	Gravicy Clean Oil	Per Ccnc Water including emulsion.	G » McE. per d,y	Tubi,1g Pressure
Initial production	Never Produced				
Production after 30 days					

CASIG RECORD (Present Hole)

Site of C:n:ing: (A. P.J.)	Depth of Shoe	Top of Cuing	Weight of Cuing	=-ew or Second Hand	Se mlcss or L2pwcld	Gude of Ci.sing	Size GE HOle Drilled	Number of S4 GE C.:mcn:
10-3/4"	495'	0	32.75	N	S	H	15½"	215 sacks

PERFORATED CASING

(Size, cop, boccom, perfor:iced inccrvals, size :ind spacing of perforation and method.)

1-lcccncaI Log Depchs 5ro.hl -a :r ! ,I:,! • !J. ;;,: 1: 49;iJ' (Acc:ich Cu:".

APPENDIX E

WATER WELL LOGS

3N1IC-J/J/ 3 3/J.1J

VENTURA COUNTY WATER SURVEY

WELL LOG

NUMBI!::R {8-q)-1 D

PHOTO POINT 8-7/o-G

f 9530

OWNERS NO, G

LOCATION A/\A/, f'2, 6 FT a F Qw tJERs, t/0 5"' 5" 6 Ft —'\A/ 0 -F-

WALNUT CANYON RD i 4:C,o'o Er- N oF Los A r6El E:s Ave,

OWNER DON CAVE (OLD CARTER PLACE) AOOREss B R>= A Q V-1 T-W, F A w R M6 , 'M n n R e 8 R \s

DRILLED BY C.RI btl<l AW ADORES

DRILLING METHOo f2o'J, f3 R V GRAVEL PACKED DATE OMPLETED b EC / 9 1/(

SIZI: OF CASING 7" STRUCK WATER AT

PERFORATIONS 7"'- 1 ,,,,,' 2 r-r,,a 1 , - 1 1 q' SIZ'"' NO

WATER LEVEL BEFORE PERFORATING AFTER

TJ;ST DATA: DISCHARGE G. P, M. ORAWDOWN FT,

OTHER DATA AVAILABLE: WATER LEVEL RECORD ANALYSI

SURFACE EL. EV SOURCE OF INFORMATION -L o G --C-..e r./IL kL=iz'N --

DEPTH	ELEV. OF BOTTOM OFSTI'UTUM	MATERIAL	THICKN s	
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VENTURA COUNTY WATER SURVEY

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VENTURA COUNTY WATER SURVEY

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VENTURA COUNTY WATER SURVEY

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		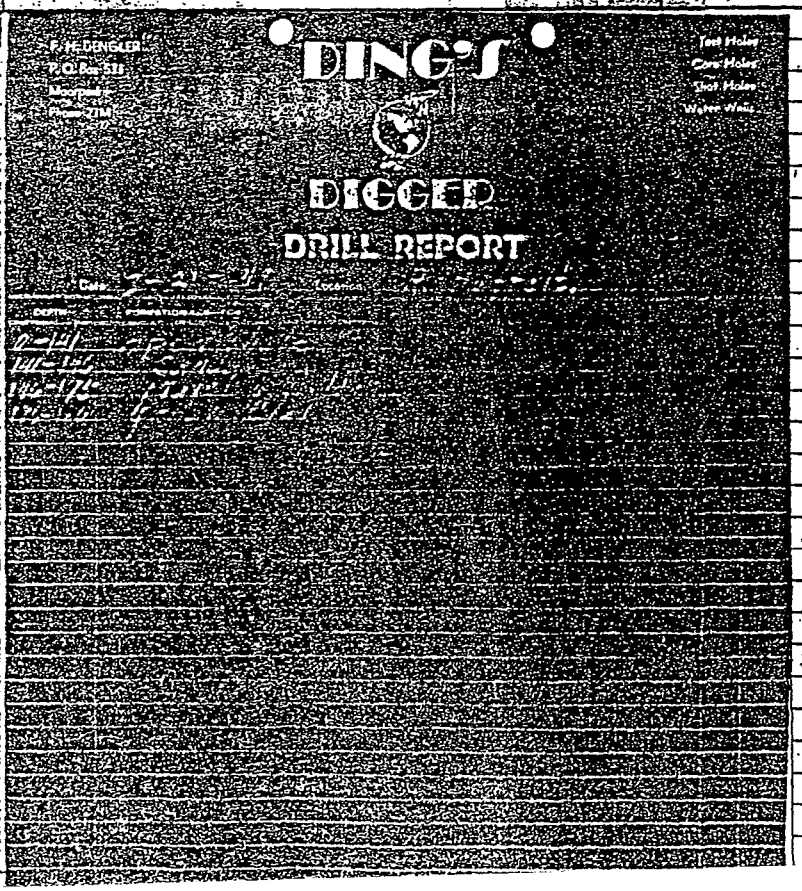	

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VENTURA COUNTY WATER SURVEY

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DISTRIBUTION

5 copies: Walnut Canyon Associates
1701 Pacific Avenue, Suite 200
Oxnard, California 93003

Attention: Mr. Richard L. Fausset

4 copies: Fairfield, McDonald, Sullard & Strauss
290 Maple Court, Suite 200
Ventura, California 93003

Attention: Mr. Curt W. Uritz

4 copies: County of Ventura
Environmental Health Department -
Solid Waste Division
Ventura, California 93009

Attention: Mr. Terry Gilday (3 copies)
Mr. Barry Marczuk (1 copy)

QUALITY CONTROL REVIEWER: Bartlett W. Patton, P.E.
Vice-President

SLS/GLA/bic
F003.RPT

Harding Lawson Associates

January 25, 1990

19513,001.16

County of Ventura
Environmental Health Department -
Solid Waste Division
Ventura, California 93009

Attention: Mr. Terry Gilday

Gentlemen:

Site Characterization
and Remedial Action Plan
Walnut Canyon Tract
Moorpark, California

Enclosed are 3 copies of the Site Characterization and Remedial Action Plan for the Walnut Canyon Tract located approximately one-half mile north of Moorpark, California. This report has been prepared by Harding Lawson Associates (HLA) on behalf of Walnut Canyon Associates in order to obtain a land reclamation/closure permit for the property. The attached report presents a summary of HLA's site characterization activities and the remedial action plan developed from the subsequent findings.

Land clearing is currently in progress to remove, segregate and dispose of debris located in one of the two canyons onsite. In the other canyon, a proposed remediation program has been developed for the excavation and bioremediation of approximately 300 cubic yards of hydrocarbon contaminated soils. Miscellaneous debris, vehicles, oil containers, and drums are also scheduled for removal and disposal. Following completion of the site remediation, an assessment will be performed to confirm completion of the remediation activities. A closure report will be issued documenting the remediation activities, volumes and types of debris removed, method(s) of treatment and/or disposal, and associated analytical results.

The property is currently in escrow. The transfer cannot be completed until remediation is complete. Your timely response would be greatly appreciated in order to expedite the remediation program and complete the transfer of the property.

We trust that this document provides sufficient information concerning the remediation activities proposed to issue land remediation/closure permits for this property. If you have any questions, please call.

Very truly yours,

HARDING LAWSON ASSOCIATES

Steven L. Shestag
Senior Geologist

Managing Principal Engineer

SLS/GLA/bic
F003.RPT

CANYON 1
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ASB- 3
ASB- 4
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STATE OF CALIFORNIA · ENVIRONMENTAL PROTECTIO.NCY

PETE WILSON, Gowmor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
(REGION 3)
1405 N. SAN FERNANDO BOULEVARD, SUITE 300
BURBANK, CA 91504
(818) 567-3000

August 14, 1991

Mr. **Steven L. Shestag**
Harding Iawson Associates
351 **Rollin;f** oaks **Drive, SUite** 100
'Ihousand oaks, **CA** 91361

PRELIMINARY ENDANGERMENr ASSESSMENT REroRI' - WAI.NUI' CANYON TRACI', M)()RPARK, CALIFORNIA

Dear **Mr. Shestag:**

'!he Department **of Toxic SUbstances Control** (Deparbnent) **has canpleted the review of the Preliminary Endan;fennent Assessment (PEA) Report of the site Walnut canyon Tract, Moorpark, califomia.**

Based on the info:anation provided, the site shows no evidence of contamination that ma.y constitute a threat to human health and the environmnent. 'Iherefore, the Department concurs with your recommerrlation that No Further Action is appropriate at the subject site. However, the Department reserves the right to require **additional work in the** future **if** the **site corrlition differs** from **those described in** the **PEA.**

If you may have any questions regarding the above subject, please contact Mukul Agm:wal at (818) 567-3074 or Johnson Abraham at (818) 567-3082.

Sincerely,

Miguel Monroy, Chief
Site Evaluation Unit
Site Mitigation Branch

cc: Mr. **Ricbaro L.** Fausset
Walnut **canyon Associates**
1661 **Pacific Ave, SUite 12**
Oxnard, CA 93033

Mr. OJrt W. Uritz, Atto:mey
Fairfield, McDonald & strauss
290 Maple Court, **suite 200**
Ventura, CA 93003

Memorandum

To :

I.ou IE.vy
Staff Toxicologist
Region 3, Burbank

Date:

July 29, 1991

From : Miguel Monroy, Chief rl, Y
Site Evaluation Uni;JfYJ
Site Mitigation Branch

Subject: Walnut canyon Tract Site

Please review the screening values and the environmental health threat as._ srnent for the submitted Preliminary Endangennent Assessment (PEA) report of the facility Walnut canyon Tract Site, Moo:rpark. 'Ihe screening values and their calculations are provided in the addendliltlreport.

If you may have any questions regarding the above subject, please contact Mukul Agarwal at X3074 or Johnson Abraham at X3082.

Enclosures

cc: Gene Kocis
SUsan Solarz

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Lou Levy

July 24, 1991

19513,001.16

California Department of Health Services
Toxic Substances Control Division,
Region 3 - Site Mitigation Unit
1405 N. San Fernando Boulevard, No. 300
Burbank, California 91504

Attention: Mr. Mukul Agarwal

Gentlemen:

PEA Closure Report Addendum
PEA Screening Calculations
Walnut Canyon Tract Site
Moorpark, California

INTRODUCTION

This letter transmits the results of the Preliminary Endangerment Assessment (PEA) screening calculations performed as requested by Mr. Mukul Agarwal of the California Department of Health Services (DHS) in our telephone conversation on July 17, 1991. This information supports the documentation provided in the PEA Closure Report[1] prepared by Harding Lawson Associates (HLA) on behalf of Walnut Canyon Associates for the Walnut Canyon site located near Moorpark, California.

The PEA Closure Report presented the results of confirmation testing performed at the site as agreed to in a meeting with the DHS and r presentatives of Walnut Canyon Associates on May 31, 1991. The results of the confirmation testing indicated that only one of the constituents analyzed (arsenic in one sample) exceeded 1) levels detected in a background sample, 2) the laboratory detection limits, and 3) the PEA Screening Level. In order to complete the PEA process to the satisfaction of the DHS, the screening calculations, as described in Appendix A of the DI-IS PEA Guidance Document (dated June 22, 1990) have been performed using the confirmation test results reported in the PEA Closure Report.

PEA SCREENING CALCULATIONS

As agreed with Mr. Agarwal, the results of the confirmation tests were reviewed to select the test result which detected the highest concentration of each constituent analyzed. This test result was used as the sample concentration for performing the PEA screening calculations. As

[1] Harding Lawson Associates, 1991, Preliminary Endangerment Assessment Closure Report, Walnut Canyon Tract, Moorpark, California, Report dated July 15, 1991.

instructed in the PEA Interim Guidance Document[2], where a constituent was not detected, the sample concentration was assumed to be one-half the laboratory detection limit.

Tables 1 through 4 present a summary of the calculations. Each table lists the sample which had the highest concentration (C.) of each respective constituent analyzed, along with the PEA Screening Level (SL.) and the results of the calculation. According to the PEA Interim Guidance Document, if the quotient (CJSL.) is greater than unity (e.g. the sample concentration exceeds the Screening Level), then further assessment may be required. If the result is less than one, then no additional assessment is required. The results of the screening calculations are summarized below.

- Metals - Of the 10 near-surface soil samples tested for metals, only one constituent (arsenic) in one sample (VS-CYN2-03) was detected at a concentration higher than the respective PEA Screening Level and the concentration detected in a background sample (Table 1). Two other metals (barium and vanadium) were detected at concentrations greater than the PEA Screening Level; however, the highest detected concentration of these metals were in a background sample, indicating that the indigenous levels of these metals are higher than the PEA Screening Levels. Although not detected in any of the samples analyzed, the reported laboratory detection limit for antimony (Sb) in seven of the samples analyzed is greater than twice the Screening Level for Sb, which results in a *CJSL.* quotient greater than unity.

- Organics - No aromatic hydrocarbons (Table 2), semi-volatile organic compounds (Table 3) nor halogenated volatile organic compounds (Table 4) were detected in any of the samples analyzed. However, the PEA Screening Levels for 15 semi-volatile organic compounds and 1 halogenated volatile organic compound are less (and in some cases significantly less) than one-half the laboratory detection limit.

The results of the PEA screening analysis indicate that the *CjSL.* quotient exceeds unity for 20 constituents. However, in only one case (arsenic in Sample No. VS-CYN2-03) did the test result exceed the constituent level detected in a background sample. For 17 of the remaining 19 constituents where the *CjSL.* quotient for these constituents exceeded unity, the constituent was not detected: the *CjSL,* quotient exceeded unity only because the laboratory detection level was greater than twice the corresponding Screening Level. Based upon conversations with the analytical laboratory personnel, the reported detection levels are those commonly reported and near the limits of production laboratory capability. For the remaining two constituents where the *CjSL,* quotient exceeded unity, the highest constituent levels were detected in a background

[2] California Department of Health Services, 1990, Interim Guidance for Preparation of a Preliminary Endangerment Assessment Report, June 22, 1990.

sample, indicating that these constituents are indigenous at levels exceeding their respective PEA Screening Levels.

The presence of arsenic in one sample at a concentration exceeding the PEA Screening Level is judged to be of limited concern because 1) arsenic was not detected in any of the other nine samples analyzed, 2) arsenic was detected at a concentration only slightly above the laboratory detection limit, 3) arsenic is not typically associated with the types of wastes found at the site and, in fact, occurs naturally, and 4) arsenic is relatively immobile in soil.

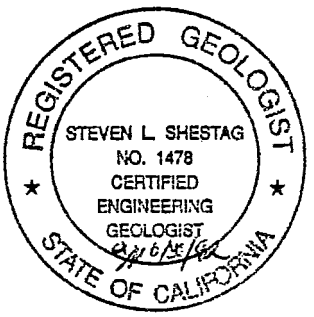
On the basis of our analyses and the PEA Screening Calculations, we judge that the results do not indicate that a potential hazard exists at the site or that further investigation is necessary.

CLOSURE

If you have any questions, please contact either of the undersigned at (805) 494-7725, or the client representative, Mr. Curt Uritz of Fairfield, McDonald and Strauss at (805) 644_7458.

Very truly yours,

HARDING LAWSON ASSOCIATES



5t;i -

Steven L. Shestag
Certified Engineering Geologist - 1478

.fmd::Lf

Geotechnical Engineer - 2002



SLS/GLA/bic
CDHS001.CRA

cc: Mr. Miguel Monroy: DRS
Mr. Richard L. Fausset: Walnut Canyon Associates
Mr. Curt Uritz: Fairfield, McDonald, and Strauss

Table 1. PEA Screening Calculations - Metals in Soil (mg/kg) [1]

Constituent	Sample with Highest Concentration	Concentration (Soil) - C.	Screening Level (Soil) - SL_5	C/SI,
Sb	not detected	5.0	0.9	5.56
/ls	VS-CYN2-03	10.6	2.0	5.3
··ua	VS-CYN1-B1*	110	100	1.1
Be	not detected	0.25	10	0.025
Cd	VS-CYN2-02	1.75	2.0	0.875
Cr (total)	VS-CYN2-04	21.3	NE [4]	—
Co	VS-CYN2-04	7.95	NE	—
Cu	VS-CYN2-04	18.4	NE	—
Pb	E-2	13	500	0.03
Mg	VS-CYN2-02	.0371	0.7	0.053
Mo	CYN1-DN	25	NE	—
Ni	VS-CYN2-04	18.1	40	0.4525
e	not detected	3.75	7.0	0.536
Ag	not detected	0.50	7.0	0.071
Th	not detected	2.5	7.0	0.357
Va	CYN1-B1*	50	10	5
Zn	VS-CYN2-02	78	400	0.195

Notes:
1. mg/kg = milligrams per kilogram
2. Calculations were performed using the confirmation test results which detected the highest concentration (CJ of the specific constituent. Where a sample concentration (C.) did not exceed the analytical detection limit, a value equal to one-half of the detection limit was used as the C. value.
3. Screening level for soil (SL.) from Table A3, Appendix A, OHS PEA, 1990.
4. NE = Not Established.

* Background sample.

Table 3 - PEA Screening Calculations - Semi-Volatile Organics (mg/kg) [1]

Constituent	Sample with Highest Concentration	Concentration C/	Screening Level SL/	CJSL,
Benzidine	Not Detected	0 . r- S. =	o.cCC;c 1	3500
bis(2-Chloroethyl)ether		O	LJ.C1c,-;_	4'iS
1,3-Dichlorobenzene		Oc :.:	N	
1,4-Dichlorobenzene		0 - C S◆	f\2'	
1,2-Dichlorobenzene		D. c S 5	2CO	cocot.!-25
bis(2-Chloroisopropyl)ether		0 C. \ ·	tS	
N-Nitroso-di-n-propylamine		0. ,, ;_ =	O.CC02	2 3. :i
Hexachloroethane		D.CS'.:	c,. I	0 S
Nit::-obenzene		Q.G :S	\.O	c: o 6'
Iscohcrone		0 . C 2; S"	.20C	o.ccc::?..
bis(2-Chloroethoxy)methane		/) c<;.,	NE	
1,2,4-Trichlorobenzene		G · ,,,,_	40	Q DC 2
Nachthalene		OC 'eJ	cloc	G.0EIOC9
Eexachlorcbutadiene		El C£:':	D.C.2	1.33
Hexachlorocyclopentadiene		c C:2-3	10	C.OC.b5
2-Chlcrcnaphthalene		D. C.:	NE	
Di ethylphthalate		3 C-S;:	N	
2,6-Dinit=otcluene		0. C i':	N	
A.cenaphthylene		I2Q	N::::	
Acenaphthene		a.csS	N	
2,4-Dint::-otoluene		D.u;J::i	c.Oc+	\I .14
Diethylphthalate		O.C	ICCC	0.t.:.ccC65
4-Chlorophenyl-phenylether		Qoqs:	NE	
Fluorene		0 .G8"	NE	
N-Nit::-osodiphenylamine (1)		u.c:3s	iaC__	O.CD\Y-
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Anthracene		u .CS:.'5	o .wee 1	4-ZS
Pyrene		O .C<S=:	D.OeO Z.	4-Z.S
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Flucranthene		LLe.	NE	
Butylbenzylphthalate		D.C3'S	400	Q.COD 2
3,J'-Dichlorobenzidine		0.1 b S	0.005	33
Benzc(a)anthracene		G.Ds-	D.CDO 2	I\-S
bis(2-Ethylhexyl)phthalate		0 .c'5S	Q\	o. ?:5
Chrysene		O.O S	O.OCOI	42..6
Di-n-octylphthalate		o.O'bS.	Ne	

Notes:
1. EPA Test Method 8270; mg/kg = milligrams per kilogram.
2. No constituent detected; Cs assumed equal to one-half the laboratory detection limit.
3. Screening level for soil (SL.) from Table A3, Appendix A, DHS PEA, 1990.
4. NE = Not Established.

Table 2. PEA Screening Calculations - Volatile Aromatic Compounds in Soil (mg/kg)[1]

Constituent	Sample with Highest Concentration	Concentration C/	Screening Level - SL/	C.JSL$_5$
Benzene	not detected	.0025	.08	3 X 10'2
Toluene	not detected	.0025	700	4 x 10'[6]
Chlorobenzene	not detected	.0025	70	4 X 10-5
Ethylbenzene	not detected	.0025	200	1 x 10'5
Total Xylenes	not detected	.0075	400	2 X 10-5
1,3-Dichlorobenzene	not detected	.0075	NE[4]	—
1,4-Dichlorobenzene	not detected	.0075	NE	—
1,2-Dichlorobenzene	not detected	.0075	200	4 x 10-5

Notes:
1. EPA Test Method 8020; mg/kg = milligrams per kilogram.
2. No constituent detected; sample concentration (C_5) assumed equal to one-half of the detection limit was used as the C. value.
3. Screening level for soil (SL_5) from Table A3, Appendix A, DHS PEA, 1990.
4. NE = Not Established.

Table 3 - PEA Screening Calculations - Semi-Volatile Organics (mg/kg) [1] (cont.)

Constituent	Sample with Highest Concentration	Concentration C/	Screening Level SL/	CJSL,
Benzo(b)fluoranthene	Not Detected	o.ozs	"NE	
N-Nitroscdimethylru:iine	1	C:.OS-5	o.coc-04	2i25
1,2-Diphenylhydrazine (2)		GOS5	u.CC3	ZK3i
Benzo(k)fluorant. ene			Ne	
Benzo(a)pyrene		a-D s	1- e;.C;C; 2.	4-15'
Indeno(l,2,3-cd)pyrene		u.cS'		
Dibenz(a,h)anthracene				
Benzc(g,h,i)perylene		2 QSC	NS	
Benzyl alcohol		Q.08'	I'i:;	
4-Chloroaniline		c.o3S	ct.c	o.coc1
Dibenzofu:::-an		0. 055	N	
2-Methylnaphthalene		D-DiS	t.i2	
2-Nit:::-oaniline		DAIS	Nc=	
3-Nit::-oaniline		DAI'S		
4-Nit:::-oaniline				
Phenol		o.oSS		
2-C;:ilorcphencl		G.cSS	!C.C	O.cCS3
2-Nit::-cuhenol		C. o1,6	Ne	
2,4-Dimet ylphenol		C. D5		
2,4-Dichlorophencl		c. 065	1 c:	0.01 2
4-C;:iloro-J-methylphenol		0.085"	N	
2,4,6-T::-i lorcphenol		O.o3S	0.1	LK35
2,4-Dinitrophenql		Q.4-,\;	NE	
4-Nit:::-ophenol		0.L-IIS		
4-6-D.init::-o-2-m.et..'1ylphenol		o.fK	NE	
Pentachlorophenol		o4-15	-;.O	(').COi£
2-Methylphenol		o.oi;	Ni2	
4-Met.h.ylphenol		D.osS	NE	
Benzoic acid		DAI5	9Co	0.0005
2,4,-5-T::-ichloraphenol		D.415	2e:C	0.0C'L

Notes:
1. EPA Test Method 8270; mg/kg = milligrams per kilogram.
2. No constituent detected; C, assumed equal to one-half the laboratory detection limit.
3. Screening level for soil (SLs) from Table A3, Appendix A, DHS PEA, 1990.
4. NE = Not Established.

Table 4 - PEA Screening Calculations - Halogenated Volatile Compounds (mg/kg)[1]

Constituent	Sample with Highest Concentration	Concentration C/	Screening Level SL;'	*CjSL,*
Benzylchloride	Not Detected	C CCZ..'3	1\ic""	
Bis(2-chlorethoxy) methane		C.oclS	t\i E	
Bis(2-chloroisopropyl)et. er		b..OcY1.S	[\E.	
Bromobenzene		D .cc;?.:;	[I E.	
Bromodichloromethane		u uG-LS	4u	2C0C3Qc C. DCCCLa
Bromofor:a		Q .CC:d.	4-0	
Bromomethane		o.cCl'-:?>	K E	
carbon tetrachloride		C C2c·1.C:i	0.01	0.25
Chloroacetaldehyde		c.. CC2 ':l	1-E	
C.h.lorobenzene		u. 6C. 1.;:,	7-0	u cccocL/-
Chloroet.h.ane		G.02..S	tJE.	
2-Chloroet.h.yl vinyl ether		u.co5	1\lE.	
C.h.lorofor;n		c.co·z.s	Ci 21	*O.OCS*
1-Chlorohe:x:ane		o o o l s	1\EL.	
Chlorome-r.hane		C,c-2	[j E.	
Chloromethyl methyl ether		0.Du-z	E.	
2-Chlorotoluene		D.cc-:zs	NE:	
Dibromochloromethane		G. 001..S	4o	0.0000 6
Dibromomethane		0. wC:1S	i\iE	
1,2-Dichlorobenzene		D .OGLCS	7...0C:	,D. COCCI
1,3-Dichlorobenzene		Ci.CG1..::S	l\.iE	
1,4-Dichlorobenzene		C:..Cu7c:;	I\.;,=.	
Dj chlorodif 1uoromethane		0.C1	4cc	u.OcOC!a
1,1-Dichloroethane		r, DC7..	1..COC	C:.DC:COOI
1,2-Dichloroethane		D.CO15	C.CL	D.11.5
1,1-Dichloroethylene		C.Cc1.c:;	C .DC4	C.lc1S
trans-1,2-Dichloroethylene		D .C:DZ.S	f\J:	
Methylene Chloride		O.DtSL.5	*[;_3*	u. cc 3
1,2-Dichloropropane		0. 0625	f\.!E	
c-1,J-dichloropropylene		Q OC IS	0.01	*O.ZS*
t-1,3-dichloropropylene		ZJ.Dc2..S	D.Ol	0.2~
1,1,2,2-Tetrachloroethane		u.oo-2s	0-0/	0.2S
1,1,1,2-Tetrachloroethane		0. CD2.::S	÷:;..c	0.0coo4-
Tetrachloroethylene		Q .D.u2S	0.0'-t	Q.061..5
1,1,1-Trichloroethane		0. 001. S"	1...0D	10.oooa l
1,1,2-Trichloroethane		C DCfl. 5	O.C+	0. Olo2.5
Trichloroethylene		O :ocl.S	C. 2-	D.C11.5
Trichlorofluoromethane		o. 01..S	"1-Co	0.0 cCC:4·
1,2,3-Trichloropropane		0 .De 2.5'	rC	0. 0002:-S
:Vinyl Chloride		C.DlS	0.GC i	25

Notes:
1. EPA Test Method 8010; mg/kg = milligrams per kilogram.
2. No constituent detected; Cs assumed equal to one-half the laboratory detection limit.
3. Screening level for soil (SLs) from Table A3, Appendix A, DHS PEA, 1990.
4. NE = Not Established.

July 15, 1991

19513,001.16

California Department of Health Services
Toxic Substances Control Division,
Region 3 - Site Mitigation Unit
1405 N. San Fernando Boulevard, No. 300
Burbank, California 91504

Attention: Mr. Mukul Agarwal

Gentlemen:

Preliminary Endangerment Assessment
Closure Report
Walnut Canyon Tract Site
Moorpark, California

Attached for your review are two copies of the subject report for the Walnut Canyon Tract site located just north of Moorpark, California (Plate 1). This information is presented in response to the conditions established for completion of the Preliminary Endangerment Assessment (PEA) as discussed in our meeting on May 31, 1991.

To satisfy the conditions requested by the California Department of Health Services (DHS), HLA performed the following:

- Additional analysis of the soils treated during the remediation program,
- Additional sampling and analysis of soil samples from Canyon 1,
- Removal of the two concrete pads in Canyon 2 to collect and analyze soil samples from beneath the pads,
- Evaluation of the potential for groundwater being impacted as a result of the identified near-surface hydrocarbon-impacted soils in Canyon 2 and the debris in Canyon 1, and
- Preparation of the attached PEA Closure Report.

M-C

July 15, 1991
19513,001.16
Mr. Mukul Agarwal
California Department
of Health Services
Page 2

As documented in the attached PEA Closure Report, it is our conclusion that these conditions have been satisfied and the respective analyses have proven negative. Walnut Canyon Associates requests that, upon your review and approval, the DHS provide written documentation stating that there is no currently known hazard and that no further action is required for additional site characterization, further remediation or notification

We would appreciate your prompt attention to this matter so that the respective conditions of the Tentative Tract Map for the subject property can be satisfied. If you have any questions or require further information, please contact either of the undersigned at (805) 494-7725, or the client representative, Mr. Curt Uritz of Fairfield, McDonald and Strauss at (805)644-7458.

Very truly yours,

HARDING LAWSON ASSOCIATES

Steven L. Shestag, C.E.G.
Senior Geologist

Managing Principal Engineer

SLS/GLA/bic
WCA001.PEA

cc: Mr. Miguel Monroy: DHS
Ms. Debbie Traffenstedt: City of Moorpark
Mr. Richard L. Fausset: Walnut Canyon Associates
Mr. Curt Uritz: Fairfield, McDonald and Strauss
Mr. Glenn Aalbers: JBH Development Company, Inc.

STATE OF CALIFORNIA- HEALTH AND WELFARE A G

PETE WILSON. *Governor*

DEPARTMENT OF HEALTH SERVICES
TOXIC SUBSTANCES CONTROL **PROGRAM (REGION 3)**
1405 N. SAN FERNANDO BOULEVARD, SUITE 300
BURBANK, CA 91 04
(818) 567-3000

May 31, 1991

Mr. steven L. Shestag
Senior GeOlogist
Harding Iawson Associates
351 Rolling oaks Drive, Strite 100
'Ihousarrl oaks, CA 91361

PRELIMINARY ENDANGERMENT .ASSESSMENT REPORr REVIEW FOR WAINUI' CANYON 'ffiACT, M:ORPARK, CALIFORNIA

Dear Mr. Shestag:

'Ille Department of Health Services, Toxic SUbstances Control Prcgrarn (Cepartment) has completed the review of the reports you submitted to the Prcgrarn in place of a Prel.iminaJ:y Errlangerment Assessment (PEA) for the site Walnut Canyon Tract, Moorpark, Ventura, CA. In addition, your correspondence of November 7, 1990 was also reviewed. 'Ille documents provided require further data an:i infonnation in several areas. At this tirre the Department does not concur with your recammerx]ation of No Further Action required. Please review our attached o:::mments. 'lhe Department considers the PEA as completed arrl a further action is recamnended.

If you have any questions or suggestions regarding the above subject, please contact Mr. Mukul K. AgaJ:Wal at (818) 567-3074 or Mr. Johnson P. Abraham at (818) 567-3082.

Sincerely,

Miguel Monroy
Unit Orlef
site Mitigation Branch

Attachment

cc: Mr. Richard L. Fausset
Walnut Canyon Associates
1661 Pacific Ave, Strite 12
oxnard, CA 93033

Mr. CUrt W. Uritz, Atto:rney
Fairfield, McDonald, SUllard & strauss
290 Maple ca.rt, Strite 200
Ventura, CA 93003

ATTACHMENT

m1MEN'I'S ON 'IHE PEA FOR WAINU1' CANYON' TRACT, MJORPARK.CA

General Comments

'Ihe Preliminal:y Endangennent Assessment (PEA) is a new constituent of the Site Mitigation Process. 'Ihe Department issued a guideline "'Ihe Interim Guidance for Preparation of a Preliminary Errlangerment Assessment Report" to make it as a fonnatted document an:l we review that document according to that Guidance Manual. 'Ihe following comments were compiled to give the parties involved guidance to be used to revise/modify the PEA and provide the infonnation the Department needs prior to making a final detennination. 'Ille Department that most of these comments can be taken care of utilizin;r infonnation available in reports that have been written to document findings of previous preliminary characterization investigations.

1) 'Ihe provided doa.mlents were not prepared as described in the "Interim Guidance for Preparation of a PFA Report[1] published by Department of Health SeJ::vices, Toxic SUbstances Control Program. However, it is necessacy to address all the infonnation provided according to the PEA manual.

2) Provide a map of the site location arrl the area with.in one mile radius of the site.

3) Provide the parcel nurnber(s) an:l include a copy of the county assesser's plat map for the parcel(s) where the site is located.

4) Provide all the approvals and certifications referenced in this report. (F.g: ''Mr. Bany Marczels of Ventura County Solid Wasted Department observed the cleanout area and fcurxi it acceptable" referenced on page 13 of the Closure Report) •

5) 'Ihe Department would like to know the official status of the Groundwater Claracterization for the whole site from the Regional Water Quality Control Board. Please furnish a letter from :the Board as an attach:rment. Geologic cross-sections showing approx:ilnate depths of wastes and um.erlyin:J aquifers should also be included. 'Ihe Department recommends one cross-section corresponi to each parcel of the site.

6) Please submit the aerial photographs mentioned in the report to the Department for further evaluation (from 1945 through 1990).

7) 'Ihe total area described in Site OlaracterizationjRemedial Action Plan is 350 acres and in the Preacquisition Site Assessment it is 220 acreso More explanation is required.

8) Did anybcdy fran this Deparbnent reviewred or approved the Hazard Ranking system (HRS) package before the clean up of the site? 'IlleHRS package submitted which is only ranked for the canyon 2 area and the final 7.6 score assigne:l. is inaccurate and misleading aa:orcling to cur analysis.

9) 'Illeproperty is a.rrrently owned. by Mr. Richard Fausset and is from 1978 onwards. Accorcli.nq to the Site 01aracterization and Remediru. Action Plan (SC/RAP) anl the Site Assessnelt Report the unauthorized dumping was mainly happened during this period.

Site Specific Comments

You submitted the Site Olaracterization ani Remedial Action Plan (SC/RAP), HRS Package, Site Assessment and a Closure Report. Accorcling to the Interm Guidance Manual for PEA., following site specific infonra.tion are also required to complete the PEA. report. We were reviewed the Site 01.aracterization and Remedial Action Plan as the key report and the unavailable infonnation which we analyzed from the other report;:s you submitted to the Deparbnent and concluded in the following canunents.

Page 2 of SC/RAP, SUbsection 1.2, Background.

- Please identify the past activities of the flowing water. When was that water dried out am clarify any reason for that dry out?

Page 2, Paragraph 2.

- 'Ihe report shows more than 10 years of unauthorized. durrping at the Sllbject location. If the owner of the property complained it to the County Environmental Health Depart:Jnent, why is it abstain from the County records?

- Is there any *PVC,* FCBs, Heavy netals or any other hazardous materials identified. on the site? Aey sampling corrlucted in the site to identify these materials?

- Who operated the abarrloned vehicle maintenance area, what was their operation and what are the type of chemicals they used.? More explanation is necessaxy.

Page 3, Paragraph 2, Fh.ase 1.

- Please submit the aerial photographs with this report for cur evaluation (from 1945-1990).

- Why did the site was previously comucta:1 an investigation by another consultant? Identify the consultant and explain the reason for the investigation and the ultimate result.

Page 5, SUbsection 2.1, Review of Existing Data.

- Written dca.nnentation from all other agencies required. File seardJ. required from the california Integrated Waste Management Board too.

Page 7, SUbsection 2.2.1, canyon 1 Area.

- Asbestos samples ASB-5, ASB-6 and ASB-8 were not submitted to the I.ab for analysis. Why?

Page 7, Iast Paragraph.

- Explain how did you collected soil samples from backhoes trenches.

Page 10, SUbsection 2.2.4, Water Wells.

- More explanation is required of the ground water. Depth to the ground water, use of graurrl water and submit the seasonal well log. Did you put any m::mitoring wells? Please explain hCM many grournwa_ wells with in one mile radius and its use (dr.mking or agricultural pul:pJSe). Please identify the up gradient and down gradient well from the site.

Page 10, SUbsection 2.3.1, Soils. I.al:orato:ry Testing.

- Ten soil samples were collecte::l on October 17, 1989 from the canyon 2 area (none collected from canyon 1 area). Sa:q)les selected from each of the three areas for analysis, specify which area are they?

J?age_..12,_SUbsection3.1, Site History.

- 'Ille.Department recognizes that Mr. Ricrard Fausset is the primacy responsible party for this site. However, as outlined on pages 18 and 3..9of the Guidance entitled "Interim Guidance for the Preparation of a PEA Report" the information needed here is all past and present property (including their nest recent address) and all past and present person or co:rporations which owned arrljor operated business at the site. Title search required to detenni.ne the past and present ownership and operations at the site. Specifically who was operated the vehicle maintenance area on canyon 2?

- Furth.er record search required to get the infonnation regarding the oil drillin:f.

Page 14, SUbsection 3.2.2, Groundwater Occurrence.

- We need a data of groundwater wells with in three mile radius of the site.

Page 14, SUbsection 3.3.1, Inventory Materials in canyon 1 Area.

o According to the provided PEA report the wastes found in the area were plaster board, asphalt and concrete, roofing paper, PVC and metal piping and wire. Arry *PVC,* PCB or metal contamination sampled or detected at the area?

Page 15, SUbsection 3.3.2, canyon 2 Area.

o 'Ihe urrlerground pipeline is believed to be a fonner water line. Why didn't you examine or inspect it to confinn a water pipeline or not? Confinnation is necessary regarding this water line.

Page 15, SUbsection 3.4, Soil Sampl,im Results.

o No sarrples taken fran the canyon 1 area, why?

Page 19, SUbsection 3.7, ACM Test Results.

o Approximately 25 to 50 pounds of non-friable pipe (ASB-7 tested and detected positive for Asbestcs) -were located in canyon 1 area. But this data is not included in Table 2 - F.st.bnated volume of debris - canyon 1 area.

Page 20, SUbsection 4.1, Remedial Action Plan.

o 'Ihe provided PEA report sher.vs no sampling was corrlucted in canyon 1 area and according to the visual examination concluded the final detennination. Is there any PVC, FCBs, heavy metals or organics in that area? Confinnation required.

Page 22, SUbsection 4.2.1, Bioremediat:fon·.

o Acco to our urrlerstarrling, Ventura County Envi.rormental Health Ceparbnent (VCEHD) didn't gave any approval of the Remedial Action Plan (Bioremediation) of contaminated soil. 'Ihey granted the approval for the disposal options of non-hazardous solid waste only. 'Ihen where from you get the approval of Rsme::lial Action Plan for hazanious waste (Bioremediation)? If VCEHD issued a pennit for Biorem:diation, attach a copy of the approval with the report.

Page 23, SUbsection 4.3, Abandoned Oil Exploration Test Hole.

o Re-abarrlornnent of Oil Wells is also required under the current COG regulations and locate the lllllldsump which may contain hazardous substances. 'Ihat was also not addressed. in the closure plan.

Page 23, SUbsection 4. 4, Water Wells.

o Address about the water wells and its aban:lornnent done properly or not. 'Illatwas not addressed in the Closure Plan.

C'CXMMENTS ON HAZARD RANKING SYSTEM (HRS).

More evidence is needed prior to elimination of the surface water pathway. 'The site is a canyon am therefore, it is reasonable to assume that the contaminants have 1:een released to the environment through this pathway. According to the surface Water Route Stwlemental Guidelines for HRS purpose, Page 19, "surface Water'' definition is as folla.vs:-

-all perennial streams am rivers
-isolated but perennial porns or lakes
-man-made ditdles that perennially flew into other surface water
-inte.nnittent streams only in areas with less than 20 inches annual precipitation

Route characteristics evaluated only if there is not an observed release to surface water. Provide an irrlication of the likeliliocd that uncontaminated materials will move along the surface water pathway.

Documentation required for:

1. surface water use
2. Distance to the nearest surface water
3. Distance to the endangered species

Accorc:lirg to our analysis of HRS package grourrl water route score alone is more than 15. Is this HRS package approved by IHS prior to the clean up? You totally ignored the surface water target.

PFA MANUAL

According to the PEA manual follc,winJ infonnation also required for the finalization of this report:-

1) Mailing Address
2) !hone Number
3) other names of the site
4) EPA Identification Number
5) Abandoned Site Program Infonnation system (AS) Database Number
6) Assessor's Parcel Number and Maps.
7) Section am Meridian (Provided the Township am Range)
8) Map of site location (Give a demarkation of one mile radius)

9) Describe any evidence of environmental ilrpacts fran a release at the site.

10) t'escribe the penneability of the soils in the tmsaturated zone and identify the least penneable continuous layer of soil under the site and the penneability of that layer.

11) Describe the surface slope at the site. Also, provide the slope of any inteJ::vening terrain between the site and the nearest downhill surface-water body. If the site is in a closed basin or actually located in surface water, this fact should be stated.

12) Describe the stability of the soils and seismic corrlitions for the site.

13) Describe accessibility to the site in terms of both natural and man-made features or structures which currently restrict human access to the site.

14) Describe any measures which have been taken to contain or prevent direct contact with hazardous substance/wastes in or on the soil at the site.

15) Provide the distance and location to the nearest residential area, school, business, day care center, nursing home, senior citizen comm..mity, or hospital with in one mile of the site.

16) Provide the distance and location to the nearest critical habitat for sensitive or en::1aI"Bered species.

17) Factors related to water pathways (See page 27 of the PEA manual)

18) Factors related to air pathways (See page 30 of the PFA manual)

19) PEA Sampling Activities (See page 34 of the PFA manual)

a. Sample Plan Preparation

b. Sample collection and analysis

20} calculate the screening values: 'Ihe contamination level of Barium, copper, lead and nickel is greater than the screening value in both of the sanples analyzed for metals. 'Ihe concentration of these metals is greater that STD: and the backgrouni level is not provided within this report. So it is necessary to calculate the contamination level of each dlemical according to Page 35 of PEA Manual, last paragraph (See page 35 of the PEA manual) •

21) Characteristics of the hazardous substances or wastes (See page 38 of the PEA manual) •

22) Environmental threat assessrrent (See page 39 of the PEA manual). Provide a summary of the assessments undertaken to evaluate human health an:1 the environrnent posed by the site.

23) In conclusion, the evidence shows that a release of hazardous substances has occurred during the past site activities and warrants a further action recammendation. A Site Characterization is required to dete:nnine if No Further Action (NFA) is needed or if a Removal or Renrledial Action is required to protect the public health and the environment. Further actions are subject to the Department's fee-for-service basis for the administrative oversight as provided in the Health & Safety Cede Section 25343.

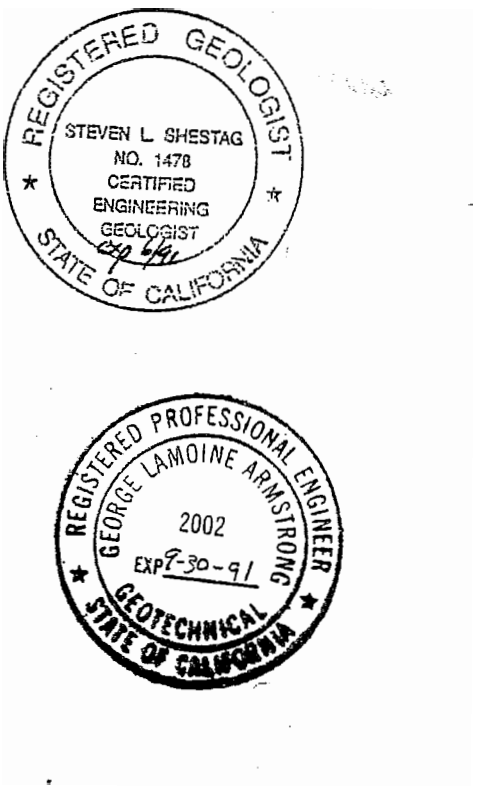
A Report Prepared for

Walnut Canyon Associates
1661 Pacific Avenue
Oxnard, California 93033

CLOSURE REPORT
WALNUT CA1 0N INVESTIGATION
:MOORPARK, CALIFORNIA

HL'\ Job No. 19513,001.16

by



Certified Engineering Geologist - 1478

Geotechnical Engineer - 2002

Harding Lawson Associates
351 Rolling Oaks Drive, Suite 100
Thousand Oaks, California 91361
805/494-7725

October 19, 1990

1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

This closure report has been prepared by Hardin g - Associates (HLA) on behalf of Walnut Canyon Associates, the owners of a 3 :.- J 9<=3 te d one-half mile north of Moorpark, California (Plate 1). HLA's services by Mr. Richard Fausset of Walnut Canyon Associates on September 26, 1989. { :: S currently in escrow which is scheduled to close on October 31, 1990. JBH Developn2 ? 1 a n y, Incorporated (JBH) is the purchasing group. Gorian and Associates is provid l engineering services to JBH.

The closure report describes the remediation program wbiciJ' - lcuiented at tp.t': site. A brief description of the project background and previous inv a;. - also included.

1.2 SITE DESCRIPTION

The Walnut Canyon Tract is located just north of Moorpi it tlS•3 d 33 of Township 3 North, Range 19 West, San Bernadine Meridian ,mci' -. ;eq c e_east by Walnut Canyon Road (Plate 1). The 350-acre parcel of property' *- in with two north-south trending canyons representing the major topographici1_(i ,t Kr larger of the two canyons, designated herein as Canyon 1, is located in the- a#t- ii#; parcel; Canyon 2 is located along the eastern boundary of the property (Plate :- sDt ' in is located in Canyon 2 near the southern property boundary.

The property remains undeveloped and is covered by chaparral and na . = '.- ":: •:::o: in the canyon bottoms is dominated by scrub \\illow. Pepper trees an - ucci'.hnc, ;:-, ;;, . y been planted in the Canyon 2 area and along the southern property bo daij:':,

The Canyon 1 and Canyon 2 areas have been the site of unauthorized rubbish and debris disposal since at least 1978. The Canyon 1 area is an incised canyon area in which primarily landscape and demolition debris have been discarded along with lesser amounts of rubbish, tires, abandoned vehicles, and appliances. The Canyon 2 area is the site of discarded rubbish, demolition and landscape debris, and an abandoned vehicle maintenance area where soils were contaminated apparently by limited surficial spills of waste oil.

1.3 SCOPE OF WORK

The objective of HLA's services was to evaluate the site conditions and then develop and implement a remedial action plan (RAP) for the affected areas. Four phases of activities were identified in HL\.'s proposal dated May 3, 1989 to accomplish this objective. The activities for each of the phases are described in the following section.

1.3.1 Phase 1 - Site Characterization

Phase 1 consisted of a site characterization to evaluate the types, character, and extent of.waste materials, and to research the locations and abandonment techniques of onsite water and oil wells. A review of site history, which typically consists of historical aerial photograph review, review of public agency files, and discussions with persons knowledgeable of the site, was previously conducted by another consultant. This information was reviewed and used to develop the scope of work for the project. The results of the Phase 1 program were described in a previous report (HLA, 1990).

1.3.2 Phase 2 - Remedial Action Plan

Phase 2 included development of a RAP based on the information collected during the Phase 1 Site Characterization. The RAP (HLA, 1990) provided a description of the site remediation techniques to be implemented for remediation of the affected areas.

1.3.3 Phase 3 - Remediation Monitoring

Phase 3 consisted of site remediation and monitoring activities. This included observation and documentation of waste removal operations which took place between October and December 1989 and in August and September 1990.

1.3.4 Phase 4 - Verification Program

Phase 4 consisted of the verification and documentation of the site remediation program. The verification program consisted of collecting and analyzing representative soil samples from the base of the excavations in the Canyon 2 area to confirm that soils exceeding the designated remediation limits had been excavated for treatment. In the Canyon 1 area, samples were taken from the soils exposed in the canyon bottom after debris removal operations were completed to evaluate whether hazardous concentrations of metals were present.

2.0 SITE CONDITIONS

A detailed description of the site conditions, prior to remediation, was presented in the site characterization/remedial action plan (SC/RAP) report (HLA,1990). This information is summarized in the following sections as background data for the remediation activities described herein.

2.1 SITE HISTORY

Available background information indicates that the site has primarily been used for livestock (cattle and horses) grazing from at least 1945 to the present. Orchards, reportedly apricots and walnuts, were located in the valleys and along the lower portions of the hillsides throughout most of the property prior to 1945. The orchards were removed sometime before 1962 based on review of aerial photographs. The valley and hillsides west of Canyon 1 were reportedly graded for planting rye and barley for horse feed between 1975 and 1980 (approximately).

Presently most of the site remains in its natural state. Exceptions include the Canyon 1 area in which unauthorized dumping has reportedly occurred for the past 10 to 20 years. The debris primarily included landscape and demolition debris with lesser amounts of household-type paper and plastic debris and scattered appliances, furniture, and automobile bodies and parts. An inventory of the debris types and volumes based on our site reconnaissance was presented in the SC/RAP report (HLA, 1990).

Two rectangular buildings and one large circular aboveground tank (believed to be a water tank) in the Canyon 2 area were observed in the 1945 aerial photographs. These structures were located on the southeast fringe of the property. The western-most building appears to be a house and the other a barn. The structures do not appear in the 1962 aerial photograph and are not present today. Two concrete slabs and scattered debris in the Canyon 2 area are located as shown on Plate 2. These are the only remaining evidence of the former development.

A portion of the Canyon 2 area was apparently used for vehicle maintenance, limited dumping of debris, and storage of miscellaneous items including tractor trailers, water trucks, a boat and boat mold, and tractor implements. Associated with the maintenance activities were numerous 5-gallon and 55-gallon drums labeled as containing motor oil, aboveground transmission fluid storage tanks, 5-gallon freon cans, and other miscellaneous containers. An inventory of the debris types and estimated volumes, based upon our site reconnaissance, is presented in the SC/RA.P report (HLA, 1990). A limited area of hydrocarbon contaminated soils was also detected in the area. Additional information on the extent and concentrations of hydrocarbons in soils is presented in Section 3.2.2 of this report.

Seven water wells and a boring, which was never completed as a well, were drilled in the Canyon 2 area as shmvn on Plate 2. Steel water lines which apparently connected the wells were also noted in the area. In addition, two wells are reported just south of the prop rty line in Canyon 2 and two other wells are located south of the property along the southern extension of Canyon 1 (Plate 2). Available water well logs were presented in the SC/RAP report (HLA, 1990).

An abandoned oil exploration test hole, drilled in June 1960 by the Petan Company, is located approximately in the area indicated on Plate 2. Documents obtained from the California Department of Oil and Gas (DOG) indicate that the well was drilled to 4,200 feet but did not encounter productive zones. DOG records indicate that the well was subsequently abandoned according to specifications of the DOG, who approved the abandonment in a document dated June 16, 1960. HLA performed limited trenching and geophysical surveys in an attempt to locate the well but were unsuccessful as described in the SC/RAP report (HLA, 1990). Attempts by HLA to contact knowledgeable parties at the Petan Company found that they no longer had any records of the oil exploration operations and that the oil exploration portion of their business was sold several years ago. Available oil well records were presented in the SC/RAP report (HLA, 1990).

Abandonment of the water wells and additional attempts to locate the oil well are not within the scope of HLA's investigation and are expected to be performed by others at a later date.

2.2 GEOLOGIC AI'ffi GROUNDWATER CONDITIONS

2.2.1 Site Geology

The site lies within the eastern portion of the Ventura Basin within the Western Transverse Ranges geomorphic province of southern California (Dibblee, 1982). The property is underlain by older alluvium (Qoal) consisting of yellow-brown to dark brown sand with varying percentages of clay and silt (Gorian, 1978). Cobble-sized gravels are also present at the ground surface throughout the site. The site lies on the southeast side of the Moorpark anticline which is inferred from oil well log data (CDMG, 1973). The older alluvium is, however,. mostly structureless and massive with no distinct bedding orientation (Gorian, 1978).

2.2.2 Groundwater Occurrence

Groundwater information for the Canyon 1 and Canyon 2 areas was obtained from the California Department of Water Resources (DWR) and Ventura County Flood Control District (VCFCD) files. According to the well drillers' logs, groundwater was typically encountered at 95 to 140 feet below ground surface in the Canyon 2 area at the time of drilling (1946 to 1949). Similarly, water levels at the south end of Canyon 1 were reported at approximately 110 feet when the wells were installed in December 1949. Well 3N/19W-33M1 was sounded to a total depth of 75 feet and found to be dry. The other onsite wells were found to be blocked with debris at a depth of approximately five feet below the surface and thus were not sounded. No reconnaissance or sounding of the offsite wells was conducted as part of the investigation.

3.0 REMEDIATION ACTIVITIES

3.1 CANYON 1 AREA

Previous site characterization activities indicated that the majority of debris consisted of landscape debris (wood chippings, tree cuttings, and tree stumps). In addition to the landscape debris, a large volume of demolition debris. was located in the canyon. This material included old lumber, plasterboard (drywall), asphaltic concrete and concrete, roofing paper, PVC and metal piping, and wire. Lesser amounts of rubbish, appliances, furniture, and automobile bodies, parts, and tires were also scattered throughout the canyon. A small area of partially buried construction debris was identified at the northern end of the canyon (Plate 2). The debris within this area contained broken concrete debris with minor amounts of asphaltic concrete, plasterboard, metal piping, and plastic debris. A small quantity of asbestos containing} ransite pipe (approximately 200 to 400 pounds) was also located in the Canyon.

Essentially all of the identified foreign debris, including the buried debris at the head of the canyon, was removed from the canyon and stockpiled on the flat areas adjacent to the canyon. The plasterboard material, dirt, and miscellaneous debris (pipes, trash, landscape debris, etc.) was removed to the extent practical and then stockpiled onsite. Concrete and asphaltic concrete debris were segregated, broken into pieces less than 3-feet in size and exposed rebar was trimmed and removed. The rebar was disposed of offsite and the concrete and asphaltic concrete were stockpiled and left onsite. Removals were performed using a Caterpillar 977 loader equipped with a Peterson demolition bucket. The loader was occasionally assisted by a Caterpillar D-7 bulldozer.

Except for the remaining stockpiles of concrete, asphaltic concrete, plasterboard debris, excavated materials were removed in trucks for disposal at the Chiquita Canyon Landfill near Valencia, California, and Calabasas Landfill, near Calabasas, California. A total of approximately 3,025 tons of debris was removed for offsite disposal. A limited amount of scattered debris

(scattered trash. landscape debris. pipes, etc.) remains within the stockpiled material and the canyon area which is scheduled to be removed manually during future grading operations. The transite piping was manifested as non-hazardous waste and disposed of at the Ballard Landfill in Ventura, California.

The area in which debris was removed from Canyon 1 is shown on Plate 2. Periodic site visits were made by an HLA engineer or geologist to observe cleanout operations and the types of materials encountered and removed; The rubbish unearthed was found to be generally consistent with the types and relative volumes reported in the SCP/RAP report (HLA, 1990).

3.2 CANYON 2 AREA

3.2.1 Debris Removal

The debris in the Canyon 2 area was cataloged during the site characterization (HLA, 1990) ar.d included an abandoned boat, abandoned motor vehicles, containers of various types and sizes, corrugated siding, culvert piping, furniture, auto parts, and other miscellaneous items. The containers included 5- and 55-gallon drums labeled as containing motor oil, 1-gallon and 1-quart antifreeze containers, and 5-gallon freon cans. Most of the drums and containers were found to be empty, however, some were found to contain spent motor oil or water which had collected in the open containers. Lesser amounts of construction debris (concrete, lumber, and cinder block bricks) and landscaping debris (branches and clippings) are also scattered throughout the Canyon 2 area. Underground 2- and 4-inch-diameter pipes, believed to be water lines connecting water wells to the former water tank, were also observed in the area. An inventory of the debris types and quantities was presented in the SC/RAP report (HLA, 1990).

The debris and rubbish were removed in August and September 1990. Removal, stockpiling, and disposal operations were similar to those methods described for the Canyon 1 area. Empty drums were crushed prior to disposal. HLA representatives observed the removal operations to

confirm that the materials encountered were similar to those described during the site characterization activities. The debris, approximately 50 tons, were taken to the Calabasas Landfill for disposal. Remnant waste oil, approximately 8 gallons, was removed by L and H Consulting, Inc. for disposal at an oil recycling facility.

At the request of Mr. Glen Aalbers, representing JBH, HLA verified that exposed piping in the Canyon 2 area was part of the water well system on the site and is not connected to an underground storage tank; the exposed piping has been removed from the site.

3.2.2 Contaminated Soil Remediation

During site characterization activities, soils containing elevated levels of hydrocarbons were encountered in four areas near the concrete pads in the Canyon 2 area (Plate 3). The extent of affected soils, evidenced by surficial staining, is shown on Plate 3.

Selected soil samples from the Canyon 2 area were submitted for chemical analysis during the site characterization program. Results indicated that hydrocarbons were present in the near-surface soils adjacent to the two concrete pads (Areas 1, 4, and 5) and the area where the aboveground storage tanks were previously located (Area 3). Limited surficial staining adjacent to 5-gallon buckets of waste oil was noted in Area 2. In general, high concentrations of total petroleum hydrocarbons (TPH) were detected in the surface samples, where the soil was noticeably stained with hydrocarbons to depths of 3 to 6 inches below the ground surface. Samples analyzed at depths of 1.5 to 5 feet below ground surface, where no visual evidence was noted, typically contained low to nondetectable levels of hydrocarbons. A detailed description of the soil analytical results was presented in Section 3.4 of the SC/RAP report (HLA, 1990). A summary of the analytical results from the SC/RAP is presented in Table 1. Laboratory test reports are included in Appendix B of the SC/RAP report. Sampling locations are shown on Plate 3.

The selected remediation method (based on the options presented in the SCRAP report, [HLA, 1990]) was enhanced soil biodegradation (ESB). Soils with TPH concentrations above 100 miiligrams per kilogram (mg/kg) were excavated for treatment within an ESB treatment cell. After treatment, treated soils will be placed as subgrade below paved roads during the proposed grading operations.

The generalized construction details of the ESB treatment cell are shown on Plate 4. Prior to construction, the ground surface underlying the cell was graded to remove vegetation and sharp objects. Background samples were obtained from the soils approximately 3 to 6 inches below grade for laboratory analysis of TPH. Approximate locations of the background samples are shown on Plate 4. Results are summarized in Table 2, and laboratory test reports, with chain-of-custody documentation are presented in Appendix A As noted in Table 2, the native soils conrain TPH concentrations of 6 to 24 mg/kg which apparently occurs as natural organic material. Two layers of 6-mil thick polyethylene sheeting were then placed on thi ground surface and covered with 3 to 6 inches of protective soil.

Identified soils containing TPH concentrations in excess of 100 mg/kg were excavated to depths of 1 to 4 feet below ground surface as shown on Plate 5. Prior to excavation, vegetation was removed from the surface by scraping it free with the tractor. The vegetation (dry weeds) was removed during subsequent debris clearing operations. Excavation was performed using a Case 580 backhoe operated by L and H Consulting, Inc. of Ventura, California. Operations were observed by an HLA engineer or geologist. Once excavated, contaminated soil was transferred to the onsite treatment cell in Zones A through D. Approximately 150 cubic yards of material was transferred to the cell. The soil was mixed within the ESB cell using a Kubota Model No. 1640-A rototiIIer until it reached a near uniform thickness of approximately 0.75 feet and clods were broken down. Rocks, trash, plant material, metal, etc. were hand picked from the soil. Water was applied periodically to help mix the material and.suppress dust.

Previous site characterization investigation data indicated that soils from 0 to 6 inches in depth in areas along the east and west sides of the northern concrete pad and the north side of the south pad (see Plate 3) contained significantly higher TPH levels than the majority of the other soils. These soils, consisting of approximately 7 cubic yards, were selectively excavated based on evidence of staining and stockpiled on the concrete pad for further testing. Two samples were submitted to ABB Laboratories in Camarillo, California for analysis of TPH by EPA Test Method 418.1 (waste oil) and modified 8015 (diesel). Results are summarized in Table 3: laboratory test reports and chain-of-custody documents are presented in Appendix B. Concentrations of TPH as waste oil in the stockpiled material were 2260 mg/kg and 5220 mgtkg for the two samples analyzed. No TPH was detected as diesel.by modified EPA Test Method 8015. Based on the analytical results, the selectively excavated materials were transferred to the ESB cell but were placed in Zone E and segregated from the remaining soils in the treatment cell.

Treatment began on August 1, 1990 and consisted of applying nutrients dissolved in water once a week and rototilling the soils three times a week. This process continued for 4 weeks. Th nutrient mix consisted of approximately 100 pounds of phosphate and 300 pounds ammonium nitrate mixed with approximately 1,500 gallons of water. Approximately 10 pounds of lime was applied on September 7, 1990 and again on September 14, 1990 to raise the pH level of the soils. Beginning on the fifth week, rototilling and watering was reduced to a weekly schedule and the application of nutrients was ceased.

Soil samples from the ESB were collected for analysis of TPH by EPA Test Method 418.1 on August 1, 23, and September 20, 1990 to evaluate ESB progress. Samples were collected from each of five designated zones (A through E, Plate 4). Samples from each zone consisted of composites from 4 locations in Zones A through D and 3 locations in Zone E. In addition, a split sample from each of the four composited samples collected in Zone D was analyzed at each sampling event to evaluate the variability of the composite sampling process. Sampies were collected from approximately 6 inches below the surface, mixed in a stainless steel tray and

placed in glass jars. Results are summarized in Table 4; laboratory test reports and chain-of-custody documents are contained in Appendfa: C.

The results of the soil samples from the ESB cell indicate that TPH levels decreased significantly after excavation, mixing and initial treatment in the ESB cell, but that subsequent treatment has not yielded substantial decreases below 100 mg/kg TPH based on analytical data through September 25, 1990 (Table 1). The average TPH concentrations in Cells A through D, including the composite and individual samples for samples collected on August 1, 23, and September 25, 1990 is 85 mg/kg. The standard deviation of the sample population is 43. The results of a Students t-test analysis on the sample data indicates a 90 to 95 percent level of confidence that a given sample has a concentration less than 100 mg/kg. Soils containing elevated levels of TPH in Zone E decreased from 2,260 and 5,220 mg/kg after initial excavation, to 767 mg/kg and 333 mg/kg after 4 and 8 weeks of treatment, respectively. Treatment will continue for the soils in Cell E will continue until October 31, 1990 to further reduce TPH concentrations to\within the range of the four other zones. If the TPH levels do not decrease, they will be removed for offsite disposal.

4.0 CONFIRtv1ATION SALvIPLING

4.1 CALWON 1 AREA

Following completion of debris removal from the Canyon 1 area, an HLA geologist observed the area to verify that the debris had been excavated from the canyon. The areas of the cleanout are shown on Plate 2. Based on our observations, all identified material scheduled for offsite disposal has been removed from the site. Following excavation of the debris, Mr. Barry Marczek of the Ventura County Solid Waste Division (VCSWD) observed the area on August 31, 1990 and found it acceptable. The VCSWD authorized use of the plasterboard debris, concrete, and asphaltic concrete as onsite fill subject to approval of the soils engineer (Gorian: and Associates).

The cleanout and stockpiled material remaining at the site was also observed on September 9, 1990 and found to be acceptable by Mr. Richard Fausset, Walnut Canyon Associates; rvfr. Glenn Aalbers, JBH; and Mr. Scott Simmons, Gorian and Associates.

Following cleanup operations, soil samples were collected from five locations at the bottom of the Canyon 1 area (Plate 2) for confirmation chemical analysis. Samples were submitted either from areas where the most abundant accumulations of metallic debris were observed during the site characterization, or in areas at the junctions of the side canyons and main canyon where metals may have accumulated as a result of transport from intermittent stream runoff. Samples were submitted for analysis of Title 26, California Code of Regulations (CCR) metals. The analytical tests did not detect any total metal concentration exceeding the designated hazardous levels (total threshold limit concentration, TTLC) of CCR, Title 26. Analytical reports, with chain-of-custody documentation are presented in Appendix D. The analytical program specified in the SC/RAP report (HLA, 1990) was amended to exclude analysis of TPH and asbestos because HLA did not encounter evidence of such substances during the excavation. This modification to the program was authorized by Mr. Fausset (Walnut Canyon Associates) and Mr. Aalbers (JBH).

4.2 CANYON 2 AREA

4.2.1 Debris Removal

Following cleanup operations, the area was observed by an HLA geologist to check that the removal was complete. The remediated areas are shown on Plate 2. One small stockpile of broken concrete was left onsite for use during future grading operations. The two concrete pads and remnants of the former foundations were left in place.

Mr. Barry Marczek of the VCSWD observed the cleanout area and found it acceptable. The cleanout area also observed and approved by Mr. R. Fausset (Walnut Canyon Associates) and Mr. G. Aalbers (JBH), and Mr. S. Simmons (Gorian and Associates).

4.2.2 Soil Remediation

Soil samples were collected from the excavation subgrade to check that the TPH levels in soils left inplace were below 100 mg/kg as recommended in the SC/RAP report (HLA, 1989). Sampling locations are shown on Plate 5. Grab samples were collected at depths of approximately 6 inches below the subgrade elevation and placed in labeled lass jars. Discrete and composite samples were collected from the four areas as shown on Plate 6. Samples were stored in ice-chilled coolers for transport to ABB Laboratories in Camarillo, California for analysis of TPH (EPA Test Method 418.1). Selected samples were analyzed for purgeable organics by EPA Test Method 8010/8020. Results are summarized in Table 6; laboratory analytical reports and chain-of-custody documents are contained in Appendix **E.**

The results indicate that soils at most sampling locations within the excavation subgrade contain TPH as waste oil at concentrations below the laboratory detettion level (Table 5). Four samples collected along the eastern and southern edges of the northern concrete pad at depths of 2.5 to 3.5 feet below the former ground surface had TPH concentrations ranging from 6.7 to 53 mg/kg.

It is possible that these represent natural organic material (Table 5). No purgeable organics were detected in samples from the excavation subgrade.

5.0 SUMMARY AND CONCLUSIONS

A summary of the results of the remedial action plan implemented at the Walnut Canyon Site is provided as follows:

- The Canyon 1 and 2 debris removals have been completed to the satisfaction of HLA and representatives of the Ventura County Solid Waste Division, Walnut Canyon Associates, JBH Development Company, Inc. and the geotechnical engineers, Gorian and Associates,

- A total of approximately 3,076 tons of debris was excavated and disposed offsite at municipal (Class 3) landfills,

- Stockpiles of concrete, asphaltic concrete and plasterboard debris have been left onsite for use during future grading operations with the agreement of the aforementioned parties. We suggest that, to avoid potential nuisance, stockpiled plasterboard debris should either be mixed with clean soils to yield non-discernable concentrations of plasterboard debris and/or be buried in fill areas such that the potential for future exposure is minimized,

- Laboratory analyses of verification soil samples taken after removal of debris from Canyon 1 did not detect hazardous levels of metals[1],

- Soils in the Canyon 2 area which contained elevated levels of hydrocarbons (TPH over 100 mg/kg) have been excavated and treated using ESB techniques. Soils from Zones A through D of the ESB have been treated to reduce average TPH concentrations to below 100 mg/kg. Treatment of soils in Zone E of the ESB cell (consisting of approximately 7 cubic yards) will continue until TPH levels are reduced to average concentrations less than 100 mg/kg, or they will be disposed offsite at an appropriately licensed landfill,

- To reduce potential future liabilities, we recommended that treated soils from the ESB cell be placed as subgrade below paved roads or covered with a minimum of 3 feet of clean soil to isolate them from potential human and animal contact during and after site development,

[1]Hazardous levels of metals defined by California Code of Regulations, Title 26, Section 66699.

- At the agreement of the aforementioned parties, the soils underlying the two concrete pads in the Canyon 2 area, and the concrete itself, were not tested to evaluate the presence of hydrocarbons. Based on visual observation of soils along the perimeter of the pads and the condition of the concrete, the potential for encountering significant concentrations of hydrocarbons is considered low,

- Caution should be used during future grading operations with respect to the abandoned oil well casing. Efforts should be taken to identify its location after stockpiled material is removed from the area of the well site,

- The onsite water wells should be properly abandoned prior to development, and

- It is our judgement that the debris removal and soil remediation has been conducted in accordance with standards contained in all applicable laws and regulations. Based upon our investigation of the subject property, HLA is unaware of any additional hazardous or toxic materials on the property.

LIST OF REFERENCES

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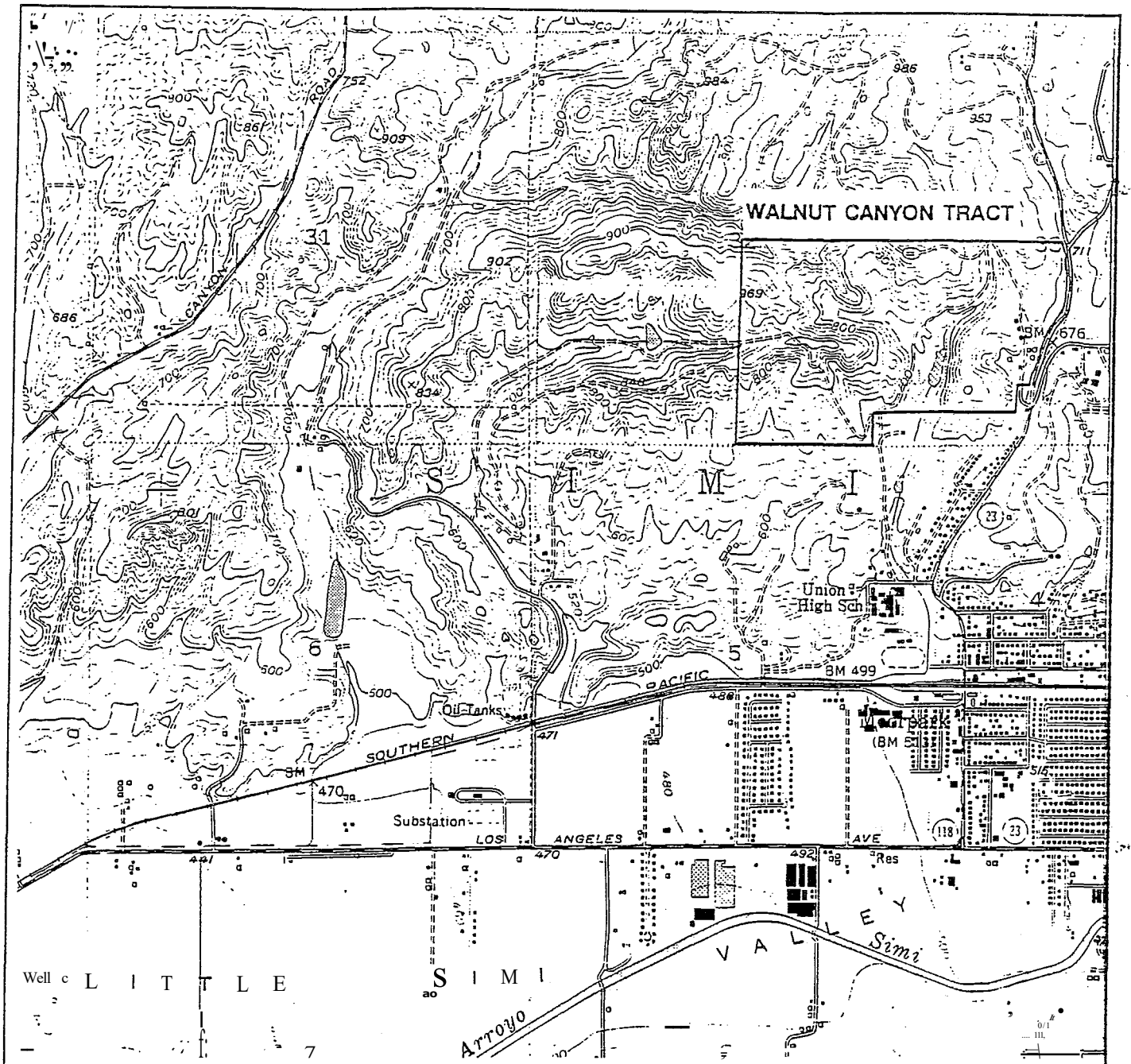

SCALE

[illegible]

Reference: USGS 7.5-minute quadrangle, Moorpark, California (photorevised 1969)

Harding Lawson Associates
Engineering and
Enviroomental SeNices

VICINIIY MAP
Walnut Canyon Investigation
Moorpark, California

PLATE
1

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
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APPLIED ENVIRONMENTAL TECHNOLOGIES INC.
4561 Market St., Suite B • Ventura, CA 93003 • Phone: (805) 650-1400 Fax: (805) 650-1576

October 16, 2006
Project No. 0161-29P/A

Impact Sciences, Inc.
803 Camarillo Springs Road, Suite A-1
Camarillo, California 93012

Attention: Mr. Mark Austin

Phase I Environmental Site Assessment Update and
Limited Phase II Soil Screening for Organochlorine Pesticides
Hitch Ranch, Moorpark Specific Plan No. 1, Moorpark, California, 93021

1.0 INTRODUCTION

Applied Environmental Technologies, Inc. (AET) is please to present this report of a Phase I Environmental Site Assessment – Update (ESA – Update) and a Limited Phase II Soil Screening Assessment (soil sampling and selected analysis) for the approximate 282 acres of undeveloped, hilly land known as the Hitch Ranch (Moorpark Specific Plan No. 1). The property is generally located north of Poindexter Avenue, east of Gabbert Road (with a portion to the west of Gabbert Road), and west of the properties located along the west side of Moorpark Avenue/Walnut Canyon Road (Highway 23) in northwest Moorpark, California (Site, Plate 1). The ESA was performed for Impact Sciences of Camarillo, California.

Fifteen or 16 water wells are reportedly located on the Site, based on a July 26, 2004, Memorandum from the Ventura County Public Works Agency Water Resources Division (VCWRD). One well is listed as active, four are listed as destroyed and two are listed as abandoned (but not destroyed). The locations of the remaining wells are listed as unknown. AET reviewed the status of the water wells and included the findings in this report.

Impact Sciences provided a document to AET titled: *Phase I Environmental Site Assessment, Hitch Ranch, Moorpark Specific Plan No. 1, Moorpark, California, 93021,* dated February 13, 1998, prepared by Gradient Engineers, Inc. of Westlake Village, California. According to the previous Phase I ESA, portions of the Site were historically developed with orchards. Based on the identification of orchards on the Site, AET performed a limited Phase II Soil Assessment in order to confirm or deny significant impacts to the Site from the potential historic use of organochlorine pesticides on the orchards.

The objective of the Phase I ESA Update is to identify recognized environmental conditions at the Site that may have occurred since the date of the previous Phase I ESA. The ESA was performed in accordance with the scope of work contained in the American Society for Testing and Materials (ASTM) Designation E 1527-00. As defined, recognized environmental conditions include "the

presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies. Conditions determined to be de minimis are not recognized environmental conditions."

The Phase I ESA Update and Limited Phase II Soil Screening Assessment (SSA) was performed in accordance with the scope of work provided in AET's proposal dated October 5, 2005. The work on the Phase I ESA Update was put on hold for a time. The ESA was performed under the direction of a California Registered Environmental Assessor qualified to perform the work. The Limited Phase II SSA was performed under the direction of a Professional Geologist qualified to perform the work. Details of the methods of investigation, findings, and conclusions are provided herein.

2.0 SITE DESCRIPTION

2.1 Property Description

The Site is an irregular shaped parcel of vacant land consisting of approximately 282 acres of land (Plate 1). The Site is generally located in the north half of Section 5, and the northeast quarter of the southeast quarter of Section 6, Township 2 North, Range 19 West, San Bernardino Base and Meridian. The southern boundary of the Site extends for approximately 5,280 feet (one mile) along the north side of a concrete lined storm water channel, a railroad right-of-way, and Poindexter Avenue, with residential and commercial properties south of Poindexter Avenue. West of the Site boundary are vacant land and an area of residential properties in a rural setting. Gabbert Road crosses the western portion of the Site and provides access to the residential properties northwest of the Site. A fence line and a eucalyptus tree row are along the northern boundary of the Site with generally undeveloped land (range land) to the north. East of the Site are residential properties, a school, and vacant land. The north/south trending Walnut Canyon Road (also known as Moorpark Road and State Highway 23) is located between 1,000 and 1,500 feet east of the Site. At the time of AET's site visit, the only structures on the Site were an above ground water tank located in the northeast portion of the Site; footings and concrete floor slabs located in the central portion of the Site (reportedly former apricot pitting and drying buildings, and hog pens); and three water wells generally located near and along the southern boundary of the Site. Photographs showing the current development of the Site and vicinity are provided as Attachment A.

2.2 Physiographic Description

The Site is located on the south flank of the Oak Ridge/Big Mountain hills within the central Transverse Ranges physiographic province of southern California. The Site elevation ranges from approximately 720 feet above mean sea level (msl) in the northern portion of the Site to

approximately 475 feet above msl in the southern portion of the Site as measured from the United States Geological Survey, Moorpark, California 7.5 Minute Topographic Quadrangle Map (1955, Photorevised 1974). The topographic gradient is toward the south. South flowing intermittent streams and gullies on the Site drain southward to the concrete channel along the south boundary of the Site. The nearest surface water drainage is the west flowing Arroyo Simi located approximately 0.56 mile south of the Site. The Arroyo Simi flows westerly to the Pacific Ocean.

2.3 Geology/Hydrogeology

The Site is underlain by uplifted and eroded Quaternary age alluvium and terrace deposits that overlie Plio-Pleistocene age loosely consolidated sandstone, shale, and gravel. The Site is located in the eastern portion of the South Las Posas Groundwater Basin. The depth to groundwater ranges from greater than 100 feet in the northern portion of the Site to approximately 10 feet near the Arroyo Simi, south of the Site. The water quality is generally poor, with total dissolved solids greater than 1,000 milligram per kilogram. The groundwater in areas of the basin has been impacted by nitrate (Ventura County Public Works Agency Hydrologic Data, 1986).

3.0 INVESTIGATION METHODOLOGY AND FINDINGS

3.1 Summary of Previous Phase I ESA

AET reviewed the previous Phase I ESA dated February 13, 1998, and an Addendum to Phase I ESA dated February 14, 2000, prepared by Gradient Engineers (GE). The Phase I ESA identified the past uses of various portions of the Site as: an apricot orchard (1930s to 1948); hog farming (1930s to 1960s); lemon orchard (1948 to 1970s); wheat farming; dairy cow grazing; and horse training. Structures identified on the Site in 1998 by GE included: a single family residence at 537 Poindexter Avenue (in the southeastern portion of the Site); a workshop, three wooden structures, an animal staging area and corral, and footings and concrete slabs in the central portion of the Site (reportedly used for apricot pitting and drying operations, an office, and hog pens); a large, round, above ground steel water tank in the northeast portion of the Site; and three water wells. Except for the occupied residence, the Site was reported to have been fallow since the early 1980s. No underground storage tanks (USTs) were observed on the Site and none were identified as having been historically located on the Site.

In the Phase I ESA, GE identified eleven areas of potential concern (APCs) at the Site: 1) suspect asbestos containing building material in Site buildings; 2) empty containers located in and around structures on the Site; 3) empty paint cans, a car battery, and other debris located in a wash east of Gabbert Road; 4) landscape debris dumped in a small valley west of Gabbert Road; 5 and 6) orchard heaters (smudge pots) in the southern portion of the Site, some with bullet holes; 7) former above ground oil tanks located along the southern boundary west of Gabbert Road (identified as such on a 1951 topographic map and observed in 1938 and 1952 aerial photographs); 8) two locations with abandoned vehicles; 9) an above ground, 500-gallon diesel tank located near the end of Casey Road at the east boundary of the Site with the following notation: "It is not evident if this tank is on the subject property"; 10) abandoned agricultural equipment on the Site; and 11) a reported septic

system in the central part of the Site. Copies of the Site Location Map, and Site Map with the numbered locations of the APCs (findings) are provided as Attachment B.

The Phase I ESA report included the following recommendations: removal of the trash, junk and debris with soil sampling as needed; survey of the structures for asbestos and lead based paint; soil sampling in the areas of the orchard heaters and above ground storage tank; and soil sampling in the orchard areas for agricultural chemicals.

The Addendum Report (February 2000) prepared by GE was in response to concerns of the City of Moorpark Community Development Department following a review of the 1998 Phase I ESA Report. The Addendum addressed the location and status of active and leaking USTs located off-Site within the Site vicinity; the status of an adjacent property north and northeast of the Site with un-permitted solid waste disposal area (identified as The Walnut Canyon Tract Landfill); and the status of the on-Site water wells. GE reviewed agency reports including those submitted to the California Department of Toxic Substances Control (DTSC) for the clean up of the Walnut Canyon Landfill; reviewed UST and Leaking UST lists at Ventura County Environmental Health Division (VCEHD); and reviewed water well information for 15 potential water wells on the Site at the VCWRD. The Addendum Report concluded that the off-Site active USTs, leaking USTs, and the Walnut Canyon Tract Landfill did not pose an "environmental concern at this Site". A list of the 15 potential on-Site water wells was provided with nine of the wells having a depth of casing, and three of the nine were listed as abandoned (the status of the water wells is further discussed in Section 3.4, below). The VCWRD provided GE with the mitigation measures for any water well (currently identified or discovered during future grading).

3.2 Federal and State Database Review

A government database report, prepared by Environmental Data Resources (EDR) of Southport, Connecticut of available federal, state and county agency databases was reviewed to identify government regulated properties having known recognized environmental conditions and potential environmental concerns within the vicinity of the Site. Because of the size of the Site, the radii of investigation for the Federal and State agency lists were extended up to 2.0 miles. A description of the government databases reviewed is detailed in the EDR report. Also included in the EDR report are maps illustrating the location of listed properties relative to the location of the Site. A complete copy of the EDR report, dated November 11, 2005 that was ordered shortly after the original start work date, is provided as Attachment C.

A summary of properties that could not be mapped by EDR but were identified as potentially within the Site vicinity (orphan properties) is also included in the EDR reports. Of the listed unmappable properties, none are identifiable as being located adjacent to the Site. The pertinent findings of the government database review are summarized below.

The Site is not identified in the EDR report.

The Site is not located with 1.0 mile of a federal Superfund property.

There are three properties located cross or up gradient of the Site listed in the database report. Michael Harris at 6086 Gabbert Road (west of the Site) is listed on the UST List as having an inactive underground storage tank and on the HAZNET List as a generator of hazardous waste (used oil). Two properties, located at 11905 and 11855 Darlene Lane (northwest of the Site) are listed on the RCRA Small Quantity Generator List as generators of hazardous wastes with no violations found. Having a registered UST or being a registered generator of hazardous waste does not indicate that a release has occurred on the property.

A listing on the Emergency Response Notification System (ERNS) List was identified as 6061 Gabbert, near the west part of the Site. No additional information is provided; however, releases of fuel at an accident or spills on a roadway are typically identified on the list when an emergency response agency (police or fire department) reports the incident and provides for the cleanup.

There are seventeen properties located south and down gradient of the Site listed on the RCRA Small Quantity Generator List, and 30 properties located south and down gradient of the Site listed on the HAZNET List as generators of small quantities of hazardous wastes. Being a registered generator of hazardous waste does not indicate that a release has occurred on the property.

There are nine properties located down gradient of the Site listed on the Leaking Underground Storage Tank (LUST) List that are also listed on the Cortese List. Seven of the properties have received a case closure from the regulatory agency. According to the State GeoTracker database, the eighth property received a case closure from the regulatory agency in August 2005. The ninth property, Summit Energy Gas Station located approximately 0.9 mile southeast of the Site at 50 West Los Angeles Avenue, is an open case. The leak was reported in 2001, and after soil and groundwater assessments were performed, remediation of the property began in January 2005 and continues today. Based on the status of the eight properties (case closed) and the distance and down gradient location of the one active property that is undergoing remediation, there is low probability that the listed properties have impacted the Site.

Based on the database review, there is a low probability that the listed off-site properties in the Site vicinity have impacted the Site due to their regulatory status (case closed, waste generators); their down gradient locations from the Site; and their distances from the Site.

3.3 Oil and Gas Development

The Munger Map Book of California-Alaska Oil and Gas Fields, 2003 Edition, was reviewed to assess the presence of known active or abandoned oil and gas wells within the Site vicinity. Based on the review, there are no active or abandoned oil wells on the Site. The nearest productive oil wells are in the very small Moorpark and Moorpark West oil fields located approximately 1 mile

northwest and northeast of the Site. Most, if not all, of the wells have been abandoned. The Site has not been impacted by oil and gas production.

3.4 Ventura County Water Resources Department

AET contacted the VCWRD for information concerning the reported water wells located on the Site. Ms. Barbara Council of the VCWRD provided AET with a Table listing 16 wells identified by State Well Numbers and several aerial photographs showing the approximately location of the 16 water wells suspected of being on the Site. The Table also shows the Status and Revised Status of the wells. Six of the 16 wells are listed as "destroyed" (meaning properly removed and plugged), two wells are listed as "Non-Compliant Abandoned" (abandoned in this case means the well is not in use but is not yet destroyed), one well is listed as active, and seven wells are listed as "Can't Locate Indeterminable". According to Ms. Council, their records indicate that some of wells permitted on the Site were drilled but were not cased (possibly because they were dry or low yielding); therefore, there is no well at that location that requires destruction. Most, if not all, of the indeterminable wells may have been un-cased core holes.

During AET's Site visit, three wells were located: Well 5K1 (non-compliant) was observed with a pump located north of Poindexter Avenue on the flat land south east of the former residence; Well 5K2 (non-compliant) was observed on a concrete pad without a pump in bushes on the east side of the entrance road approximately 50 feet south of the gate; and Well 5F2 (active) was observed with a pump and electric panel at the location of Well 5F1 on the photograph (Plate 2). The well is located in trees approximately 200 feet east of the southeast corner of the rural residential neighborhood northwest of the Site.

A copy of the Well Table is provided as Attachment D. The VCWRD provided a recent aerial photograph showing the best estimate of the well locations (Plate 2).

3.5 Aerial Photograph Review

Copies of aerial photographs for the years 1938, 1945, 1959, 1964, 1970, 1977, 1989, 1994, and 2002; and Historical Topographic Maps for the years 1903, 1944, and 1951 available through EDR, were reviewed by AET for historical land use identification. Two individual adjacent photographs for each year were provided to cover the area of the Site. Based on the review of available aerial photographs and maps, the historical development of the Site and vicinity was evaluated and is summarized below.

The 1903 Camulos Topographic Map (1" = 125,000") shows the Site to be undeveloped land. The Southern Pacific Railroad track and a road that predated Los Angeles Avenue (Highway 118) are present south of the Site. Gabbert Road is not present; however, dirt roads extend north from Los Angeles Avenue on the east and west sides of the Site.

The 1938 aerial photograph (Fairchild, 1" = 500') shows the Site to be developed with agriculture. Gabbert Road is present running northward across the west portion of the Site.

Two small structures, young orchards, and undeveloped land are present northwest of the Site along Gabbert Road. The west portion of the Site appears to be fallow or grazing land. The east and south-central portions of the Site have established orchards with both young and more mature trees. An area in the central portion of the Site may be planted in hay or wheat. The main entrance to the Site is on the south side in the same location as it is today. A dirt road extends north from the present Poindexter Avenue, over the railroad track and into a small valley with low hills to the east and west. Approximately 450 feet north of the entrance, the valley forms a Y (one valley goes west-northwest and one goes north-northeast). At the Y was a ranch building, possibly a barn approximately 50 feet long on each side. On the hill east of the entrance is a ranch house with an access road around the south and east sides of the hill. A small structure is located approximately 600 feet east of the ranch house. A second ranch house is located near the eastern boundary of the current Site with an access road of the end of Casey Road. Casey Road extends west from Walnut Canyon Road. Several buildings are located east of the Site and south of Casey Road that are identified as Union High School on the 1951 topographic map.

The 1944 Piru 15-Minute Quadrangle Topographic Maps shows the Site and vicinity to be little changed since the 1903 map (the on-Site orchards and structures are not noted on the map).

The 1945 aerial photograph (Fairchild, 1" = 400') shows several changes to the Site since the 1938 photograph. Trees are present in the valley east of Gabbert Road, and a small shed and four round objects (possible above ground storage tanks) are located approximately 160 feet west of Gabbert Road along the south boundary of the Site. On a ridge in the central portion of the Site are several rectangular buildings reported to be for apricot pitting and drying (GE Report, 1998). The Site vicinity is little changed since the 1938 photograph.

The 1951 Moorpark 7.5 Minute Quadrangle Topographic Map shows the Site orchards and structures to be present on the east and southern portions of the Site, as seen in the aerial photographs. A round tank is located approximately 800 feet south of the north property boundary and 100 feet west of the east property boundary in the orchard (observed by AET and others to be a water storage tank currently on the Site). The four round tanks west of Gabbert Road that were observed on the 1945 photograph are identified as "oil tanks" (the GE Report discussed the storage of oil in the above ground tanks for use in orchard heaters).

The 1959 aerial photograph (Robinson, 1" = 555') shows the Site and Site vicinity to be little changed since the 1945 photograph. The ranch building (barn) located in Y-valley north of the entrance road is gone. Electric transmission poles (towers) are present on the west side of the Site along Gabbert Road. Five additional small structures are located northeast of the buildings on the central portion of the Site (identified as hog pens in the GE Report). The area of the Site planted in orchards is approximately half of the original area. Several long rectangular buildings are located northwest of the Site (off-Site) on the north side of Gabbert Road. More development is present at the High School and along Walnut Canyon Road, east of the Site.

The 1964 aerial photograph (Mark Hurd, 1"=666') shows the Site to be little changed since the 1959 photograph. Orchards are only present in the northeast corner of the Site, along the east side of Gabbert Road, and in a small area along the south boundary of the Site. The area of the Site west of Gabbert Road is fallow and the four above ground tanks are gone. The ranch house at the end of Casey Road is still present, but development east of the ranch house has increased.

The 1970 aerial photograph (Mark Hurd, 1" = 333') shows the Site to be little changed since the 1964 photograph. The power poles on the west portion of the Site have been replaced by twin legged steel towers. A new alignment of steel towers is under construction along the southern Site boundary west of Gabbert Road and a Southern California Edison Company Substation is under construction south of the western portion of the Site, south of the railroad tack and the extension of Poindexter Avenue. There are more structures (rural dwellings) on the land northwest of the Site along Gabbert Road.

The 1977 aerial photograph (Teledyne, 1" = 666') shows the Site to be little changed since the 1970 photograph. Residential neighborhoods are present south of Poindexter Avenue and in the community of Moorpark southeast of the Site.

The 1989 and 1994 aerial photographs (USGS, 1"= 666') show little change to the Site since the 1977 photograph except that all orchard areas are gone and the Site appears fallow. Commercial buildings are present off-Site on previously vacant land south of Poindexter Avenue and east of Gabbert Road, and more rural residential development has occurred on the land northwest of the Site.

The 2002 aerial photograph (USGS, 1"=666') shows that the ranch house located off Casey Road is gone and the school property has expanded west. The location of the old ranch house west of the end of Casey Road is now shown to be off-Site. The dirt roads that have existed on the Site since the 1930s are still clearly visible in the photograph. The Site is fallow grass/brush land with occasional single and multiple trees.

Based on the historic aerial photograph and topographic map review, the Site has been developed with agriculture (orchards and hog farming) since the 1930s through the 1980s, and has been generally fallow since the 1980s.

3.6 Site Reconnaissance

On May 16, 2006, an AET representative visited the Site to observe Site conditions. The Site was accessed from the main entrance road off Poindexter Avenue and across the railroad tracks and the concrete lined storm water channel. The entrance was approximately 1,000 feet west of the southeast corner of the Site (Plate 1). AET was provided the combination to the locked gate to gain access to the vacant Site. All portions of the Site were observed from existing on-Site dirt roads or on foot. In late 2003, a large fire burned approximately 80,000 acres of land in and around the Simi

Valley and Moorpark. Evidence of a fire on the Site was observed, as no wooden structures remained, and a number of dead trees with charred trucks and trees with new growth were observed at the Site.

The location of one of the former water-wells (5K2) was observed in brush approximately 10 feet east of the entrance road, and 50 feet north of a storm drain. The location of the former ranch house located on the hill just east of the entrance was accessed on foot. No structures were observed on the location. A gas meter pipe was observed on the northeast part of the hill. From the hill, a water- well (5K1) with a pump was observed on the flat land below (Attachment A, Photograph 1). The entire southeast portion of the Site was covered with dry grasses.

Observations were made to the north on the dirt road in the small valley and then toward the northeast up a hill to the location of the dead end of Casey Street, the adjacent school property, and residential properties east of the Site. Continuing north along the east perimeter road, several rusted farm vehicles and farm equipment were observed (Photograph 2). Further north a large steel above ground water tank was observed (several bullet holes were present in the sides of the tank and the tank was empty). An old couch and other minor debris were observed around the tank (Photograph 3).

The road continued to the northeast corner of the Site near the 700-foot elevation, one of the highest points on the Site. The land to the east of the northeast corner and along the entire north boundary of the Site was vacant (Photographs 4 and 5). On a ridge in the central portion of the Site six concrete slabs and an apparent brick barbeque were observed. The larger, southern most, concrete slab was the assumed location of the former apricot pitting barn. Some minor debris and hundreds of rusty nails (result of a fire) were lying on the slab. A rectangular slab with foundations was north of the large slab (Photograph 6). At least three concrete slabs, some with concrete troughs (assumed to be the former hog pens) were observed in a row northeast of the large slab (Photograph 7). At several locations, apparent water pipes were observed extending from the ground. No indications of underground or above ground storage tanks, a toilet facility and septic system, or stained soil were observed in the area.

The topographic slopes in the northwest portion of the Site were less steep than in the northeast portion. Rural residential dwellings were observed west of the northwest corner of the Site (Photograph 8). A clump of small trees and brush were observed just east of the point where the Site again extended west (south of the residential properties). A water-well (identified as 5F1 on the VCWRD photograph) was observed with a pump and electric panel in the trees (Photograph 9). The metal pump shed was on its side nearby. The area south of the residential properties to Gabbert Road had been plowed for weed control. The road along the low land east of Gabbert Road was in poor condition and ended at the service road for the concrete lined channel at the southern Site boundary. North of the service road and east of Gabbert Road was a long flat area where GE had observed the orchards heaters in 1998. No orchard heaters, debris, or stained soil was observed in the area by AET.

The western most portion of the Site (approximately 35 acres) was accessed from an open gate on the west side of Gabbert Road. The dirt service road continued west along the concrete lined channel and the southern Site boundary. Several utility easements for overhead electric transmission towers and poles were observed on the western most portion of the Site (Photograph 10). No soil staining was observed in the area where the four former above ground tanks had been located (reported to have stored heater oil for the orchard heaters). At several locations along the dirt road, light-gray colored (charcoal) soil was observed, the result of a fire.

In summary, at the time of the Site visit no underground storage tanks, above ground fuel tanks, pits, ponds, stressed vegetation, significant debris or stained soil was observed on the Site. No structures were observed on the Site, except for an empty water tank in the northeast portion of the Site, the concrete slabs and some charred wood in the central portion of the Site, and three water well locations along the southern portion of the Site.

No evidence of the former orchards, or most of the APCs identified by GE in the 1998 Phase I ESA Report were observed by AET during the 2006 Site visit. However, in AET's opinion, the potential use of organochlorine pesticides in the areas of the Site formerly developed with orchards (such as DDT that has a long half-life in shallow soil) remained an APC at the Site.

3.7 Adjacent Property Reconnaissance

Adjacent properties around the Site were observed by AET for evidence of recognized environmental conditions. West and northwest of the Site was undeveloped land and an area of rural dwellings accessed from Gabbert Road. South of the Site were a drainage channel, a railroad track, Poindexter Avenue, followed by a residential neighborhood (southeast) and commercial businesses (southwest) across Poindexter Avenue. A Southern California Edison Substation was observed south of the western most portion of the Site. Poindexter Avenue terminated at Gabbert Road. East of the Site from south to north, AET observed a school, the end of Casey Road, residential properties, and undeveloped land. North of the Site was undeveloped land. No recognized environmental conditions were observed on the adjacent properties.

4.0 LIMITED PHASE II SOIL ASSESSMENT

In order to confirm or deny significant impacts to the shallow soil from the potential use of organochlorine pesticides in the former orchards, AET established an approximate grid pattern with 15 locations in the east and south portions of the Site where most of the orchards observed on the aerial photographs had been located. The approximate locations of the 15 soil samples are shown on Plate 3.

4.1 Field Methods

On August 18, 2006, a geologist from AET collected 15 shallow soil samples (one soil sample from each of the 15 grid locations) for analysis of organochlorine pesticides. Soil samples were collected using hand-operated soil sampling equipment in 6-inch-long brass sleeves from the

interval of approximately 1 inch to 7 inches below ground surface (bgs). The ends of the sleeves were covered with Teflon sheets and plastic end caps sealed with paraffin tape. The samples were labeled and were placed in an ice chest with blue ice.

4.2 Laboratory Methods

The samples were submitted to American Scientific Laboratories in Los Angeles with Chain-of-Custody documentation. Each sample was analyzed for Organochlorine Pesticides using EPA Test Method 8081A.

4.3 Results

Five pesticide compounds were detected: Dichlorodiphenyltrichloroethane (DDT), its two daughter products Dichlorodiphenyldichloroethylene (DDE) and Dichlorodiphenyldichloroethane (DDD), Alpha Chlordane, and Gamma Chlordane. The laboratory results are summarized on Table 1, and the Laboratory Report and Chain-of-Custody documentation are provided as Attachment E

- Alpha and Gamma Chlordane were detected only in Sample HA-1 at 0.073 milligrams per kilogram per kilogram (mg/kg), and 0.53 mg/kg, respectively.

- DDT was detected in 14 of the 15 samples ranging from 1.7 mg/kg in Sample HA-15 to 0.01 mg/kg in Samples HA-5 and HA-11. The second highest concentration was 0.111 in Sample HA-2. DDT was <u>not</u> detected in Sample HA-3. The average concentration (using the reporting limit of 0.004 for the ND sample) is 0.141 mg/kg. Eliminating Sample HA-15 (1.7 mg/kg), the remaining 14 samples had an average DDT concentration of 0.03 mg/kg.

- DDE was detected in all 15 samples ranging from 4.96 mg/kg in Sample HA-15 to 0.005 mg/kg in Sample HA-3. The second highest concentration was 0.497 mg/kg in Sample HA-14. The average concentration is 0.41 mg/kg. Eliminating Sample HA-15 (4.96 mg/kg), the remaining 14 samples had an average DDE concentration of 0.084 mg/kg.

- DDD was only detected in Sample HA-9 at 0.045 mg/kg.

AET reviewed soil screening levels for the detected compounds from two sources: the United States Environmental Protection Agency (US EPA) 2004 Preliminary Remediation Goals (PRGs) for evaluating and cleaning up contaminated Sites; and, the California Regional Water Quality Control Board (RWQCB) San Francisco Region 2005 Interim Final Environmental Screening Levels (ESLs) for environmental concerns at Sites with contaminated soil and groundwater. The PRG values and the ESL values for the detected compounds for both residential and commercial/industrial soil are provided with the laboratory results on Table 1.

All detected values for Chlordane, DDT, DDE and DDD at the Site are at or below the PRG values for both residential and commercial/industrial land use.

All detected values for Chlordane, DDT, DDE and DDD at the Site are below the ESL values for both residential and commercial/industrial land use except for the DDT and DDE values in Sample HA-15, collected from the flat southern portion of the Site (Plate 3). Sample HA-15 exceeded the ESLs for residential land use for both DDE and DDT, and exceeded the commercial/industrial ESL for DDE.

The average Site-wide values are well below both PRG and ESL values.

AET understands that the area where Sample HA-15 was collected (the flat southern portion of the Site north the concrete channel and railroad track, and between the entrance gate on the east and Gabbert Road on the west) is not planned for residential development and may be the location of the westward extension of High Street from Moorpark Avenue to Gabbert Road. There is no impact from organochlorine pesticides along the southern portion of the Site provided that the area is not developed with residential units. Based on the sampling results collected to date, there is no impact from residual organochlorine pesticide concentrations in the shallow soil for residential development on the remainder of the Site.

5.0 SUMMARY

The following is a summary of the findings presented in this report.

- Based on historical aerial photographs and maps, the Site has been used for agriculture (orchards, hay or wheat, hog farming, and grazing prior to the mid-1930s until the late 1970s. The Site has been generally fallow since.

- The Site is not within 1.0 mile of a state or federal Superfund property (NPL).

- Properties listed on agency databases with environmental conditions within the Site vicinity have a low probability to impact the Site due to their regulatory status, down gradient locations, and/or their distance from the Site.

- On May 16, 2006, AET personnel observed the Site. At the time of the Site visit, no underground storage tanks, above ground fuel tanks, pits, ponds, stressed vegetation, significant debris, previously observed orchard heaters, or stained soil was observed on the Site. Except for an empty water tank in the northeast portion of the Site, concrete slabs and some charred wood in the central portion of the Site, and three water wells located in the southern portion of the Site, no buildings were observed. No evidence of the former ASTs or orchards was observed. No evidence of the former orchards, or most of the APCs identified by GE in the 1998 Phase I ESA Report were observed by AET during the 2006 Site visit. However, in AET's opinion, the potential use of organochlorine pesticides in the areas of the Site formerly developed with orchards (such as DDT that has a long half-life in shallow soil) remained an APC at the Site.

- According to records at the VCWRD, there are 16 water wells suspected of being on the Site. Six of the 16 wells are listed as "destroyed", two wells are listed as "Non-Compliant Abandoned" (abandoned means the well is not in use but is not yet destroyed), one well is listed as active, and seven wells are listed as "Can't Locate Indeterminable". According to Ms. Council, records indicate that some of wells permitted on the Site were drilled but were not cased (possibly because they were dry or low yielding). Because the test holes were not cased, there is no well that requires destruction. Most, if not all, of the indeterminable wells may have been un-cased test holes. During AET's Site visit, three wells were located on the Site.

- On August 18, 2006, in order to confirm or deny significant impacts from organochlorine pesticides, AET personnel collected 15 soil samples from the areas of the Site where former orchards were observed on aerial photographs. At the time of sampling, no evidence of the orchards was observed. Residual concentrations of five pesticides: Alpha and Gamma Chlordane (one sample), DDT (in all but one sample), DDE (in all samples) and DDD (in one sample) were detected. All values at the Site are at or below both the residential and commercial/industrial PRG values. All detected values for Chlordane, DDT, DDE and DDD at the Site are below both the residential and commercial/industrial ESLs except for the DDT and DDE values in Sample HA-15. Sample HA-15 exceeded the ESLs for residential land use for both DDE and DDT, and exceeded the commercial/industrial ESL for DDE. The average Site-wide soil values are well below both PRG and ESL values.

5.1 Remaining Areas of Potential Concern

Three of the APCs identified during the 1998 Phase I ESA remain following AETs Phase I Update ESA. The first is the presence of residual DDT and DDE concentrations in one sample from the flat area located along the southern boundary of the Site east of Gabbert Road and west of the main Site entrance. The second is the potential for petroleum hydrocarbons to be encountered at various locations during Site grading. The third is the suspected septic system in the central portion of the Site (however, it is likely that restroom facilities for seasonal workers would have utilized a cesspool, not a septic tank and leach field). The existing water wells (identified and unidentified) are not considered to be APCs; however, the wells will require proper destruction in accordance with a permit for the VCWRD.

Based on laboratory results and field observations, it is AET's opinion that the identified APCs have not significantly impacted the Site.

5.2 Mitigations Measures for the Identified APCs and Water Wells

- Mitigation for the one area on the Site with residual DDT and DDE concentrations above state ESLs for residential soil could include commercial development in the area, or construction of the extension of High Street through the area.

- Mitigation for potential soil impacted with petroleum hydrocarbons from past use and storage on the Site that may be encountered during grading operations, if any, can be properly handled at the time by following the procedures set out in a subsurface Workplan.

- Mitigation for the suspected septic system or cesspool, if encountered during grading, would include filling the cesspool with sand, or removal of the septic tank and leach field, and removal and disposal of any impacted soil. Because it is more likely that restroom facilities for seasonal workers would have utilized a cesspool, not a septic tank and leach field, if a cesspool is discovered during grading, it should be filled in with sand, or removed (depending on the final grade at the location).

- Mitigation for the three identified water wells on the Site would be the destruction of the identified wells (and any other wells that may be encountered during Site grading) by a licensed well driller in accordance with a permit from the VCWRD and State regulations.

6.0 CONCLUSION

Based on the information presented above, it is AET's opinion that there are no recognized environmental conditions (as previously defined) at the Site, except for one area of the Site with a residual concentration of the organochlorine pesticide DDE in the shallow soil that exceeds residential soil screening levels.

7.0 LIMITATIONS

This report has been prepared for Impact Sciences and its designated parties as a Phase I Environmental Site Assessment Update and a Limited Phase II Assessment of the approximate 282-acre Hitch Ranch property (Moorpark Specific Plan Number 1) located in Moorpark, California. In performing the professional services, AET applied present engineering and scientific judgment and used a level of effort consistent with the standard of practice measured on the date of this report and in the locale of the project Site for similar type studies. Applied Environmental Technologies, Inc., makes no warranty, expressed or implied, in fact or by law, whether of merchantability, fitness for any particular purpose, or otherwise, concerning any of the materials or "services" furnished by Applied Environmental Technologies, Inc., to the client.

Inferences with respect to potential subsurface contamination are based on a review of readily available government and historical records, Site reconnaissance, and limited soil sampling. The findings and interpretations in this report have been developed based on the review of existing information pertaining to the subject Site. It should be recognized that subsurface contamination can vary laterally and with depth below a given Site.

If you have any questions or require additional information, please call.

Yours very truly,
Applied Environmental
Technologies, Inc.

Wallace A. Jensky, II, PG, REA
Principal Geologist

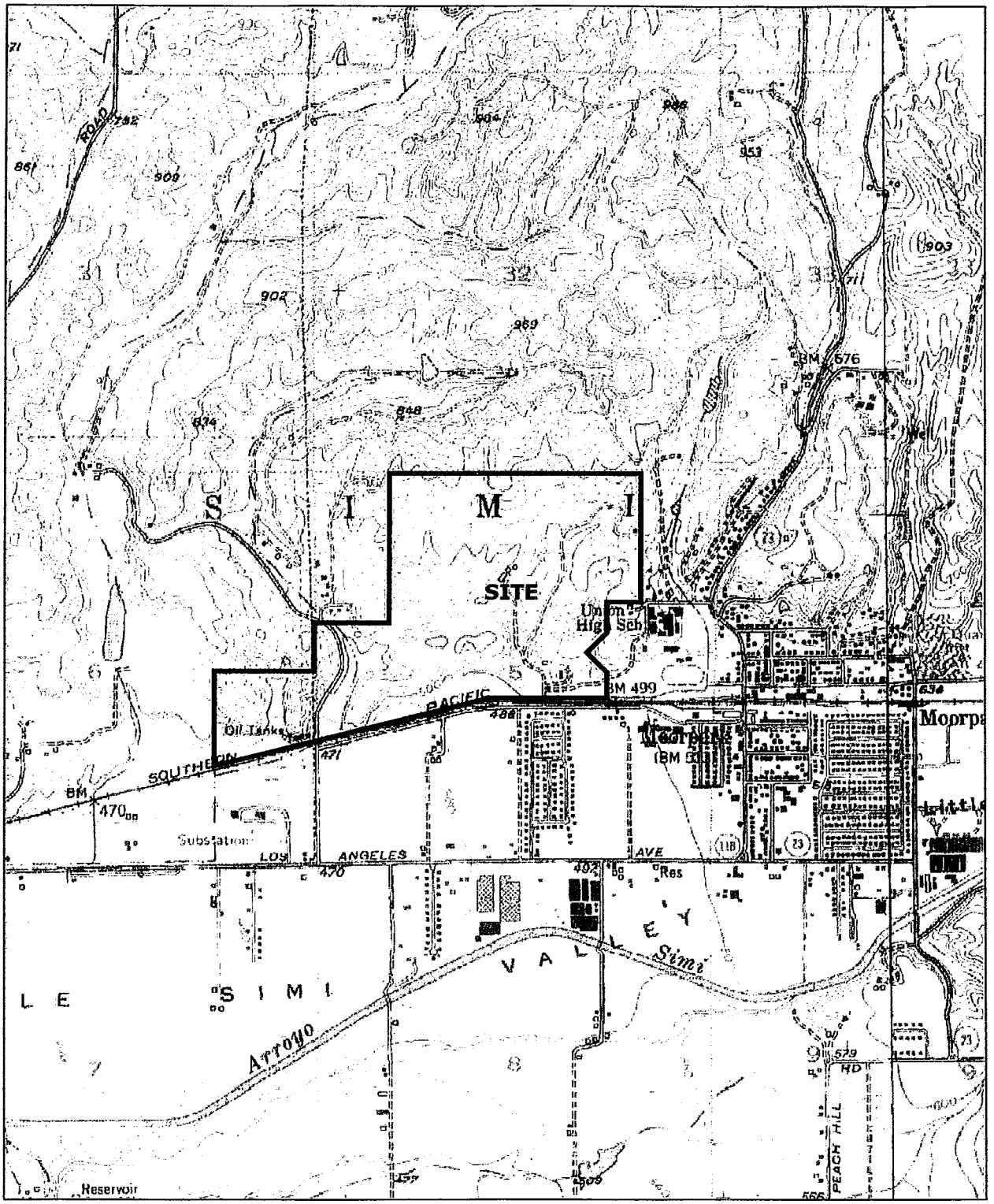


Attachments: Plate 1 - Site Location Map
Plate 2 – Suspected Groundwater Well Locations
Plate 3 – Soil Sample Locations

Table 1 – Summary of Laboratory Results

Attachment A – Current Site Photographs
Attachment B – Site Map with 1998 Areas of Potential Concern
Attachment C - EDR Report
Attachment D – VCWRD Table of Site Water Wells
Attachment E – Laboratory Report and Chain-of-Custody Documentation

PLATES



0' 2000' 1 MILE

SCALE - 1" = 2000' AT 8.5" x 11"

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SITE LOCATION MAP
HITCH RANCH PROPERTY
MOORPARK, CALIFORNIA

PLATE REFERENCE 016129P1A | PROJECT NUMBER 0161-29

PLATE 1



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SUSPECTED WATER WELL LOCATIONS
HITCH RANCH
MOORPARK, CALIFORNIA

PLATE REFERENCE 016129A1B | OCTOBER 9, 2006 | PROJECT NUMBER 0161-29

PLATE 2



0' 750' 1,500'

SCALE - 1" = 750' AT 8.5" x 11"

LEGEND

● SOIL SAMPLE LOCATION

Applied Environmental Technologies, Inc.
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APPROXIMATE SOIL SAMPLE LOCATIONS
HITCH RANCH PROPERTY
MOORPARK, CALIFORNIA

PLATE REFERENCE 016129A1A	OCTOBER 4, 2006	PROJECT NUMBER 0161-29

PLATE 3

TABLE

Table 1

Summary of Detected Compounds in milligrams/killigram

Hitch Ranch, Moorpark, CA 93021

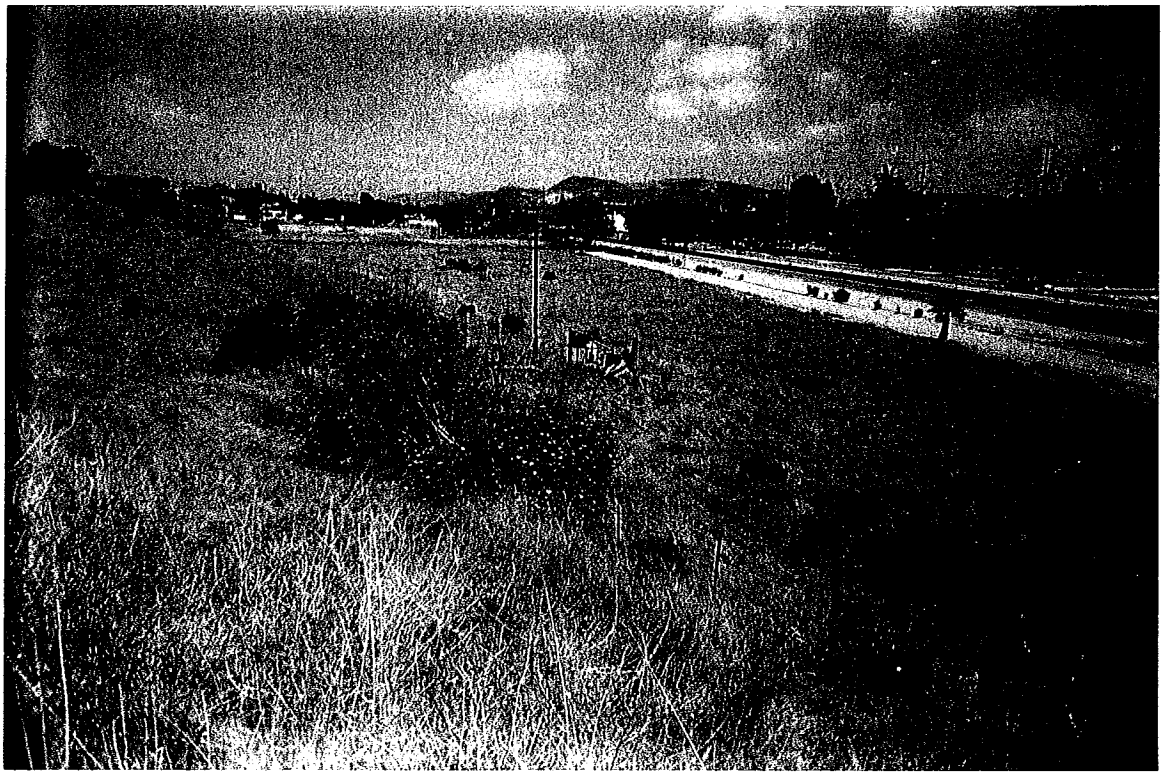
Sample ID	Date	Gamma-Chlordane (mg/kg)	Alpha-Chlordane (mg/kg)	DDD (mg/kg)	DDE (mg/kg)	DDT (mg/kg)
HA-1	08/18/06	**0.053**	**0.073**	$ND_{(<0.004)}$	**0.008**	**0.067**
HA-2	08/18/06	$ND_{(<0.002)}$	$ND_{(<0.002)}$	$ND_{(<0.004)}$	**0.420**	**0.111**
HA-3	08/18/06	$ND_{(<0.002)}$	$ND_{(<0.002)}$	$ND_{(<0.004)}$	**0.005**	$ND_{(<0.004)}$
HA-4	08/18/06	$ND_{(<0.002)}$	$ND_{(<0.002)}$	$ND_{(<0.004)}$	**0.047**	**0.021**
HA-5	08/18/06	$ND_{(<0.002)}$	$ND_{(<0.002)}$	$ND_{(<0.004)}$	**0.009**	**0.010**
HA-6	08/18/06	$ND_{(<0.002)}$	$ND_{(<0.002)}$	$ND_{(<0.004)}$	**0.006**	**0.012**
HA-7	08/18/06	$ND_{(<0.002)}$	$ND_{(<0.002)}$	$ND_{(<0.004)}$	**0.009**	**0.024**
HA-8	08/18/06	**0.035**	**0.045**	$ND_{(<0.004)}$	**0.009**	**0.025**
HA-9	08/18/06	$ND_{(<0.002)}$	$ND_{(<0.002)}$	**0.004**	**0.009**	**0.014**
HA-10	08/18/06	$ND_{(<0.002)}$	$ND_{(<0.002)}$	$ND_{(<0.004)}$	**0.044**	**0.036**
HA-11	08/18/06	$ND_{(<0.002)}$	$ND_{(<0.002)}$	$ND_{(<0.004)}$	**0.019**	**0.010**
HA-12	08/18/06	$ND_{(<0.002)}$	$ND_{(<0.002)}$	$ND_{(<0.004)}$	**0.019**	**0.012**
HA-13	08/18/06	$ND_{(<0.002)}$	$ND_{(<0.002)}$	$ND_{(<0.004)}$	**0.081**	**0.028**
HA-14	08/18/06	$ND_{(<0.002)}$	$ND_{(<0.002)}$	$ND_{(<0.004)}$	**0.497**	**0.047**
HA-15	08/18/06	$ND_{(<0.002)}$	$ND_{(<0.002)}$	$ND_{(<0.004)}$	**4.96**	**1.70**
[1]US EPA Region 9 - PRGs						
Residential		1.60 Total		2.40	1.70	1.70
Industrial		6.50 Total		10.00	7.00	7.00
[2] California ESL's (Shallow Soil)						
Residential		0.44 Total		2.30	1.60	1.60
Industrial/Commercial		1.70 Total		9.00	4.00	4.00

[1] PRG's = US EPA Preliminary Remediation Goals for Soil (2004)

2 California Regional Water Quality Control Board San Francisco, Environmental Screening Level, Interim Final (2/2005) Table A.

ATTACHMENT A

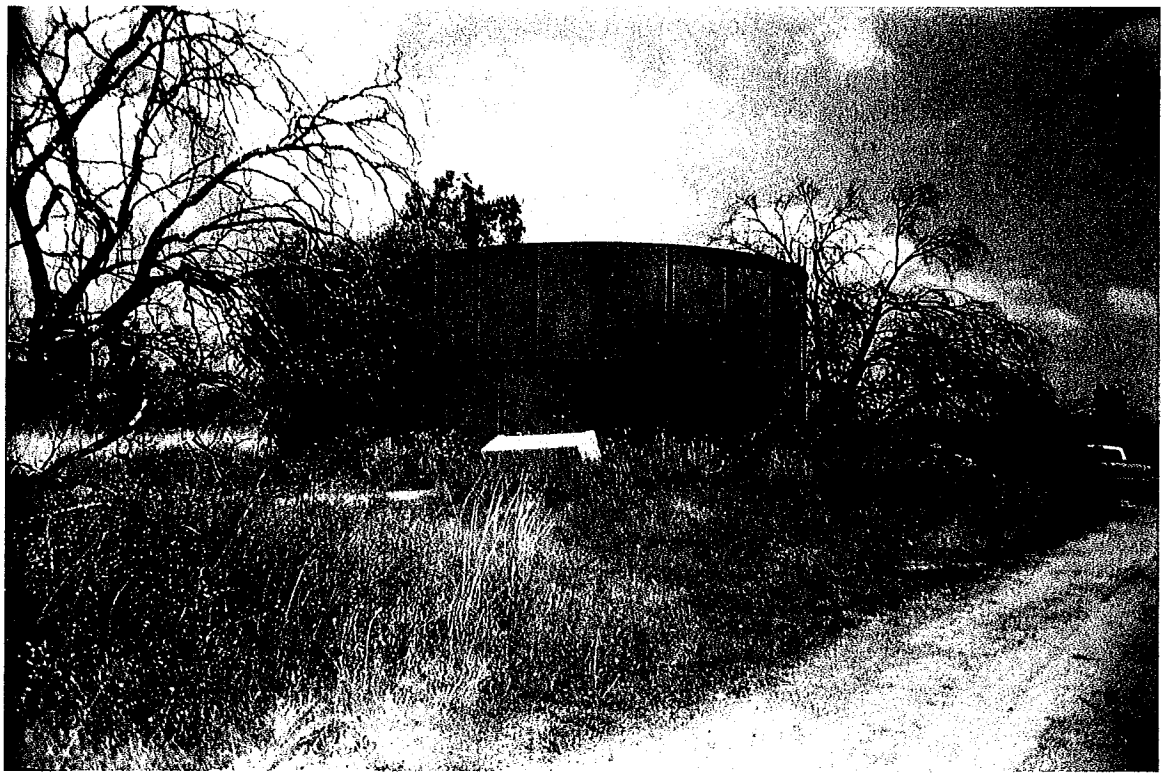
Current Site Photographs



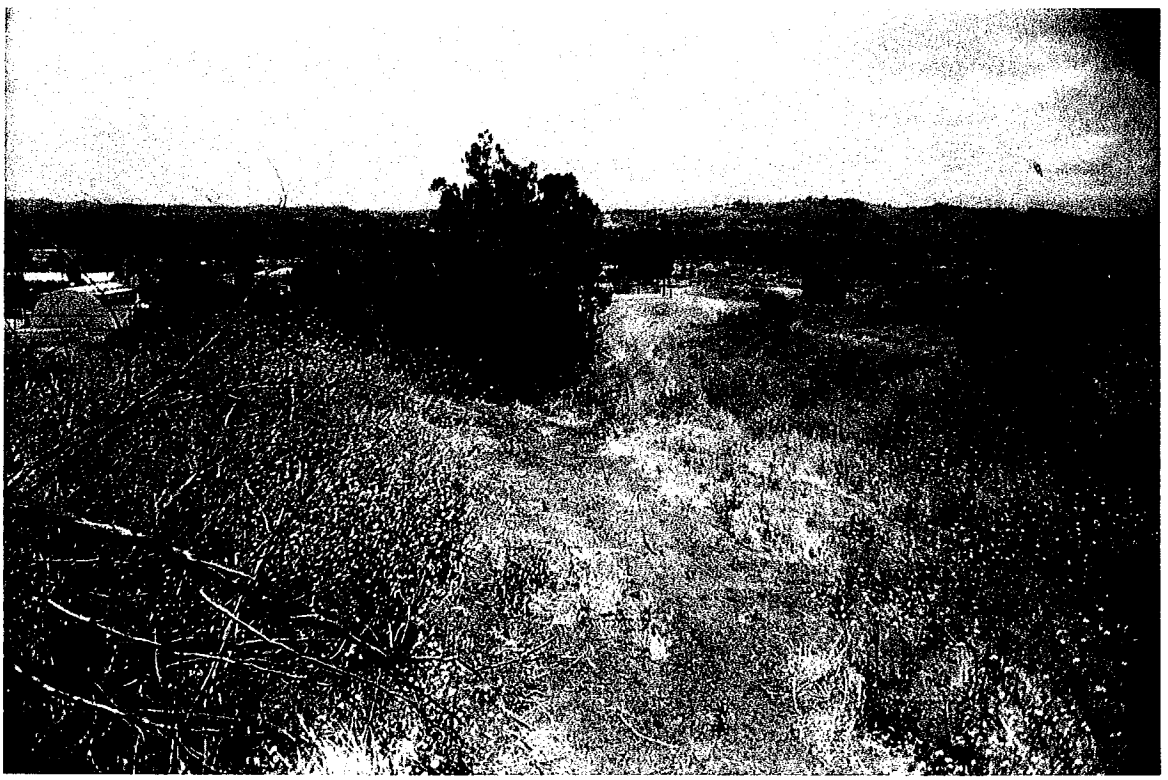
PHOTOGRAPH 1 - View looking southeast at the southeast corner of the Site from the location near the former Ranch House. One of the on-Site water wells (5K1) is seen the center of the photograph. The south boundary of the Site is along the dirt road, followed by a concrete lined storm water channel, a railroad right-of-way, and Poindexter Avenue.



PHOTOGRAPH 2 – View looking north along the east Site boundary located in the trees on the right. Abandoned farm equipment was present along the dirt road. No hazardous materials or soil staining were observed under or around the equipment. A water tank is seen in the upper left of the view (see Photograph 3).



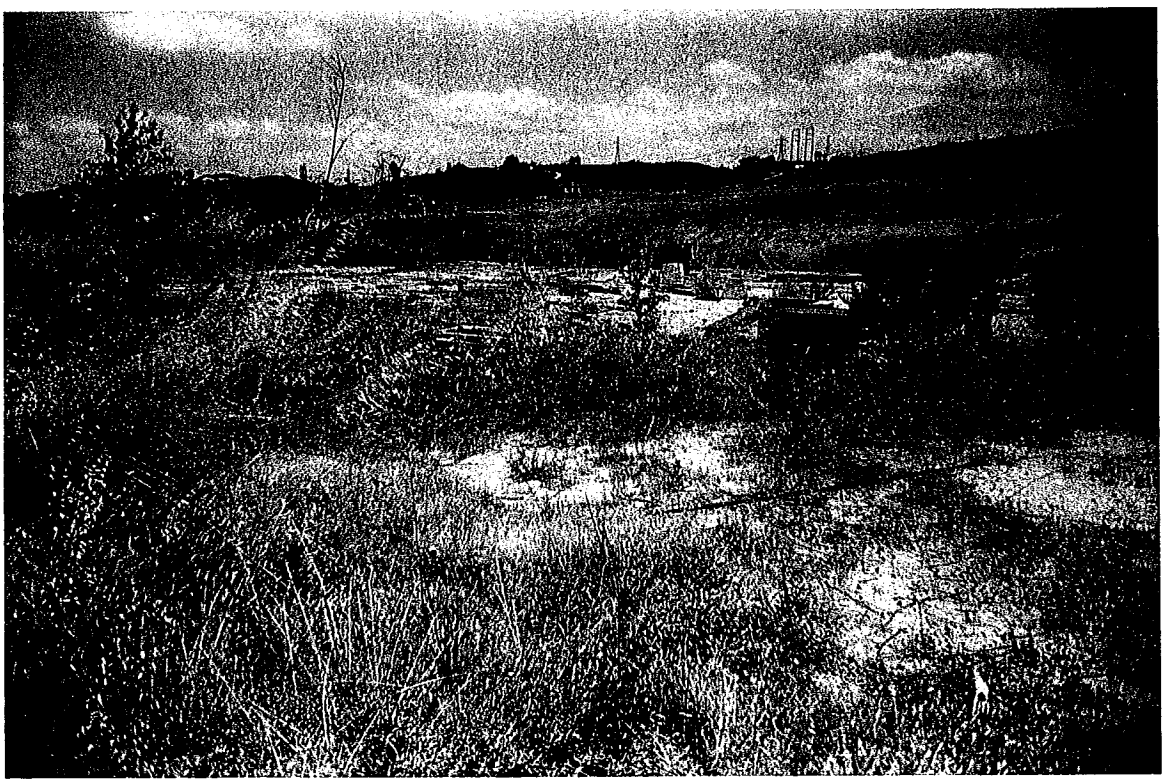
PHOTOGRAPH 3 - View looking northeast at the above ground water tank in the northeast portion of the Site. The area around the tank was formerly an orchard. Evidence of a fire is seen on the side of the tank and on the dead trees. No hazardous materials or soil staining were observed under or around the abandoned junk dumped near the tank.



PHOTOGRAPH 4 - View looking south from the northeast corner of the Site. Off-Site buildings east of the Site are seen beyond the trees along the Site boundary.



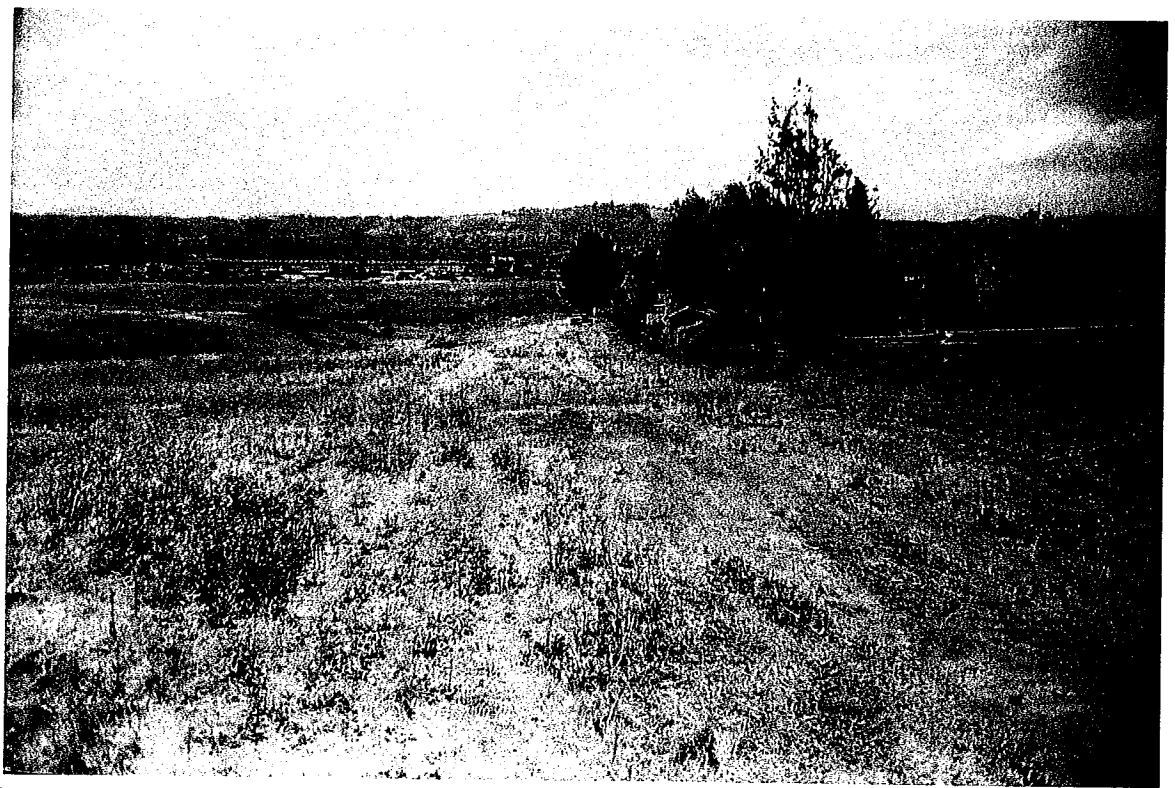
PHOTOGRAPH 5 - View looking west along the north Site boundary, located just north of the dirt road. Most the land south of the dirt road was historically planted with orchards. The land north of the Site is undeveloped.



PHOTOGRAPH 6 - View looking west at the concrete pads and foundations in the central portion of the Site reported to have been used for storage and apricot pitting and drying. The small dark objects seen on the concrete are nails remaining from the former structures after a fire. The red tile roofs seen in the distance are part of the rural residences off-Site, west of the west Site boundary.



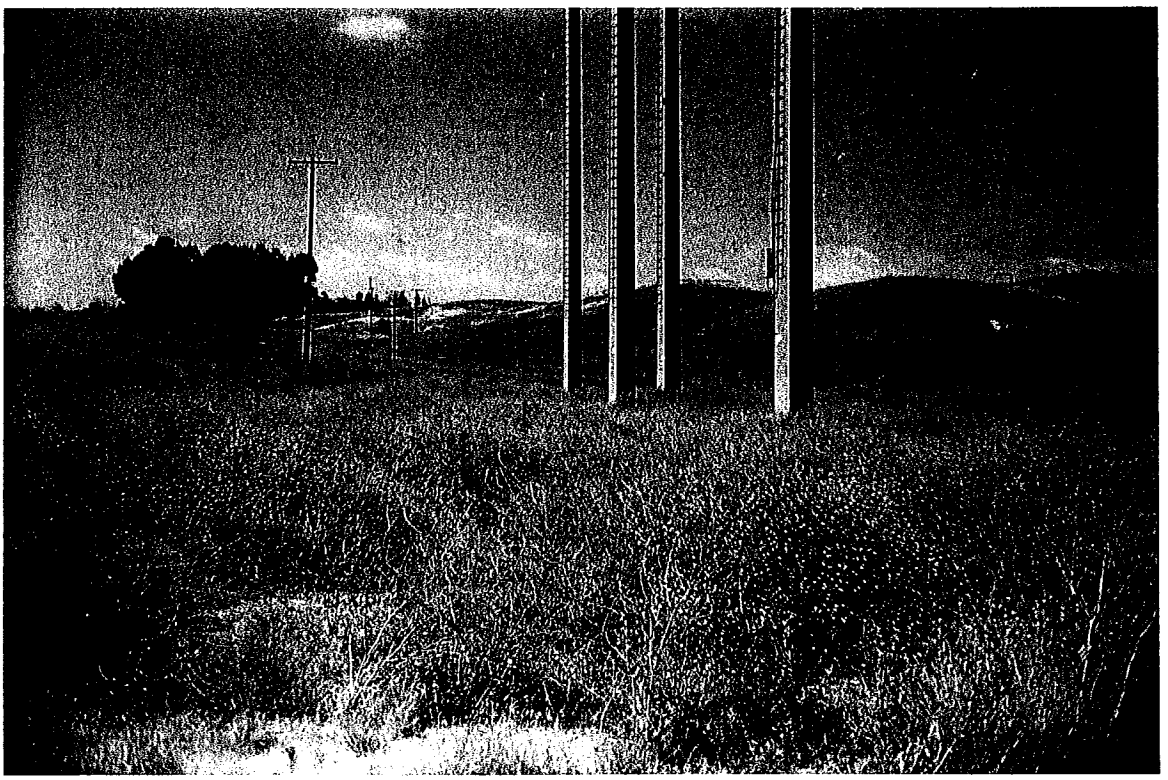
PHOTOGRAPH 7 - View looking northeast at another of the concrete pads in the central portion of the Site. Based on the apparent troughs and water pipe, they are assumed to be part of the former hog pens.



PHOTOGRAPH 8 – View looking south from the northwest corner of the Site along the west boundary of the main portion of the Site. The south Site boundary and Poindexter Avenue are over (beyond) the low hill in the center of the view. The Site extends to the west along the south side of the rural residences. The area of green bushes at the base of the slope on this side of the hill is the location of one of the on-Site water wells (see Photograph 9).



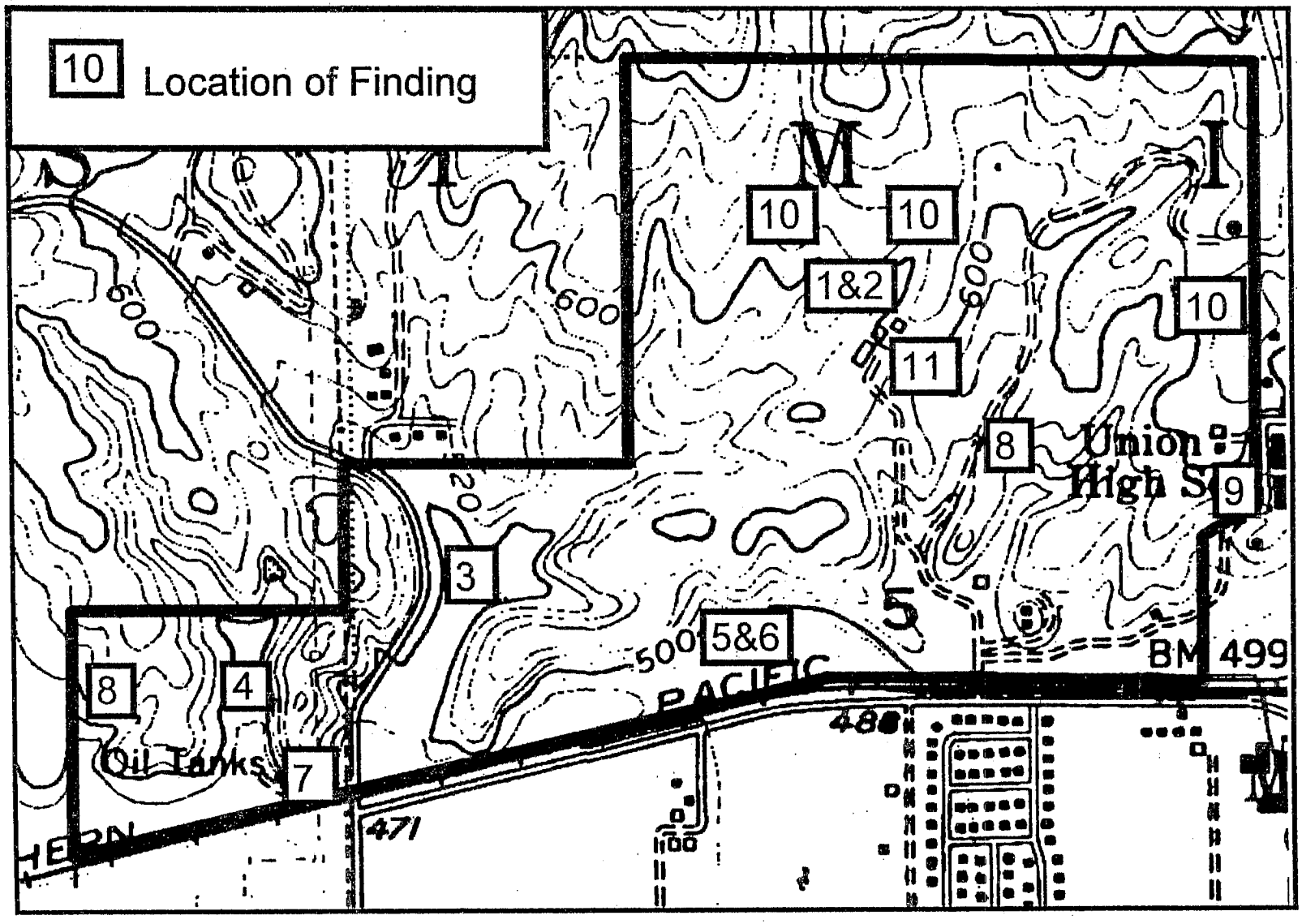
PHOTOGRAPH 9 – View of the water well on the southwest portion of the Site. The well is identified as 5F1 on the VCWRD photograph (Plate 2), but well 5F1 is listed as Can't Locate Indeterminable on the VCWRD well table (Attachment D) and well 5F2 is listed as active. During the Site visit no well was observed in the area where well 5F2 was plotted on the photograph. The well information should be corrected when the application for a well destruction permit is submitted to the VCWRD.



PHOTOGRAPH 10 – View looking north from the southwest corner of the Site (the approximate 35 acres of the Site west of Gabbert Road). The west boundary is near the line of power poles. The legs of two electric transmission towers are in the foreground.

ATTACHMENT B

Site Map with 1998 Areas of Potential Concern



SITE MAP

0 1000 2000

Scale (feet)

Base Map; U.S.G.S. 7.5 Minute Moorpark Quadrangle, 1951 (photorevised 1969 photoinspected 1974)

Hitch Ranch, Moorpark Specific Plan No. 1
Moorpark, California

Figure No.: 2
Drafted By: MSC
Project No.: 983034-001

GRADIENT ENGINEERS INC.
Construction Management / Environmental Services

ATTACHMENT C

EDR Report

The EDR Radius Map
with GeoCheck®

Hitch Ranch - 282 Acres
North of Poindexter Avenue
Moorpark, CA 93021

Inquiry Number: 01552868.2r

November 11, 2005

EDR® Environmental
Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-MOR

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GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
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Physical Setting Source Records Searched	A-18

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

NORTH OF POINDEXTER AVENUE
MOORPARK, CA 93021

COORDINATES

Latitude (North):	34.287500 - 34° 17' 15.0"
Longitude (West):	118.894400 - 118° 53' 39.8"
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	325632.2
UTM Y (Meters):	3795463.0
Elevation:	567 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	34118-C8 MOORPARK, CA
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP ---------- CERCLIS No Further Remedial Action Planned
CORRACTS ---------- Corrective Action Report
RCRA-TSDF ---------- Resource Conservation and Recovery Act Information
RCRA-LQG ---------- Resource Conservation and Recovery Act Information

STATE ASTM STANDARD

AWP ---------- Annual Workplan Sites

EXECUTIVE SUMMARY

Cal-Sites---------- Calsites Database
CHMIRS---------- California Hazardous Material Incident Report System
Notify 65---------- Proposition 65 Records
Toxic Pits---------- Toxic Pits Cleanup Act Sites
WMUDS/SWAT---------- Waste Management Unit Database
CA BOND EXP. PLAN---------- Bond Expenditure Plan
VCP---------- Voluntary Cleanup Program Properties
INDIAN UST---------- Underground Storage Tanks on Indian Land
INDIAN LUST---------- Leaking Underground Storage Tanks on Indian Land

FEDERAL ASTM SUPPLEMENTAL

CONSENT---------- Superfund (CERCLA) Consent Decrees
ROD---------- Records Of Decision
Delisted NPL---------- National Priority List Deletions
HMIRS---------- Hazardous Materials Information Reporting System
MLTS---------- Material Licensing Tracking System
MINES---------- Mines Master Index File
NPL Liens---------- Federal Superfund Liens
PADS---------- PCB Activity Database System
UMTRA---------- Uranium Mill Tailings Sites
US ENG CONTROLS---------- Engineering Controls Sites List
ODI---------- Open Dump Inventory
FUDS---------- Formerly Used Defense Sites
DOD---------- Department of Defense Sites
INDIAN RESERV---------- Indian Reservations
RAATS---------- RCRA Administrative Action Tracking System
TSCA---------- Toxic Substances Control Act
SSTS---------- Section 7 Tracking Systems
FTTS INSP---------- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

AST---------- Aboveground Petroleum Storage Tank Facilities
DEED---------- Deed Restriction Listing
SCH---------- School Property Evaluation Program
REF---------- Unconfirmed Properties Referred to Another Agency
WIP---------- Well Investigation Program Case List
NFA---------- No Further Action Determination
NFE---------- Properties Needing Further Evaluation
SLIC---------- Statewide SLIC Cases

BROWNFIELDS DATABASES

US BROWNFIELDS---------- A Listing of Brownfields Sites
US INST CONTROL---------- Sites with Institutional Controls
VCP---------- Voluntary Cleanup Program Properties

EDR PROPRIETARY HISTORICAL DATABASES

See the EDR Proprietary Historical Database Section for details

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL ASTM STANDARD

RCRAInfo: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System(RCRIS). The database includes selective information on sites which generate, transport, store , treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month Large quantity generators generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRA-SQG list, as provided by EDR, and dated 08/11/2005 has revealed that there are 19 RCRA-SQG sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SPADYS DISPOSAL SERVICE	***11905 DARLENE LN***	***1/4 - 1/2 WNW***	***39***	***32***
R C T	***11855 DARLENE LN***	***1/4 - 1/2 NW***	***63***	***48***

Lower Elevation	Address	Dist / Dir	Map ID	Page
WAVE PRECISION INC	***5390 KAZUKO CT***	***1/4 - 1/2 SSE***	***C11***	***15***
MOORPARK UNIFIED SCHOOL DIST	***5297 MAUREEN LANE***	***1/4 - 1/2 SSW***	***D24***	***22***
FLUID INK TECHNOLOGY INC	5360 N COMMERCE AVE	1/4 - 1/2 SW	H31	25
DUROTECH CO	***5397 COMMERCE AVE***	***1/4 - 1/2 SW***	***H34***	***27***
SOUTHLAND PAINTING	***12160 POINDEXTER ST***	***1/4 - 1/2 SW***	***K59***	***46***
PACIFIC COAST AUTOBODY	***5162 GOLDMAN AVE***	***1/2 - 1 S***	***L64***	***48***
SEMICONDUCTOR EQUIPMENT CORP	***5154 GOLDMAN AVE***	***1/2 - 1 S***	***L65***	***50***
VILLAGE MEWS THE	***5165 MAUREEN LANE***	***1/2 - 1 S***	***66***	***52***
PRUDENTIAL OVERALL SUPPLY	***5300 GABBERT RD***	***1/2 - 1 SW***	***67***	***53***
MOORPARK MAINT STATION	***512 LOS ANGELES AVE***	***1/2 - 1 S***	***M74***	***68***
MORNING STAR LABORATORIES INC	***5158 G GOLDMAN AVE***	***1/2 - 1 SSE***	***N77***	***69***
KMART 4811	***397 W LOS ANGELES AVE***	***1/2 - 1 SSE***	***82***	***75***
5TH AVE CLEANERS	***321 W LOS ANGELES AVE***	***1/2 - 1 SSE***	***O84***	***77***
BAKERS TOOL & EQUIPMENT RENTAL	***877 W LOS ANGELES AVE***	***1/2 - 1 SSW***	***P88***	***80***
MOORPARK SUBSTATION	5027 GABBERT RD.	1/2 - 1 SSW	P92	84
PRIMO CORP	***31 POINDEXTER ST***	***1/2 - 1 ESE***	***96***	***88***
RANCHO CLEANERS	***419 MOORPARK AVE***	***1/2 - 1 ESE***	***R100***	***90***

ERNS: The Emergency Response Notification System records and stores information on reported releases of oil and hazardous substances. The source of this database is the U.S. EPA.

A review of the ERNS list, as provided by EDR, and dated 12/31/2004 has revealed that there is 1 ERNS site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
6061 GABBER	6061 GABBER	1/4 - 1/2 WSW	22	21

STATE ASTM STANDARD

CORTESE: This database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release and all solid waste disposal facilities from which there is known migration. The source is the California Environmental Protection Agency/Office of Emergency Information.

A review of the Cortese list, as provided by EDR, has revealed that there are 9 Cortese sites within approximately 1 mile of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
PRUDENTIAL OVERALL SUPPLY	*5300 GABBERT RD*	*1/2 - 1 SW*	*67*	*53*
GISLER RANCH	*635 LOS ANGELES AVE*	*1/2 - 1 S*	*68*	*59*
CAL TRANS MAINTENACNE STN	*512 LOS ANGELES*	*1/2 - 1 S*	*M72*	*63*
UNOCAL STATION #4945	*506 LOS ANGELES AVE*	*1/2 - 1 S*	*M78*	*70*
UNOCAL	*506 LOS ANGELES AVE*	*1/2 - 1 S*	*M79*	*72*
CHEVRON SS #0688	502 LOS ANGELES	1/2 - 1 S	N80	74
UNOCAL #1696	*18 HIGH ST*	*1/2 - 1 ESE*	*R95*	*85*
TEXACO STATION	*347 MOORPARK AVE*	*1/2 - 1 ESE*	*101*	*92*
MOORPARK UNIF. SCHOOL DIST.	*30 FLORY AVE*	*1/2 - 1 SE*	*105*	*98*

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF list, as provided by EDR, has revealed that there are 2 SWF/LF sites within approximately 1 mile of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
S.K. EGG CITY	550 W. LOS ANGELES AVE.	1/2 - 1 S	M71	62
COUNTY YARD SITE 1962	N OF LA AVE. / IS BIS	1/2 - 1 ESE	94	84

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 10/10/2005 has revealed that there are 10 LUST sites within approximately 1 mile of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
PRUDENTIAL OVERALL SUPPLY	*5300 GABBERT RD*	*1/2 - 1 SW*	*67*	*53*

Lower Elevation	Address	Dist / Dir	Map ID	Page
GISLER RANCH	***635 LOS ANGELES AVE***	***1/2 - 1 S***	***68***	***59***
CALTRANS - MOORPARK	512 LOS ANGELES AVE	1/2 - 1 S	M73	64
UNOCAL STATION #4945	***506 LOS ANGELES AVE***	***1/2 - 1 S***	***M78***	***70***
UNOCAL	***506 LOS ANGELES AVE***	***1/2 - 1 S***	***M79***	***72***
UNOCAL #1696	***18 HIGH ST***	***1/2 - 1 ESE***	***R95***	***85***
TEXACO STATION	***347 MOORPARK AVE***	***1/2 - 1 ESE***	***101***	***92***
PARK LANE CAR WASH	***75 PARK LANE***	***1/2 - 1 SE***	***103***	***95***
SUMMIT ENERGY	***50 W LOS ANGELES AVE***	***1/2 - 1 SE***	***104***	***96***
MOORPARK UNIF. SCHOOL DIST.	***30 FLORY AVE***	***1/2 - 1 SE***	***105***	***98***

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 07/11/2005 has revealed that there are 14 UST sites within approximately 0.75 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
ANNOTTI, A. D.	786 POINDEXTER AVE	1/8 - 1/4 S	A1	6
HARRIS, MICHAEL	6086 GABBERT ROAD	1/4 - 1/2 W	E17	20
PRUDENTIAL OVERALL SUPPLY	***5300 GABBERT RD***	***1/2 - 1 SW***	***67***	***53***
GISLER RANCH	***635 LOS ANGELES AVE***	***1/2 - 1 S***	***68***	***59***
G & S AUTO SVC./MOORPARK AUTO/	550 W LOS ANGELES AVE	1/2 - 1 S	M69	61
STATE OF CALIF-DEPT OF TRANSP	512 LOS ANGELES AVE	1/2 - 1 S	M75	68
CASCADE SPRINKLER	177 POINDEXTER AVE	1/2 - 1 ESE	81	74
SHELL - MOORPARK	***301 W LOS ANGELES AVE***	***1/2 - 1 SSE***	***O85***	***79***
AMERICAN HI-LIFT	875 LOS ANGELES AVE	1/2 - 1 SSW	P87	80
SO CAL EDISON	5027 GABBERT ROAD	1/2 - 1 SSW	P90	83
FIRE STATION #42	782 MOORPARK AVE.	1/2 - 1 E	Q93	84
UNOCAL #1696	***18 HIGH ST***	***1/2 - 1 ESE***	***R95***	***85***
CITY OF MOORPARK	CHARLES ST (X WALNUT ST	1/2 - 1 E	Q97	88
WM MORRIS PARTNERSHIP	***480 MOORPARK AVE.***	***1/2 - 1 E***	***R98***	***88***

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 10/03/2005 has revealed that there is 1 SWRCY site within approximately 1 mile of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
TOMRA PACIFIC INC/RALPHS #723	101 W LOS ANGELES AVE	1/2 - 1 SE	102	94

CA FID: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, has revealed that there are 4 CA FID UST sites within approximately 0.75 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
PRUDENTIAL OVERALL SUPPLY	***5300 GABBERT RD***	***1/2 - 1 SW***	***67***	***53***
AMERICAN HI-LIFT	***875 W LOS ANGELES AVE***	***1/2 - 1 SSW***	***P86***	***80***

Lower Elevation	Address	Dist / Dir	Map ID	Page
SOUTHERN CALIF EDISON	*5027 GABBERT RD*	*1/2 - 1 SSW*	*P91*	*83*
MOORPARK CAR CARE	*75 PARKLANE*	*1/2 - 1 SE*	*99*	*89*

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 5 HIST UST sites within approximately 0.75 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
PRUDENTIAL OVERALL SUPPLY	*5300 GABBERT RD*	*1/2 - 1 SW*	*67*	*53*
S & K RANCH-#1	550 W LOS ANGELES AVE	1/2 - 1 S	M70	61
MOORPARK	512 W LOS ANGELES AVE	1/2 - 1 S	M76	68
MOORPARK FIRE STATION	782 MOORPARK AVE	1/2 - 1 E	83	76
MOORPARK SUBSTATION	*5027 GABBERT RD*	*1/2 - 1 SSW*	*P89*	*81*

SWEEPS: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1980?s. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 4 SWEEPS UST sites within approximately 0.75 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
PRUDENTIAL OVERALL SUPPLY	*5300 GABBERT RD*	*1/2 - 1 SW*	*67*	*53*
AMERICAN HI-LIFT	*875 W LOS ANGELES AVE*	*1/2 - 1 SSW*	*P86*	*80*
SOUTHERN CALIF EDISON	*5027 GABBERT RD*	*1/2 - 1 SSW*	*P91*	*83*
MOORPARK CAR CARE	*75 PARKLANE*	*1/2 - 1 SE*	*99*	*89*

FEDERAL ASTM SUPPLEMENTAL

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 07/11/2005 has revealed that there are 9 FINDS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SPADYS DISPOSAL SERVICE	*11905 DARLENE LN*	*1/4 - 1/2 WNW*	*39*	*32*
R C T	*11855 DARLENE LN*	*1/4 - 1/2 NW*	*63*	*48*

Lower Elevation	Address	Dist / Dir	Map ID	Page
U S COLOR GRAPHICS CORP	5560 TECH CIRCLE	1/8 - 1/4 S	A5	9

Lower Elevation	Address	Dist / Dir	Map ID	Page
WAVE PRECISION INC	*5390 KAZUKO CT*	*1/4 - 1/2 SSE*	*C11*	*15*
MOORPARK UNIFIED SCHOOL DIST	*5297 MAUREEN LANE*	*1/4 - 1/2 SSW*	*D24*	*22*
DUROTECH CO	*5397 COMMERCE AVE*	*1/4 - 1/2 SW*	*H34*	*27*
FLUID INK TECHNOLOGY INCORPORA	*5360 N. COMMERCE AVE.*	*1/4 - 1/2 SW*	*H41*	*33*
SOUTHLAND PAINTING	*12160 POINDEXTER ST*	*1/4 - 1/2 SW*	*K59*	*46*
ALTATRON	5155 GOLDMAN AVE.	1/4 - 1/2 S	L60	47

TRIS: The Toxic Chemical Release Inventory System identifies facilities that release toxic chemicals to the air, water, and land in reportable quantities under SARA Title III, Section 313. The source of this database is the U.S. EPA.

A review of the TRIS list, as provided by EDR, and dated 12/31/2003 has revealed that there is 1 TRIS site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
FLUID INK TECHNOLOGY INC	*5360 N COMMERCE AVE*	*1/4 - 1/2 SW*	*H42*	*33*

STATE OR LOCAL ASTM SUPPLEMENTAL

DRYCLEANERS: A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaners' agents; linen supply; coin-operated laundries and cleaning; drycleaning plants except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

A review of the CLEANERS list, as provided by EDR, has revealed that there are 3 CLEANERS sites within approximately 0.75 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
PRUDENTIAL OVERALL SUPPLY	*5300 GABBERT RD*	*1/2 - 1 SW*	*67*	*53*
5TH AVE CLEANERS	*321 W LOS ANGELES AVE*	*1/2 - 1 SSE*	*O84*	*77*
RANCHO CLEANERS	*419 MOORPARK AVE*	*1/2 - 1 ESE*	*R100*	*90*

WDS: California Water Resources Control Board - Waste Discharge System.

A review of the CA WDS list, as provided by EDR, and dated 09/19/2005 has revealed that there are 3 CA WDS sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
VIKING ELECTRONICS INC	*5455 ENDEAVOR CT*	*1/4 - 1/2 SSW*	*B10*	*13*
MOORPARK UNIFIED SCHOOL DIST	*5297 MAUREEN LANE*	*1/4 - 1/2 SSW*	*D24*	*22*
FLUID INK TECHNOLOGY , INC	5360 NORTH COMMERCE ST	1/4 - 1/2 SW	H40	32

Emissions Inventory Data: Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies

A review of the EMI list, as provided by EDR, and dated 12/31/2003 has revealed that there are 3 EMI sites within approximately 0.5 miles of the target property.

EXECUTIVE SUMMARY

Lower Elevation	Address	Dist / Dir	Map ID	Page
WESTLAKE COLOR LITHO INC	***5560 TECH CIRCLE***	***1/8 - 1/4 S***	***A2***	***6***
ACE GRAPHICS	5351 BONSAI AVE.	1/4 - 1/2 S	F25	23
FLUID INK TECHNOLOGY INC	***5360 N COMMERCE AVE***	***1/4 - 1/2 SW***	***H42***	***33***

CA BWT: The Business Plan, Hazardous Waste Producers, & Operating Underground Tanks Site Address List indicates by site address whether EHD has Business Plan (BP), Waste Producer (W), and/or Underground Tank (T) Information.

A review of the VENTURA CO. BWT list, as provided by EDR, and dated 08/11/2005 has revealed that there are 29 VENTURA CO. BWT sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
DBA US COLOR GRAPHICS	***5560 TECH CIR***	***1/8 - 1/4 S***	***A3***	***8***
SCI-TECH GLASSBLOWING INC	***5555 TECH CIR***	***1/8 - 1/4 S***	***A4***	***8***
QUINN LABEL PRINTING INC.	5530 TECH CIR	1/8 - 1/4 S	A6	9
DEMO SYSTEMS INC	***5450 TECH CIR***	***1/4 - 1/2 S***	***7***	***9***
AMERICAN BOARD ASSEMBLY	***5456 ENDEAVOUR CT***	***1/4 - 1/2 SSW***	***B8***	***11***
VIKING ELECTRONICS, INC	5455 ENDEAVOR CT	1/4 - 1/2 SSW	B9	12
WAVE PRECISION INC	***5390 KAZUKO CT***	***1/4 - 1/2 SSE***	***C11***	***15***
VALLEY DESIGN INC	***5384 KAZUKO CT***	***1/4 - 1/2 SSE***	***C12***	***17***
WILMANCO	***5350 KAZUKO CT***	***1/4 - 1/2 SSE***	***C13***	***17***
MASTER COOLING CORPORATION	5430 ATLANTIS CT	1/4 - 1/2 S	D16	20
J W ETC INC	11972 HERTZ ST	1/4 - 1/2 S	D19	21
INSPARATION INC.	11950 HERTZ ST	1/4 - 1/2 S	D20	21
HUDSON PLATING WORKS	11941 HERTZ ST	1/4 - 1/2 S	D21	21
MOORPARK UNIFIED SCHOOL DISTRI	5297 MAUREEN LN	1/4 - 1/2 SSW	D23	21
AIR INSTRO INC	5286 KAZUKO CT	1/4 - 1/2 SSE	G26	23
CONSTRUCTION POLYMERS INTL	5285 KAZUKO CT #A	1/4 - 1/2 SSE	G27	24
LEVEL (3) COMMUNICATIONS	5245 KAZUKO CT	1/4 - 1/2 SSE	G28	24
AIRLESSCO BY DUROTECH CO.	5397 COMMERCE AVE	1/4 - 1/2 SW	H33	27
TERRAMAR GRAPHICS	***5345 N COMMERCE AVE STE***	***1/4 - 1/2 SW***	***H35***	***28***
TND PRECISION, INC.	5250 BONSAI AVE	1/4 - 1/2 S	F36	30
JAMAICA MINIATURE BEARINGS, IN	5240 BONSAI ST	1/4 - 1/2 S	F37	30
FLUID INK TECHNOLOGY INCORPORA	***5360 N. COMMERCE AVE.***	***1/4 - 1/2 SW***	***H41***	***33***
MA PRECISION	5215 KAZUKO CT	1/4 - 1/2 SSE	G44	36
AUTOMATED APPLICATIONS	***5212 KAZUKO CT***	***1/4 - 1/2 SSE***	***G45***	***36***
VREEKE INDUSTRIES	11991 CHALLENGER CT	1/4 - 1/2 S	I47	39
COLE SCIENTIFIC INC.	11968 CHALLENGER CT	1/4 - 1/2 S	I48	39
LINCARE	5301 COMMERCE AVE #4	1/4 - 1/2 SSW	H54	44
D & G MANUFACTURING CO	5273 COMMERCE AVE #7	1/4 - 1/2 SSW	J55	44
VAQUERO ENERGY	BARDSDALE OIL FIELD	1/4 - 1/2 SW	K58	46

HAZNET: The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Data from non-California manifests & continuation sheets are not included at the present time. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, & disposal method. The source is the Department of Toxic Substance Control is the agency

A review of the HAZNET list, as provided by EDR, and dated 12/31/2003 has revealed that there are 31

EXECUTIVE SUMMARY

HAZNET sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
WESTLAKE COLOR LITHO INC	***5560 TECH CIRCLE***	***1/8 - 1/4 S***	***A2***	***6***
DBA US COLOR GRAPHICS	***5560 TECH CIR***	***1/8 - 1/4 S***	***A3***	***8***
SCI-TECH GLASSBLOWING INC	***5555 TECH CIR***	***1/8 - 1/4 S***	***A4***	***8***
DEMO SYSTEMS INC	***5450 TECH CIR***	***1/4 - 1/2 S***	***7***	***9***
AMERICAN BOARD ASSEMBLY	***5456 ENDEAVOUR CT***	***1/4 - 1/2 SSW***	***B8***	***11***
VIKING ELECTRONICS INC	***5455 ENDEAVOR CT***	***1/4 - 1/2 SSW***	***B10***	***13***
WAVE PRECISION INC	***5390 KAZUKO CT***	***1/4 - 1/2 SSE***	***C11***	***15***
VALLEY DESIGN INC	***5384 KAZUKO CT***	***1/4 - 1/2 SSE***	***C12***	***17***
WILMANCO	***5350 KAZUKO CT***	***1/4 - 1/2 SSE***	***C13***	***17***
WILMANCO	5350 KAZUKO COURT	1/4 - 1/2 SSE	C14	18
MASTER COOLING CORP	5430 ATLANTIS COURT	1/4 - 1/2 S	D15	18
MICHAEL HARRIS	6086 GABBERT RD	1/4 - 1/2 W	E18	20
MOORPARK UNIFIED SCHOOL DIST	***5297 MAUREEN LANE***	***1/4 - 1/2 SSW***	***D24***	***22***
TAYCO BUSINESS FORMS	5400 COMMERCE AVE	1/4 - 1/2 SW	H29	24
FUTURE AUTOMATION INC	5400 COMMERCE AVE	1/4 - 1/2 SW	H30	24
DUROTECH CO	5397 COMMERCE ST	1/4 - 1/2 SW	H32	25
DUROTECH CO	***5397 COMMERCE AVE***	***1/4 - 1/2 SW***	***H34***	***27***
TERRAMAR GRAPHICS	***5345 N COMMERCE AVE STE***	***1/4 - 1/2 SW***	***H35***	***28***
OEM CORPORATION	5240 BONSAI AVE	1/4 - 1/2 S	F38	30
FLUID INK TECHNOLOGY, INC	5360 NORTH COMMERCE AVE	1/4 - 1/2 SW	H43	35
AUTOMATED APPLICATIONS	***5212 KAZUKO CT***	***1/4 - 1/2 SSE***	***G45***	***36***
FRANZ WOLF	5345 N COMMERCE AVE #7	1/4 - 1/2 SW	H46	38
LORRAINE DILLEHAY SLAYTON	11969 CHALLENGER CT	1/4 - 1/2 S	I49	39
AMERICAN BOARD ASSEMBLY	11969 CHALLENGER COURT	1/4 - 1/2 S	I50	40
AEROSPACE BEARING SUPPORT	11953 CHALLENGER CT	1/4 - 1/2 S	I51	41
PREMIER HEADING	5273 COMMERCE AVE UNIT	1/4 - 1/2 SSW	H52	42
AMERICAN MSI CORP	5245 MAUREEN RD	1/4 - 1/2 SSW	53	43
D & G MANUFACTURE	5273 COMMERCE AVE #7	1/4 - 1/2 SSW	J56	45
AMERICAN BOARD ASSEMBLY	5273 COMMERCE AVE #1	1/4 - 1/2 SSW	J57	46
COMPLETE PROPERTY MAINTENENCE	5150 GOLDMAN AVENUE UNI	1/4 - 1/2 S	L61	47
COMPLETE PROPERTY MAINTENANCE	5150 GOLDMAN AVE #A	1/4 - 1/2 S	L62	47

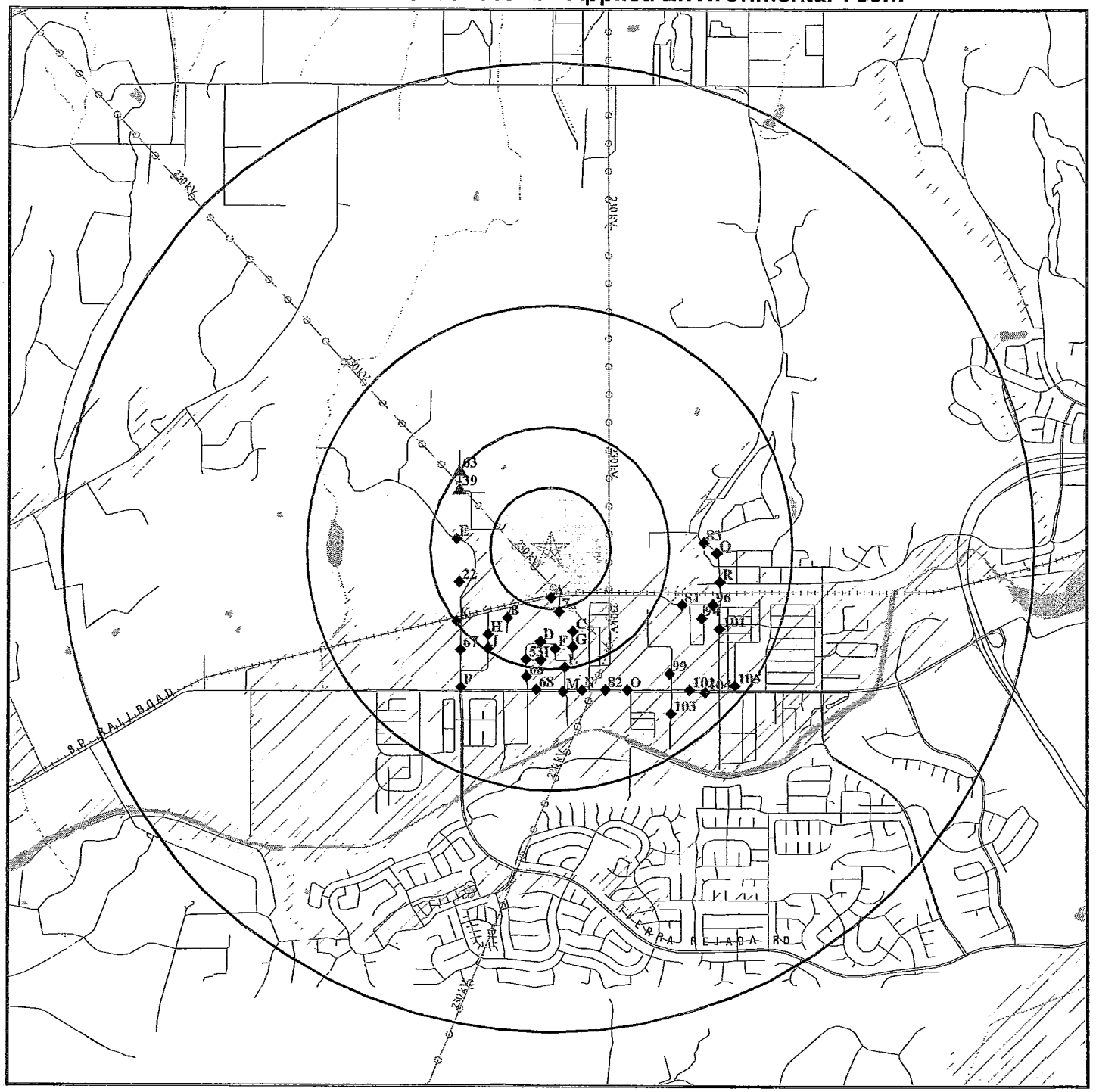
EDR PROPRIETARY HISTORICAL DATABASES

See the EDR Proprietary Historical Database Section for details

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CHEVRON #90688	UST, SWEEPS UST
UNION OIL CO SIMI OIL FLD	CERC-NFRAP
CHEVRON #9-0688	LUST
RIDDLE EQUIPMENT RENTALS	LUST
CONEJO READY MIX INC	LUST
SHELL SERVICE STATION - NEW LA AVE	LUST
URBAN WEST COMMUNITIES	UST
TOSCO #4945 (SITE)	UST
AGOURE RANCH	HIST UST
HITCH BLVD. LIFT STATION	HIST UST
SOLOMAN RANCH	HIST UST
RANCH LAND TRACT 89-3	HIST UST
VENTURA COUNTY ROAD MAINT.	HIST UST
MALHI TRANSPORTATION	HAZNET
STEVENS PRECISION, INC.	HAZNET
ADVANCED IMAGING	HAZNET
SAN VAL PRECISION, INC	HAZNET
DOC'S MARKETING CORP	HAZNET
SAFE HAVEN PRODUCTS INC	HAZNET
METROLINK	HAZNET
EUROPA MOTORS	RCRA-SQG, FINDS, HAZNET
TOSCO CORPORATION STATION #30770	HAZNET
SOUTHERN CALIFORNIA EDISON	HAZNET
SHELL SERVICE STATION	RCRA-SQG, HAZNET
EQUILON ENTERPRISES	FINDS, HAZNET
MOORE PARK EQUIPMENT RENTAL	HAZNET
SUMMIT ENERGY CORP	HAZNET
CONROCK CO.-REDI MIX	FINDS, EMI
SAN VAL PRECISION, INC.	VENTURA CO. BWT
STUDEBAKER SERVICES AUTOBODY	VENTURA CO. BWT
COMPLETE PROPERTY MAINTENANCE, INC	VENTURA CO. BWT
DOC'S MARKETING CORP	VENTURA CO. BWT
DIVINE FAMILY CHIROPRACTIC	VENTURA CO. BWT
SAFE HAVEN PRODUCTS INC	VENTURA CO. BWT
VILLAGE DISCOUNT MUFFLERS & BRAKE	VENTURA CO. BWT
AUTO ZONE #5713	VENTURA CO. BWT
MOORPARK DENTAL CENTER	VENTURA CO. BWT
ANDY'S AUTOMOTIVE	VENTURA CO. BWT
TOPPER, DOUGLAS, D.D.S.	VENTURA CO. BWT
TARGET STORE #1547	VENTURA CO. BWT
VINTAGE PETROLEUM INC.	VENTURA CO. BWT
UNION OIL CO. OF CALIFORNIA	EMI
SANMAR/NEAVES	EMI

OVERVIEW MAP - 01552868.2r - Applied Environmental Tech.



0 1/2 1 2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands
- Areas of Concern

N

TARGET PROPERTY:	Hitch Ranch - 282 Acres	CUSTOMER:	Applied Environmental Tech.
ADDRESS:	North of Poindexter Avenue	CONTACT:	Wally Jensky
CITY/STATE/ZIP:	Moorpark CA 93021	INQUIRY #:	01552868.2r
LAT/LONG:	34.2875 / 118.8944	DATE:	November 11, 2005 9:50 am

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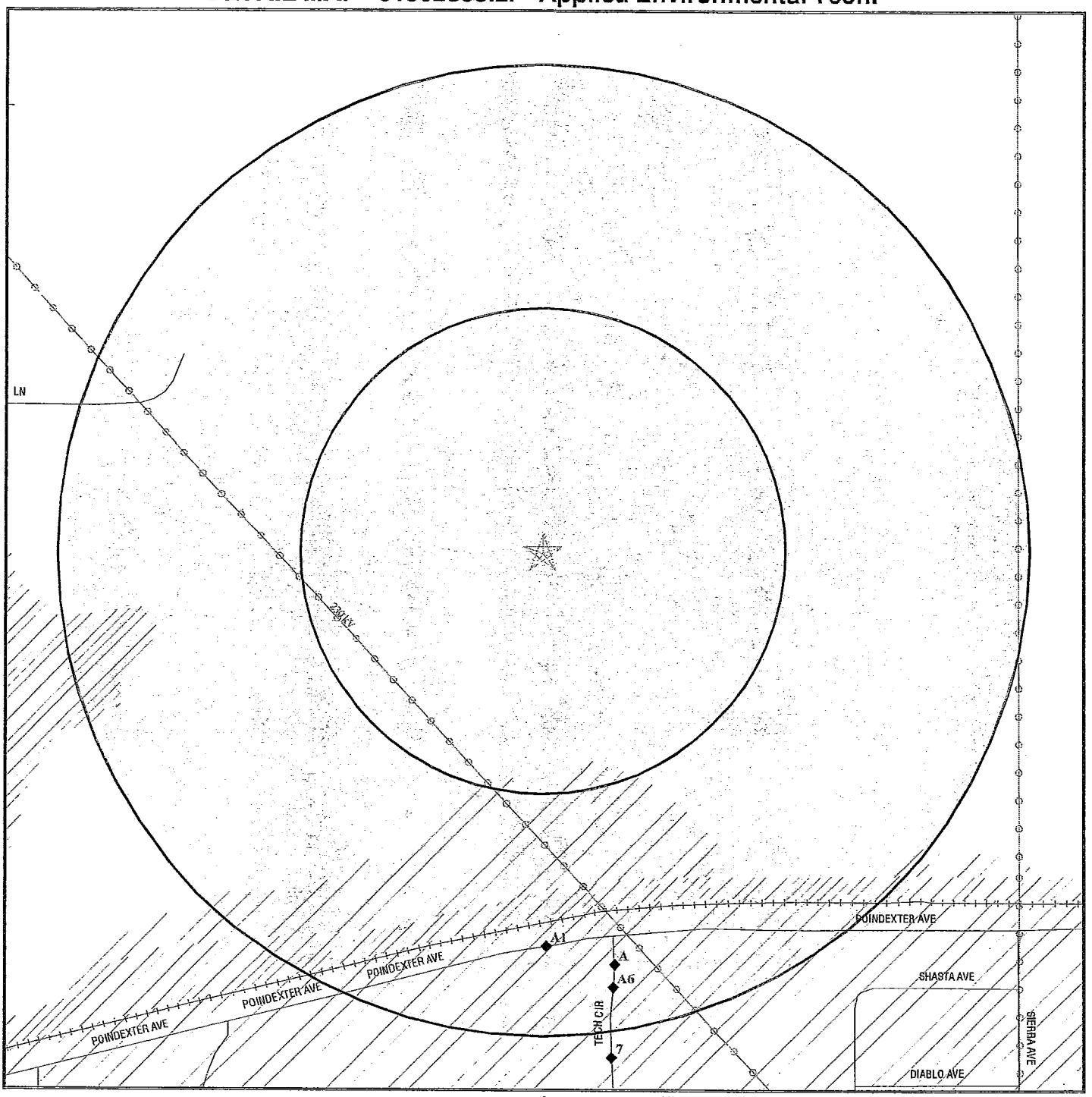
DETAIL MAP - 01552868.2r - Applied Environmental Tech.



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- Historical Gas Stations / Historical Dry Cleaners See the EDR Proprietary Historical Map Findings
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Areas of Concern

TARGET PROPERTY:	Hitch Ranch - 282 Acres	CUSTOMER:	Applied Environmental Tech.
ADDRESS:	North of Poindexter Avenue	CONTACT:	Wally Jensky
CITY/STATE/ZIP:	Moorpark CA 93021	INQUIRY #:	01552868.2r
LAT/LONG:	34.2875 / 118.8944	DATE:	November 11, 2005 9:50 am

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.500	0	0	0	0	0	0
Proposed NPL		1.500	0	0	0	0	0	0
CERCLIS		1.000	0	0	0	0	NR	0
CERC-NFRAP		0.750	0	0	0	0	NR	0
CORRACTS		1.500	0	0	0	0	0	0
RCRA TSD		1.000	0	0	0	0	NR	0
RCRA Lg. Quan. Gen.		0.750	0	0	0	0	NR	0
RCRA Sm. Quan. Gen.		0.750	0	0	7	12	NR	19
ERNS		0.500	0	0	1	NR	NR	1
STATE ASTM STANDARD								
AWP		1.500	0	0	0	0	0	0
Cal-Sites		1.500	0	0	0	0	0	0
CHMIRS		0.500	0	0	0	NR	NR	0
Cortese		1.000	0	0	0	9	NR	9
Notify 65		1.500	0	0	0	0	0	0
Toxic Pits		1.500	0	0	0	0	0	0
State Landfill		1.000	0	0	0	2	NR	2
WMUDS/SWAT		1.000	0	0	0	0	NR	0
LUST		1.000	0	0	0	10	NR	10
CA Bond Exp. Plan		1.500	0	0	0	0	0	0
UST		0.750	0	1	1	12	NR	14
VCP		1.000	0	0	0	0	NR	0
INDIAN UST		0.750	0	0	0	0	NR	0
SWRCY		1.000	0	0	0	1	NR	1
INDIAN LUST		1.000	0	0	0	0	NR	0
CA FID UST		0.750	0	0	0	4	NR	4
HIST UST		0.750	0	0	0	5	NR	5
SWEEPS UST		0.750	0	0	0	4	NR	4
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.500	0	0	0	0	0	0
ROD		1.500	0	0	0	0	0	0
Delisted NPL		1.500	0	0	0	0	0	0
FINDS		0.500	0	1	8	NR	NR	9
HMIRS		0.500	0	0	0	NR	NR	0
MLTS		0.500	0	0	0	NR	NR	0
MINES		0.750	0	0	0	0	NR	0
NPL Liens		0.500	0	0	0	NR	NR	0
PADS		0.500	0	0	0	NR	NR	0
UMTRA		1.000	0	0	0	0	NR	0
US ENG CONTROLS		1.000	0	0	0	0	NR	0
ODI		1.000	0	0	0	0	NR	0
FUDS		1.500	0	0	0	0	0	0
DOD		1.500	0	0	0	0	0	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN RESERV		1.500	0	0	0	0	0	0
RAATS		0.500	0	0	0	NR	NR	0
TRIS		0.500	0	0	1	NR	NR	1
TSCA		0.500	0	0	0	NR	NR	0
SSTS		0.500	0	0	0	NR	NR	0
FTTS		0.500	0	0	0	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
AST		0.500	0	0	0	NR	NR	0
CLEANERS		0.750	0	0	0	3	NR	3
CA WDS		0.500	0	0	3	NR	NR	3
DEED		1.000	0	0	0	0	NR	0
SCH		0.750	0	0	0	0	NR	0
REF		0.750	0	0	0	0	NR	0
WIP		0.750	0	0	0	0	NR	0
EMI		0.500	0	1	2	NR	NR	3
NFA		0.750	0	0	0	0	NR	0
NFE		0.750	0	0	0	0	NR	0
SLIC		1.000	0	0	0	0	NR	0
Ventura Co. BWT		0.500	0	3	26	NR	NR	29
HAZNET		0.500	0	3	28	NR	NR	31
EDR PROPRIETARY HISTORICAL DATABASES								
Gas Stations/Dry Cleaners		0.250	0	0	NR	NR	NR	0
Coal Gas		1.500	0	0	0	0	0	0
BROWNFIELDS DATABASES								
US BROWNFIELDS		1.000	0	0	0	0	NR	0
US INST CONTROL		1.000	0	0	0	0	NR	0
VCP		1.000	0	0	0	0	NR	0

NOTES:

See the EDR Proprietary Historical Database Section for details

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
South
1/8-1/4
1075 ft.

Relative:
Lower

Actual:
487 ft.

ANNOTTI, A. D.
786 POINDEXTER AVE
MOORPARK, CA

UST **U002169367**
N/A

Site 1 of 6 in cluster A

UST Ventura County Active & Inactive:
Facility ID: D 505
Facility Status: Inactive
Box No: 146057
Region: Ventura County

A2
South
1/8-1/4
1142 ft.

Relative:
Lower

Actual:
489 ft.

WESTLAKE COLOR LITHO INC
5560 TECH CIRCLE
MOORPARK, CA 93021

HAZNET **S100623991**
EMI **N/A**

Site 2 of 6 in cluster A

HAZNET:
Gepaid: CAL000034331
TSD EPA ID: CAD008364432
Gen County: Ventura
Tsd County: Los Angeles
Tons: .2293
Facility Address 2: Not reported
Waste Category: Other organic solids
Disposal Method: Recycler
Contact: REED BEAR
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5560 TECH CIR
MOORPARK, CA 93021
County Ventura

Gepaid: CAL000034331
TSD EPA ID: CAD008364432
Gen County: Ventura
Tsd County: Los Angeles
Tons: .1000
Facility Address 2: Not reported
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Recycler
Contact: REED BEAR
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5560 TECH CIR
MOORPARK, CA 93021
County Ventura

Gepaid: CAL000034331
TSD EPA ID: CAD008364432
Gen County: Ventura
Tsd County: Los Angeles
Tons: .2625
Facility Address 2: Not reported
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Recycler
Contact: REED BEAR
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5560 TECH CIR
MOORPARK, CA 93021

WESTLAKE COLOR LITHO INC (Continued) **S100623991**

County Ventura

Gepaid: CAL000034331
TSD EPA ID: CAD008364432
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.2293
Facility Address 2: Not reported
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Recycler
Contact: REED BEAR
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5560 TECH CIR
MOORPARK, CA 93021
County Ventura

Gepaid: CAL000034331
TSD EPA ID: CAD008364432
Gen County: Ventura
Tsd County: Los Angeles
Tons: .1000
Facility Address 2: Not reported
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Not reported
Contact: REED BEAR
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5560 TECH CIR
MOORPARK, CA 93021
County Ventura

Click this hyperlink while viewing on your computer to access
4 additional CA HAZNET record(s) in the EDR Site Report.

EMISSIONS :

Year :	2003
Facility ID :	490
Air District Code :	VEN
SIC Code :	2752
Air Basin :	SCC
Air District Name :	VENTURA COUNTY APCD
Community Health Air Pollution Info System :	N
Consolidated Emission Reporting Rule :	Not reported
County Code :	56
County ID :	56
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr :	0
Part. Matter 10 Micrometers and Smaller Tons/Yr :	0

A3 **DBA US COLOR GRAPHICS** **HAZNET S104994826**
South **5560 TECH CIR** **VENTURA CO. BWT N/A**
1/8-1/4 **MOORPARK, CA 93021**
1142 ft.

Site 3 of 6 in cluster A

Relative:
Lower

Actual:
489 ft.

HAZNET:

Gepaid:	CAL000034331
TSD EPA ID:	CAT080013352
Gen County:	Ventura
Tsd County:	Ventura
Tons:	0.22
Facility Address 2:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Recycler
Contact:	NANCY BEAR SEC/TREASURE
Telephone:	(818) 889-5677
Mailing Name:	Not reported
Mailing Address:	5560 TECH CIRCLE MOORPARK, CA 93021
County	Ventura

Gepaid:	CAL000034331
TSD EPA ID:	CAD008302903
Gen County:	Ventura
Tsd County:	Ventura
Tons:	0.32
Facility Address 2:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Transfer Station
Contact:	NANCY BEAR SEC/TREASURE
Telephone:	(818) 889-5677
Mailing Name:	Not reported
Mailing Address:	5560 TECH CIRCLE MOORPARK, CA 93021
County	Ventura

BWT:

Facility ID:	FA0005319
Region:	VENTURA
Program:	4420 - HAZARDOUS WASTE GENERATOR

Facility ID:	FA0005319
Region:	VENTURA
Program:	4220 - BUSINESS PLAN

A4 **SCI-TECH GLASSBLOWING INC** **HAZNET S105511907**
South **5555 TECH CIR** **VENTURA CO. BWT N/A**
1/8-1/4 **MOORPARK, CA 93021**
1154 ft.

Site 4 of 6 in cluster A

Relative:
Lower

Actual:
489 ft.

HAZNET:

Gepaid:	CAC002565460
TSD EPA ID:	CAT080033681
Gen County:	Ventura
Tsd County:	Ventura
Tons:	0.45
Facility Address 2:	Not reported
Waste Category:	Liquids with pH <UN-> 2
Disposal Method:	Recycler
Contact:	GLENN GADOS

SCI-TECH GLASSBLOWING INC (Continued) — **S105511907**

Telephone: (805) 523-9790
Mailing Name: Not reported
Mailing Address: 5555 TECH CIR
MOORPARK, CA 93021
County Ventura

BWT:
Facility ID: FA0006933
Region: VENTURA
Program: 4220 - BUSINESS PLAN

A5
South
1/8-1/4
1155 ft.

Relative:
Lower

Actual:
489 ft.

U S COLOR GRAPHICS CORP — **FINDS** — **1006305705**, **110012415626**
5560 TECH CIRCLE
MOORPARK, CA 93021

Site 5 of 6 in cluster A

FINDS:
Other Pertinent Environmental Activity Identified at Site:
NATIONAL EMISSIONS INVENTORY

A6
South
1/8-1/4
1202 ft.

Relative:
Lower

Actual:
489 ft.

QUINN LABEL PRINTING INC. — **VENTURA CO. BWT** — **S104994825**, **N/A**
5530 TECH CIR
MOORPARK, CA

Site 6 of 6 in cluster A

BWT:
Facility ID: FA0006220
Region: VENTURA
Program: 4406 - SPECIAL HAZARDOUS WASTE

Facility ID: FA0006220
Region: VENTURA
Program: 4220 - BUSINESS PLAN

7
South
1/4-1/2
1391 ft.

Relative:
Lower

Actual:
488 ft.

DEMO SYSTEMS INC — **HAZNET** — **S103960327**
5450 TECH CIR — **VENTURA CO. BWT** — **N/A**
MOORPARK, CA 93021

HAZNET:
Gepaid: CAL000145429
TSD EPA ID: CAL000121946
Gen County: Ventura
Tsd County: Marin
Tons: .1396
Facility Address 2: Not reported
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Contact: DONALD RUFFING
Telephone: (626) 968-6581
Mailing Name: Not reported
Mailing Address: 5450 TECH CIRCLE
MOORPARK, CA 93021 - 1792
County Ventura

DEMO SYSTEMS INC (Continued) **S103960327**

Gepaid: CAL000145429
TSD EPA ID: CAD008364432
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.2085
Facility Address 2: Not reported
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Recycler
Contact: DONALD RUFFING
Telephone: (626) 968-6581
Mailing Name: Not reported
Mailing Address: 5450 TECH CIRCLE
MOORPARK, CA 93021 - 1792
County Ventura

Gepaid: CAL000145429
TSD EPA ID: CAD981429673
Gen County: Ventura
Tsd County: Marin
Tons: 0.1251
Facility Address 2: Not reported
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Contact: DONALD RUFFING
Telephone: (626) 968-6581
Mailing Name: Not reported
Mailing Address: 5450 TECH CIRCLE
MOORPARK, CA 93021 - 1792
County Ventura

Gepaid: CAL000145429
TSD EPA ID: CAL000121946
Gen County: Ventura
Tsd County: Marin
Tons: .2919
Facility Address 2: Not reported
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Contact: DONALD RUFFING
Telephone: (626) 968-6581
Mailing Name: Not reported
Mailing Address: 5450 TECH CIRCLE
MOORPARK, CA 93021 - 1792
County Ventura

Gepaid: CAL000145429
TSD EPA ID: CAD981429673
Gen County: Ventura
Tsd County: Marin
Tons: .1251
Facility Address 2: Not reported
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Contact: DONALD RUFFING
Telephone: (626) 968-6581
Mailing Name: Not reported
Mailing Address: 5450 TECH CIRCLE
MOORPARK, CA 93021 - 1792

DEMO SYSTEMS INC (Continued) **S103960327**

County Ventura

Click this hyperlink while viewing on your computer to access
2 additional CA HAZNET record(s) in the EDR Site Report.

BWT:
Facility ID: FA0009521
Region: VENTURA
Program: 4220 - BUSINESS PLAN

B8
SSW
1/4-1/2
1777 ft.

Relative:
Lower

Actual:
482 ft.

AMERICAN BOARD ASSEMBLY **HAZNET S104994002**
5456 ENDEAVOUR CT **VENTURA CO. BWT N/A**
MOORPARK, CA 93021

Site 1 of 3 in cluster B

HAZNET:
Gepaid: CAL000183281
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Santa Clara
Tons: 0.20
Facility Address 2: Not reported
Waste Category: Other inorganic solid waste
Disposal Method: Not reported
Contact: SHAWNA DIFABRITIS - CFO
Telephone: (805) 523-0274
Mailing Name: Not reported
Mailing Address: 5456 ENDEAVOUR CT
MOORPARK, CA 93021
County Not reported

Gepaid: CAL000183281
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Santa Clara
Tons: 2.96
Facility Address 2: Not reported
Waste Category: Other inorganic solid waste
Disposal Method: Recycler
Contact: SHAWNA DIFABRITIS - CFO
Telephone: (805) 523-0274
Mailing Name: Not reported
Mailing Address: 5456 ENDEAVOUR CT
MOORPARK, CA 93021
County Not reported

Gepaid: CAL000183281
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.07
Facility Address 2: Not reported
Waste Category: Other organic solids
Disposal Method: Transfer Station
Contact: SHAWNA DIFABRITIS - CFO
Telephone: (805) 523-0274
Mailing Name: Not reported
Mailing Address: 5456 ENDEAVOUR CT
MOORPARK, CA 93021

AMERICAN BOARD ASSEMBLY (Continued) **S104994002**

County Not reported

Gepaid: CAL000183281
TSD EPA ID: CAD003963592
Gen County: Ventura
Tsd County: Santa Clara
Tons: 1.6000
Facility Address 2: Not reported
Waste Category: Other inorganic solid waste
Disposal Method: Recycler
Contact: AMERICAN BOARD ASSEMBLY
Telephone: (805) 523-0274
Mailing Name: Not reported
Mailing Address: 5456 ENDEAVOUR CT
MOORPARK, CA 93021
County Ventura

Gepaid: CAL000183281
TSD EPA ID: CAD003963592
Gen County: Ventura
Tsd County: Ventura
Tons: 0.17
Facility Address 2: Not reported
Waste Category:
Disposal Method: Recycler
Contact: SHAWNA DIFABRITIS - CFO
Telephone: (805) 523-0274
Mailing Name: Not reported
Mailing Address: 5456 ENDEAVOUR CT
MOORPARK, CA 93021
County Ventura

Click this hyperlink while viewing on your computer to access
4 additional CA HAZNET record(s) in the EDR Site Report.

BWT:
Facility ID: FA0006611
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

Facility ID: FA0006611
Region: VENTURA
Program: 4220 - BUSINESS PLAN

B9 **VIKING ELECTRONICS, INC** **VENTURA CO. BWT** **S105774009**
SSW **5455 ENDEAVOR CT** **N/A**
1/4-1/2 **MOORPARK, CA**
1790 ft.

Site 2 of 3 in cluster B

Relative:
Lower

Actual:
482 ft.

BWT:
Facility ID: FA0006755
Region: VENTURA
Program: 4220 - BUSINESS PLAN

Facility ID: FA0006755
Region: VENTURA
Program: 4320 - HAZ WASTE GENERATOR (RCRA-LQG) - GENERAL

B10
SSW
1/4-1/2
1790 ft.

Relative:
Lower

Actual:
482 ft.

VIKING ELECTRONICS INC
5455 ENDEAVOR CT
MOORPARK, CA 93021

HAZNET **S104579043**
CA WDS **N/A**

Site 3 of 3 in cluster B

HAZNET:

Gepaid:	CAL000140644
TSD EPA ID:	HFHQ38000454
Gen County:	Ventura
Tsd County:	0
Tons:	0.1795
Facility Address 2:	Not reported
Waste Category:	Other inorganic solid waste
Disposal Method:	Recycler
Contact:	VIKING ELECTRONICS INC
Telephone:	(805) 553-9633
Mailing Name:	Not reported
Mailing Address:	PO BOX 8009
	MOORPARK, CA 93021 - 8009
County	Ventura

Gepaid:	CAL000140644
TSD EPA ID:	Not reported
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	0.45
Facility Address 2:	Not reported
Waste Category:	Unspecified solvent mixture Waste
Disposal Method:	Recycler
Contact:	JUSTIN KILLGORE-PLATING MGR
Telephone:	(818) 782-4702
Mailing Name:	Not reported
Mailing Address:	PO BOX 8009
	MOORPARK, CA 93021 - 8009
County	Not reported

Gepaid:	CAL000140644
TSD EPA ID:	Not reported
Gen County:	Ventura
Tsd County:	Santa Clara
Tons:	0.13
Facility Address 2:	Not reported
Waste Category:	Other inorganic solid waste
Disposal Method:	Recycler
Contact:	JUSTIN KILLGORE-PLATING MGR
Telephone:	(818) 782-4702
Mailing Name:	Not reported
Mailing Address:	PO BOX 8009
	MOORPARK, CA 93021 - 8009
County	Not reported

VIKING ELECTRONICS INC (Continued) **S104579043**

Gepaid: CAL000140644
TSD EPA ID: CAD097030993
Gen County: Ventura
Tsd County: Ventura
Tons: 0.18
Facility Address 2: Not reported
Waste Category: Liquids with pH <UN-> 2 with metals
Disposal Method: Recycler
Contact: JUSTIN KILLGORE-PLATING MGR
Telephone: (818) 782-4702
Mailing Name: Not reported
Mailing Address: PO BOX 8009
MOORPARK, CA 93021 - 8009
County Ventura

Gepaid: CAL000140644
TSD EPA ID: CAD077182293
Gen County: Ventura
Tsd County: Ventura
Tons: 0.3
Facility Address 2: Not reported
Waste Category: Other inorganic solid waste
Disposal Method: Recycler
Contact: JUSTIN KILLGORE-PLATING MGR
Telephone: (818) 782-4702
Mailing Name: Not reported
Mailing Address: PO BOX 8009
MOORPARK, CA 93021 - 8009
County Ventura

Click this hyperlink while viewing on your computer to access
3 additional CA HAZNET record(s) in the EDR Site Report.

WDS:
Facility ID: 4 56I014978
Facility Contact: JUSTIN KILLGORE
Facility Telephone: (805) 553-9655
SIC Code: 0
SIC Code 2: Not reported
Agency Name: VIKING ELECTRONICS INC
Agency Address: 5455 Endeavour Ct
Moorpark 93021 - 1712
Agency Contact: JUSTIN KILLGORE
Agency Phone: (805) 553-9655
Design Flow: 0.00000 Million Gal/Day
Baseline Flow: 0.00000 Million Gal/Day
Facility Type: Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
Agency Type: Private
Waste Type: Not reported
Threat to Water: Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface

VIKING ELECTRONICS INC (Continued) **S104579043**

disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.
Reclamation: Not reported
POTW: Not reported
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion: 4

C11 **WAVE PRECISION INC** **RCRA-SQG 1001217737**
SSE **5390 KAZUKO CT** **FINDS CAR000041251**
1/4-1/2 **MOORPARK, CA 93021** **HAZNET**
1880 ft. **VENTURA CO. BWT**

Site 1 of 4 in cluster C

Relative: Lower

Actual: 489 ft.

RCRAInfo:
Owner: WAVE PRECISION INC
(805) 529-3324
EPA ID: CAR000041251

Contact: GENE LAPP
(805) 529-3324

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
HAZARDOUS WASTE TRACKING SYSTEM-DATAMART
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

HAZNET:
Gepaid: CAR000041251
TSD EPA ID: CAD008252405
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0
Facility Address 2: Not reported
Waste Category: Liquids with halogenated organic compounds > 1000 mg/l
Disposal Method: Recycler
Contact: KEN SCRIBNER
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5390 KAZUKO CT
MOORPARK, CA 93021 - 1790
County Ventura

Gepaid: CAR000041251
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.40
Facility Address 2: Not reported
Waste Category: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
Disposal Method: Recycler
Contact: DARREN KELSEY/SAFETY DIR
Telephone: (805) 529-3324
Mailing Name: Not reported
Mailing Address: 5390 KAZUKO CT
MOORPARK, CA 93021 - 1790

WAVE PRECISION INC (Continued) **1001217737**

County Not reported

Gepaid: CAR000041251
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.22
Facility Address 2: Not reported
Waste Category: Other still bottom waste
Disposal Method: Recycler
Contact: DARREN KELSEY/SAFETY DIR
Telephone: (805) 529-3324
Mailing Name: Not reported
Mailing Address: 5390 KAZUKO CT
MOORPARK, CA 93021 - 1790
County Not reported

Gepaid: CAR000041251
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: Not reported
Facility Address 2: Not reported
Waste Category: Other organic solids
Disposal Method: Transfer Station
Contact: DARREN KELSEY/SAFETY DIR
Telephone: (805) 529-3324
Mailing Name: Not reported
Mailing Address: 5390 KAZUKO CT
MOORPARK, CA 93021 - 1790
County Not reported

Gepaid: CAR000041251
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Orange
Tons: 0.61
Facility Address 2: Not reported
Waste Category: Hydrocarbon solvents (benzene, hexane, Stoddard, etc.)
Disposal Method: Transfer Station
Contact: DARREN KELSEY/SAFETY DIR
Telephone: (805) 529-3324
Mailing Name: Not reported
Mailing Address: 5390 KAZUKO CT
MOORPARK, CA 93021 - 1790
County Not reported

Click this hyperlink while viewing on your computer to access
13 additional CA HAZNET record(s) in the EDR Site Report.

BWT:
Facility ID: FA0006650
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

Facility ID: FA0006650
Region: VENTURA
Program: 4220 - BUSINESS PLAN

C12 **VALLEY DESIGN INC** HAZNET S104994149
SSE **5384 KAZUKO CT** VENTURA CO. BWT N/A
1/4-1/2 **MOORPARK, CA 93021**
1895 ft.

Site 2 of 4 in cluster C

Relative:
Lower

Actual:
489 ft.

HAZNET:

Gepaid:	CAL000251915
TSD EPA ID:	Not reported
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	0.35
Facility Address 2:	Not reported
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Recycler
Contact:	MATT TOOMEY
Telephone:	(805) 523-1982
Mailing Name:	Not reported
Mailing Address:	5384 KAZUKO CT MOORPARK, CA 93021
County	Not reported

Gepaid:	CAL000251915
TSD EPA ID:	CAT080013352
Gen County:	Ventura
Tsd County:	Ventura
Tons:	0.29
Facility Address 2:	Not reported
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Recycler
Contact:	CHRIS SPENCER
Telephone:	(805) 523-1982
Mailing Name:	Not reported
Mailing Address:	5384 KAZUKO CT MOORPARK, CA 93021
County	Ventura

BWT:

Facility ID:	FA0006221
Region:	VENTURA
Program:	4220 - BUSINESS PLAN

Facility ID:	FA0006221
Region:	VENTURA
Program:	4420 - HAZARDOUS WASTE GENERATOR

C13 **WILMANCO** HAZNET S105774079
SSE **5350 KAZUKO CT** VENTURA CO. BWT N/A
1/4-1/2 **MOORPARK, CA 93021**
1998 ft.

Site 3 of 4 in cluster C

Relative:
Lower

Actual:
489 ft.

HAZNET:

Gepaid:	CAL000276707
TSD EPA ID:	CAT080013352
Gen County:	Ventura
Tsd County:	Ventura
Tons:	0.06
Facility Address 2:	Not reported
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Recycler
Contact:	ROBERT WOODS

WILMANCO (Continued) **S105774079**

Telephone: (805) 523-2391
Mailing Name: Not reported
Mailing Address: 5350 KAZUKO CT
MOORPARK, CA 93021
County Ventura

BWT:
Facility ID: FA0006226
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

C14 **WILMANCO** **HAZNET** **S102009080**
SSE **5350 KAZUKO COURT** **N/A**
1/4-1/2 **MOORPARK, CA 93021**
1998 ft.

Site 4 of 4 in cluster C

Relative: Lower

Actual: 489 ft.

HAZNET:
Gepaid: CAC001158072
TSD EPA ID: CAT080013352
Gen County: Ventura
Tsd County: Los Angeles
Tons: .2085
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Recycler
Contact: DEKE WILLIAMS
Telephone: (805) 523-2390
Mailing Name: Not reported
Mailing Address: 5350 KAZUKO COURT
MOORPARK, CA 93021
County Ventura

D15 **MASTER COOLING CORP** **HAZNET** **S103976669**
South **5430 ATLANTIS COURT** **N/A**
1/4-1/2 **MOORPARK, CA 93021**
2045 ft.

Site 1 of 7 in cluster D

Relative: Lower

Actual: 483 ft.

HAZNET:
Gepaid: CAL000131017
TSD EPA ID: CAD008302903
Gen County: Ventura
Tsd County: Los Angeles
Tons: 1.0842
Facility Address 2: Not reported
Waste Category: Waste oil and mixed oil
Disposal Method: Recycler
Contact: FRANK FAZZOLARE/PRESIDENT
Telephone: (805) 378-0050
Mailing Name: Not reported
Mailing Address: 5430 ATLANTIS CT
MOORPARK, CA 93021
County Ventura

MASTER COOLING CORP (Continued) **S103976669**

Gepaid: CAL000131017
TSD EPA ID: CAT080033681
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.9174
Facility Address 2: Not reported
Waste Category: Waste oil and mixed oil
Disposal Method: Recycler
Contact: FRANK FAZZOLARE/PRESIDENT
Telephone: (805) 378-0050
Mailing Name: Not reported
Mailing Address: 5430 ATLANTIS CT
MOORPARK, CA 93021
County Ventura

Gepaid: CAL000131017
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 1.14
Facility Address 2: Not reported
Waste Category:
Disposal Method: Not reported
Contact: RONALD L. FAZZOLARE
Telephone: (805) 378-0050
Mailing Name: Not reported
Mailing Address: 5430 ATLANTIS CT
MOORPARK, CA 93021
County Not reported

Gepaid: CAL000131017
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.91
Facility Address 2: Not reported
Waste Category: Liquids with halogenated organic compounds > 1000 mg/l
Disposal Method: Recycler
Contact: RONALD L. FAZZOLARE
Telephone: (805) 378-0050
Mailing Name: Not reported
Mailing Address: 5430 ATLANTIS CT
MOORPARK, CA 93021
County Not reported

Gepaid: CAL000131017
TSD EPA ID: CAT080031628
Gen County: Ventura
Tsd County: Kern
Tons: .9590
Facility Address 2: Not reported
Waste Category: Waste oil and mixed oil
Disposal Method: Recycler
Contact: FRANK FAZZOLARE/PRESIDENT
Telephone: (805) 378-0050
Mailing Name: Not reported
Mailing Address: 5430 ATLANTIS CT
MOORPARK, CA 93021

MASTER COOLING CORP (Continued) **S103976669**

County Ventura

Click this hyperlink while viewing on your computer to access
4 additional CA HAZNET record(s) in the EDR Site Report.

D16 **MASTER COOLING CORPORATION** **VENTURA CO. BWT** **S105511666**
South **5430 ATLANTIS CT** **N/A**
1/4-1/2 **MOORPARK, CA**
2045 ft.

Site 2 of 7 in cluster D

Relative:
Lower

Actual:
483 ft.

BWT:
Facility ID: FA0006931
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

Facility ID: FA0006931
Region: VENTURA
Program: 4220 - BUSINESS PLAN

E17 **HARRIS, MICHAEL** **UST** **U003176203**
West **6086 GABBERT ROAD** **N/A**
1/4-1/2 **MOORPARK, CA**
2071 ft.

Site 1 of 2 in cluster E

Relative:
Lower

Actual:
520 ft.

UST Ventura County Active & Inactive:
Facility ID: D 1271
Facility Status: Inactive
Box No: UGTCLO 17
Region: Ventura County

E18 **MICHAEL HARRIS** **HAZNET** **S103666675**
West **6086 GABBERT RD** **N/A**
1/4-1/2 **MOORPARK, CA 93021**
2071 ft.

Site 2 of 2 in cluster E

Relative:
Lower

Actual:
520 ft.

HAZNET:
Gepaid: CAC000770360
TSD EPA ID: CAT080013352
Gen County: Ventura
Tsd County: Los Angeles
Tons: 3.1275
Facility Address 2: Not reported
Waste Category: Waste oil and mixed oil
Disposal Method: Recycler
Contact: MICHAEL HARRIS
Telephone: (310) 317-1422
Mailing Name: Not reported
Mailing Address: 20725 SEABOARD RD
MALIBU, CA 90265
County Ventura

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
D19 South 1/4-1/2 2088 ft. Relative: Lower Actual: 483 ft.	J W ETC INC 11972 HERTZ ST MOORPARK, CA Site 3 of 7 in cluster D BWT: Facility ID: FA0005600 Region: VENTURA Program: 4220 - BUSINESS PLAN	VENTURA CO. BWT	S104994016 N/A
D20 South 1/4-1/2 2096 ft. Relative: Lower Actual: 482 ft.	INSPARATION INC. 11950 HERTZ ST MOORPARK, CA Site 4 of 7 in cluster D BWT: Facility ID: FA0005707 Region: VENTURA Program: 4220 - BUSINESS PLAN	VENTURA CO. BWT	S104994094 N/A
D21 South 1/4-1/2 2100 ft. Relative: Lower Actual: 482 ft.	HUDSON PLATING WORKS 11941 HERTZ ST MOORPARK, CA Site 5 of 7 in cluster D BWT: Facility ID: FA0010677 Region: VENTURA Program: 4220 - BUSINESS PLAN Facility ID: FA0010677 Region: VENTURA Program: 4420 - HAZARDOUS WASTE GENERATOR	VENTURA CO. BWT	S107138678 N/A
22 WSW 1/4-1/2 2132 ft. Relative: Lower Actual: 542 ft.	6061 GABBER 6061 GABBER MOORE PARK, CA 93021 Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.	ERNS	90172824 N/A
D23 SSW 1/4-1/2 2151 ft. Relative: Lower Actual: 482 ft.	MOORPARK UNIFIED SCHOOL DISTRICT 5297 MAUREEN LN MOORPARK, CA Site 6 of 7 in cluster D BWT: Facility ID: FA0004853 Region: VENTURA Program: 4220 - BUSINESS PLAN	VENTURA CO. BWT	S106100279 N/A

MOORPARK UNIFIED SCHOOL DISTRICT (Continued) **S106100279**

Facility ID: FA0004853
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

D24 **MOORPARK UNIFIED SCHOOL DIST** **RCRA-SQG 1004676199**
SSW **5297 MAUREEN LANE** **FINDS CAR000082149**
1/4-1/2 **MOORPARK, CA 93021** **HAZNET**
2151 ft. **CA WDS**

Site 7 of 7 in cluster D

Relative:
Lower

Actual:
482 ft.

RCRAInfo:
Owner: MOORPARK UNIFIED SCH DIST
(805) 378-6300
EPA ID: CAR000082149

Contact: JANE LAVALLEE
(805) 378-6316

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
HAZARDOUS WASTE TRACKING SYSTEM-DATAMART
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

HAZNET:
Gepaid: CAR000082149
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.08
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Recycler
Contact: --
Telephone: (805) 378-6316
Mailing Name: Not reported
Mailing Address: 5297 MAUREEN LANE
MOORPARK, CA 93021
County Not reported

WDS:
Facility ID: 4 56I017876
Facility Contact Gary Ventsam
Facility Telephone Not reported
SIC Code: 0
SIC Code 2: Not reported
Agency Name: MOORPARK UNIFIED SCHOOL DIST
Agency Address: 5297 Maureen Ln
Moorpark 93021 - 7125
Agency Contact: Gary Ventsam
Agency Phone: (805) 378-6300
Design Flow: 0.00000 Million Gal/Day
Baseline Flow: 0.00000 Million Gal/Day
Facility Type: Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
Agency Type: Special District (Includes districts established under general acts, sanitary districts,

MOORPARK UNIFIED SCHOOL DIST (Continued) **1004676199**

water districts irrigation districts, etc.)
Waste Type: Not reported
Threat to Water: Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.
Reclamation: Not reported
POTW: Not reported
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion: 4

F25 **ACE GRAPHICS** **EMI** **S106919993**
South **5351 BONSAI AVE.** **N/A**
1/4-1/2 **MOORPARK, CA 93021**
2189 ft.

Site 1 of 4 in cluster F

Relative:
Lower

Actual:
486 ft.

EMISSIONS :

Year :	2003
Facility ID :	7084
Air District Code :	VEN
SIC Code :	2752
Air Basin :	SCC
Air District Name :	VENTURA COUNTY APCD
Community Health Air Pollution Info System :	N
Consolidated Emission Reporting Rule :	Not reported
County Code :	56
County ID :	56
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr :	0
Part. Matter 10 Micrometers and Smaller Tons/Yr :	0

G26 **AIR INSTRO INC** **VENTURA CO. BWT** **S106570487**
SSE **5286 KAZUKO CT** **N/A**
1/4-1/2 **MOORPARK, CA**
2195 ft.

Site 1 of 5 in cluster G

Relative:
Lower

Actual:
488 ft.

BWT:

Facility ID:	FA0009619
Region:	VENTURA
Program:	4420 - HAZARDOUS WASTE GENERATOR

G27 **CONSTRUCTION POLYMERS INTL** VENTURA CO. BWT S106447428
SSE **5285 KAZUKO CT #A** N/A
1/4-1/2 **MOORPARK, CA**
2201 ft.

Site 2 of 5 in cluster G

Relative:
Lower

BWT:
Facility ID: FA0009337
Actual: Region: VENTURA
488 ft. Program: 4220 - BUSINESS PLAN

G28 **LEVEL (3) COMMUNICATIONS** VENTURA CO. BWT S105511770
SSE **5245 KAZUKO CT** N/A
1/4-1/2 **MOORPARK, CA**
2321 ft.

Site 3 of 5 in cluster G

Relative:
Lower

BWT:
Facility ID: FA0006900
Actual: Region: VENTURA
488 ft. Program: 4220 - BUSINESS PLAN

H29 **TAYCO BUSINESS FORMS** HAZNET S104843709
SW **5400 COMMERCE AVE** N/A
1/4-1/2 **MOORPARK, CA 93021**
2323 ft.

Site 1 of 14 in cluster H

Relative:
Lower

HAZNET:
Gepaid: CAL000056582
Actual: TSD EPA ID: CAD982444481
479 ft. Gen County: Ventura
Tsd County: San Bernardino
Tons: 1.8750
Facility Address 2: Not reported
Waste Category: Other organic solids
Disposal Method: Transfer Station
Contact: Not reported
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5400 N COMMERCE AVE
MOORPARK, CA 93021 - 1762
County Ventura

H30 **FUTURE AUTOMATION INC** HAZNET S103965348
SW **5400 COMMERCE AVE** N/A
1/4-1/2 **MOORPARK, CA 93021**
2323 ft.

Site 2 of 14 in cluster H

Relative:
Lower

HAZNET:
Gepaid: CAP601252226
Actual: TSD EPA ID: CAD000088252
479 ft. Gen County: 0
Tsd County: Los Angeles
Tons: .4587
Facility Address 2: Not reported
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Transfer Station
Contact: Not reported

FUTURE AUTOMATION INC (Continued) **S103965348**

Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 00000
County 0

H31
SW
1/4-1/2
2326 ft.

Relative:
Lower

Actual:
479 ft.

FLUID INK TECHNOLOGY INC **RCRA-SQG** **1007989084**
5360 N COMMERCE AVE **CAR000160168**
MOORPARK, CA 93021

Site 3 of 14 in cluster H

RCRAInfo:
Owner: FLUID INK TECH INC
EPA ID: CAR000160168

Contact: JASON NADIN
805-378-0033

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: Violations exist

Regulation Violated: Not reported
Area of Violation: GENERATOR-GENERAL REQUIREMENTS
Date Violation Determined: 12/22/2004
Actual Date Achieved Compliance: 01/18/2005

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 12/22/2004
Penalty Type: Not reported

There are 1 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Compliance Evaluation Inspection	GENERATOR-GENERAL REQUIREMENTS	20050118

H32
SW
1/4-1/2
2329 ft.

Relative:
Lower

Actual:
479 ft.

DUROTECH CO **HAZNET** **S100934339**
5397 COMMERCE ST **N/A**
MOORPARK, CA 93021

Site 4 of 14 in cluster H

HAZNET:
Gepaid: CAL000009159
TSD EPA ID: CAD980883177
Gen County: Ventura
Tsd County: Kern
Tons: .3127
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Not reported
Contact: MIROSLAV LISKA
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5397 N COMMERCE AVE
MOORPARK, CA 93021 - 1764
County Ventura

DUROTECH CO (Continued) **S100934339**

Gepaid: CAL000009159
TSD EPA ID: CAD980883177
Gen County: Ventura
Tsd County: Kern
Tons: 1.8346
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Recycler
Contact: MIROSLAV LISKA
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5397 N COMMERCE AVE
MOORPARK, CA 93021 - 1764
County Ventura

Gepaid: CAL000009159
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 1.48
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Recycler
Contact: IVAN LISKA DIR OF MAT CONTROL
Telephone: (805) 530-1727
Mailing Name: Not reported
Mailing Address: 5397 N COMMERCE AVE
MOORPARK, CA 93021 - 1764
County Not reported

Gepaid: CAL000009159
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.58
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Recycler
Contact: IVAN LISKA DIR OF MAT CONTROL
Telephone: (805) 530-1727
Mailing Name: Not reported
Mailing Address: 5397 N COMMERCE AVE
MOORPARK, CA 93021 - 1764
County Not reported

Gepaid: CAL000009159
TSD EPA ID: CAD982444481
Gen County: Ventura
Tsd County: San Bernardino
Tons: .1668
Facility Address 2: Not reported
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Transfer Station
Contact: MIROSLAV LISKA
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5397 N COMMERCE AVE
MOORPARK, CA 93021 - 1764

DUROTECH CO (Continued) **S100934339**

County Ventura

Click this hyperlink while viewing on your computer to access
17 additional CA HAZNET record(s) in the EDR Site Report.

H33 **AIRLESSCO BY DUROTECH CO.** **VENTURA CO. BWT** **S104993912**
SW **5397 COMMERCE AVE** **N/A**
1/4-1/2 **MOORPARK, CA**
2331 ft.

Site 5 of 14 in cluster H

Relative:
Lower

Actual:
479 ft.

BWT:
Facility ID: FA0005095
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

Facility ID: FA0005095
Region: VENTURA
Program: 4220 - BUSINESS PLAN

H34 **DUROTECH CO** **RCRA-SQG** **1000886373**
SW **5397 COMMERCE AVE** **FINDS** **CA0000201160**
1/4-1/2 **MOORPARK, CA 93021** **HAZNET**
2331 ft.

Site 6 of 14 in cluster H

Relative:
Lower

Actual:
479 ft.

RCRAInfo:
Owner: MIROSLAV LISKA
(805) 523-0211
EPA ID: CA0000201160

Contact: ROBERT E LOLLEY
(805) 523-0211

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

HAZNET:
Gepaid: CA0000201160
TSD EPA ID: CAT000613976
Gen County: Ventura
Tsd County: Orange
Tons: .2293
Facility Address 2: Not reported
Waste Category: Hydrocarbon solvents (benzene, hexane, Stoddard, etc.)
Disposal Method: Transfer Station
Contact: MIROSLAV LISKA
Telephone: (805) 523-0211
Mailing Name: Not reported
Mailing Address: 5397 COMMERCE AVE
MOORPARK, CA 93021
County Ventura

DUROTECH CO (Continued) **1000886373**

Gepaid: CA0000201160
TSD EPA ID: CAT000613976
Gen County: Ventura
Tsd County: Orange
Tons: .0625
Facility Address 2: Not reported
Waste Category: Liquids with halogenated organic compounds > 1000 mg/l
Disposal Method: Transfer Station
Contact: MIROSLAV LISKA
Telephone: (805) 523-0211
Mailing Name: Not reported
Mailing Address: 5397 COMMERCE AVE
MOORPARK, CA 93021
County Ventura

H35 **TERRAMAR GRAPHICS** **HAZNET S104582028**
SW **5345 N COMMERCE AVE STE 3** **VENTURA CO. BWT N/A**
1/4-1/2 **MOORPARK, CA 93021**
2346 ft.

Site 7 of 14 in cluster H

Relative: Lower

Actual: 479 ft.

HAZNET:
Gepaid: CAL000194951
TSD EPA ID: CAT000613976
Gen County: Ventura
Tsd County: Orange
Tons: 0.2293
Facility Address 2: Not reported
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Transfer Station
Contact: ELAINE MCCOY
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5345 N COMMERCE AVE STE 3
MOORPARK, CA 93021
County Ventura

Gepaid: CAL000194951
TSD EPA ID: CAT000613976
Gen County: Ventura
Tsd County: Orange
Tons: 0.0332
Facility Address 2: Not reported
Waste Category: Liquids with halogenated organic compounds > 1000 mg/l
Disposal Method: Transfer Station
Contact: ELAINE MCCOY
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5345 N COMMERCE AVE STE 3
MOORPARK, CA 93021
County Ventura

TERRAMAR GRAPHICS (Continued) **S104582028**

Gepaid: CAL000194951
TSD EPA ID: CAD050806850
Gen County: Ventura
Tsd County: Los Angeles
Tons: .1250
Facility Address 2: Not reported
Waste Category: Hydrocarbon solvents (benzene, hexane, Stoddard, etc.)
Disposal Method: Transfer Station
Contact: ELAINE MCCOY
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5345 N COMMERCE AVE STE 3
MOORPARK, CA 93021
County Ventura

Gepaid: CAL000194951
TSD EPA ID: CAD093459485
Gen County: Ventura
Tsd County: Fresno
Tons: .4252
Facility Address 2: Not reported
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Contact: ELAINE MCCOY
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5345 N COMMERCE AVE STE 3
MOORPARK, CA 93021
County Ventura

Gepaid: CAL000194951
TSD EPA ID: CAT000613976
Gen County: Ventura
Tsd County: Orange
Tons: .0498
Facility Address 2: Not reported
Waste Category: Liquids with halogenated organic compounds > 1000 mg/l
Disposal Method: Transfer Station
Contact: ELAINE MCCOY
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5345 N COMMERCE AVE STE 3
MOORPARK, CA 93021
County Ventura

Click this hyperlink while viewing on your computer to access
3 additional CA HAZNET record(s) in the EDR Site Report.

BWT:
Facility ID: FA0006955
Region: VENTURA
Program: 4220 - BUSINESS PLAN

Facility ID: FA0006955
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

F36 **TND PRECISION, INC.** **VENTURA CO. BWT** **S104993832**
South **5250 BONSAI AVE** **N/A**
1/4-1/2 **MOORPARK, CA**
2356 ft.

Site 2 of 4 in cluster F

Relative:
Lower

BWT:
Facility ID: FA0006746
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

Actual:
485 ft.

Facility ID: FA0006746
Region: VENTURA
Program: 4220 - BUSINESS PLAN

F37 **JAMAICA MINIATURE BEARINGS, INC** **VENTURA CO. BWT** **S105773672**
South **5240 BONSAI ST** **N/A**
1/4-1/2 **MOORPARK, CA**
2370 ft.

Site 3 of 4 in cluster F

Relative:
Lower

BWT:
Facility ID: FA0006785
Region: VENTURA
Program: 4220 - BUSINESS PLAN

Actual:
485 ft.

Facility ID: FA0006785
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

F38 **OEM CORPORATION** **HAZNET** **S104580837**
South **5240 BONSAI AVE** **N/A**
1/4-1/2 **MOORPARK, CA 93021**
2370 ft.

Site 4 of 4 in cluster F

Relative:
Lower

HAZNET:
Gepaid: CAL000177900
TSD EPA ID: CAD008364432
Gen County: Ventura
Tsd County: Los Angeles
Tons: .2293
Facility Address 2: Not reported
Waste Category: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
Disposal Method: Recycler
Contact: OEM CORPORATION
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5240 BONSAI ST
MOORPARK, CA 93021 - 1784
County Ventura

Actual:
485 ft.

OEM CORPORATION (Continued) **S104580837**

Gepaid: CAL000177900
TSD EPA ID: CAT080033681
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.1
Facility Address 2: Not reported
Waste Category: Other inorganic solid waste
Disposal Method: Disposal, Land Fill
Contact: OEM CORPORATION
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5240 BONSAI ST
MOORPARK, CA 93021 - 1784
County Ventura

Gepaid: CAL000177900
TSD EPA ID: CAD008364432
Gen County: Ventura
Tsd County: Los Angeles
Tons: .4586
Facility Address 2: Not reported
Waste Category: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
Disposal Method: Recycler
Contact: OEM CORPORATION
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5240 BONSAI ST
MOORPARK, CA 93021 - 1784
County Ventura

Gepaid: CAL000177900
TSD EPA ID: CAT080013352
Gen County: Ventura
Tsd County: Los Angeles
Tons: .4587
Facility Address 2: Not reported
Waste Category: Unspecified organic liquid mixture
Disposal Method: Recycler
Contact: OEM CORPORATION
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5240 BONSAI ST
MOORPARK, CA 93021 - 1784
County Ventura

Gepaid: CAL000177900
TSD EPA ID: CAT080013352
Gen County: Ventura
Tsd County: Los Angeles
Tons: .6880
Facility Address 2: Not reported
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Recycler
Contact: OEM CORPORATION
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5240 BONSAI ST
MOORPARK, CA 93021 - 1784

OEM CORPORATION (Continued) **S104580837**

County Ventura

Click this hyperlink while viewing on your computer to access
4 additional CA HAZNET record(s) in the EDR Site Report.

39
WNW
1/4-1/2
2385 ft.

SPADYS DISPOSAL SERVICE **RCRA-SQG 1000195057**
11905 DARLENE LN **FINDS CAT080032428**
MOORPARK, CA 93021

Relative:
Higher

Actual:
586 ft.

RCRAInfo:
Owner: YASSINI MORTEZA GENL PARTNER
(415) 555-1212
EPA ID: CAT080032428
Contact: ENVIRONMENTAL MANAGER
(805) 646-5577
Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

H40
SW
1/4-1/2
2401 ft.

FLUID INK TECHNOLOGY , INC **CA WDS S106103411**
5360 NORTH COMMERCE ST **N/A**
MOORPARK, CA 93021

Site 8 of 14 in cluster H

Relative:
Lower

Actual:
478 ft.

WDS:

Facility ID:	4 56I012638		
Facility Contact	Not reported	Facility Telephone	Not reported
SIC Code:	0	SIC Code 2:	Not reported
Agency Name:	FLUID INK TECHNOLOGY , INC		
Agency Address:	0		
Agency Contact:	Not reported	Agency Phone:	Not reported
Design Flow:	0.00000 Million Gal/Day	Baseline Flow:	0.00000 Million Gal/Day
Facility Type:	Not reported		

Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
Agency Type: Not reported
Waste Type: Not reported
Threat to Water: Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.
Reclamation: Not reported
POTW: Not reported
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the

FLUID INK TECHNOLOGY , INC (Continued) **S106103411**

Regional Board
Subregion: 4

H41 **FLUID INK TECHNOLOGY INCORPORATED** **FINDS 1004441461**
SW **5360 N. COMMERCE AVE.** **VENTURA CO. BWT 110002145580**
1/4-1/2 **MOORPARK, CA 93021**
2401 ft.

Site 9 of 14 in cluster H

Relative:
Lower

Actual:
478 ft.

FINDS:
Other Pertinent Environmental Activity Identified at Site:
NATIONAL EMISSIONS INVENTORY
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM
TOXIC CHEMICAL RELEASE INVENTORY SYSTEM

BWT:
Facility ID: FA0006173
Region: VENTURA
Program: 4320 - HAZ WASTE GENERATOR (RCRA-LQG) - GENERAL

Facility ID: FA0006173
Region: VENTURA
Program: 4220 - BUSINESS PLAN

H42 **FLUID INK TECHNOLOGY INC** **TRIS 1006816204**
SW **5360 N COMMERCE AVE** **EMI 93021FLDNK53**
1/4-1/2 **MOORPARK, CA 93021**
2401 ft.

Site 10 of 14 in cluster H

Relative:
Lower

Actual:
478 ft.

EMISSIONS :

Year :	1999
Facility ID :	7113
Air District Code :	VEN
SIC Code :	2893
Air Basin :	SCC
Air District Name :	VENTURA COUNTY APCD
Community Health Air Pollution Info System :	Not reported
Consolidated Emission Reporting Rule :	Not reported
County Code :	56
County ID :	56
Total Organic Hydrocarbon Gases Tons/Yr:	6
Reactive Organic Gases Tons/Yr:	5
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr :	0
Part. Matter 10 Micrometers and Smaller Tons/Yr :	0

Year :	2000
Facility ID :	7113
Air District Code :	VEN
SIC Code :	2893
Air Basin :	SCC
Air District Name :	VENTURA COUNTY APCD
Community Health Air Pollution Info System :	Not reported
Consolidated Emission Reporting Rule :	Not reported
County Code :	56
County ID :	56

FLUID INK TECHNOLOGY INC (Continued) **1006816204**

Total Organic Hydrocarbon Gases Tons/Yr: 6
Reactive Organic Gases Tons/Yr: 5
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr : 0
Part. Matter 10 Micrometers and Smaller Tons/Yr : 0

Year : 2001
Facility ID : 7113
Air District Code : VEN
SIC Code : 2893
Air Basin : SCC
Air District Name : VENTURA COUNTY APCD
Community Health Air Pollution Info System : Not reported
Consolidated Emission Reporting Rule : Not reported
County Code : 56
County ID : 56
Total Organic Hydrocarbon Gases Tons/Yr: 7
Reactive Organic Gases Tons/Yr: 6
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr : 0
Part. Matter 10 Micrometers and Smaller Tons/Yr : 0

Year : 2002
Facility ID : 7113
Air District Code : VEN
SIC Code : 2893
Air Basin : SCC
Air District Name : VENTURA COUNTY APCD
Community Health Air Pollution Info System : Not reported
Consolidated Emission Reporting Rule : Not reported
County Code : 56
County ID : 56
Total Organic Hydrocarbon Gases Tons/Yr: 7
Reactive Organic Gases Tons/Yr: 6
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr : 0
Part. Matter 10 Micrometers and Smaller Tons/Yr : 0

Year : 2003
Facility ID : 7113
Air District Code : VEN
SIC Code : 2893
Air Basin : SCC
Air District Name : VENTURA COUNTY APCD
Community Health Air Pollution Info System : Not reported
Consolidated Emission Reporting Rule : Not reported
County Code : 56
County ID : 56
Total Organic Hydrocarbon Gases Tons/Yr: 2
Reactive Organic Gases Tons/Yr: 2
Carbon Monoxide Emissions Tons/Yr: 0

FLUID INK TECHNOLOGY INC (Continued) **1006816204**

NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr : 0
Part. Matter 10 Micrometers and Smaller Tons/Yr : 0

H43 **FLUID INK TECHNOLOGY, INC** **HAZNET** **1001611753**
SW **5360 NORTH COMMERCE AVE** **N/A**
1/4-1/2 **MOORPARK, CA 93021**
2401 ft.

Site 11 of 14 in cluster H

Relative:
Lower

Actual:
478 ft.

HAZNET:

Gepaid:	CAL000157749
TSD EPA ID:	CAD982444481
Gen County:	Ventura
Tsd County:	San Bernardino
Tons:	0.3127
Facility Address 2:	Not reported
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Recycler
Contact:	FLUID INK TECHNOLOGY, INC
Telephone:	(805) 378-0033
Mailing Name:	Not reported
Mailing Address:	5360 N COMMERCE AVE MOORPARK, CA 93021 - 1762
County	Ventura

Gepaid:	CAL000157749
TSD EPA ID:	Not reported
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	1.50
Facility Address 2:	Not reported
Waste Category:	Off-specification, aged, or surplus organics
Disposal Method:	Recycler
Contact:	RUSSELL GREENHOUSE-EXEC OFCR
Telephone:	(805) 378-0033
Mailing Name:	Not reported
Mailing Address:	5360 N COMMERCE AVE MOORPARK, CA 93021 - 1762
County	Not reported

Gepaid:	CAL000157749
TSD EPA ID:	Not reported
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	3.00
Facility Address 2:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Disposal, Land Fill
Contact:	RUSSELL GREENHOUSE-EXEC OFCR
Telephone:	(805) 378-0033
Mailing Name:	Not reported
Mailing Address:	5360 N COMMERCE AVE MOORPARK, CA 93021 - 1762
County	Not reported

FLUID INK TECHNOLOGY, INC (Continued) **1001611753**

Gepaid:	CAL000157749
TSD EPA ID:	Not reported
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	0.90
Facility Address 2:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Recycler
Contact:	RUSSELL GREENHOUSE-EXEC OFCR
Telephone:	(805) 378-0033
Mailing Name:	Not reported
Mailing Address:	5360 N COMMERCE AVE
	MOORPARK, CA 93021 - 1762
County	Not reported

Gepaid:	CAL000157749
TSD EPA ID:	CAD008302903
Gen County:	Ventura
Tsd County:	Ventura
Tons:	19.59
Facility Address 2:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Recycler
Contact:	RUSSELL GREENHOUSE-EXEC OFCR
Telephone:	(805) 378-0033
Mailing Name:	Not reported
Mailing Address:	5360 N COMMERCE AVE
	MOORPARK, CA 93021 - 1762
County	Ventura

Click this hyperlink while viewing on your computer to access
3 additional CA HAZNET record(s) in the EDR Site Report.

G44 **MA PRECISION** VENTURA CO. BWT S104994151
SSE **5215 KAZUKO CT** N/A
1/4-1/2 **MOORPARK, CA**
2416 ft.

Site 4 of 5 in cluster G

Relative:
Lower

Actual:
488 ft.

BWT:

Facility ID:	FA0005777
Region:	VENTURA
Program:	4420 - HAZARDOUS WASTE GENERATOR

Facility ID:	FA0005777
Region:	VENTURA
Program:	4220 - BUSINESS PLAN

G45 **AUTOMATED APPLICATIONS** HAZNET S104571026
SSE **5212 KAZUKO CT** VENTURA CO. BWT N/A
1/4-1/2 **MOORPARK, CA 93021**
2423 ft.

Site 5 of 5 in cluster G

Relative:
Lower

Actual:
488 ft.

AUTOMATED APPLICATIONS (Continued) **S104571026**

HAZNET:

Gepaid: CAL000190356
TSD EPA ID: CAD028409019
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.2293
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Not reported
Contact: WILLIAM MERRETT
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5212 KAZUKO CT
MOORPARK, CA 93021
County Ventura

Gepaid: CAL000190356
TSD EPA ID: CAT080013352
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.2293
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Recycler
Contact: WILLIAM MERRETT
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5212 KAZUKO CT
MOORPARK, CA 93021
County Ventura

Gepaid: CAC002173913
TSD EPA ID: CAT080013352
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.2919
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Treatment, Tank
Contact: AUTOMATED APPLICATIONS
Telephone: (805) 529-2424
Mailing Name: Not reported
Mailing Address: 5212 KAZUKO CT
MOORPARK, CA 93021
County Ventura

Gepaid: CAL000190356
TSD EPA ID: CAT080013352
Gen County: Ventura
Tsd County: Los Angeles
Tons: .6879
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Recycler
Contact: WILLIAM MERRETT
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5212 KAZUKO CT

AUTOMATED APPLICATIONS (Continued) **S104571026**

MOORPARK, CA 93021
County Ventura

Gepaid: CAL000190356
TSD EPA ID: CAT080013352
Gen County: Ventura
Tsd County: Ventura
Tons: 0.29
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Recycler
Contact: JOHN GARNER/PURCH ASSIT
Telephone: (805) 529-2424
Mailing Name: Not reported
Mailing Address: 5212 KAZUKO CT
MOORPARK, CA 93021
County Ventura

Click this hyperlink while viewing on your computer to access
1 additional CA HAZNET record(s) in the EDR Site Report.

BWT:
Facility ID: FA0009433
Region: VENTURA
Program: 4220 - BUSINESS PLAN

Facility ID: FA0009433
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

H46
SW
1/4-1/2
2431 ft.

Relative:
Lower

Actual:
478 ft.

FRANZ WOLF
5345 N COMMERCE AVE #7
MOORPARK, CA 93021

HAZNET **S103965012**
N/A

Site 12 of 14 in cluster H

HAZNET:
Gepaid: CAC000910216
TSD EPA ID: CAT080013352
Gen County: Ventura
Tsd County: Los Angeles
Tons: .1668
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Recycler
Contact: FRANZ WOLF
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 250 EASY STREET
SIMI VALLEY, CA 93065
County Ventura

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
I47 South 1/4-1/2 2444 ft. Relative: Lower Actual: 483 ft.	**VREEKE INDUSTRIES** **11991 CHALLENGER CT** **MOORPARK, CA** **Site 1 of 5 in cluster I** BWT: Facility ID: FA0006686 Region: VENTURA Program: 4420 - HAZARDOUS WASTE GENERATOR	VENTURA CO. BWT	S105774028 N/A
I48 South 1/4-1/2 2453 ft. Relative: Lower Actual: 483 ft.	**COLE SCIENTIFIC INC.** **11968 CHALLENGER CT** **MOORPARK, CA** **Site 2 of 5 in cluster I** BWT: Facility ID: FA0006916 Region: VENTURA Program: 4220 - BUSINESS PLAN	VENTURA CO. BWT	S105511694 N/A
I49 South 1/4-1/2 2453 ft. Relative: Lower Actual: 483 ft.	**LORRAINE DILLEHAY SLAYTON** **11969 CHALLENGER CT** **MOORPARK, CA 93021** **Site 3 of 5 in cluster I** HAZNET: Gepaid: CAC001372288 TSD EPA ID: CAD000088252 Gen County: Ventura Tsd County: Los Angeles Tons: .2293 Facility Address 2: Not reported Waste Category: Unspecified oil-containing waste Disposal Method: Transfer Station Contact: LORRAINE SLAYTON Telephone: (805) 387-1150 Mailing Name: Not reported Mailing Address: 4400 OAK PLACE DR WESTLAKE, CA 91362 County Ventura Gepaid: CAC001372288 TSD EPA ID: CAD000088252 Gen County: Ventura Tsd County: Los Angeles Tons: .1000 Facility Address 2: Not reported Waste Category: Other empty containers 30 gallons or more Disposal Method: Transfer Station Contact: LORRAINE SLAYTON Telephone: (805) 387-1150 Mailing Name: Not reported Mailing Address: 4400 OAK PLACE DR WESTLAKE, CA 91362 County Ventura	HAZNET	S103625088 N/A

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
I50 South 1/4-1/2 2453 ft. Relative: Lower Actual: 483 ft.	AMERICAN BOARD ASSEMBLY 11969 CHALLENGER COURT MOORPARK, CA 93021 Site 4 of 5 in cluster I	HAZNET	S103366354 N/A

HAZNET:

Gepaid:	CAL000146149
TSD EPA ID:	CAL000024110
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	1.9675
Facility Address 2:	Not reported
Waste Category:	Other inorganic solid waste
Disposal Method:	Recycler
Contact:	CORPORATION
Telephone:	(000) 000-0000
Mailing Name:	Not reported
Mailing Address:	11969 CHALLENGER COURT MOORPARK, CA 93021
County	Ventura

Gepaid:	CAL000146149
TSD EPA ID:	Not reported
Gen County:	Ventura
Tsd County:	0
Tons:	0.55
Facility Address 2:	Not reported
Waste Category:	Other inorganic solid waste
Disposal Method:	Recycler
Contact:	CORPORATION
Telephone:	(000) 000-0000
Mailing Name:	Not reported
Mailing Address:	11969 CHALLENGER COURT MOORPARK, CA 93021
County	Ventura

Gepaid:	CAL000146149
TSD EPA ID:	CAL000024110
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	3.24
Facility Address 2:	Not reported
Waste Category:	Other inorganic solid waste
Disposal Method:	Recycler
Contact:	CORPORATION
Telephone:	(000) 000-0000
Mailing Name:	Not reported
Mailing Address:	11969 CHALLENGER COURT MOORPARK, CA 93021
County	Ventura

AMERICAN BOARD ASSEMBLY (Continued) S103366354

Gepaid: CAL000146149
TSD EPA ID: CAL000024110
Gen County: Ventura
Tsd County: Los Angeles
Tons: .4000
Facility Address 2: Not reported
Waste Category: Other inorganic solid waste
Disposal Method: Recycler
Contact: CORPORATION
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 11969 CHALLENGER COURT
MOORPARK, CA 93021
County Ventura

I51
South
1/4-1/2
2460 ft.

Relative:
Lower

Actual:
482 ft.

AEROSPACE BEARING SUPPORT HAZNET S102802107
11953 CHALLENGER CT N/A
MOORPARK, CA 93021

Site 5 of 5 in cluster I

HAZNET:
Gepaid: CAC001019752
TSD EPA ID: CAD000088252
Gen County: Ventura
Tsd County: Los Angeles
Tons: .0208
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Not reported
Contact: AEROSPACE BEARING SUPPORT INC
Telephone: (805) 531-0001
Mailing Name: Not reported
Mailing Address: 11953 CHALLENGER CT
MOORPARK, CA 93021
County Ventura

Gepaid: CAC001019752
TSD EPA ID: CAD000088252
Gen County: Ventura
Tsd County: Los Angeles
Tons: .0208
Facility Address 2: Not reported
Waste Category: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
Disposal Method: Not reported
Contact: AEROSPACE BEARING SUPPORT INC
Telephone: (805) 531-0001
Mailing Name: Not reported
Mailing Address: 11953 CHALLENGER CT
MOORPARK, CA 93021
County Ventura

AEROSPACE BEARING SUPPORT (Continued) **S102802107**

Gepaid:	CAC001019752
TSD EPA ID:	CAD000088252
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	.0208
Facility Address 2:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Not reported
Contact:	AEROSPACE BEARING SUPPORT INC
Telephone:	(805) 531-0001
Mailing Name:	Not reported
Mailing Address:	11953 CHALLENGER CT MOORPARK, CA 93021
County	Ventura

Gepaid:	CAC001019752
TSD EPA ID:	CAD000088252
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	.0208
Facility Address 2:	Not reported
Waste Category:	Other inorganic solid waste
Disposal Method:	Not reported
Contact:	AEROSPACE BEARING SUPPORT INC
Telephone:	(805) 531-0001
Mailing Name:	Not reported
Mailing Address:	11953 CHALLENGER CT MOORPARK, CA 93021
County	Ventura

H52 **PREMIER HEADING** HAZNET S105725291
SSW **5273 COMMERCE AVE UNIT 10** N/A
1/4-1/2 **MOORPARK, CA 93021**
2465 ft.

Site 13 of 14 in cluster H

Relative:
Lower

Actual:
478 ft.

HAZNET:

Gepaid:	CAL000221788
TSD EPA ID:	Not reported
Gen County:	Ventura
Tsd County:	Orange
Tons:	0.07
Facility Address 2:	Not reported
Waste Category:	Liquids with halogenated organic compounds > 1000 mg/l
Disposal Method:	Transfer Station
Contact:	LEROY WILKINS-PRESIDENT
Telephone:	(805) 517-1007
Mailing Name:	Not reported
Mailing Address:	15301 BITNER PLACE MOORPARK, CA 93021
County	Not reported

PREMIER HEADING (Continued) **S105725291**

Gepaid: CAL000221788
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Orange
Tons: 0.2
Facility Address 2: Not reported
Waste Category: Liquids with halogenated organic compounds > 1000 mg/l
Disposal Method: Transfer Station
Contact: LEROY WILKINS-PRESIDENT
Telephone: (805) 517-1007
Mailing Name: Not reported
Mailing Address: 15301 BITNER PLACE
MOORPARK, CA 93021
County Not reported

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53 **AMERICAN MSI CORP** HAZNET **S105092880**
SSW **5245 MAUREEN RD** **N/A**
1/4-1/2 **MOORPARK, CA 93021**
2481 ft.

Relative: **Lower**

Actual: **481 ft.**

HAZNET:
Gepaid: CAL000214165
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.04
Facility Address 2: Not reported
Waste Category: Aqueous solution with less than 10% total organic residues
Disposal Method: Transfer Station
Contact: MARK CAESTECKER/CFO
Telephone: (805) 523-9593
Mailing Name: Not reported
Mailing Address: 5245 MAUREEN RD
MOORPARK, CA 93021
County Not reported

Gepaid: CAL000214165
TSD EPA ID: CAT000613893
Gen County: Ventura
Tsd County: Los Angeles
Tons: .1459
Facility Address 2: Not reported
Waste Category: Aqueous solution with less than 10% total organic residues
Disposal Method: Transfer Station
Contact: AMERICAN MSI CORPORATION
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 5245 MAUREEN RD
MOORPARK, CA 93021
County Ventura

AMERICAN MSI CORP (Continued) S105092880

Gepaid: CAL000214165
TSD EPA ID: CAT000613893
Gen County: Ventura
Tsd County: Ventura
Tons: 0.04
Facility Address 2: Not reported
Waste Category: Aqueous solution with less than 10% total organic residues
Disposal Method: Transfer Station
Contact: BILL DAVIES VP-OPERATIONS
Telephone: (805) 523-9593
Mailing Name: Not reported
Mailing Address: 5245 MAUREEN LANE
MOORPARK, CA 93021 - 7125
County Ventura

Gepaid: CAL000214165
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.17
Facility Address 2: Not reported
Waste Category: Aqueous solution with less than 10% total organic residues
Disposal Method: Transfer Station
Contact: MARK CAESTECKER/CFO
Telephone: (805) 523-9593
Mailing Name: Not reported
Mailing Address: 5245 MAUREEN RD
MOORPARK, CA 93021
County Not reported

H54
SSW
1/4-1/2
2518 ft.

LINCARE VENTURA CO. BWT S104228563
5301 COMMERCE AVE #4 N/A
MOORPARK, CA

Site 14 of 14 in cluster H

Relative:
Lower

Actual:
478 ft.

BWT:
Facility ID: FA0006822
Region: VENTURA
Program: 4220 - BUSINESS PLAN

J55
SSW
1/4-1/2
2574 ft.

D & G MANUFACTURING CO VENTURA CO. BWT S104993909
5273 COMMERCE AVE #7 N/A
MOORPARK, CA

Site 1 of 3 in cluster J

Relative:
Lower

Actual:
477 ft.

BWT:
Facility ID: FA0006612
Region: VENTURA
Program: 4220 - BUSINESS PLAN

Facility ID: FA0006612
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

J56
SSW
1/4-1/2
2574 ft.

D & G MANUFACTURE
5273 COMMERCE AVE #7
MOORPARK, CA 93021

HAZNET

S105724143
N/A

Site 2 of 3 in cluster J

Relative:
Lower

Actual:
477 ft.

HAZNET:

Gepaid:	CAL000205298
TSD EPA ID:	Not reported
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	0.93
Facility Address 2:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Recycler
Contact:	DARYL TAYLOR MGR
Telephone:	(805) 531-0159
Mailing Name:	Not reported
Mailing Address:	5273 COMMERCE AVE #7 MOORPARK, CA 93021
County	Not reported

Gepaid:	CAL000205298
TSD EPA ID:	CAD981696420
Gen County:	Ventura
Tsd County:	Ventura
Tons:	0.87
Facility Address 2:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Recycler
Contact:	DARYL TAYLOR MGR
Telephone:	(805) 531-0159
Mailing Name:	Not reported
Mailing Address:	5273 COMMERCE AVE #7 MOORPARK, CA 93021
County	Ventura

Gepaid:	CAL000205298
TSD EPA ID:	Not reported
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	0.93
Facility Address 2:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Recycler
Contact:	DARYL TAYLOR MGR
Telephone:	(805) 531-0159
Mailing Name:	Not reported
Mailing Address:	5273 COMMERCE AVE #7 MOORPARK, CA 93021
County	Not reported

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
J57 SSW 1/4-1/2 2574 ft. Relative: Lower Actual: 477 ft.	AMERICAN BOARD ASSEMBLY 5273 COMMERCE AVE #1 MOORPARK, CA 93021 Site 3 of 3 in cluster J HAZNET: Gepaid: CAL000146148 TSD EPA ID: CAL000024110 Gen County: Ventura Tsd County: Los Angeles Tons: .3000 Facility Address 2: Not reported Waste Category: Other inorganic solid waste Disposal Method: Recycler Contact: CORPORATION Telephone: (000) 000-0000 Mailing Name: Not reported Mailing Address: 5273 COMMERCE AVE #1 MOORPARK, CA 93021 County Ventura	HAZNET	S102685032 N/A
K58 SW 1/4-1/2 2606 ft. Relative: Lower Actual: 477 ft.	VAQUERO ENERGY BARDSDALE OIL FIELD FILLMORE, CA Site 1 of 2 in cluster K BWT: Facility ID: FA0005651 Region: VENTURA Program: 4220 - BUSINESS PLAN	VENTURA CO. BWT	S101700608 N/A
K59 SW 1/4-1/2 2609 ft. Relative: Lower Actual: 477 ft.	SOUTHLAND PAINTING 12160 POINDEXTER ST MOORPARK, CA 93021 Site 2 of 2 in cluster K RCRAInfo: Owner: CAROL GUERRERO (805) 579-8112 EPA ID: CA0000233700 Contact: CAROL GUERRERO (805) 579-8112 Classification: Small Quantity Generator TSDF Activities: Not reported Violation Status: No violations found FINDS: Other Pertinent Environmental Activity Identified at Site: RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM	RCRA-SQG FINDS	1000904981 CA0000233700

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
L60 South 1/4-1/2 2611 ft. Relative: Lower Actual: 486 ft.	**ALTATRON** **5155 GOLDMAN AVE.** **MOORPARK, CA 93021** **Site 1 of 5 in cluster L** FINDS: Other Pertinent Environmental Activity Identified at Site: TOXIC CHEMICAL RELEASE INVENTORY SYSTEM	FINDS	1006377149 110013285587
L61 South 1/4-1/2 2622 ft. Relative: Lower Actual: 486 ft.	**COMPLETE PROPERTY MAINTENENCE INC** **5150 GOLDMAN AVENUE UNIT A** **MOORPARK, CA 93021** **Site 2 of 5 in cluster L** HAZNET: Gepaid: CAC002316705 TSD EPA ID: CAT080013352 Gen County: Ventura Tsd County: Los Angeles Tons: .2502 Facility Address 2: Not reported Waste Category: Waste oil and mixed oil Disposal Method: Recycler Contact: DAVID BORDELON Telephone: (000) 000-0000 Mailing Name: Not reported Mailing Address: 207 WEST LOS ANGELES AVE #191 MOORPARK, CA 93021 County Ventura	HAZNET	S105087776 N/A
L62 South 1/4-1/2 2623 ft. Relative: Lower Actual: 486 ft.	**COMPLETE PROPERTY MAINTENANCE CO. INC** **5150 GOLDMAN AVE #A** **MOORPARK, CA 93021** **Site 3 of 5 in cluster L** HAZNET: Gepaid: CAC002569362 TSD EPA ID: CAT080013352 Gen County: Ventura Tsd County: Ventura Tons: 0.25 Facility Address 2: Not reported Waste Category: Unspecified oil-containing waste Disposal Method: Disposal, Land Fill Contact: LARRY PARKS/MGR Telephone: (805) 352-5392 Mailing Name: Not reported Mailing Address: 5150 GOLDMAN AVE #A MOORPARK, CA 93021 County Ventura	HAZNET	S107142906 N/A

COMPLETE PROPERTY MAINTENANCE CO. INC (Continued) **S107142906**

Gepaid: CAC002569362
TSD EPA ID: CAT080013352
Gen County: Ventura
Tsd County: Ventura
Tons: 0.68
Facility Address 2: Not reported
Waste Category: Off-specification, aged, or surplus organics
Disposal Method: Recycler
Contact: LARRY PARKS/MGR
Telephone: (805) 352-5392
Mailing Name: Not reported
Mailing Address: 5150 GOLDMAN AVE #A
MOORPARK, CA 93021
County Ventura

63
NW
1/4-1/2
2626 ft.

Relative:
Higher

Actual:
611 ft.

R C T **RCRA-SQG 1001967456**
11855 DARLENE LN **FINDS CAR000069286**
MOORPARK, CA 93021

RCRAInfo:
Owner: RICCI FRANKLIN
(805) 529-1443
EPA ID: CAR000069286
Contact: RICCI FRANKLIN
(805) 529-1443
Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
HAZARDOUS WASTE TRACKING SYSTEM-DATAMART
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

L64
South
1/2-1
2702 ft.

Relative:
Lower

Actual:
486 ft.

PACIFIC COAST AUTOBODY **RCRA-SQG 1000250691**
5162 GOLDMAN AVE **FINDS CAD981977960**
MOORPARK, CA 93021 **HAZNET**

Site 4 of 5 in cluster L

RCRAInfo:
Owner: MARK HOLLAND
(415) 555-1212
EPA ID: CAD981977960
Contact: ENVIRONMENTAL MANAGER
(805) 523-1500
Classification: Small Quantity Generator
TSDF Activities: Not reported

PACIFIC COAST AUTOBODY (Continued) **1000250691**

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
HAZARDOUS WASTE TRACKING SYSTEM-DATAMART
NATIONAL EMISSIONS INVENTORY
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

HAZNET:

Gepaid:	CAD981977960
TSD EPA ID:	Not reported
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	0.42
Facility Address 2:	Not reported
Waste Category:	Unspecified solvent mixture Waste
Disposal Method:	Recycler
Contact:	MARK HOLLAND
Telephone:	--
Mailing Name:	Not reported
Mailing Address:	5162 GOLDMAN AVE MOORPARK, CA 93021
County	Not reported

Gepaid:	CAD981977960
TSD EPA ID:	CAD008302903
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	0.1876
Facility Address 2:	Not reported
Waste Category:	Paint sludge
Disposal Method:	Recycler
Contact:	MARK HOLLAND
Telephone:	(000) 000-0000
Mailing Name:	Not reported
Mailing Address:	5162 GOLDMAN AVE MOORPARK, CA 93021
County	Ventura

Gepaid:	CAD981977960
TSD EPA ID:	CAD050806850
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	.1959
Facility Address 2:	Not reported
Waste Category:	Paint sludge
Disposal Method:	Recycler
Contact:	MARK HOLLAND
Telephone:	(000) 000-0000
Mailing Name:	Not reported
Mailing Address:	5162 GOLDMAN AVE MOORPARK, CA 93021
County	Ventura

PACIFIC COAST AUTOBODY (Continued) **1000250691**

Gepaid: CAD981977960
TSD EPA ID: CAD008252405
Gen County: Ventura
Tsd County: Ventura
Tons: 0.45
Facility Address 2: Not reported
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Recycler
Contact: MARK HOLLAND
Telephone: 0
Mailing Name: Not reported
Mailing Address: 5162 GOLDMAN AVE
MOORPARK, CA 93021
County Ventura

Gepaid: CAD981977960
TSD EPA ID: CAD008252405
Gen County: Ventura
Tsd County: Ventura
Tons: 0.22
Facility Address 2: Not reported
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Not reported
Contact: MARK HOLLAND
Telephone: 0
Mailing Name: Not reported
Mailing Address: 5162 GOLDMAN AVE
MOORPARK, CA 93021
County Ventura

Click this hyperlink while viewing on your computer to access
9 additional CA HAZNET record(s) in the EDR Site Report.

L65
South
1/2-1
2752 ft.

Relative:
Lower

Actual:
486 ft.

SEMICONDUCTOR EQUIPMENT CORP **RCRA-SQG 1000247358**
5154 GOLDMAN AVE **FINDS CAD981997620**
MOORPARK, CA 93021 **HAZNET**
VENTURA CO. BWT

Site 5 of 5 in cluster L

RCRAInfo:
Owner: SEMICONDUCTOR EQUIPMENT CORP
(415) 555-1212
EPA ID: CAD981997620

Contact: ENVIRONMENTAL MANAGER
(805) 529-2293

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

SEMICONDUCTOR EQUIPMENT CORP (Continued) **1000247358**

FINDS:
Other Pertinent Environmental Activity Identified at Site:
HAZARDOUS WASTE TRACKING SYSTEM-DATAMART
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

HAZNET:

Gepaid:	CAD981997620
TSD EPA ID:	CAD008302903
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	.1459
Facility Address 2:	Not reported
Waste Category:	Paint sludge
Disposal Method:	Transfer Station
Contact:	SEMICONDUCTOR EQUIPMENT CORP
Telephone:	(805) 529-2293
Mailing Name:	Not reported
Mailing Address:	5154 GOLDMAN AVE MOORPARK, CA 93021
County	Ventura

Gepaid:	CAD981997620
TSD EPA ID:	CAD008302903
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	.1751
Facility Address 2:	Not reported
Waste Category:	Paint sludge
Disposal Method:	Recycler
Contact:	SEMICONDUCTOR EQUIPMENT CORP
Telephone:	(805) 529-2293
Mailing Name:	Not reported
Mailing Address:	5154 GOLDMAN AVE MOORPARK, CA 93021
County	Ventura

Gepaid:	CAD981997620
TSD EPA ID:	CAD008302903
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	.4712
Facility Address 2:	Not reported
Waste Category:	Paint sludge
Disposal Method:	Recycler
Contact:	SEMICONDUCTOR EQUIPMENT CORP
Telephone:	(805) 529-2293
Mailing Name:	Not reported
Mailing Address:	5154 GOLDMAN AVE MOORPARK, CA 93021
County	Ventura

SEMICONDUCTOR EQUIPMENT CORP (Continued) **1000247358**

Gepaid: CAD981997620
TSD EPA ID: CAD008252405
Gen County: Ventura
Tsd County: Los Angeles
Tons: .0750
Facility Address 2: Not reported
Waste Category: Other organic solids
Disposal Method: Treatment, Incineration
Contact: SEMICONDUCTOR EQUIPMENT CORP
Telephone: (805) 529-2293
Mailing Name: Not reported
Mailing Address: 5154 GOLDMAN AVE
MOORPARK, CA 93021
County Ventura

Gepaid: CAD981997620
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.04
Facility Address 2: Not reported
Waste Category: Aqueous solution with 10% or more total organic residues
Disposal Method: Recycler
Contact: RICHARD FOLSOM
Telephone: (805) 529-2293
Mailing Name: Not reported
Mailing Address: 5154 GOLDMAN AVE
MOORPARK, CA 93021
County Not reported

Click this hyperlink while viewing on your computer to access
2 additional CA HAZNET record(s) in the EDR Site Report.

BWT:
Facility ID: FA0004875
Region: VENTURA
Program: 4220 - BUSINESS PLAN

Facility ID: FA0004875
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

66
South
1/2-1
2838 ft.

Relative:
Lower

Actual:
481 ft.

VILLAGE MEWS THE
5165 MAUREEN LANE
MOORPARK, CA 93021

RCRA-SQG **1000455657**
FINDS **CAD982431850**

VILLAGE MEWS THE (Continued) **1000455657**

RCRAInfo:
Owner: NOT REQUIRED
(415) 555-1212
EPA ID: CAD982431850

Contact: Not reported

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: Violations exist

Regulation Violated:	262.10-12.A
Area of Violation:	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined:	08/12/1992
Actual Date Achieved Compliance:	08/12/1997

There are 1 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19970812

FINDS:
Other Pertinent Environmental Activity Identified at Site:
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

67
SW
1/2-1
2970 ft.

Relative:
Lower

Actual:
474 ft.

PRUDENTIAL OVERALL SUPPLY **RCRA-SQG** **1000187295**
5300 GABBERT RD **FINDS** **CAD982025439**
MOORPARK, CA 93021 **HAZNET**
LUST
Cortese
UST
CA FID UST
VENTURA CO. BWT
HIST UST
CLEANERS
SWEEPS UST

RCRAInfo:
Owner: NOT REQUIRED
(415) 555-1212
EPA ID: CAD982025439

Contact: Not reported

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: Violations exist

Regulation Violated:	262.10-12.A
Area of Violation:	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined:	05/05/1994
Actual Date Achieved Compliance:	05/05/1999
Regulation Violated:	262.10-12.A
Area of Violation:	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined:	04/13/1993
Actual Date Achieved Compliance:	05/05/1994

There are 2 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance

PRUDENTIAL OVERALL SUPPLY (Continued) **1000187295**

Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19990505
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19940505

FINDS:
Other Pertinent Environmental Activity Identified at Site:
HAZARDOUS WASTE TRACKING SYSTEM-DATAMART
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

State LUST:

Cross Street:	Not reported		
Qty Leaked:	Not reported		
Case Number	C-97042		
Reg Board:	4		
Chemical:	Gasoline		
Lead Agency:	Local Agency		
Local Agency :	56000L		
Case Type:	Soil only		
Status:	Case Closed		
Abate Method:	Excavate and Dispose - remove contaminated soil and dispose in approved site		
Review Date:	11/26/1997	Confirm Leak:	11/26/1997
Workplan:	Not reported	Prelim Assess:	Not reported
Pollution Char:	Not reported	Remed Plan:	Not reported
Remed Action:	Not reported		
Monitoring:	Not reported		
Close Date:	7/30/2002		
Release Date:	11/26/1997		
Cleanup Fund Id :	Not reported		
Discover Date :	11/26/1997		
Enforcement Dt :	Not reported		
Enf Type:	CLOS		
Enter Date :	Not reported		
Funding:	Federal Funds		
Staff Initials:	DJE		
How Discovered:	Not reported		
How Stopped:	Not reported		
Interim :	Not reported		
Leak Cause:	Not reported		
Leak Source:	Not reported		
MTBE Date :	Not reported		
Max MTBE GW :	Not reported		
MTBE Tested:	MTBE Detected. Site tested for MTBE & MTBE detected		
Priority:	Not reported		
Local Case # :	97042		
Beneficial:	Not reported		
Staff :	UNK		
GW Qualifier :	Not reported		
Max MTBE Soil :	15.5 Parts per Million		
Soil Qualifier :	Not reported		
Hydr Basin #:	(???)		
Operator :	Not reported		
Oversight Prgm:	LUST		
Review Date :	Not reported		
Stop Date :	Not reported		
Work Suspended :	Not reported		
Responsible Party	PRUDENTIAL OVERALL SUPPLY		
RP Address:	Not reported		
Global Id:	T0611101157		

PRUDENTIAL OVERALL SUPPLY (Continued) **1000187295**

Org Name: Not reported
Contact Person: Not reported
MTBE Conc: 1
Mtbe Fuel: 1
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary : Not reported

LUST Region 4:
Report Date: 11/26/1997
Lead Agency: Local Agency
Local Agency: 56000L
Substance: Gasoline
Case Type: Soil
Status: Case Closed
Region: 4
Staff: UNK
Date Case Last Changed on Database: Not reported
Date Leak Record Entered: Not reported
Historical Max MTBE Date: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Hist Max MTBE Conc in Groundwater: Not reported
Hist Max MTBE Conc in Soil : 15.5
County: Ventura
Organization : Not reported
Regional Board: 04
Owner Contact: Not reported
Responsible Party: PRUDENTIAL OVERALL SUPPLY
RP Address: Not reported
Significant Interim Remedial Action Taken: Not reported
Program : LUST
Lat / Long : 34.2817306 / -1
Local Agency Staff: DJE
Beneficial Use : Not reported
Priority : Not reported
Cleanup Fund Id : Not reported
Suspended : Not reported
Local Case No : 97042
Substance Quantity : Not reported
Abatement Method Used at the Site: Excavate and Dispose
Operator : Not reported
Water System : Not reported
Well Name : Not reported
Approx. Dist To Production Well (ft) : 6662.687063317773642533602485 4
Assigned Name : Not reported
W Global ID : Not reported
Source of Cleanup Funding: Federal Funds
Date the Leak was Discovered: 11/26/1997
How the Leak was Discovered: Not reported
How the Leak was Stopped: Not reported
Cause of Leak: Not reported
Leak Source: Not reported
Date The Leak was Stopped: Not reported
Date Confirmation Leak Began: 11/26/1997

PRUDENTIAL OVERALL SUPPLY (Continued) **1000187295**

Preliminary Site Assessment Workplan Submitted:	10/22/1997
Preliminary Site Assessment Began:	Not reported
Pollution Characterization Began:	Not reported
Remediation Plan Submitted:	Not reported
Remedial Action Underway:	Not reported
Post Remedial Action Monitoring Began:	Not reported
Date the Case was Closed:	7/30/2002
Enforcement Action Date:	Not reported
Date Leak First Reported:	11/26/1997
Enforcement Type:	CLOS
Global ID :	T0611101157
Cross Street:	Not reported
Summary :	

LUST Region VN:

Facility ID:	97042
Status:	Case Closed

CA Cleaners:

Inactive Date:	Not reported
EPA Id:	CAD982025439
Facility Address 2 :	Not reported
NAICS Code :	812332
Facility Active :	Yes
Mail Name :	Not reported
Mailing Address:	1661 ALTON PKWY IRVINE, CA 92606
Owner Name :	PRUDENTIAL OVERALL SUPPLY
Mailing Address:	16611 ALTON PKY IRVINE, CA 92606
Owner Telephone :	9492504855
Contact Name :	LEE TERRY-ENVIRO MGR/XT 262
Mailing Address:	1661 ALTON PKWY IRVINE, CA 92606
Contact Telephone :	9492504850
Region Code :	3
Create Date :	03/01/1988
SIC Description :	Industrial Launderers
NAICS Description :	Industrial Launderers

HAZNET:

Gepaid:	CAD982025439
TSD EPA ID:	CAD008252405
Gen County:	Ventura
Tsd County:	Ventura
Tons:	0.88
Facility Address 2:	Not reported
Waste Category:	Other organic solids
Disposal Method:	Transfer Station
Contact:	LEE TERRY-ENVIRO MGR/XT 262
Telephone:	(949) 250-4850
Mailing Name:	Not reported
Mailing Address:	1661 ALTON PKWY IRVINE, CA 92606
County	Ventura

PRUDENTIAL OVERALL SUPPLY (Continued) **1000187295**

Gepaid: CAD982025439
TSD EPA ID: CAD982444481
Gen County: Ventura
Tsd County: San Bernardino
Tons: .2502
Facility Address 2: Not reported
Waste Category: Unspecified organic liquid mixture
Disposal Method: Transfer Station
Contact: PRUDENTIAL OVERALL SUPPLY
Telephone: (714) 250-4850
Mailing Name: Not reported
Mailing Address: 1661 ALTON PKWY
IRVINE, CA 92606
County Ventura

Gepaid: CAD982025439
TSD EPA ID: CAT080013352
Gen County: Ventura
Tsd County: Los Angeles
Tons: .6255
Facility Address 2: Not reported
Waste Category: Waste oil and mixed oil
Disposal Method: Recycler
Contact: PRUDENTIAL OVERALL SUPPLY
Telephone: (714) 250-4850
Mailing Name: Not reported
Mailing Address: 1661 ALTON PKWY
IRVINE, CA 92606
County Ventura

Gepaid: CAD982025439
TSD EPA ID: CAT080013352
Gen County: Ventura
Tsd County: Los Angeles
Tons: 4.0000
Facility Address 2: Not reported
Waste Category: Other organic solids
Disposal Method: Disposal, Land Fill
Contact: PRUDENTIAL OVERALL SUPPLY
Telephone: (714) 250-4850
Mailing Name: Not reported
Mailing Address: 1661 ALTON PKWY
IRVINE, CA 92606
County Ventura

Gepaid: CAD982025439
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 8.92
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Recycler
Contact: LEE TERRY-ENVIRO MGR/XT 262
Telephone: (714) 250-4850
Mailing Name: Not reported
Mailing Address: 1661 ALTON PKWY
IRVINE, CA 92606

PRUDENTIAL OVERALL SUPPLY (Continued) **1000187295**

County Not reported

CORTESE:
Region: CORTESE
Fac Address 2: 5300 GABBERT RD

FID:

Facility ID:	56002654	Regulate ID:	CAD982025
Reg By:	Active Underground Storage Tank Location		
Cortese Code:	Not reported	SIC Code:	Not reported
Status:	Active	Facility Tel:	Not reported
Mail To:	Not reported 5300 GABBERT RD MOORPARK, CA 93021		
Contact:	Not reported	Contact Tel:	Not reported
DUNs No:	Not reported	NPDES No:	Not reported
Creation:	10/22/93	Modified:	00/00/00
EPA ID:	Not reported		
Comments:	Not reported		

BWT:
Facility ID: FA0004872
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

Facility ID: FA0004872
Region: VENTURA
Program: 4220 - BUSINESS PLAN

UST HIST:

Facility ID:	65732	Owner Name:	PRUDENITAL OVERALL SUPPLY
Total Tanks:	1	Region:	STATE
Owner Address:	1661 ALTON AVE. IRVINE, CA 92714		
Tank Used for:	PRODUCT		
Tank Num:	1	Container Num:	1
Tank Capacity:	00010000	Year Installed:	1985
Type of Fuel:	UNLEADED	Tank Construction:	1/4 inches
Leak Detection:	Sensor Instrument		
Contact Name:	LARRY WEISMILLER PLT. SUPT.	Telephone:	(805) 529-0833
Facility Type:	Other	Other Type:	INDUSTRIAL LAUNDRY

SWEEPS:
Status : A
Comp Number : 1734
Number : 9
Board Of Equalization : 44-030855
Ref Date : 09-30-92
Act Date : 09-30-92
Created Date : 02-29-88
Tank Status : A
Owner Tank Id : Not reported
Swrcb Tank Id : 56-000-001734-000001
Actv Date : Not reported
Capacity : 10000
Tank Use : UNKNOWN
Stg : P
Content : Not reported
Number Of Tanks : 1

PRUDENTIAL OVERALL SUPPLY (Continued) 1000187295

UST Ventura County Active & Inactive:
Facility ID: D 1292
Facility Status: Inactive
Box No: UGTCLO 18
Region: Ventura County

68
South
1/2-1
3097 ft.

GISLER RANCH
635 LOS ANGELES AVE
MOORPARK, CA 91360

LUST **U002244059**
Cortese **N/A**
UST

Relative:
Lower

Actual:
481 ft.

State LUST:
Cross Street: Not reported
Qty Leaked: Not reported
Case Number C-91087
Reg Board: 4
Chemical: Gasoline
Lead Agency: Local Agency
Local Agency : 56000L
Case Type: Soil only
Status: Case Closed
Abate Method: No Action Required - incident is minor, requiring no remedial action
Review Date: 8/26/1991 Confirm Leak: 8/26/1991
Workplan: 10/8/1991 Prelim Assess: 10/8/1991
Pollution Char: 10/8/1991 Remed Plan: 10/8/1991
Remed Action: 10/8/1991
Monitoring: 10/8/1991
Close Date: 10/8/1991
Release Date: 8/26/1991
Cleanup Fund Id : Not reported
Discover Date : 8/26/1991
Enforcement Dt : 8/26/1991
Enf Type: EF
Enter Date : Not reported
Funding: Federal Funds
Staff Initials: EHD
How Discovered: Not reported
How Stopped: Not reported
Interim : Not reported
Leak Cause: Not reported
Leak Source: Not reported
MTBE Date : Not reported
Max MTBE GW : Not reported
MTBE Tested: Site NOT Tested for MTBE.Includes Unknown and Not Analyzed.
Priority: Not reported
Local Case # : 91087
Beneficial: Not reported
Staff : UNK
GW Qualifier : Not reported
Max MTBE Soil : Not reported
Soil Qualifier : Not reported
Hydr Basin #: (???)
Operator : Not reported
Oversight Prgm: LUST
Review Date : Not reported
Stop Date : Not reported
Work Suspended :Not reported
Responsible PartyGISLER RANCH

GISLER RANCH (Continued) **U002244059**

RP Address: Not reported
Global Id: T0611100783
Org Name: Not reported
Contact Person: Not reported
MTBE Conc: 0
Mtbe Fuel: 1
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary : Not reported

LUST Region 4:
Report Date: 8/26/1991
Lead Agency: Local Agency
Local Agency: 56000L
Substance: Gasoline
Case Type: Soil
Status: Case Closed
Region: 4
Staff: UNK

Date Case Last Changed on Database:	Not reported
Date Leak Record Entered:	Not reported
Historical Max MTBE Date:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Hist Max MTBE Conc in Groundwater:	Not reported
Hist Max MTBE Conc in Soil :	Not reported
County:	Ventura
Organization :	Not reported
Regional Board:	04
Owner Contact:	Not reported
Responsible Party:	GISLER RANCH
RP Address:	Not reported
Significant Interim Remedial Action Taken:	Not reported
Program :	LUST
Lat / Long :	34.2790837 / -1
Local Agency Staff:	EHD
Beneficial Use :	Not reported
Priority :	Not reported
Cleanup Fund Id :	Not reported
Suspended :	Not reported
Local Case No :	91087
Substance Quantity :	Not reported
Abatement Method Used at the Site:	No Action Required
Operator :	Not reported
Water System :	Not reported
Well Name :	Not reported
Approx. Dist To Production Well (ft) :	7809.034293538680194767404536 9
Assigned Name :	Not reported
W Global ID :	Not reported
Source of Cleanup Funding:	Federal Funds
Date the Leak was Discovered:	8/26/1991
How the Leak was Discovered:	Not reported
How the Leak was Stopped:	Not reported
Cause of Leak:	Not reported
Leak Source:	Not reported

GISLER RANCH (Continued) **U002244059**

Date The Leak was Stopped:	Not reported
Date Confirmation Leak Began:	8/26/1991
Preliminary Site Assessment Workplan Submitted:	8/26/1991
Preliminary Site Assessment Began:	10/8/1991
Pollution Characterization Began:	10/8/1991
Remediation Plan Submitted:	10/8/1991
Remedial Action Underway:	10/8/1991
Post Remedial Action Monitoring Began:	10/8/1991
Date the Case was Closed:	10/8/1991
Enforcement Action Date:	8/26/1991
Date Leak First Reported:	8/26/1991
Enforcement Type:	EF
Global ID :	T0611100783
Cross Street:	Not reported
Summary :	

LUST Region VN:
Facility ID: 91087
Status: Case Closed

CORTESE:
Region: CORTESE
Fac Address 2: 635 LOS ANGELES AVE

UST Ventura County Active & Inactive:
Facility ID: D 954
Facility Status: Inactive
Box No: 146061
Region: Ventura County

M69
South
1/2-1
3132 ft.

Relative:
Lower

Actual:
485 ft.

G & S AUTO SVC./MOORPARK AUTO/SPA **UST** **U003939876**
550 W LOS ANGELES AVE **N/A**
MOORPARK, CA 93021

Site 1 of 10 in cluster M

State UST:
Facility ID: 056-000-004838
Total Tanks: 1
Region: STATE
Local Agency: 56000

M70
South
1/2-1
3132 ft.

Relative:
Lower

Actual:
485 ft.

S & K RANCH-#1 **HIST UST** **U001579602**
550 W LOS ANGELES AVE **N/A**
MOORPARK, CA 93021

Site 2 of 10 in cluster M

UST HIST:
Facility ID: 24586
Total Tanks: 1
Owner Address: 8255 N. GRIMES CYN. ROAD
MOORPARK, CA 93021
Tank Used for: PRODUCT
Tank Num: 1
Tank Capacity: 00000250
Type of Fuel: REGULAR
Leak Detection: Stock Inventor
Contact Name: RAMIOR NUNEZ
Facility Type: Other

Owner Name: S & K RANCH
Region: STATE

Container Num: 1
Year Installed: Not reported
Tank Construction: 10 gauge

Telephone: (805) 529-1133
Other Type: AGRICULTURAL

M71 **S.K. EGG CITY** **SWF/LF** **S105964665**
South **550 W. LOS ANGELES AVE.** **N/A**
1/2-1 **MOORPARK, CA**
3132 ft.

Site 3 of 10 in cluster M

Relative:
Lower

Actual:
485 ft.

LF:

Facility ID:	56-CR-0040	Operator:	Not reported
Operator Addr:			
Date:	Not reported		
Address:	Not reported		
Prep By:	Not reported		
DOHS Number:	Not reported		
CUP Number:	Not reported		
CIWMB:	Not reported		
Activity:	Solid Waste Disposal Site		
Operator's Status:	Closed		
Owner:	Liberty Bell Partners		
Facility Phone 2 :	Not reported		
Owner Address:	Not reported		
	Not reported		
Operator Phone:	Not reported	Owner Telephone:	Not reported
Regulation Status:	Unpermitted	Region:	STATE
Location:	Not reported		
Parcel Num:	Not reported		
Parcel Num 2 :	Not reported		
Land Use:	Not reported		
Sig. Change Since Last Visit:	Not reported		
Site Size:	Not reported		
Other Observations:	Not reported		
Issue And Observations:	Not reported		
Recommendations / Follow Up:	Not reported		
Lat/Long:	34.27900 / -118.88880	Permit Date:	Not reported
Accepted Waste:			
Restrictions:			

Status :	Not reported	Swisnumber :	Not reported
Site Type :	Not reported	Aka :	Not reported
Type Of Waste :	Not reported	Disposal Area :	Not reported
SWFP Date :	Not reported	WDR Number :	Not reported
Dates Operation :	Not reported	Closure Approve :	Not reported
Dt Of Field Units :	Not reported	Surface Condition :	Not reported
Lea Date :	Not reported	Reassess Site :	Not reported
Leachate :	Not reported	Emrgncy Response	Not reported
Landfill Gas :	Not reported		
Priority For Site Assessment :	Not reported		
Other Recommendation :	Not reported		
Explanation:	Not Reported		
No Further Action:	Not Reported		
Permitted Throughput with Units:	Not reported		
Actual Throughput with Units:	Not reported		
Actual Capacity with Units:	Not reported		
Permitted Capacity with Units:	Not reported		
Remaining Capacity with Units:	Not reported		
Permitted Total Acreage:	0		
Remaining Capacity :	Not reported		
Fill Area:	Not reported	Inspec Frequency :	Annual
Landuse Name:	Not reported	GIS Source:	Map
Permit Status:	Not reported	Category:	Disposal

S.K. EGG CITY (Continued) **S105964665**

Unit Number: 01
Closure Type: Not reported
Year Opened: Not reported
Last Waste Tire Inspection Count : Not reported
Last Waste Tire Inspection Date: Not reported
Original Waste Tire Count: Not reported
Original Waste Tire Count Date: Not reported
Type Of Refuse: Not reported
Avg Depth Of Fill: Not reported
Addtl Expansion Area: Not reported
Site Description: Not Reported

Closure Date: / /
Disposal Acreage: 0
Year Closed: Not reported

M72 **CAL TRANS MAINTENACNE STN** HAZNET S103954579
South **512 LOS ANGELES** Cortese N/A
1/2-1 **MOORPARK, CA 93021**
3162 ft.

Site 4 of 10 in cluster M

Relative: Lower

Actual: 486 ft.

HAZNET:
Gepaid: CAD982469876
TSD EPA ID: AZD049318009
Gen County: Ventura
Tsd County: 99
Tons: 1.9182
Facility Address 2: Not reported
Waste Category: Unspecified organic liquid mixture
Disposal Method: Recycler
Contact: CALTRANS DISTRICT 7
Telephone: (213) 620-3328
Mailing Name: Not reported
Mailing Address: 2187 RIVERSIDE DR
LOS ANGELES, CA 90039
County Ventura

Gepaid: CAD982469876
TSD EPA ID: CAT080013352
Gen County: Ventura
Tsd County: Los Angeles
Tons: 12.5100
Facility Address 2: Not reported
Waste Category: Oil/water separation sludge
Disposal Method: Recycler
Contact: CALTRANS DISTRICT 7
Telephone: (213) 620-3328
Mailing Name: Not reported
Mailing Address: 2187 RIVERSIDE DR
LOS ANGELES, CA 90039
County Ventura

Gepaid: CAD982469876
TSD EPA ID: CAT080010101
Gen County: Ventura
Tsd County: San Diego
Tons: .0834
Facility Address 2: Not reported
Waste Category:
Disposal Method: Transfer Station
Contact: CALTRANS DISTRICT 7
Telephone: (213) 620-3328
Mailing Name: Not reported

CAL TRANS MAINTENACNE STN (Continued) **S103954579**

Mailing Address: 2187 RIVERSIDE DR
LOS ANGELES, CA 90039
County Ventura

Gepaid: CAD982469876
TSD EPA ID: CAT080010101
Gen County: Ventura
Tsd County: San Diego
Tons: .4000
Facility Address 2: Not reported
Waste Category: Other organic solids
Disposal Method: Transfer Station
Contact: CALTRANS DISTRICT 7
Telephone: (213) 620-3328
Mailing Name: Not reported
Mailing Address: 2187 RIVERSIDE DR
LOS ANGELES, CA 90039
County Ventura

Gepaid: CAD982469876
TSD EPA ID: CAT080010101
Gen County: Ventura
Tsd County: San Diego
Tons: 2.7522
Facility Address 2: Not reported
Waste Category: Off-specification, aged, or surplus organics
Disposal Method: Transfer Station
Contact: CALTRANS DISTRICT 7
Telephone: (213) 620-3328
Mailing Name: Not reported
Mailing Address: 2187 RIVERSIDE DR
LOS ANGELES, CA 90039
County Ventura

CORTESE:
Region: CORTESE
Fac Address 2: Not reported

M73 **CALTRANS - MOORPARK** LUST S105974845
South **512 LOS ANGELES AVE** N/A
1/2-1 **MOORPARK, CA 93021**
3162 ft.

Site 5 of 10 in cluster M

Relative:
Lower

Actual:
486 ft.

State LUST:
Cross Street: Not reported
Qty Leaked: Not reported
Case Number C-86077
Reg Board: 4
Chemical: Diesel
Lead Agency: Local Agency
Local Agency : 56000L
Case Type: Soil only
Status: Case Closed
Review Date: 7/1/1988
Workplan: 7/21/1987
Pollution Char: 7/21/1987
Remed Action: 7/21/1987
Monitoring: 7/15/1989
Close Date: 7/17/1991

Confirm Leak: 7/1/1988
Prelim Assess: 7/21/1987
Remed Plan: 7/21/1987

CALTRANS - MOORPARK (Continued) **S105974845**

Release Date: 11/14/1986
Cleanup Fund Id : Not reported
Discover Date : 11/14/1986
Enforcement Dt : 11/17/1988
Enf Type: EF
Enter Date : Not reported
Funding: Federal Funds
Staff Initials: EHD
How Discovered: Not reported
How Stopped: Not reported
Interim : Not reported
Leak Cause: Not reported
Leak Source: Not reported
MTBE Date : Not reported
Max MTBE GW : Not reported
MTBE Tested: Not Required to be Tested.
Priority: Not reported
Local Case # : 86077
Beneficial: Not reported
Staff : UNK
GW Qualifier : Not reported
Max MTBE Soil : Not reported
Soil Qualifier : Not reported
Hydr Basin #: (???)
Operator : Not reported
Oversight Prgm: LUST
Review Date : Not reported
Stop Date : Not reported
Work Suspended : Not reported
Responsible Party CAL TRANS MNTNCE FAC
RP Address: Not reported
Global Id: T0611100157
Org Name: Not reported
Contact Person: Not reported
MTBE Conc: 0
Mtbe Fuel: 0
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary : Not reported

Cross Street: Not reported
Qty Leaked: Not reported
Case Number C96005
Reg Board: 4
Chemical: Gasoline
Lead Agency: Local Agency
Local Agency : 56000L
Case Type: Soil only
Status: Preliminary site assessment workplan submitted
Review Date: 11/22/1995
Workplan: Not reported
Pollution Char: Not reported
Remed Action: Not reported
Monitoring: Not reported
Confirm Leak: 11/22/1995
Prelim Assess: Not reported
Remed Plan: Not reported

CALTRANS - MOORPARK (Continued) **S105974845**

Close Date: Not reported
Release Date: 11/22/1995
Cleanup Fund Id : Not reported
Discover Date : 11/22/1995
Enforcement Dt : Not reported
Enf Type: LFOR
Enter Date : Not reported
Funding: Federal Funds
Staff Initials: DCS
How Discovered: Not reported
How Stopped: Not reported
Interim : Not reported
Leak Cause: Not reported
Leak Source: Not reported
MTBE Date : Not reported
Max MTBE GW : Not reported
MTBE Tested: MTBE Detected. Site tested for MTBE & MTBE detected
Priority: Not reported
Local Case # : 96005
Beneficial: Not reported
Staff : UNK
GW Qualifier : Not reported
Max MTBE Soil : Not reported
Soil Qualifier : Not reported
Hydr Basin #: (???)
Operator : Not reported
Oversight Prgm: LUST
Review Date : Not reported
Stop Date : Not reported
Work Suspended : Not reported
Responsible Party WILLIAM PERALES
RP Address: 120 SOUTH SPRING STREET
Global Id: T0611101081
Org Name: Not reported
Contact Person: Not reported
MTBE Conc: 0
Mtbe Fuel: 1
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary : Not reported

LUST Region 4:
Report Date: 11/22/1995
Lead Agency: Local Agency
Local Agency: 56000L
Substance: Gasoline
Case Type: Soil
Status: Preliminary site assessment workplan submitted
Region: 4
Staff: UNK
Date Case Last Changed on Database: Not reported
Date Leak Record Entered: Not reported
Historical Max MTBE Date: 4/1/2004
GW Qualifier: =
Soil Qualifier: Not reported

CALTRANS - MOORPARK (Continued) **S105974845**

Hist Max MTBE Conc in Groundwater:	1.6
Hist Max MTBE Conc in Soil :	Not reported
County:	Ventura
Organization :	Not reported
Regional Board:	04
Owner Contact:	Not reported
Responsible Party:	WILLIAM PERALES
RP Address:	120 SOUTH SPRING STREET
Significant Interim Remedial Action Taken:	Not reported
Program :	LUST
Lat / Long :	34.2788677 / -1
Local Agency Staff:	DCS
Beneficial Use :	Not reported
Priority :	Not reported
Cleanup Fund Id :	Not reported
Suspended :	Not reported
Local Case No :	96005
Substance Quantity :	Not reported
Abatement Method Used at the Site:	Not reported
Operator :	Not reported
Water System :	Not reported
Well Name :	Not reported
Approx. Dist To Production Well (ft) :	7814.6442631591378569039408465
Assigned Name :	Not reported
W Global ID :	Not reported
Source of Cleanup Funding:	Federal Funds
Date the Leak was Discovered:	11/22/1995
How the Leak was Discovered:	Not reported
How the Leak was Stopped:	Not reported
Cause of Leak:	Not reported
Leak Source:	Not reported
Date The Leak was Stopped:	Not reported
Date Confirmation Leak Began:	11/22/1995
Preliminary Site Assessment Workplan Submitted:	11/22/1995
Preliminary Site Assessment Began:	Not reported
Pollution Characterization Began:	Not reported
Remediation Plan Submitted:	Not reported
Remedial Action Underway:	Not reported
Post Remedial Action Monitoring Began:	Not reported
Date the Case was Closed:	Not reported
Enforcement Action Date:	Not reported
Date Leak First Reported:	11/22/1995
Enforcement Type:	N
Global ID :	T0611101081
Cross Street:	Not reported
Summary :	

LUST Region VN:
Facility ID: 96005
Status: Preliminary site assessment workplan submitted

M74
South
1/2-1
3162 ft.

Relative:
Lower

Actual:
486 ft.

MOORPARK MAINT STATION
512 LOS ANGELES AVE
MOORPARK, CA 93021

RCRA-SQG 1000368493
FINDS CAD982469876

Site 6 of 10 in cluster M

RCRAInfo:
Owner: CALTRANS
(415) 555-1212
EPA ID: CAD982469876
Contact: ENVIRONMENTAL MANAGER
(805) 529-1409
Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

M75
South
1/2-1
3162 ft.

Relative:
Lower

Actual:
486 ft.

STATE OF CALIF-DEPT OF TRANSP
512 LOS ANGELES AVE
MOORPARK, CA

UST U003042643
N/A

Site 7 of 10 in cluster M

UST Ventura County Active & Inactive:
Facility ID: D 1208
Facility Status: Inactive
Box No: UGTCLO 14
Region: Ventura County

M76
South
1/2-1
3162 ft.

Relative:
Lower

Actual:
486 ft.

MOORPARK
512 W LOS ANGELES AVE
MOORPARK, CA 95814

HIST UST U001615147
N/A

Site 8 of 10 in cluster M

UST HIST:
Facility ID: 68087
Total Tanks: 4
Owner Address: 1120 N STREET
SACRAMENTO, CA 95814
Tank Used for: PRODUCT
Tank Num: 1
Tank Capacity: 00001000
Type of Fuel: DIESEL
Leak Detection: Not reported
Contact Name: Not reported
Facility Type: Not reported
Owner Name: CALIF DEPT OF TRANSPORTATION
Region: STATE
Container Num: 0000000001
Year Installed: 1960
Tank Construction: Not Reported
Telephone: (805) 529-1409
Other Type: Not reported

Facility ID: 68087
Total Tanks: 4
Owner Address: 1120 N STREET
SACRAMENTO, CA 95814
Tank Used for: PRODUCT
Tank Num: 2
Tank Capacity: 00001040
Owner Name: CALIF DEPT OF TRANSPORTATION
Region: STATE
Container Num: 0000000002
Year Installed: 1946

MOORPARK (Continued) **U001615147**

Type of Fuel:	DIESEL	Tank Construction:	Not Reported
Leak Detection:	Not reported		
Contact Name:	Not reported	Telephone:	(805) 529-1409
Facility Type:	Not reported	Other Type:	Not reported
Facility ID:	68087	Owner Name:	CALIF DEPT OF TRANSPORTATION
Total Tanks:	4	Region:	STATE
Owner Address:	1120 N STREET		
	SACRAMENTO, CA 95814		
Tank Used for:	PRODUCT		
Tank Num:	3	Container Num:	0000000003
Tank Capacity:	00006000	Year Installed:	1975
Type of Fuel:	UNLEADED	Tank Construction:	Not Reported
Leak Detection:	Not reported		
Contact Name:	Not reported	Telephone:	(805) 529-1409
Facility Type:	Not reported	Other Type:	Not reported
Facility ID:	68087	Owner Name:	CALIF DEPT OF TRANSPORTATION
Total Tanks:	4	Region:	STATE
Owner Address:	1120 N STREET		
	SACRAMENTO, CA 95814		
Tank Used for:	WASTE		
Tank Num:	4	Container Num:	0000000004
Tank Capacity:	00000300	Year Installed:	Not reported
Type of Fuel:	WASTE OIL	Tank Construction:	Not Reported
Leak Detection:	Not reported		
Contact Name:	Not reported	Telephone:	(805) 529-1409
Facility Type:	Not reported	Other Type:	Not reported

N77
SSE
1/2-1
3165 ft.

Relative:
Lower

Actual:
487 ft.

MORNING STAR LABORATORIES INC **RCRA-SQG 1000316153**
5158 G GOLDMAN AVE **FINDS CAD982508236**
MOORPARK, CA 93020

Site 1 of 2 in cluster N

RCRAInfo:

Owner:	LAUBSCHER JAMES
	(415) 555-1212
EPA ID:	CAD982508236
Contact:	ENVIRONMENTAL MANAGER
	(805) 523-0337
Classification:	Small Quantity Generator
TSDF Activities:	Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

M78 South 1/2-1 3169 ft.
Relative: Lower
Actual: 486 ft.

UNOCAL STATION #4945
506 LOS ANGELES AVE
MOORPARK, CA 93021

LUST Cortese
S103684164
N/A

Site 9 of 10 in cluster M

State LUST:

Cross Street:	Not reported		
Qty Leaked:	Not reported		
Case Number	C-98021		
Reg Board:	4		
Chemical:	Gasoline		
Lead Agency:	Local Agency		
Local Agency :	56000L		
Case Type:	Soil only		
Status:	Case Closed		
Review Date:	6/2/1998	Confirm Leak:	6/2/1998
Workplan:	6/2/1998	Prelim Assess:	6/2/1998
Pollution Char:	Not reported	Remed Plan:	Not reported
Remed Action:	Not reported		
Monitoring:	Not reported		
Close Date:	10/1/2004		
Release Date:	8/3/1998		
Cleanup Fund Id :	Not reported		
Discover Date :	8/3/1998		
Enforcement Dt :	Not reported		
Enf Type:	CLOS		
Enter Date :	Not reported		
Funding:	Federal Funds		
Staff Initials:	DCS		
How Discovered:	Not reported		
How Stopped:	Not reported		
Interim :	Not reported		
Leak Cause:	Not reported		
Leak Source:	Not reported		
MTBE Date :	Not reported		
Max MTBE GW :	Not reported		
MTBE Tested:	MTBE Detected. Site tested for MTBE & MTBE detected		
Priority:	Not reported		
Local Case # :	98021		
Beneficial:	Not reported		
Staff :	UNK		
GW Qualifier :	Not reported		
Max MTBE Soil :	1.4 Parts per Million		
Soil Qualifier :	Not reported		
Hydr Basin #:	(???)		
Operator :	Not reported		
Oversight Prgm:	LUST		
Review Date :	Not reported		
Stop Date :	Not reported		
Work Suspended :	Not reported		
Responsible Party	SHARI A. LONDON		
RP Address:	CONOCOPHILLIPS, P.O. BOX 25376		
Global Id:	T0611101179		
Org Name:	Not reported		
Contact Person:	Not reported		
MTBE Conc:	1		
Mtbe Fuel:	1		
Water System Name:	Not reported		

UNOCAL STATION #4945 (Continued) **S103684164**

Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary : Not reported

LUST Region 4:
Report Date: 8/3/1998
Lead Agency: Local Agency
Local Agency: 56000L
Substance: Gasoline
Case Type: Soil
Status: Pollution Characterization
Region: 4
Staff: UNK

Date Case Last Changed on Database:	Not reported
Date Leak Record Entered:	Not reported
Historical Max MTBE Date:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Hist Max MTBE Conc in Groundwater:	Not reported
Hist Max MTBE Conc in Soil :	1.4
County:	Ventura
Organization :	Not reported
Regional Board:	04
Owner Contact:	Not reported
Responsible Party:	SHARI A. LONDON
RP Address:	CONOCOPHILLIPS, P.O. BOX 25376
Significant Interim Remedial Action Taken:	Not reported
Program :	LUST
Lat / Long :	34.2788727 / -1
Local Agency Staff:	DCS
Beneficial Use :	Not reported
Priority :	Not reported
Cleanup Fund Id :	Not reported
Suspended :	Not reported
Local Case No :	98021
Substance Quantity :	Not reported
Abatement Method Used at the Site:	Not reported
Operator :	Not reported
Water System :	Not reported
Well Name :	Not reported
Approx. Dist To Production Well (ft) :	7986.2178971267392866793212 36
Assigned Name :	Not reported
W Global ID :	Not reported
Source of Cleanup Funding:	Federal Funds
Date the Leak was Discovered:	8/3/1998
How the Leak was Discovered:	Not reported
How the Leak was Stopped:	Not reported
Cause of Leak:	Not reported
Leak Source:	Not reported
Date The Leak was Stopped:	Not reported
Date Confirmation Leak Began:	6/2/1998
Preliminary Site Assessment Workplan Submitted:	6/2/1998
Preliminary Site Assessment Began:	6/2/1998
Pollution Characterization Began:	8/3/1998
Remediation Plan Submitted:	Not reported
Remedial Action Underway:	Not reported

UNOCAL STATION #4945 (Continued) **S103684164**

Post Remedial Action Monitoring Began: Not reported
Date the Case was Closed: Not reported
Enforcement Action Date: Not reported
Date Leak First Reported: 8/3/1998
Enforcement Type: N
Global ID : T0611101179
Cross Street: Not reported
Summary :

LUST Region VN:
Facility ID: 98021
Status: Case Closed

CORTESE:
Region: CORTESE
Fac Address 2: 506 LOS ANGELES AVE

M79
South
1/2-1
3169 ft.

Relative:
Lower

Actual:
486 ft.

UNOCAL **LUST** **S104660374**
506 LOS ANGELES AVE **Cortese** **N/A**
MOORPARK, CA 93021

Site 10 of 10 in cluster M

State LUST:
Cross Street: Not reported
Qty Leaked: Not reported
Case Number C-89102
Reg Board: 4
Chemical: Regular Gasoline
Lead Agency: Local Agency
Local Agency : 56000L
Case Type: Soil only
Status: Case Closed
Abate Method: Excavate and Dispose - remove contaminated soil and dispose in approved site
Review Date: 7/26/1989 Confirm Leak: 7/26/1989
Workplan: 10/15/1992 Prelim Assess: 10/15/1992
Pollution Char: 6/15/1993 Remed Plan: 6/15/1993
Remed Action: Not reported
Monitoring: Not reported
Close Date: 7/15/1993
Release Date: 7/26/1989
Cleanup Fund Id : Not reported
Discover Date : 7/26/1989
Enforcement Dt : 8/4/1989
Enf Type: EF
Enter Date : Not reported
Funding: Federal Funds
Staff Initials: EHD
How Discovered: Not reported
How Stopped: Not reported
Interim : Not reported
Leak Cause: Not reported
Leak Source: Not reported
MTBE Date : Not reported
Max MTBE GW : Not reported
MTBE Tested: Site NOT Tested for MTBE.Includes Unknown and Not Analyzed.
Priority: Not reported
Local Case # : 89102
Beneficial: Not reported

UNOCAL (Continued) **S104660374**

Staff : UNK
GW Qualifier : Not reported
Max MTBE Soil : Not reported
Soil Qualifier : Not reported
Hydr Basin #: (???)
Operator : Not reported
Oversight Prgm: LUST
Review Date : Not reported
Stop Date : Not reported
Work Suspended :Not reported
Responsible PartyUNOCAL CERT
RP Address: Not reported
Global Id: T0611100511
Org Name: Not reported
Contact Person: Not reported
MTBE Conc: 0
Mtbe Fuel: 1
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary : Not reported

LUST Region 4:
Report Date: 7/26/1989
Lead Agency: Local Agency
Local Agency: 56000L
Substance: Regular Gasoline
Case Type: Soil
Status: Case Closed
Region: 4
Staff: UNK
Date Case Last Changed on Database: Not reported
Date Leak Record Entered: Not reported
Historical Max MTBE Date: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Hist Max MTBE Conc in Groundwater: Not reported
Hist Max MTBE Conc in Soil : Not reported
County: Ventura
Organization : Not reported
Regional Board: 04
Owner Contact: Not reported
Responsible Party: UNOCAL CERT
RP Address: Not reported
Significant Interim Remedial Action Taken: Not reported
Program : LUST
Lat / Long : 34.2789207 / -1
Local Agency Staff: EHD
Beneficial Use : Not reported
Priority : Not reported
Cleanup Fund Id : Not reported
Suspended : Not reported
Local Case No : 89102
Substance Quantity : Not reported
Abatement Method Used at the Site: Excavate and Dispose
Operator : Not reported

UNOCAL (Continued) **S104660374**

Water System :	Not reported
Well Name :	Not reported
Approx. Dist To Production Well (ft) :	7858.650638350983492043148 3474
Assigned Name :	Not reported
W Global ID :	Not reported
Source of Cleanup Funding:	Federal Funds
Date the Leak was Discovered:	7/26/1989
How the Leak was Discovered:	Not reported
How the Leak was Stopped:	Not reported
Cause of Leak:	Not reported
Leak Source:	Not reported
Date The Leak was Stopped:	Not reported
Date Confirmation Leak Began:	7/26/1989
Preliminary Site Assessment Workplan Submitted:	7/26/1989
Preliminary Site Assessment Began:	10/15/1992
Pollution Characterization Began:	10/15/1992
Remediation Plan Submitted:	6/15/1993
Remedial Action Underway:	Not reported
Post Remedial Action Monitoring Began:	Not reported
Date the Case was Closed:	7/15/1993
Enforcement Action Date:	8/4/1989
Date Leak First Reported:	7/26/1989
Enforcement Type:	EF
Global ID :	T0611100511
Cross Street:	Not reported
Summary :	

LUST Region VN:
Facility ID: 89102
Status: Case Closed

CORTESE:
Region: CORTESE
Fac Address 2: 506 LOS ANGELES AVE

N80
South
1/2-1
3173 ft.

Relative:
Lower

Actual:
486 ft.

CHEVRON SS #0688
502 LOS ANGELES
MOORPARK, CA 93021

Site 2 of 2 in cluster N

Cortese S103684163
N/A

CORTESE:
Region: CORTESE
Fac Address 2: Not reported

81
ESE
1/2-1
3175 ft.

Relative:
Lower

Actual:
509 ft.

CASCADE SPRINKLER
177 POINDEXTER AVE
MOORPARK, CA

UST U003142353
N/A

UST Ventura County Active & Inactive:
Facility ID: D 1250
Facility Status: Inactive
Box No: UGTCLO 16
Region: Ventura County

82
SSE
1/2-1
3314 ft.

KMART 4811
397 W LOS ANGELES AVE
MOORPARK, CA 93021

RCRA-SQG
FINDS
HAZNET

1000978274
CA0001000116

Relative:
Lower

Actual:
491 ft.

RCRAInfo:
Owner: KMART INTERNATIONAL HQ
(313) 643-1000
EPA ID: CA0001000116
Contact: ROBERT BOSCH
(805) 529-3555
Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

HAZNET:

Gepaid:	CA0001000116
TSD EPA ID:	CAD981402522
Gen County:	Ventura
Tsd County:	Kern
Tons:	.5004
Facility Address 2:	Not reported
Waste Category:	Organic liquids (nonsolvents) with halogens
Disposal Method:	Recycler
Contact:	KMART CORP
Telephone:	(248) 637-6544
Mailing Name:	Not reported
Mailing Address:	3100 W BIG BEAVER RD TROY, MI 48084 - 3136
County	Ventura

Gepaid:	CA0001000116
TSD EPA ID:	CAD981402522
Gen County:	Ventura
Tsd County:	Kern
Tons:	2.6688
Facility Address 2:	Not reported
Waste Category:	Photochemicals/photoprocessing waste
Disposal Method:	Recycler
Contact:	KMART CORP
Telephone:	(248) 637-6544
Mailing Name:	Not reported
Mailing Address:	3100 W BIG BEAVER RD TROY, MI 48084 - 3136
County	Ventura

KMART 4811 (Continued) **1000978274**

Gepaid: CA0001000116
TSD EPA ID: CAD981402522
Gen County: Ventura
Tsd County: Kern
Tons: 2.8270
Facility Address 2: Not reported
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Contact: KMART CORP
Telephone: (248) 637-6544
Mailing Name: Not reported
Mailing Address: 3100 W BIG BEAVER RD
TROY, MI 48084 - 3136
County Ventura

Gepaid: CA0001000116
TSD EPA ID: CAD981402522
Gen County: Ventura
Tsd County: Kern
Tons: .1876
Facility Address 2: Not reported
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Not reported
Contact: KMART CORP
Telephone: (248) 637-6544
Mailing Name: Not reported
Mailing Address: 3100 W BIG BEAVER RD
TROY, MI 48084 - 3136
County Ventura

Gepaid: CA0001000116
TSD EPA ID: CAD981402522
Gen County: Ventura
Tsd County: Kern
Tons: .0000
Facility Address 2: Not reported
Waste Category:
Disposal Method: Recycler
Contact: KMART CORP
Telephone: (248) 637-6544
Mailing Name: Not reported
Mailing Address: 3100 W BIG BEAVER RD
TROY, MI 48084 - 3136
County Ventura

Click this hyperlink while viewing on your computer to access
2 additional CA HAZNET record(s) in the EDR Site Report.

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83 **MOORPARK FIRE STATION** **HIST UST** **U001567276**
East **782 MOORPARK AVE** **N/A**
1/2-1 **MOORPARK, CA 91320**
3387 ft.

Relative:
Lower

Actual:
553 ft.

UST HIST:
Facility ID: 21257
Total Tanks: 2
Owner Address: 275 EAST PLEASANT VALLEY ROAD
CAMARILLO, CA 93010
Tank Used for: PRODUCT

Owner Name: VENTURA COUNTY FIRE PROTECTION
Region: STATE

MOORPARK FIRE STATION (Continued) **U001567276**

Tank Num:	1	Container Num:	2.
Tank Capacity:	00001000	Year Installed:	1982
Type of Fuel:	DIESEL	Tank Construction:	Not Reported
Leak Detection:	None		
Contact Name:	OFFICER IN CHARGE	Telephone:	(805) 484-3601
Facility Type:	Other	Other Type:	FIRE STATION
Facility ID:	21257	Owner Name:	VENTURA COUNTY FIRE PROTECTION
Total Tanks:	2	Region:	STATE
Owner Address:	275 EAST PLEASANT VALLEY ROAD CAMARILLO, CA 93010		
Tank Used for:	PRODUCT		
Tank Num:	2	Container Num:	30
Tank Capacity:	00001000	Year Installed:	Not reported
Type of Fuel:	UNLEADED	Tank Construction:	Not Reported
Leak Detection:	None		
Contact Name:	OFFICER IN CHARGE	Telephone:	(805) 484-3601
Facility Type:	Other	Other Type:	FIRE STATION

O84
SSE
1/2-1
3523 ft.

Relative:
Lower

Actual:
494 ft.

5TH AVE CLEANERS **RCRA-SQG 1000886374**
321 W LOS ANGELES AVE **FINDS CA0000202309**
MOORPARK, CA 93021 **HAZNET**
CLEANERS

Site 1 of 2 in cluster O

RCRAInfo:

Owner:	LINDA FISHER
	(805) 532-1220
EPA ID:	CA0000202309
Contact:	LINDA FISHER
	(805) 532-1220
Classification:	Small Quantity Generator
TSDF Activities:	Not reported

Violation Status: No violations found

FINDS:

Other Pertinent Environmental Activity Identified at Site:
HAZARDOUS WASTE TRACKING SYSTEM-DATAMART
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

CA Cleaners:

Inactive Date:	Not reported
EPA Id:	CA0000202309
Facility Address 2 :	Not reported
NAICS Code :	Not reported
Facility Active :	Yes
Mail Name :	Not reported
Mailing Address:	321 W LOS ANGELES AVE
	MOORPARK, CA 93021
Owner Name :	LINDA FISHER
Mailing Address:	321 W LOS ANGELES ST
	MOORPARK, CA 93021
Owner Telephone :	8055321220
Contact Name :	LINDA FISHER
Mailing Address:	321 W LOS ANGELES ST
	MOORPARK, CA 93021
Contact Telephone :	8055321220

5TH AVE CLEANERS (Continued) **1000886374**

Region Code : 3
Create Date : 12/08/1995
SIC Description : Not reported
NAICS Description : Not reported

HAZNET:
Gepaid: CA0000202309
TSD EPA ID: CAD981397417
Gen County: Ventura
Tsd County: Los Angeles
Tons: 1.9290
Facility Address 2: Not reported
Waste Category: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
Disposal Method: Recycler
Contact: LINDA FISHER
Telephone: (805) 532-1220
Mailing Name: Not reported
Mailing Address: 321 W LOS ANGELES AVE
MOORPARK, CA 93021 - 1825
County Ventura

Gepaid: CA0000202309
TSD EPA ID: CAD008302903
Gen County: Ventura
Tsd County: Ventura
Tons: 0.53
Facility Address 2: Not reported
Waste Category: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
Disposal Method: Transfer Station
Contact: LINDA FISHER
Telephone: (805) 532-1220
Mailing Name: Not reported
Mailing Address: 321 W LOS ANGELES AVE
MOORPARK, CA 93021 - 1825
County Ventura

Gepaid: CA0000202309
TSD EPA ID: CAD008302903
Gen County: Ventura
Tsd County: Ventura
Tons: 0.45
Facility Address 2: Not reported
Waste Category: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
Disposal Method: Recycler
Contact: LINDA FISHER
Telephone: (805) 532-1220
Mailing Name: Not reported
Mailing Address: 321 W LOS ANGELES AVE
MOORPARK, CA 93021 - 1825
County Ventura

5TH AVE CLEANERS (Continued) **1000886374**

Gepaid: CA0000202309
TSD EPA ID: CAD008302903
Gen County: Ventura
Tsd County: Ventura
Tons: 0.32
Facility Address 2: Not reported
Waste Category: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
Disposal Method: Not reported
Contact: LINDA FISHER
Telephone: (805) 532-1220
Mailing Name: Not reported
Mailing Address: 321 W LOS ANGELES AVE
MOORPARK, CA 93021 - 1825
County Ventura

Gepaid: CA0000202309
TSD EPA ID: CAD981397417
Gen County: Ventura
Tsd County: Los Angeles
Tons: 1.6517
Facility Address 2: Not reported
Waste Category: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
Disposal Method: Recycler
Contact: LINDA FISHER
Telephone: (805) 532-1220
Mailing Name: Not reported
Mailing Address: 321 W LOS ANGELES AVE
MOORPARK, CA 93021 - 1825
County Ventura

Click this hyperlink while viewing on your computer to access
8 additional CA HAZNET record(s) in the EDR Site Report.

O85 **SHELL - MOORPARK** **UST** **U003778463**
SSE **301 W LOS ANGELES AVE** **VENTURA CO. BWT** **N/A**
1/2-1 **MOORPARK, CA 93021**
3582 ft.

Site 2 of 2 in cluster O

Relative: Lower

Actual: 495 ft.

BWT:
Facility ID: FA0005677
Region: VENTURA
Program: 4220 - BUSINESS PLAN

Facility ID: FA0005677
Region: VENTURA
Program: 4105 - CUPA UNDERGROUND TANKS

Facility ID: FA0005677
Region: VENTURA
Program: 4420 - HAZARDOUS WASTE GENERATOR

State UST:
Facility ID: 056-000-002797
Total Tanks: 1
Region: STATE
Local Agency: 56000

P86 **AMERICAN HI-LIFT** **CA FID UST** **1000360843**
SSW **875 W LOS ANGELES AVE** **SWEEPS UST** **N/A**
1/2-1 **MOORPARK, CA 93021**
3588 ft.

Site 1 of 7 in cluster P

Relative:
Lower

Actual:
474 ft.

FID:

Facility ID:	56001711	Regulate ID:	CAD981424
Reg By:	Active Underground Storage Tank Location		
Cortese Code:	Not reported	SIC Code:	Not reported
Status:	Active	Facility Tel:	Not reported
Mail To:	Not reported 875 W LOS ANGELES AVE MOORPARK, CA 93021		
Contact:	Not reported	Contact Tel:	Not reported
DUNs No:	Not reported	NPDES No:	Not reported
Creation:	10/22/93	Modified:	00/00/00
EPA ID:	Not reported		
Comments:	Not reported		

SWEEPS:

Status :	A
Comp Number :	1548
Number :	9
Board Of Equalization :	44-030834
Ref Date :	09-30-92
Act Date :	09-30-92
Created Date :	02-29-88
Tank Status :	A
Owner Tank Id :	Not reported
Swrcb Tank Id :	56-000-001548-000001
Actv Date :	Not reported
Capacity :	2000
Tank Use :	UNKNOWN
Stg :	P
Content :	Not reported
Number Of Tanks :	1

P87 **AMERICAN HI-LIFT** **UST** **U002244060**
SSW **875 LOS ANGELES AVE** **N/A**
1/2-1 **MOORPARK, CA**
3588 ft.

Site 2 of 7 in cluster P

Relative:
Lower

Actual:
474 ft.

UST Ventura County Active & Inactive:

Facility ID:	D 972
Facility Status:	Inactive
Box No:	146061
Region:	Ventura County

P88 **BAKERS TOOL & EQUIPMENT RENTAL** **RCRA-SQG** **1000217921**
SSW **877 W LOS ANGELES AVE** **FINDS** **CAD982486680**
1/2-1 **MOORPARK, CA 93021**
3594 ft.

Site 3 of 7 in cluster P

Relative:
Lower

Actual:
474 ft.

BAKERS TOOL & EQUIPMENT RENTAL (Continued) **1000217921**

RCRAInfo:
Owner: NOT REQUIRED
(415) 555-1212
EPA ID: CAD982486680

Contact: Not reported

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: Violations exist

Regulation Violated:	262.10-12.A
Area of Violation:	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined:	06/28/1994
Actual Date Achieved Compliance:	06/28/1999

There are 1 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19990628

FINDS:
Other Pertinent Environmental Activity Identified at Site:
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

P89 **MOORPARK SUBSTATION** **CHMIRS U001579591**
SSW **5027 GABBERT RD** **HIST UST N/A**
1/2-1 **MOORPARK, CA 93021**
3613 ft.

Site 4 of 7 in cluster P

Relative: Lower

Actual: 473 ft.

CHMIRS:

OES Control Number:	98-2766
Chemical Name:	PCB fluid
Extent of Release:	Not reported
Property Use:	Not reported
Incident Date:	Not reported
Date Completed:	Not reported
Time Completed :	Not reported
Agency Id Number :	Not reported
Agency Incident Number :	Not reported
OES Incident Number :	98-2766
Time Notified :	Not reported
Surrounding Area :	Not reported
Estimated Temperature :	Not reported
Property Management :	Not reported
More Than Two Substances Involved? :	Not reported
Special Studies 1 :	Not reported
Special Studies 2 :	Not reported
Special Studies 3 :	Not reported
Special Studies 4 :	Not reported
Special Studies 5 :	Not reported
Special Studies 6 :	Not reported
Responding Agency Personel # Of Injuries :	Not reported
Responding Agency Personel # Of Fatalities :	0
Resp Agncy Personel # Of Decontaminated :	Not reported
Others Number Of Decontaminated :	Not reported
Others Number Of Injuries :	Not reported
Others Number Of Fatalities :	Not reported

MOORPARK SUBSTATION (Continued) **U001579591**

Vehicle Make/year :	Not reported
Vehicle License Number :	Not reported
Vehicle State :	Not reported
Vehicle Id Number :	Not reported
CA/DOT/PUC/ICC Number :	Not reported
Company Name :	Not reported
Reporting Officer Name/ID :	Not reported
Report Date :	Not reported
Comments :	Not reported
Facility Telephone Number :	Not reported
Waterway Involved :	No
Waterway :	Not reported
Spill Site :	Utilities/Substation
Cleanup By :	Reporting Party
Containment :	Yes
What Happened :	Not reported
Type :	Not reported
Other :	Not reported
Chemical 1 :	Not Reported
Chemical 2 :	Not Reported
Chemical 3 :	Not Reported
Date/Time :	6/16/199803:05:53 PM
Evacuations :	0
True date :	12/31/03
Year :	1998
Agency :	So Cal Edison
BBLS :	0
Cups :	0
CUFT :	0
Gallons :	10
Grams :	0
Pounds :	0
Liters :	0
Ounces :	0
Pints :	0
Quarts :	0
Sheen :	0
Tons :	0
Unknown :	0
Description :	Coupling capacitor faulted and blew up, spraying mist on gravel and racks
Incident date :	6/15/199812:00:00 AM
Admin Agency :	Ventura County Resources Mgt Agency
OES date :	Not reported
OES time :	Not reported
Amount :	Not reported

UST HIST:

Facility ID:	22238	Owner Name:	SOUTHERN CALIFORNIA EDISON CO.
Total Tanks:	1	Region:	STATE
Owner Address:	2244 WALNUT GROVE AVENUE ROSEMEAD, CA 91770		
Tank Used for:	PRODUCT		
Tank Num:	1	Container Num:	299
Tank Capacity:	00002000	Year Installed:	1978
Type of Fuel:	UNLEADED	Tank Construction:	Not Reported
Leak Detection:	Stock Inventor		
Contact Name:	SUPERVISOR	Telephone:	(818) 572-1801

MOORPARK SUBSTATION (Continued) U001579591

Facility Type: Other Other Type: ELECTRIC UTILITY

P90 **SO CAL EDISON** UST U003721312
SSW **5027 GABBERT ROAD** N/A
1/2-1 **MOORPARK, CA**
3613 ft.

Site 5 of 7 in cluster P

Relative: Lower

Actual: 473 ft.

UST Ventura County Active & Inactive:
Facility ID: D 1388
Facility Status: Inactive
Box No: 251763
Region: Ventura County

P91 **SOUTHERN CALIF EDISON** CA FID UST S101631200
SSW **5027 GABBERT RD** SWEEPS UST N/A
1/2-1 **MOORPARK, CA 93021**
3613 ft.

Site 6 of 7 in cluster P

Relative: Lower

Actual: 473 ft.

FID:

Facility ID:	56004850	Regulate ID:	22238
Reg By:	Active Underground Storage Tank Location		
Cortese Code:	Not reported	SIC Code:	Not reported
Status:	Active	Facility Tel:	Not reported
Mail To:	Not reported 5027 GABBERT RD MOORPARK, CA 93021		
Contact:	Not reported	Contact Tel:	Not reported
DUNs No:	Not reported	NPDES No:	Not reported
Creation:	10/22/93	Modified:	00/00/00
EPA ID:	Not reported		
Comments:	Not reported		

SWEEPS:

Status :	A
Comp Number :	500
Number :	9
Board Of Equalization :	44-030635
Ref Date :	09-30-92
Act Date :	09-30-92
Created Date :	02-29-88
Tank Status :	A
Owner Tank Id :	Not reported
Swrcb Tank Id :	56-000-000500-000001
Actv Date :	Not reported
Capacity :	2500
Tank Use :	UNKNOWN
Stg :	P
Content :	Not reported
Number Of Tanks :	1

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
P92 SSW 1/2-1 3613 ft. Relative: Lower Actual: 473 ft.	MOORPARK SUBSTATION 5027 GABBERT RD. MOORPARK, CA 93021 **Site 7 of 7 in cluster P** RCRAInfo: Contact: KATHRYN VANDERSLICE (626) 302-9320 Classification: Small Quantity Generator TSDF Activities: Not reported Violation Status: No violations found	RCRA-SQG	1007199645 CAD981695117
Q93 East 1/2-1 3655 ft. Relative: Lower Actual: 532 ft.	FIRE STATION #42 782 MOORPARK AVE. MOORPARK, CA **Site 1 of 2 in cluster Q** UST Ventura County Active & Inactive: Facility ID: D 1068 Facility Status: Inactive Box No: 146063 Region: Ventura County	UST	U002244101 N/A
94 ESE 1/2-1 3672 ft. Relative: Lower Actual: 509 ft.	COUNTY YARD SITE 1962 N OF LA AVE. / IS BISECTED BY VISTA ROAD MOORPARK, CA LF: Facility ID: 56-CR-0023 Operator: County Of Ventura Operator Addr: 800 South Victoria Avenue Ventura, CA 93009 Date: Not reported Address: Not reported Prep By: Not reported DOHS Number: Not reported CUP Number: Not reported CIWMB: Not reported Activity: Solid Waste Disposal Site Operator's Status: Closed Owner: Kavli F Facility Phone 2 : Not reported Owner Address: Not reported Not reported Operator Phone: Not reported Owner Telephone: Not reported Regulation Status: Pre-regulations Region: STATE Location: Not reported Parcel Num: Not reported Parcel Num 2 : Not reported Land Use: Not reported Sig. Change Since Last Visit: Not reported Site Size: Not reported Other Observations: Not reported Issue And Observations: Not reported Recommendations / Follow Up: Not reported Lat/Long: 34.28333 / -118.88333 Permit Date: Not reported	SWF/LF	S102363124 N/A

COUNTY YARD SITE 1962 (Continued) **S102363124**

Accepted Waste:
Restrictions:

Status :	Not reported	Swisnumber :	Not reported
Site Type :	Not reported	Aka :	Not reported
Type Of Waste :	Not reported	Disposal Area :	Not reported
SWFP Date :	Not reported	WDR Number :	Not reported
Dates Operation :	Not reported	Closure Approve :	Not reported
Dt Of Field Units :	Not reported	Surface Condition :	Not reported
Lea Date :	Not reported	Reassess Site :	Not reported
Leachate :	Not reported	Emrgncy Response	Not reported

Landfill Gas :	Not reported
Priority For Site Assessment :	Not reported
Other Recommendation :	Not reported
Explanation:	Not Reported
No Further Action:	Not Reported
Permitted Throughput with Units:	Not reported
Actual Throughput with Units:	Not reported
Actual Capacity with Units:	Not reported
Permitted Capacity with Units:	Not reported
Remaining Capacity with Units:	Not reported
Permitted Total Acreage:	0
Remaining Capacity :	Not reported

Fill Area:	Not reported	Inspec Frequency :	Quarterly
Landuse Name:	Open Space,Industrial	GIS Source:	Place
Permit Status:	Not reported	Category:	Disposal
Unit Number:	01	Closure Date:	/ /
Closure Type:	Not reported	Disposal Acreage:	0
Year Opened:	Not reported	Year Closed:	Not reported

Last Waste Tire Inspection Count :	Not reported
Last Waste Tire Inspection Date:	Not reported
Original Waste Tire Count:	Not reported
Original Waste Tire Count Date:	Not reported
Type Of Refuse:	Not reported
Avg Depth Of Fill:	Not reported
Addtl Expansion Area:	Not reported
Site Description:	Not Reported

R95 **UNOCAL #1696** **LUST** **U002169192**
ESE **18 HIGH ST** **Cortese** **N/A**
1/2-1 **MOORPARK, CA 93021** **UST**
3728 ft.

Site 1 of 3 in cluster R

Relative:
Lower

Actual:
516 ft.

State LUST:

Cross Street:	Not reported		
Qty Leaked:	Not reported		
Case Number	C-93041		
Reg Board:	4		
Chemical:	Waste Oil		
Lead Agency:	Local Agency		
Local Agency :	56000L		
Case Type:	Soil only		
Status:	Case Closed		
Review Date:	11/11/1993	Confirm Leak:	11/11/1993
Workplan:	Not reported	Prelim Assess:	Not reported
Pollution Char:	Not reported	Remed Plan:	Not reported
Remed Action:	Not reported		
Monitoring:	Not reported		

UNOCAL #1696 (Continued) **U002169192**

Close Date: 5/2/1994
Release Date: 11/11/1993
Cleanup Fund Id : Not reported
Discover Date : 11/11/1993
Enforcement Dt : 11/18/1993
Enf Type: EF
Enter Date : Not reported
Funding: Federal Funds
Staff Initials: EHD
How Discovered: Not reported
How Stopped: Not reported
Interim : Not reported
Leak Cause: Not reported
Leak Source: Not reported
MTBE Date : Not reported
Max MTBE GW : Not reported
MTBE Tested: Not Required to be Tested.
Priority: Not reported
Local Case # : 93041
Beneficial: Not reported
Staff : UNK
GW Qualifier : Not reported
Max MTBE Soil : Not reported
Soil Qualifier : Not reported
Hydr Basin #: (???)
Operator : Not reported
Oversight Prgm: LUST
Review Date : Not reported
Stop Date : Not reported
Work Suspended : Not reported
Responsible Party UNOCAL CERT
RP Address: Not reported
Global Id: T0611100863
Org Name: Not reported
Contact Person: Not reported
MTBE Conc: 0
Mtbe Fuel: 0
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary : Not reported

LUST Region 4:
Report Date: 11/11/1993
Lead Agency: Local Agency
Local Agency: 56000L
Substance: Waste Oil
Case Type: Soil
Status: Case Closed
Region: 4
Staff: UNK
Date Case Last Changed on Database: Not reported
Date Leak Record Entered: Not reported
Historical Max MTBE Date: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported

UNOCAL #1696 (Continued) **U002169192**

Hist Max MTBE Conc in Groundwater:	Not reported
Hist Max MTBE Conc in Soil :	Not reported
County:	Ventura
Organization :	Not reported
Regional Board:	04
Owner Contact:	Not reported
Responsible Party:	UNOCAL CERT
RP Address:	Not reported
Significant Interim Remedial Action Taken:	Not reported
Program :	LUST
Lat / Long :	34.2854424 / -1
Local Agency Staff:	EHD
Beneficial Use :	Not reported
Priority :	Not reported
Cleanup Fund Id :	Not reported
Suspended :	Not reported
Local Case No :	93041
Substance Quantity :	Not reported
Abatement Method Used at the Site:	Not reported
Operator :	Not reported
Water System :	Not reported
Well Name :	Not reported
Approx. Dist To Production Well (ft) :	5317.886808980555971973806 1044
Assigned Name :	Not reported
W Global ID :	Not reported
Source of Cleanup Funding:	Federal Funds
Date the Leak was Discovered:	11/11/1993
How the Leak was Discovered:	Not reported
How the Leak was Stopped:	Not reported
Cause of Leak:	Not reported
Leak Source:	Not reported
Date The Leak was Stopped:	Not reported
Date Confirmation Leak Began:	11/11/1993
Preliminary Site Assessment Workplan Submitted:	11/18/1993
Preliminary Site Assessment Began:	Not reported
Pollution Characterization Began:	Not reported
Remediation Plan Submitted:	Not reported
Remedial Action Underway:	Not reported
Post Remedial Action Monitoring Began:	Not reported
Date the Case was Closed:	5/2/1994
Enforcement Action Date:	11/18/1993
Date Leak First Reported:	11/11/1993
Enforcement Type:	EF
Global ID :	T0611100863
Cross Street:	Not reported
Summary :	

LUST Region VN:
Facility ID: 93041
Status: Case Closed

CORTESE:
Region: CORTESE
Fac Address 2: 18 HIGH ST

UNOCAL #1696 (Continued) — **U002169192**

UST Ventura County Active & Inactive:
Facility ID: D 1086
Facility Status: Inactive
Box No: 146064
Region: Ventura County

96
ESE
1/2-1
3781 ft.

Relative:
Lower

Actual:
512 ft.

PRIMO CORP — **RCRA-SQG** **1000300967**
31 POINDEXTER ST — **FINDS** **CAD080071434**
MOORPARK, CA 93021

RCRAInfo:
Owner: LORENZ CURTIS
(415) 555-1212
EPA ID: CAD080071434
Contact: Not reported
Classification: Small Quantity Generator
TSDF Activities: Not reported
Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

Q97
East
1/2-1
3786 ft.

Relative:
Lower

Actual:
523 ft.

CITY OF MOORPARK — **UST** **U003187589**
CHARLES ST (X WALNUT ST) — **N/A**
MOORPARK, CA

Site 2 of 2 in cluster Q

UST Ventura County Active & Inactive:
Facility ID: D 1004
Facility Status: Inactive
Box No: 146061
Region: Ventura County

R98
East
1/2-1
3794 ft.

Relative:
Lower

Actual:
517 ft.

WM MORRIS PARTNERSHIP — **HAZNET** **U002244103**
480 MOORPARK AVE. — **UST** **N/A**
MOORPARK, CA 92011

Site 2 of 3 in cluster R

HAZNET:
Gepaid: CAL000073476
TSD EPA ID: CAD008302903
Gen County: San Diego
Tsd County: Los Angeles
Tons: .2293
Facility Address 2: Not reported
Waste Category: Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)
Disposal Method: Recycler
Contact: WILLIAM M PERKINS CO
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 1550 BROADWAY

WM MORRIS PARTNERSHIP (Continued) **U002244103**

CHULA VISTA, CA 91911 - 4059
County San Diego

UST Ventura County Active & Inactive:
Facility ID: D 382
Facility Status: Inactive
Box No: 146056
Region: Ventura County

99
SE
1/2-1
3809 ft.

MOORPARK CAR CARE **CA FID UST U001966952**
75 PARKLANE **SWEEPS UST N/A**
MOORPARK, CA 93021

Relative:
Lower

Actual:
501 ft.

FID:

Facility ID:	56004908	Regulate ID:	Not reported
Reg By:	Active Underground Storage Tank Location		
Cortese Code:	Not reported	SIC Code:	Not reported
Status:	Active	Facility Tel:	Not reported
Mail To:	Not reported 75 PARKLANE MOORPARK, CA 93021		
Contact:	Not reported	Contact Tel:	Not reported
DUNs No:	Not reported	NPDES No:	Not reported
Creation:	10/22/93	Modified:	00/00/00
EPA ID:	Not reported		
Comments:	Not reported		

SWEEPS:

Status :	A
Comp Number :	4852
Number :	9
Board Of Equalization :	Not reported
Ref Date :	09-30-92
Act Date :	09-30-92
Created Date :	02-29-88
Tank Status :	A
Owner Tank Id :	Not reported
Swrcb Tank Id :	56-000-004852-000001
Actv Date :	Not reported
Capacity :	12000
Tank Use :	UNKNOWN
Stg :	P
Content :	Not reported
Number Of Tanks :	2

Status :	A
Comp Number :	4852
Number :	9
Board Of Equalization :	Not reported
Ref Date :	09-30-92
Act Date :	09-30-92
Created Date :	02-29-88
Tank Status :	A
Owner Tank Id :	Not reported
Swrcb Tank Id :	56-000-004852-000002
Actv Date :	Not reported
Capacity :	12000
Tank Use :	UNKNOWN
Stg :	P

MOORPARK CAR CARE (Continued) U001966952

Content : Not reported
Number Of Tanks : Not reported

R100
ESE
1/2-1
3836 ft.

Relative:
Lower

Actual:
515 ft.

RANCHO CLEANERS
419 MOORPARK AVE
MOORPARK, CA 93021

RCRA-SQG 1000171039
FINDS CAD981968241
HAZNET
CLEANERS

Site 3 of 3 in cluster R

RCRAInfo:
Owner: WONSOON IM
(415) 555-1212
EPA ID: CAD981968241

Contact: ENVIRONMENTAL MANAGER
(805) 529-1768

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

CA Cleaners:
Inactive Date: 6/30/2002
EPA Id: CAD981968241
Facility Address 2 : Not reported
NAICS Code : Not reported
Facility Active : No
Mail Name : Not reported
Mailing Address: 419 MOORPARK AVE
MOORPARK, CA 93021
Owner Name : --
Mailing Address: --
--, 99 --
Owner Telephone : 0000000000
Contact Name : UNDELIVERABLE SURVEY 2-1-95 HJ
Mailing Address: INACT PER NONDEL 00VQ - CR
--, 99 --
Contact Telephone : --
Region Code : 3
Create Date : 07/03/1987
SIC Description : Not reported
NAICS Description : Not reported

HAZNET:
Gepaid: CAD981968241
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.09
Facility Address 2: Not reported
Waste Category: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
Disposal Method: Not reported
Contact: UNDELIVERABLE SURVEY 2-1-95 HJ
Telephone: --
Mailing Name: Not reported
Mailing Address: 419 MOORPARK AVE

RANCHO CLEANERS (Continued) **1000171039**

MOORPARK, CA 93021
County Not reported

Gepaid: CAD981968241
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.16
Facility Address 2: Not reported
Waste Category: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
Disposal Method: Transfer Station
Contact: UNDELIVERABLE SURVEY 2-1-95 HJ
Telephone: –
Mailing Name: Not reported
Mailing Address: 419 MOORPARK AVE
MOORPARK, CA 93021
County Not reported

Gepaid: CAD981968241
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: Not reported
Facility Address 2: Not reported
Waste Category: Unspecified organic liquid mixture
Disposal Method: Not reported
Contact: UNDELIVERABLE SURVEY 2-1-95 HJ
Telephone: –
Mailing Name: Not reported
Mailing Address: 419 MOORPARK AVE
MOORPARK, CA 93021
County Not reported

Gepaid: CAD981968241
TSD EPA ID: Not reported
Gen County: Ventura
Tsd County: Los Angeles
Tons: Not reported
Facility Address 2: Not reported
Waste Category: Other organic solids
Disposal Method: Not reported
Contact: UNDELIVERABLE SURVEY 2-1-95 HJ
Telephone: –
Mailing Name: Not reported
Mailing Address: 419 MOORPARK AVE
MOORPARK, CA 93021
County Not reported

Gepaid: CAD981968241
TSD EPA ID: CAD981397417
Gen County: Ventura
Tsd County: Los Angeles
Tons: .0000
Facility Address 2: Not reported
Waste Category:
Disposal Method: Recycler
Contact: Not reported
Telephone: (000) 000-0000
Mailing Name: Not reported

RANCHO CLEANERS (Continued) **1000171039**

Mailing Address: 419 MOORPARK AVE
MOORPARK, CA 93021
County Ventura

Click this hyperlink while viewing on your computer to access
18 additional CA HAZNET record(s) in the EDR Site Report.

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101 **TEXACO STATION** **LUST S102438808**
ESE **347 MOORPARK AVE** **Cortese N/A**
1/2-1 **MOORPARK, CA 93021**
4106 ft.

Relative:
Lower

Actual:
511 ft.

State LUST:

Cross Street:	Not reported		
Qty Leaked:	Not reported		
Case Number	C-88066		
Reg Board:	4		
Chemical:	Gasoline		
Lead Agency:	Local Agency		
Local Agency :	56000L		
Case Type:	Other ground water affected		
Status:	Case Closed		
Abate Method:	Excavate and Dispose - remove contaminated soil and dispose in approved site, Excavate and Treat - remove contaminated soil and treat (includes spreading or land farming)		
Review Date:	7/1/1988	Confirm Leak:	7/1/1988
Workplan:	8/31/1990	Prelim Assess:	8/31/1990
Pollution Char:	10/19/1990	Remed Plan:	10/19/1990
Remed Action:	6/9/1992		
Monitoring:	Not reported		
Close Date:	3/8/1996		
Release Date:	6/2/1988		
Cleanup Fund Id :	Not reported		
Discover Date :	6/2/1988		
Enforcement Dt :	6/2/1988		
Enf Type:	EF		
Enter Date :	Not reported		
Funding:	Federal Funds		
Staff Initials:	EHD		
How Discovered:	Not reported		
How Stopped:	Not reported		
Interim :	Not reported		
Leak Cause:	Not reported		
Leak Source:	Not reported		
MTBE Date :	Not reported		
Max MTBE GW :	Not reported		
MTBE Tested:	Site NOT Tested for MTBE.Includes Unknown and Not Analyzed.		
Priority:	Not reported		
Local Case # :	88066		
Beneficial:	Not reported		
Staff :	UNK		
GW Qualifier :	Not reported		
Max MTBE Soil :	Not reported		
Soil Qualifier :	Not reported		
Hydr Basin #:	(???)		
Operator :	Not reported		
Oversight Prgm:	LUST		
Review Date :	Not reported		
Stop Date :	Not reported		

TEXACO STATION (Continued) **S102438808**

Work Suspended :Not reported
Responsible PartyTEXACO STATION
RP Address: Not reported
Global Id: T0611100313
Org Name: Not reported
Contact Person: Not reported
MTBE Conc: 0
Mtbe Fuel: 1
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary : Not reported

LUST Region 4:
Report Date: 6/2/1988
Lead Agency: Local Agency
Local Agency: 56000L
Substance: Gasoline
Case Type: Groundwater
Status: Case Closed
Region: 4
Staff: UNK

Date Case Last Changed on Database:	Not reported
Date Leak Record Entered:	Not reported
Historical Max MTBE Date:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Hist Max MTBE Conc in Groundwater:	Not reported
Hist Max MTBE Conc in Soil :	Not reported
County:	Ventura
Organization :	Not reported
Regional Board:	04
Owner Contact:	Not reported
Responsible Party:	TEXACO STATION
RP Address:	Not reported
Significant Interim Remedial Action Taken:	Not reported
Program :	LUST
Lat / Long :	34.2823196 / -1
Local Agency Staff:	EHD
Beneficial Use :	Not reported
Priority :	Not reported
Cleanup Fund Id :	Not reported
Suspended :	Not reported
Local Case No :	88066
Substance Quantity :	Not reported
Abatement Method Used at the Site:	ETED
Operator :	Not reported
Water System :	Not reported
Well Name :	Not reported
Approx. Dist To Production Well (ft) :	6451.4414296236740957154828895
Assigned Name :	Not reported
W Global ID :	Not reported
Source of Cleanup Funding:	Federal Funds
Date the Leak was Discovered:	6/2/1988
How the Leak was Discovered:	Not reported
How the Leak was Stopped:	Not reported

TEXACO STATION (Continued) **S102438808**

Cause of Leak:	Not reported
Leak Source:	Not reported
Date The Leak was Stopped:	Not reported
Date Confirmation Leak Began:	7/1/1988
Preliminary Site Assessment Workplan Submitted:	6/20/1988
Preliminary Site Assessment Began:	8/31/1990
Pollution Characterization Began:	8/31/1990
Remediation Plan Submitted:	10/19/1990
Remedial Action Underway:	6/9/1992
Post Remedial Action Monitoring Began:	Not reported
Date the Case was Closed:	3/8/1996
Enforcement Action Date:	6/2/1988
Date Leak First Reported:	6/2/1988
Enforcement Type:	EF
Global ID :	T0611100313
Cross Street:	Not reported
Summary :	

LUST Region VN:
Facility ID: 88066
Status: Case Closed

CORTESE:
Region: CORTESE
Fac Address 2: 347 MOORPARK AVE

102
SE
1/2-1
4366 ft.

TOMRA PACIFIC INC/RALPHS #723 **SWRCY** **S107138148**
101 W LOS ANGELES AVE **N/A**
MOORPARK, CA 93021

Relative:
Lower

Actual:
503 ft.

CA SWRCY

Certification Status :	O
Facility Phone Number :	(951) 520-1700
Whether The Facility Is Grandfathered :	Not reported
Convenience Zone Where Facilty Located :	2806
Convenience Zone Where Facilty Located 2 :	4617
Convenience Zone Where Facilty Located 3 :	0
Convenience Zone Where Facilty Located 4 :	0
Convenience Zone Where Facilty Located 5 :	0
Convenience Zone Where Facilty Located 6 :	0
Convenience Zone Where Facilty Located 7 :	0
Aluminum Beverage Containers Redeemed :	AL
Glass Beverage Containers Redeemed :	GL
Plastic Beverage Containers Redeemed :	PL
Other mat beverage containers redeemed :	Not Accepted
Refillable Beverage Containers Redeemed :	Not Accepted
Date facility became certified :	02/16/99
Date facility began operating (no date indicates never operational) :	03/23/99
Date facility ceased operating (no date indicates still operating) :	/ /

103
SE
1/2-1
4492 ft.

PARK LANE CAR WASH
75 PARK LANE
MOORPARK, CA 93021

LUST **U003978807**
UST **N/A**

Relative:
Lower

Actual:
499 ft.

State LUST:

Cross Street:	LOS ANGELES AVE		
Qty Leaked:	Not reported		
Case Number	C04035		
Reg Board:	4		
Chemical:	Xylene		
Lead Agency:	Local Agency		
Local Agency :	56000L		
Case Type:	Soil only		
Status:	Pollution Characterization		
Review Date:	3/25/2004	Confirm Leak:	3/25/2004
Workplan:	Not reported	Prelim Assess:	Not reported
Pollution Char:	Not reported	Remed Plan:	Not reported
Remed Action:	Not reported		
Monitoring:	Not reported		
Close Date:	Not reported		
Release Date:	3/25/2004		
Cleanup Fund Id :	Not reported		
Discover Date :	3/24/2004		
Enforcement Dt :	Not reported		
Enf Type:	LFOR		
Enter Date :	Not reported		
Funding:	LOPF		
Staff Initials:	DBW		
How Discovered:	Tank Closure		
How Stopped:	Close Tank		
Interim :	Not reported		
Leak Cause:	UNK		
Leak Source:	UNK		
MTBE Date :	Not reported		
Max MTBE GW :	Not reported		
MTBE Tested:	MTBE Detected. Site tested for MTBE & MTBE detected		
Priority:	Not reported		
Local Case # :	4035		
Beneficial:	AGR, PROC, IND, MUN		
Staff :	UNK		
GW Qualifier :	Not reported		
Max MTBE Soil :	Not reported		
Soil Qualifier :	Not reported		
Hydr Basin #:	Not reported		
Operator :	Not reported		
Oversight Prgm:	LUST		
Review Date :	Not reported		
Stop Date :	Not reported		
Work Suspended :	Not reported		
Responsible Party	GEORGE TERERYAN		
RP Address:	75 PARK LANE		
Global Id:	T0611137666		
Org Name:	Not reported		
Contact Person:	Not reported		
MTBE Conc:	0		
Mtbe Fuel:	0		
Water System Name:	Not reported		
Well Name:	Not reported		

PARK LANE CAR WASH (Continued) **U003978807**

Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary : Not reported

LUST Region VN:
Facility ID: 04035
Status: Pollution Characterization

UST Ventura County Active & Inactive:
Facility ID: D 1503
Facility Status: Inactive
Box No: F
Region: Ventura County

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104 **SUMMIT ENERGY** **LUST U003778477**
SE **50 W LOS ANGELES AVE** **UST N/A**
1/2-1 **MOORPARK, CA 93021**
4638 ft.

Relative:
Lower

Actual:
507 ft.

State LUST:

Cross Street:	MOORPARK AVE.		
Qty Leaked:	Not reported		
Case Number	C01011		
Reg Board:	4		
Chemical:	Hydrocarbons		
Lead Agency:	Local Agency		
Local Agency :	56000L		
Case Type:	Other ground water affected		
Status:	Remedial action (cleanup) Underway		
Review Date:	Not reported	Confirm Leak:	Not reported
Workplan:	2/27/2004	Prelim Assess:	2/27/2004
Pollution Char:	Not reported	Remed Plan:	Not reported
Remed Action:	7/29/2005		
Monitoring:	Not reported		
Close Date:	Not reported		
Release Date:	6/28/2001		
Cleanup Fund Id :	Not reported		
Discover Date :	6/21/2001		
Enforcement Dt :	Not reported		
Enf Type:	LFOR		
Enter Date :	Not reported		
Funding:	Not reported		
Staff Initials:	GLT		
How Discovered:	Subsurface Monitoring		
How Stopped:	Other Means		
Interim :	Not reported		
Leak Cause:	UNK		
Leak Source:	UNK		
MTBE Date :	Not reported		
Max MTBE GW :	Not reported		
MTBE Tested:	MTBE Detected. Site tested for MTBE & MTBE detected		
Priority:	Not reported		
Local Case # :	1011		
Beneficial:	Not reported		
Staff :	UNK		
GW Qualifier :	Not reported		
Max MTBE Soil :	Not reported		
Soil Qualifier :	Not reported		
Hydr Basin #:	(???)		

SUMMIT ENERGY (Continued) **U003778477**

Operator : Not reported
Oversight Prgm: LUST
Review Date : Not reported
Stop Date : 6/21/2001
Work Suspended :Not reported
Responsible PartySAM ATASSI
RP Address: 1842 ROSCOMARE RD.
Global Id: T0611101370
Org Name: Not reported
Contact Person: Not reported
MTBE Conc: 0
Mtbe Fuel: 0
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary : Not reported

LUST Region 4:
Report Date: 6/28/2001
Lead Agency: Local Agency
Local Agency: 56000L
Substance: Hydrocarbons
Case Type: Undefined
Status: Preliminary site assessment underway
Region: 4
Staff: UNK
Date Case Last Changed on Database: Not reported
Date Leak Record Entered: Not reported
Historical Max MTBE Date: 2/18/2004
GW Qualifier: =
Soil Qualifier: =
Hist Max MTBE Conc in Groundwater: 57000
Hist Max MTBE Conc in Soil : 28700
County: Ventura
Organization : Not reported
Regional Board: 04
Owner Contact: Not reported
Responsible Party: SAM ATASSI
RP Address: 1842 ROSCOMARE RD.
Significant Interim Remedial Action Taken: Not reported
Program : LUST
Lat / Long : 34.279037 / -1
Local Agency Staff: KEA
Beneficial Use : Not reported
Priority : Not reported
Cleanup Fund Id : Not reported
Suspended : Not reported
Local Case No : 01011
Substance Quantity : Not reported
Abatement Method Used at the Site: Not reported
Operator : Not reported
Water System : Not reported
Well Name : Not reported
Approx. Dist To Production Well (ft) : 7642.641373977398903808194 4832
Assigned Name : Not reported
W Global ID : Not reported

SUMMIT ENERGY (Continued) **U003778477**

Source of Cleanup Funding:	Not reported
Date the Leak was Discovered:	6/21/2001
How the Leak was Discovered:	Subsurface Monitoring
How the Leak was Stopped:	Other Means
Cause of Leak:	UNK
Leak Source:	UNK
Date The Leak was Stopped:	6/21/2001
Date Confirmation Leak Began:	Not reported
Preliminary Site Assessment Workplan Submitted:	Not reported
Preliminary Site Assessment Began:	12/8/2003
Pollution Characterization Began:	Not reported
Remediation Plan Submitted:	Not reported
Remedial Action Underway:	Not reported
Post Remedial Action Monitoring Began:	Not reported
Date the Case was Closed:	Not reported
Enforcement Action Date:	Not reported
Date Leak First Reported:	6/28/2001
Enforcement Type:	LFOR
Global ID :	T0611101370
Cross Street:	MOORPARK AVE.
Summary :	

LUST Region VN:
Facility ID: 01011
Status: Remedial action (cleanup) Underway

State UST:
Facility ID: 056-000-002978
Total Tanks: 1
Region: STATE
Local Agency: 56000

105
SE
1/2-1
5024 ft.

Relative:
Lower

Actual:
514 ft.

MOORPARK UNIF. SCHOOL DIST.
30 FLORY AVE
MOORPARK, CA 93021

HAZNET **1000368487**
LUST **N/A**
Cortese
UST
CA FID UST
HIST UST
SWEEPS UST

State LUST:

Cross Street:	Not reported		
Qty Leaked:	Not reported		
Case Number	C-97012		
Reg Board:	4		
Chemical:	Diesel		
Lead Agency:	Local Agency		
Local Agency :	56000L		
Case Type:	Soil only		
Status:	Case Closed		
Abate Method:	Excavate and Dispose - remove contaminated soil and dispose in approved site		
Review Date:	1/12/1997	Confirm Leak:	1/12/1997
Workplan:	1/6/1996	Prelim Assess:	1/6/1996
Pollution Char:	3/17/1996	Remed Plan:	3/17/1996
Remed Action:	3/17/1996		
Monitoring:	Not reported		
Close Date:	4/2/1997		
Release Date:	1/12/1997		
Cleanup Fund Id :	Not reported		

MOORPARK UNIF. SCHOOL DIST. (Continued) 1000368487

Discover Date : 1/12/1997
Enforcement Dt : Not reported
Enf Type: Not reported
Enter Date : Not reported
Funding: Federal Funds
Staff Initials: KCK
How Discovered: Not reported
How Stopped: Not reported
Interim : Not reported
Leak Cause: Not reported
Leak Source: Not reported
MTBE Date : Not reported
Max MTBE GW : Not reported
MTBE Tested: Not Required to be Tested.
Priority: Not reported
Local Case # : 97012
Beneficial: Not reported
Staff : UNK
GW Qualifier : Not reported
Max MTBE Soil : Not reported
Soil Qualifier : Not reported
Hydr Basin #: (???)
Operator : Not reported
Oversight Prgm: LUST
Review Date : Not reported
Stop Date : Not reported
Work Suspended :Not reported
Responsible PartyMOORPARK UNIFIED SCHOOL DISTRI
RP Address: Not reported
Global Id: T0611101132
Org Name: Not reported
Contact Person: Not reported
MTBE Conc: 0
Mtbe Fuel: 0
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary : Not reported

LUST Region 4:
Report Date: 1/12/1997
Lead Agency: Local Agency
Local Agency: 56000L
Substance: Diesel
Case Type: Soil
Status: Case Closed
Region: 4
Staff: UNK
Date Case Last Changed on Database: Not reported
Date Leak Record Entered: Not reported
Historical Max MTBE Date: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Hist Max MTBE Conc in Groundwater: Not reported
Hist Max MTBE Conc in Soil : Not reported
County: Ventura

MOORPARK UNIF. SCHOOL DIST. (Continued) **1000368487**

Organization :	Not reported
Regional Board:	04
Owner Contact:	Not reported
Responsible Party:	MOORPARK UNIFIED SCHOOL DISTRI
RP Address:	Not reported
Significant Interim Remedial Action Taken:	Not reported
Program :	LUST
Lat / Long :	34.2792117 / -1
Local Agency Staff:	KCK
Beneficial Use :	Not reported
Priority :	Not reported
Cleanup Fund Id :	Not reported
Suspended :	Not reported
Local Case No :	97012
Substance Quantity :	Not reported
Abatement Method Used at the Site:	Excavate and Dispose
Operator :	Not reported
Water System :	Not reported
Well Name :	Not reported
Approx. Dist To Production Well (ft) :	7613.1515842730846554779268592
Assigned Name :	Not reported
W Global ID :	Not reported
Source of Cleanup Funding:	Federal Funds
Date the Leak was Discovered:	1/12/1997
How the Leak was Discovered:	Not reported
How the Leak was Stopped:	Not reported
Cause of Leak:	Not reported
Leak Source:	Not reported
Date The Leak was Stopped:	Not reported
Date Confirmation Leak Began:	1/12/1997
Preliminary Site Assessment Workplan Submitted:	12/16/1996
Preliminary Site Assessment Began:	1/6/1996
Pollution Characterization Began:	12/16/1996
Remediation Plan Submitted:	3/17/1996
Remedial Action Underway:	3/17/1996
Post Remedial Action Monitoring Began:	Not reported
Date the Case was Closed:	4/2/1997
Enforcement Action Date:	Not reported
Date Leak First Reported:	1/12/1997
Enforcement Type:	Not reported
Global ID :	T0611101132
Cross Street:	Not reported
Summary :	

LUST Region VN:

Facility ID:	97012
Status:	Case Closed

HAZNET:

Gepaid:	CAC001222640
TSD EPA ID:	CAT080013352
Gen County:	Ventura
Tsd County:	Los Angeles
Tons:	1.2927
Facility Address 2:	Not reported
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Recycler
Contact:	MOORPARK UNIFIED SCHOOL DIST

MOORPARK UNIF. SCHOOL DIST. (Continued) **1000368487**

Telephone: (805) 531-6432
Mailing Name: Not reported
Mailing Address: 30 FLORY AVE
MOORPARK, CA 93021
County Ventura

Gepaid: CAD095628715
TSD EPA ID: CAD008252405
Gen County: Ventura
Tsd County: Los Angeles
Tons: 0.4044
Facility Address 2: Not reported
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Recycler
Contact: Not reported
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 30 FLORY AVE
MOORPARK, CA 93021 - 1815
County Ventura

Gepaid: CAD095628715
TSD EPA ID: CAD982444481
Gen County: Ventura
Tsd County: San Bernardino
Tons: 0.2
Facility Address 2: Not reported
Waste Category: Other organic solids
Disposal Method: Recycler
Contact: Not reported
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 30 FLORY AVE
MOORPARK, CA 93021 - 1815
County Ventura

Gepaid: CAD095628715
TSD EPA ID: CAT080033681
Gen County: Ventura
Tsd County: Los Angeles
Tons: .1500
Facility Address 2: Not reported
Waste Category: Unspecified oil-containing waste
Disposal Method: Disposal, Land Fill
Contact: Not reported
Telephone: (000) 000-0000
Mailing Name: Not reported
Mailing Address: 30 FLORY AVE
MOORPARK, CA 93021 - 1815
County Ventura

CORTESE:
Region: CORTESE
Fac Address 2: Not reported

MOORPARK UNIF. SCHOOL DIST. (Continued) **1000368487**

FID:

Facility ID:	56002593	Regulate ID:	44551
Reg By:	Active Underground Storage Tank Location		
Cortese Code:	Not reported	SIC Code:	Not reported
Status:	Active	Facility Tel:	Not reported
Mail To:	Not reported 30 FLORY AVE MOORPARK, CA 93021		
Contact:	Not reported	Contact Tel:	Not reported
DUNs No:	Not reported	NPDES No:	Not reported
Creation:	10/22/93	Modified:	00/00/00
EPA ID:	Not reported		
Comments:	Not reported		

UST HIST:

Facility ID:	44551	Owner Name:	MOORPARK UNIFIED SCHOOL DISTRI
Total Tanks:	2	Region:	STATE
Owner Address:	30 FLORY AVE. MOORPARK, CA 93021		
Tank Used for:	PRODUCT		
Tank Num:	1	Container Num:	02
Tank Capacity:	00002000	Year Installed:	Not reported
Type of Fuel:	UNLEADED	Tank Construction:	Not Reported
Leak Detection:	Stock Inventor		
Contact Name:	Not reported	Telephone:	(805) 529-1149
Facility Type:	Other	Other Type:	PUBLIC SCHOOL

Facility ID:	44551	Owner Name:	MOORPARK UNIFIED SCHOOL DISTRI
Total Tanks:	2	Region:	STATE
Owner Address:	30 FLORY AVE. MOORPARK, CA 93021		
Tank Used for:	PRODUCT		
Tank Num:	2	Container Num:	01
Tank Capacity:	00002000	Year Installed:	Not reported
Type of Fuel:	DIESEL	Tank Construction:	Not Reported
Leak Detection:	Stock Inventor		
Contact Name:	Not reported	Telephone:	(805) 529-1149
Facility Type:	Other	Other Type:	PUBLIC SCHOOL

SWEEPS:

Status :	A
Comp Number :	644
Number :	9
Board Of Equalization :	44-030671
Ref Date :	09-30-92
Act Date :	09-30-92
Created Date :	02-29-88
Tank Status :	A
Owner Tank Id :	Not reported
Swrcb Tank Id :	56-000-000644-000001
Actv Date :	Not reported
Capacity :	2000
Tank Use :	UNKNOWN
Stg :	P
Content :	Not reported
Number Of Tanks :	2

Status : A

MOORPARK UNIF. SCHOOL DIST. (Continued) **1000368487**

Comp Number :	644
Number :	9
Board Of Equalization :	44-030671
Ref Date :	09-30-92
Act Date :	09-30-92
Created Date :	02-29-88
Tank Status :	A
Owner Tank Id :	Not reported
Swrcb Tank Id :	56-000-000644-000002
Actv Date :	Not reported
Capacity :	1000
Tank Use :	UNKNOWN
Stg :	P
Content :	Not reported
Number Of Tanks :	Not reported

UST Ventura County Active & Inactive:

Facility ID:	D 1266
Facility Status:	Inactive
Box No:	UGTCLO 17
Region:	Ventura County

MAP FINDINGS - EDR PROPRIETARY HISTORICAL DATABASES

YEAR	NAME	ADDRESS	CITY	ST	DIR.	DIST.	ELEV.	TYPE

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

EDR Historical Gas Station & Dry Cleaner Search: No mapped sites were found in EDR's search of the EDR Historical Gas Station & Dry Cleaner Database within 0.250 mile of the Target Property.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MOORPARK	S104571967	MALHI TRANSPORTATION	HWY 118 / HITCH AVE	93021	HAZNET
MOORPARK	U001579570	AGOURE RANCH	6945 LA AVE	93021	HIST UST
MOORPARK	U003758208	URBAN WEST COMMUNITIES	BELTRAMO RANCH HOUSE		UST
MOORPARK	S107149422	STEVENS PRECISION, INC.	5260 BONSAI ST STE F	93021	HAZNET
MOORPARK	S102824848	ADVANCED IMAGING	51 COMMERCE	93021	HAZNET
MOORPARK	S104994051	SAN VAL PRECISION, INC.	5090 GOLDMAN AVE	93021	VENTURA CO. BWT
MOORPARK	S104994052	STUDEBAKER SERVICES AUTOBODY	5090 GOLDMAN AVE #A	93021	VENTURA CO. BWT
MOORPARK	S105089440	SAN VAL PRECISION, INC	5090 GOLDMAN AVE	93021	HAZNET
MOORPARK	S106091464	DOC'S MARKETING CORP	5158 GOLDMAN AVE UNIT A	93021	HAZNET
MOORPARK	S106198591	COMPLETE PROPERTY MAINTENANCE, INC	5150 GOLDMAN AVE A	93021	VENTURA CO. BWT
MOORPARK	S106570480	DOC'S MARKETING CORP	5158 GOLDMAN AVE A	93021	VENTURA CO. BWT
MOORPARK	S106447426	DIVINE FAMILY CHIROPRACTIC	165 E HIGH ST 105	93021	VENTURA CO. BWT
MOORPARK	U001579578	HITCH BLVD. LIFT STATION	HITCH BLVD. / ARROYO SIMI	93021	HIST UST
MOORPARK	S106198599	SAFE HAVEN PRODUCTS INC	5395 KAZUKO CT A-B	93021	VENTURA CO. BWT
MOORPARK	S107149339	SAFE HAVEN PRODUCTS INC	5395 KAZUKO COURT UNIT A	93021	HAZNET
MOORPARK	S103632749	METROLINK	15400 WEST LA AVE		HAZNET
MOORPARK	1000686228	EUROPA MOTORS	548 E LOS ANGELES NO 103	93021	RCRA-SQG, FINDS, HAZNET
MOORPARK	S106176530	TOSCO CORPORATION STATION #30770	506 E LOS ANGELES AVE	93021	HAZNET
MOORPARK	S106678064	VILLAGE DISCOUNT MUFFLERS & BRAKE	476 W LOS ANGELES AVE B1-B2	93021	VENTURA CO. BWT
MOORPARK	U003938752	CHEVRON #90688	502 E LOS ANGELES AVE	93021	UST, SWEEPS UST
MOORPARK	U003942126	TOSCO #4945 (SITE)	506 E LOS ANGELES AVE	93021	UST
MOORPARK	S106678058	AUTO ZONE #5713	455 LOS ANGELES AVE		VENTURA CO. BWT
MOORPARK	S105773750	MOORPARK DENTAL CENTER	308 LOS ANGELES AVE		VENTURA CO. BWT
MOORPARK	S104994265	ANDY'S AUTOMOTIVE	476 LOS ANGELES AVE #A-1		VENTURA CO. BWT
MOORPARK	S105974848	CHEVRON #9-0688	502 LOS ANGELES AVE E	93021	LUST
MOORPARK	S106098372	RIDDLE EQUIPMENT RENTALS	1384 LOS ANGELES AVE		LUST
MOORPARK	S106098373	CONEJO READY MIX INC	1395 LOS ANGELES AVE		LUST
MOORPARK	S100945478	SOUTHERN CALIFORNIA EDISON	MOORPARK SUBSTATION	93021	HAZNET
MOORPARK	S106568385	SHELL SERVICE STATION - NEW LA AVE	301 NEW LOS ANGELES AVE	93021	LUST
MOORPARK	1004676578	SHELL SERVICE STATION	301 W NEW LOS ANGELES	93021	RCRA-SQG, HAZNET
MOORPARK	1008152385	EQUILON ENTERPRISES	301 W NEW LOS ANGELES	93021	FINDS, HAZNET
MOORPARK	S104566691	MOORE PARK EQUIPMENT RENTAL	877 NEW LOS ANGELES AVE	93021	HAZNET
MOORPARK	S104572503	SUMMIT ENERGY CORP	50 W NEW LOS ANGELES AVE	93021	HAZNET
MOORPARK	S105773925	TOPPER, DOUGLAS, D.D.S.	530 NEW LOS ANGELES AVE #213	93021	VENTURA CO. BWT
MOORPARK	S107138695	TARGET STORE #1547	800 NEW LOS ANGELES AVE		VENTURA CO. BWT
MOORPARK	S106841655	UNION OIL CO. OF CALIFORNIA	OAK PARK LEASE-OAK PARK FIELD	93021	EMI
MOORPARK	S105774016	VINTAGE PETROLEUM INC.	OAK PARK FIELD-BIG MTN.		VENTURA CO. BWT
MOORPARK	1006248422	CONROCK CO.-REDI MIX	1000 EAST OF LA STREET	93021	FINDS, EMI
MOORPARK	U001579604	SOLOMAN RANCH	STOCKTON ROAD	93021	HIST UST
MOORPARK	U001579597	RANCH LAND TRACT 89-3	STOCKTON ROAD	93021	HIST UST
MOORPARK	S106838873	SANMAR/NEAVES	W.MOORPARK FIELD/GRIMESCNYNRD.	93021	EMI
MOORPARK	U001579606	VENTURA COUNTY ROAD MAINT.	7140 WALNUT AVENUE	93021	HIST UST
SIMI	1003878606	UNION OIL CO SIMI OIL FLD	BET MOORPARK COMM COLL & SIMI	93021	CERC-NFRAP

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/01/05
Date Data Arrived at EDR: 08/03/05
Date Made Active in Reports: 08/22/05
Number of Days to Update: 19

Source: EPA
Telephone: N/A
Last EDR Contact: 08/03/05
Next Scheduled EDR Contact: 10/31/05
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 8
Telephone: 303-312-6774

EPA Region 4
Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites

Date of Government Version: 04/27/05
Date Data Arrived at EDR: 05/04/05
Date Made Active in Reports: 05/16/05
Number of Days to Update: 12

Source: EPA
Telephone: N/A
Last EDR Contact: 08/05/05
Next Scheduled EDR Contact: 10/31/05
Data Release Frequency: Quarterly

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/19/05
Date Data Arrived at EDR: 10/21/05
Date Made Active in Reports: 10/27/05
Number of Days to Update: 6

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 09/20/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 08/22/05
Date Data Arrived at EDR: 09/20/05
Date Made Active in Reports: 10/27/05
Number of Days to Update: 37

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 09/20/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/28/05
Date Data Arrived at EDR: 07/05/05
Date Made Active in Reports: 08/08/05
Number of Days to Update: 34

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/06/05
Next Scheduled EDR Contact: 12/05/05
Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 08/11/05
Date Data Arrived at EDR: 08/23/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 44

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/23/05
Next Scheduled EDR Contact: 10/24/05
Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/04
Date Data Arrived at EDR: 01/27/05
Date Made Active in Reports: 03/24/05
Number of Days to Update: 56

Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Last EDR Contact: 07/25/05
Next Scheduled EDR Contact: 10/24/05
Data Release Frequency: Annually

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 06/17/05
Date Made Active in Reports: 08/04/05
Number of Days to Update: 48

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/12/05
Next Scheduled EDR Contact: 12/12/05
Data Release Frequency: Biennially

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/14/04
Date Data Arrived at EDR: 02/15/05
Date Made Active in Reports: 04/25/05
Number of Days to Update: 69

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/25/05
Next Scheduled EDR Contact: 10/24/05
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 06/08/05
Date Data Arrived at EDR: 07/11/05
Date Made Active in Reports: 08/08/05
Number of Days to Update: 28

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 07/06/05
Next Scheduled EDR Contact: 10/03/05
Data Release Frequency: Annually

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/01/05
Date Data Arrived at EDR: 08/03/05
Date Made Active in Reports: 08/22/05
Number of Days to Update: 19

Source: EPA
Telephone: N/A
Last EDR Contact: 08/03/05
Next Scheduled EDR Contact: 10/31/05
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/11/05
Date Data Arrived at EDR: 07/19/05
Date Made Active in Reports: 08/08/05
Number of Days to Update: 20

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 07/05/05
Next Scheduled EDR Contact: 10/03/05
Data Release Frequency: Quarterly

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/27/05
Date Data Arrived at EDR: 07/22/05
Date Made Active in Reports: 09/01/05
Number of Days to Update: 41

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 07/22/05
Next Scheduled EDR Contact: 10/17/05
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/14/05
Date Data Arrived at EDR: 07/22/05
Date Made Active in Reports: 08/22/05
Number of Days to Update: 31

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 07/05/05
Next Scheduled EDR Contact: 10/03/05
Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/13/05
Date Data Arrived at EDR: 06/27/05
Date Made Active in Reports: 08/08/05
Number of Days to Update: 42

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/27/05
Next Scheduled EDR Contact: 12/26/05
Data Release Frequency: Semi-Annually

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Date Data Arrived at EDR: 02/02/94
Date Made Active in Reports: 03/30/94
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/22/05
Next Scheduled EDR Contact: 11/21/05
Data Release Frequency: No Update Planned

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 08/30/05
Date Data Arrived at EDR: 09/13/05
Date Made Active in Reports: 10/27/05
Number of Days to Update: 44

Source: EPA
Telephone: 202-564-3887
Last EDR Contact: 08/25/05
Next Scheduled EDR Contact: 11/07/05
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 07/12/05
Date Data Arrived at EDR: 07/21/05
Date Made Active in Reports: 08/24/05
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 08/22/05
Next Scheduled EDR Contact: 11/21/05
Data Release Frequency: Varies

STORMWATER: Storm Water General Permits

A listing of all facilities with Storm Water General Permits.

Date of Government Version: 06/02/05
Date Data Arrived at EDR: 08/31/05
Date Made Active in Reports: 10/21/05
Number of Days to Update: 51

Source: Environmental Protection Agency
Telephone: 202-564-0746
Last EDR Contact: 10/17/05
Next Scheduled EDR Contact: 01/02/06
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/04
Date Data Arrived at EDR: 06/29/05
Date Made Active in Reports: 08/08/05
Number of Days to Update: 40

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 06/29/05
Next Scheduled EDR Contact: 10/03/05
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/85
Date Data Arrived at EDR: 08/09/04
Date Made Active in Reports: 09/17/04
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 05/23/95
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/02/05
Date Data Arrived at EDR: 08/12/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 55

Source: Environmental Protection Agency
Telephone: 703-603-8867
Last EDR Contact: 10/03/05
Next Scheduled EDR Contact: 01/02/06
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized. In 1978, 24 inactive uranium mill tailings sites in Oregon, Idaho, Wyoming, Utah, Colorado, New Mexico, Texas, North Dakota, South Dakota, Pennsylvania, and on Navajo and Hopi tribal lands, were targeted for cleanup by the Department of Energy.

Date of Government Version: 12/29/04
Date Data Arrived at EDR: 01/07/05
Date Made Active in Reports: 03/14/05
Number of Days to Update: 66

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 09/19/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 10/01/03
Date Data Arrived at EDR: 11/12/03
Date Made Active in Reports: 11/21/03
Number of Days to Update: 9

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 08/09/05
Next Scheduled EDR Contact: 11/07/05
Data Release Frequency: Semi-Annually

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 10/01/03
Date Data Arrived at EDR: 11/12/03
Date Made Active in Reports: 11/21/03
Number of Days to Update: 9

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 08/09/05
Next Scheduled EDR Contact: 11/07/05
Data Release Frequency: Semi-Annually

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Date Data Arrived at EDR: 07/03/95
Date Made Active in Reports: 08/07/95
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 09/06/05
Next Scheduled EDR Contact: 12/05/05
Data Release Frequency: No Update Planned

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 07/13/05
Date Made Active in Reports: 08/17/05
Number of Days to Update: 35

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/19/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/02
Date Data Arrived at EDR: 04/27/04
Date Made Active in Reports: 05/21/04
Number of Days to Update: 24

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 07/18/05
Next Scheduled EDR Contact: 10/17/05
Data Release Frequency: Every 4 Years

AIRS: Aerometric Information Retrieval System Facility Subsystem

Date of Government Version: 08/15/05
Date Data Arrived at EDR: 08/25/05
Date Made Active in Reports: 10/19/05
Number of Days to Update: 55

Source: EPA
Telephone: 919-541-5454
Last EDR Contact: 07/25/05
Next Scheduled EDR Contact: 10/24/05
Data Release Frequency: Annually

OSHA: Occupational Safety and Health Administration

Specific inspection, violation and fatality/catastrophe information regarding inspections of interest.

Date of Government Version: 12/31/04
Date Data Arrived at EDR: 05/24/05
Date Made Active in Reports: 07/15/05
Number of Days to Update: 52

Source: Department of Labor
Telephone: 202-219-7888
Last EDR Contact: 07/19/05
Next Scheduled EDR Contact: 10/17/05
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 01/03/05
Date Made Active in Reports: 01/25/05
Number of Days to Update: 22

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/18/05
Next Scheduled EDR Contact: 10/17/05
Data Release Frequency: Annually

PCS: Permit Compliance System

PCS is EPA's database system for managing wastewater discharges to surface bodies of water as part of the National Pollutant Discharge Elimination System under the Clean Water Act. Facility data, discharge monitoring report information and compliance/enforcement activities are included in the database. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/02/05
Date Data Arrived at EDR: 08/08/05
Date Made Active in Reports: 08/22/05
Number of Days to Update: 14

Source: EPA/Office of Water
Telephone: 202-564-4099
Last EDR Contact: 07/11/05
Next Scheduled EDR Contact: 10/10/05
Data Release Frequency: Semi-Annually

AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 08/15/05
Date Data Arrived at EDR: 08/25/05
Date Made Active in Reports: 10/24/05
Number of Days to Update: 60

Source: Environmental Protection Agency
Telephone: 800-367-1044
Last EDR Contact: 10/24/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Annually

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/15/05
Date Data Arrived at EDR: 07/25/05
Date Made Active in Reports: 08/22/05
Number of Days to Update: 28

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 09/19/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Quarterly

AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

General plant level, plant air program, air program pollutant and plant action data.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: 28

Source: EPA
Telephone: 800-367-1044
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Annually

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Date of Government Version: 07/15/05
Date Data Arrived at EDR: 07/25/05
Date Made Active in Reports: 08/22/05
Number of Days to Update: 28

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 09/19/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Quarterly

PCS INACTIVE: Listing of Inactive PCS Permits

An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 09/07/05
Date Data Arrived at EDR: 10/03/05
Date Made Active in Reports: 11/07/05
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 202-564-2496
Last EDR Contact: 08/15/05
Next Scheduled EDR Contact: 11/14/05
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STATE OF CALIFORNIA ASTM STANDARD RECORDS

AWP: Annual Workplan Sites
Known Hazardous Waste Sites. California DTSC's Annual Workplan (AWP), formerly BEP, identifies known hazardous substance sites targeted for cleanup.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 23

Source: California Environmental Protection Agency
Telephone: 916-323-3400
Last EDR Contact: 08/29/05
Next Scheduled EDR Contact: 11/28/05
Data Release Frequency: Annually

CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 23

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 08/29/05
Next Scheduled EDR Contact: 11/28/05
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 05/18/04
Date Made Active in Reports: 06/25/04
Number of Days to Update: 38

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 08/22/05
Next Scheduled EDR Contact: 11/21/05
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 04/01/01
Date Data Arrived at EDR: 05/29/01
Date Made Active in Reports: 07/26/01
Number of Days to Update: 58

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-9100
Last EDR Contact: 07/26/05
Next Scheduled EDR Contact: 10/24/05
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records
Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/93
Date Data Arrived at EDR: 11/01/93
Date Made Active in Reports: 11/19/93
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 07/19/05
Next Scheduled EDR Contact: 10/17/05
Data Release Frequency: No Update Planned

TOXIC PITS: Toxic Pits Cleanup Act Sites
Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/95
Date Data Arrived at EDR: 08/30/95
Date Made Active in Reports: 09/26/95
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 08/01/05
Next Scheduled EDR Contact: 10/31/05
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SWF/LF (SWIS): Solid Waste Information System
Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/12/05
Date Data Arrived at EDR: 09/13/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 23

Source: Integrated Waste Management Board
Telephone: 916-341-6320
Last EDR Contact: 09/13/05
Next Scheduled EDR Contact: 12/12/05
Data Release Frequency: Quarterly

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/00
Date Data Arrived at EDR: 04/10/00
Date Made Active in Reports: 05/10/00
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 09/06/05
Next Scheduled EDR Contact: 12/05/05
Data Release Frequency: Quarterly

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/10/05
Date Data Arrived at EDR: 10/10/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 21

Source: State Water Resources Control Board
Contact: Ventura County Environmental Health, (805) 654-2815
Last EDR Contact: 10/10/05
Next Scheduled EDR Contact: 01/09/06
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/01
Date Data Arrived at EDR: 02/28/01
Date Made Active in Reports: 03/29/01
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-576-2220
Last EDR Contact: 08/22/05
Next Scheduled EDR Contact: 11/21/05
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Date of Government Version: 09/30/04
Date Data Arrived at EDR: 10/20/04
Date Made Active in Reports: 11/19/04
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 07/11/05
Next Scheduled EDR Contact: 10/10/05
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Date of Government Version: 05/19/03
Date Data Arrived at EDR: 05/19/03
Date Made Active in Reports: 06/02/03
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 08/15/05
Next Scheduled EDR Contact: 11/14/05
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/04
Date Data Arrived at EDR: 09/07/04
Date Made Active in Reports: 10/12/04
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 09/27/05
Next Scheduled EDR Contact: 12/26/05
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Date of Government Version: 10/01/05
Date Data Arrived at EDR: 10/20/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 11

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 10/20/05
Next Scheduled EDR Contact: 01/02/06
Data Release Frequency: Quarterly

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/03
Date Data Arrived at EDR: 09/10/03
Date Made Active in Reports: 10/07/03
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 916-542-5424
Last EDR Contact: 09/06/05
Next Scheduled EDR Contact: 12/05/05
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Date of Government Version: 06/07/05
Date Data Arrived at EDR: 06/07/05
Date Made Active in Reports: 06/29/05
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-346-7491
Last EDR Contact: 07/08/05
Next Scheduled EDR Contact: 10/03/05
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Date of Government Version: 02/26/04
Date Data Arrived at EDR: 02/26/04
Date Made Active in Reports: 03/24/04
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-346-7491
Last EDR Contact: 09/27/05
Next Scheduled EDR Contact: 12/26/05
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/05
Date Data Arrived at EDR: 02/15/05
Date Made Active in Reports: 03/28/05
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-4130
Last EDR Contact: 08/08/05
Next Scheduled EDR Contact: 11/07/05
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/01
Date Data Arrived at EDR: 04/23/01
Date Made Active in Reports: 05/21/01
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 07/18/05
Next Scheduled EDR Contact: 10/17/05
Data Release Frequency: No Update Planned

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/89
Date Data Arrived at EDR: 07/27/94
Date Made Active in Reports: 08/02/94
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/94
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA UST:

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 07/11/05
Date Data Arrived at EDR: 07/12/05
Date Made Active in Reports: 08/11/05
Number of Days to Update: 30

Source: SWRCB
Contact: Ventura County Environmental Health, (805) 654-2815
Last EDR Contact: 07/12/05
Next Scheduled EDR Contact: 10/10/05
Data Release Frequency: Semi-Annually

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/29/05
Next Scheduled EDR Contact: 11/28/05
Data Release Frequency: Quarterly

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 10/03/05
Date Data Arrived at EDR: 10/10/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 21

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 10/10/05
Next Scheduled EDR Contact: 01/09/06
Data Release Frequency: Quarterly

INDIAN UST: Underground Storage Tanks on Indian Land

Date of Government Version: 04/18/05
Date Data Arrived at EDR: 05/16/05
Date Made Active in Reports: 05/31/05
Number of Days to Update: 15

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 08/25/05
Next Scheduled EDR Contact: 11/21/05
Data Release Frequency: Varies

INDIAN LUST: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 06/02/05
Date Data Arrived at EDR: 06/03/05
Date Made Active in Reports: 07/01/05
Number of Days to Update: 28

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 08/25/05
Next Scheduled EDR Contact: 11/21/05
Data Release Frequency: Varies

INDIAN LUST: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 09/07/05
Date Data Arrived at EDR: 09/08/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 53

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 08/25/05
Next Scheduled EDR Contact: 11/21/05
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/94
Date Data Arrived at EDR: 09/05/95
Date Made Active in Reports: 09/29/95
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/98
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/90
Date Data Arrived at EDR: 01/25/91
Date Made Active in Reports: 02/12/91
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/01
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1980?s. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/94
Date Data Arrived at EDR: 07/07/05
Date Made Active in Reports: 08/11/05
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/05
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

STATE OF CALIFORNIA ASTM SUPPLEMENTAL RECORDS

AST: Aboveground Petroleum Storage Tank Facilities

Registered Aboveground Storage Tanks.

Date of Government Version: 08/01/05
Date Data Arrived at EDR: 08/25/05
Date Made Active in Reports: 09/30/05
Number of Days to Update: 36

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 08/16/05
Next Scheduled EDR Contact: 10/31/05
Data Release Frequency: Quarterly

CLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 04/18/05
Date Data Arrived at EDR: 04/18/05
Date Made Active in Reports: 05/06/05
Number of Days to Update: 18

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 07/05/05
Next Scheduled EDR Contact: 10/03/05
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CA WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 09/19/05
Date Data Arrived at EDR: 09/20/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 16

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 09/20/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Quarterly

DEED: Deed Restriction Listing
Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 10/03/05
Date Data Arrived at EDR: 10/03/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 28

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/03/05
Next Scheduled EDR Contact: 01/02/06
Data Release Frequency: Semi-Annually

NFA: No Further Action Determination
This category contains properties at which DTSC has made a clear determination that the property does not pose a problem to the environment or to public health.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/29/05
Next Scheduled EDR Contact: 11/28/05
Data Release Frequency: Quarterly

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 07/19/05
Date Made Active in Reports: 08/11/05
Number of Days to Update: 23

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 07/19/05
Next Scheduled EDR Contact: 10/17/05
Data Release Frequency: Varies

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/27/05
Date Data Arrived at EDR: 07/28/05
Date Made Active in Reports: 08/11/05
Number of Days to Update: 14

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 07/25/05
Next Scheduled EDR Contact: 10/24/05
Data Release Frequency: Varies

REF: Unconfirmed Properties Referred to Another Agency
This category contains properties where contamination has not been confirmed and which were determined as not requiring direct DTSC Site Mitigation Program action or oversight. Accordingly, these sites have been referred to another state or local regulatory agency.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/29/05
Next Scheduled EDR Contact: 11/28/05
Data Release Frequency: Quarterly

SCH: School Property Evaluation Program
This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/29/05
Next Scheduled EDR Contact: 11/28/05
Data Release Frequency: Quarterly

NFE: Properties Needing Further Evaluation
This category contains properties that are suspected of being contaminated. These are unconfirmed contaminated properties that need to be assessed using the PEA process. PEA in Progress indicates properties where DTSC is currently conducting a PEA. PEA Required indicates properties where DTSC has determined a PEA is required, but not currently underway.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/29/05
Next Scheduled EDR Contact: 11/28/05
Data Release Frequency: Quarterly

SLIC: Statewide SLIC Cases
The Spills, Leaks, Investigations, and Cleanups (SLIC) listings includes unauthorized discharges from spills and leaks, other than from underground storage tanks or other regulated sites.

Date of Government Version: 10/10/05
Date Data Arrived at EDR: 10/10/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 21

Source: State Water Resources Control Board
Contact: Ventura County Environmental Health, (805) 654-2815
Last EDR Contact: 10/10/05
Next Scheduled EDR Contact: 01/09/06
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

Date of Government Version: 04/03/03
Date Data Arrived at EDR: 04/07/03
Date Made Active in Reports: 04/25/03
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/22/05
Next Scheduled EDR Contact: 11/21/05
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 09/30/04
Date Data Arrived at EDR: 10/20/04
Date Made Active in Reports: 11/19/04
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 07/11/05
Next Scheduled EDR Contact: 10/10/05
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 08/19/05
Date Data Arrived at EDR: 08/22/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 30

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 08/15/05
Next Scheduled EDR Contact: 11/14/05
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 11/17/04
Date Data Arrived at EDR: 11/18/04
Date Made Active in Reports: 01/04/05
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/25/05
Next Scheduled EDR Contact: 10/24/05
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Unregulated sites that impact groundwater or have the potential to impact groundwater.

Date of Government Version: 04/01/05
Date Data Arrived at EDR: 04/05/05
Date Made Active in Reports: 04/21/05
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 07/08/05
Next Scheduled EDR Contact: 10/03/05
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 05/24/05
Date Data Arrived at EDR: 05/25/05
Date Made Active in Reports: 06/16/05
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 07/05/05
Next Scheduled EDR Contact: 10/03/05
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

Date of Government Version: 09/07/04
Date Data Arrived at EDR: 09/07/04
Date Made Active in Reports: 10/12/04
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 09/06/05
Next Scheduled EDR Contact: 12/05/05
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

Date of Government Version: 11/24/04
Date Data Arrived at EDR: 11/29/04
Date Made Active in Reports: 01/04/05
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/22/05
Next Scheduled EDR Contact: 11/21/05
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 07/01/04
Date Data Arrived at EDR: 08/10/04
Date Made Active in Reports: 09/08/04
Number of Days to Update: 29

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 07/05/05
Next Scheduled EDR Contact: 10/03/05
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 09/28/05
Date Data Arrived at EDR: 09/29/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 32

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 09/26/05
Next Scheduled EDR Contact: 11/28/05
Data Release Frequency: Annually

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/03
Date Data Arrived at EDR: 10/11/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 20

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 08/23/05
Next Scheduled EDR Contact: 11/07/05
Data Release Frequency: Annually

LOCAL RECORDS

ALAMEDA COUNTY:

Underground Tanks

Date of Government Version: 06/28/05
Date Data Arrived at EDR: 06/28/05
Date Made Active in Reports: 07/26/05
Number of Days to Update: 28

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/28/05
Next Scheduled EDR Contact: 10/24/05
Data Release Frequency: Semi-Annually

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 08/16/05
Date Data Arrived at EDR: 08/16/05
Date Made Active in Reports: 09/01/05
Number of Days to Update: 16

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/25/05
Next Scheduled EDR Contact: 10/24/05
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/29/05
Date Data Arrived at EDR: 08/30/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 37

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 08/29/05
Next Scheduled EDR Contact: 11/28/05
Data Release Frequency: Semi-Annually

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 07/22/05
Date Data Arrived at EDR: 07/25/05
Date Made Active in Reports: 08/25/05
Number of Days to Update: 31

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 07/25/05
Next Scheduled EDR Contact: 11/07/05
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 05/10/05
Date Data Arrived at EDR: 05/10/05
Date Made Active in Reports: 06/06/05
Number of Days to Update: 27

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 09/26/05
Next Scheduled EDR Contact: 12/05/05
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

List of Solid Waste Facilities

Date of Government Version: 02/01/05
Date Data Arrived at EDR: 02/18/05
Date Made Active in Reports: 03/28/05
Number of Days to Update: 38

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 08/18/05
Next Scheduled EDR Contact: 11/14/05
Data Release Frequency: Varies

City of El Segundo Underground Storage Tank

Date of Government Version: 08/29/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/28/05
Number of Days to Update: 30

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 08/29/05
Next Scheduled EDR Contact: 11/14/05
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Date of Government Version: 03/28/03
Date Data Arrived at EDR: 10/23/03
Date Made Active in Reports: 11/26/03
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 08/22/05
Next Scheduled EDR Contact: 11/21/05
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Date of Government Version: 08/16/05
Date Data Arrived at EDR: 09/14/05
Date Made Active in Reports: 09/28/05
Number of Days to Update: 14

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 08/15/05
Next Scheduled EDR Contact: 11/14/05
Data Release Frequency: Semi-Annually

City of Los Angeles Landfills

Date of Government Version: 03/01/05
Date Data Arrived at EDR: 03/18/05
Date Made Active in Reports: 04/08/05
Number of Days to Update: 21

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 09/13/05
Next Scheduled EDR Contact: 12/12/05
Data Release Frequency: Varies

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 04/28/05
Date Data Arrived at EDR: 07/08/05
Date Made Active in Reports: 08/03/05
Number of Days to Update: 26

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 08/15/05
Next Scheduled EDR Contact: 11/14/05
Data Release Frequency: Semi-Annually

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 05/25/05
Date Data Arrived at EDR: 05/27/05
Date Made Active in Reports: 07/01/05
Number of Days to Update: 35

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 08/15/05
Next Scheduled EDR Contact: 11/14/05
Data Release Frequency: Annually

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 12/31/98
Date Data Arrived at EDR: 07/07/99
Date Made Active in Reports: N/A
Number of Days to Update: 35

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 07/06/99
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/26/05
Date Made Active in Reports: 09/28/05
Number of Days to Update: 33

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 08/01/05
Next Scheduled EDR Contact: 10/31/05
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination

Date of Government Version: 09/28/05
Date Data Arrived at EDR: 09/29/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 32

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/26/05
Next Scheduled EDR Contact: 12/26/05
Data Release Frequency: Semi-Annually

Closed and Operating Underground Storage Tank Sites

Date of Government Version: 09/28/05
Date Data Arrived at EDR: 09/29/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 32

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/26/05
Next Scheduled EDR Contact: 12/26/05
Data Release Frequency: Annually

ORANGE COUNTY:

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 09/01/05
Date Data Arrived at EDR: 09/19/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 17

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 09/09/05
Next Scheduled EDR Contact: 12/05/05
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 09/01/05
Date Data Arrived at EDR: 09/19/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 42

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 09/09/05
Next Scheduled EDR Contact: 12/05/05
Data Release Frequency: Quarterly

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 09/01/05
Date Data Arrived at EDR: 09/19/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 17

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 09/09/05
Next Scheduled EDR Contact: 12/05/05
Data Release Frequency: Annually

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 10/12/05
Date Data Arrived at EDR: 10/12/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 19

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 09/19/05
Next Scheduled EDR Contact: 12/19/05
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 09/15/05
Date Data Arrived at EDR: 09/16/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 20

Source: Department of Public Health
Telephone: 951-358-5055
Last EDR Contact: 07/18/05
Next Scheduled EDR Contact: 10/17/05
Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Date of Government Version: 05/24/05
Date Data Arrived at EDR: 05/25/05
Date Made Active in Reports: 06/16/05
Number of Days to Update: 22

Source: Health Services Agency
Telephone: 951-358-5055
Last EDR Contact: 07/18/05
Next Scheduled EDR Contact: 10/17/05
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS - Contaminated Sites

Date of Government Version: 08/19/05
Date Data Arrived at EDR: 09/02/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 34

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 08/26/05
Next Scheduled EDR Contact: 10/31/05
Data Release Frequency: Quarterly

ML - Regulatory Compliance Master List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 07/25/05
Date Data Arrived at EDR: 08/19/05
Date Made Active in Reports: 09/13/05
Number of Days to Update: 25

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 08/05/05
Next Scheduled EDR Contact: 10/31/05
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 09/20/05
Date Data Arrived at EDR: 09/20/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 16

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 09/06/05
Next Scheduled EDR Contact: 12/05/05
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 08/01/00
Date Data Arrived at EDR: 12/13/01
Date Made Active in Reports: 01/15/02
Number of Days to Update: 33

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 08/22/05
Next Scheduled EDR Contact: 11/21/05
Data Release Frequency: Varies

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 05/16/05
Date Data Arrived at EDR: 05/18/05
Date Made Active in Reports: 06/16/05
Number of Days to Update: 29

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 07/08/05
Next Scheduled EDR Contact: 10/03/05
Data Release Frequency: Quarterly

SAN FRANCISCO COUNTY:

Local Oversite Facilities

Date of Government Version: 09/07/05
Date Data Arrived at EDR: 09/08/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 28

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 09/06/05
Next Scheduled EDR Contact: 12/05/05
Data Release Frequency: Quarterly

Underground Storage Tank Information

Date of Government Version: 09/07/05
Date Data Arrived at EDR: 09/08/05
Date Made Active in Reports: 10/20/05
Number of Days to Update: 42

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 09/06/05
Next Scheduled EDR Contact: 12/05/05
Data Release Frequency: Quarterly

SAN MATEO COUNTY:

Fuel Leak List

Date of Government Version: 08/11/05
Date Data Arrived at EDR: 08/12/05
Date Made Active in Reports: 09/13/05
Number of Days to Update: 32

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 07/11/05
Next Scheduled EDR Contact: 10/10/05
Data Release Frequency: Semi-Annually

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 08/17/05
Date Data Arrived at EDR: 08/17/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 35

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 07/11/05
Next Scheduled EDR Contact: 10/10/05
Data Release Frequency: Annually

SANTA CLARA COUNTY:

Fuel Leak Site Activity Report

Date of Government Version: 03/29/05
Date Data Arrived at EDR: 03/30/05
Date Made Active in Reports: 04/21/05
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 09/27/05
Next Scheduled EDR Contact: 12/26/05
Data Release Frequency: Semi-Annually

Hazardous Material Facilities

Date of Government Version: 09/13/05
Date Data Arrived at EDR: 09/13/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 23

Source: City of San Jose Fire Department
Telephone: 408-277-4659
Last EDR Contact: 09/06/05
Next Scheduled EDR Contact: 12/05/05
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks

Date of Government Version: 06/28/05
Date Data Arrived at EDR: 06/28/05
Date Made Active in Reports: 07/26/05
Number of Days to Update: 28

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/12/05
Next Scheduled EDR Contact: 12/12/05
Data Release Frequency: Quarterly

Underground Storage Tanks

Date of Government Version: 06/28/05
Date Data Arrived at EDR: 06/28/05
Date Made Active in Reports: 07/26/05
Number of Days to Update: 28

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/12/05
Next Scheduled EDR Contact: 12/12/05
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites

Date of Government Version: 10/01/05
Date Data Arrived at EDR: 10/24/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 7

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 10/24/05
Next Scheduled EDR Contact: 01/23/06
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Date of Government Version: 01/29/04
Date Data Arrived at EDR: 01/29/04
Date Made Active in Reports: 02/23/04
Number of Days to Update: 25

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 07/18/05
Next Scheduled EDR Contact: 10/03/05
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 08/01/05
Date Data Arrived at EDR: 09/20/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 16

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/09/05
Next Scheduled EDR Contact: 11/21/05
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 08/30/05
Date Data Arrived at EDR: 09/26/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 35

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/13/05
Next Scheduled EDR Contact: 12/12/05
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 07/05/05
Date Data Arrived at EDR: 07/22/05
Date Made Active in Reports: 08/04/05
Number of Days to Update: 13

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/15/05
Next Scheduled EDR Contact: 10/10/05
Data Release Frequency: Quarterly

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 08/30/05
Date Data Arrived at EDR: 09/29/05
Date Made Active in Reports: 10/31/05
Number of Days to Update: 32

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/13/05
Next Scheduled EDR Contact: 12/12/05
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Date of Government Version: 07/19/05
Date Data Arrived at EDR: 08/08/05
Date Made Active in Reports: 08/30/05
Number of Days to Update: 22

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 07/18/05
Next Scheduled EDR Contact: 10/17/05
Data Release Frequency: Annually

EDR PROPRIETARY HISTORICAL DATABASES

EDR Historical Gas Station and Dry Cleaners: EDR has searched select national collections of business directories and has collected listings of potential dry cleaner and gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning and gas station/filling station/service station establishments. The categories reviewed included, but were not limited to: *gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, dry cleaner, cleaners, laundry, laundromat, cleaning/laundry, wash & dry, etc.*

This information is meant to assist and complement environmental professionals in their conduct of environmental site assessments, and is not meant to be a substitute for a full historical investigation as defined in ASTM E1527. The information provided in this proprietary database may or may not be complete; i.e., the absence of a dry cleaner or gas station/filling station/service station site does not necessarily mean that such a site did not exist in the area covered by this report.

(A note on "dry cleaning" sites: it is not possible for EDR to differentiate between establishments that use PERC on-site as a cleaning solvent and sites that function simply as drop-off and pick-up locations or that are traditional wet cleaning/laundry facilities. Therefore, it is essential for environmental professionals to incorporate professional judgment in the evaluation of each site.)

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

BROWNFIELDS DATABASES

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/08/05
Date Data Arrived at EDR: 08/29/05
Date Made Active in Reports: 09/21/05
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/29/05
Next Scheduled EDR Contact: 11/28/05
Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 08/18/05
Date Data Arrived at EDR: 08/18/05
Date Made Active in Reports: 10/06/05
Number of Days to Update: 49

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 08/11/05
Next Scheduled EDR Contact: 12/12/05
Data Release Frequency: Semi-Annually

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 01/10/05
Date Data Arrived at EDR: 02/11/05
Date Made Active in Reports: 04/06/05
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 703-603-8867
Last EDR Contact: 07/05/05
Next Scheduled EDR Contact: 10/03/05
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

HITCH RANCH - 282 ACRES
NORTH OF POINDEXTER AVENUE
MOORPARK, CA 93021

TARGET PROPERTY COORDINATES

Latitude (North):	34.287498 - 34° 17' 15.0"
Longitude (West):	118.894402 - 118° 53' 39.8"
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	325632.2
UTM Y (Meters):	3795463.0
Elevation:	567 ft. above sea level

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

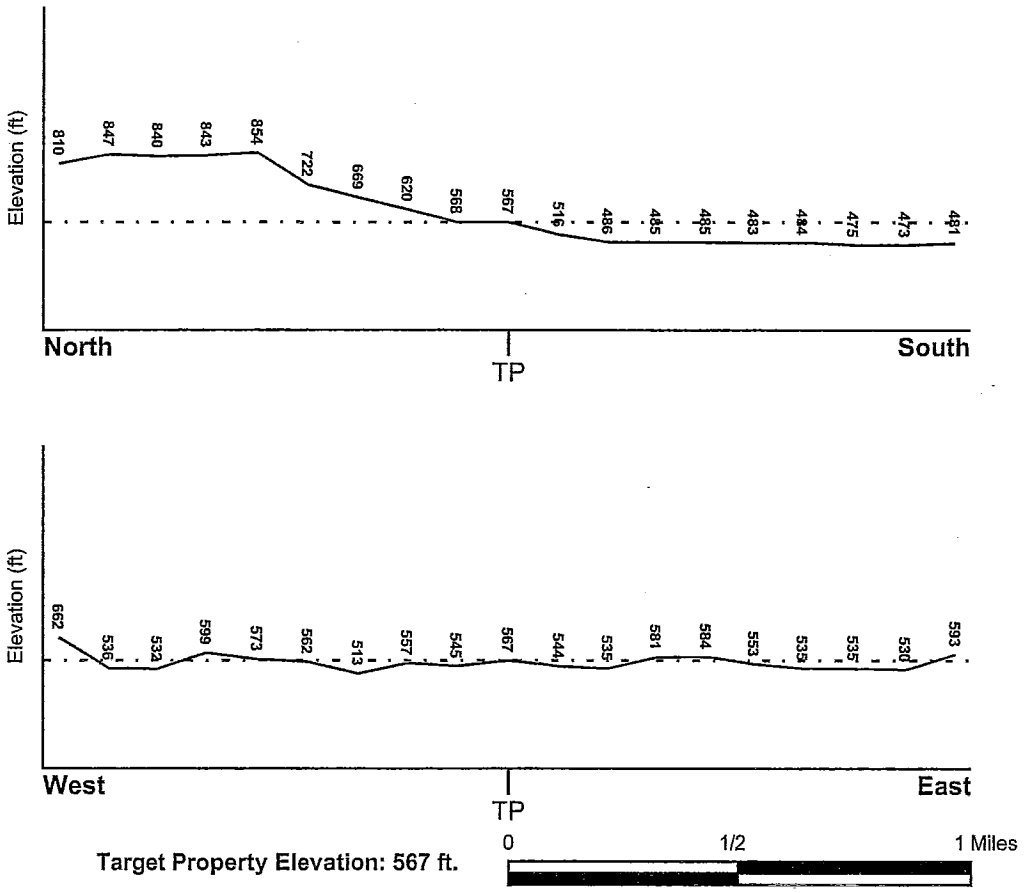
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

USGS Topographic Map:	34118-C8 MOORPARK, CA
General Topographic Gradient:	General South
Source:	USGS 7.5 min quad index

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
VENTURA, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	0607120005A
Additional Panels in search area:	0604130785B 0604130795B 0604130815B

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MOORPARK	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Tertiary
Series:	Pliocene
Code:	Tp *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	PICO
Soil Surface Texture:	sandy loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	14 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 8.40 Min: 7.90
2	14 inches	54 inches	stratified	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 8.40 Min: 7.90
3	54 inches	60 inches	stratified	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 20.00 Min: 6.00	Max: 8.40 Min: 7.90

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: clay loam
sand
gravelly - sand
gravelly - sandy loam
loamy sand
loam
silty clay loam

Surficial Soil Types: clay loam
sand
gravelly - sand
gravelly - sandy loam
loamy sand
loam
silty clay loam

Shallow Soil Types: loamy fine sand

Deeper Soil Types: loam
coarse sand

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CA5603108	1/2 - 1 Mile East

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	3394	1/2 - 1 Mile NNW

STATE OIL/GAS WELL INFORMATION

DISTANCE FROM TP (Miles)	DISTANCE FROM TP (Miles)
1 - 2 Miles NNE	1 - 2 Miles NE
1 - 2 Miles NW	1 - 2 Miles ENE
1/2 - 1 Mile NE	1 - 2 Miles East
1/2 - 1 Mile West	1 - 2 Miles SSW

PHYSICAL SETTING SOURCE MAP - 01552868.2r



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- (GI) Indeterminate Groundwater Flow at Location
- (GV) Groundwater Flow Varies at Location
- (HD) Closest Hydrogeological Data
- Oil, gas or related wells

TARGET PROPERTY:	Hitch Ranch - 282 Acres	CUSTOMER:	Applied Environmental Tech.
ADDRESS:	North of Poindexter Avenue	CONTACT:	Wally Jensky
CITY/STATE/ZIP:	Moorpark CA 93021	INQUIRY #:	01552868.2r
LAT/LONG:	34.2875 / 118.8944	DATE:	November 11, 2005 9:50 am

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Map ID Direction Distance Elevation		Database	EDR ID Number
1 **East** **1/2 - 1 Mile** **Lower**		**FRDS PWS**	**CA5603108**

PWS ID: CA5603108 PWS Status: Not Reported
Date Initiated: Not Reported Date Deactivated: Not Reported
PWS Name: THERMIC MUTUAL WATER CO
MOORPARK, CA 93021

Addressee / Facility: System Owner/Responsible Party
THERMIC MUTUAL WATER CO
11003 BROADWAY
MOORPARK, CA 93021

Facility Latitude: 34 17 08 Facility Longitude: 118 52 51
City Served: Not Reported
Treatment Class: Untreated Population: 38

PWS currently has or had major violation(s) or enforcement: Yes

Violations information not reported.

ENFORCEMENT INFORMATION:

System Name: THERMIC MUTUAL WATER CO
Violation Type: Follow-up and Routine Tap Sampling
Contaminant: LEAD & COPPER RULE
Compliance Period: 2001-08-01 - 2015-12-31 Analytical Value: 0
Violation ID: 0106001 Enforcement ID: 0206001
Enforcement Date: 2002-05-07 Enf. Action: State AO (w/o Penalty) Issued

System Name: THERMIC MUTUAL WATER CO
Violation Type: Follow-up and Routine Tap Sampling
Contaminant: LEAD & COPPER RULE
Compliance Period: 2001-08-01 - 2015-12-31 Analytical Value: 0
Violation ID: 0106001 Enforcement ID: 0206001
Enforcement Date: 2002-05-07 Enf. Action: State AO (w/o Penalty) Issued

System Name: THERMIC MUTUAL WATER CO
Violation Type: CCR Complete Failure to Report
Contaminant: 7000
Compliance Period: 2004-07-01 - 2015-12-31 Analytical Value: 0
Violation ID: 0406003 Enforcement ID: 0506002
Enforcement Date: 2005-01-31 Enf. Action: State AO (w/o Penalty) Issued

System Name: THERMIC MUTUAL WATER CO
Violation Type: CCR Complete Failure to Report
Contaminant: 7000
Compliance Period: 2004-07-01 - 2015-12-31 Analytical Value: 0
Violation ID: 0406003 Enforcement ID: 0506002
Enforcement Date: 2005-01-31 Enf. Action: State AO (w/o Penalty) Issued

System Name: THERMIC MUTUAL WATER CO
Violation Type: Initial Tap Sampling for Pb and Cu
Contaminant: LEAD & COPPER RULE
Compliance Period: 1993-07-01 - 2003-12-31 Analytical Value: 0
Violation ID: 95V0001 Enforcement ID: 0399999
Enforcement Date: 2003-12-31 Enf. Action: Fed Compliance Achieved

ENFORCEMENT INFORMATION:

System Name:	THERMIC MUTUAL WATER CO		
Violation Type:	Initial Tap Sampling for Pb and Cu		
Contaminant:	LEAD & COPPER RULE		
Compliance Period:	1993-07-01 - 2003-12-31	Analytical Value:	0
Violation ID:	95V0001	Enforcement ID:	0399999
Enforcement Date:	2003-12-31	Enf. Action:	Fed Compliance Achieved
System Name:	THERMIC MUTUAL WATER CO		
Violation Type:	Initial Tap Sampling for Pb and Cu		
Contaminant:	LEAD & COPPER RULE		
Compliance Period:	1993-07-01 - 2015-12-31	Analytical Value:	0
Violation ID:	95V0001	Enforcement ID:	Not Reported
Enforcement Date:	Not Reported	Enf. Action:	Not Reported
System Name:	THERMIC MUTUAL WATER CO		
Violation Type:	Initial Tap Sampling for Pb and Cu		
Contaminant:	LEAD & COPPER RULE		
Compliance Period:	1993-07-01 - 2015-12-31	Analytical Value:	0000000.000000000
Violation ID:	95V0001	Enforcement ID:	Not Reported
Enforcement Date:	Not Reported	Enf. Action:	Not Reported
System Name:	THERMIC MUTUAL WATER CO		
Violation Type:	Initial Tap Sampling for Pb and Cu		
Contaminant:	LEAD & COPPER RULE		
Compliance Period:	1996-08-01 - 2015-12-31	Analytical Value:	0
Violation ID:	9606002	Enforcement ID:	0506002
Enforcement Date:	2005-01-31	Enf. Action:	State AO (w/o Penalty) Issued
System Name:	THERMIC MUTUAL WATER CO		
Violation Type:	Initial Tap Sampling for Pb and Cu		
Contaminant:	LEAD & COPPER RULE		
Compliance Period:	1996-08-01 - 2015-12-31	Analytical Value:	0
Violation ID:	9606002	Enforcement ID:	0506002
Enforcement Date:	2005-01-31	Enf. Action:	State AO (w/o Penalty) Issued

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2
NNW
1/2 - 1 Mile
Higher

CA WELLS **3394**

Water System Information:

Prime Station Code:	03N/19W-32D01 S	User ID:	TAP
FRDS Number:	5610018004	County:	Ventura
District Number:	06	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	341800.0 1185400.0	Precision:	0.5 Mile (30 Seconds)
Source Name:	WELL 10		
System Number:	5610018		
System Name:	VENTURA CWWD NO. 1 - MOORPARK		
Organization That Operates System:	P O BOX 250 MOORPARK, CA 93020-0250		
Pop Served:	28049	Connections:	7751
Area Served:	MOORPARK, DIST NO 1		

Sample Information: * Only Findings Above Detection Level Are Listed

Sample Collected:	06/07/1985	Findings:	7.800
Chemical:	PH (LABORATORY)		
Sample Collected:	06/07/1985	Findings:	225.000 MG/L
Chemical:	TOTAL ALKALINITY (AS CACO3)		

Sample Collected:	06/07/1985	Findings:	390.000 MG/L
Chemical:	TOTAL HARDNESS (AS CACO3)		
Sample Collected:	06/07/1985	Findings:	114.000 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/07/1985	Findings:	26.000 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	06/07/1985	Findings:	72.000 MG/L
Chemical:	SODIUM		
Sample Collected:	06/07/1985	Findings:	5.000 MG/L
Chemical:	POTASSIUM		
Sample Collected:	06/07/1985	Findings:	47.000 MG/L
Chemical:	CHLORIDE		
Sample Collected:	06/07/1985	Findings:	.600 MG/L
Chemical:	FLUORIDE (TEMPERATURE DEPENDENT)		
Sample Collected:	06/07/1985	Findings:	400.000 UG/L
Chemical:	BORON		
Sample Collected:	06/07/1985	Findings:	705.000 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	06/07/1985	Findings:	3.000 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	05/04/1988	Findings:	2.000 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	07/05/1988	Findings:	4.000 PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	07/05/1988	Findings:	2.000 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	11/17/1988	Findings:	4.000 PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	11/17/1988	Findings:	2.000 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	10/11/1989	Findings:	3.000 PCI/L
Chemical:	URANIUM		
Sample Collected:	11/30/1989	Findings:	3.000 PCI/L
Chemical:	URANIUM		
Sample Collected:	01/24/1990	Findings:	2.000 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	01/24/1990	Findings:	2.000 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	04/24/1990	Findings:	1060.000 UMHO
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	04/24/1990	Findings:	7.400
Chemical:	PH (LABORATORY)		
Sample Collected:	04/24/1990	Findings:	210.000 MG/L
Chemical:	TOTAL ALKALINITY (AS CACO3)		
Sample Collected:	04/24/1990	Findings:	259.000 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	04/24/1990	Findings:	340.000 MG/L
Chemical:	TOTAL HARDNESS (AS CACO3)		
Sample Collected:	04/24/1990	Findings:	95.000 MG/L
Chemical:	CALCIUM		

Sample Collected:	04/24/1990	Findings:	26.000 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	04/24/1990	Findings:	78.000 MG/L
Chemical:	SODIUM		
Sample Collected:	04/24/1990	Findings:	5.000 MG/L
Chemical:	POTASSIUM		
Sample Collected:	04/24/1990	Findings:	45.000 MG/L
Chemical:	CHLORIDE		
Sample Collected:	04/24/1990	Findings:	.500 MG/L
Chemical:	FLUORIDE (TEMPERATURE DEPENDENT)		
Sample Collected:	04/24/1990	Findings:	40.000 UG/L
Chemical:	MANGANESE		
Sample Collected:	04/24/1990	Findings:	2.000 PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	04/24/1990	Findings:	3.000 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	04/24/1990	Findings:	636.000 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	04/24/1990	Findings:	.300 NTU
Chemical:	TURBIDITY (LAB)		
Sample Collected:	07/26/1990	Findings:	5.000 PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	07/26/1990	Findings:	2.000 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	02/15/1991	Findings:	6.000 PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	02/15/1991	Findings:	4.000 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	02/10/1994	Findings:	1100.000 UMHO
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	02/10/1994	Findings:	7.300
Chemical:	PH (LABORATORY)		
Sample Collected:	02/10/1994	Findings:	250.000 MG/L
Chemical:	TOTAL ALKALINITY (AS CACO3)		
Sample Collected:	02/10/1994	Findings:	310.000 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	02/10/1994	Findings:	430.000 MG/L
Chemical:	TOTAL HARDNESS (AS CACO3)		
Sample Collected:	02/10/1994	Findings:	120.000 MG/L
Chemical:	CALCIUM		
Sample Collected:	02/10/1994	Findings:	34.000 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	02/10/1994	Findings:	95.000 MG/L
Chemical:	SODIUM		
Sample Collected:	02/10/1994	Findings:	2.000
Chemical:	SODIUM ABSORPTION RATIO		
Sample Collected:	02/10/1994	Findings:	5.000 MG/L
Chemical:	POTASSIUM		
Sample Collected:	02/10/1994	Findings:	52.000 MG/L
Chemical:	CHLORIDE		

Sample Collected:	02/10/1994	Findings:	.700 MG/L
Chemical:	FLUORIDE (TEMPERATURE DEPENDENT)		
Sample Collected:	02/10/1994	Findings:	.400 UG/L
Chemical:	BORON		
Sample Collected:	02/10/1994	Findings:	1000.000 UG/L
Chemical:	IRON		
Sample Collected:	02/10/1994	Findings:	130.000 UG/L
Chemical:	MANGANESE		
Sample Collected:	02/10/1994	Findings:	790.000 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	02/10/1994	Findings:	.300
Chemical:	LANGELIER INDEX @ SOURCE TEMP.		
Sample Collected:	02/10/1994	Findings:	12.000
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	08/02/1994	Findings:	1100.000 UMHO
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	08/02/1994	Findings:	7.500
Chemical:	PH (LABORATORY)		
Sample Collected:	08/02/1994	Findings:	240.000 MG/L
Chemical:	TOTAL ALKALINITY (AS CACO3)		
Sample Collected:	08/02/1994	Findings:	290.000 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	08/02/1994	Findings:	400.000 MG/L
Chemical:	TOTAL HARDNESS (AS CACO3)		
Sample Collected:	08/02/1994	Findings:	110.000 MG/L
Chemical:	CALCIUM		
Sample Collected:	08/02/1994	Findings:	30.000 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	08/02/1994	Findings:	84.000 MG/L
Chemical:	SODIUM		
Sample Collected:	08/02/1994	Findings:	2.000
Chemical:	SODIUM ABSORPTION RATIO		
Sample Collected:	08/02/1994	Findings:	5.000 MG/L
Chemical:	POTASSIUM		
Sample Collected:	08/02/1994	Findings:	52.000 MG/L
Chemical:	CHLORIDE		
Sample Collected:	08/02/1994	Findings:	.700 MG/L
Chemical:	FLUORIDE (TEMPERATURE DEPENDENT)		
Sample Collected:	08/02/1994	Findings:	.400 UG/L
Chemical:	BORON		
Sample Collected:	08/02/1994	Findings:	110.000 UG/L
Chemical:	IRON		
Sample Collected:	08/02/1994	Findings:	760.000 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	08/02/1994	Findings:	.400
Chemical:	LANGELIER INDEX @ SOURCE TEMP.		
Sample Collected:	08/02/1994	Findings:	12.000
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	01/25/1995	Findings:	3.000 UNITS
Chemical:	COLOR		

Sample Collected:	01/25/1995	Findings:	1100.000 UMHO
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	01/25/1995	Findings:	7.400
Chemical:	PH (LABORATORY)		
Sample Collected:	01/25/1995	Findings:	240.000 MG/L
Chemical:	TOTAL ALKALINITY (AS CACO3)		
Sample Collected:	01/25/1995	Findings:	290.000 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	01/25/1995	Findings:	380.000 MG/L
Chemical:	TOTAL HARDNESS (AS CACO3)		
Sample Collected:	01/25/1995	Findings:	110.000 MG/L
Chemical:	CALCIUM		
Sample Collected:	01/25/1995	Findings:	29.000 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	01/25/1995	Findings:	79.000 MG/L
Chemical:	SODIUM		
Sample Collected:	01/25/1995	Findings:	2.000
Chemical:	SODIUM ABSORPTION RATIO		
Sample Collected:	01/25/1995	Findings:	4.000 MG/L
Chemical:	POTASSIUM		
Sample Collected:	01/25/1995	Findings:	45.000 MG/L
Chemical:	CHLORIDE		
Sample Collected:	01/25/1995	Findings:	.500 MG/L
Chemical:	FLUORIDE (TEMPERATURE DEPENDENT)		
Sample Collected:	01/25/1995	Findings:	.400 UG/L
Chemical:	BORON		
Sample Collected:	01/25/1995	Findings:	110.000 UG/L
Chemical:	IRON		
Sample Collected:	01/25/1995	Findings:	5.000 PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	01/25/1995	Findings:	3.000 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	01/25/1995	Findings:	740.000 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	01/25/1995	Findings:	.300
Chemical:	LANGELIER INDEX @ SOURCE TEMP.		
Sample Collected:	01/25/1995	Findings:	.600 NTU
Chemical:	TURBIDITY (LAB)		
Sample Collected:	01/25/1995	Findings:	12.000
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	02/01/1995	Findings:	6.000 PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	02/01/1995	Findings:	2.000 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	02/27/1995	Findings:	1.000 PCI/L
Chemical:	RADIUM 226		
Sample Collected:	02/27/1995	Findings:	1.000 PCI/L
Chemical:	RADIUM 226 COUNTING ERROR		
Sample Collected:	05/01/1995	Findings:	5.000 PCI/L
Chemical:	GROSS ALPHA		

Sample Collected:	05/01/1995	Findings:	2.000 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	05/24/1995	Findings:	1.000 PCI/L
Chemical:	RADIUM 226		
Sample Collected:	05/24/1995	Findings:	1.000 PCI/L
Chemical:	RADIUM 226 COUNTING ERROR		
Sample Collected:	08/03/1995	Findings:	190.000 UG/L
Chemical:	IRON		
Sample Collected:	08/03/1995	Findings:	6.000 PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	08/03/1995	Findings:	2.000 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	09/21/1995	Findings:	1.000 PCI/L
Chemical:	RADIUM 226		
Sample Collected:	09/21/1995	Findings:	1.000 PCI/L
Chemical:	RADIUM 226 COUNTING ERROR		
Sample Collected:	10/23/1996	Findings:	14.000 UNITS
Chemical:	COLOR		
Sample Collected:	10/23/1996	Findings:	1134.000 UMHO
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	10/23/1996	Findings:	7.400
Chemical:	PH (LABORATORY)		
Sample Collected:	10/23/1996	Findings:	225.000 MG/L
Chemical:	TOTAL ALKALINITY (AS CACO3)		
Sample Collected:	10/23/1996	Findings:	225.000 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	10/23/1996	Findings:	406.000 MG/L
Chemical:	TOTAL HARDNESS (AS CACO3)		
Sample Collected:	10/23/1996	Findings:	120.000 MG/L
Chemical:	CALCIUM		
Sample Collected:	10/23/1996	Findings:	35.000 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	10/23/1996	Findings:	88.000 MG/L
Chemical:	SODIUM		
Sample Collected:	10/23/1996	Findings:	53.000 MG/L
Chemical:	CHLORIDE		
Sample Collected:	10/23/1996	Findings:	.660 MG/L
Chemical:	FLUORIDE (TEMPERATURE DEPENDENT)		
Sample Collected:	10/23/1996	Findings:	450.000 UG/L
Chemical:	IRON		
Sample Collected:	10/23/1996	Findings:	50.000 UG/L
Chemical:	MANGANESE		
Sample Collected:	10/23/1996	Findings:	610.000 UG/L
Chemical:	ALUMINUM		
Sample Collected:	10/23/1996	Findings:	780.000 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	10/23/1996	Findings:	5.000 NTU
Chemical:	TURBIDITY (LAB)		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Direction
Distance | Database | EDR ID Number

NNE
1 - 2 Miles | **OIL_GAS** | **CA00009101**

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	11100865	Operator:	Terry Drilling Co.
Latitude:	34.302618	Longitude:	-118.885407
Region:	2	Lease:	Joyner
Section:	32	Township:	03N
Range:	19W	Map Number:	W2-1
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

NE
1 - 2 Miles | **OIL_GAS** | **CA00015326**

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	Not Reported	Operator:	California Profit Sharing D C
Latitude:	34.301879	Longitude:	-118.878789
Region:	2	Lease:	Not Reported
Section:	33	Township:	03N
Range:	19W	Map Number:	W2-1
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

NW
1 - 2 Miles | **OIL_GAS** | **CA00008495**

Well Number:	1	Status:	Plugged and abandoned oil
API Number:	11120757	Operator:	Triton Oil and Gas Corp
Latitude:	34.301106	Longitude:	-118.909758
Region:	2	Lease:	Bryan
Section:	31	Township:	03N
Range:	19W	Map Number:	W2-1
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

ENE
1 - 2 Miles | **OIL_GAS** | **CA00014329**

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	11100861	Operator:	Chevron USA, Inc.
Latitude:	34.298519	Longitude:	-118.872524
Region:	2	Lease:	Willilams
Section:	33	Township:	03N
Range:	19W	Map Number:	W2-1
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Direction
Distance | Database | EDR ID Number

NE
1/2 - 1 Mile | **OIL_GAS** | **CA00011044**

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	11100864	Operator:	Petan Company
Latitude:	34.296839	Longitude:	-118.883421
Region:	2	Lease:	Not Reported
Section:	33	Township:	03N
Range:	19W	Map Number:	W2-1
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

East
1 - 2 Miles | **OIL_GAS** | **CA00013675**

Well Number:	B-1	Status:	Plugged and abandoned-dry hole
API Number:	11105681	Operator:	Exxon Corp
Latitude:	34.290087	Longitude:	-118.871546
Region:	2	Lease:	Edd H. Williams et ux
Section:	04	Township:	02N
Range:	19W	Map Number:	W2-1
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

West
1/2 - 1 Mile | **OIL_GAS** | **CA00014841**

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	11105688	Operator:	Chevron USA, Inc.
Latitude:	34.289583	Longitude:	-118.909098
Region:	2	Lease:	Gabbert
Section:	06	Township:	02N
Range:	19W	Map Number:	W2-1
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

SSW
1 - 2 Miles | **OIL_GAS** | **CA00013995**

Well Number:	1	Status:	Plugged and abandoned-dry hole
API Number:	11105674	Operator:	Darby Oil Co. of Nevada
Latitude:	34.270634	Longitude:	-118.903360
Region:	2	Lease:	Darby
Section:	07	Township:	02N
Range:	19W	Map Number:	W2-1
Base and Meridian:	San Bernardino	Total Depth:	Not Reported
Spud Date:	Not Reported	Abandonment Date:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zip	Total Sites	> 4 Pci/L	Pct. > 4 Pci/L
93021	86	2	2.33

Federal EPA Radon Zone for VENTURA County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 93021

Number of sites tested: 4

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.625 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002. 7.5-Minute DEMs correspond to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations for District 2, 3, 5 and 6
Source: Department of Conservation
Telephone: 916-323-1779

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

ATTACHMENT D

VCWRD Table of Site Water Wells

TABLE 1		
State Well Number	Status	Revised Status
02N19W05A01S	Destroyed	
02N19W05A02S	Can't Locate	Can't Locate Indeterminable
02N19W05B01S	Destroyed	
02N19W05B02S	Destroyed	
02N19W05B03S	Can't Locate	Can't Locate Indeterminable
02N19W05C01S	Can't Locate	Can't Locate Indeterminable
02N19W05C02S	Can't Locate	Can't Locate Indeterminable
02N19W05E02S	Can't Locate	Destroyed
02N19W05E03S	Destroyed	
02N19W05F01S	Can't Locate	Can't Locate Indeterminable
02N19W05F02S	Active	
02N19W05F03S	Can't Locate	Can't Locate Indeterminable
02N19W05G01S	Can't Locate	Destroyed
02N19W05K01S	Non-Compliant Abandoned	
02N19W05K02S	Non-Compliant Abandoned	
02N19W05K07S	Can't Locate	Can't Locate Indeterminable

NOTE: If any of the wells with a status of "Can't Locate Indeterminable" are found during grading or development of the property, Applicant must do the following immediately: hire a licensed well drilling contractor; obtain a permit from Water Resources Division; and destroy the well.

ATTACHMENT E

Laboratory Report and Chain-of-Custody Documentation

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Rd., Los Angeles, CA 90065 Tel: (323) 223-9700 Fax: (323) 223-9500

Ordered By

Applied Enviro. Technologies, Inc.
4561 Market St., Suite B
Ventura, CA 93003

Telephone (805) 650-1400
Attn Wally Jensky

Number of Pages 13
Date Received 08/21/2006
Date Reported 09/18/2006

Job Number	Ordered	Client
30583	08/21/2006	AET

40589

Project ID: 161-29A
Project Name: Hitch Ranch

Enclosed are the results of analyses on 15 samples analyzed as specified on attached chain of custody.

Amolk MOLKY Brar
Laboratory Manager

Rojert G. Araghi
Laboratory Director

American Scientific Laboratories, LLC (ASL) accepts sample materials from clients for analysis with the assumption that all of the information provided to ASL verbally or in writing by our clients (and/or their agents), regarding samples being submitted to ASL, is complete and accurate. ASL accepts all samples subject to the following conditions:

1) ASL is not responsible for verifying any client-provided information regarding any samples submitted to the laboratory.

2) ASL is not responsible for any consequences resulting from any inaccuracies, omissions, or misrepresentations contained in client-provided information regarding samples submitted to the laboratory.

ASL Job # 30583

JOB NO.	PRODUCT NAME	PROJECT MANAGER	SAMPLER	LABORATORY	GLOBAL I.D.
161-29A	Hitch Ranch	WAJ	JRW	ASL	N/A

	Sample Identification	Date	Time	Sample Container (Size/Material)	Sample Type (Liquid, Soil, etc.)	Preservative	Analyses Requested A	B	C	D	E	F	Laboratory ID#	Comments
1	HA-1	8/18/06	10:20AM	glass jar	SOIL	ICE	X						177759	
2	HA-2		10:40				X						177760	
3	HA-3		10:50				X						177761	
4	HA-4		11:10				X						177762	
5	HA-5		11:20				X						177763	
6	HA-6		11:30				X						177764	
7	HA-7		12:05PM				X						177765	
8	HA-8		12:15				X						177766	
9	HA-9		12:25				X						177767	
10	HA-10		12:35				X						177768	
11	HA-11		12:45				X						177769	
12	HA-12		1:00				X						177770	
13	HA-13		1:15				X						177771	
14	HA-14		1:30				X						177772	
15	HA-15		1:40				X						177773	

Relinquished By (Signature)	Date	Time	Received By (Signature)
	8/18/06	5:00PM	
	8-21-06	12:50	

Analyses:
A Chlorinated pesticides 8081
B
C
D
E
F

CHAIN OF CUSTODY RECORD

Applied Environmental Technologies, Inc.
(805) 650-1400 • FAX (805) 650-1576 • 4561 MARKET ST., SUITE B, VENTURA, CA 93003

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Rd., Los Angeles, CA 90065 Tel: (323) 223-9700 Fax: (323) 223-9500

ANALYTICAL RESULTS

Ordered By

Applied Enviro. Technologies, Inc.
4561 Market St., Suite B
Ventura, CA 93003

Telephone: (805)650-1400
Attn: Wally Jensky

Page: 2
Project ID: 161-29A
Project Name: Hitch Ranch

Job Number	Order Date	Client
30583	08/21/2006	AET

Method: 8081A, Organochlorine Pesticides

Batch No:

Our Lab I.D.		177759	177761	177762	177763	177764
Sample ID		HA-1	HA-3	HA-4	HA-5	HA-6
Date Sampled		08/18/2006	08/18/2006	08/18/2006	08/18/2006	08/18/2006
Date Extracted		09/01/2006	09/01/2006	09/01/2006	09/01/2006	09/01/2006
Preparation Method						
Date Analyzed		09/08/2006	09/08/2006	09/08/2006	09/08/2006	09/08/2006
Matrix		Soil	Soil	Soil	Soil	Soil
Units		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Detection Limit Multiplier		1	1	1	1	1
Analytes	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
Aldrin	2.00	ND	ND	ND	ND	ND
alpha-Hexachlorocyclohexane (Alpha-BHC)	2.00	ND	ND	ND	ND	ND
Beta-Hexachlorocyclohexane (Beta-BHC)	2.00	ND	ND	ND	ND	ND
Gamma-Chlordane	2.00	52.8	ND	ND	ND	ND
alpha-Chlordane	2.00	73.2	ND	ND	ND	ND
4,4'-DDD (DDD)	4.00	ND	ND	ND	ND	ND
4,4'-DDE (DDE)	4.00	8.08	4.65	47.2	9.03	9.93
4,4'-DDT (DDT)	4.00	66.8	ND	20.7	5.93	11.8
delta-Hexachlorocyclohexane (Delta-BHC)	2.00	ND	ND	ND	ND	ND
Dieldrin	4.00	ND	ND	ND	ND	ND
Endosulfan 1	2.00	ND	ND	ND	ND	ND
Endosulfan 11	4.00	ND	ND	ND	ND	ND
Endosulfan sulfate	4.00	ND	ND	ND	ND	ND
Endrin	4.00	ND	ND	ND	ND	ND
Endrin aldehyde	4.00	ND	ND	ND	ND	ND
Endrin ketone	4.00	ND	ND	ND	ND	ND
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	2.00	ND	ND	ND	ND	ND
Heptachlor	2.00	ND	ND	ND	ND	ND
Heptachlor epoxide	2.00	ND	ND	ND	ND	ND
Methoxychlor	17.00	ND	ND	ND	ND	ND
Toxaphene	170	ND	ND	ND	ND	ND

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ANALYTICAL RESULTS

Page: 3
Project ID: 161-29A
Project Name: Hitch Ranch

Job Number	Order Date	Client
30583	08/21/2006	AET

Method: 8081A, Organochlorine Pesticides

Our Lab I.D.		177759	177761	177762	177763	177764
Surrogates	Con Limit	% Rec.	% Rec.	% Rec.	% Rec.	% Rec.
Surrogate Percent Recovery						
Decachlorobiphenyl	43-169	121	123	126	129	128

QUALITY CONTROL REPORT

Batch No:

Analytes	LCS % REC	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit					
Aldrin	110	96	13.6	42-122	<30					
4,4'-DDT (DDT)	154	142	8.1	25-160	<30					
Dieldrin	127	131	3.1	36-146	<30					
Endrin	141	134	5.1	30-147	<30					
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	111	89	22.0	32-127	<30					
Heptachlor	121	110	9.5	34-111	<30					

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ANALYTICAL RESULTS

Ordered By

Applied Enviro. Technologies, Inc.
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Ventura, CA 93003

Telephone: (805)650-1400
Attn: Wally Jensky

Page: **4**
Project ID: 161-29A
Project Name: Hitch Ranch

Job Number	Order Date	Client
30583	08/21/2006	AET

Method: 8081A, Organochlorine Pesticides

Batch No:

Our Lab I.D.		177765	177766	177767	177768	177769
Sample ID		HA-7	HA-8	HA-9	HA-10	HA-11
Date Sampled		08/18/2006	08/18/2006	08/18/2006	08/18/2006	08/18/2006
Date Extracted		09/01/2006	09/01/2006	09/01/2006	09/01/2006	09/01/2006
Preparation Method						
Date Analyzed		09/08/2006	09/08/2006	09/08/2006	09/08/2006	09/08/2006
Matrix		Soil	Soil	Soil	Soil	Soil
Units		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Detection Limit Multiplier		1	1	1	1	1
Analytes	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
Aldrin	2.00	ND	ND	ND	ND	ND
alpha-Hexachlorocyclohexane (Alpha-BHC)	2.00	ND	ND	ND	ND	ND
Beta-Hexachlorocyclohexane (Beta-BHC)	2.00	ND	ND	ND	ND	ND
Gamma-Chlordane	2.00	ND	35.4	ND	ND	ND
alpha-Chlordane	2.00	ND	44.5	ND	ND	ND
4,4'-DDD (DDD)	4.00	ND	ND	4.44	ND	ND
4,4'-DDE (DDE)	4.00	9.11	8.66	9.07	43.7	18.8
4,4'-DDT (DDT)	4.00	23.8	24.6	13.9	36.0	9.68
delta-Hexachlorocyclohexane (Delta-BHC)	2.00	ND	ND	ND	ND	ND
Dieldrin	4.00	ND	ND	ND	ND	ND
Endosulfan 1	2.00	ND	ND	ND	ND	ND
Endosulfan 11	4.00	ND	ND	ND	ND	ND
Endosulfan sulfate	4.00	ND	ND	ND	ND	ND
Endrin	4.00	ND	ND	ND	ND	ND
Endrin aldehyde	4.00	ND	ND	ND	ND	ND
Endrin ketone	4.00	ND	ND	ND	ND	ND
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	2.00	ND	ND	ND	ND	ND
Heptachlor	2.00	ND	ND	ND	ND	ND
Heptachlor epoxide	2.00	ND	ND	ND	ND	ND
Methoxychlor	17.00	ND	ND	ND	ND	ND
Toxaphene	170	ND	ND	ND	ND	ND

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ANALYTICAL RESULTS

Page: 5
Project ID: 161-29A
Project Name: Hitch Ranch

Job Number	Order Date	Client
30583	08/21/2006	AET

Method: 8081A, Organochlorine Pesticides

Our Lab I.D.		177765	177766	177767	177768	177769
Surrogates	Con Limit	% Rec.	% Rec.	% Rec.	% Rec.	% Rec.
Surrogate Percent Recovery						
Decachlorobiphenyl	43-169	115	118	120	103	123

QUALITY CONTROL REPORT

Batch No:

Analytes	LCS % REC	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit					
Aldrin	110	96	13.6	42-122	<30					
4,4'-DDT (DDT)	154	142	8.1	25-160	<30					
Dieldrin	127	131	3.1	36-146	<30					
Endrin	141	134	5.1	30-147	<30					
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	111	89	22.0	32-127	<30					
Heptachlor	121	110	9.5	34-111	<30					

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ANALYTICAL RESULTS

Page: 7
Project ID: 161-29A
Project Name: Hitch Ranch

Job Number	Order Date	Client
30583	08/21/2006	AET

Method: 8081A, Organochlorine Pesticides

Our Lab I.D.		177770	177771			
Surrogates	Con. Limit	% Rec.	% Rec.			
Surrogate Percent Recovery						
Decachlorobiphenyl	43-169	118	113			

QUALITY CONTROL REPORT

Batch No:

Analytes	LCS % REC	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit					
Aldrin	110	96	13.6	42-122	<30					
4,4'-DDT (DDT)	154	142	8.1	25-160	<30					
Dieldrin	127	131	3.1	36-146	<30					
Endrin	141	134	5.1	30-147	<30					
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	111	89	22.0	32-127	<30					
Heptachlor	121	110	9.5	34-111	<30					

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Environmental Testing Services
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ANALYTICAL RESULTS

Ordered By

Applied Enviro. Technologies, Inc.
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Telephone: (805)650-1400
Attn: Wally Jensky

Page: 8
Project ID: 161-29A
Project Name: Hitch Ranch

Job Number	Order Date	Client
30583	08/21/2006	AET

Method: 8081A, Organochlorine Pesticides

Batch No:

Our Lab I.D.		177760				
Sample ID		HA-2				
Date Sampled		08/18/2006				
Date Extracted		09/01/2006				
Preparation Method						
Date Analyzed		09/08/2006				
Matrix		Soil				
Units		ug/kg				
Detection Limit Multiplier		1				
Analytes	**PQL**	**Results**				
Aldrin	2.00	ND				
alpha-Hexachlorocyclohexane (Alpha-BHC)	2.00	ND				
Beta-Hexachlorocyclohexane (Beta-BHC)	2.00	ND				
Gamma-Chlordane	2.00	ND				
alpha-Chlordane	2.00	ND				
4,4'-DDD (DDD)	4.00	ND				
4,4'-DDE (DDE)	80.0	420				
4,4'-DDT (DDT)	4.00	111				
delta-Hexachlorocyclohexane (Delta-BHC)	2.00	ND				
Dieldrin	4.00	ND				
Endosulfan 1	2.00	ND				
Endosulfan 11	4.00	ND				
Endosulfan sulfate	4.00	ND				
Endrin	4.00	ND				
Endrin aldehyde	4.00	ND				
Endrin ketone	4.00	ND				
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	2.00	ND				
Heptachlor	2.00	ND				
Heptachlor epoxide	2.00	ND				
Methoxychlor	17.00	ND				
Toxaphene	170	ND				

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ANALYTICAL RESULTS

Page: 9
Project ID: 161-29A
Project Name: Hitch Ranch

Job Number	Order Date	Client
30583	08/21/2006	AET

Method: 8081A, Organochlorine Pesticides

Our Lab I.D.		177760				
Surrogates	Con.Limit	% Rec.				
Surrogate Percent Recovery						
Decachlorobiphenyl	43-169	121				

QUALITY CONTROL REPORT

Batch No:

Analytes	LCS % REC	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit					
Aldrin	110	96	13.6	42-122	<30					
4,4'-DDT (DDT)	154	142	8.1	25-160	<30					
Dieldrin	127	131	3.1	36-146	<30					
Endrin	141	134	5.1	30-147	<30					
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	111	89	22.0	32-127	<30					
Heptachlor	121	110	9.5	34-111	<30					

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Rd., Los Angeles, CA 90065 Tel: (323) 223-9700 Fax: (323) 223-9500

ANALYTICAL RESULTS

Ordered By

Applied Enviro. Technologies, Inc.
4561 Market St., Suite B
Ventura, CA 93003

Telephone: (805)650-1400
Attn: Wally Jensky

Page: **10**
Project ID: 161-29A
Project Name: Hitch Ranch

Job Number	Order Date	Client
30583	08/21/2006	AET

Method: 8081A, Organochlorine Pesticides

Batch No:

Our Lab I.D.		177772				
Sample ID		HA-14				
Date Sampled		08/18/2006				
Date Extracted		09/01/2006				
Preparation Method						
Date Analyzed		09/08/2006				
Matrix		Soil				
Units		ug/kg				
Detection Limit Multiplier		1				
Analytes	**PQL**	**Results**				
Aldrin	2.00	ND				
alpha-Hexachlorocyclohexane (Alpha-BHC)	2.00	ND				
Beta-Hexachlorocyclohexane (Beta-BHC)	2.00	ND				
Gamma-Chlordane	2.00	ND				
alpha-Chlordane	2.00	ND				
4,4'-DDD (DDD)	4.00	ND				
4,4'-DDE (DDE)	80.0	497				
4,4'-DDT (DDT)	4.00	47.4				
delta-Hexachlorocyclohexane (Delta-BHC)	2.00	ND				
Dieldrin	4.00	ND				
Endosulfan 1	2.00	ND				
Endosulfan 11	4.00	ND				
Endosulfan sulfate	4.00	ND				
Endrin	4.00	ND				
Endrin aldehyde	4.00	ND				
Endrin ketone	4.00	ND				
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	2.00	ND				
Heptachlor	2.00	ND				
Heptachlor epoxide	2.00	ND				
Methoxychlor	17.00	ND				
Toxaphene	170	ND				

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ANALYTICAL RESULTS

Page: 11
Project ID: 161-29A
Project Name: Hitch Ranch

Job Number	Order Date	Client
30583	08/21/2006	AET

Method: 8081A, Organochlorine Pesticides

Our Lab I.D.		177772				
Surrogates	Con Limit	% Rec.				
Surrogate Percent Recovery						
Decachlorobiphenyl	43-169	120				

QUALITY CONTROL REPORT

Batch No:

Analytes	LCS % REC	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit					
Aldrin	110	96	13.6	42-122	<30					
4,4'-DDT (DDT)	154	142	8.1	25-160	<30					
Dieldrin	127	131	3.1	36-146	<30					
Endrin	141	134	5.1	30-147	<30					
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	111	89	22.0	32-127	<30					
Heptachlor	121	110	9.5	34-111	<30					

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ANALYTICAL RESULTS

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Page: **12**
Project ID: 161-29A
Project Name: Hitch Ranch

Job Number	Order Date	Client
30583	08/21/2006	AET

Method: 8081A, Organochlorine Pesticides

Batch No:

Our Lab I.D.		177773				
Sample ID		HA-15				
Date Sampled		08/18/2006				
Date Extracted		09/01/2006				
Preparation Method						
Date Analyzed		09/08/2006				
Matrix		Soil				
Units		ug/kg				
Detection Limit Multiplier		1				
Analytes	**PQL**	**Results**				
Aldrin	2.00	ND				
alpha-Hexachlorocyclohexane (Alpha-BHC)	2.00	ND				
Beta-Hexachlorocyclohexane (Beta-BHC)	2.00	ND				
Gamma-Chlordane	2.00	ND				
alpha-Chlordane	2.00	ND				
4,4'-DDD (DDD)	4.00	ND				
4,4'-DDE (DDE)	160.0	4960				
4,4'-DDT (DDT)	160.0	1700				
delta-Hexachlorocyclohexane (Delta-BHC)	2.00	ND				
Dieldrin	4.00	ND				
Endosulfan 1	2.00	ND				
Endosulfan 11	4.00	ND				
Endosulfan sulfate	4.00	ND				
Endrin	4.00	ND				
Endrin aldehyde	4.00	ND				
Endrin ketone	4.00	ND				
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	2.00	ND				
Heptachlor	2.00	ND				
Heptachlor epoxide	2.00	ND				
Methoxychlor	17.00	ND				
Toxaphene	170	ND				

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ANALYTICAL RESULTS

Page: 13
Project ID: 161-29A
Project Name: Hitch Ranch

Job Number	Order Date	Client
30583	08/21/2006	AET

Method: 8081A, Organochlorine Pesticides

Our Lab I.D.		177773				
Surrogates	Con.Limit	% Rec.				
Surrogate Percent Recovery						
Decachlorobiphenyl	43-169	132				

QUALITY CONTROL REPORT

Batch No:

Analytes	LCS % REC	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit					
Aldrin	110	96	13.6	42-122	<30					
4,4'-DDT (DDT)	154	142	8.1	25-160	<30					
Dieldrin	127	131	3.1	36-146	<30					
Endrin	141	134	5.1	30-147	<30					
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	111	89	22.0	32-127	<30					
Heptachlor	121	110	9.5	34-111	<30					

E

A Geologic Mapping Approach to Identify Radon Hot-Spots

A GEOLOGIC MAPPING APPROACH TO IDENTIFY RADON HOT-SPOTS IN CALIFORNIA AND RAMIFICATIONS FOR THE STATE'S RADON RISK PICTURE

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Abstract

The California Geological Survey (CGS), in cooperation with the California Department of Public Health--Radon Program, has completed seven detailed radon potential maps at 1:100,000 or 1:48,000 scales since 2005. The CGS mapping process uses: 1) geologic maps; 2) short-term indoor-radon data; 3) sediment, soil and rock uranium data; and 4) soil data. CGS maps depict up to 5 radon potential categories, defined by percentages of homes exceeding 4 pCi/L: very high, high, moderate, low or unknown. CGS mapped high radon potential areas in western Los Angeles County correlate well with high radon potential Zip Code areas identified by a 1991 study using year-long house radon measurements. The CGS maps show California has significant high radon areas but many are too small for detection by the 1990 statewide radon survey and, consequently, are not represented by the US EPA Radon Zones or the Lawrence Berkeley National Laboratory (LBNL) High Radon Project maps.

Introduction

The California Geological Survey (CGS) has had annual cooperative agreements with the California Department of Public Health (CDPH)--Radon Program since 2003 to prepare radon potential maps and assist with radon surveys[1]. During this period CGS completed detailed radon potential maps for the southern half of Los Angeles County, Ventura County (revision of a 1995 CGS map), San Luis Obispo County, Monterey County, Santa Cruz County, the Palos Verdes area of Los Angeles County, and the Lake Tahoe area (Figure 1). A radon potential map was prepared for Santa Barbara County in 1995 under an earlier cooperative agreement. All CGS maps completed thus far are within US EPA Radon Map Zone 1 and Zone 2 counties (Figure 2). Approximately 10.7 million individuals, 28 percent of the state's population, reside within the CGS mapped areas. The mapping priority for California coastal counties relates to the presence of Miocene age organic-rich siliceous marine shale and mudstone geologic units such as the Monterey Formation and the Rincon shale (Figure 3). Association of these units with elevated radon homes has been known since the late 1980s (Churchill, 1997). Reports accompanying CGS radon potential maps document procedures, data utilized, and contain estimates for the number of residents exposed to ≥ 4 picocuries per liter (pCi/L) indoor -radon concentration. The maps and reports are available for viewing and downloading on the CGS radon webpage at: http://www.conservation.ca.gov/cgs/minerals/hazardous_minerals/radon/Pages/Index.aspx

1 CGS radon mapping activities were partially funded through CDPH-Radon Program annual US EPA State Indoor-Radon Grants (SIRG) and partially through match funds provided by CGS.

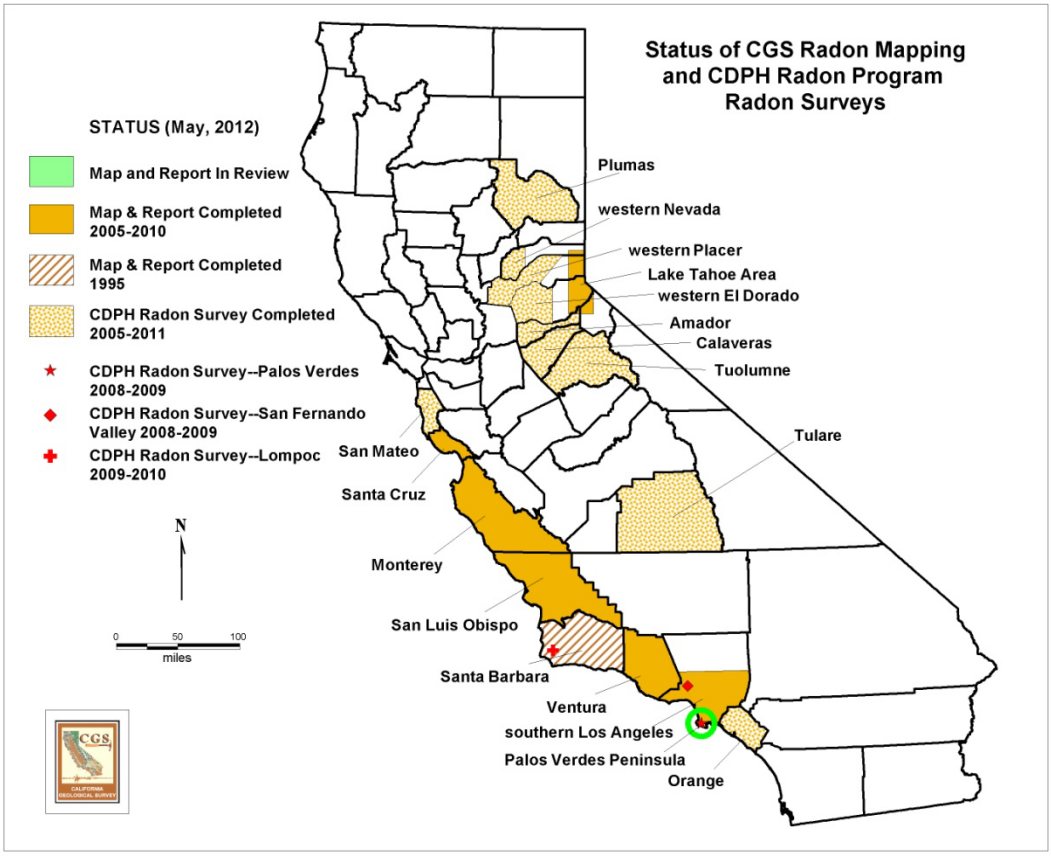


Figure 1. Status of CDPH--Radon Program Indoor-Radon Surveys and CGS Radon Mapping

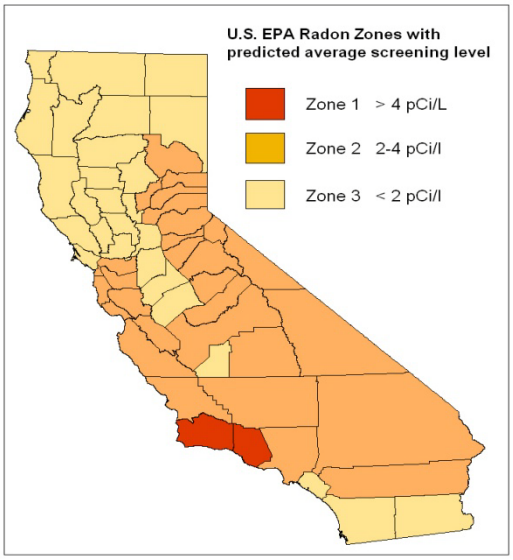


Figure 2. Map showing 1993 US EPA Radon Zone Classifications for California Counties

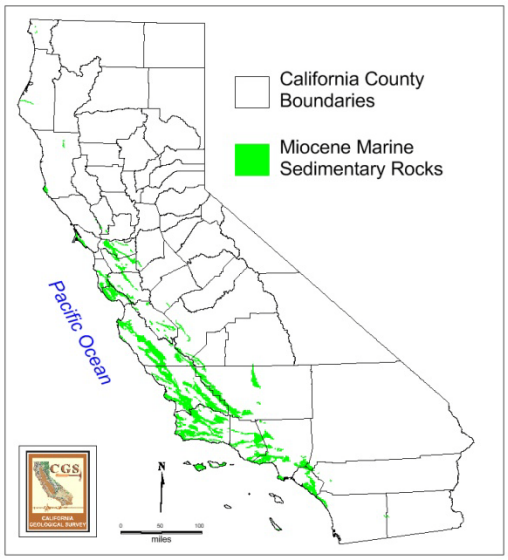


Figure 3. Map showing Miocene Marine Sedimentary Rocks in California
Geology source: Saucedo and others, 2000

CGS radon potential mapping overview

The CGS radon mapping goal is to identify the portions of a county or study area most likely to contain homes with indoor-radon concentrations at or above the US EPA recommended radon action level of 4 pCi/L. The CGS uses a geologically based mapping approach. This means that the location of one or more geologic units belonging to a given radon potential category defines the distribution of that radon potential category within the map. Many others have proposed this radon mapping approach and it has been successfully used in the United Kingdom (Appleton, 2005). For a discussion of the advantages of this approach for radon potential mapping over a simple random sampling of homes approach see Carlisle and Azzouz (1993).

CGS radon potential categories are based on short-term home radon test data and are defined as follows:

Very High: 50 percent or more home tests equal or exceed 4.0 pCi/L

High: 20 to 49.9 percent of home tests equal or exceed 4.0 pCi/L

Moderate: 5 to 19.9 percent of home tests equal or exceed 4.0 pCi/L

Low: 0 to 4.9 percent of home tests equal or exceed 4.0 pCi/L

Unknown: insufficient data are available to assign a radon potential.

All counties and areas mapped so far by CGS contain at least one high radon potential area (see Figure 4 map example). To date, the "Very High" radon potential category has only been required for the Lake Tahoe Area (see Figure 4). Maps completed since 2008 include the "Unknown" radon potential category where geologic units lack sufficient data for radon potential determination. These areas may be targets for future indoor-radon surveys, surface gamma-ray surveys or other radon evaluation work.

Geologic unit radon potentials are determined using indoor-radon measurements, uranium abundance data for soil, sediment and rock, and soil permeability and shrink-swell data. Except for indoor-radon measurements, data used for mapping are "off the shelf" from a variety of sources. California counties commonly contain more than 50 geologic units and some have more than 100 units[2]. Map preparation utilizes a Geographic Information System (GIS) which greatly facilitates data compilation, management and analysis for these large numbers of geologic units. GIS also allows the visual display of data distribution and values relative to individual geologic units. Visual inspection of such displayed data may reveal geographic trends within a geologic unit occurrence. If such a trend is observed the geologic unit occurrence may be subdivided and the subareas assigned different radon potentials to reflect the data trend.

Short-term, 2-3 day indoor-radon data from recent home surveys conducted by CDPH (described below) are used for geologic unit evaluations. When available, indoor-radon data from older

2 Information on 770 geologic units was compiled for developing the California Geological Survey's 1:750,000-scale Map of California Geology.

surveys and other CDPH compilations are examined but are primarily used for unit evaluations only if recent survey data are unavailable. For the CGS maps the number of indoor-radon tests available has ranged from 443 to 1,729. Experience has shown that about 25 short-term indoor-radon measurements are required to reliably categorize the radon potential of a geologic unit. This amount is consistent with the minimum number of samples required to reliably define sample population standard deviation (e.g., Noether, G., 1971, pp. 169-170) and for testing population normality (Razali and Wah, 2011). Interestingly, the British Geological Survey has found that 10-15 short-term measurements are the minimum required to reliably characterize soil radon gas at a site or a geologic unit (Appleton, 2005). Geologic units with less than 25 radon measurements may be assigned a "provisional" high or moderate rank if they have at least 10-15 measurements with a significant percentage exceeding 4 pCi/L, or if they have several measurements exceeding 10 pCi/L. Review of geologic unit data from adjacent completed radon potential maps may also result in provisional high or moderate radon potential rankings for units with few radon measurements in a current mapping area.

Uranium data sources commonly used for radon potential mapping are: National Uranium Resource Evaluation project (NURE) airborne equivalent uranium (eU) data and soil, sediment and rock sample uranium data; rock, soil and sediment sample uranium data from various published and unpublished geochemical research projects; and surface gamma-ray spectral eU measurements from research projects. Large amounts of data may be available for some counties but not others. For example, 1,347 miles of NURE project flight-lines containing approximately 54,800 gamma-ray spectral measurements were flown on a grid pattern with lines 2-4 miles apart north-south and 12 miles apart east-west in San Luis Obispo County. Additionally, 120 soil and 405 stream sediment uranium analyses are available from the NURE project for San Luis Obispo County. In contrast, no NURE airborne eU measurements or soil or stream sediment uranium data are available for metropolitan Los Angeles County, including the Palos Verdes Peninsula.

All uranium data types for a geologic unit are compared to the average crustal uranium abundance of about 2.5 parts per million (ppm) to qualitatively evaluate the unit's likely radon potential. Geologic units containing ≥ 5 ppm uranium (twice average crustal background) are generally considered anomalously high in uranium content, suggesting increased radon availability in rock and associated soil and sediment. Consequently, geologic units with the highest percentages of ≥ 5 ppm in a county or area are considered candidates for inclusion in the high or moderate radon potential categories. For example, if a geologic unit had only 12 indoor-radon measurements, but 3 (25%) exceeded 4 pCi/L and it had 10 soil uranium analyses with 6 exceeding 5 ppm uranium it would likely receive a provisional high radon potential classification. For NURE airborne eU data, geologic units containing the highest percentages of ≥ 5 ppm measurements may also be given provisional high or moderate radon potential classifications. Occasionally, much of the NURE eU data in a county exceeds 5.0 ppm (perhaps because of detector calibration issues when the data were collected). In these instances, 3 times crustal uranium abundance, 7.5 ppm uranium, is used for sample screening. Surface gamma-ray eU data are evaluated similarly, in reference to the ≥ 5 or ≥ 7.5 ppm thresholds. The purpose of this activity is to quickly identify those geologic units that often contain anomalous background uranium concentrations so they can be considered for inclusion in either the high radon potential

or moderate potential groups of geologic units. This is an important step in assigning radon potentials to geologic units that have few or no indoor-radon data.

Soil permeability and shrink-swell data for soils associated with geologic units are obtained from Natural Resource Conservation Service (NRCS) soil reports. Unfortunately, these data are based on type soil locations considered representative of the soil unit as a whole rather than from specific sites near indoor-radon test homes; but they are still useful. Previous work at elementary school sites (Churchill, 1993a and 1993b) has shown California soils with: 1) moderate permeability and low shrink-swell character, or 2) low permeability and high shrink-swell character, are often associated with higher radon potential areas. Soils with either high permeability, or low permeability and low shrink-swell character, are often associated with lower radon potential areas. Consequently, these soil characteristics are also considered, along with uranium data and indoor-radon data, in making provisional assignments of geologic units to radon potential categories. However, provisional high or moderate radon potential assignments are not made based upon soil data alone (i.e., if indoor-radon or uranium data are unavailable).

The data evaluation steps just described result in groupings of very high, high, moderate, low and unknown radon potential geologic units. Each group typically contains a mix of geologic units, some units with 25 or more indoor-radon measurements and some with fewer and occasionally a unit with no associated indoor-radon measurements. The resulting aggregate indoor-radon populations for each group are compared statistically to confirm they significantly differ from each other. This comparison is usually done using the Mann-Whitney nonparametric test because these aggregate population distributions are typically non-normal and non-lognormal in character. While indoor-radon population distributions for single geologic units are often lognormal, the resulting indoor-radon data population distributions for groups of geologic units are often non-lognormal, mandating the use of non-parametric statistical comparison tests. If testing shows that each group is statistically unique, radon potential group boundaries are developed based upon the boundaries of the geologic units making up each group. If two or more radon potential groups are not statistically distinct, then the group assignments of provisional geologic units will be re-evaluated and possibly changed or a radon potential group may be eliminated and its geologic units and indoor-radon data assigned to another radon potential group. Another option is to slightly adjust the radon potential group boundaries to achieve statistical separation of radon potential group populations. However, such adjustments should be small because the different radon potential categories should be similar from map to map.

Final CGS radon potential maps are produced at 1:100,000-scale for which 1 inch represents 1.58 miles (or 1 cm represents 1 km). Less commonly more detailed scales such as 1:48,000 are used. At 1:100,000-scale city blocks can be depicted and prominent highways and roads can be shown and labeled on the map base, assisting the map user in identifying specific locations of interest. Figure 4 is reproduced at approximately 1:100,000-scale and shows highway and street details and different radon potential areas.

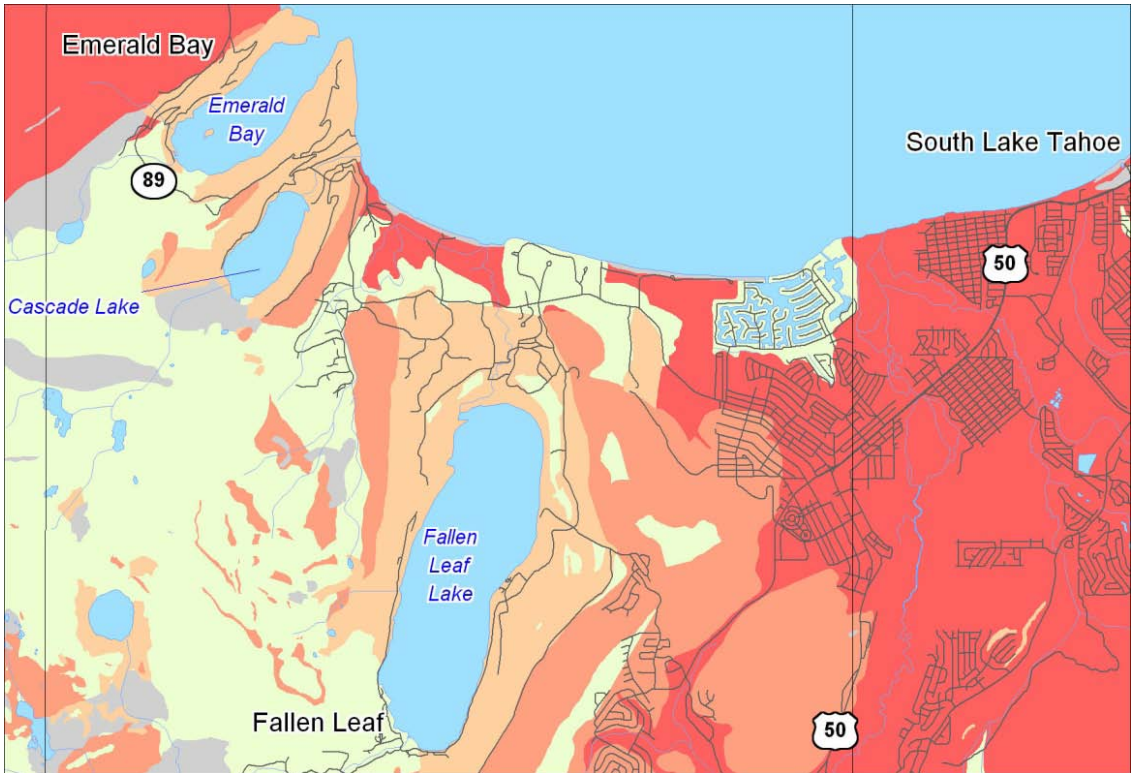


Figure 4. Part of the CGS Lake Tahoe Radon Potential Map.
The radon potential area categories are color coded as follows: red = very high radon potential; dark orange = high radon potential; light orange = moderate radon potential, pale green = low radon potential, and gray = unknown radon potential.

Geologic maps for radon potential mapping—requirements and limitations

Not every geologic map is suitable for radon potential mapping. In California, geologic maps at 1:100,000-scale (1 inch = 1.58 miles, or 1 cm = 1 km) or more detailed scale geologic maps such as 1:62,500-scale or 1:24,000-scale should be utilized for this purpose. At more detailed scales geologic map units often represent individual geologic formations, which generally have a predominant lithology and somewhat limited range of chemical composition (e.g., variation in uranium or radium concentration). Less detailed scale geologic maps (e.g., 1:250,000-scale or 1:750,000-scale) use more generalized map units defined by geologic time and origin (e.g., Miocene marine sediments). Less detailed scale geologic units typically consist of multiple geologic formations which may differ significantly from each other in lithology, chemistry, physical properties such as permeability and, consequently, in radon potentials. Table 1 provides examples illustrating differences in numbers of map units related to map scale for geologic maps.

If preexisting 1:100,000-scale geologic maps are not available for a county or map area, spatial geologic unit data must be compiled from multiple smaller scale maps such as 1:62,500-scale or 1:24,000-scale. This can be a time consuming process, particularly if the geologic map units are defined or mapped differently on different maps. Figure 5 shows geologic mapping for a small portion of the Lake Tahoe area at three different map scales 1:750,000, 1:250,000 and 1:100,000.

Examples	Number of Geologic Units Shown on Geologic Maps at Different Map Scales		
	1:750,000 (1 inch=11.8 miles)	1:250,000 (1 inch=3.9 miles)	1:100,000 (1 inch=1.6 miles)
Santa Cruz County	13	17	65
Lake Tahoe Area	11	36	141

Table 1. Comparison of a group of related geologic map units from California geologic maps at different map scales

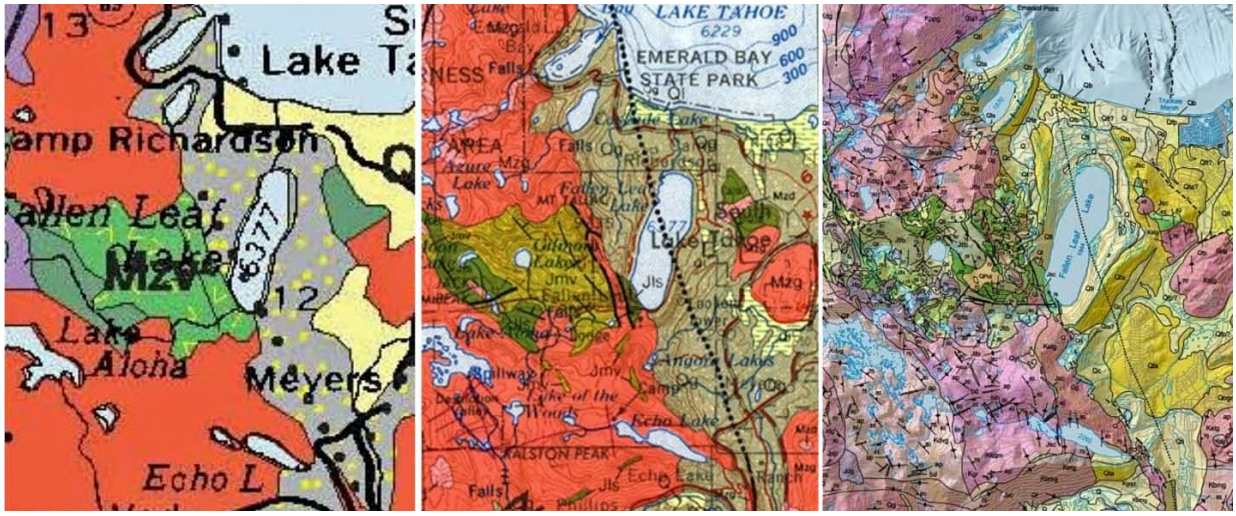


Figure 5. Geologic units from geologic maps developed at different map scales showing increase in geologic units and detail from left to right. The maps from left to right: 1:750:000-scale, 1:250,000-scale and 1:100,000-scale (the maps are not shown at their original scales). The area shown is at the south end of Lake Tahoe and each map is approximately 8.3 miles wide (E-W) and 10.7 miles long (N-S). The map references for these images are: Jennings, 1977; Wagner and others, 1981; and Saucedo, 2005.

Another geologic map issue is accuracy. At more detailed map scales geologic unit boundary locations are generally more accurately located because they require more field work than less detailed geologic maps. For 1:100,000-scale California geologic maps, geologic unit boundaries will often be accurate to better than plus or minus 1000 feet. Also, the size of map features that can be depicted should be kept in mind when using maps at various scales. A 1/16 inch wide line on a 1:250,000-scale map represents 1,302 feet. A 1/16 inch wide line on a 1:100,000-scale map represents 520 feet. A typical home lot parcel that appears to be located just inside a radon potential boundary on a 1:100,000-scale radon potential map is probably within the uncertainty of geologic unit boundary mapping. It may actually be underlain by an adjacent geologic unit with a different radon potential.

Public reception of CGS radon potential maps

CGS radon maps and accompanying reports are available for viewing and downloading on the CGS Radon webpage. CGS radon potential maps are advisory and non-regulatory in status. Recently, CGS radon webpage visits total about 5,800 per year and average about 480 per month. Several counties have placed the maps on their county websites. An iPhone app is now available for displaying CGS radon maps (Hobbs and Hobbs, 2012). CGS is receiving requests from property disclosure companies for its digital map radon potential area layers and recently has been able to start fulfilling those requests. Finally, detailed radon potential maps draw people to radon informational displays in public areas, particularly if the map covers the area where they reside. People want to find out what the radon potential is where they live.

CDPH indoor-radon surveys

In order to generate indoor-radon data for radon potential mapping, CGS assists CDPH-Radon Program indoor-radon survey efforts in reviewing address lists of owner occupied homes and preparing address lists for survey mail solicitations. The goal for solicitation mailing lists is to obtain a minimum of 25 to 30 indoor measurements for geologic units known or suspected to be associated with higher percentages of ≥ 4 pCi/L homes. With survey participation rates typically between 3 and 8 percent of solicitation letters, at least 600 addresses are randomly chosen for each likely radon-problem geologic unit if possible. If fewer than 600 addresses are available for a priority geologic unit all addresses related to that unit received a survey solicitation. After addresses for priority geologic units are assigned, the remaining addresses for the survey solicitation mailing list are assigned in an attempt to obtain some indoor-radon data for most or all of the remaining geologic units in the county or study area. Survey sampling generally starts between late November and early January and is completed by early May. Surveys utilize charcoal detectors exposed for 2-3 days and test results are provided directly to participants by CDPH contract radon laboratories within a few weeks after laboratory receipt of a detector. Once the CDPH-Radon Program obtains the survey test results from the laboratory they are incorporated into the online Radon Zip Code database for California and are made available to CGS for radon mapping projects. Survey participant names and addresses are proprietary and not available for public disclosure. Since 2003 all or portions of 14 counties have had indoor-radon surveys.

Does the CGS radon mapping approach using short-term home radon tests have merit?

Given the general consensus that short-term indoor-radon test data are less reliable than long-term test data, it is reasonable to question the reliability of CGS radon potential maps based on short-term test data. To check the mapping reliability, CGS maps for southern Los Angeles and Ventura counties were compared to a 1991 California Department of Health Services (DHS[3]) Indoor Air Quality study of 862 homes in 49 Zip Codes areas. Year-long alpha track measurements were conducted in the homes (Lui and others, 1991). If the DHS study high and medium radon potential Zip Code locations are similar to CGS high and moderate radon

3 California Department of Public Health was formerly named Department of Health Services.

potential area locations and if DHS and CGS ≥ 4 pCi/L home percentages are similar, it would be strong evidence supporting the CGS radon mapping approach.

Comparison of CGS mapping and DHS study results was done as follows:

1) Using GIS, DHS high and moderate radon potential Zip Code area locations were compared with CGS high and moderate radon potential area locations, and

2) Estimates of the average percentage of homes ≥ 4 pCi/L were prepared for DHS high and medium radon potential Zip Codes using CGS radon potential maps and compared with the averages reported in the DHS study.

For the first comparison, digital map layers for CGS radon potential areas and DHS high and medium radon potential Zip Code areas were compared. Figure 6 shows this comparison. The

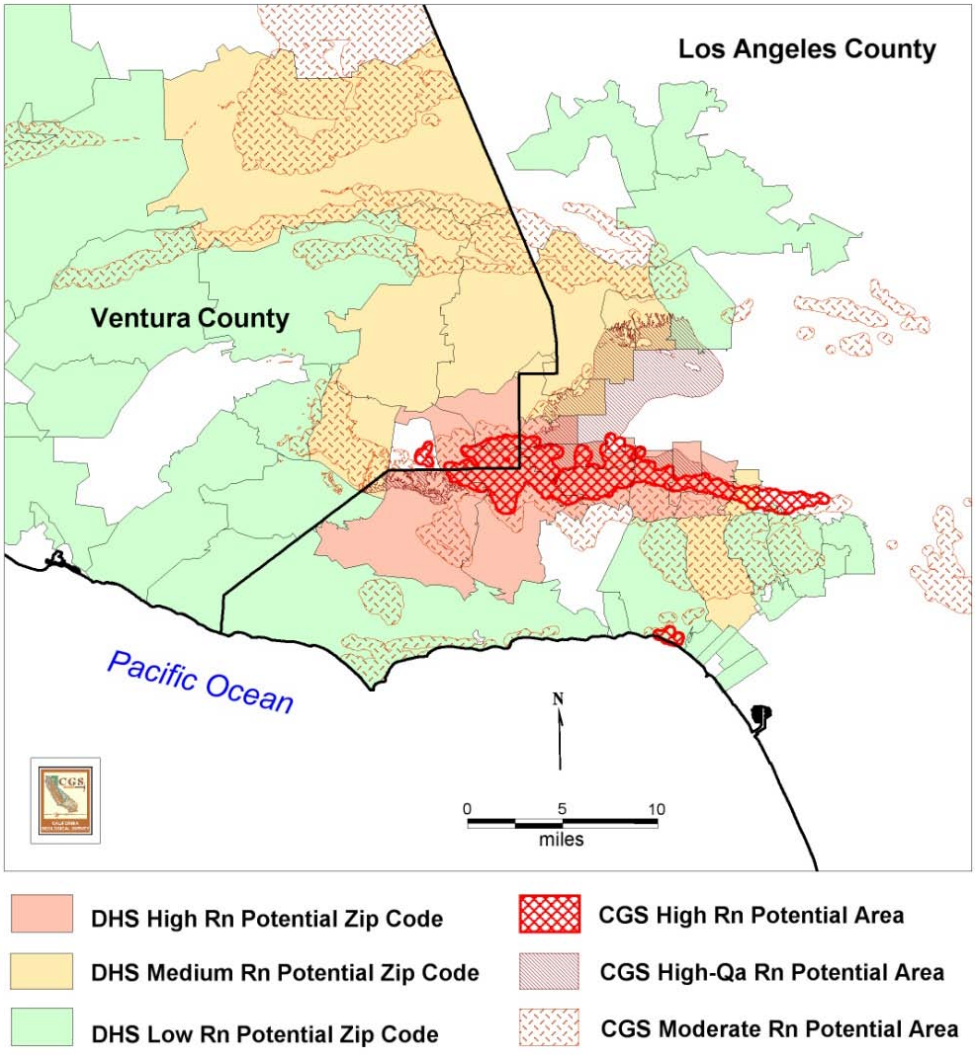


Figure 6. Comparison of CGS High and Moderate Radon Potential Areas with High, Medium and Low Radon Potential Zip Codes from Lui and others, 1991.

figure shows high and moderate CGS radon potential areas in close association with high and medium DHS zip code areas. The match is not perfect because CGS radon potential zone boundaries are based on geologic unit boundaries and Zip Code boundaries are administrative boundaries typically unrelated to geology. However, high and medium radon potential Zip Code areas generally contain significant portions of high and moderate CGS radon potential areas and high and medium Zip Code areas are not isolated from CGS high and moderate radon potential areas in the figure.

A small CGS high radon potential outlier is located along the Los Angeles County coast in a low potential DHS Zip Code 90272 (Pacific Palisades). Geologic mapping indicates high and moderate potential rock units present in the large east-west high potential area are also present at this location along the coast, exposed along canyons and likely underlying a younger alluvial unit. Limited indoor-radon data available during mapping was insufficient to confirm or reject a high radon potential classification for this area. The most recent 2010 update of the CDPH radon Zip Code database entry for this Zip Code shows about 4 percent of short-term home radon tests are ≥ 4 pCi/L (11 of 276). These results suggest a lower radon potential should be considered for this area if the south Los Angeles radon potential map is revised in the future.

For the second comparison, estimates for the average percent of residences exceeding 4 pCi/L were made for DHS High and Medium Radon Potential Zip Codes using CGS radon potential

County/Area	CGS Radon Potential Category	Percentage of ≥ 4 pCi/L Homes
southern Los Angeles	High	28.3
southern Los Angeles	High-Qa (alluvium)	20.6
southern Los Angeles	Moderate	9.7
southern Los Angeles	Low	2.4
Ventura	High	30.0
Ventura	Moderate	20.3
Ventura	Low	3.7

Table 2. CGS radon potential categories and percentages of ≥ 4 pCi/L homes for southern Los Angeles and Ventura counties provided in reports accompanying these maps.

	DHS average percent of residences exceeding 4 pCi/L reported by Lui and others (1991)	CGS estimate of average percent of residences exceeding 4 pCi/L
DHS High Radon Potential Zip Codes	**14***	**11.9**
DHS Medium Radon Potential Zip Codes	**8****	**7.7**

Table 3. Comparison of DHS and CGS estimates of High and Medium radon potential Zip Code areas in western Los Angeles and Ventura counties.

*The average of 7 Zip Code areas developed from 71 alpha track year-long measurements

**The average for 10 Zip Code areas developed from 169 alpha track year-long measurements

maps and indoor-radon information from the map reports. To make these estimates, the relative percentage area for each CGS radon potential category present within each DHS Zip Code was obtained from the radon potential maps using GIS. This information and estimates for percentages of ≥ 4 pCi/L homes for each radon potential category, available from the Los Angeles and Ventura radon map reports, were used to make weighted average estimates of ≥ 4 pCi/L home percentages for each DHS Zip Code. These estimated percentages for each DHS Zip Code were then used to generate overall average percentages of ≥ 4 pCi/L estimates for DHS high and moderate radon potential Zip Codes. The individual Zip Codes vary in size (area). In developing the final averages, individual Zip Code ≥ 4 pCi/L home percentages were weighted to account for differences in Zip Code sizes. The right-hand column of Table 3 lists the resulting High and Medium Zip Code estimates derived from CGS radon maps and data. The High and Medium radon potential Zip Code averages from the 1991 DHS report, listed in the middle column of Table 3, compare well with the estimates derived from the CGS maps and reports.

In summary, similarities in geographic location and percentages of ≥ 4 pCi/L residences between high and medium DHS Zip Code radon potential areas and CGS high and moderate radon potential areas shown in Figure 6 and Table 3 are strong evidence supporting the validity of the CGS radon potential mapping approach.

Comparison of US EPA Radon Map and LBNL High-Radon Project Map with CGS Radon Potential Maps

The US EPA Map of Radon Zones, finalized in 1993, was developed from the US Geological Survey (USGS) Geologic Radon Province Map. To develop the radon province map, the USGS identified approximately 360 separate geologic provinces in the United States, evaluating provinces for radon potential using available indoor-radon data, geology, aerial radioactivity data, soil parameters and home foundation types (US EPA, 1993). California contains all or part of 12 geologic provinces. During winter 1989-1990 a random population based indoor-radon survey generated 2-7 day measurements for 1,885 homes to support this radon mapping effort (i.e., the state residential radon survey, SRRS, for California). Survey sampling rates for many California counties were relatively low, particularly considering county geologic complexity previously discussed. Of 58 counties, one was not measured, six had 1-5 measurements, and only 24 had 25 or more measurements generated from this survey (US EPA, 1993). At the SRRS sampling rates, many California Counties have more geologic units than indoor-radon measurements. This raises the question of just how well SRRS data represent actual radon conditions of California counties.

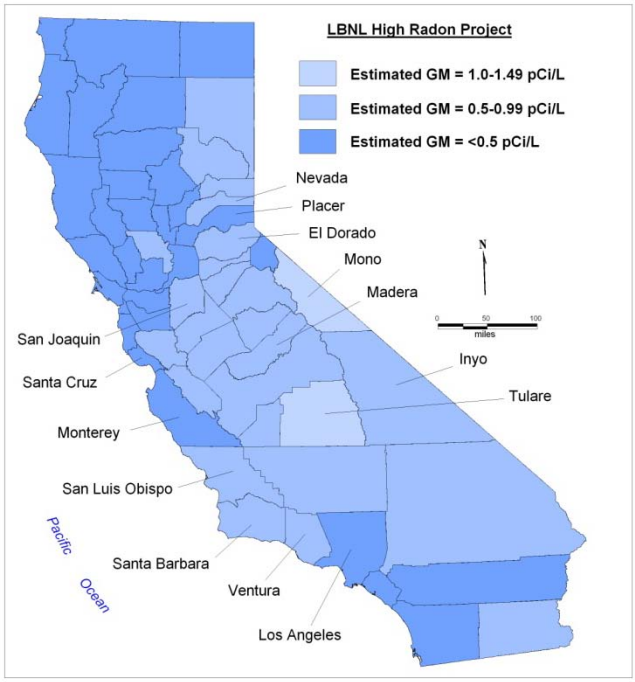
USGS radon geologic province boundaries do not coincide with county or state political boundaries but define areas of general radon potential. US EPA subsequently developed the Map of Radon Zones by extrapolating information from the province to county level and assigning one of three radon zones to every county in the United States. The EPA map Zones 1, 2, and 3 have predicted average radon screening levels of > 4 pCi/L, ≤ 4 and ≥ 2 pCi/L, and < 2 pCi/L, respectively. If a county contains more than one geologic province, the county is assigned the screening level of the province containing the largest portion of county land area (US EPA, 1993).

In showing only one radon zone per county, the US EPA recognized at the time that significant high and low radon potential areas within a county may be obscured (US EPA 1993, p. I-5). This situation had to be addressed during the development of the California portion of the U.S EPA Map of Radon Zones. The radon hot-spot associated with the Rincon Shale in Santa Barbara and Ventura counties ultimately resulted in a change for these counties from an initial EPA Zone 2 classification to a Zone 1 classification, even though the Rincon shale only accounts for about 1.3 percent of the combined two county surface area. There was no other way to indicate the presence of California's first confirmed radon hot-spot on the EPA map (Figure 2 shows the EPA Radon Zones for California).

Similar in style to the EPA Map of Radon Zones, the Lawrence Berkeley National Laboratory (LBNL) High Radon Project maps, produced in the mid-1990s, also used single county rankings for radon potential. The High Radon project produced two radon potential maps, one ranking counties by geometric mean and the other ranking counties by estimated percent of homes with long-term living-area concentrations ≥ 4 pCi/L. The High Radon Project developed its California county rankings using the same short-term radon survey data as used for the EPA Map of Radon Zones. However, it used a statistical approach to examine the correlation between monitoring data and physical factors such as soil, geology, house, and meteorological characteristics to predict local indoor concentrations and make long-term exposure estimates. Maps showing LBNL High Radon Project predicted geometric means and percentages of ≥ 4 pCi/L homes for California counties are shown in Figures 7 and 8 respectively. The maps in Figures 7 and 8 were developed using LBNL-High Radon Project data available online at: http://energy.lbl.gov/IEP/high-radon/ctypred.htm

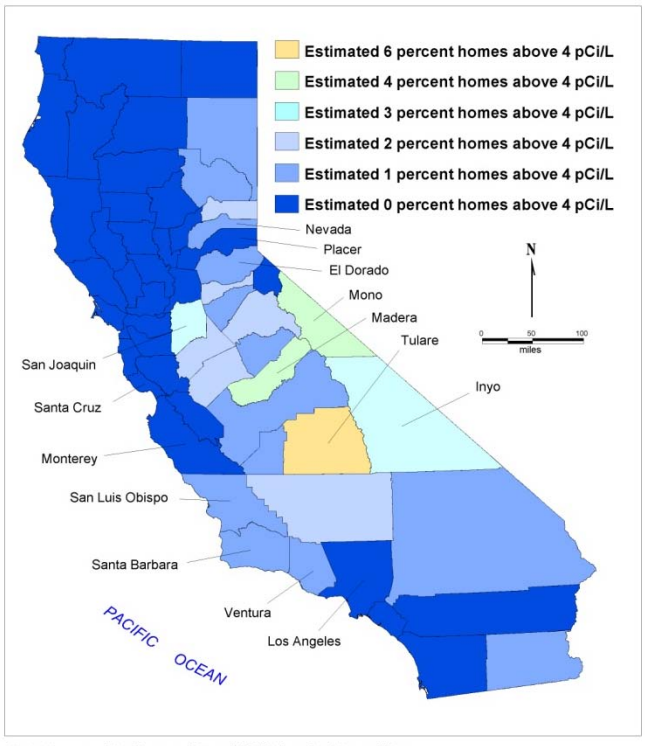
The visual impression presented by the EPA and LBNL radon maps are that most California counties do not have significant radon problems, especially when compared against counties in Midwestern and Northeastern states. Exceptions are Santa Barbara and Ventura counties on the EPA map with Zone 1 rankings. Tulare and possibly Madera, Mono, Inyo and San Joaquin counties are exceptions on the LBNL map with three to six percent estimated ≥ 4 pCi/L homes (Figure 8). Interestingly, the LBNL map of estimated county geometric mean radon concentrations (Figure 7) gives a different impression than the ≥ 4 pCi/L home percentages map. The county geometric mean map shows very low geometric mean estimates for Tulare, Madera, Mono, Inyo and San Joaquin counties. With single county radon ratings by design, the EPA and LBNL maps do not convey the presence of any sub-county variability in radon potentials. As a result, many people trying to become informed about radon do not realize that high, moderate, or low radon potential areas of significant size may be present in any county regardless of its zone ranking, geometric mean or estimated percentage of homes > 4 pCi/L.

In contrast to the US EPA and the LBNL High Radon Project maps, CGS mapping shows that within-county variability in radon potential is significant. Given the geologic complexity and relatively large land areas of California counties such variability is expected. Figure 9 shows CGS high and moderate radon potential areas overlain on the US EPA Map of Radon Zones for California. Table 4 provides information on total land areas and populations associated with CGS high and moderate radon potential categories by county.



Data source: http://energy.lbl.gov/IEP/high-radon/ctypred.htm

Figure 7. LBNL High Radon Project: Estimated Geometric Mean Radon Concentrations for California Counties



Data Source: http://energy.lbl.gov/IEP/high-radon/ctypred.htm

Figure 8. LBNL High Radon Project: Estimated Fraction of Homes with Long-term Living-area Radon Concentrations above 4 pCi/L for California Counties

Figure 9 and Table 4 show that high radon potential areas comprise relatively small percentages of county land area and population for counties mapped by CGS thus far. Moderate potential areas are usually larger in area and population than high radon potential areas. The remaining areas, consisting of low and unknown radon potentials, commonly account for the majority of county land area and population. These land area and population trends will likely continue for EPA Zone 2 California counties mapped in the future.

Individual high and moderate radon potential areas may contain large populations or be sparsely populated. In Figure 9, examples of sparsely populated high and moderate radon potential areas

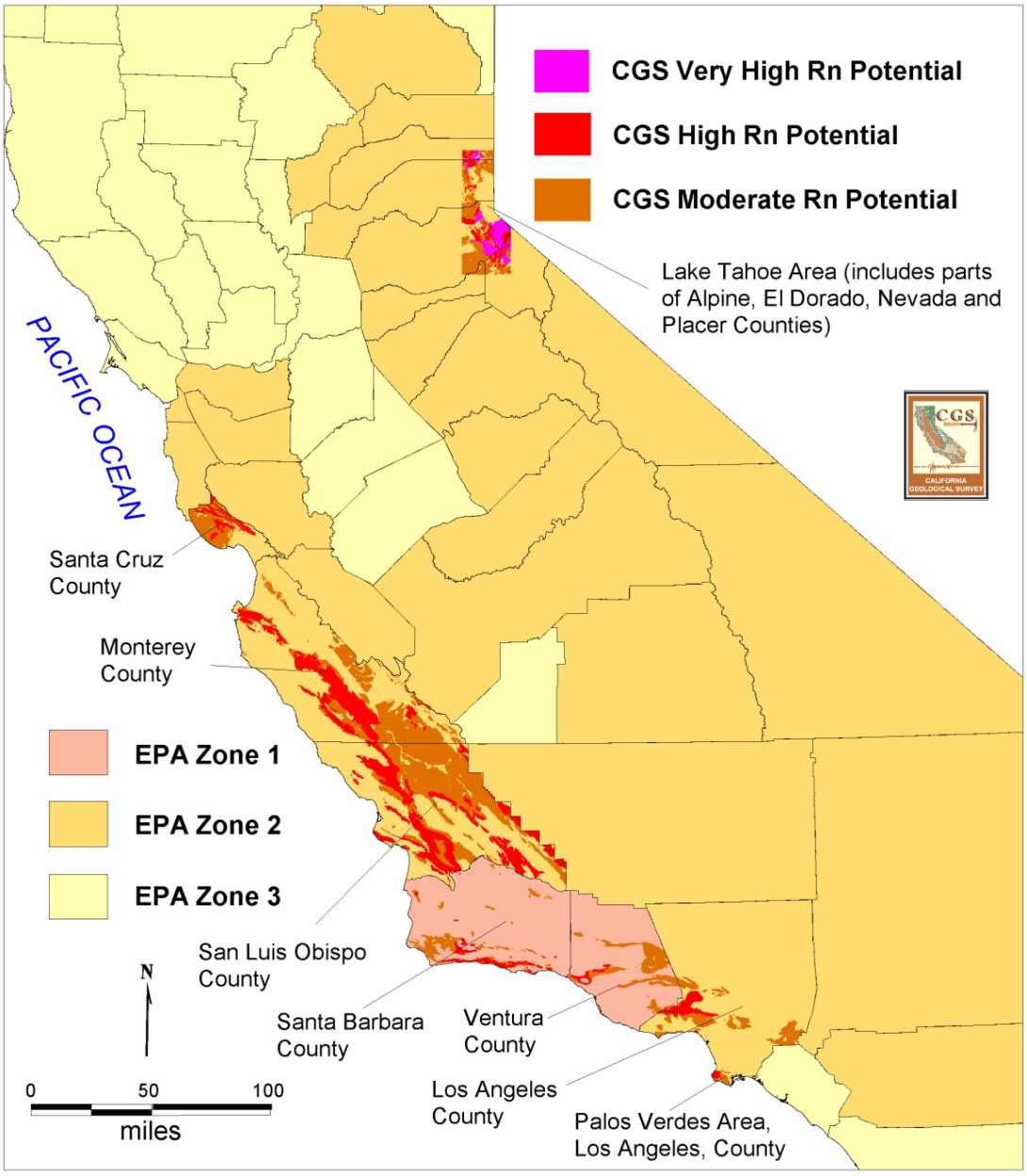


Figure 9. CGS very high, high and moderate radon potential areas overlain on part of the EPA Map of Radon Zones for California

County or Area Map	Radon Potential Category	Land Area (square miles)	Percent of County Land Area	Estimated Population (to nearest 1,000)	Percent of County Population
Santa Cruz	High	43.7	10.6	10,000	3.9
	Moderate	187.7	42.1	56,000	22.0
Monterey	High	361	10.9	11,000	2.7
	Moderate	671	20.2	66,000	16.4
San Luis Obispo	High	590	17.8	40,000	16.2
	Moderate	1025	30.9	48,000	19.4
Santa Barbara (1995 map)	High	72.2	2.6	Population estimates were not made for the 1995 Santa Barbara map	
	Moderate	140.7	5.1		
Ventura	High	25.0	1.3	4,000	0.5
	Moderate	216	11.6	42,000	5.6
Southern Los Angeles County including the Palos Verdes Area	High	36.9	0.9	132,000	1.4
	High-Qa	40.9	1.0	281,000	3.0
	Moderate	233.8	5.8	778,000	8.2
	County population =9,519,000; County and Area =4,061 square miles				
Lake Tahoe Area--Divided by County (population estimates not rounded to nearest 1000)					
El Dorado County	Very High	76.4	4.5	25,640	16.4
	High	51.5	3.0	4,708	3.0
	Moderate	142.5	8.3	1,873	1.2
	County population = 156,299; County land area = 1,711 square miles				
Nevada County	Very High	7.9	0.83	2,686	2.9
	High	8.1	0.85	3,120	3.4
	Moderate	21.1	2.2	3,970	4.3
	County population = 92,033; County land area = 957 square miles				
Placer County	Very High	2.6	0.2	15	0.0
	High	12.8	0.9	1,338	0.5
	Moderate	66.9	4.8	8,513	3.4
	County population = 248,399; County land area = 1,404 square miles				

Table 4. Land Area and Population Information for County High and Moderate Radon Potential Categories. The Lake Tahoe county estimates are for those portions of the counties within the Lake Tahoe radon potential map area. The south Los Angeles county estimates are for all of Los Angeles County. Total land area and populations for these counties are listed in the fourth row for each county.

are those located in central and southern Monterey County and in eastern and southern San Luis Obispo County. Examples of high and moderate radon potential areas with high population densities are those located in Los Angeles County and along the south coast of Santa Barbara County.

CGS radon potential areas and average annual radon exposure estimates

CGS very high, high and moderate radon potential areas are compared with LBNL estimated California county percentages of homes with long-term living-area concentrations ≥ 4 pCi/L in Figure 10. The CGS high and moderate radon potential areas are based on percentages of homes

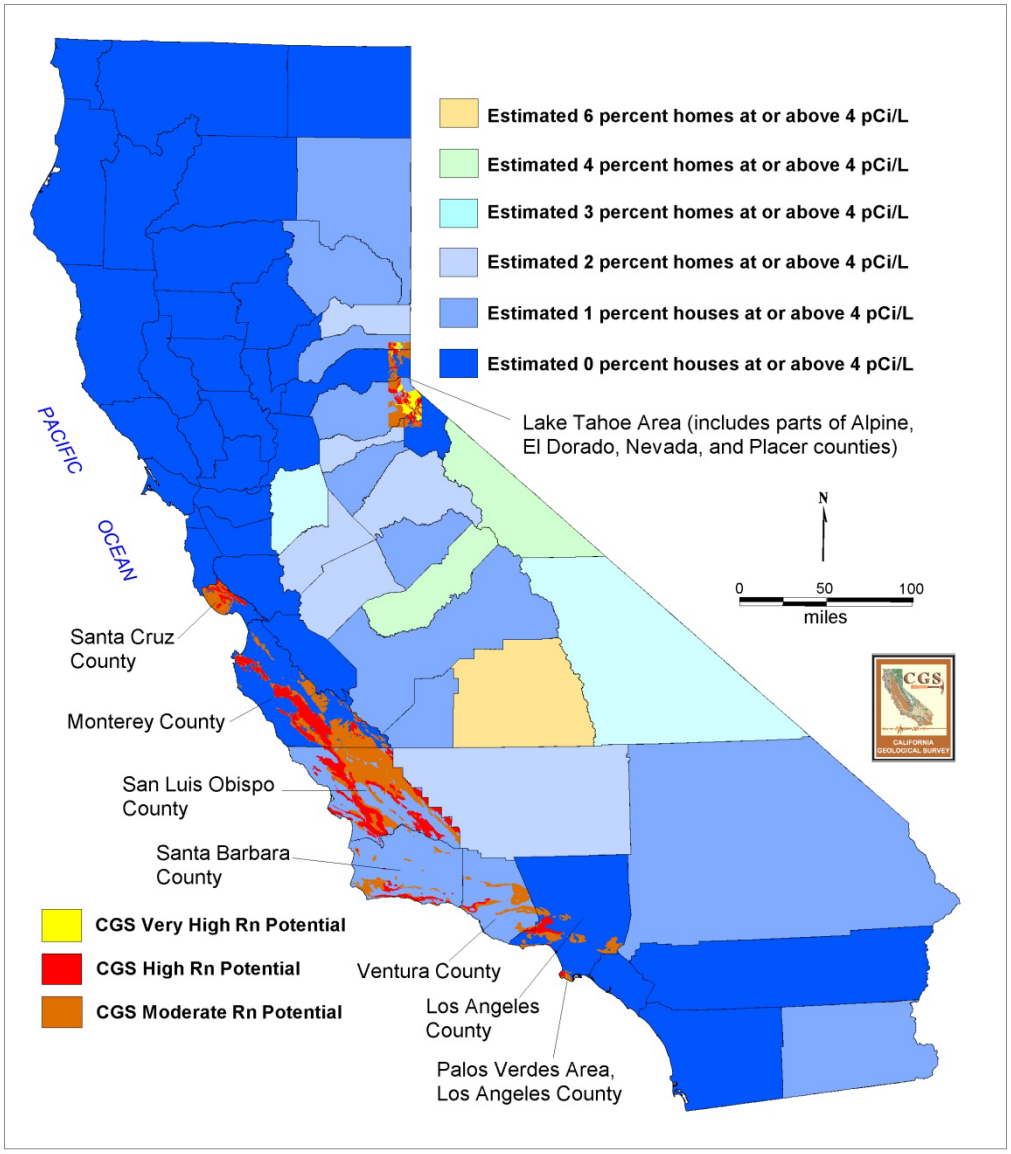


Figure 10. Comparison of LBNL High Radon Project estimated percent of ≥ 4 pCi/L county homes and CGS very high (Lake Tahoe only), high and moderate radon potential areas.

≥4 pCi/L in short-term tests. Short-term tests are closed-house "worst case" tests with seasonal bias compared to year-long open-house tests. Short-term tests from winter months generally exceed annual living area average radon conditions (Appleton, 2005; Lin and others, 1999; and Brookins, 1990). CGS percentage estimates of 4 pCi/L homes are shown in Table 5 for high and moderate radon potential categories and are very likely higher than what would be obtained from year-long radon test surveys of homes in these counties. In order to better compare CGS radon potential results with LBNL county estimates, a correction was applied to CGS short-term radon data to create simulated long-term indoor-radon databases for county high and moderate radon potential areas. Summary information for these simulated databases and associated population estimates are listed in Table 6.

Long-term radon concentration estimates based on short-term measurements are controversial and approximate. The estimated long-term radon measurement database used to build Table 6 was made using a correction factor from Lin and others (1999). These authors recognize the highly approximate nature of these corrections and state *"Due to the large temporal variability and other sources of variation, a short-term measurement can predict the long-term living area concentration only to within a factor of 1.8 or so, even after correcting for systematic biases."*

Radon Potential Group	**CGS Percentage Estimates of ≥ 4 pCi/L Homes from Short-term data**	**Estimated Population exposed to ≥ 4 pCi/L radon concentrations**
Santa Cruz County		
High	36.3	3,600
Moderate	11.6	6,500
Monterey County		
High	25.0	2,800
Moderate	6.0	4,000
San Luis Obispo		
High	24.6	9,800
Moderate	8.5	4,100
Santa Barbara County		
Population estimates were not made for 1995 Santa Barbara radon potential areas.		
Ventura County		
High	30.0	1,200
Moderate	20.3	8,500
Southern Los Angeles County		
High	28.3	37,400
High-Qa	20.6	57,900
Moderate	9.7	75,500
Lake Tahoe Area		
Very High	62.2	17,600
High	36.7	3,400
Moderate	16.5	2,400

Table 5. CGS percentage estimates of ≥ 4 pCi/L homes based on short-term indoor-radon data for county high and moderate radon potential areas

Several of the authors of this paper were principal contributors to the High Radon Project. The county estimates from the LBNL High Radon Project shown in Figures 8 and 10 are derived from short-term test data, as previously mentioned, by these individuals.

To estimate the percentages of homes with long-term living-area concentrations ≥ 4 pCi/L, CGS short-term test data were divided by a correction factor of 1.3. This correction factor implies that a 5.2 pCi/L short-term test is approximately equivalent to a 4.0 pCi/L year-long test (i.e., 5.2 pCi/L/1.3=4/0 pCi/L). This correction factor is recommended by Lin and others (1999) for use with southwestern United States short-term radon data from homes without basements measured during winter. Percentages of ≥ 4 pCi/L homes were then determined from the revised County radon data for very high, high and moderate radon potential categories and listed in Table 6.

In reviewing the short-term indoor-radon data from CGS mapping projects, 48 initial tests of 5.2 pCi/L or higher concentrations had follow-up short-term tests. These follow-up tests were made anywhere from 15 days to 301 days after the initial test. The follow-up tests were 4 pCi/L or higher 77 percent of the time (in 37 tests). For nine tests with initial values of 4.0-5.1 pCi/L,

Radon Potential Group	Estimate of Percent Homes with average annual exposure of ≥ 4 pCi/L	Estimated Population exposed to ≥ 4 pCi/L average annual radon concentrations
Santa Cruz County		
High	30.0	3,000
Moderate	8.9	5,000
Monterey County		
High	20.2	2,200
Moderate	4.2	2,800
San Luis Obispo County		
High	18.4	7,400
Moderate	4.5	1,800
Santa Barbara County		
Population estimates were not made for 1995 Santa Barbara radon potential areas.		
Ventura County		
High	30.0	1,200
Moderate	11.6	4,900
Southern Los Angeles County		
High	20.2	26,700
High-Qa	12.2	34,300
Moderate	7.5	58,400
Lake Tahoe Area		
Very High	52.1	14,800
High	27.5	2,500
Moderate	11.0	1,600

Table 6. Percentage Estimates of Average Annual ≥ 4 pCi/L Homes for CGS High and Moderate Radon Potential Categories by County Based on Simulated Annual Radon Data Derived from Short-term Indoor-radon Measurements

only three follow-up tests were ≥ 4 pCi/L. These limited results suggest a 5.2 pCi/L threshold for short-term tests corresponding to ≥ 4 pCi/L long term -tests may have some merit.

Correction factors included in Lin and others (1999) range from 1.2, for a home in the Northwestern U.S without a basement, to 4.0 for a home in the Northwestern United States with a non-living area basement. However, most of their correction factors are below 2.4. Although there is uncertainty with these conversions, even if a 2.4 correction factor is used to convert CGS short-term radon data, the estimated annual average living area ≥ 4 pCi/L percentages for most CGS high radon potential areas will still significantly exceed the LBNL estimated county percentages shown in Figure 10.

The LBNL High Radon Project estimated zero percent ≥ 4 pCi/L homes for Santa Cruz, Monterey and Los Angeles counties. CGS mapping identified statistically significant high and moderate radon potential areas in these counties (DHS also did in Los Angeles and Ventura Counties in their study in 1991 Zip Code discussed above). These results point to the necessity of higher density radon surveys and a geologic approach to radon mapping for identifying the high and moderate radon potential areas typical for California.

Summary

In summary, CGS radon potential mapping using short-term home radon data, geologic mapping and other data has identified small but statistically significant high and moderate radon potential areas in eight counties and areas mapped since 2005. CGS mapping results agree closely with results from a 1991 DHS study of Los Angeles and Ventura county Zip Codes. That study used year-long radon-test data for homes, validating the CGS use of short-term radon-test data for homes and geologic mapping approach for identifying high and moderate radon potential areas in California.

High radon potential areas within California counties are typically small, often comprising just a few percent of county land area and with associated populations of a few thousand to a few tens of thousands of people. Los Angeles County is an exception because of its high population density and may have as many as 400,000 persons residing in high radon potential areas. Moderate radon potential areas typically are larger in county land area and population percentage than high radon potential areas. The combined high and moderate radon potential areas in a county are typically smaller in land area and population than the low radon potential portion of a county.

US EPA and LBNL radon potential maps, by design, are not able to represent the small to moderate sizes and scattered distribution of the high and moderate radon potential areas typical in California. The EPA radon map gives the impression that serious radon problems exist everywhere in Santa Barbara and Ventura counties, rather than for only about 2 percent of the land area (the high radon potential portions) of the counties. On the other hand, the EPA radon map does not convey the presence of small but significant high radon potential areas such as present in Los Angeles County. The LBNL map of estimated percentages of homes ≥ 4 pCi/L shows California counties generally have very low percentages and for some counties the estimated percentage is zero. CGS radon potential maps prepared for three counties with LBNL

zero percent estimated ≥ 4 pCi/L homes found small but statistically significant high and moderate radon potential areas in these counties. In other counties CGS high and moderate potential areas are present with estimated ≥ 4 pCi/L homes much higher than the LBNL overall county estimates. That county radon problems have been missed or underestimated in the LBNL county assessments underscores the need for a more detailed radon assessment approach in California than that employed by LBNL. Both the US EPA and LBNL radon potential maps utilize SRRS indoor-radon survey measurements. At the SRRS sampling rates, many California Counties have more geologic units than indoor-radon measurements. This raises the question of just how well SRRS data represent actual radon conditions of California counties. The CGS approach relies on greater numbers of home short-term radon tests, uses those tests and other data to assess radon potentials of individual geologic units, and defines radon potential areas by the presence of similar radon potential geologic units. This approach has proven effective at identifying California's scattered small to moderate sized high radon potential and moderate radon potential areas.

Acknowledgments

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Evaluation of Potential Indoor Radon Gas Exposure,
Proposed Residential Development

October 19, 2021
J.N.: 2677.00

Ms. Harriet Rapista
Comstock Homes
2301 Rosecrans Avenue, Ste. 1150
El Segundo, CA 90245

Subject: **Evaluation of Potential Indoor Radon Gas Exposure, Proposed Residential Development, Tentative Tract 5708 (Hitch Ranch Project), City of Moorpark, California.**

Dear Ms. Rapista,

Pursuant to your request, ***Albus & Associates, Inc***., is providing this letter to present our evaluation of potential indoor radon gas exposure in the proposed development. To assess the potential indoor radon gas exposure in the proposed development, we reviewed geologic conditions of the site and reviewed the referenced maps and publication concerning radon potential in the county of Ventura and other parts of California. Our work did not involve any physical measurement of radon gas at the site or any of the existing developments nearby.

Radon Background Information

Radon gas is a naturally-occurring colorless and odorless gas that forms from the radioactive decay of small amounts of uranium and thorium present in rocks and associated soils. Radon gas readily moves through rock and soils along fractures and pore spaces, but because of the relatively short half-lives of radon isotopes, radio activity of this gas is typically limited to a few meters to tens of meters from its source of origin but may be hundreds of meters in some cases. With respect to buildings, radon gas can enter buildings through their foundations and become trapped indoors. According to the U.S. Environmental Protection Agency (EPA), breathing air with a concentrated level of radon gas can result in an increased risk of developing lung cancer. While all buildings have a potential for elevated indoor radon levels, those buildings located on rocks and soils containing higher concentrations of uranium and thorium have an increased likelihood of elevated indoor radon levels. Such earth materials include organic-rich shales, some granitic rocks, rhyolites (extrusive igneous rock), and soils derived from these parent rocks.

There are no specific guidelines on what levels of radon gas are acceptable in the natural environment where future habitable structures are considered for construction. The concentration of radon gas in the natural environment is difficult to corollate to potential concentrations within a structure. The EPA recommends that action be taken to reduce radon in homes that have an average annual level greater than 4 pico-Curies per Liter, pCi/l. For evaluating the potential for radon gas to enter future homes, the key is to identify if the site is underlain by rocks or soils that tend to have higher than average levels of uranium and thorium within them and has historically shown to generate radon gas.

Geologic Site Conditions

Our previous investigations of the site (Albus-Keefe 2019, 2020) indicate the site is largely underlain to significant depths by bedrock materials assigned to the Saugus Formation. The Saugus Formation is a Pleistocene-age alluvial deposit associated with the ancestral Santa Clara River and consists of moderately hard to locally very hard interbedded sandstone and siltstone with occasional conglomerate beds and lenses. The Saugus Formation is generally mantled by a thin layer of topsoil. Alluvial and colluvial materials are also present on site within in the drainages.

The site is located on the southeast flank of the Moorpark Anticline. Bedding structure observed in the Saugus Formation generally dips at shallow angles (~3-6 degrees) to the south-southwest and is generally consistent with the regional trend reported for the area (Dibblee and Ehrenspeck, 1992a, 1992b). However, some local warping of the bedding structure was also noted in site exploration.

No faults with significant offset were exposed during our previous studies of the site nor reported by others. However, some minor faults (also commonly referred to as shears) and fractures were encountered within the Saugus Formation. The minor faults are generally 1/16- to 1/4-inch wide and are slightly cemented or have Bt soil development suggesting that they are pre-Holocene age features. The minor faults typically exhibit 12 inches or less of apparent displacement and either terminate within Saugus Formation or roll back into bedding and become undiscernible.

Potential Indoor Radon Gas Exposure

Geologic factors that influence the potential for elevated indoor radon gas exposure at a site include rock type and other geologic conditions, such as faulting and fracturing. The site has evidence of minor faulting. However, this faulting does not exhibit significant displacement and is unlikely to represent a continuous pathway by which radon gas can migrate along significant distances. Rock types that generally contain higher concentrations of uranium and thorium, which may cause elevated radon levels, include organic-rich shales, granitic rocks and rhyolites. Considering the site is underlain largely by Pleistocene-age alluvial deposits and not any of the aforementioned rock types, the potential for elevated indoor radon levels is low.

Furthermore, our review of the Radon Potential Zone Map for Ventura County, California, which was updated in 2006 by Churchill (2006a), indicates the site is within a zone defined as a “low potential for indoor levels above four picocuries per liter”. The radon zone designations on the map, as discussed in the accompanying report by Churchill (2006b), are based on the radon potential assignments of the geologic units within Ventura County. The radon potentials of the geologic units were evaluated using short-term indoor-radon measurement data provided by the Department of Health Services-Radon Program, airborne radiometric survey data from the NURE project data-National Uranium Resource Evaluation project, geologic maps from the Dibblee Foundation and California Geological Survey (CGS, aka California Division of Mines and Geology), and information on geologic units and indoor-radon measurements from Los Angeles and Santa Barbara Counties. The low potential zone, as defined in the report, are “geologic map units that likely have fewer than 6 percent of associated residences with radon levels that equal or exceed 4.0 pCi/l”.

Limitations

This report has been prepared for the exclusive use of **Comstock Homes**. This report is intended to aid in your assessment of potential for indoor radon gas exposure within the property. The findings in this report are based on the geologic data as described herein and the referenced literature. Other factors such as soil permeability, weather and climatic condition, building design and conditions, and building usage also influence indoor radon levels. As such, building-specific radon levels can only be determined by indoor radon testing.

This report has been prepared consistent with that level of care being provided by other professionals providing similar services at the same locale and time period. The contents of this report are professional opinions and as such, are not to be considered a guarantee or warranty.

This report has not been prepared for use by parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes.

We appreciate this opportunity to be of service to you. If you should have any questions regarding the contents of this correspondence, please do not hesitate to call our office.

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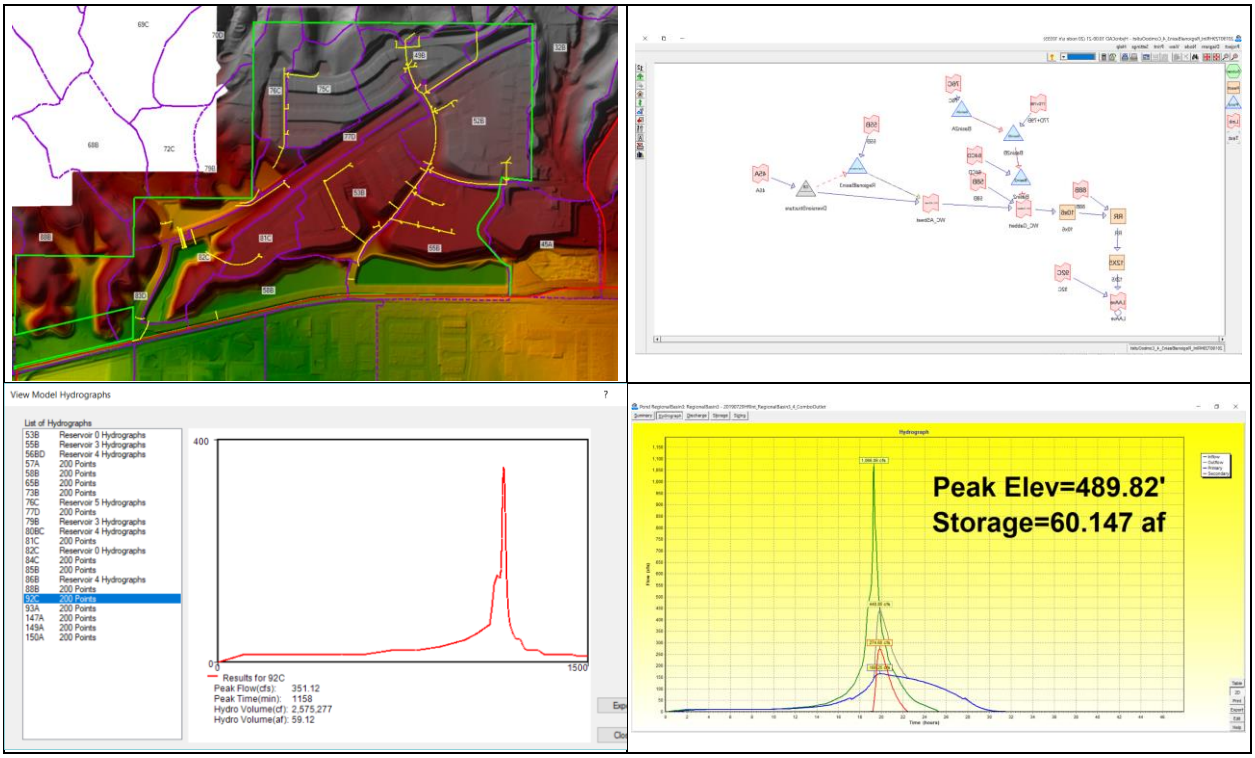
APPENDIX 3.9

Hydrology

A

2020 Hydrology Study Report Update

HITCH RANCH
HYDROLOGY STUDY REPORT
2020 UPDATE



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- **1997** Walnut and Gabbert Canyon Channel Flood Deficiency Study [RBF, 1997]
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- **2009** Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed [2009, PACE]

1 Executive Summary

The purpose of the 'Hydrology Study Report - 2020 Update' is to present the results of 100-year and 10-year hydrology for the proposed Hitch Ranch Development project along Walnut Canyon Channel (WCC) in Moorpark. Please see Figure 1.

This study is consistent with the accepted 2005 Regional Master Plan (RMP) and the 2009 RMP Update for this part of the City of Moorpark. As stipulated in the RMP, a regional Detention Basin #3 is included along the main stem of the WCC, as well as three on-site local detention basins and the related stormwater facilities.

The hydrology study report shows that the proposed local and regional drainage facilities will successfully meet the following drainage requirements:

1. The project will reduce the projected post-development 100-year flow to below the existing pre-development 10-year flow condition at the westerly project boundary along WCC;
2. The project will meet the 830-cfs RMP requirement (2005, 2009) of the post-project 100-year flow being contained within the existing WCC along Los Angeles Avenue.

Due to of the long history of this project, this 2020 Update builds upon the various hydrology studied in the 1997, 2005, and 2009 reports related to Hitch Ranch and the surrounding developments along WCC. Therefore, this study is considered the most up-to-date for this part of the WCC drainage system.

This project achieves mitigation for hydrologic and hydraulic deficiencies in WCC as identified in the RMP. Structural deficiencies in the downstream reaches of WCC and the Walnut-Gabbert drainage facilities are not addressed in this report.

The latest hydrology software from Ventura County Watershed Protection District (VCWPD) and other technical tools were utilized for this purpose. Hydrology is presented for three conditions; the Existing Condition with no Hitch Ranch Development in place; an Ultimate Proposed Condition with the Hitch Ranch Development and other upstream developments in place; and Interim Proposed Condition assuming a regional detention basin at Casey Road has not been constructed.

2 Background

2.1 Existing/Proposed Site Description

The Hitch Ranch project consists of the conversion of 277.3 acres of naturally vegetated open space to a mix of residential, open space, flood detention, and transportation land uses. It is located in southeastern Ventura County within the City of Moorpark, just north of Poindexter Road in between Walnut Canyon Road and Gabbert Road. Hitch Ranch lies within the Walnut Canyon watershed, which drains a low-lying portion of the Santa Susana Mountains south west into the Arroyo Simi and ultimately into Calleguas Creek. Figure 1 shows the general location of the Hitch Ranch project site.

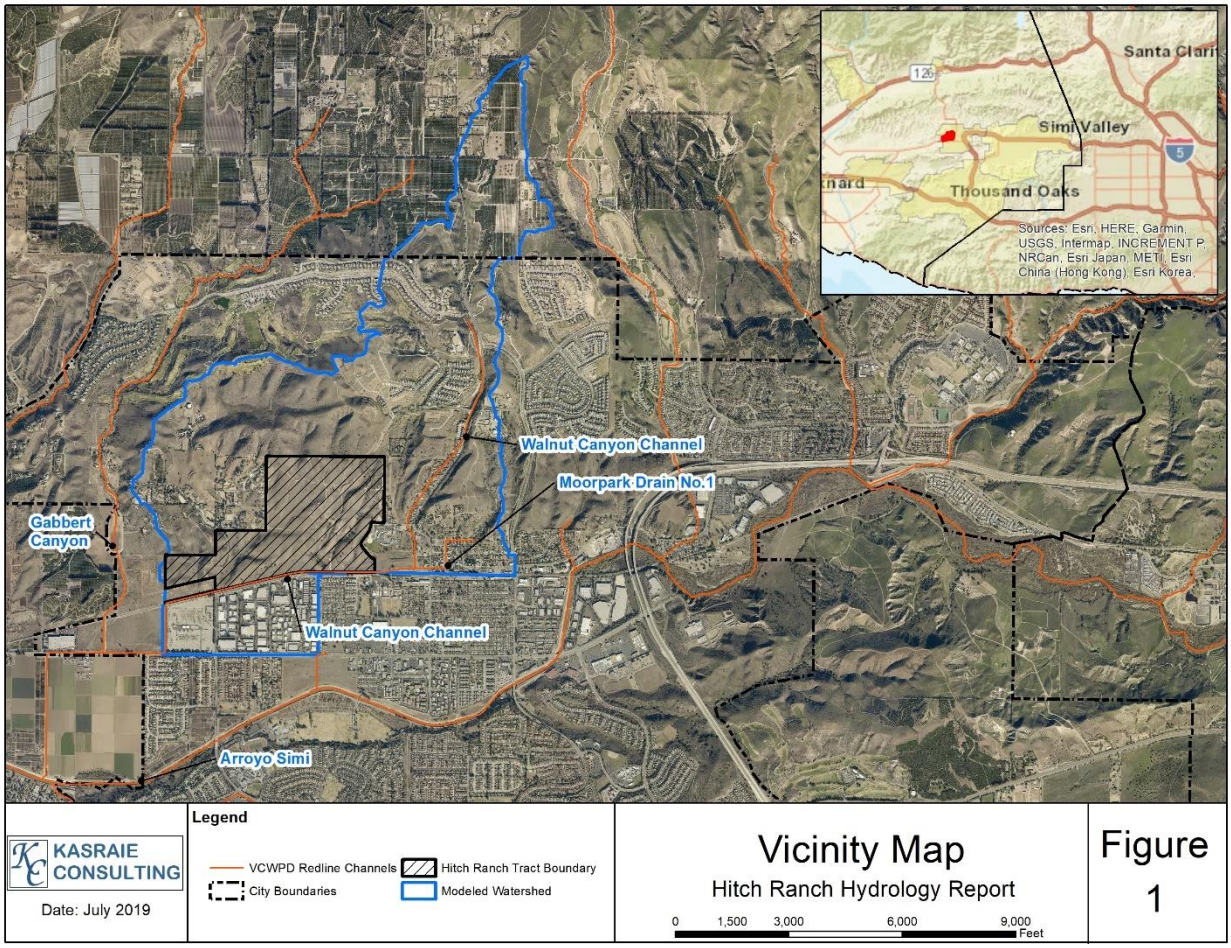


Figure 1: Vicinity Map

Table 1 and Figure 2, on the following page, outline proposed project and main land use categories based on tentative tract maps dated May 2019 (amended July 2019 to revise proposed detention Basins 2 and 3).

Table 1: Proposed Site Land Use Summary

LAND USE	AREA (acres)	% OF WATERSHED
Single Family Homes (261 Units)	59.9	21.4
Multi-Family Housing (253 Medium/241 High Density)	34.3	12.4
Natural Open Space	27.3	9.8
Open Space	32.5	11.7
Manufactured Slopes	45.1	16.3
Recreation Lot	6.75	2.4
Passive Recreation Lot	1.3	0.5
Public Facilities (Streets, Detention Basins, Easements, Park)	63.5	22.9
Not A Part	6.7	2.4
TOTAL	277.3	100

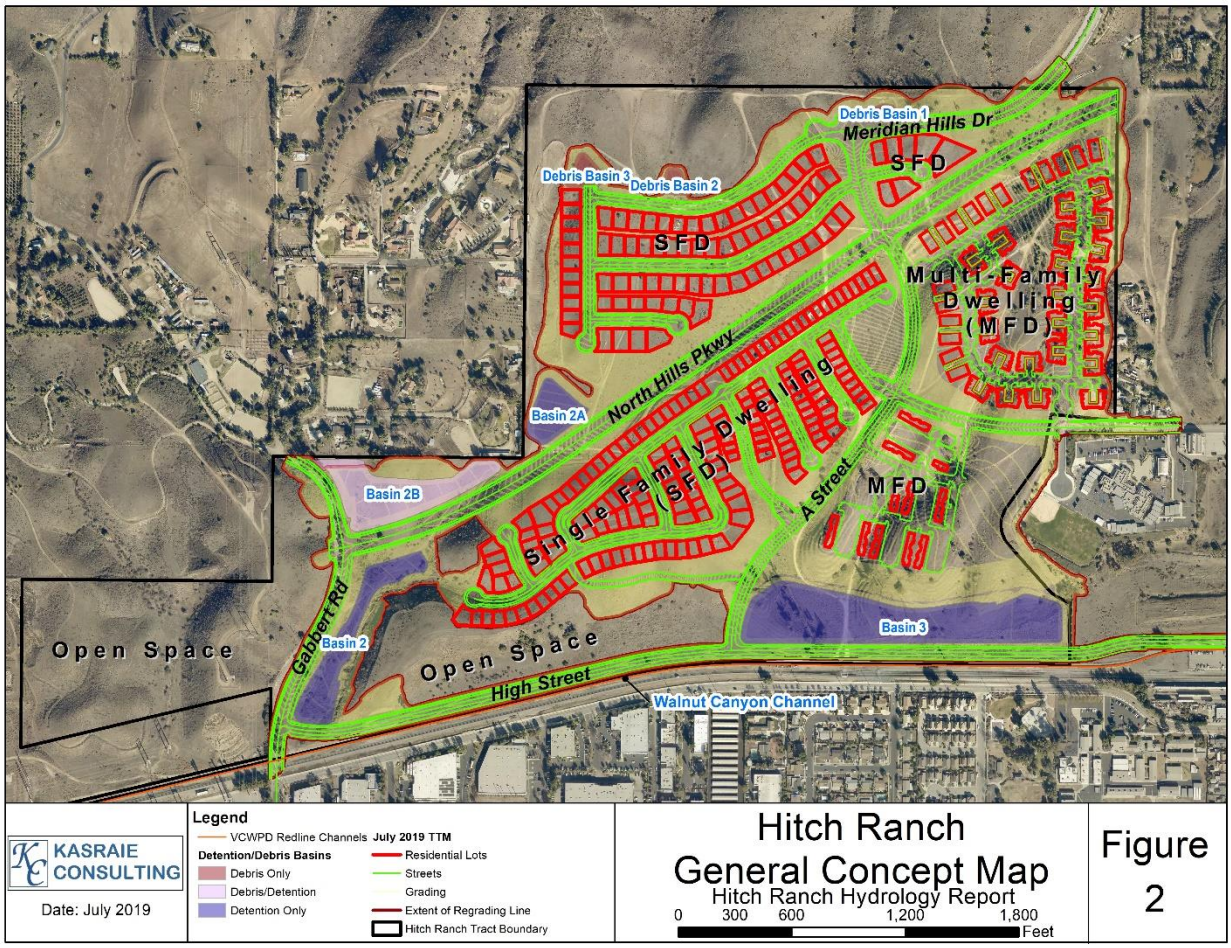


Figure 2: General Concept Map

2.2 Existing Watershed

2.2.1 Description

Walnut Canyon Channel (WCC) drains 2.8 square miles of the City of Moorpark south west approximately 2.3 miles prior to its confluence with Gabbert Canyon channel. This portion of the City lies in the foothills of the Santa Susana Mountains and terrain consists of moderate to steeply sloping hillsides. Approximately 56 % of the watershed remains undeveloped, with the remainder consisting of mixed residential, commercial, industrial, institutional, agricultural and transportation land uses. Table 2 provides a summary of watershed land uses.

Table 2. Walnut Canyon Watershed Land Use Distribution

LAND USE	% OF WATERSHED
Commercial	1%
Farmstead	1%
Golf Course	1%
Horse Ranch	1%
Industrial	10%
Institutional	2%
Open Space	0%
Orchard	9%
Residential	2%
Residential - 0.2 ac lot	5%
Residential - 0.4 ac lot	2%
Rural Residential	9%
Transportation	0%
Vacant	56%

WCC was originally constructed by the Soil Conservation Service (currently Natural Resources Conservation Service) between 1959 and 1962 and it is currently owned/maintained by VCWPD. Downstream of the post office, WCC is a rectangular concrete channel running west for 1.25 miles parallel to the Union Pacific Railroad (UPRR) tracks. After passing Gabbert Road and the Southern California Edison (SCE) Plant, the channel veers south under the tracks to Los Angeles Avenue, adding two storm drain junctions from SCE, before it again turns west and picks up flows from a City 72" RCP. It terminates at its confluence with Gabbert Canyon Channel. Channel depths range between 5 and 8 feet and base widths vary from 6 to 12 feet (see Table 3). Slope within this reach vary from 0.5 to 1.6 percent.

Table 3: Walnut Canyon Channel Facility Drawings/Description

LANDMARK/DESCRIPTION	STATIONING[1]	SECTION	SLOPE	DWG	DATE
Junction of Casey Rd and WCC Inlets	108+96.18-108+88.44	Var B.W. x 6'RCB	0.0772	Y3-0127	1962
	108+88.44-107+10	6'X6'	0.021	Y3-0127	1962
	107+10-102+65	6'X5'	0.021	Y3-0127	1962
WCC Improvements at High Street	**102+35-100+46.75**	**6'X5'**	**0.0243**	**Y3-4650**	2009
	100.+46.75-99+96.75	**TRANSITION**	**0.0215-0.0243**	**Y3-4650**	2009
	99+96.75-98+44.75	**72" RCP**	**0.0769-0.0081**	**Y3-4650**	2009
	98+44.75-98+22	**TRANSITION**	**0.0080**	**Y3-4650**	2009
	98+22-96+45.41	**96" RCP**	**0.0080**	**Y3-4649, Y3-4650**	2009
Location of Incoming 60" RCP Moorpark Drain No.1	96+45.41	96" RCP	0.0080	Y3-4649	1962
	96+45.41-93+37.18	96" RCP	0.0080	Y3-4649	1962
	93+87.18-93+37.18	TRANSITION	0.0080	Y3-4649	1962
	93+37.18-89+31+00	8'X5' RCC	0.0080	Y3-0125	1962
Eastern Boundary of Hitch Ranch	89+31	8'x5' RCC	0.0080	Y3-0125	1962
	89+31-83+00	8'x5' RCC	0.0080	Y3-0125, Y3-0124	1962
	83+00-69+80	8'X5' RCC	0.0074	Y3-0124 thru Y3-0122	1962
	69+80-69+60	TRANSITION	0.0054	Y3-0122	1962
	69+60-46+15	10'X5' RCC	0.0054	Y3-0122 thru Y3-120	1962
Gabbert Road Crossing/ Western Boundary of Hitch Ranch	44+15-43+92	10'X6' RCB	0.0051	Y3-0119	1962
	43+92-30+84	10'x6' RCC		Y3-0119, Y3-0118	1962
UP RR Crossing	30+84-29+65	10'x8' RCB	0.0051	Y3-0118	1962
	29+64-29+45	TRANSITION	0.00477	Y3-0118	1962
	29+45-17+25	12'X5' RCC	0.0047	Y3-0118 thru Y3-0116	1962
	17+25-13+45	12'x5' RCC	0.0047	Y3-0116	1962
1998 Channel Repair	**13+46-08+46**	**12'x5' RCC**	**0.0047**	**Y3-3766**	**1999**
	08+46-03+43	12'x5' RCC	0.0047	Y3-0115	1962

[1]Stationing based on plans, approximate distance upstream of confluence with Gabbert Canyon

3 Previous Studies

Walnut Canyon Channel has been analyzed numerous times over the last 23 years to assess existing and proposed conditions. These studies are listed below:

- **Baseline Condition VCRAT Modeling [VCFCD/VCWPD, 1996]**
- **Walnut and Gabbert Canyon Channel Flood Deficiency Study [RBF, 1997]**
- Moorpark West Corporate Center Flood Protection Project – Walnut Canyon Regional Detention Basin [2003, PACE]
- FEMA Flood Insurance Study (FIS) – Includes Walnut Canyon Channel [Nolte, 2005]
- **Technical Addendum to Walnut and Gabbert Canyon Channel Flood Deficiency Study (Regional Master Plan) [2005, PACE]**
- Hitch Ranch Watershed Masterplan Study [2007, PACE]
- **Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed [2009, PACE]**
- Hitch Ranch Specific Plan Environmental Impact Report (EIR) [2011, PACE]
- FEMA Letter of Map Revision (LOMR) – Walnut Canyon Channel [2011, MRC]

Baseline modeling and subsequent deficiency/design studies in **boldface** provide preliminary conceptual level design alternatives; none of which have been adopted by specific ordinance. Each are described in more detail below.

3.1 Baseline Condition VCRAT Modeling [VCFCD/VCWPD, 1996]

100-year and 50-year VCRAT models of the entire Gabbert and Walnut Canyon watershed intended to represent a baseline condition in anticipation of flow changes due to future development. The 4,425-acre watershed was divided into 79 subareas ranging from 8 to 105 acres in size for VCRAT development.

3.2 Walnut and Gabbert Canyon Channel Flood Deficiency Study [RBF, 1997]

Ventura County Flood Control District (VCFCD, precursor to VCWPD) compared the flood conveyance capacity of the system to the modeled flowrates and determined that the Walnut and Gabbert Canyon flood control channels did not provide the desired level of flood protection. The limited hydraulic conveyance capacity of the existing channel system results in the flood protection deficiency which was documented in the *Walnut and Gabbert Canyon Channel Flood Deficiency Study (RBF, 1997).*

The 1997 study characterized deficiencies and developed a regional masterplan to increase flood protection levels. The plan proposed the implementation of various conveyance-oriented improvements as well as five regional detention basins. While the improvements were designed based on flows resulting from the 1996 land use conditions, it mandates future development projects mitigate hydrologic impacts from their projects and include allowances for the proposed regional drainage facilities. The chosen, least cost alternative (B) included:

- Construction of a 300 cfs underground Shasta Avenue diversion channel near the current eastern boundary of Hitch Ranch taking flows directly south to Arroyo Simi.
- Separation of the Gabbert and WCC systems by creating a dedicated WCC trapezoidal channel outlet to Arroyo Simi.
- 140 ac-ft of detention storage within the WCC watershed.

This plan was superseded by the Technical Addendum to Walnut and Gabbert Canyon Channel Flood Deficiency Study (Regional Master Plan) [2005, PACE].

3.3 Technical Addendum to Walnut and Gabbert Canyon Channel Flood Deficiency Study (Regional Master Plan) [2005, PACE]

A 2005 Addendum to the 1997 study, referred to as the Regional Master Plan (RMP) from this point forward, similarly mandated that future development projects include allowances for regional flood control facilities and comply with local drainage requirements. This study revises the 1997 regional masterplan to incorporate improvements proposed in the Moorpark West Corporate Center Flood Protection Project – Walnut Canyon Regional Detention Basin prepared in March 2003 by RBF. RMP components are illustrated on Figure 3.

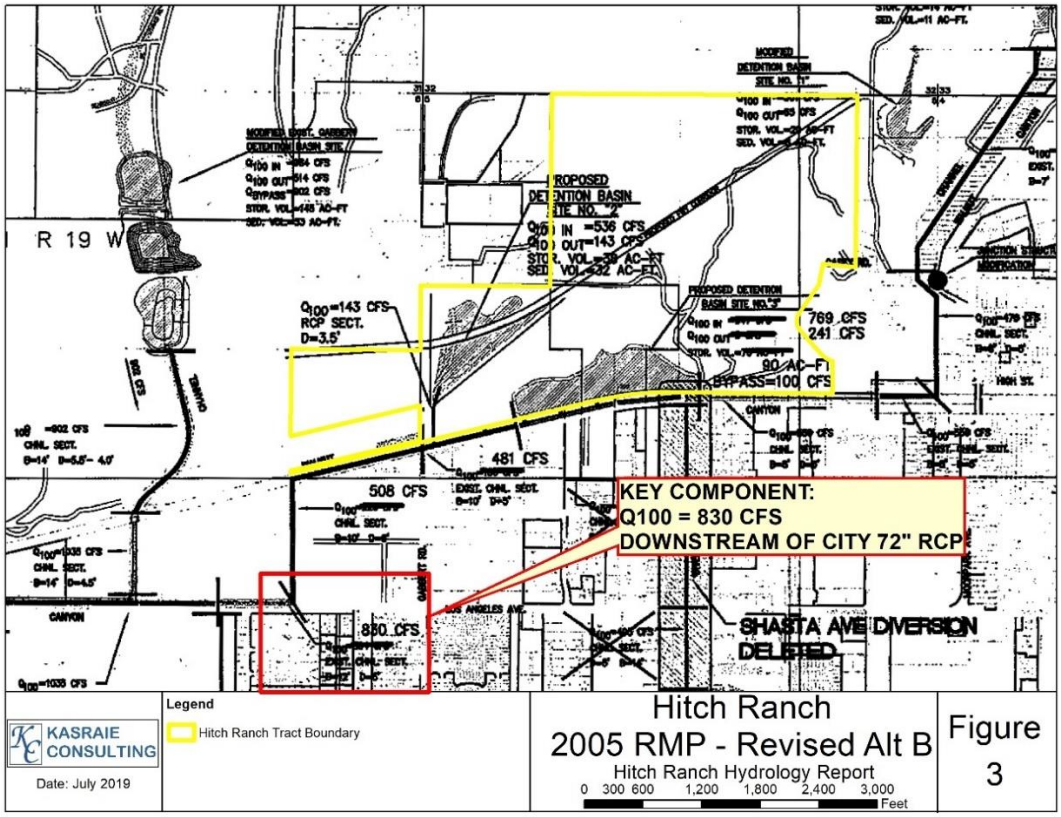


Figure 3: 2005 RMP – Revised Alternative B

The revised Alternative B includes:

- Elimination of the Shasta diversion channel and replaced it with 100 cfs by-pass between diversion from WCC to proposed Basin 3 and corresponding detention outlet back to WCC.
- Increased required storage in proposed Basin 3 from 70 to 90 ac-ft.
- Identified a target flow downstream of City of Moorpark 72" RCP, west of Southern California Edison (SCE) property was determined to be 830 cfs

3.4 Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed [2009, PACE]

A 2009 Update study *entitled Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed* [PACE] prepared for downstream Tract 5217 (immediately west of Southern California Edison property, adjacent to north and west bank of WCC) outlines their requirement to "construct offsite regional flood control improvements as discussed in the Walnut and Gabbert Canyon Watershed Masterplan approved June 2005" and that previous "owners of Hitch Ranch and Triliad Development have developed an agreement to allow Triliad to construct the proposed basin improvements on Hitch Ranch property". This would infer that there would be a cost sharing among benefitting parties. As of August 2019, Tract 5217 has not been developed.

4 Regulatory Framework

4.1 General Local Design/Hydrologic Mitigation Standards

New developments, such as Hitch Ranch, are commonly required to design localized mitigation for runoff flowing directly on or through their site. General regulatory guidance applicable to the project site include:

- City of Moorpark Municipal Code 17.76.050(76) Development standards states: "Drainage improvements must be designed so that after-development, drainage to adjacent parcels would not be increased above pre-development drainage quantities for any stormwater model between and including the ten (10) year and one hundred (100) year storms, nor will surface runoff be concentrated by this project."
- 2017 VCWPD Design Hydrology Manual: "To minimize the impacts of development on the existing drainage system, and in some cases to remedy existing drainage deficiencies, most Cities require that the consultant use detention to attenuate the 100-yr developed condition peak back to the 10-yr developed condition peak. For some watersheds with severe channel deficiencies, the mitigation goal has been the 10-yr undeveloped condition

peak. For the unincorporated County, the mitigation is normally no increase in flow for any design storm from the 10-, 25-, 50-, or 100-yr frequency."

4.2 Critical Additional Design/Hydrologic Mitigation Standards

During 2018-19, the developer and their consultants met with City and VCWPD staff, holding a series of discussions regarding the project. Updated existing condition and proposed condition hydrology including a regional detention basin (commonly known as Basin 3) peak discharge reduction concept similar to the 2005 RMP, along with a Hitch Ranch-Only mitigation measure involving local on-site detention basin facilities (following the general local design/mitigation standards outlined in the previous section) were provided.

After much discussion and collaboration, the Regional Detention Basin 3 concept was found to be the preferred alternative as it will provide the best opportunity to reduce peak discharges in the downstream reaches of WCC. The purpose of the remainder of this report is to demonstrate that the Hitch Ranch project, as shown on the May 2019 (amended July 2019) Tentative Tract Map (TTM), mitigates for local drainage impacts and supports Regional Flood Control (RFC) objectives and Local Flood Requirements (LFR) as outlined in the RMP (See Table 4).

Table 4: Regional Flood Control (RFC) Objectives and Local Flood Requirements (LFR)

Element		Governing Agency	Criteria
Performance Criteria	Regional Flood Control (RFC) Objectives	VCWPD	flood control components must be designed to achieve either 50-year conveyance in the channel with freeboard, or 100-year conveyance in the channel without freeboard but including super-elevation, whichever is greater
	Local Flood Requirements (LFR)	City of Moorpark	Proposed peak flows must not exceed existing flows leaving project site for the 10-, 25-, 50-, and 100-year storm events

Based on the required RFC and LFRs listed above, all designs are required to meet the following targets:

1. Reduce the projected post-development 100-year flow to below the existing pre-development 10-year flow condition at the westerly project boundary along WCC;
2. Meet the 830-cfs RMP requirement (2005, 2009) of the post-project 100-year flow being contained within the existing WCC along Los Angeles Avenue.

This 2020 Update, Hydrology Study Report, builds on all the previous hydrology studies, and it presents a new and up-to-date picture of the drainage improvements that the community has requested of the developer and their consultants.

In addition, VCWPD informed the community that since acceptance of the 2005 RMP, WCC facilities have shown signs of severe structural failures. The 2005 RMP and subsequent 2009 design study only addressed downstream hydrologic and hydraulic deficiencies.

No other remedy is offered to address the existing structural failures in the downstream channels, as they are considered to be outside the control of the Hitch Ranch Development project.

4.3 California Division of Safety of Dams (DSOD)

Large dams that may have a higher potential for public safety hazard are considered Jurisdictional Dams and fall under the oversight of the California Division of Safety of Dams (DSOD). Dams that have:

- A dam height more than 6 feet and impounds 50 acre-ft or more
- A dam height greater than 25 feet and impounds 15 acre-ft or more

Dam height is defined as "the vertical distance measured from the lowest point at the downstream toe of the dam to its maximum storage elevation".

Jurisdiction Dams require significant additional design, construction, and maintenance costs. Designs should minimize the likelihood of this classification.

4.4 VCWPD Detention Basin/Outlet Design Requirements

Based on the *VCWPD Design Manual* (1968) and unpublished 1991-92 guidance:

1. The emergency spillway must be designed to pass the unattenuated 100-year flow and is to be located at least 1-foot above the 100-year modeled design (through any primary/secondary outlets) water surface elevation.
2. A minimum freeboard of 3-feet must be provided above the top of the calculated, unattenuated flow over the emergency spillway.

5 Approach

To demonstrate that the Hitch Ranch project provides appropriate mitigation measures to meet LFR and RFC objectives outlined in previous Regional Master Plan (RMP), hydrologic analysis of the Walnut Canyon watershed was developed and results were evaluated with respect to the above criteria. Modeling was completed using VCRAT (Ventura County Rational Method Hydrology Model, version 2.64.0.37) for the 10-year/100-year Existing and 100-year Interim/Ultimate conditions summarized in Table 5. 25- and 50-year events will be included in a subsequent hydraulic study that includes design of the on-site storm drain system.

Table 5. Modeled Conditions

Condition	Land Use	Basin Configuration
Existing	Existing land use, no development in HR	Includes Basins 0, 5187-1 and 5187-2
Interim	Proposed land use (includes Hitch Ranch and Essex developments)	Includes Existing Basins (0, 5187-1, 5187-2) plus Proposed Hitch Ranch Basins 2A, 2B, 2, and 3
Ultimate	Proposed land use (includes Hitch Ranch, Mansi, and Essex developments)	Includes Existing Basins (0, 5187-1, 5187-2), Proposed Hitch Ranch Basins (2A, 2B, 2, and 3) plus Basin 1 (located immediately north of Casey Rd and the Boys and Girls Club)

5.1 Hydrology Model Development

Hydrology models for this study were developed in VCRAT 2.64 based in part on models developed for previous studies (VCRAT 2.5) and on an analysis of the most up-to-date spatial data. Models developed for previous modeling efforts were updated to reflect hydrologic changes resulting from: 1) VCRAT 2.64 methodological and source data updates (soils, curve numbers, actual imperviousness and rainfall), and 2) updates to plans for development within the watershed (including Hitch Ranch and Essex developments).

5.1.1 Existing Condition

There have been no significant changes in watershed land use since previous modeling efforts. Existing Condition models were developed by transcribing previous VCRAT 2.5 model parameters into VCRAT 2.64 and updating soil numbers, imperviousness and rainfall parameters based on the *2017 VCWPD Design Hydrology Manual*. The final product is a single, contiguous model (Nodes 1A-125A) for the 10- and 100-year frequencies from the WCC headwater, through the confluence with Gabbert Canyon Channel, to the outlet at Arroyo Simi.

5.1.2 Proposed Condition

VCRAT does not have the direct capability to model complex diversions or detention basins, therefore:

- The hydrograph split at the diversion and basin outlet rating curves needed to be determined outside the program. HydroCAD (version 10.00-21) was chosen for this purpose due to the ease of modeling complex outlets while connecting the entire system. Hydrographs were exported from an initial VCRAT run for individual and/or linear series of subareas. They were then used as input into HydroCAD as a "Link".
- Proposed Interim and Ultimate condition evaluations were each split into upstream (Nodes 1A-45A) and downstream (Nodes 45A-150A) VCRAT models. Outflow hydrographs from HydroCAD diversion calculations were imported into the downstream model to represent the time dependent split.

No significant changes are proposed for the watershed upstream of the proposed diversion for the Interim Condition, therefore model parameters from the Existing Condition (with a few minor exceptions) VCRAT model were used (flow at Node 44AC is the same in the Existing and Interim). For the Ultimate Condition, the only difference is that the incoming hydrograph was fattened and the rating curve from 2009 *Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed* was used at Node 32B representing Basin 1 (not built as of 07/31/19).

Downstream of the diversion, due to the significant changes included in the Hitch Ranch TTMs, subareas downstream of the Basin 3 diversion were developed based on an entirely new spatial analysis of proposed topography, soils, land uses, rainfall zones, Tc's, etc.

5.1.3 Parameter Estimation

Per VCWPD guidelines in the Hydrology Manual (VCWPD, 2017), hydrographs in the VCRAT models were fattened prior to reservoir routing at all detention basins (unless fattening resulted in reduced volumes).

A summary of VCRAT model input data sources and methods for parameterization is provided in Table 6. Additional details, background information and model input/output files can be found in the attached appendices.

Table 6: VCRAT Model Assumptions

Model Component	Data Source(s)	Parameterization Approach
Subareas (Figures 4 and 5)	1) LiDAR Topography (County of Ventura, 2016) 2) Storm Drains (City of Moorpark, 2015)	Existing Conditions/Proposed Conditions US Walnut Canyon diversion: Previously modeled subareas (PACE 2009) were reviewed and updated in consideration of 5 ft LiDAR contours (County of Ventura, 2016) and the City of Moorpark's digitized storm drain layer. Proposed Conditions (Hitch Ranch): Delineated based on grading and storm drain infrastructure illustrated in Tentative Tract Maps dated May 2019 (amended July 2019)
Rainfall (Figure 6)	Rainfall Zones, (NOAA, 2017), downloaded from the County of Ventura	Model boundaries are entirely within the South Mountain to Moorpark rainfall zone, as defined by the NOAA 2011 analysis.
Soils (Figure 7)	Soils shapefile, County of Ventura, 2010	Area weighted soil numbers were calculated for each subarea in ArcGIS.
Imperviousness (Figures 8 and 9)	1) Aerial Photograph (County of Ventura, 2016) 2) Exhibit 14B, Design Hydrology Manual, VCWPD, 2017 (actual imperviousness)	Actual imperviousness values were assigned to each land use. Imperviousness values for each subarea were then calculated by area-weighting the land uses.
Land Use (Figures 8 and 9)	1) Baseline Conditions Model (VCWPD, 1996) 2) Aerial Photograph (County of Ventura, 2016) 3) ECG TTM (June 2018)	Existing Conditions: designated based on those included in the 1996 VCWPD Baseline Conditions model with updates for Tract 5187 development. Proposed Conditions: designated based on the existing modeled land uses, with modifications to account for land uses proposed for Hitch Ranch in tentative tract maps dated June 2018 and planned development of the Essex property

Table 6: VCRAT Model Assumptions

Model Component	Data Source(s)	Parameterization Approach
Time of Concentration (Appendices 2a and 2b)	1) LiDAR Topography (County of Ventura 2016) 2) Storm Drains (City of Moorpark, 2015)	Existing Conditions/Proposed Conditions US Walnut Canyon diversion: Previously calculated (VCWPD 1996, PACE 2009) Tc's for the 100-year storm event were used where still relevant; 100-yr Tcs were prorated based on subarea slope and overland flow length for the 50-, 25-, and 10-year storm events. Proposed Conditions (Hitch Ranch): Calculated using VCWPD's Tc Calculator spreadsheet using flow paths measured in ArcGIS
Fattening (Table 7)	1) Soils shapefile, County of Ventura, 2010 2) Exhibit 14B, Design Hydrology Manual, VCWPD, 2017 (actual imperviousness)	Fattening was conducted prior to reservoir routing at all detention basins. Detention basins with no upstream storage facilities: areally-weighted curve numbers were calculated based on soils and land uses per VCWPD methodology, input into VCRAT with total storm event rainfall Detention basins downstream of other storage facilities: The yields for both the area tributary to the upstream basin and the area directly tributary to the downstream basin were calculated. These were then areally-weighted and the areally-weighted yield was used as the fattening factor.
Stage-Storage-Discharge Curves (Appendix 2)	1) ECG TTMs (May 2019, amended July 2019) 2) PACE 2009 modeling	Basins 0, 5187-1, 5187-2, and Basin 1: Based on PACE 2009 modeling Basins 2a, 2b, 2 and 3: determined by combining results obtained by using hydrographs exported from VCRAT as inflows to HydroCAD (Build 10.00-21) stormwater model software where rating curves were extracted.

10-/100-year Existing Condition and 100-year Interim/Ultimate Condition VCRAT input/output plots are in Appendix 5.

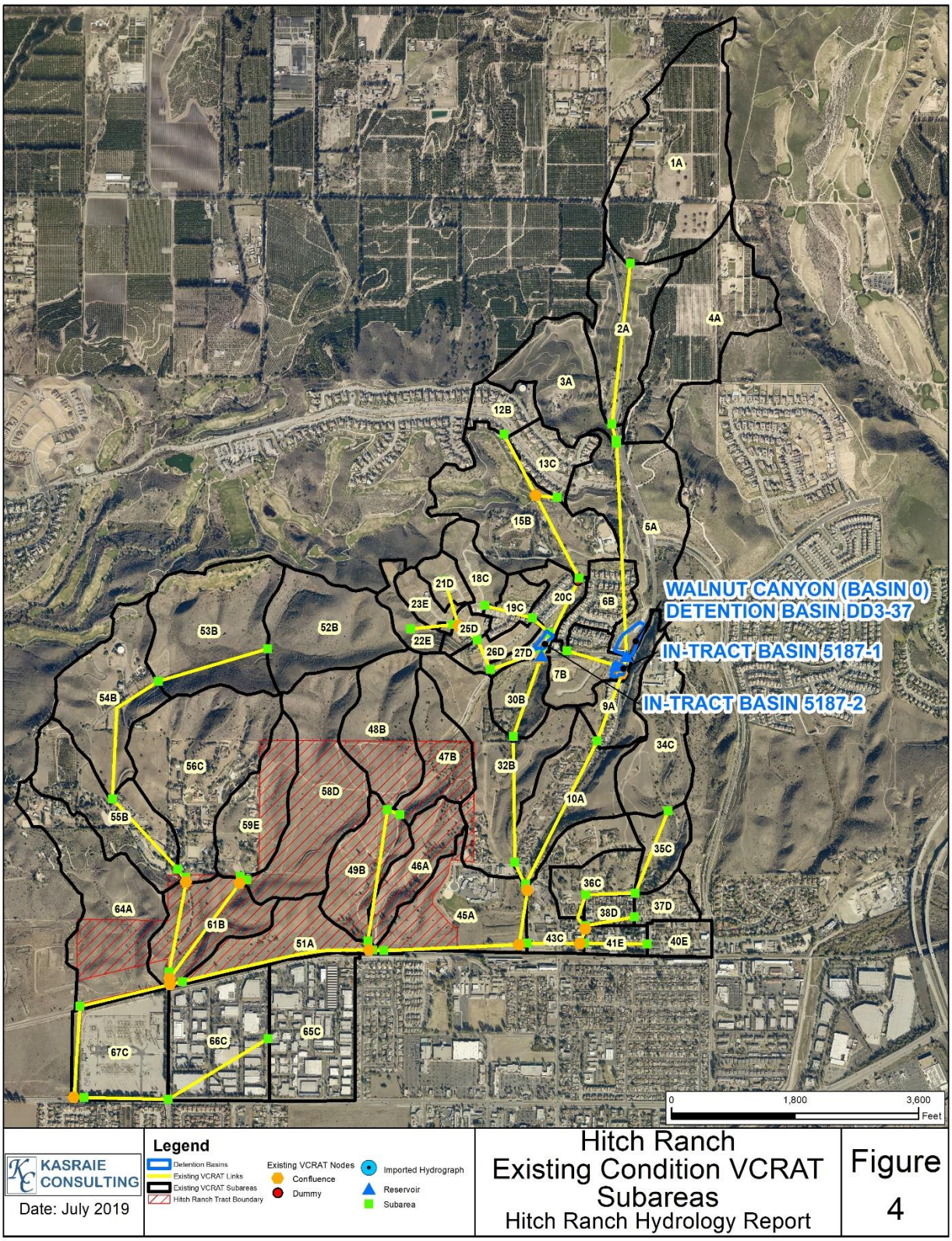


Figure 4: Existing Condition VCRAT Subareas

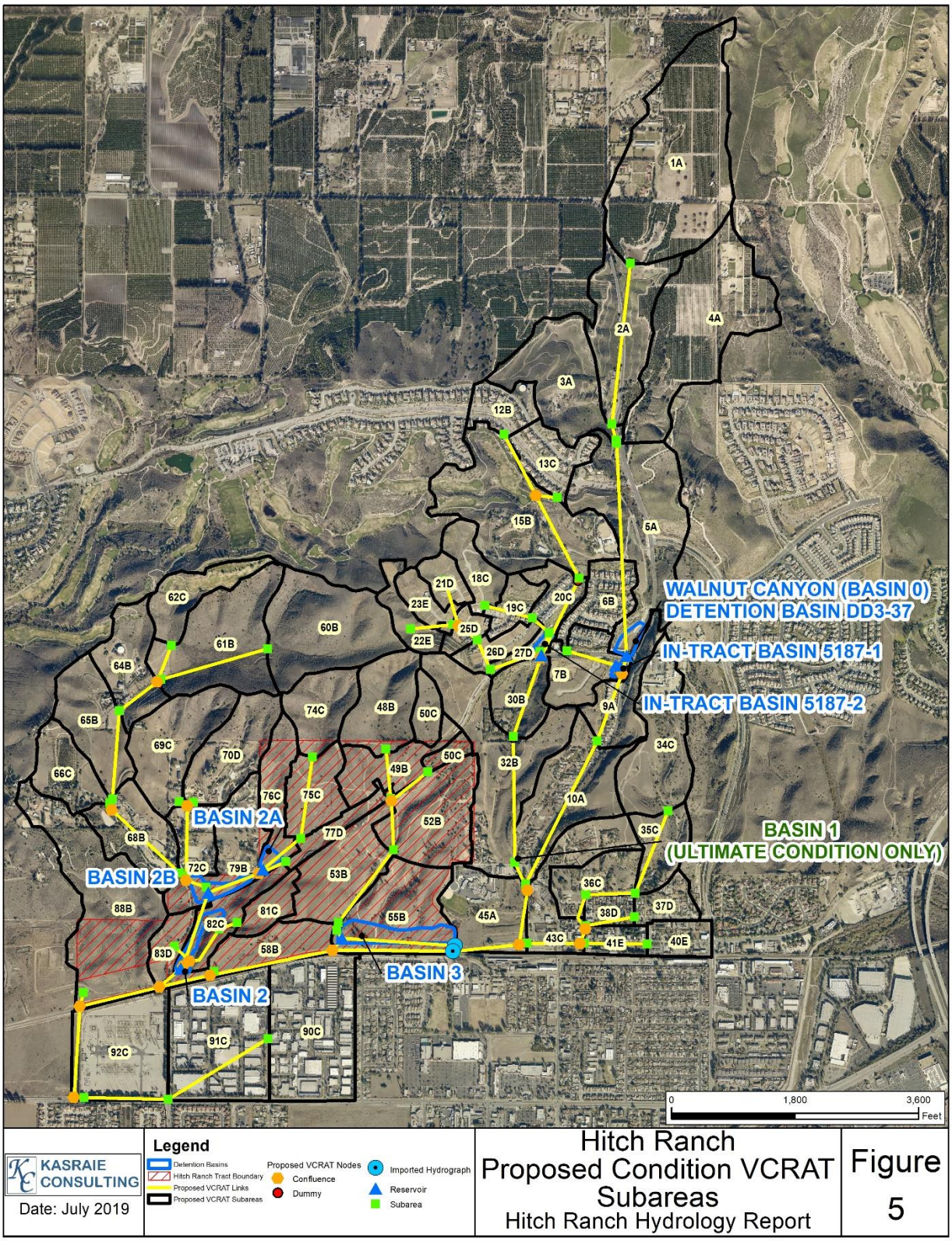


Figure 5: Proposed Condition VCRAT Subareas

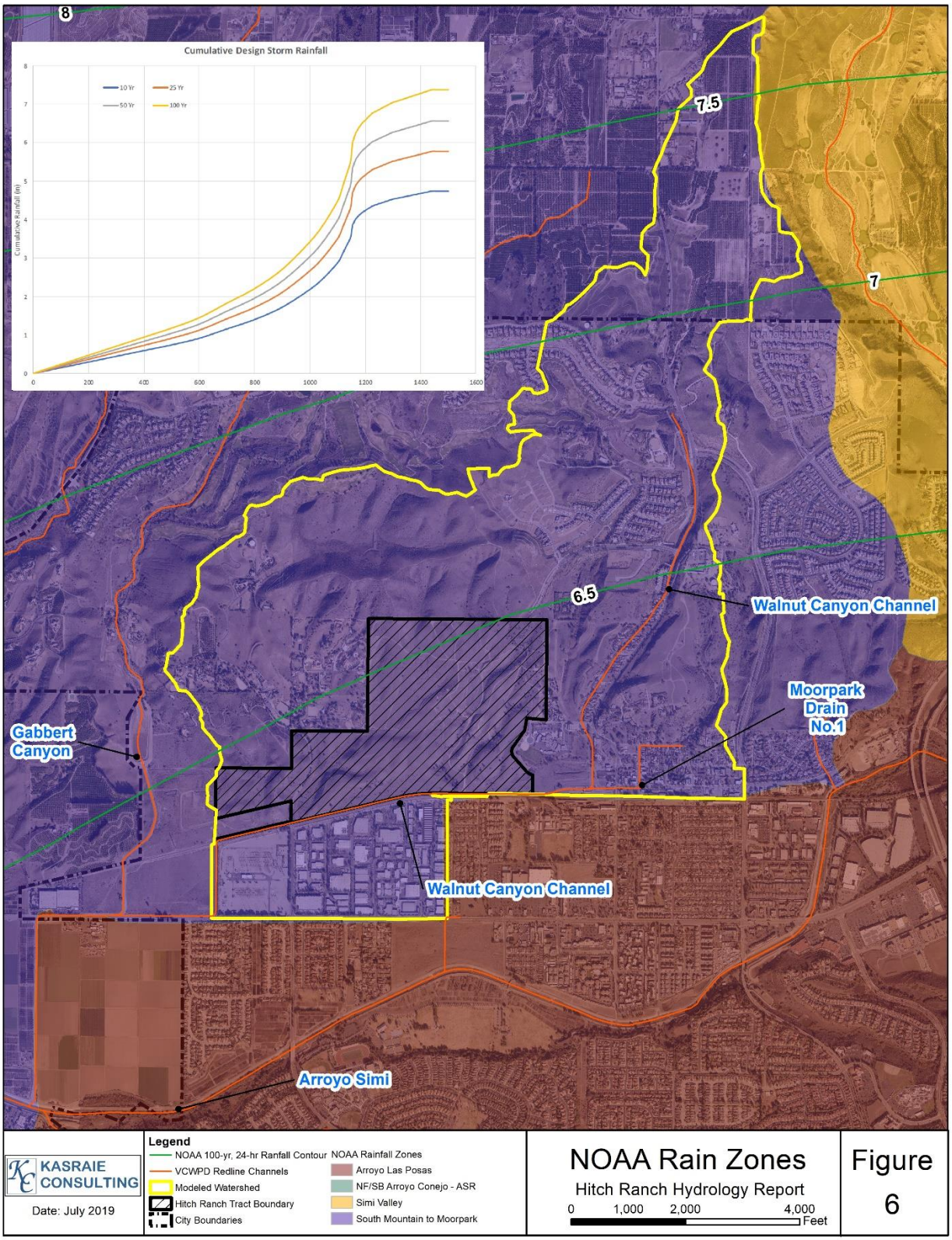


Figure 6: NOAA Rain Zones

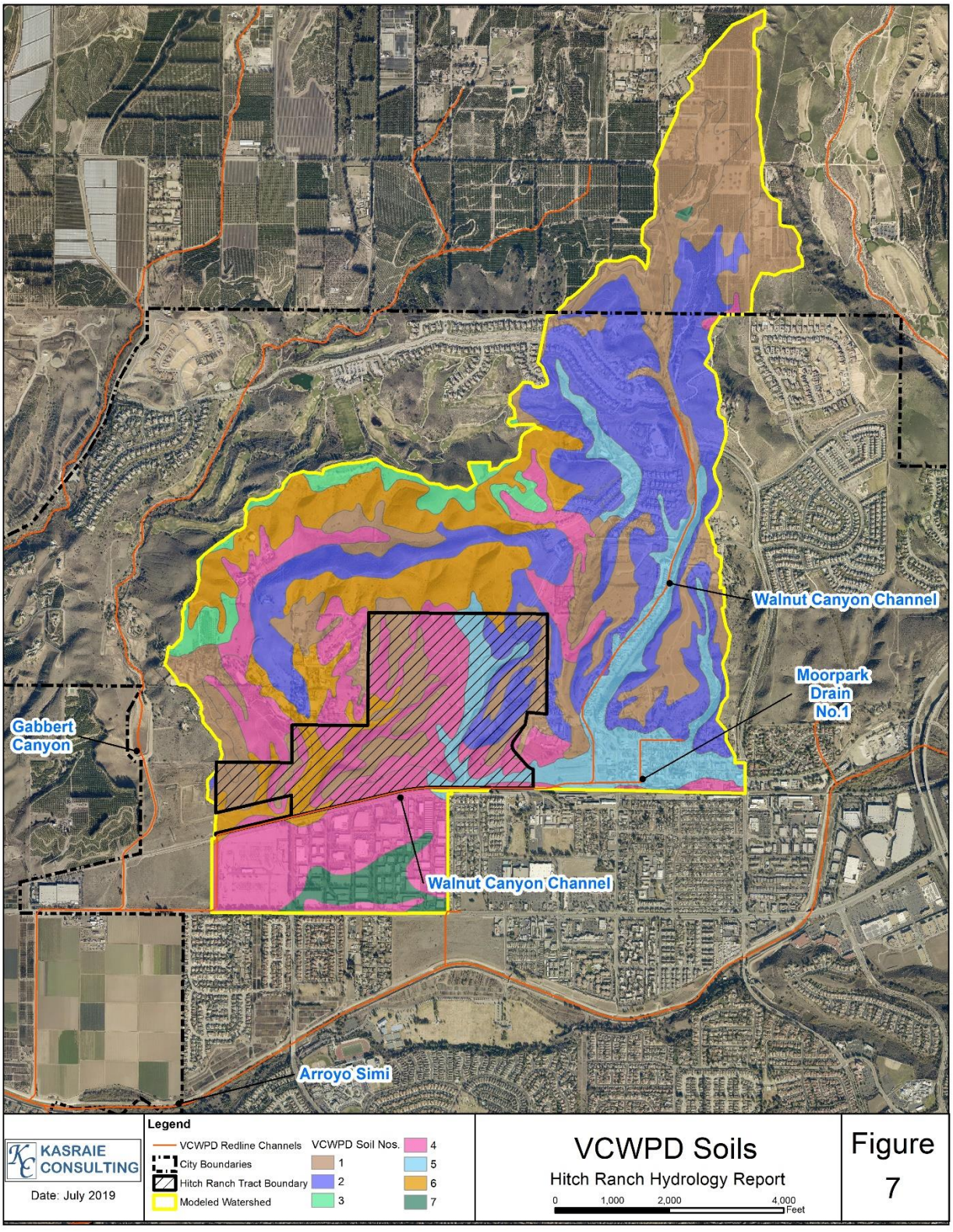


Figure 7: VCWPD Soils

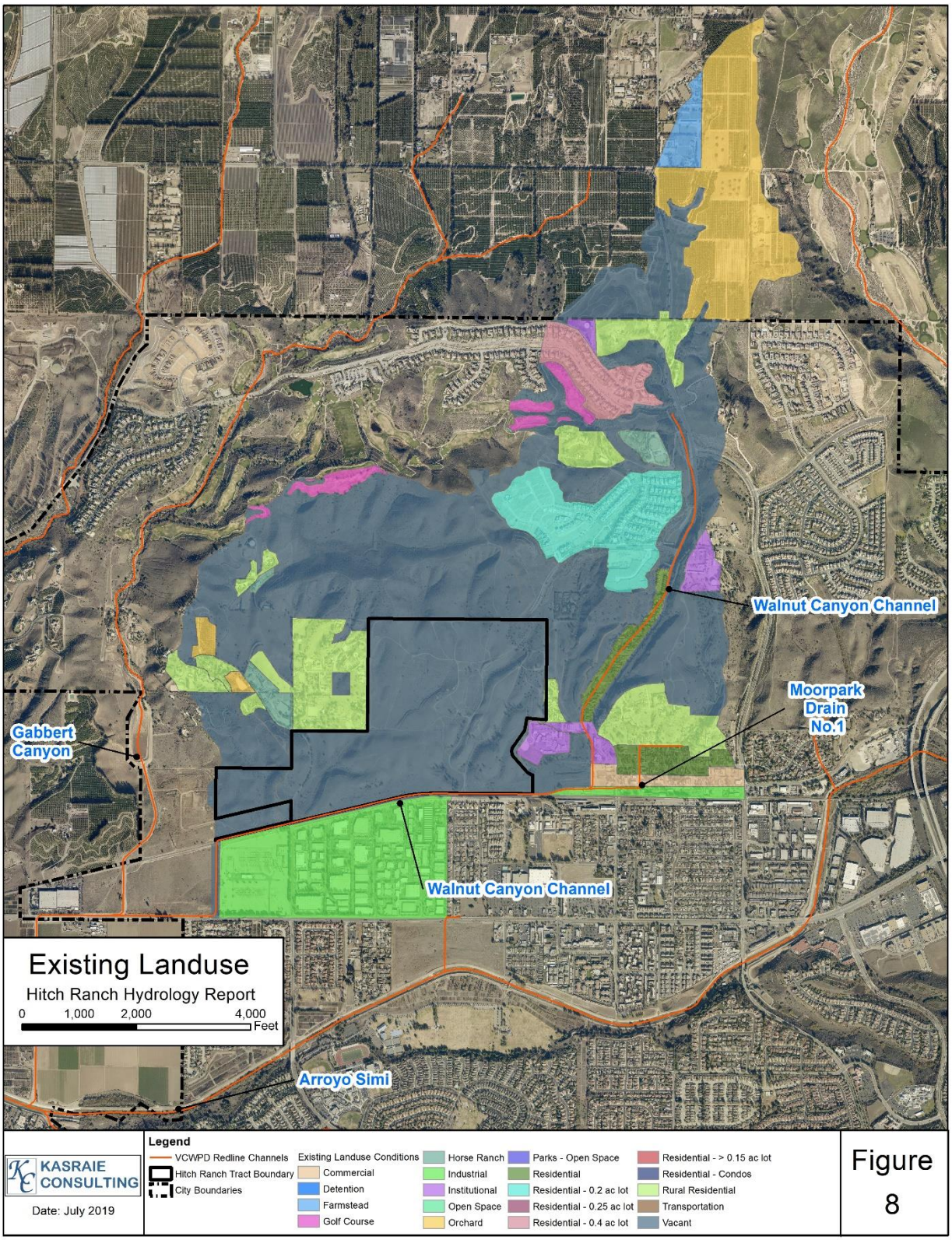


Figure 8: Existing Landuse

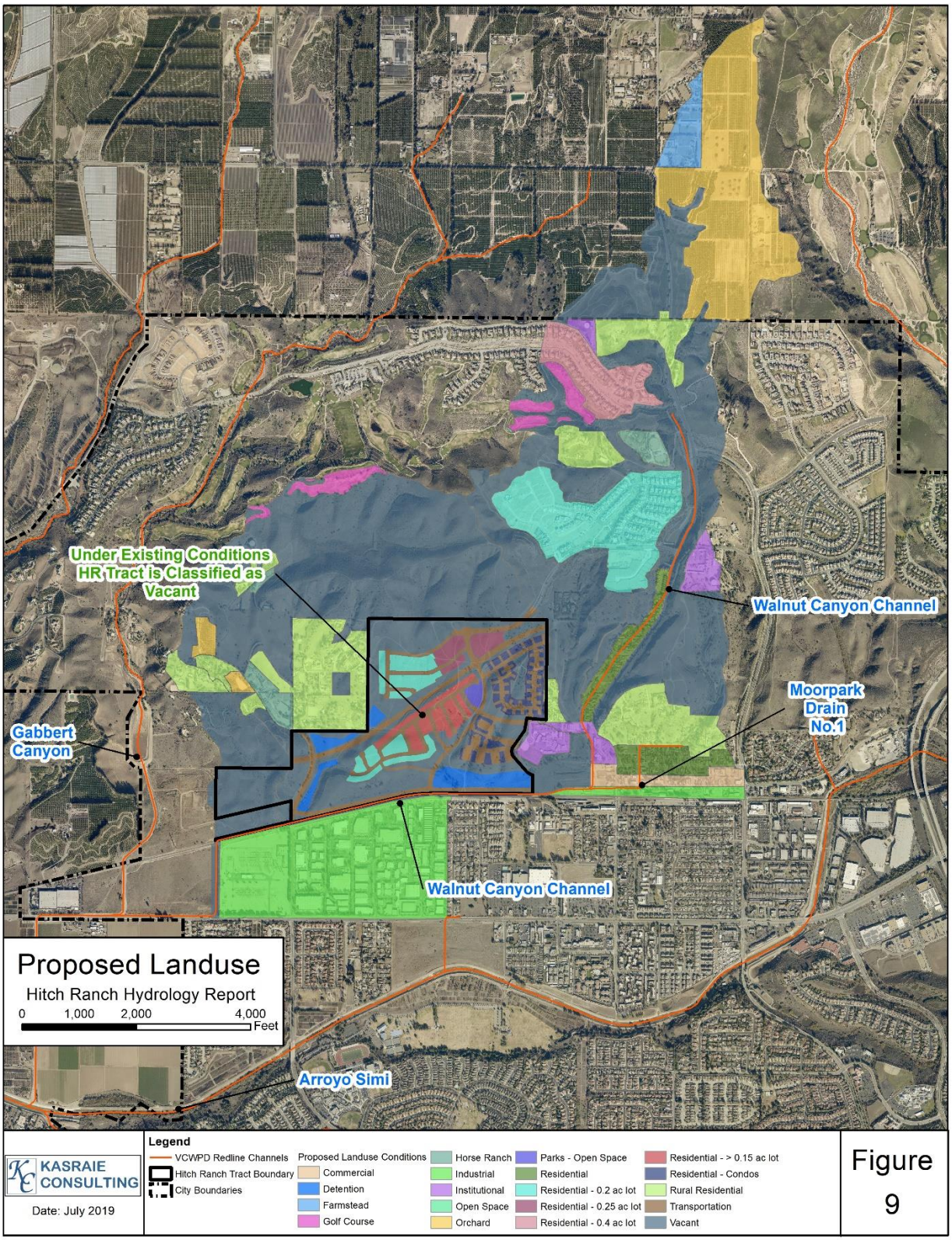


Figure 9: Proposed Landuse

Table 7. Yield Adjustment Assumptions

Location	Node	CN	Rainfall (in)				Yield Adjustment (in)			
			100	50	25	10	100	50	25	10
Reg. Basin 0	5A	69	6.5	6	5.25	4.5	--	--	--	--
Tract 5187 Basin 1	7B	83	6.5	6	5.25	4.5	--	--	--	--
Tract 5187 Basin 2	28C	68	6.5	6	5.25	4.5	--	--	--	--
Reg. Basin 1 (Casey Road)	32B	--	--	--	--	--	2.7	2.3	1.8	1.3
Reg. Basin 3 at Diversion	45A[1]	--	--	--	--	--	2.9	2.5	2.0	1.5
Reg. Basin 3 - Direct	55B	73	6.5	6	5.25	4.5	--	--	--	--
Basin 2A	76C	62	6.5	6	5.25	4.5	--	--	--	--
Reg. Basin 2B (82C) – Two Incoming Nodes										
North Hills Pkwy Local Drains Directly to Basin 2B	77D[1]	--	--	--	--	--	1.8	1.5	1.0	0.8
Upstream of Basin 2B, not including outflow from Basin 2A	79B	--	--	--	--	--	1.8	1.5	1.0	0.8
Reg. Basin 2 (86B) – Two Incoming Nodes										
Local subarea + adjacent area to the east	82C	--	--	--	--	--	1.9	1.6	1.2	0.8
Undeveloped subarea directly west of Gabbert and Basin 2	83B[2]	--	--	--	--	--	--	--	--	--

[1]Applying Yield Adjustment (fattening) resulted in lower volumes, therefore it was not included in the final model for these nodes (45A and 77D)

[2]Subarea 83B is currently planned to remain undeveloped

5.2 Model Validation

A HEC-RAS 2D (5.0.7) hydraulic model was created using 2018 topography, ECG May 2019 (amended July 2019) TTMs, and inflow hydrographs from VCRAT to internally verify the final hydrologic modeling due to potential backwater and timing constraints. It produced similar results. This model is included as part of this submittal, Please see Chapter 7.

6 Hydrologic Design/Results

Four detention facilities are being proposed and were modeled to meet current requirements as identified in *Section 4 Regulatory Framework* section of this report.

6.1 Considerations Needed to Meet RFC and LFRs

The most critical RFC/LFR is the RMP (2005, 2009) requirement that any design results in the post-project 100-year flow being contained within the existing WCC along Los Angeles Avenue (LA Ave). This objective cannot be met by solely treating run-on (runoff that flows directly through the HR from other areas) and on-site flows. It requires the Hitch Ranch development to address off-site deficiencies within the framework of its own tract while addressing downstream features beyond its control (inflows near UPRR 10'x8' RCB and City 72" RCP). Issues include:

1. 100-year Ultimate/Interim Condition flows immediately upstream of Hitch Ranch (Node 45A) are 758 and 871 cfs. These calculated flows are near or above the target flow of 830 cfs without any addition of attenuated, on-site Hitch Ranch flows to the system. Any added inflow, including the local subarea (88B, 104 cfs) would violate the RMP requirement. Therefore, a portion of upstream flows must be diverted and detained in addition to the on-site runoff (Regional Basin 3). **This is the basis for needing a diversion structure.**
2. 100-year Ultimate/Interim incoming volume (Node 45A) of flow upstream of Hitch Ranch is 218 and 221 ac-ft respectively. It is not feasible for the entire amount to be detained; therefore, a portion will need to be allowed to by-pass Basin 3. Potential detention basins and outlets need to be optimized to ensure constructability while meeting the downstream target. **This is the basis for the needing a by-pass.**
3. Conceptually, if "no runoff" is allowed into WCC upstream of Gabbert Road, the peak flow at LA Avenue is 452 cfs (Node 93AC) at 19.32 hours into the model. Therefore, upstream flows are limited to 378 cfs at the same time (19.32 hours) which would require time to peak of released flows to be shifted. If 100 cfs flow upstream of HR is allowed to remain in the channel, then the peak at LA Ave is 552 cfs. **This is the basis for limitation, optimization, and lag of outlet flows from the detention basins,**
4. A single, primary outlet must be designed to limit outflow and provide adequate lag while minimizing required detention. Optimizing all three functions is difficult due to the stringent downstream requirement and magnitude of upstream, off-site flows. A dual-outlet system splits the functions such that the primary outlet controls the lag while the secondary controls the impoundment size. This division provides more design flexibility. **This is the basis for a dual-outlet.**

These constraints were outlined in the previous RMPs and lead to a similar conceptual conclusion:

1. A diversion structure at the upstream (eastern) HR boundary will need to be optimized such that flows above a certain threshold are sent from WCC to Regional Basin 3 while the remainder by-passes and continues downstream.
2. Proposed Basins 2 and 3 need to provide a significant lag in peak such that the majority of the flow in the downstream area has passed through the system.

Note: This is preliminary hydrologic design and does not include infiltration of a dead storage area with a low-flow outlet.

6.1.1 Diversion/Outlet Design

An in-line 8'x2' (rectangular orifice) hanging wall will be used to create backwater/head diverting flows (>139 cfs) through 6-8.37'x2.5' rectangular side orifices from WCC to Basin 3.

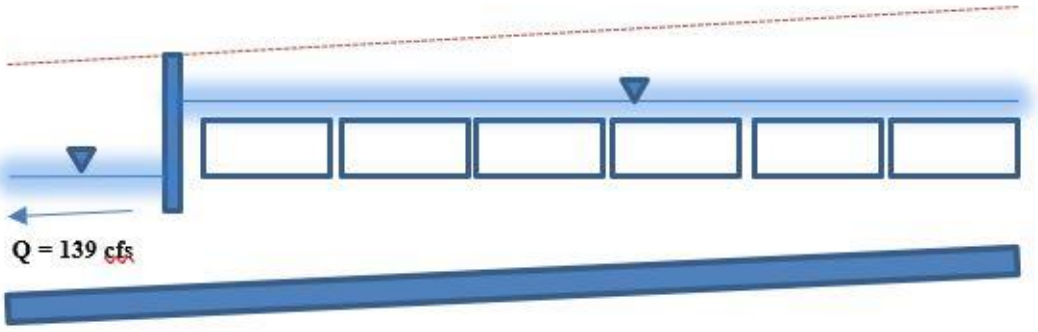


Figure 10: Conceptual Diversion By-pass to Basin 3

The following are descriptions of the initial outlet works design for each basin. Note that dimensions may be altered to fit standard and/or prefabricated components where necessary during final design. At that time the modeling will be adjusted to reflect the final component plans.

Basin 2A: The outlet will consist of a rectangular, concrete tower having a 24-foot perimeter. The low flow/primary outlet will consist of a single 33-inch, circular orifice opening in the tower. The top of the tower (weir) will serve as the emergency spillway. Two 39-inch RCPs, providing capacity for the unattenuated flow, will exit the tower towards Basin 2B.

Basin 2B: The low flow/primary outlet will be 2-18" RCPs that drain to Basin 2. A 93' long weir will serve as the emergency spillway, passing the unattenuated flow at 1.5' of head (C = 2.8). It will follow a similar configuration as Basin 0 (80' weir) with 2-60" RCPs leading to Basin 2. The emergency spillway design has some flexibility. At 2' of head, the weir would only need to

be 58’ long, but another 0.5’ would need to be added to the floodwall to meet freeboard requirements.

Basin 2: The outlet will consist of a rectangular, concrete tower having a 27-foot perimeter (similar to Basin 0). The low flow outlet will consist of a single 9-inch circular orifice in the tower, the primary outlet will be a 3’x2’ rectangular orifice in the tower, and the secondary outlet will be a weir created by the top of the tower. A 114’ long weir will serve as the emergency spillway, passing the unattenuated flow at 1.5’ of head (C = 2.8). It will follow a similar configuration as Basin 0 (Figure 11, 80’ weir) with 2-7.25’x4’ RCBs leading to WCC. The emergency spillway design has some flexibility. At 2’ of head, the weir would only need to be 74’ long, but another 0.5’ would need to be added to the floodwall to meet freeboard requirements.

Basin 3: The outlet will consist of a rectangular, concrete tower having a 34-foot perimeter (similar to Basin 0). The low flow outlet will consist of a single 9-inch circular orifice in the tower, the primary outlet will be a 6.25’x2’ rectangular orifice in the tower, and the secondary outlet will be a weir created by the top of the tower. A 137’ long weir will serve as the emergency spillway, passing the unattenuated flow at 2.0’ of head (C = 2.8). It will follow a similar configuration as Basin 0 (80’ weir) with 3-8’x4’ RCBs leading to WCC. The emergency spillway design has some flexibility. At 3’ of head, the weir would only need to be 75’ long, but another 1.0’ would need to be added to the floodwall to meet freeboard requirements.

Basins 2 and 3 were excavated to maximize storage which limits the gravity head available for discharge through the primary outlet to WCC. Basin 3 outlet pipes are carried to the channel further downstream to create reasonable slope. To prevent potential backflow from the channel to the basin, flap gates will be installed.

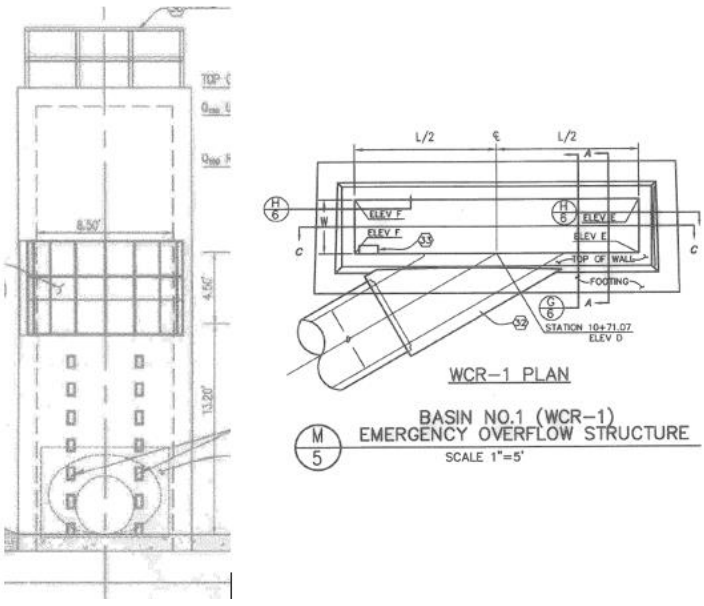


Figure 11: Walnut Canyon Basin 0 Outlet Tower and Emergency Spillway

Table 8 includes critical design features as well as VCRAT 100-yr Interim Condition WSEs:

Table 8: Proposed Detention Facilities

Name	Bottom Elevation	Low Flow Outlet	Primary Outlet	Secondary Outlet	VCRAT 100-yr Interim WSE (Node)	Emergency Spillway	Minimum Top of Basin Elevation (Volume, acft)	Required Floodwall Elevation (Length, ft)[3]
Basin 2A	512.0	None[0]	1-33" Circular Orifice (@512.0)	NONE	516.3 (76C)	24' Weir (@517.3)	522.0 (9.5)	NONE
Basin 2B	498.0[1]	None[1]	2-18" Circular Orifices (@498.0)	27' Weir (@506.1)	508.0 (80BC)	93' Weir (@508.9)	511.0 (32.9[2])	513.4 (761.0')
Basin 2	471.0	1-9" Circular Orifice (@ 471.0)	1-3'x2' Rectangular Orifice (@473.0)	27' Weir (@477.9)	478.5 (86B)	114' Weir (@480.3)	483.0 (22.2)	484.8 (292.0')
Basin 3	480.0	1-9" Circular Orifice (@ 480.0)	1-6.25'x2' Rectangular Orifice (@481.0)	34' Weir (488.0)	489.7 (56BD)	137' Weir (@491.0)	493.0 (88.7)	496.0 (622.0')

[0]Low Flow and Primary are the same.
[1]Low flow not modeled as it will below debris line.
[2]Elevation/Volume above required debris volume.
[3] Required Floodwall Elevation = WSE100 + 1' (Emergency Spillway Elevation) + Depth Over Emergency Spillway to Convey Unattenuated Flows + 3' Freeboard

Peak flows were evaluated at three locations to identify current deficiencies as well as determine necessary mitigation:

1. At the western, most downstream boundary of the Hitch Ranch development along WCC at Gabbert Road to confirm that local flood requirements (LFR) are met.
2. At the Union Pacific 10' x 8' RCB where WCC flow direction changes from west to south, resulting in added super-elevation considerations.
3. At Los Angeles Avenue, where WCC changes flow direction from south to west, immediately downstream of the incoming City of Moorpark 72-inch RCP west of the Southern California Edison property to verify that regional flood control/regional master plan (RMP) objectives are achieved.

Existing and the Proposed Interim Condition Peak Flows are included in Table 9:

Table 9: Existing and the Proposed Interim Condition Peak Flows

Location	Target Flow/Capacity cfs (Slope)	VCRAT Modeled Existing Q100 cfs (Node)	VCRAT Modeled Existing Q10 cfs (Node)	VCRAT Modeled Interim Q100 cfs (Node)
WCC @ Gabbert Road (10'x6' RCB) Location #1	833[1] (0.0051)	1477 (63AB)	**755** (63AB)	**704** (87AB)
WCC @ Union Pacific RR (10'X8' RCB) Location #2	850[1,2] (0.0051)	1566 (64A)	**792** (64A)	**717** (89AB)
WCC, Downstream of MPK 72" RCP (12'x5' RCC) Location #3	**830**[3] (0.0047)	1809 (68AC)	**905** (68AC)	**806** (90AC)

[1]Fr>1 = Supercritical
[2]Includes super-elevation based on 38-foot radius of curvature
3Based on previous RMP: Technical Addendum to Walnut and Gabbert Canyon Channel Flood Deficiency Study [2005, PACE]

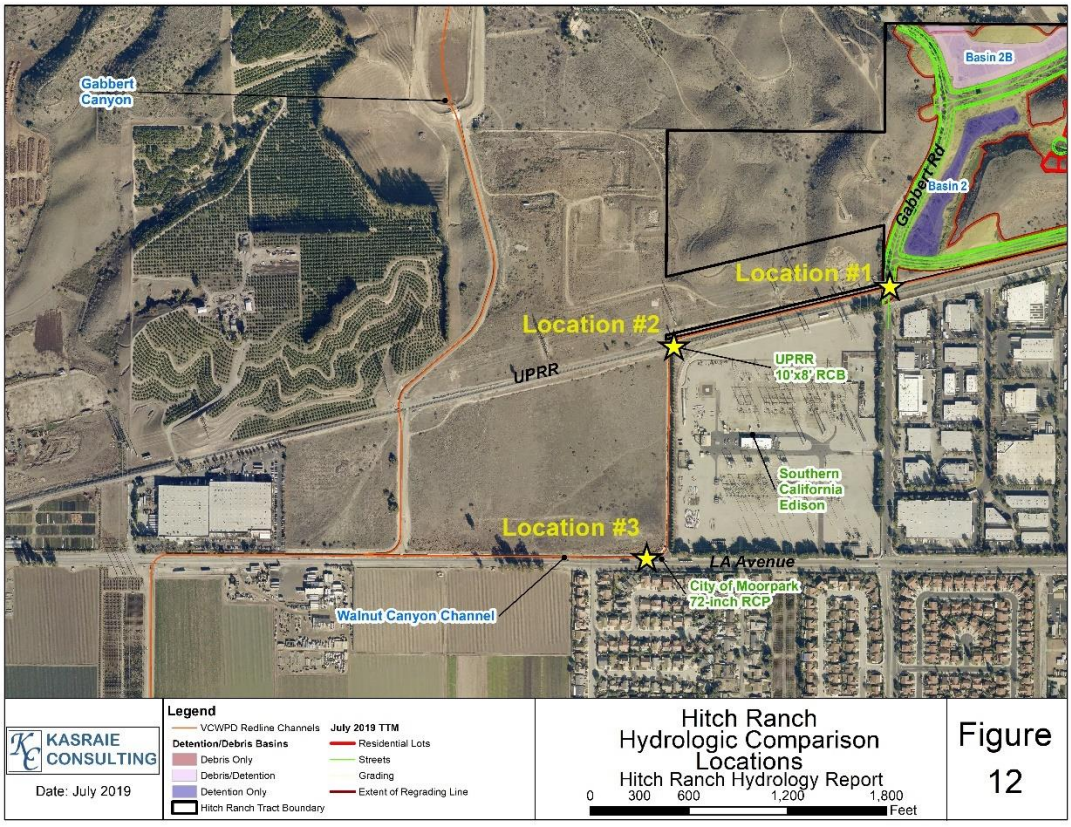


Figure 12: Hydrologic Comparison Locations

Designed diversion and detention facilities provide flow attenuation and time to peak lag which prevent 100-year flows from accumulating beyond the capacity of the downstream system. In addition, proposed Interim Condition 100-yr flows are below 10-yr existing flows along WCC. **Regional Flood Control (RFC) Objectives and Local Flood Requirements (LFR) are met with this design.** This project does not address structural deficiencies or failures of the existing WCC system.

6.2 California Division of Safety of Dams (DSOD) – Jurisdictional Dams

Each proposed detention basin was evaluated based on interpretation of the DSOD definitions as outlined in previous RMPs.

Basins 2 and 3 will be constructed by significantly excavating below the existing surface, creating a "pit" style impoundment. The previous RMPs and *2009 Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed* all discuss this type of design to maximize detention without becoming a "Jurisdictional Dam".

The purpose of this report is to outline proposed stormwater facilities to be used to meet required RFC and LFRs. Subsequent design phases will include additional discussion with City and County staff.

7 Walnut Canyon Channel Hydraulic Analysis

An initial hydraulic evaluation of the existing and proposed conditions was completed to:

1. Determine the overall benefit of the proposed system versus existing conditions.
2. Ensure/verify that the proposed system will likely work as intended. The designed stormwater facilities are made up of interdependent features needed to create necessary peak flow attenuation and increased lag time required to meet the RFC and LFRs in the RMP (2005, 2009). Tailwater within WCC is critical to the functionality of the Basin 2 and 3 outlet works. Neither HydroCAD nor VCRAT are able to address these issues explicitly.

The US Army Corps of Engineers (USACE) Hydraulic Engineering Center River Analysis System (HEC-RAS) was used to analyze hydraulics of WCC. A two-dimensional modeling scheme (RAS2D) was chosen since it best represents varied conditions in the overbanks and detention basins versus the main channel over the time and range of flows. Cells are allowed to vary in shape and size based on the visual detail needed within an area. Parameters are determined for each cell such as Stage versus Volume which is based on an elevation grid terrain model. Results are generated on a cell by cell basis within a mesh.

The validation HEC-RAS 2D model provided in this report is not intended to be used or submitted as a FEMA Letter of Map Change (LOMC) at this time.

7.1 RAS2D Model Components/Parameters

7.1.1 Terrain

RAS2D can generate a composite elevation model based on multiple grid sources and the users ranking of accuracies. Where data overlaps, the most accurate data is used. Elevation data sources are described as follows:

- **2005 Bare Earth LIDAR**: 2005 Ventura County Bare Earth LIDAR converted to a 1-foot cell grid.
- **2018 1-foot Site Contours**: Provided by ECG representing existing conditions converted to a 1-foot cell grid.
- **Main Channel**: A geo-referenced one-dimensional geometry HEC-RAS cross-section geometry of the main channel and immediate overbanks were created based on the 2005 and 2018 elevation data. It was then refined/corrected based on VCWPD plans for WCC and then converted to a 0.1' cell grid (Accuracy Order = 1)
- **Proposed Condition CAD**: The May 2019 (amended July 2019) ECG TTM was provided in CAD, digital format. The cut/fill boundary line and 3D breaklines (pad

elevations, street and open space contours) were converted to TIN and then 1-foot cell grid

All data sets were "snapped" to the same origin to ensure minimal resampling/interpolation in overlapping areas. The following table identifies which data sets were used both the existing and proposed terrain, including the assigned order of accuracy:

Table 10: RAS2D Elevation Terrain Sources

	Existing	Proposed
Proposed Condition CAD	NA	2
Main Channel	1	1
2018 1-foot Contours	2	3
2005- Bare Earth LIDAR	3	4

7.1.2 Manning's Roughness Factors

A roughness factor shapefile was created based on 2016 Ventura County aerial imagery and parcel data for existing conditions. The following values were assigned:

Table 11: RAS2D Manning's "n" Roughness Factors

Barren	0.040
Brush/Scrub	0.070
Buildings	2.000
Commercial/Institutional	0.060
Developed Medium Intensity	0.065
Industrial	0.080
Open Space	0.050
Railroad (including ROW)	0.045
Reinforced Concrete Channel (RCC)	0.015
Roadway	0.015
Unassigned	0.060

7.1.3 Inflow Hydrographs

VCRAT Interim Condition hydrographs at were extracted at all local inflow locations to proposed detention basins, WCC channel downstream of Hitch Ranch (HR), and at the WCC 96-inch RCP outlet near the Post Office. To obtain hydrographs in individual subareas contained in a series (VCRAT line), the model was re-run by putting the area of interest into its own bank. These include:

Table 12: RAS2D Inflow Hydrograph Locations

	VCRAT Node	RAS2D Label
Basin 2A	76C	76C
Basin 2B	73BC, 77D, 79B	73BC, 77D, 79B
Basin 2	81C, 82C, 83D	81C, 82B, 84A
Basin 3	53B, 55B	53B-EHR_Local, 47D
Local Area to WCC between East and West HR	58B	58B
WCC 96" RCP Outlet	45A	
Local Inflow to WCC at UPRR 10'x8' RCB	88B	65A
Inflow from Moorpark Drain 72" RCP	92C	68C

7.1.4 Mesh

The “mesh” is a set of regular and irregular polygons draped over the elevation terrain. It was initially created based on 25-foot squares. Breaklines and refinement polygons representing critical features such as roads and channels were used to force adjustments in the mesh to include computation points at their boundaries. For example, a refinement polygon was used to represent the area within WCC, forcing a single cell covering RCC bank to bank.

7.1.5 Detention Basin Outlet Structures

Detention basin outlet structures consists of a series of orifices, weirs, and culverts. Emergency spillways were not explicitly modeled since the purpose was to identify the system function under normal 100-yr design conditions.

Low Flow and Primary outlets are combined for Basins 2A and 2B, both of which are culvert pipe(s) These features are modeled culverts within as a 2D Area Connection with embankment height based on the proposed terrain.

Basins 2 and 3 each include a rectangular, concrete tower with orifice openings in the front (primary), a weir consisting of the top perimeter (secondary), and culvert outflow pipes in the back (primary + secondary). Modeling the towers explicitly requires using a series of 2D Area Connections (one for the front, one for the back). The low flow, circular orifice was modeled as a short culvert, while the primary outlet, rectangular orifice was modeled as a gate (set to be open the entire model run) on the Front 2D Area Connection. Also, although rectangular and at the top of the tower, the secondary outlet was added as a linear weir to the front 2D Area Connection extending upwards to the hydrologically determined emergency spillway elevation. The back 2D Area Connection Area includes the tower outlet pipes. The area and storage between the connections is minimal.

7.1.6 Boundary Conditions

Boundary condition lines were added to 8 locations at the downstream exterior of the mesh. Normal depth was used at each based on the immediate slope vicinity. Walnut_Out uses 0.0047, the slope of the channel.

7.2 RAS2D Results

Results are not intended for design purposes and are intended for general comparison purposes. The Mansi and Essex Development timelines for development are unknown and therefore benefits from upstream improvements such as Basin 1 at Casey Road may not be realized for the near future. Therefore, comparisons are between Existing and Interim Conditions. Once built benefits of the Hitch Ranch facilities will be even more pronounced.

7.2.1 Verification of VCRAT Hydrologic Routing and Outlet Works

RAS2D inflow hydrographs are based on VCRAT, however the remainder of the model is independent. Both models produce similar results (Table 13) therefore providing confidence the VCRAT are adequate with respect to routing and outlet functionality.

Table 13: Comparison of RAS2D and VCRAT at Select Locations for Interim Condition

	RAS2D		VCRAT		
	Outflow	Max WSE	Node	Outflow	Max WSE
Basin 2A	50	516.7	76C	49	516.3
Basin 2B	235	507.9	80BC	220	507.8
Basin 2	252	479.8	86B	186	479.2
Basin 3	361	489.5	56BD	413	489.8
Location #1: At Gabbert Road	742	NA	87AB	704	NA
Location #2: At UPRR	763	NA	89AB	717	NA
Location #3: Downstream of 72" RCP	816	NA	93AC	806	NA

7.2.2 Existing versus Proposed (Interim) RAS2D

Proposed facilities provide a significant benefit to the overall system that are not captured in models that solely rely on hydrologic calculations/routing. Flows and water surface elevations at select locations are shown in the following table.

Table 14: Existing versus Interim Peak 100-yr RAS 2D Flows

	Existing Q100	Existing WSE100	Interim Q100	Interim WSE100
Location #1: At Gabbert Road	978	478.1	704	476.5
Location #2: At UPRR	978	473.0	717	470.1
Location #3: Downstream of 72" RCP	NA[1]	NA[1]	806	457.9
Location #4 Over UPRR immediately Upstream of Gabbert Road (outflow from WCC)	416	478.2	0	NA

[1]The existing condition model was not taken downstream to the 72" RCP

Under existing conditions, there is a significant amount of flow overtopping the UPRR immediately upstream of Gabbert Road, which could impact the industrial/commercial area to

the south. This issue will be completely eliminated (does not include problems related to overflow from Arroyo Simi) under the interim condition (See Figure 13).

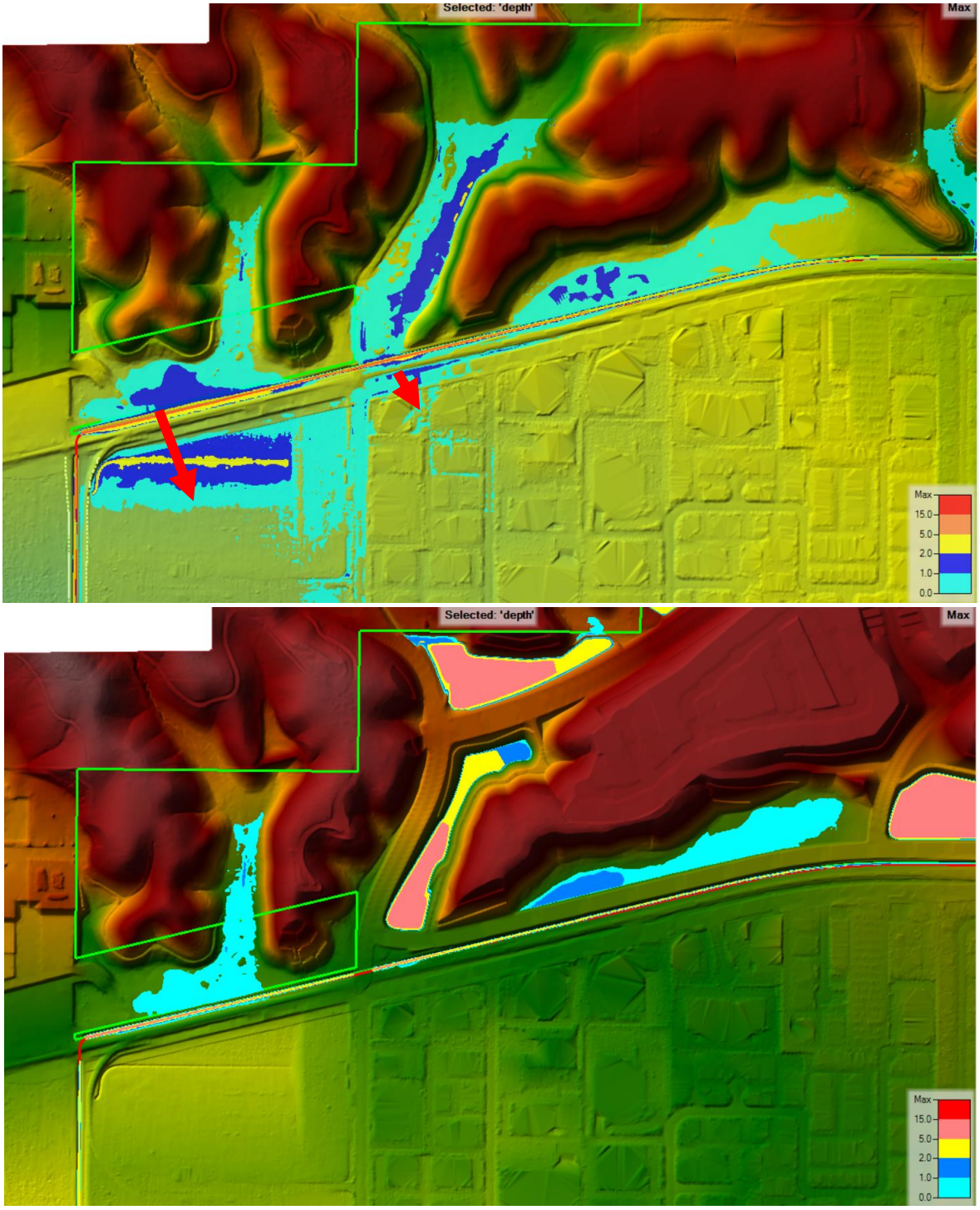


Figure 13 Existing (top) and Interim (bottom) RAS2D Flood Depths between Gabbert and UPRR

8 References

Impact Sciences, Inc., 2011, Hitch Ranch Specific Plan EIR

PACE, 2005, Gabbert and Walnut Canyon Channels Flood Control Deficiency Study Addendum

PACE, 2007, *Hitch Ranch Watershed Masterplan Study*

PACE, 2009, *Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed*

RBF, 1997, Walnut and Gabbert Canyon Channel Flood Deficiency Study

RBF, 2000, Moorpark West Corporate Center Flood Protection Project

Scott and Williams, 1974, Erosion and Sediment Yields in the Mountain Watersheds of the Transverse Ranges, Ventura and Los Angeles Counties, California.

VCWPD, 2017, Ventura County Hydrology Manual

https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams/Jurisdictional-Sized-Dams (sourced August 2019)

APPENDIX 1

Supplemental Modeling Information – VCRAT

Supplemental VCRAT Modeling Information

Modified Rational Method in VCRAT Version 2.64 (Ventura County, Build 2.64.0.37, 2018) is essentially the application of the rational method using input parameters which have been developed specifically for soil types and rainfall characteristics in Ventura County. The rational method is widely accepted for design studies and is based on the following two assumptions: 1) The peak rate of runoff at any point in the subarea is a function of the average rainfall intensity during the time of concentration to that point, and 2) The time of concentration is the time required for runoff to become established and flow from the hydraulically most remote portion of the drainage area to the subarea discharge point.

For a specified design storm, VCRAT calculates a hydrograph of runoff at all subarea collection points within the watershed, combines hydrographs from each subarea, and routes the combined hydrograph through the defined channel system. The program accounts for channel storage and it reports peak flow rates in each reach of each drain, coincident flowrates of tributaries at confluences, and hydrographs at subarea collection points as specified in the program input. The required input data for a subarea consists of the area, time of concentration (Tc), soil type, and design storm type. Channel routing parameters can be added if needed. If a subarea is provided with channel routing information, the program routes the accumulated flow from that subarea and any tributary subarea down to the collection point for the next subarea (downstream end of the channel) before it is confluenced with the hydrograph from the next downstream subarea. The result is the calculation of a peak flow rate and hydrograph based on a synthetic unit hydrograph for the specified design storm frequency.

Subareas

For the Hitch Ranch watershed, subareas were delineated based on most-recent available topography and storm drain data in ArcGIS. For areas outside of the Hitch Ranch watershed, previously delineated subareas were reviewed and modified where necessary.

Rainfall

VCRAT simulates rainfall by applying intensity-duration curves across 200 point mass curves designed to produce 80% of the volume within the first 80% of the hydrograph time. In 2011, NOAA analyzed rainfall data from a wide network of gauges across California. Having good resolution throughout Ventura County, this dataset was used to delineate zones of similar rainfall intensities, which are then called out by VCRAT to define the intensity-durations and mass curve.

The Walnut Canyon VCRAT model simulates conditions entirely within the *South Mountain to Moorpark* rainfall zone, as defined by the NOAA 2011 analysis.

Runoff Coefficient

VCRAT defines the runoff coefficient, an integral part of the rational equation, based on underlying soil type and imperviousness. The equation used by VCRAT to develop runoff coefficient curves is

$$C = 0.95*Imp+(1-Imp)*C$$

Soils

Soils in Ventura County were originally mapped by the Natural Resources Conservation Service in 1970 and grouped into seven hydrologically homogeneous groups. There are two soil types defined for each SCS Hydrologic Soil Group A, B, and C, and one soil type defined for SCS Soil Group D. Individual runoff coefficient curves for undeveloped soils were then developed theoretically by considering representative infiltration rates for various soil textures recommended by the NRCS and ASCE.

The runoff coefficient curves originally developed for Ventura County were updated in 2011 after a comparison with those used in similar hydrology methods throughout the United States found that those used in Ventura County are generally higher than other jurisdictions for pervious areas.

Imperviousness

Imperviousness is determined by applying actual imperviousness values from Exhibit 14 in the Ventura County Hydrology manual to designated existing and proposed land uses. Land uses for the existing Walnut Canyon watershed were designated based on those included in the 1996 VCWPD Baseline Conditions model with updates for Tract 5187 development. Land uses for the proposed Walnut Canyon watershed were designated based on existing land uses, with modifications to account for land uses proposed for Hitch Ranch in tentative tract maps dated June 2018 and planned development of the Essex property. The table below summarizes land use imperviousness assumptions used (VCWPD, 2017)

Land Use	Imperviousness	Land Use	Imperviousness
Detention	0	Golf Course	0
Residential - > 0.15 ac lot	65	Horse Ranch	47
Residential - 0.2 ac lot	47	Orchard	0
Residential - 0.25 ac lot	38	Rural Residential	20
Residential - Condos	69	Commercial	85
Transportation	100	Institutional	47
Vacant	0	Parks - Open Space	0

Time of Concentration

Time of concentration is calculated for each subarea based on the travel time for drainage along the longest flow path. The longest flow path is determined based on topography and conveyance infrastructure and then divided into segments depending on conveyance type (overland, natural channel, street, pipe, etc.). The length and slope of land area tributary to each conveyance type is measured and travel times are calculated based on flow velocities modified by wave velocity considerations. VCWPD provides a Tc Calculator spreadsheet, which can be downloaded at http://vcpublicworks.org/watershed-resources-and-technology/hydrology-program, which was used to calculate time of concentration values for the subareas within the Hitch Ranch watershed. The spreadsheet calculates time of concentration for each subarea based on length, slope, and area parameters defined for each conveyance segment and imperviousness, soil number, and rainfall values defined for the subarea as a whole. Subsequent to the completion of this analysis, VCWPD released their Tc Calculator Program, which calculates Tcs the same way as the spreadsheet, but is a stand-alone program.

Flow path parameters were measured and entered into the Tc calculator to calculate Tcs for the 100-year, 50-year, 25-year, and 10-year events for the subareas within the Hitch Ranch watershed. These subareas are those that either comprise the Hitch Ranch site or drain through it. For subareas outside of the Hitch Ranch watershed the 100 -year Tc's calculated by PACE in 2009 for the previous modeling effort were used. These Tcs were prorated to determine 50-year, 25-year, and 10-year Tcs based on the general slope of the watershed and the length of the overland flow according to the adjustments summarized in the table below.

Overland Flow	Category	Slope	Adjustment		
			50-yr	25-yr	10-yr
Short	3	Steep	0	1	1
Long	2	Moderate	1	2	2
Long	1	Gradual	1	2	3

Fattening

The modified rational method is intended to yield conservative peak flow values for design purposes. Hydrographs created using the modified rational method in Ventura County have a relatively short-duration peak due to the shape of the hyetograph which results in storm volumes which are generally less than would be calculated using different methods such as the NRCS Curve Number approach. To provide more comparable estimates of storm volumes, VCWPD developed a yield adjustment methodology, commonly referred to as hydrograph "fattening", to be used when the timing of the hydrograph surrounding the peak and resulting storm volumes are of significance such as in reservoir routing. Because there are numerous detention basins within the Walnut Canyon Channel watershed, a fattening analysis was conducted per the VCWPD Hydrology Manual (VCWPD, 2017) for all flows tributary to a detention basin.

Hydrographs were fattened prior to reservoir routing unless it resulted in a reduction in volume (i.e. 45A, 77D, 83B). For detention basins with tributaries devoid of upstream storage facilities, an areally-weighted curve number was calculated for the tributary area based on the tributary-averaged soil type and curve numbers for each land use (Hydrology Manual Exhibit 14a and 14b). To fatten hydrographs at these detention basins, the areally-weighted curve number could be entered directly into VCRAT along with the event-specific rainfall total.

For detention basins downstream of other detention basins, hydrographs were fattened using a slightly different method. First, the yield for the upstream basin is calculated based on fattened volume and watershed area. Then, the yield for the area in between the upstream basin and the downstream basin is calculated based on the NRCS yield equation. Lastly, the two yields are summed and divided by total watershed area upstream of the detention basin for which you are calculating the yield adjustment. This is entered into VCRAT as a yield adjustment.

Stage-Storage Tables

General basin descriptions and Interim/Ultimate Condition 2018 VCRAT model IDs are included in the table below. Basin 0, 5187-1, 5187-2, and Basin 1 curves were based on previous VCRAT modeling. Basin 2A, 2B, 2, and 3 relationships were determined by importing VCRAT hydrographs into HydroCAD (Build 10.00-21) stormwater model software where outlet rating curves for each basin were developed and re-imported back into VCRAT. Stage storage curves for Basins 2A, 2B, 2 and 3 can be found in Appendix 3.

Basin Name	Description	VCRAT ID
Basin 0	VCWPD Regional Detention Basin at NW Corner of Walnut Cyn Rd and Meridian Hills Dr (DWG Y3-4305)	5A
5187-1	Existing Local Detention Basin at SW Corner of Walnut Cyn Rd and Meridian Hills Dr (DWG 03-ML-10719)	7B
5187-2	Existing Local Detention Basin north of Meridian Hills Dr west of Breezy Glen Dr (DWG 03-ML-10719)	28CD
2A	Proposed Hitch Ranch Local Detention Basin (TTM May 2019 [amended July 2019], 0047.02_FG.dwg)	76C
2B	Proposed Hitch Ranch Local Debris and Detention (TTM May 2019 [amended July 2019], 0047.02_FG.dwg)	80BC
2	Proposed Hitch Ranch Regional Detention Basin (TTM May 2019 [amended July 2019], 0047.02_FG.dwg)	86B
3	Proposed Hitch Ranch Regional Detention Basin (TTM May 2019 [amended July 2019], 0047.02_FG.dwg)	56BD
1	Proposed Local Detention Basin on north side Casey Road across from the Boys and Girls Club	32B

APPENDIX 2-a

Time of Concentration Assumptions

APPENDIX 2A. TIME OF CONCENTRATION ASSUMPTIONS

Subarea	Overland Flow Slope	Category	Existing Conditions			
			Tc 100	Tc 50	Tc 25	Tc 10
1A	low slope	3	20	21	22	23
2A	low slope	3	16	17	18	19
3A	very steep	1	12	12	13	13
4A	low slope	3	17	18	19	20
5A	very steep	1	10	10	11	11
6B	average	2	8	9	10	10
7B	average	2	6	7	8	8
9A	very steep	1	11	11	12	12
10A	low slope	3	9	10	11	12
12B	average	2	10	11	12	12
13C	average	2	9	10	11	11
15B	average	2	16	17	18	18
18C	very steep	1	6	6	7	7
19C	very steep	1	5	5	6	6
20C	very steep	1	6	6	7	7
21D	very steep	1	5	5	6	6
22E	very steep	1	7	7	8	8
23E	very steep	1	5	5	6	6
25D	very steep	1	6	6	7	7
26D	very steep	1	5	5	6	6
27D	short	1	5	5	6	6
30B	very steep	1	7	7	8	8
32B	average	2	19	20	21	21
34C	low slope	3	12	13	14	15
35C	low slope	3	10	11	12	13
36C	average	2	6	7	8	8
37D	average	2	6	7	8	8
38D	average	2	6	7	8	8
40E	average	2	9	10	11	11
41E	average	2	9	10	11	11
43C	low slope	3	12	13	14	15
45A	low slope	3	12	13	14	15
46A	Calculated		15	17	18	21
47B			10	11	11	13
48B			9	9	10	11
49B			14	16	18	20
51A			11	12	12	14
52B			11	12	12	14
53B			11	12	12	14
54B			10	10	11	12
55B			9	10	11	12
56C			10	11	12	13
58D			10	11	12	13
59E			11	12	13	14
61B			14	16	19	22
64A			19	22	23	27

APPENDIX 2A. TIME OF CONCENTRATION ASSUMPTIONS

Subarea	Overland Flow Slope	Category	Proposed Conditions			
			Tc 100	Tc 50	Tc 25	Tc 10
1A	low slope	3	20	21	22	23
2A	low slope	3	16	17	18	19
3A	very steep	1	12	12	13	13
4A	low slope	3	17	18	19	20
5A	very steep	1	10	10	11	11
6B	average	2	8	9	10	10
7B	average	2	6	7	8	8
9A	very steep	1	11	11	12	12
10A	low slope	3	9	10	11	12
12B	average	2	10	11	12	12
13C	average	2	9	10	11	11
15B	average	2	16	16	18	17
18C	very steep	1	6	6	7	7
19C	very steep	1	5	5	6	6
20C	very steep	1	6	6	7	7
21D	very steep	1	5	5	6	6
22E	very steep	1	7	7	8	8
23E	very steep	1	5	5	6	6
25D	very steep	1	6	6	7	7
26D	very steep	1	5	5	6	6
27D	short	1	5	5	6	6
30B	very steep	1	7	7	8	8
32B	average	2	19	20	21	21
34C	low slope	3	12	13	14	15
35C	low slope	3	10	11	12	13
36C	average	2	6	7	8	8
37D	average	2	6	7	8	8
38D	average	2	6	7	8	8
40E	average	2	9	10	11	11
41E	average	2	9	10	11	11
43C	low slope	3	12	13	14	15
45A	low slope	3	12	13	14	15
47D	calculated		6	7	8	9
48B			6	6	7	7
49B			6	7	8	9
50C			6	6	7	7
52B			5	6	6	7
53B			7	8	9	11
58B			10	11	11	12
60B			11	12	12	14
61B			11	12	12	14
62C			12	15	17	20
64B			9	10	10	11
65B			9	9	10	10
66C			9	10	10	11
68B			10	11	12	14
69C			9	10	10	11
70D			6	6	6	7
72C			7	8	9	10
74C			6	7	7	8
75C			5	6	7	8
76C			10	11	12	13
77D			8	9	10	12
79B			6	7	8	9
81C			6	7	7	9
82C			5	6	6	6
83D			7	7	7	8
88B	low slope	3	18	19	20	21

APPENDIX 2-b

Tc Calculator Data Sheets

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	46A	User Input
Watershed Area ac =	27.0	Calculated from flowpath data
% Imperviousness =	6	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	3Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**21.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.520	Calculated
C_undeveloped =	0.374	Calculated
C_composite =	0.408	Calculated
Peak cfs =	16.89	Calculated
Calculated Tc=	**20.92**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.90	666	620	413	0.111					7.0%	1.2	1.2
2	Natural Mountain Channel	4	25.10	620	501	2399	0.050	0.049				93.0%	15.7	16.9
3	None	0										0.0%	-	16.9
4	None	0										0.0%	-	16.9
5	None	0										0.0%	-	16.9
6	None	0										0.0%	-	16.9
7	None	0										0.0%	-	16.9
8	None	0										0.0%	-	16.9
9	None	0										0.0%	-	16.9
10	None	0										0.0%	-	16.9
Sum			**27.0**									**100%**	**16.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	46A	User Input
Watershed Area ac =	27.0	Calculated from flowpath data
% Imperviousness =	6	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	3Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.764	Calculated
C_undeveloped =	0.440	Calculated
C_composite =	0.470	Calculated
Peak cfs =	35.39	Calculated
Calculated Tc=	**15.02**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.90	666	620	413	0.111					7.0%	2.5	2.5
2	Natural Mountain Channel	4	25.10	620	501	2399	0.050	0.049				93.0%	32.9	35.4
3	None	0										0.0%	-	35.4
4	None	0										0.0%	-	35.4
5	None	0										0.0%	-	35.4
6	None	0										0.0%	-	35.4
7	None	0										0.0%	-	35.4
8	None	0										0.0%	-	35.4
9	None	0										0.0%	-	35.4
10	None	0										0.0%	-	35.4
Sum			**27.0**									**100%**	**35.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	47B	User Input
Watershed Area ac =	52.7	Calculated from flowpath data
% Imperviousness =	0	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.845	Calculated
C_undeveloped =	0.329	Calculated
C_composite =	0.329	Calculated
Peak cfs =	32.29	Calculated
Calculated Tc=	**13.88**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	905	815	402	0.224					1.9%	0.6	0.6
2	Natural Mountain Channel	4	51.70	815	665	2363	0.063	0.063				98.1%	31.7	32.3
3	None	0										0.0%	-	32.3
4	None	0										0.0%	-	32.3
5	None	0										0.0%	-	32.3
6	None	0										0.0%	-	32.3
7	None	0										0.0%	-	32.3
8	None	0										0.0%	-	32.3
9	None	0										0.0%	-	32.3
10	None	0										0.0%	-	32.3
Sum			**52.7**									**100%**	**32.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	47B	User Input
Watershed Area ac =	52.7	Calculated from flowpath data
% Imperviousness =	0	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.245	Calculated
C_undeveloped =	0.394	Calculated
C_composite =	0.394	Calculated
Peak cfs =	67.92	Calculated
Calculated Tc=	**10.83**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	905	815	402	0.224					1.9%	1.3	1.3
2	Natural Mountain Channel	4	51.70	815	665	2363	0.063	0.063				98.1%	66.6	67.9
3	None	0										0.0%	-	67.9
4	None	0										0.0%	-	67.9
5	None	0										0.0%	-	67.9
6	None	0										0.0%	-	67.9
7	None	0										0.0%	-	67.9
8	None	0										0.0%	-	67.9
9	None	0										0.0%	-	67.9
10	None	0										0.0%	-	67.9
Sum			**52.7**									**100%**	**67.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	48B	User Input
Watershed Area ac =	44.0	Calculated from flowpath data
% Imperviousness =	6	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.097	Calculated
C_undeveloped =	0.348	Calculated
C_composite =	0.384	Calculated
Peak cfs =	35.70	Calculated
Calculated Tc=	**10.91**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	900	795	375	0.280					2.3%	0.8	0.8
2	Natural Mountain Channel	4	43.00	795	590	2232	0.092	0.089				97.7%	34.9	35.7
3	None	0										0.0%	-	35.7
4	None	0										0.0%	-	35.7
5	None	0										0.0%	-	35.7
6	None	0										0.0%	-	35.7
7	None	0										0.0%	-	35.7
8	None	0										0.0%	-	35.7
9	None	0										0.0%	-	35.7
10	None	0										0.0%	-	35.7
Sum			**44.0**									**100%**	**35.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	48B	User Input
Watershed Area ac =	44.0	Calculated from flowpath data
% Imperviousness =	6	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.577	Calculated
C_undeveloped =	0.402	Calculated
C_composite =	0.435	Calculated
Peak cfs =	69.06	Calculated
Calculated Tc=	**8.76**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	900	795	375	0.280					2.3%	1.6	1.6
2	Natural Mountain Channel	4	43.00	795	590	2232	0.092	0.089				97.7%	67.5	69.1
3	None	0										0.0%	-	69.1
4	None	0										0.0%	-	69.1
5	None	0										0.0%	-	69.1
6	None	0										0.0%	-	69.1
7	None	0										0.0%	-	69.1
8	None	0										0.0%	-	69.1
9	None	0										0.0%	-	69.1
10	None	0										0.0%	-	69.1
Sum			**44.0**									**100%**	**69.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	49B	User Input
Watershed Area ac =	34.0	Calculated from flowpath data
% Imperviousness =	6	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**20.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.552	Calculated
C_undeveloped =	0.300	Calculated
C_composite =	0.339	Calculated
Peak cfs =	18.06	Calculated
Calculated Tc=	**20.25**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	5.00	632	575	500	0.114					14.7%	2.7	2.7
2	Natural Mountain Channel	4	29.00	575	500	1900	0.039	0.039				85.3%	15.4	18.1
3	None	0										0.0%	-	18.1
4	None	0										0.0%	-	18.1
5	None	0										0.0%	-	18.1
6	None	0										0.0%	-	18.1
7	None	0										0.0%	-	18.1
8	None	0										0.0%	-	18.1
9	None	0										0.0%	-	18.1
10	None	0										0.0%	-	18.1
Sum			**34.0**									**100%**	**18.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	49B	User Input
Watershed Area ac =	34.0	Calculated from flowpath data
% Imperviousness =	6	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.859	Calculated
C_undeveloped =	0.380	Calculated
C_composite =	0.415	Calculated
Peak cfs =	40.63	Calculated
Calculated Tc=	**14.13**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	5.00	632	575	500	0.114					14.7%	6.0	6.0
2	Natural Mountain Channel	4	29.00	575	500	1900	0.039	0.039				85.3%	34.7	40.6
3	None	0										0.0%	-	40.6
4	None	0										0.0%	-	40.6
5	None	0										0.0%	-	40.6
6	None	0										0.0%	-	40.6
7	None	0										0.0%	-	40.6
8	None	0										0.0%	-	40.6
9	None	0										0.0%	-	40.6
10	None	0										0.0%	-	40.6
Sum			**34.0**									**100%**	**40.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	51A	User Input
Watershed Area ac =	32.0	Calculated from flowpath data
% Imperviousness =	2	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.845	Calculated
C_undeveloped =	0.359	Calculated
C_composite =	0.371	Calculated
Peak cfs =	22.08	Calculated
Calculated Tc=	**13.90**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	605	500	550	0.191					3.1%	0.7	0.7
2	Natural Mountain Channel	4	31.00	500	484	840	0.019	0.019				96.9%	21.4	22.1
3	None	0										0.0%	-	22.1
4	None	0										0.0%	-	22.1
5	None	0										0.0%	-	22.1
6	None	0										0.0%	-	22.1
7	None	0										0.0%	-	22.1
8	None	0										0.0%	-	22.1
9	None	0										0.0%	-	22.1
10	None	0										0.0%	-	22.1
Sum			**32.0**									**100%**	**22.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	51A	User Input
Watershed Area ac =	32.0	Calculated from flowpath data
% Imperviousness =	2	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.245	Calculated
C_undeveloped =	0.426	Calculated
C_composite =	0.437	Calculated
Peak cfs =	45.74	Calculated
Calculated Tc=	**10.62**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	605	500	550	0.191					3.1%	1.4	1.4
2	Natural Mountain Channel	4	31.00	500	484	840	0.019	0.019				96.9%	44.3	45.7
3	None	0										0.0%	-	45.7
4	None	0										0.0%	-	45.7
5	None	0										0.0%	-	45.7
6	None	0										0.0%	-	45.7
7	None	0										0.0%	-	45.7
8	None	0										0.0%	-	45.7
9	None	0										0.0%	-	45.7
10	None	0										0.0%	-	45.7
Sum			**32.0**									**100%**	**45.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	52B	User Input
Watershed Area ac =	53.7	Calculated from flowpath data
% Imperviousness =	0	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	2Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.845	Calculated
C_undeveloped =	0.430	Calculated
C_composite =	0.430	Calculated
Peak cfs =	42.95	Calculated
Calculated Tc=	**13.71**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Developed	2	5.00	970	835	688	0.196					9.3%	4.0	4.0
2	Natural Mountain Channel	4	48.70	835	735	1554	0.064	0.064				90.7%	38.9	42.9
3	None	0										0.0%	-	42.9
4	None	0										0.0%	-	42.9
5	None	0										0.0%	-	42.9
6	None	0										0.0%	-	42.9
7	None	0										0.0%	-	42.9
8	None	0										0.0%	-	42.9
9	None	0										0.0%	-	42.9
10	None	0										0.0%	-	42.9
Sum			**53.7**									**100%**	**42.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	52B	User Input
Watershed Area ac =	53.7	Calculated from flowpath data
% Imperviousness =	0	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	2Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.245	Calculated
C_undeveloped =	0.484	Calculated
C_composite =	0.484	Calculated
Peak cfs =	85.06	Calculated
Calculated Tc=	**10.53**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Developed	2	5.00	970	835	688	0.196					9.3%	7.9	7.9
2	Natural Mountain Channel	4	48.70	835	735	1554	0.064	0.064				90.7%	77.1	85.1
3	None	0										0.0%	-	85.1
4	None	0										0.0%	-	85.1
5	None	0										0.0%	-	85.1
6	None	0										0.0%	-	85.1
7	None	0										0.0%	-	85.1
8	None	0										0.0%	-	85.1
9	None	0										0.0%	-	85.1
10	None	0										0.0%	-	85.1
Sum			**53.7**									**100%**	**85.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	53B	User Input
Watershed Area ac =	52.7	Calculated from flowpath data
% Imperviousness =	0	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.845	Calculated
C_undeveloped =	0.329	Calculated
C_composite =	0.329	Calculated
Peak cfs =	32.29	Calculated
Calculated Tc=	**13.88**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	905	815	402	0.224					1.9%	0.6	0.6
2	Natural Mountain Channel	4	51.70	815	665	2363	0.063	0.063				98.1%	31.7	32.3
3	None	0										0.0%	-	32.3
4	None	0										0.0%	-	32.3
5	None	0										0.0%	-	32.3
6	None	0										0.0%	-	32.3
7	None	0										0.0%	-	32.3
8	None	0										0.0%	-	32.3
9	None	0										0.0%	-	32.3
10	None	0										0.0%	-	32.3
Sum			**52.7**									**100%**	**32.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	53B	User Input
Watershed Area ac =	52.7	Calculated from flowpath data
% Imperviousness =	0	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.245	Calculated
C_undeveloped =	0.394	Calculated
C_composite =	0.394	Calculated
Peak cfs =	67.92	Calculated
Calculated Tc=	**10.83**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	905	815	402	0.224					1.9%	1.3	1.3
2	Natural Mountain Channel	4	51.70	815	665	2363	0.063	0.063				98.1%	66.6	67.9
3	None	0										0.0%	-	67.9
4	None	0										0.0%	-	67.9
5	None	0										0.0%	-	67.9
6	None	0										0.0%	-	67.9
7	None	0										0.0%	-	67.9
8	None	0										0.0%	-	67.9
9	None	0										0.0%	-	67.9
10	None	0										0.0%	-	67.9
Sum			**52.7**									**100%**	**67.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	54B	User Input
Watershed Area ac =	58.0	Calculated from flowpath data
% Imperviousness =	6	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**12.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.999	Calculated
C_undeveloped =	0.372	Calculated
C_composite =	0.407	Calculated
Peak cfs =	47.58	Calculated
Calculated Tc=	**12.44**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	5.00	880	800	437	0.183					8.6%	4.1	4.1
2	Natural Mountain Channel	4	53.00	800	575	2500	0.090	0.089				91.4%	43.5	47.6
3	None	0										0.0%	-	47.6
4	None	0										0.0%	-	47.6
5	None	0										0.0%	-	47.6
6	None	0										0.0%	-	47.6
7	None	0										0.0%	-	47.6
8	None	0										0.0%	-	47.6
9	None	0										0.0%	-	47.6
10	None	0										0.0%	-	47.6
Sum			**58.0**									**100%**	**47.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	54B	User Input
Watershed Area ac =	58.0	Calculated from flowpath data
% Imperviousness =	6	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**10.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.426	Calculated
C_undeveloped =	0.431	Calculated
C_composite =	0.463	Calculated
Peak cfs =	92.69	Calculated
Calculated Tc=	**9.58**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	5.00	880	800	437	0.183					8.6%	8.0	8.0
2	Natural Mountain Channel	4	53.00	800	575	2500	0.090	0.089				91.4%	84.7	92.7
3	None	0										0.0%	-	92.7
4	None	0										0.0%	-	92.7
5	None	0										0.0%	-	92.7
6	None	0										0.0%	-	92.7
7	None	0										0.0%	-	92.7
8	None	0										0.0%	-	92.7
9	None	0										0.0%	-	92.7
10	None	0										0.0%	-	92.7
Sum			**58.0**									**100%**	**92.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	55B	User Input
Watershed Area ac =	49.0	Calculated from flowpath data
% Imperviousness =	16	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**12.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.999	Calculated
C_undeveloped =	0.372	Calculated
C_composite =	0.465	Calculated
Peak cfs =	45.90	Calculated
Calculated Tc=	**11.72**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.10	810	740	240	0.292					2.2%	1.0	1.0
2	Natural Mountain Channel	4	47.90	740	510	2960	0.078	0.077				97.8%	44.9	45.9
3	None	0										0.0%	-	45.9
4	None	0										0.0%	-	45.9
5	None	0										0.0%	-	45.9
6	None	0										0.0%	-	45.9
7	None	0										0.0%	-	45.9
8	None	0										0.0%	-	45.9
9	None	0										0.0%	-	45.9
10	None	0										0.0%	-	45.9
Sum			**49.0**									**100%**	**45.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	55B	User Input
Watershed Area ac =	49.0	Calculated from flowpath data
% Imperviousness =	16	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.577	Calculated
C_undeveloped =	0.435	Calculated
C_composite =	0.518	Calculated
Peak cfs =	91.49	Calculated
Calculated Tc=	**9.34**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.10	810	740	240	0.292					2.2%	2.1	2.1
2	Natural Mountain Channel	4	47.90	740	510	2960	0.078	0.077				97.8%	89.4	91.5
3	None	0										0.0%	-	91.5
4	None	0										0.0%	-	91.5
5	None	0										0.0%	-	91.5
6	None	0										0.0%	-	91.5
7	None	0										0.0%	-	91.5
8	None	0										0.0%	-	91.5
9	None	0										0.0%	-	91.5
10	None	0										0.0%	-	91.5
Sum			**49.0**									**100%**	**91.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	56C	User Input
Watershed Area ac =	84.0	Calculated from flowpath data
% Imperviousness =	30	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**13.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.916	Calculated
C_undeveloped =	0.365	Calculated
C_composite =	0.541	Calculated
Peak cfs =	87.75	Calculated
Calculated Tc=	**12.97**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	840	765	402	0.187					1.2%	1.0	1.0
2	Natural Mountain Channel	4	21.00	765	570	1913	0.102	0.097				25.0%	21.9	23.0
3	Natural Valley Channel	3	62.00	570	530	873	0.046					73.8%	64.8	87.8
4	None	0										0.0%	-	87.8
5	None	0										0.0%	-	87.8
6	None	0										0.0%	-	87.8
7	None	0										0.0%	-	87.8
8	None	0										0.0%	-	87.8
9	None	0										0.0%	-	87.8
10	None	0										0.0%	-	87.8
Sum			**84.0**									**100%**	**87.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	56C	User Input
Watershed Area ac =	84.0	Calculated from flowpath data
% Imperviousness =	30	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**10.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.426	Calculated
C_undeveloped =	0.431	Calculated
C_composite =	0.587	Calculated
Peak cfs =	170.35	Calculated
Calculated Tc=	**10.09**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	840	765	402	0.187					1.2%	2.0	2.0
2	Natural Mountain Channel	4	21.00	765	570	1913	0.102	0.097				25.0%	42.6	44.6
3	Natural Valley Channel	3	62.00	570	530	873	0.046					73.8%	125.7	170.3
4	None	0										0.0%	-	170.3
5	None	0										0.0%	-	170.3
6	None	0										0.0%	-	170.3
7	None	0										0.0%	-	170.3
8	None	0										0.0%	-	170.3
9	None	0										0.0%	-	170.3
10	None	0										0.0%	-	170.3
Sum			**84.0**									**100%**	**170.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	58D	User Input
Watershed Area ac =	72.0	Calculated from flowpath data
% Imperviousness =	4	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**13.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.916	Calculated
C_undeveloped =	0.365	Calculated
C_composite =	0.389	Calculated
Peak cfs =	54.06	Calculated
Calculated Tc=	**13.22**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	860	825	183	0.191					1.4%	0.8	0.8
2	Natural Mountain Channel	4	71.00	825	510	3700	0.085	0.084				98.6%	53.3	54.1
3	None	0										0.0%	-	54.1
4	None	0										0.0%	-	54.1
5	None	0										0.0%	-	54.1
6	None	0										0.0%	-	54.1
7	None	0										0.0%	-	54.1
8	None	0										0.0%	-	54.1
9	None	0										0.0%	-	54.1
10	None	0										0.0%	-	54.1
Sum			**72.0**									**100%**	**54.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	58D	User Input
Watershed Area ac =	72.0	Calculated from flowpath data
% Imperviousness =	4	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**10.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.426	Calculated
C_undeveloped =	0.431	Calculated
C_composite =	0.452	Calculated
Peak cfs =	112.48	Calculated
Calculated Tc=	**10.27**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	860	825	183	0.191					1.4%	1.6	1.6
2	Natural Mountain Channel	4	71.00	825	510	3700	0.085	0.084				98.6%	110.9	112.5
3	None	0										0.0%	-	112.5
4	None	0										0.0%	-	112.5
5	None	0										0.0%	-	112.5
6	None	0										0.0%	-	112.5
7	None	0										0.0%	-	112.5
8	None	0										0.0%	-	112.5
9	None	0										0.0%	-	112.5
10	None	0										0.0%	-	112.5
Sum			**72.0**									**100%**	**112.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	59E	User Input
Watershed Area ac =	38.0	Calculated from flowpath data
% Imperviousness =	30	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.845	Calculated
C_undeveloped =	0.329	Calculated
C_composite =	0.516	Calculated
Peak cfs =	36.45	Calculated
Calculated Tc=	**13.79**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	5.00	805	672	655	0.203					13.2%	4.8	4.8
2	Natural Mountain Channel	4	33.00	672	511	1991	0.081	0.080				86.8%	31.7	36.5
3	None	0										0.0%	-	36.5
4	None	0										0.0%	-	36.5
5	None	0										0.0%	-	36.5
6	None	0										0.0%	-	36.5
7	None	0										0.0%	-	36.5
8	None	0										0.0%	-	36.5
9	None	0										0.0%	-	36.5
10	None	0										0.0%	-	36.5
Sum			**38.0**									**100%**	**36.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	59E	User Input
Watershed Area ac =	38.0	Calculated from flowpath data
% Imperviousness =	30	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.245	Calculated
C_undeveloped =	0.394	Calculated
C_composite =	0.561	Calculated
Peak cfs =	69.72	Calculated
Calculated Tc=	**10.74**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	5.00	805	672	655	0.203					13.2%	9.2	9.2
2	Natural Mountain Channel	4	33.00	672	511	1991	0.081	0.080				86.8%	60.5	69.7
3	None	0										0.0%	-	69.7
4	None	0										0.0%	-	69.7
5	None	0										0.0%	-	69.7
6	None	0										0.0%	-	69.7
7	None	0										0.0%	-	69.7
8	None	0										0.0%	-	69.7
9	None	0										0.0%	-	69.7
10	None	0										0.0%	-	69.7
Sum			**38.0**									**100%**	**69.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	61B	User Input
Watershed Area ac =	40.0	Calculated from flowpath data
% Imperviousness =	0	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**22.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.492	Calculated
C_undeveloped =	0.293	Calculated
C_composite =	0.293	Calculated
Peak cfs =	17.64	Calculated
Calculated Tc=	**22.36**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	5.00	570	555	350	0.043					12.5%	2.2	2.2
2	Natural Mountain Channel	4	35.00	555	480	1900	0.039	0.039				87.5%	15.4	17.6
3	None	0										0.0%	-	17.6
4	None	0										0.0%	-	17.6
5	None	0										0.0%	-	17.6
6	None	0										0.0%	-	17.6
7	None	0										0.0%	-	17.6
8	None	0										0.0%	-	17.6
9	None	0										0.0%	-	17.6
10	None	0										0.0%	-	17.6
Sum			**40.0**									**100%**	**17.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	61B	User Input
Watershed Area ac =	40.0	Calculated from flowpath data
% Imperviousness =	0	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.859	Calculated
C_undeveloped =	0.380	Calculated
C_composite =	0.380	Calculated
Peak cfs =	43.86	Calculated
Calculated Tc=	**13.85**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	5.00	570	555	350	0.043					12.5%	5.5	5.5
2	Natural Mountain Channel	4	35.00	555	480	1900	0.039	0.039				87.5%	38.4	43.9
3	None	0										0.0%	-	43.9
4	None	0										0.0%	-	43.9
5	None	0										0.0%	-	43.9
6	None	0										0.0%	-	43.9
7	None	0										0.0%	-	43.9
8	None	0										0.0%	-	43.9
9	None	0										0.0%	-	43.9
10	None	0										0.0%	-	43.9
Sum			**40.0**									**100%**	**43.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	64A	User Input
Watershed Area ac =	72.0	Calculated from flowpath data
% Imperviousness =	26	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_10	Calculated
District Soil Number (1-7) =	2Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**27.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.374	Calculated
C_undeveloped =	0.395	Calculated
C_composite =	0.539	Calculated
Peak cfs =	53.80	Calculated
Calculated Tc=	**26.62**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	7.00	720	615	836	0.126					9.7%	5.2	5.2
2	Natural Mountain Channel	4	65.00	615	475	2990	0.047	0.046				90.3%	48.6	53.8
3	None	0										0.0%	-	53.8
4	None	0										0.0%	-	53.8
5	None	0										0.0%	-	53.8
6	None	0										0.0%	-	53.8
7	None	0										0.0%	-	53.8
8	None	0										0.0%	-	53.8
9	None	0										0.0%	-	53.8
10	None	0										0.0%	-	53.8
Sum			**72.0**									**100%**	**53.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	64A	User Input
Watershed Area ac =	72.0	Calculated from flowpath data
% Imperviousness =	26	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	2Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**19.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.459	Calculated
C_undeveloped =	0.459	Calculated
C_composite =	0.587	Calculated
Peak cfs =	104.76	Calculated
Calculated Tc=	**18.94**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	7.00	720	615	836	0.126					9.7%	10.2	10.2
2	Natural Mountain Channel	4	65.00	615	475	2990	0.047	0.046				90.3%	94.6	104.8
3	None	0										0.0%	-	104.8
4	None	0										0.0%	-	104.8
5	None	0										0.0%	-	104.8
6	None	0										0.0%	-	104.8
7	None	0										0.0%	-	104.8
8	None	0										0.0%	-	104.8
9	None	0										0.0%	-	104.8
10	None	0										0.0%	-	104.8
Sum			**72.0**									**100%**	**104.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	55B	User Input
Watershed Area ac =	41.8	Calculated from flowpath data
% Imperviousness =	35	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	2Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**6.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.334	Calculated
C_undeveloped =	0.505	Calculated
C_composite =	0.661	Calculated
Peak cfs =	120.68	Calculated
Calculated Tc=	**6.09**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/dat
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Developed	2	0.40	570	555	200	0.075					1.0%	1.2	1.2
2	Pipe	9	20.00	555	530	877	0.029		3.0	0.013		47.8%	57.7	58.9
3	Natural Mountain Channel	4	21.40	530	485	972	0.046	0.046				51.2%	61.8	120.7
4	None	0										0.0%	-	120.7
5	None	0										0.0%	-	120.7
6	None	0										0.0%	-	120.7
7	None	0										0.0%	-	120.7
8	None	0										0.0%	-	120.7
9	None	0										0.0%	-	120.7
10	None	0										0.0%	-	120.7
Sum			**41.8**									**100%**	**120.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	48B	User Input
Watershed Area ac =	29.0	Calculated from flowpath data
% Imperviousness =	1	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	6Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**6.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.334	Calculated
C_undeveloped =	0.305	Calculated
C_composite =	0.312	Calculated
Peak cfs =	39.51	Calculated
Calculated Tc=	**5.95**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	900	800	265	0.377					3.4%	1.4	1.4
2	Natural Mountain Channel	4	28.00	800	615	1449	0.128	0.117				96.6%	38.1	39.5
3	None	0										0.0%	-	39.5
4	None	0										0.0%	-	39.5
5	None	0										0.0%	-	39.5
6	None	0										0.0%	-	39.5
7	None	0										0.0%	-	39.5
8	None	0										0.0%	-	39.5
9	None	0										0.0%	-	39.5
10	None	0										0.0%	-	39.5
Sum			**29.0**									**100%**	**39.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	49B	User Input
Watershed Area ac =	20.8	Calculated from flowpath data
% Imperviousness =	50.6	User Input
Land Use Description =	LowRes1/4	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	6Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**6.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.334	Calculated
C_undeveloped =	0.305	Calculated
C_composite =	0.632	Calculated
Peak cfs =	57.26	Calculated
Calculated Tc=	**6.45**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.50	725	690	302	0.116					7.2%	4.1	4.1
2	Street-32'Wide6"Curbs	5	3.50	690	620	974	0.072					16.9%	9.7	13.8
3	Pipe	9	15.75	620	595	680	0.037		3.0	0.012		75.9%	43.5	57.3
4	None	0										0.0%	-	57.3
5	None	0										0.0%	-	57.3
6	None	0										0.0%	-	57.3
7	None	0										0.0%	-	57.3
8	None	0										0.0%	-	57.3
9	None	0										0.0%	-	57.3
10	None	0										0.0%	-	57.3
Sum			**20.8**									**100%**	**57.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	50C	User Input
Watershed Area ac =	14.4	Calculated from flowpath data
% Imperviousness =	11	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**6.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.334	Calculated
C_undeveloped =	0.450	Calculated
C_composite =	0.505	Calculated
Peak cfs =	31.78	Calculated
Calculated Tc=	**5.84**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	3.00	875	755	488	0.246					20.8%	6.6	6.6
2	Natural Mountain Channel	4	6.00	755	670	642	0.132	0.120				41.7%	13.2	19.9
3	Pipe	9	5.40	670	615	276	0.199		3.0	0.012		37.5%	11.9	31.8
4	None	0										0.0%	-	31.8
5	None	0										0.0%	-	31.8
6	None	0										0.0%	-	31.8
7	None	0										0.0%	-	31.8
8	None	0										0.0%	-	31.8
9	None	0										0.0%	-	31.8
10	None	0										0.0%	-	31.8
Sum			**14.4**									**100%**	**31.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	52B	User Input
Watershed Area ac =	38.9	Calculated from flowpath data
% Imperviousness =	57.3	User Input
Land Use Description =	MedRes1/6	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	6Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**5.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.788	Calculated
C_undeveloped =	0.313	Calculated
C_composite =	0.678	Calculated
Peak cfs =	127.30	Calculated
Calculated Tc=	**5.31**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Developed	2	0.30	625	620	67	0.075					0.8%	1.0	1.0
2	Street-32'Wide6"Curbs	5	8.30	620	602	1030	0.017					21.3%	27.2	28.1
3	Pipe	9	30.30	602	560	1238	0.034		3.0	0.012		77.9%	99.2	127.3
4	None	0										0.0%	-	127.3
5	None	0										0.0%	-	127.3
6	None	0										0.0%	-	127.3
7	None	0										0.0%	-	127.3
8	None	0										0.0%	-	127.3
9	None	0										0.0%	-	127.3
10	None	0										0.0%	-	127.3
Sum			**38.9**									**100%**	**127.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	53B	User Input
Watershed Area ac =	33.2	Calculated from flowpath data
% Imperviousness =	58.9	User Input
Land Use Description =	LowRes1/5	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	3Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**7.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.010	Calculated
C_undeveloped =	0.471	Calculated
C_composite =	0.753	Calculated
Peak cfs =	101.07	Calculated
Calculated Tc=	**6.69**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.25	603	589	229	0.061					0.8%	0.8	0.8
2	Street-32'Wide6"Curbs	5	3.00	589	578	484	0.023					9.0%	9.1	9.9
3	Pipe	9	29.95	578	490	1728	0.051		3.0	0.012		90.2%	91.2	101.1
4	None	0										0.0%	-	101.1
5	None	0										0.0%	-	101.1
6	None	0										0.0%	-	101.1
7	None	0										0.0%	-	101.1
8	None	0										0.0%	-	101.1
9	None	0										0.0%	-	101.1
10	None	0										0.0%	-	101.1
Sum			**33.2**									**100%**	**101.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	58B	User Input
Watershed Area ac =	20.9	Calculated from flowpath data
% Imperviousness =	17	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	1Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**10.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.426	Calculated
C_undeveloped =	0.525	Calculated
C_composite =	0.597	Calculated
Peak cfs =	43.13	Calculated
Calculated Tc=	**10.17**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	520	490	100	0.300					4.8%	2.1	2.1
2	Natural Valley Channel	3	19.90	490	480	1735	0.006					95.2%	41.1	43.1
3	None	0										0.0%	-	43.1
4	None	0										0.0%	-	43.1
5	None	0										0.0%	-	43.1
6	None	0										0.0%	-	43.1
7	None	0										0.0%	-	43.1
8	None	0										0.0%	-	43.1
9	None	0										0.0%	-	43.1
10	None	0										0.0%	-	43.1
Sum			**20.9**									**100%**	**43.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	60B	User Input
Watershed Area ac =	53.7	Calculated from flowpath data
% Imperviousness =	0	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	2Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.245	Calculated
C_undeveloped =	0.484	Calculated
C_composite =	0.484	Calculated
Peak cfs =	85.06	Calculated
Calculated Tc=	**10.53**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Developed	2	5.00	970	835	688	0.196					9.3%	7.9	7.9
2	Natural Mountain Channel	4	48.70	835	735	1554	0.064	0.064				90.7%	77.1	85.1
3	None	0										0.0%	-	85.1
4	None	0										0.0%	-	85.1
5	None	0										0.0%	-	85.1
6	None	0										0.0%	-	85.1
7	None	0										0.0%	-	85.1
8	None	0										0.0%	-	85.1
9	None	0										0.0%	-	85.1
10	None	0										0.0%	-	85.1
Sum			**53.7**									**100%**	**85.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	61B	User Input
Watershed Area ac =	52.7	Calculated from flowpath data
% Imperviousness =	0	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.245	Calculated
C_undeveloped =	0.394	Calculated
C_composite =	0.394	Calculated
Peak cfs =	67.92	Calculated
Calculated Tc=	**10.83**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	905	815	402	0.224					1.9%	1.3	1.3
2	Natural Mountain Channel	4	51.70	815	665	2363	0.063	0.063				98.1%	66.6	67.9
3	None	0										0.0%	-	67.9
4	None	0										0.0%	-	67.9
5	None	0										0.0%	-	67.9
6	None	0										0.0%	-	67.9
7	None	0										0.0%	-	67.9
8	None	0										0.0%	-	67.9
9	None	0										0.0%	-	67.9
10	None	0										0.0%	-	67.9
Sum			**52.7**									**100%**	**67.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	62C	User Input
Watershed Area ac =	20.0	Calculated from flowpath data
% Imperviousness =	0	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	3Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**12.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.095	Calculated
C_undeveloped =	0.451	Calculated
C_composite =	0.451	Calculated
Peak cfs =	28.12	Calculated
Calculated Tc=	**12.28**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	2.40	905	895	334	0.030					12.0%	3.4	3.4
2	Natural Mountain Channel	4	17.60	895	705	1978	0.096	0.093				88.0%	24.7	28.1
3	None	0										0.0%	-	28.1
4	None	0										0.0%	-	28.1
5	None	0										0.0%	-	28.1
6	None	0										0.0%	-	28.1
7	None	0										0.0%	-	28.1
8	None	0										0.0%	-	28.1
9	None	0										0.0%	-	28.1
10	None	0										0.0%	-	28.1
Sum			**20.0**									**100%**	**28.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	64B	User Input
Watershed Area ac =	26.7	Calculated from flowpath data
% Imperviousness =	5.7	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	6Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.577	Calculated
C_undeveloped =	0.290	Calculated
C_composite =	0.328	Calculated
Peak cfs =	31.57	Calculated
Calculated Tc=	**9.04**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	2.20	885	715	652	0.261					8.2%	2.6	2.6
2	Natural Mountain Channel	4	24.50	715	630	1124	0.076	0.075				91.8%	29.0	31.6
3	None	0										0.0%	-	31.6
4	None	0										0.0%	-	31.6
5	None	0										0.0%	-	31.6
6	None	0										0.0%	-	31.6
7	None	0										0.0%	-	31.6
8	None	0										0.0%	-	31.6
9	None	0										0.0%	-	31.6
10	None	0										0.0%	-	31.6
Sum			**26.7**									**100%**	**31.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	65B	User Input
Watershed Area ac =	31.0	Calculated from flowpath data
% Imperviousness =	1	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	1Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.577	Calculated
C_undeveloped =	0.527	Calculated
C_composite =	0.532	Calculated
Peak cfs =	59.45	Calculated
Calculated Tc=	**8.60**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.75	800	710	302	0.298					2.4%	1.4	1.4
2	Natural Mountain Channel	4	30.25	710	570	2022	0.069	0.069				97.6%	58.0	59.4
3	None	0										0.0%	-	59.4
4	None	0										0.0%	-	59.4
5	None	0										0.0%	-	59.4
6	None	0										0.0%	-	59.4
7	None	0										0.0%	-	59.4
8	None	0										0.0%	-	59.4
9	None	0										0.0%	-	59.4
10	None	0										0.0%	-	59.4
Sum			**31.0**									**100%**	**59.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	66C	User Input
Watershed Area ac =	20.7	Calculated from flowpath data
% Imperviousness =	4	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	3Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.577	Calculated
C_undeveloped =	0.463	Calculated
C_composite =	0.482	Calculated
Peak cfs =	36.01	Calculated
Calculated Tc=	**9.03**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	4.20	805	645	723	0.221					20.3%	7.3	7.3
2	Natural Valley Channel	3	16.50	645	567	1506	0.052					79.7%	28.7	36.0
3	None	0										0.0%	-	36.0
4	None	0										0.0%	-	36.0
5	None	0										0.0%	-	36.0
6	None	0										0.0%	-	36.0
7	None	0										0.0%	-	36.0
8	None	0										0.0%	-	36.0
9	None	0										0.0%	-	36.0
10	None	0										0.0%	-	36.0
Sum			**20.7**									**100%**	**36.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	68B	User Input
Watershed Area ac =	27.9	Calculated from flowpath data
% Imperviousness =	24	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**10.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.426	Calculated
C_undeveloped =	0.431	Calculated
C_composite =	0.556	Calculated
Peak cfs =	53.58	Calculated
Calculated Tc=	**9.90**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.75	630	565	519	0.125					2.7%	1.4	1.4
2	Natural Valley Channel	3	27.15	565	505	1547	0.039					97.3%	52.1	53.6
3	None	0										0.0%	-	53.6
4	None	0										0.0%	-	53.6
5	None	0										0.0%	-	53.6
6	None	0										0.0%	-	53.6
7	None	0										0.0%	-	53.6
8	None	0										0.0%	-	53.6
9	None	0										0.0%	-	53.6
10	None	0										0.0%	-	53.6
Sum			**27.9**									**100%**	**53.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	69C	User Input
Watershed Area ac =	37.3	Calculated from flowpath data
% Imperviousness =	4	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	3Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.577	Calculated
C_undeveloped =	0.463	Calculated
C_composite =	0.482	Calculated
Peak cfs =	64.89	Calculated
Calculated Tc=	**8.98**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.50	840	680	510	0.314					4.0%	2.6	2.6
2	Natural Mountain Channel	4	16.50	680	575	1312	0.080	0.080				44.2%	28.7	31.3
3	Street-32'Wide6"Curbs	5	19.30	575	560	416	0.036		3.0	0.012		51.7%	33.6	64.9
4	None	0										0.0%	-	64.9
5	None	0										0.0%	-	64.9
6	None	0										0.0%	-	64.9
7	None	0										0.0%	-	64.9
8	None	0										0.0%	-	64.9
9	None	0										0.0%	-	64.9
10	None	0										0.0%	-	64.9
Sum			**37.3**									**100%**	**64.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	70D	User Input
Watershed Area ac =	30.9	Calculated from flowpath data
% Imperviousness =	10.2	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**6.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.334	Calculated
C_undeveloped =	0.450	Calculated
C_composite =	0.501	Calculated
Peak cfs =	67.64	Calculated
Calculated Tc=	**5.58**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	840	745	386	0.246					3.2%	2.2	2.2
2	Natural Mountain Channel	4	12.00	745	625	833	0.144	0.128				38.8%	26.3	28.5
3	Pipe	9	5.00	625	600	341	0.073		3.0	0.012		16.2%	10.9	39.4
4	Trapezoid-Channel	11	12.90	600	560	765	0.052					41.7%	28.2	67.6
5	None	0										0.0%	-	67.6
6	None	0										0.0%	-	67.6
7	None	0										0.0%	-	67.6
8	None	0										0.0%	-	67.6
9	None	0										0.0%	-	67.6
10	None	0										0.0%	-	67.6
Sum			**30.9**									**100%**	**67.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	72C	User Input
Watershed Area ac =	14.2	Calculated from flowpath data
% Imperviousness =	20	User Input
Land Use Description =	LowRes1/2	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**7.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.010	Calculated
C_undeveloped =	0.410	Calculated
C_composite =	0.518	Calculated
Peak cfs =	29.64	Calculated
Calculated Tc=	**7.22**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.25	590	545	343	0.131					8.8%	2.6	2.6
2	Natural Valley Channel	3	12.90	545	530	873	0.017					91.2%	27.0	29.6
3	None	0										0.0%	-	29.6
4	None	0										0.0%	-	29.6
5	None	0										0.0%	-	29.6
6	None	0										0.0%	-	29.6
7	None	0										0.0%	-	29.6
8	None	0										0.0%	-	29.6
9	None	0										0.0%	-	29.6
10	None	0										0.0%	-	29.6
Sum			**14.2**									**100%**	**29.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	74C	User Input
Watershed Area ac =	22.6	Calculated from flowpath data
% Imperviousness =	0	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**6.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.334	Calculated
C_undeveloped =	0.416	Calculated
C_composite =	0.416	Calculated
Peak cfs =	41.05	Calculated
Calculated Tc=	**6.06**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.50	865	775	312	0.288					2.2%	0.9	0.9
2	Natural Mountain Channel	4	22.10	775	635	1249	0.112	0.106				97.8%	40.1	41.1
3	None	0										0.0%	-	41.1
4	None	0										0.0%	-	41.1
5	None	0										0.0%	-	41.1
6	None	0										0.0%	-	41.1
7	None	0										0.0%	-	41.1
8	None	0										0.0%	-	41.1
9	None	0										0.0%	-	41.1
10	None	0										0.0%	-	41.1
Sum			**22.6**									**100%**	**41.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	75C	User Input
Watershed Area ac =	20.5	Calculated from flowpath data
% Imperviousness =	37.5	User Input
Land Use Description =	MedRes1/6	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	2Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**5.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.788	Calculated
C_undeveloped =	0.511	Calculated
C_composite =	0.675	Calculated
Peak cfs =	66.68	Calculated
Calculated Tc=	**5.26**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Developed	2	0.25	644	642	123	0.016					1.2%	0.8	0.8
2	Street-32'Wide6"Curbs	5	1.50	642	632	428	0.023					7.3%	4.9	5.7
3	Pipe	9	18.70	632	595	985	0.038		3.0	0.012		91.4%	61.0	66.7
4	None	0										0.0%	-	66.7
5	None	0										0.0%	-	66.7
6	None	0										0.0%	-	66.7
7	None	0										0.0%	-	66.7
8	None	0										0.0%	-	66.7
9	None	0										0.0%	-	66.7
10	None	0										0.0%	-	66.7
Sum			**20.5**									**100%**	**66.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	76C	User Input
Watershed Area ac =	19.7	Calculated from flowpath data
% Imperviousness =	12.3	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	3Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**10.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.426	Calculated
C_undeveloped =	0.459	Calculated
C_composite =	0.520	Calculated
Peak cfs =	35.37	Calculated
Calculated Tc=	**10.18**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	2.50	795	670	558	0.224					12.7%	4.5	4.5
2	Natural Mountain Channel	4	17.20	670	510	1878	0.085	0.084				87.3%	30.9	35.4
3	None	0										0.0%	-	35.4
4	None	0										0.0%	-	35.4
5	None	0										0.0%	-	35.4
6	None	0										0.0%	-	35.4
7	None	0										0.0%	-	35.4
8	None	0										0.0%	-	35.4
9	None	0										0.0%	-	35.4
10	None	0										0.0%	-	35.4
Sum			**19.7**									**100%**	**35.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	77D	User Input
Watershed Area ac =	9.2	Calculated from flowpath data
% Imperviousness =	36	User Input
Land Use Description =	Paved	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**8.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.767	Calculated
C_undeveloped =	0.439	Calculated
C_composite =	0.623	Calculated
Peak cfs =	21.84	Calculated
Calculated Tc=	**7.68**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.28	618	603	248	0.060					3.0%	0.7	0.7
2	Street-32'Wide6"Curbs	5	2.25	603	585	498	0.036					24.4%	5.3	6.0
3	Pipe	9	6.70	585	500	1855	0.046		3.0	0.012		72.6%	15.9	21.8
4	None	0										0.0%	-	21.8
5	None	0										0.0%	-	21.8
6	None	0										0.0%	-	21.8
7	None	0										0.0%	-	21.8
8	None	0										0.0%	-	21.8
9	None	0										0.0%	-	21.8
10	None	0										0.0%	-	21.8
Sum			**9.2**									**100%**	**21.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	79B	User Input
Watershed Area ac =	30.1	Calculated from flowpath data
% Imperviousness =	17.4	User Input
Land Use Description =	LowRes1/3	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**6.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.334	Calculated
C_undeveloped =	0.450	Calculated
C_composite =	0.537	Calculated
Peak cfs =	70.63	Calculated
Calculated Tc=	**6.29**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.40	647	640	110	0.064					1.3%	0.9	0.9
2	Street-32'Wide6"Curbs	5	1.50	640	595	470	0.096					5.0%	3.5	4.5
3	Natural Valley Channel	3	28.20	595	500	2021	0.047		3.0	0.012		93.7%	66.2	70.6
4	None	0										0.0%	-	70.6
5	None	0										0.0%	-	70.6
6	None	0										0.0%	-	70.6
7	None	0										0.0%	-	70.6
8	None	0										0.0%	-	70.6
9	None	0										0.0%	-	70.6
10	None	0										0.0%	-	70.6
Sum			**30.1**									**100%**	**70.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	81C	User Input
Watershed Area ac =	10.4	Calculated from flowpath data
% Imperviousness =	62	User Input
Land Use Description =	LowRes1/5	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	2Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**6.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.334	Calculated
C_undeveloped =	0.505	Calculated
C_composite =	0.781	Calculated
Peak cfs =	35.49	Calculated
Calculated Tc=	**5.57**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Developed	2	0.25	567	564	132	0.023					2.4%	0.9	0.9
2	Street-32'Wide6"Curbs	5	4.00	564	560	509	0.008					38.5%	13.6	14.5
3	Pipe	9	6.15	560	500	632	0.095		3.0	0.012		59.1%	21.0	35.5
4	None	0										0.0%	-	35.5
5	None	0										0.0%	-	35.5
6	None	0										0.0%	-	35.5
7	None	0										0.0%	-	35.5
8	None	0										0.0%	-	35.5
9	None	0										0.0%	-	35.5
10	None	0										0.0%	-	35.5
Sum			**10.4**									**100%**	**35.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	82C	User Input
Watershed Area ac =	17.9	Calculated from flowpath data
% Imperviousness =	13.5	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	5Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**5.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.788	Calculated
C_undeveloped =	0.420	Calculated
C_composite =	0.492	Calculated
Peak cfs =	42.37	Calculated
Calculated Tc=	**5.23**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Developed	2	0.25	555	540	89	0.169					1.4%	0.6	0.6
2	Street-32'Wide6"Curbs	5	4.40	540	510	1207	0.025					24.6%	10.4	11.0
3	Trapezoid-Channel	11	13.20	510	475	1132	0.031		3.0	0.020		73.9%	31.3	42.4
4	None	0										0.0%	-	42.4
5	None	0										0.0%	-	42.4
6	None	0										0.0%	-	42.4
7	None	0										0.0%	-	42.4
8	None	0										0.0%	-	42.4
9	None	0										0.0%	-	42.4
10	None	0										0.0%	-	42.4
Sum			**17.9**									**100%**	**42.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	83D	User Input
Watershed Area ac =	13.0	Calculated from flowpath data
% Imperviousness =	27.5	User Input
Land Use Description =	Open	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	So Mtn to Moorpark	DropMenu
Zone ID =	Rev1_100	Calculated
District Soil Number (1-7) =	4Rev	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**7.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.010	Calculated
C_undeveloped =	0.444	Calculated
C_composite =	0.583	Calculated
Peak cfs =	30.66	Calculated
Calculated Tc=	**6.54**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	1.00	575	500	335	0.224					7.7%	2.4	2.4
2	Street-32'Wide8"Curbs	7	12.00	500	480	1132	0.018					92.3%	28.3	30.7
3	None	0										0.0%	-	30.7
4	None	0										0.0%	-	30.7
5	None	0										0.0%	-	30.7
6	None	0										0.0%	-	30.7
7	None	0										0.0%	-	30.7
8	None	0										0.0%	-	30.7
9	None	0										0.0%	-	30.7
10	None	0										0.0%	-	30.7
Sum			**13.0**									**100%**	**30.7**	

APPENDIX 3

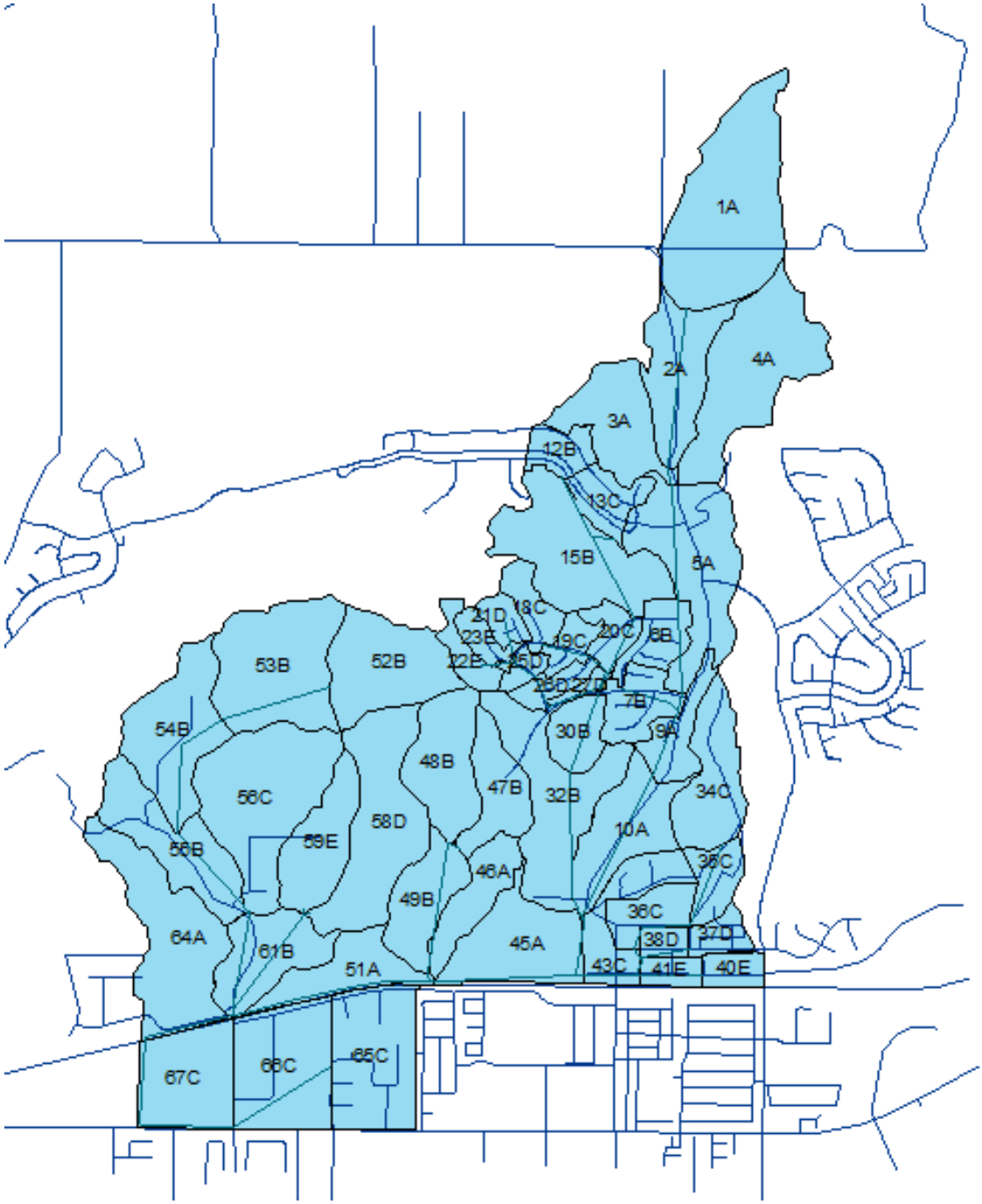
Stage-Storage Tables

Basin 2			Basin 2A			Basin 2B			Basin 3		
Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
471.00	0.28	0.00	513.00	0.12	0.00	498.00	0.05	0.00	480.00	0.00	0.00
471.30	0.38	0.10	513.20	0.17	0.03	498.40	0.25	0.06	480.40	0.63	0.13
471.60	0.47	0.23	513.40	0.21	0.07	498.80	0.46	0.20	480.80	1.26	0.50
471.90	0.57	0.38	513.60	0.25	0.11	499.20	0.72	0.43	481.20	1.96	1.14
472.20	0.66	0.57	513.80	0.30	0.17	499.60	1.04	0.79	481.60	2.74	2.08
472.50	0.74	0.78	514.00	0.34	0.23	500.00	1.36	1.27	482.00	3.51	3.33
472.80	0.82	1.01	514.20	0.39	0.31	500.40	1.52	1.84	482.40	4.06	4.84
473.10	0.90	1.27	514.40	0.45	0.39	500.80	1.68	2.48	482.80	4.60	6.57
473.40	0.98	1.55	514.60	0.50	0.48	501.20	1.82	3.18	483.20	5.20	8.53
473.70	1.07	1.86	514.80	0.55	0.59	501.60	1.93	3.93	483.60	5.85	10.74
474.00	1.15	2.19	515.00	0.60	0.70	502.00	2.05	4.73	484.00	6.49	13.21
474.30	1.20	2.55	515.20	0.67	0.83	502.40	2.15	5.57	484.40	7.03	15.91
474.60	1.26	2.91	515.40	0.73	0.97	502.80	2.24	6.45	484.80	7.56	18.83
474.90	1.31	3.30	515.60	0.80	1.12	503.20	2.34	7.36	485.20	7.86	21.93
475.20	1.37	3.70	515.80	0.86	1.29	503.60	2.45	8.32	485.60	7.94	25.09
475.50	1.44	4.12	516.00	0.92	1.47	504.00	2.56	9.33	486.00	8.01	28.28
475.80	1.50	4.56	516.20	0.97	1.66	504.40	2.68	10.37	486.40	8.08	31.50
476.10	1.58	5.02	516.40	1.02	1.86	504.80	2.80	11.47	486.80	8.15	34.74
476.40	1.69	5.51	516.60	1.07	2.06	505.20	2.90	12.61	487.20	8.22	38.02
476.70	1.79	6.03	516.80	1.12	2.28	505.60	2.97	13.79	487.60	8.29	41.32
477.00	1.90	6.59	517.00	1.17	2.51	506.00	3.05	14.99	488.00	8.36	44.65
477.30	2.01	7.17	517.20	1.20	2.75	506.40	3.13	16.23	488.40	8.44	48.01
477.60	2.12	7.79	517.40	1.24	2.99	506.80	3.22	17.50	488.80	8.51	51.40
477.90	2.23	8.45	517.60	1.27	3.24	507.20	3.30	18.80	489.20	8.58	54.82
478.20	2.32	9.13	517.80	1.30	3.50	507.60	3.39	20.14	489.60	8.65	58.26
478.50	2.40	9.84	518.00	1.33	3.76	508.00	3.47	21.51	490.00	8.72	61.74
478.80	2.48	10.57	518.20	1.34	4.03	508.40	3.56	22.92	490.40	8.80	65.24
479.10	2.54	11.32	518.40	1.36	4.30	508.80	3.65	24.36	490.80	8.87	68.77
479.40	2.58	12.09	518.60	1.37	4.57	509.20	3.73	25.83	491.20	8.94	72.34
479.70	2.61	12.87	518.80	1.38	4.85	509.60	3.81	27.34	491.60	9.02	75.93
480.00	2.65	13.66	519.00	1.39	5.13	510.00	3.90	28.88	492.00	9.09	79.55
480.30	2.69	14.46	519.20	1.40	5.41	510.40	3.98	30.46	492.40	9.16	83.20
480.60	2.72	15.27	519.40	1.41	5.69	510.80	4.06	32.06	492.80	9.24	86.88
480.90	2.76	16.09	519.60	1.42	5.97	511.20	4.15	33.71	493.20	9.31	90.59
481.20	2.80	16.93	519.80	1.43	6.26	511.60	4.25	35.39	493.60	9.38	94.33
481.50	2.84	17.77	520.00	1.44	6.54	512.00	4.35	37.11	494.00	9.46	98.10
481.80	2.87	18.63	520.20	1.45	6.83	512.40	4.35	38.85	494.40	9.46	101.88
482.10	2.91	19.50	520.40	1.46	7.12	512.80	4.35	40.59	494.80	9.46	105.66
482.40	2.95	20.38	520.60	1.47	7.42	513.20	4.35	42.33	495.20	9.46	109.45
482.70	2.99	21.27	520.80	1.48	7.71	513.60	4.35	44.07	495.60	9.46	113.23
483.00	3.02	22.17	521.00	1.49	8.01	514.00	4.35	45.81	496.00	9.46	117.01
483.30	3.06	23.08	521.20	1.50	8.31						
483.60	3.10	24.00	521.40	1.51	8.61						
483.90	3.14	24.94	521.60	1.52	8.91						
484.20	3.15	25.88	521.80	1.53	9.21						
484.50	3.15	26.83	522.00	1.54	9.52						
484.80	3.15	27.77									
485.10	3.15	28.40									
485.40	3.15	28.40									
485.70	3.15	28.40									

APPENDIX 4a

Hitch Ranch VCRAT Model Schematic

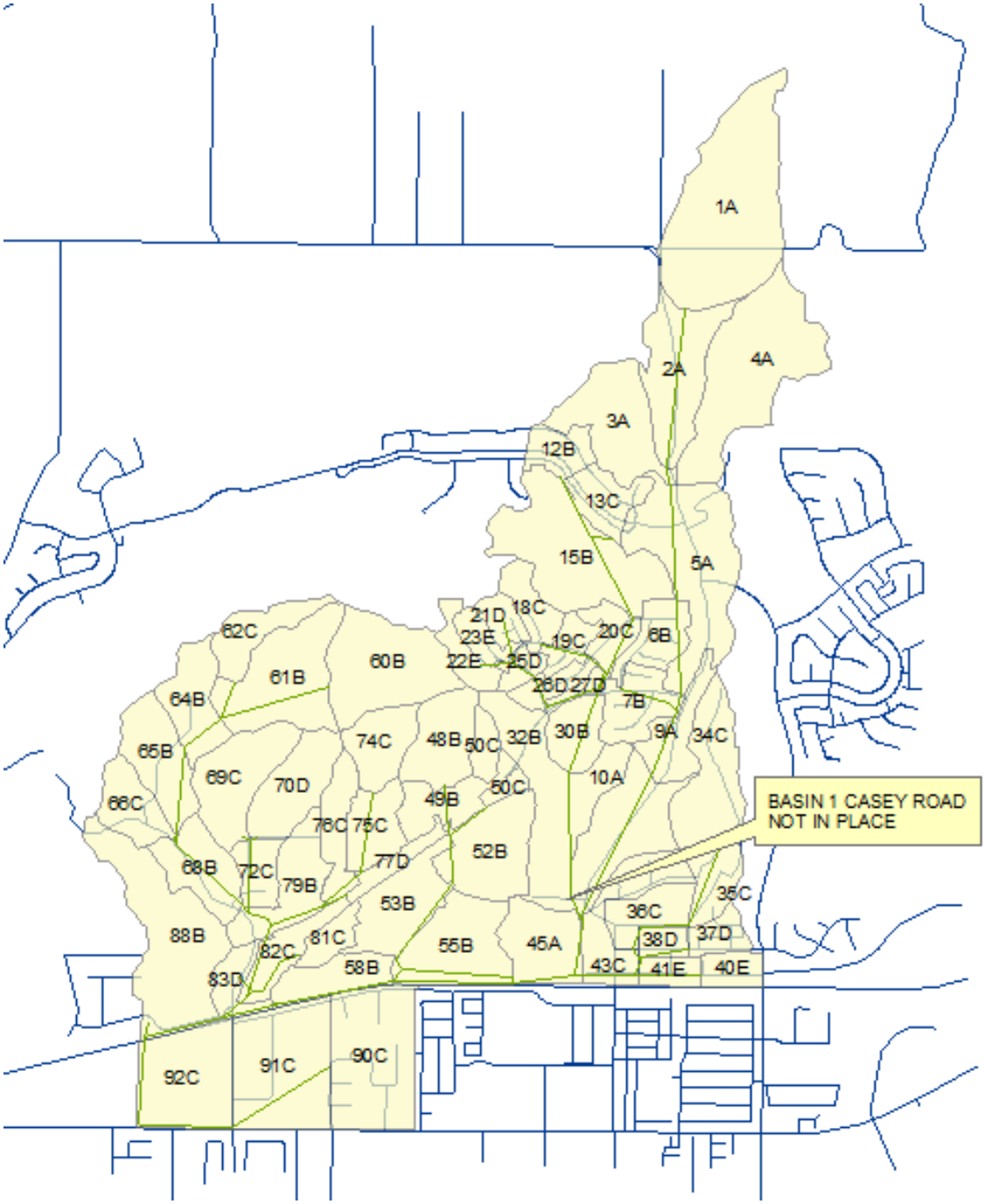
Existing Condition



APPENDIX 4b

Hitch Ranch VCRAT Model Schematic

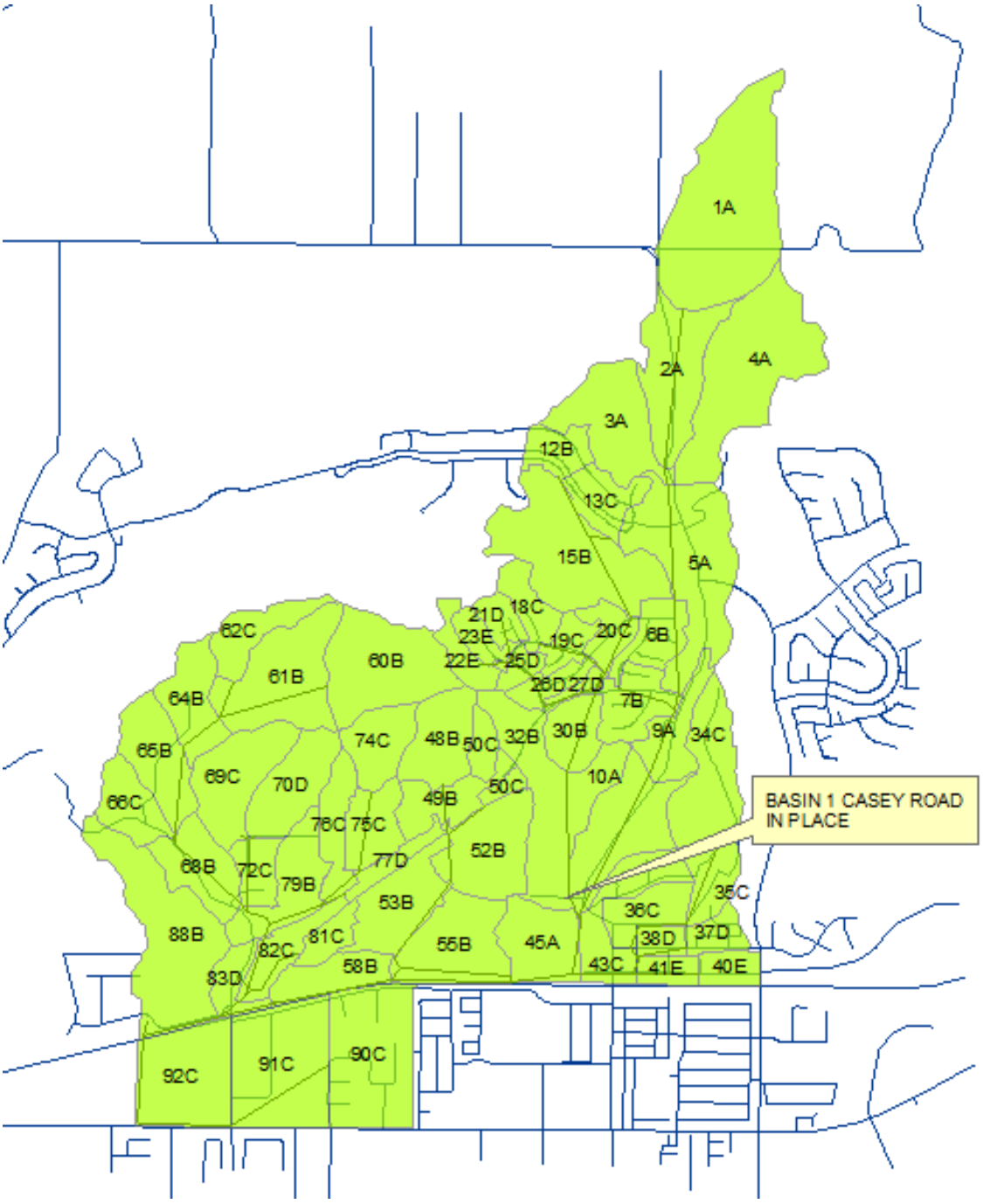
Interim Condition



APPENDIX 4c

Hitch Ranch VCRAT Model Schematic

Ultimate Condition



APPENDIX 5-a

VCRAT Existing Condition Model Input/Output

```
PROGRAM VCRAT2.64PROJ
PROJECT 4 WALNUT CANYON HYDROLOGY-EXISTING CONDITION 10YR (2017)
DESCRIP 2017 HYDROLOGY MANUAL CONVERSION FROM 2010 VERSION
DESCRIP MERGED PACE/RBF/HALL-FOREMAN MODELS - NO BASIN 1 AT CASEY ROAD
DESCRIP 1996 LAND USE CONDITION - BASIN 0 (TR 5187) INCLUDED
DESCRIP NOTE1: ASSUMES ALL OF MOORPARK DRAIN NO.1 (43C - UPSTREAM MODEL) CAN REACH WCC AT HITCH RANCH
DESCRIP NOTE1: IN REALITY PIPE CAN ONLY CARRY 176 CFS OUT OF 266 CFS
DESCRIP NOTE2: ASSUMES ALL OF MP 72" RCP REACHES JUNCTION WITH WCC AT LA AVE
DESCRIP NOTE2: IN REALITY PIPE CAN ONLY CARRY 195 CFS OUT OF 351 CFS
JOB 1 1 10
CURVESET VC2016
RAIN1 REV1
PATHTYPE Relative
OUTPUT *.out
SUBAREA 1 A 0
DESCRIP WC HEADWATERS (AG DAM NOT MODELED)
SUBPARAMS 100 12 010 RAIN1 23
MISCPARAMS N
ROUTING 1 2450 0.04000
SUBAREA 2 A 0
DESCRIP WC HEADWATERS
SUBPARAMS 45 4 010 RAIN1 19
MISCPARAMS N
ROUTING 1 275 0.02500
SUBAREA 3 A 0
DESCRIP WC HEADWATERS
SUBPARAMS 42 4 020 RAIN1 13
MISCPARAMS N
SUBAREA 4 A 0
DESCRIP WC HEADWATERS
SUBPARAMS 81 16 020 RAIN1 20
MISCPARAMS N
ROUTING 1 3100 0.03000
SUBAREA 5 A 0
DESCRIP WALNUT CANYON (BASIN 0) DETENTION BASIN DD3-37 (FATTENED)
SUBPARAMS 69 4 030 RAIN1 11
MISCPARAMS N
RESERVOIR 5 A
DESCRIP BASIN 0 ZERO
FATSCS 69 4.50
DAM 680.00 681.00
USERES Y
STAGE   1    663.78   664.00   665.00   666.00   667.00   668.00   669.00   670.00
STORAGE 1     0.000    0.360    1.540    2.880    4.280    5.740    7.250    8.820
OUTFLOW 1      0.00     0.26     7.60    23.50    45.67    71.69    98.81   118.64
STAGE   9    672.00   675.00   676.00   677.00   680.00   681.00
STORAGE 9    12.320   17.580   19.670   21.760   28.030   30.120
OUTFLOW 9    148.37   188.54   210.58   236.61   302.67   324.69
ROUTING 4 516 0.03686 -1.00
SUBAREA 6 B 0
DESCRIP MERIDIAN HILLS EAST
SUBPARAMS 22 46 020 RAIN1 10
MISCPARAMS N
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ROUTING 1 560 0.04500
SUBAREA 7 B 0
DESCRIP MERIDIAN HILLS EAST - IN-TRACT BASIN 5187-1 (DRAINS DIRECT TO WCC) (FATTENED)
SUBPARAMS 23 46 010 RAIN1 8
MISCPARAMS N
RESERVOIR 7 B
DESCRIP IN-TRACT BASIN AT "BASIN 1A"
FATSCS 83 4.50
DAM 665.00 666.00
USERES Y
STAGE   1    657.00   658.00   659.00   660.00   661.00   662.00   663.00   664.00
STORAGE 1     0.000    0.710    1.450    2.240    3.070    3.920    4.890    5.850
OUTFLOW 1      0.00     5.56    18.98    35.19    50.07    67.10    90.17   114.77
STAGE   9    665.00   666.00
STORAGE 9     6.850    7.850
OUTFLOW 9    137.09   159.41
ROUTING 4 121 0.03586 -1.00
SUBAREA 8 A 2 B
DESCRIP WCC HEADWATERS/BASIN 0 OUTFLOW + MERIDIAN HILLS EAST OUTFLOW FROM IN-TRACT BASIN 5187-1
MISCPARAMS N N
ROUTING 4 394 0.03686 -1.00
SUBAREA 9 A 0
DESCRIP WALNUT CANYON RD (LOCAL) DIRECT TO WCC
SUBPARAMS 22 0 030 RAIN1 12
MISCPARAMS N
ROUTING 5 2080 0.02950 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 10 A 0
DESCRIP WALNUT CANYON RD (LOCAL) DIRECT TO WCC [OLD 7A]
SUBPARAMS 43 36 030 RAIN1 12
MISCPARAMS N
SUBAREA 11 A 1
DESCRIP WALNUT CANYON RD (LOCAL) DIRECT TO WCC
MISCPARAMS N
SUBAREA 12 B 0
DESCRIP MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
SUBPARAMS 14 77 020 RAIN1 12
MISCPARAMS N
ROUTING 4 90 0.00500 -1.00
SUBAREA 13 C 0
DESCRIP MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
SUBPARAMS 18 89 020 RAIN1 11
MISCPARAMS N
ROUTING 4 34 0.02000 -1.00
SUBAREA 14 B 2 C
DESCRIP MERIDIAN HILLS WEST [OLD 9BC]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
MISCPARAMS N N
ROUTING 4 416 0.03600 -1.00
SUBAREA 15 B 0
DESCRIP MERIDIAN HILLS WEST [OLD 15C]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
SUBPARAMS 71 25 020 RAIN1 18
MISCPARAMS N
ROUTING 2 300 0.00500
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SUBAREA 16 B 1
DESCRIP MERIDIAN HILLS WEST [OLD 16AB]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
MISCPARAMS N
ROUTING 4 193 0.16500 -1.00
SUBAREA 17 B 1
DESCRIP MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
MISCPARAMS N
ROUTING 4 324 0.01600 -1.00
SUBAREA 18 C 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 14 16 050 RAIN1 7
MISCPARAMS N
ROUTING 4 420 0.04000 -1.00
SUBAREA 19 C 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 12 28 020 RAIN1 6
MISCPARAMS N
SUBAREA 20 C 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 13 40 030 RAIN1 7
MISCPARAMS N
ROUTING 4 450 0.07300 -1.00
SUBAREA 21 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 9 28 040 RAIN1 6
MISCPARAMS N
ROUTING 4 360 0.01100 -1.00
SUBAREA 22 E 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 11 12 040 RAIN1 8
MISCPARAMS N
ROUTING 4 150 0.05300 -1.00
SUBAREA 23 E 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 10 30 040 RAIN1 6
MISCPARAMS N
SUBAREA 24 D 2 E
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
MISCPARAMS N N
ROUTING 4 680 0.04700 -1.00
SUBAREA 25 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 5 30 020 RAIN1 7
MISCPARAMS N
ROUTING 4 250 0.01200 -1.00
SUBAREA 26 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 10 30 050 RAIN1 6
MISCPARAMS N
ROUTING 4 740 0.01200 -1.00
SUBAREA 27 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 6 32 020 RAIN1 6
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MISCPARAMS N
SUBAREA 28 C 2 D
DESCRIP MERIDIAN HILLS WEST - IN-TRACT BASIN 5187-2 [OLD 31BC] DRAINS TO PROPOSED/NOT BUILT BASIN 1 AT CASEY RD
MISCPARAMS N N
RESERVOIR 28 C
FATSCS 68 4.50
DAM 720.00 721.00
USERES Y
STAGE   1    712.50   713.00   714.00   715.00   716.00   717.00   718.00   719.00
STORAGE 1     0.000    0.390    1.210    2.070    2.980    3.930    4.920    5.960
OUTFLOW 1      0.00     1.67    12.04    27.50    43.60    62.27    86.09   111.17
STAGE   9    720.00   721.00
STORAGE 9     7.050    8.150
OUTFLOW 9    133.82   154.00
SUBAREA 29 B 2 C
DESCRIP OMBINES WEST MERIDIAN HILLS OUTFLOW (IN-TRACT BASIN 5187-2 + BY-PASS FLOW)
MISCPARAMS N N
ROUTING 4 314 0.19700 -1.00
SUBAREA 30 B 0
DESCRIP LOCAL CASEY ROAD
SUBPARAMS 9 0 010 RAIN1 8
MISCPARAMS N
ROUTING 1 2300 0.01830
SUBAREA 31 B 1
DESCRIP LOCAL CASEY ROAD
MISCPARAMS N
ROUTING 2 300 0.01000
SUBAREA 32 B 0
DESCRIP LOCATION OF PROPOSED BASIN 1 AT CASEY ROAD ****NOT BUILT AS OF 07/30/19****
SUBPARAMS 69 18 020 RAIN1 21
MISCPARAMS N
SUBAREA 33 A 2 B
DESCRIP COMBINED OUTFLOW FROM WCC MAIN AND WSHD DRAINING TO PROP BASIN 1 AT CASEY RD ****NO BUILT AS OF 07/30/2019****
MISCPARAMS N N
ROUTING 5 1163 0.03560 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 34 C 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 42 24 020 RAIN1 15
MISCPARAMS N
ROUTING 3 1200 0.07500
SUBAREA 35 C 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 17 28 020 RAIN1 13
MISCPARAMS N
ROUTING 3 1100 0.01800
SUBAREA 36 C 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 19 45 050 RAIN1 8
MISCPARAMS N
SUBAREA 37 D 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 10 60 050 RAIN1 8
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MISCPARAMS N
ROUTING 3 800 0.01250
SUBAREA 38 D 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 8 74 010 RAIN1 8
MISCPARAMS N
SUBAREA 39 C 2 D
DESCRIP MOORPARK DRAIN NO.1
MISCPARAMS N N
ROUTING 3 900 0.01100
SUBAREA 40 E 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 11 93 040 RAIN1 11
MISCPARAMS N
SUBAREA 41 E 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 9 14 040 RAIN1 11
MISCPARAMS N
SUBAREA 42 C 2 E
DESCRIP MOORPARK DRAIN NO.1
MISCPARAMS N N
ROUTING 4 850 0.00900 -1.00
SUBAREA 43 C 0
DESCRIP MOORPARK DRAIN NO.1 - (LOCAL 43C = MOORPARK LIBRARY/CITY HALL/CIVIC CENTER)
SUBPARAMS 31 60 050 RAIN1 15
MISCPARAMS N
SUBAREA 44 A 2 C
DESCRIP WCC MAIN + MOORPARK DRAIN NO. 1 (OLD 28AC WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE)
MISCPARAMS N N
ROUTING 5 1450 0.00800 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 45 A 0
DESCRIP DRAINAGE AREA FOR PROPOSED ESSEX AND EAST 1/2 OF HR PROPOSED BASIN 3 LOCAL
SUBPARAMS 51 50 040 RAIN1 15
MISCPARAMS Y
ROUTING 5 710 0.00740 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 46 A 0
DESCRIP EAST HITCH RANCH - WEST 1/2 OF HR PROPOSED BASIN 3 LOCAL
SUBPARAMS 27 6 030 RAIN1 20
MISCPARAMS N
SUBAREA 47 B 0
DESCRIP EAST HITCH RANCH
SUBPARAMS 29 6 020 RAIN1 18
MISCPARAMS N
ROUTING 1 275 0.07300
SUBAREA 48 B 0
DESCRIP EAST HITCH RANCH
SUBPARAMS 44 6 050 RAIN1 22
MISCPARAMS N
ROUTING 1 1850 0.03800
SUBAREA 49 B 0
DESCRIP EAST HITCH RANCH
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SUBPARAMS 34 6 050 RAIN1 15
MISCPARAMS Y
SUBAREA 50 A 2 B
DESCRIP CONFLUENCE OF EAST HITCH RANCH, PROPOSED ESSEX/BASIN 3 LOCAL, AND WCC (OLD 35AB PROPOSED LOCATION OF BASIN 3)
MISCPARAMS N N
ROUTING 5 2750 0.00575 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 51 A 0
DESCRIP LOCAL SUBAREA DRAINING DIRECT TO WCC BETWEEN EAST AND WEST HR (OLD 37A  WALNUT CYN PRIOR TO JCT W/ GABBERT,1/96 AERIAL PHOTO LU, Q100)
SUBPARAMS 32 2 040 RAIN1 14
MISCPARAMS Y
ROUTING 5 750 0.00540 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 52 B 0
DESCRIP WEST HITCH RANCH - WEST FORK
SUBPARAMS 54 6 040 RAIN1 14
MISCPARAMS N
ROUTING 1 3800 0.04000
SUBAREA 53 B 0
DESCRIP WEST HITCH RANCH - WEST FORK
SUBPARAMS 73 6 040 RAIN1 17
MISCPARAMS N
ROUTING 1 1700 0.04120
SUBAREA 54 B 0
DESCRIP WEST HITCH RANCH - WEST FORK
SUBPARAMS 58 6 040 RAIN1 15
MISCPARAMS N
ROUTING 1 1900 0.03950
SUBAREA 55 B 0
DESCRIP WEST HITCH RANCH - WEST FORK
SUBPARAMS 49 16 040 RAIN1 17
MISCPARAMS N
SUBAREA 56 C 0
DESCRIP WEST HITCH RANCH - MIDDLE FORK
SUBPARAMS 84 30 040 RAIN1 20
MISCPARAMS N
SUBAREA 57 B 2 C
DESCRIP WEST HITCH RANCH - CONFLUENCE OF WEST AND MIDDLE FORKS
MISCPARAMS N N
ROUTING 1 500 0.01540
SUBAREA 58 D 0
DESCRIP WEST HITCH RANCH - EAST FORK
SUBPARAMS 72 4 040 RAIN1 24
MISCPARAMS N
ROUTING 1 1100 0.02270
SUBAREA 59 E 0
DESCRIP WEST HITCH RANCH - EAST FORK
SUBPARAMS 38 30 050 RAIN1 12
MISCPARAMS N
SUBAREA 60 D 2 E
DESCRIP WEST HITCH RANCH - EAST FORK
MISCPARAMS N N
ROUTING 1 1300 0.01310
```

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SUBAREA 61 B 0
DESCRIP WEST HITCH RANCH - WEST + MIDDLE FORKS
SUBPARAMS 40 0 050 RAIN1 11
MISCPARAMS N
SUBAREA 62 B 2 D
DESCRIP WEST HITCH RANCH - CONFLUENCE OF WEST/MIDDLE AND EAST FORKS
MISCPARAMS Y Y
SUBAREA 63 A 2 B
DESCRIP CONFLUENCE OF WEST HITCH RANCH + WCC FROM THE EAST
MISCPARAMS N N
ROUTING 5 1350 0.00510 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 64 A 0
DESCRIP INFLOW TO 10X8 RCB AT RR (EXISTING 1996 LAND USE WITH TR 5187 AND BASIN 0)
SUBPARAMS 70 26 020 RAIN1 20
MISCPARAMS N
ROUTING 5 1275 0.00470 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 65 C 0
DESCRIP 65C PACE
SUBPARAMS 63 61 050 RAIN1 14
MISCPARAMS N
ROUTING 4 1480 0.00490 -1.00
SUBAREA 66 C 0
DESCRIP 66C PACE
SUBPARAMS 63 70 050 RAIN1 14
MISCPARAMS N
ROUTING 4 1350 0.00840 -1.00
SUBAREA 67 C 0
DESCRIP 67C PACE
SUBPARAMS 46 40 040 RAIN1 12
MISCPARAMS N
SUBAREA 68 A 2 C
DESCRIP LA Avenue - COMBINED WCC + INCOMING MP 72" RCP ***TARGET LOCATION -> WE WANT Q100 < 830CFS)***
MISCPARAMS N N
ROUTING 5 1575 0.00470 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 69 A 1
MISCPARAMS N
```

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Modified Rational Model Results Report

Job: 1 Project: WALNUT CANYON HYDROLOGY-EXISTING CONDITION 10YR (2017)

Project Description

2017 HYDROLOGY MANUAL CONVERSION FROM 2010 VERSION
MERGED PACE/RBF/HALL-FOREMAN MODELS - NO BASIN 1 AT CASEY ROAD
1996 LAND USE CONDITION - BASIN 0 (TR 5187) INCLUDED
NOTE1: ASSUMES ALL OF MOORPARK DRAIN NO.1 (43C - UPSTREAM MODEL) CAN REACH WCC AT HITCH RANCH
NOTE1: IN REALITY PIPE CAN ONLY CARRY 176 CFS OUT OF 266 CFS
NOTE2: ASSUMES ALL OF MP 72" RCP REACHES JUNCTION WITH WCC AT LA AVE
NOTE2: IN REALITY PIPE CAN ONLY CARRY 195 CFS OUT OF 351 CFS

VCRat version: 2.64.0.37
VCRain version: 201801
DOS EXE version: PC 2.64-201605
VCRain Curve Set: VCWPD 2016 Revised Curve Set
Curve A: REV1: South Mountain to Moorpark
Curve B: None
Curve C: None
Curve D: None

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-EXISTING CONDITION 10YR (2017)
Page: 2

Model Results

SUBAREA DATA AND RESULTS							ACCUMULATED DATA		ROUTING AFTER ACCUMULATION						
NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	AREA (AC)	FLOW (CFS)	TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
1A : WC HEADWATERS (AG DAM NOT MODELED)																		
1A	010	A10	23	12	100	76	100	76	1163	MOUNTAIN	2450	0.04000	---	----	-----	-----	--	--
2A : WC HEADWATERS																		
2A	010	A10	19	4	45	35	145	98	1167	MOUNTAIN	275	0.02500	---	----	-----	-----	--	--
3A : WC HEADWATERS																		
3A	020	A10	13	4	42	37	187	118	1161	-------	----	-------	---	----	-----	-----	--	--
4A : WC HEADWATERS																		
4A	020	A10	20	16	81	63	268	181	1161	MOUNTAIN	3100	0.03000	---	----	-----	-----	--	--
5A : WALNUT CANYON (BASIN 0) DETENTION BASIN DD3-37 (FATTENED)																		

```
5A   030   A10    11    4     69     63      337     170   1171    PIPE        516  0.03686      3.25  ----    -----  -----    --     --
 5A :  BASIN 0 ZERO
     ********************************************************************************************
     *      INCOMING HYDROGRAPH  PEAK (cfs):    169.55         VOLUME (acre-ft):     23.39      *
     *      NO HYDROGRAPH ADJUSTMENT                                                            *
     *      RUNOFF FACTOR(in):   1.60      TOTAL RAIN(in):   4.50      SCS Curve: 69            *
     *      FATTENED HYDROGRAPH  PEAK (cfs):    169.55         VOLUME (acre-ft):     44.91      *
     *      RESERVOIR INFLOW:    PEAK (cfs):    169.55 @ 1173  VOLUME (acre-ft):     44.91      *
     *      MAXIMUM ELEVATION:   STAGE (ft):    670.19 @ 1197  VOLUME (acre-ft):      9.15      *
     *      EMERGENCY SPILLWAY:   ELEV (ft):    680.00         VOLUME (acre-ft):     28.03      *
     *          DIFFERENCE:   IN STAGE (ft):     -9.81      IN VOLUME (acre-ft):     18.88      *
     *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     67.3%      *
     *      TOP OF DAM:           ELEV (ft):    681.00         VOLUME (acre-ft):     30.12      *
     *          DIFFERENCE    IN STAGE (ft):    -10.81      IN VOLUME (acre-ft):     20.97      *
     *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     69.6%      *
     *      RESERVOIR OUTFLOW:   PEAK (cfs):    121.46 @ 1197  VOLUME (acre-ft):     41.27      *
     ********************************************************************************************
5A   ---   ---    --   --    ---    ---      337     121   1197    -------    ----  -------    ---     ----    -----  -----    --     --
6B :  MERIDIAN HILLS EAST
6B   020   A10    10   46     22     33       22      33   1154    MOUNTAIN    560  0.04500    ---     ----    -----  -----    --     --
7B :  MERIDIAN HILLS EAST - IN-TRACT BASIN 5187-1 (DRAINS DIRECT TO WCC) (FATTENED)
7B   010   A10     8   46     23     40       45      67   1156    PIPE        121  0.03586      2.50  ----    -----  -----    --     --
 7B :  IN-TRACT BASIN AT "BASIN 1A"
     ********************************************************************************************
     *      INCOMING HYDROGRAPH  PEAK (cfs):     66.97         VOLUME (acre-ft):      8.39      *
     *      NO HYDROGRAPH ADJUSTMENT                                                            *
     *      RUNOFF FACTOR(in):   2.73      TOTAL RAIN(in):   4.50      SCS Curve: 83            *
     *      FATTENED HYDROGRAPH  PEAK (cfs):     66.97         VOLUME (acre-ft):     10.24      *
     *      RESERVOIR INFLOW:    PEAK (cfs):     66.97 @ 1156  VOLUME (acre-ft):     10.24      *
     *      MAXIMUM ELEVATION:   STAGE (ft):    659.84 @ 1166  VOLUME (acre-ft):      2.11      *
     *      EMERGENCY SPILLWAY:   ELEV (ft):    665.00         VOLUME (acre-ft):      6.85      *
     *          DIFFERENCE:   IN STAGE (ft):     -5.16      IN VOLUME (acre-ft):      4.74      *
     *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     69.1%      *
     *      TOP OF DAM:           ELEV (ft):    666.00         VOLUME (acre-ft):      7.85      *
     *          DIFFERENCE    IN STAGE (ft):     -6.16      IN VOLUME (acre-ft):      5.74      *
     *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     73.1%      *
     *      RESERVOIR OUTFLOW:   PEAK (cfs):     32.62 @ 1166  VOLUME (acre-ft):      9.45      *
     ********************************************************************************************
 7B   ---   ---    --   --    ---    ---       45      33   1166    -------    ----  -------    ---     ----    -----  -----    --     --
 8AB:  WCC HEADWATERS/BASIN 0 OUTFLOW + MERIDIAN HILLS EAST OUTFLOW FROM IN-TRACT BASIN 5187-1
 8AB  ---   ---    --   --     45     33      382     147   1184    PIPE        394  0.03686      3.25  ----    -----  -----    --     --
 9A :  WALNUT CANYON RD (LOCAL) DIRECT TO WCC
 9A   030   A10    12    0     22     18      404     147   1185    CHANNEL    2080  0.02950      5     0.00    0.014  0.014    --     --
10A :  WALNUT CANYON RD (LOCAL) DIRECT TO WCC [OLD 7A]
10A  030   A10    12   36     43     52      447     181   1160    -------    ----  -------    ---     ----    -----  -----    --     --
11A :  WALNUT CANYON RD (LOCAL) DIRECT TO WCC
11A  ---   ---    --   --    ---    ---      447     181   1160    -------    ----  -------    ---     ----    -----  -----    --     --
12B :  MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
12B  020   A10    12   77     14     23       14      23   1154    PIPE         90  0.00500      2.25  ----    -----  -----    --     --
13C :  MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
13C  020   A10    11   89     18     34       18      34   1154    PIPE         34  0.02000      2.00  ----    -----  -----    --     --
14BC:  MERIDIAN HILLS WEST [OLD 9BC]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
14BC ---   ---    --   --     18     34       32      57   1155    PIPE        416  0.03600      2.25  ----    -----  -----    --     --
15B :  MERIDIAN HILLS WEST [OLD 15C]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
15B  020   A10    18   25     71     64      103     120   1156    VALLEY      300  0.00500    ---     ----    -----  -----    --     --
16B :  MERIDIAN HILLS WEST [OLD 16AB]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
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      16B   ---   ---    --   --    ---    ---      103     120   1158    PIPE        193  0.16500      2.25  ----    -----  -----    --     --
      17B :  MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
      17B   ---   ---    --   --    ---    ---      103     120   1158    PIPE        324  0.01600      3.50  ----    -----  -----    --     --
      18C :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      18C   050   A10     7   16     14     17       14      17   1153    PIPE        420  0.04000      2.00  ----    -----  -----    --     --
      19C :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      19C   020   A10     6   28     12     20       26      37   1154    -------    ----  -------    ---     ----    -----  -----    --     --
```

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-EXISTING CONDITION 10YR (2017)

Model Results

```
   |---------- SUBAREA DATA AND RESULTS --------|-- ACCUMULATED DATA --|------------ ROUTING AFTER ACCUMULATION ---------------------------------|
   | NODE   SOIL  RAIN   TC    %    AREA  FLOW  |  AREA    FLOW   TIME |  CHANNEL  LENGTH   SLOPE     SIZE    H:V       N VALUES      VEL  DEPTH |
   |  ID    TYPE  ZONE (MIN)  IMP   (AC)  (CFS) |  (AC)    (CFS)  (MIN)|    TYPE    (FT)   (FT/FT)    (FT)    (Z)     CHNL   SIDES  (FT/S)  (FT) |
   |-----------------------------------------|----------------------|-------------------------------------------------------------------------|
      20C :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      20C   030   A10     7   40     13     22       39      58   1154    PIPE        450  0.07300      2.00  ----    -----  -----    --     --
      21D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      21D   040   A10     6   28      9     14        9      14   1153    PIPE        360  0.01100      2.00  ----    -----  -----    --     --
      22E :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      22E   040   A10     8   12     11     12       11      12   1153    PIPE        150  0.05300      2.00  ----    -----  -----    --     --
      23E :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      23E   040   A10     6   30     10     16       21      28   1154    -------    ----  -------    ---     ----    -----  -----    --     --
      24DE:  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      24DE  ---   ---    --   --     21     28       30      42   1154    PIPE        680  0.04700      2.00  ----    -----  -----    --     --
      25D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      25D   020   A10     7   30      5      8       35      48   1155    PIPE        250  0.01200      2.75  ----    -----  -----    --     --
      26D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      26D   050   A10     6   30     10     15       45      60   1155    PIPE        740  0.01200      2.75  ----    -----  -----    --     --
      27D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      27D   020   A10     6   32      6     11       51      65   1156    -------    ----  -------    ---     ----    -----  -----    --     --
      28CD:  MERIDIAN HILLS WEST - IN-TRACT BASIN 5187-2 [OLD 31BC] DRAINS TO PROPOSED/NOT BUILT BASIN 1 AT CASEY RD
      28CD  ---   ---    --   --     51     65       90     119   1155    -------    ----  -------    ---     ----    -----  -----    --     --
      ********************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):    119.16         VOLUME (acre-ft):     10.96      *
      *      NO HYDROGRAPH ADJUSTMENT                                                            *
      *      RUNOFF FACTOR(in):   1.53      TOTAL RAIN(in):   4.50      SCS Curve: 68            *
      *      FATTENED HYDROGRAPH  PEAK (cfs):    119.16         VOLUME (acre-ft):     11.48      *
      *      RESERVOIR INFLOW:    PEAK (cfs):    119.16 @ 1155  VOLUME (acre-ft):     11.48      *
      *      MAXIMUM ELEVATION:   STAGE (ft):    715.76 @ 1163  VOLUME (acre-ft):      2.76      *
      *      EMERGENCY SPILLWAY:   ELEV (ft):    720.00         VOLUME (acre-ft):      7.05      *
      *          DIFFERENCE:   IN STAGE (ft):     -4.24      IN VOLUME (acre-ft):      4.29      *
      *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     60.8%      *
      *      TOP OF DAM:           ELEV (ft):    721.00         VOLUME (acre-ft):      8.15      *
      *          DIFFERENCE    IN STAGE (ft):     -5.24      IN VOLUME (acre-ft):      5.39      *
      *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     66.1%      *
      *      RESERVOIR OUTFLOW:   PEAK (cfs):     39.71 @ 1163  VOLUME (acre-ft):     10.60      *
      ********************************************************************************************
      28C   ---   ---    --   --    ---    ---       90      40   1163    -------    ----  -------    ---     ----    -----  -----    --     --
      29BC:  OMBINES WEST MERIDIAN HILLS OUTFLOW (IN-TRACT BASIN 5187-2 + BY-PASS FLOW)
      29BC  ---   ---    --   --     90     40      193     158   1160    PIPE        314  0.19700      2.50  ----    -----  -----    --     --
      30B :  LOCAL CASEY ROAD
      30B   010   A10     8    0      9     11      202     163   1159    MOUNTAIN   2300  0.01830    ---     ----    -----  -----    --     --
      31B :  LOCAL CASEY ROAD
```

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31B   ---   ---    --   --    ---    ---      202     141   1172    VALLEY      300  0.01000    ---     ----    -----  -----    --     --
32B :  LOCATION OF PROPOSED BASIN 1 AT CASEY ROAD ****NOT BUILT AS OF 07/30/19****
32B   020   A10    21   18     69     53      271     176   1169    -------     ----  -------    ---     ----    -----  -----    --     --
33AB:  COMBINED OUTFLOW FROM WCC MAIN AND WSHD DRAINING TO PROP BASIN 1 AT CASEY RD ****NO BUILT AS OF 07/30/2019****
33AB  ---   ---    --   --    271    176      718     329   1169    CHANNEL    1163  0.03560      6     0.00    0.014  0.014    --     --
34C :  MOORPARK DRAIN NO.1
34C   020   A10    15   24     42     41       42      41   1155    40' ROAD   1200  0.07500    ---     ----    -----  -----    --     --
35C :  MOORPARK DRAIN NO.1
35C   020   A10    13   28     17     19       59      58   1159    40' ROAD   1100  0.01800    ---     ----    -----  -----    --     --
36C :  MOORPARK DRAIN NO.1
36C   050   A10     8   45     19     29       78      63   1164    -------     ----  -------    ---     ----    -----  -----    --     --
37D :  MOORPARK DRAIN NO.1
37D   050   A10     8   60     10     17       10      17   1153    40' ROAD    800  0.01250    ---     ----    -----  -----    --     --
38D :  MOORPARK DRAIN NO.1
38D   010   A10     8   74      8     16       18      27   1156    -------     ----  -------    ---     ----    -----  -----    --     --
39CD:  MOORPARK DRAIN NO.1
39CD  ---   ---    --   --     18     27       96      89   1156    40' ROAD    900  0.01100    ---     ----    -----  -----    --     --
40E :  MOORPARK DRAIN NO.1
40E   040   A10    11   93     11     21       11      21   1154    -------     ----  -------    ---     ----    -----  -----    --     --
41E :  MOORPARK DRAIN NO.1
41E   040   A10    11   14      9      9       20      30   1154    -------     ----  -------    ---     ----    -----  -----    --     --
42CE:  MOORPARK DRAIN NO.1
42CE  ---   ---    --   --     20     30      116     106   1159    PIPE        850  0.00900      3.75  ----    -----  -----    --     --
43C :  MOORPARK DRAIN NO.1 - (LOCAL 43C = MOORPARK LIBRARY/CITY HALL/CIVIC CENTER)
43C   050   A10    15   60     31     39      147     142   1161    -------     ----  -------    ---     ----    -----  -----    --     --
44AC:  WCC MAIN + MOORPARK DRAIN NO. 1 (OLD 28AC WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE)
44AC  ---   ---    --   --    147    142      865     453   1162    CHANNEL    1450  0.00800      8     0.00    0.014  0.014    --     --
45A :  DRAINAGE AREA FOR PROPOSED ESSEX AND EAST 1/2 OF HR PROPOSED BASIN 3 LOCAL
45A   040   A10    15   50     51     59      916     503   1163    CHANNEL     710  0.00740      8     0.00    0.014  0.014    --     --
46A :  EAST HITCH RANCH - WEST 1/2 OF HR PROPOSED BASIN 3 LOCAL
46A   030   A10    20    6     27     17      943     518   1164    -------     ----  -------    ---     ----    -----  -----    --     --
47B :  EAST HITCH RANCH
47B   020   A10    18    6     29     21       29      21   1158    MOUNTAIN    275  0.07300    ---     ----    -----  -----    --     --
```


Model Results

```
|---------- SUBAREA DATA AND RESULTS --------|-- ACCUMULATED DATA --|------------ ROUTING AFTER ACCUMULATION ----------------------------------|
| NODE   SOIL  RAIN   TC    %    AREA  FLOW  |  AREA    FLOW   TIME |  CHANNEL  LENGTH   SLOPE     SIZE    H:V       N VALUES      VEL  DEPTH |
|  ID    TYPE  ZONE (MIN)  IMP   (AC)  (CFS) |  (AC)    (CFS)  (MIN)|    TYPE    (FT)   (FT/FT)    (FT)    (Z)     CHNL   SIDES  (FT/S)  (FT) |
|-------------------------------------------|----------------------|-------------------------------------------------------------------------|
48B :  EAST HITCH RANCH
48B   050   A10    22    6     44     22       73      43   1162    MOUNTAIN   1850  0.03800    ---     ----    -----  -----    --     --
49B :  EAST HITCH RANCH
49B   050   A10    15    6     34     22      107      50   1163    -------     ----  -------    ---     ----    -----  -----    --     --
50AB:  CONFLUENCE OF EAST HITCH RANCH, PROPOSED ESSEX/BASIN 3 LOCAL, AND WCC (OLD 35AB PROPOSED LOCATION OF BASIN 3)
50AB  ---   ---    --   --    107     50     1050     567   1164    CHANNEL    2750  0.00575      9     0.00    0.014  0.014    --     --
51A :  LOCAL SUBAREA DRAINING DIRECT TO WCC BETWEEN EAST AND WEST HR (OLD 37A  WALNUT CYN PRIOR TO JCT W/ GABBERT,1/96 AERIAL PHOTO LU, Q100)
51A   040   A10    14    2     32     22     1082     557   1168    CHANNEL     750  0.00540      9     0.00    0.014  0.014    --     --
52B :  WEST HITCH RANCH - WEST FORK
52B   040   A10    14    6     54     40       54      40   1154    MOUNTAIN   3800  0.04000    ---     ----    -----  -----    --     --
53B :  WEST HITCH RANCH - WEST FORK
53B   040   A10    17    6     73     47      127      53   1157    MOUNTAIN   1700  0.04120    ---     ----    -----  -----    --     --
54B :  WEST HITCH RANCH - WEST FORK
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```
54B   040   A10    15    6     58     41      185      79   1163    MOUNTAIN   1900  0.03950    ---     ----    -----  -----    --     --
55B :  WEST HITCH RANCH - WEST FORK
55B   040   A10    17   16     49     36      234      89   1165    -------    ----  -------    ---     ----    -----  -----    --     --
56C :  WEST HITCH RANCH - MIDDLE FORK
56C   040   A10    20   30     84     68       84      68   1160    -------    ----  -------    ---     ----    -----  -----    --     --
57BC:  WEST HITCH RANCH - CONFLUENCE OF WEST AND MIDDLE FORKS
57BC  ---   ---    --   --     84     68      318     154   1165    MOUNTAIN    500  0.01540    ---     ----    -----  -----    --     --
58D :  WEST HITCH RANCH - EAST FORK
58D   040   A10    24    4     72     36       72      36   1164    MOUNTAIN   1100  0.02270    ---     ----    -----  -----    --     --
59E :  WEST HITCH RANCH - EAST FORK
59E   050   A10    12   30     38     40       38      40   1154    -------    ----  -------    ---     ----    -----  -----    --     --
60DE:  WEST HITCH RANCH - EAST FORK
60DE  ---   ---    --   --     38     40      110      60   1160    MOUNTAIN   1300  0.01310    ---     ----    -----  -----    --     --
61B :  WEST HITCH RANCH - WEST + MIDDLE FORKS
61B   050   A10    11    0     40     29      358     153   1159    -------    ----  -------    ---     ----    -----  -----    --     --
62BD:  WEST HITCH RANCH - CONFLUENCE OF WEST/MIDDLE AND EAST FORKS
62BD  ********************************************************************************************************
      *          Peak in B:      152.76 cfs @ 1159 min  Q in D:       26.01 cfs  Combined Q:      178.77 cfs   *
      *          Peak in D:       49.50 cfs @ 1170 min  Q in B:      145.10 cfs  Combined Q:      194.61 cfs   *
      *      Combined Peak:      199.83 cfs @ 1168 min  Q in B:      151.22 cfs      Q in D:       48.61 cfs   *
      ********************************************************************************************************
62BD  ---   ---    --   --    110     50      468     200   1168    -------    ----  -------    ---     ----    -----  -----    --     --
63AB:  CONFLUENCE OF WEST HITCH RANCH + WCC FROM THE EAST
63AB  ---   ---    --   --    468    200     1550     755   1168    CHANNEL    1350  0.00510     11     0.00    0.014  0.014    --     --
64A :  INFLOW TO 10X8 RCB AT RR (EXISTING 1996 LAND USE WITH TR 5187 AND BASIN 0)
64A   020   A10    20   26     70     60     1620     792   1169    CHANNEL    1275  0.00470     11     0.00    0.014  0.014    --     --
65C :  65C PACE
65C   050   A10    14   61     63     82       63      82   1154    PIPE       1480  0.00490      3.75  ----    -----  -----    --     --
66C :  66C PACE
66C   050   A10    14   70     63     89      126     164   1159    PIPE       1350  0.00840      4.25  ----    -----  -----    --     --
67C :  67C PACE
67C   040   A10    12   40     46     56      172     206   1160    -------    ----  -------    ---     ----    -----  -----    --     --
68AC:  LA Avenue - COMBINED WCC + INCOMING MP 72" RCP ***TARGET LOCATION -> WE WANT Q100 < 830CFS)***
68AC  ---   ---    --   --    172    206     1792     905   1169    CHANNEL    1575  0.00470     12     0.00    0.014  0.014    --     --
69A   ---   ---    --   --    ---    ---     1792     902   1171    -------    ----  -------    ---     ----    -----  -----    --     --


                                    Issue/Warning Messages
      TYPE      ERR NO   PROCEDURE    LOCATION   MESSAGE
     ------------------------------------------------------------------------------------------------------------------------------------------------------
       NO ISSUES OR WARNINGS DETECTED
```


Hydrograph Printouts

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            RESERVOIR ROUTING AT      5A
------------------------------------------------------------------------------------------------------------------------------------------------------
            DESCRIPTION: BASIN 0 ZERO
            ********************************************************************************
            *      INCOMING HYDROGRAPH  PEAK (cfs):    169.55         VOLUME (acre-ft):     23.39      *
            *      NO HYDROGRAPH ADJUSTMENT                                                           *
            *      RUNOFF FACTOR(in):   1.60      TOTAL RAIN(in):   4.50      SCS Curve: 69           *
```

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*      FATTENED HYDROGRAPH  PEAK (cfs):    169.55         VOLUME (acre-ft):     44.91      *
*      RESERVOIR INFLOW:    PEAK (cfs):    169.55 @ 1173  VOLUME (acre-ft):     44.91      *
*      MAXIMUM ELEVATION:   STAGE (ft):    670.19 @ 1197  VOLUME (acre-ft):      9.15      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    680.00         VOLUME (acre-ft):     28.03      *
*          DIFFERENCE:   IN STAGE (ft):     -9.81      IN VOLUME (acre-ft):     18.88      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     67.3%      *
*      TOP OF DAM:           ELEV (ft):    681.00         VOLUME (acre-ft):     30.12      *
*          DIFFERENCE    IN STAGE (ft):    -10.81      IN VOLUME (acre-ft):     20.97      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     69.6%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):    121.46 @ 1197  VOLUME (acre-ft):     41.27      *
*********************************************************************************************
```

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	0.00	663.78
100	2.64	2.64	3.14	0.08	663.84
200	2.65	2.65	3.83	1.18	664.12
300	2.65	2.65	4.09	2.75	664.34
400	2.65	2.65	4.44	3.58	664.45
500	2.65	2.65	4.92	4.15	664.53
600	2.83	2.83	5.81	4.74	664.61
700	3.60	3.60	7.69	5.67	664.74
800	4.26	4.26	10.20	7.25	664.95
900	5.04	5.04	14.45	10.64	665.19
1000	6.99	6.99	23.93	16.13	665.54
1050	9.77	9.77	34.09	22.12	665.91
1100	19.36	19.36	55.46	34.15	666.48
1110	29.62	29.62	66.91	38.97	666.70
1120	43.69	43.69	81.03	45.23	666.98
1130	59.96	59.96	96.34	53.93	667.32
1131	62.09	62.09	98.17	54.98	667.36
1132	64.09	64.09	99.91	56.05	667.40
1133	66.11	66.11	101.65	57.13	667.44
1134	68.13	68.13	103.38	58.23	667.48
1135	70.13	70.13	105.09	59.35	667.53
1136	72.07	72.07	106.75	60.48	667.57
1137	73.97	73.97	108.38	61.62	667.61
1138	75.83	75.83	109.97	62.77	667.66
1139	77.64	77.64	111.52	63.94	667.70
1140	79.29	79.29	112.96	65.11	667.75
1141	80.97	80.97	114.41	66.29	667.79
1142	82.92	82.92	116.02	67.47	667.84
1143	85.06	85.06	117.73	68.67	667.88
1144	87.15	87.15	119.40	69.88	667.93
1145	89.58	89.58	121.26	71.10	667.98
1146	92.78	92.78	123.56	72.35	668.02
1147	96.07	96.07	125.89	73.63	668.07
1148	99.18	99.18	128.09	74.94	668.12
1149	104.61	104.61	131.62	76.28	668.17
1150	113.00	113.00	136.82	77.69	668.22
1151	121.86	121.86	142.19	79.21	668.28
1152	130.28	130.28	147.23	80.81	668.34
1153	138.50	138.50	152.07	82.49	668.40
1154	144.69	144.69	155.69	84.23	668.46
1155	147.56	147.56	157.41	86.00	668.53

1156	148.78	148.78	158.21	87.76	668.59
1157	149.71	149.71	158.83	89.48	668.66
1158	151.57	151.57	159.94	91.19	668.72
1159	155.01	155.01	161.86	92.90	668.78
1160	157.88	157.88	163.45	94.60	668.84
1161	158.56	158.56	163.88	96.29	668.91
1162	158.44	158.44	163.88	97.94	668.97
1163	157.65	157.65	163.56	99.33	669.03
1164	156.16	156.16	162.89	100.43	669.08
1165	155.52	155.52	162.66	101.51	669.14
1166	157.39	157.39	163.66	102.57	669.19

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1167	160.38	160.38	165.17	103.64	669.24
1168	163.38	163.38	166.65	104.71	669.30
1169	165.88	165.88	167.85	105.79	669.35
1170	167.74	167.74	168.73	106.87	669.41
1171	168.93	168.93	169.27	107.94	669.46
1172	169.51	169.51	169.54	109.00	669.51
1173	169.55	169.55	169.55	110.04	669.57
1174	168.86	168.86	169.25	111.07	669.62
1175	167.34	167.34	168.56	112.07	669.67
1176	165.54	165.54	167.72	113.03	669.72
1177	163.65	163.65	166.82	113.97	669.76
1178	161.04	161.04	165.56	114.87	669.81
1179	157.58	157.58	163.86	115.73	669.85
1180	153.22	153.22	161.68	116.54	669.89
1181	148.56	148.56	159.30	117.30	669.93
1182	143.38	143.38	156.60	118.00	669.97
1183	138.55	138.55	154.02	118.64	670.00
1184	134.05	134.05	151.55	119.04	670.03
1185	129.78	129.78	149.15	119.40	670.05
1186	125.75	125.75	146.83	119.74	670.07
1187	121.93	121.93	144.57	120.04	670.09
1188	118.28	118.28	142.37	120.31	670.11
1189	114.68	114.68	140.15	120.55	670.13
1190	111.07	111.07	137.90	120.77	670.14
1191	107.47	107.47	135.61	120.95	670.16
1192	103.81	103.81	133.26	121.11	670.17
1193	100.12	100.12	130.86	121.24	670.17
1194	96.46	96.46	128.44	121.34	670.18
1195	92.84	92.84	126.01	121.41	670.19
1196	89.29	89.29	123.59	121.44	670.19
1197	85.83	85.83	121.20	121.46	670.19
1198	82.49	82.49	118.84	121.44	670.19
1199	79.28	79.28	116.54	121.40	670.19
1200	76.19	76.19	114.29	121.33	670.18

1201	73.18	73.18	112.06	121.23	670.17
1202	70.27	70.27	109.87	121.11	670.17
1203	67.53	67.53	107.76	120.97	670.16
1204	64.99	64.99	105.76	120.80	670.15
1205	62.60	62.60	103.83	120.62	670.13
1206	60.28	60.28	101.94	120.41	670.12
1207	58.00	58.00	100.06	120.19	670.10
1208	55.79	55.79	98.21	119.94	670.09
1209	53.64	53.64	96.39	119.68	670.07
1210	51.57	51.57	94.60	119.40	670.05
1211	49.57	49.57	92.85	119.10	670.03
1212	47.64	47.64	91.15	118.78	670.01
1213	45.79	45.79	89.48	118.36	669.99
1214	44.00	44.00	87.85	117.85	669.96
1215	42.38	42.38	86.31	117.32	669.93
1216	40.84	40.84	84.83	116.77	669.91
1217	39.46	39.46	83.45	116.21	669.88
1218	38.15	38.15	82.11	115.63	669.85
1219	36.87	36.87	80.80	115.04	669.82
1220	35.63	35.63	79.51	114.44	669.79
1221	34.44	34.44	78.24	113.83	669.76
1222	33.28	33.28	77.00	113.20	669.73
1223	32.17	32.17	75.79	112.57	669.69
1224	31.11	31.11	74.62	111.92	669.66
1225	30.09	30.09	73.47	111.27	669.63
1226	29.12	29.12	72.36	110.61	669.59
1227	28.15	28.15	71.24	109.94	669.56
1228	27.22	27.22	70.16	109.26	669.53
1229	26.35	26.35	69.12	108.58	669.49
1230	25.58	25.58	68.15	107.89	669.46
1231	24.87	24.87	67.23	107.20	669.42
1232	24.19	24.19	66.32	106.50	669.39
1233	23.53	23.53	65.44	105.80	669.35
1234	22.90	22.90	64.57	105.09	669.32
1235	22.28	22.28	63.72	104.39	669.28
1236	21.69	21.69	62.89	103.68	669.25
1237	21.14	21.14	62.10	102.97	669.21

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1238	20.61	20.61	61.32	102.26	669.17
1239	20.10	20.10	60.55	101.54	669.14
1240	19.59	19.59	59.79	100.83	669.10
1241	19.13	19.13	59.07	100.12	669.07
1242	18.65	18.65	58.34	99.40	669.03
1243	18.17	18.17	57.61	98.64	668.99
1244	17.71	17.71	56.90	97.63	668.96
1245	17.26	17.26	56.20	96.62	668.92

1246	16.82	16.82	55.51	95.63	668.88
1247	16.39	16.39	54.83	94.64	668.85
1248	15.97	15.97	54.16	93.66	668.81
1249	15.56	15.56	53.50	92.68	668.77
1250	15.16	15.16	52.86	91.72	668.74
1251	14.77	14.77	52.22	90.76	668.70
1252	14.39	14.39	51.59	89.81	668.67
1253	14.03	14.03	50.98	88.87	668.63
1254	13.68	13.68	50.38	87.94	668.60
1255	13.33	13.33	49.79	87.01	668.56
1256	13.00	13.00	49.20	86.09	668.53
1257	12.67	12.67	48.63	85.19	668.50
1258	12.36	12.36	48.07	84.29	668.46
1259	12.05	12.05	47.52	83.39	668.43
1260	11.75	11.75	46.98	82.51	668.40
1261	11.46	11.46	46.45	81.64	668.37
1262	11.19	11.19	45.93	80.77	668.33
1263	10.92	10.92	45.42	79.91	668.30
1264	10.67	10.67	44.93	79.06	668.27
1265	10.45	10.45	44.47	78.22	668.24
1266	10.25	10.25	44.02	77.39	668.21
1267	10.06	10.06	43.58	76.57	668.18
1268	9.87	9.87	43.15	75.76	668.15
1269	9.70	9.70	42.74	74.96	668.12
1270	9.53	9.53	42.33	74.17	668.09
1271	9.37	9.37	41.92	73.38	668.06
1272	9.21	9.21	41.53	72.61	668.03
1273	9.06	9.06	41.14	71.85	668.01
1274	8.90	8.90	40.75	71.10	667.98
1275	8.76	8.76	40.38	70.35	667.95
1276	8.61	8.61	40.00	69.62	667.92
1277	8.47	8.47	39.64	68.90	667.89
1278	8.35	8.35	39.28	68.19	667.87
1279	8.22	8.22	38.93	67.48	667.84
1280	8.10	8.10	38.59	66.78	667.81
1281	7.98	7.98	38.24	66.10	667.79
1282	7.86	7.86	37.91	65.42	667.76
1283	7.74	7.74	37.58	64.75	667.73
1284	7.63	7.63	37.25	64.08	667.71
1285	7.52	7.52	36.93	63.43	667.68
1286	7.42	7.42	36.61	62.78	667.66
1287	7.32	7.32	36.31	62.14	667.63
1288	7.23	7.23	36.01	61.51	667.61
1289	7.14	7.14	35.71	60.89	667.59
1290	7.05	7.05	35.42	60.28	667.56
1291	6.98	6.98	35.14	59.67	667.54
1292	6.90	6.90	34.86	59.07	667.52
1293	6.82	6.82	34.59	58.48	667.49
1294	6.75	6.75	34.32	57.90	667.47
1295	6.68	6.68	34.05	57.32	667.45
1296	6.61	6.61	33.79	56.76	667.43
1297	6.54	6.54	33.53	56.20	667.40
1298	6.46	6.46	33.26	55.64	667.38
1299	6.38	6.38	33.00	55.10	667.36
1300	6.30	6.30	32.73	54.56	667.34
1310	5.62	5.62	30.31	49.66	667.15

1320	5.17	5.17	28.26	45.36	666.99
1330	4.79	4.79	26.44	41.91	666.83
1340	4.40	4.40	24.75	38.78	666.69
1350	4.05	4.05	23.21	35.94	666.56
1360	3.80	3.80	21.87	33.37	666.45
1370	3.60	3.60	20.68	31.05	666.34
1380	3.42	3.42	19.58	28.96	666.25

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1390	3.25	3.25	18.58	27.07	666.16
1400	3.11	3.11	17.67	25.35	666.08
1420	2.91	2.91	16.09	22.72	665.95
1440	2.79	2.79	14.80	20.77	665.83
1460	2.64	2.64	13.63	19.02	665.72
1500	2.64	2.64	11.97	16.21	665.54

Stage - Storage - Discharge Curve for Reservoir at 5A

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
663.78	0.000	0.00
664.00	0.360	0.26
665.00	1.540	7.60
666.00	2.880	23.50
667.00	4.280	45.67
668.00	5.740	71.69
669.00	7.250	98.81
670.00	8.820	118.64
672.00	12.320	148.37
675.00	17.580	188.54
676.00	19.670	210.58
677.00	21.760	236.61
680.00	28.030	302.67
681.00	30.120	324.69

RESERVOIR ROUTING AT 7B

DESCRIPTION: IN-TRACT BASIN AT "BASIN 1A"

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**********************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):     66.97         VOLUME (acre-ft):      8.39      *
*      NO HYDROGRAPH ADJUSTMENT                                                  *
*      RUNOFF FACTOR(in):   2.73      TOTAL RAIN(in):   4.50      SCS Curve: 83           *
*      FATTENED HYDROGRAPH  PEAK (cfs):     66.97         VOLUME (acre-ft):     10.24      *
*      RESERVOIR INFLOW:    PEAK (cfs):     66.97 @ 1156  VOLUME (acre-ft):     10.24      *
*      MAXIMUM ELEVATION:   STAGE (ft):    659.84 @ 1166  VOLUME (acre-ft):      2.11      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    665.00         VOLUME (acre-ft):      6.85      *
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*          DIFFERENCE:   IN STAGE (ft):     -5.16      IN VOLUME (acre-ft):      4.74      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     69.1%      *
*      TOP OF DAM:           ELEV (ft):    666.00         VOLUME (acre-ft):      7.85      *
*          DIFFERENCE    IN STAGE (ft):     -6.16      IN VOLUME (acre-ft):      5.74      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     73.1%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):     32.62 @ 1166  VOLUME (acre-ft):      9.45      *
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TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	0.00	657.00
100	1.75	1.75	1.78	0.35	657.06
200	1.76	1.76	1.84	1.31	657.23
300	1.75	1.75	1.85	1.66	657.30
400	1.76	1.76	1.88	1.79	657.32
500	1.75	1.75	1.91	1.86	657.33
600	2.01	2.01	2.22	1.95	657.35
700	2.83	2.83	3.13	2.31	657.41
800	2.90	2.90	3.34	2.89	657.52
900	3.73	3.73	4.44	3.40	657.61
1000	5.41	5.41	6.73	4.54	657.82
1050	7.38	7.38	9.35	5.99	658.03
1100	10.69	10.69	13.89	9.37	658.28
1110	17.05	17.05	20.28	10.78	658.39
1120	23.52	23.52	26.74	13.28	658.58
1130	24.79	24.79	28.41	16.36	658.81
1131	24.77	24.77	28.44	16.66	658.83
1132	24.52	24.52	28.28	16.95	658.85
1133	24.39	24.39	28.21	17.23	658.87
1134	24.26	24.26	28.16	17.50	658.89
1135	24.10	24.10	28.07	17.76	658.91
1136	23.93	23.93	27.99	18.01	658.93

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1137	23.77	23.77	27.90	18.26	658.95
1138	23.60	23.60	27.82	18.50	658.96
1139	23.51	23.51	27.81	18.73	658.98
1140	23.45	23.45	27.82	18.95	659.00
1141	23.56	23.56	28.00	19.20	659.01
1142	23.68	23.68	28.17	19.44	659.03
1143	23.81	23.81	28.36	19.69	659.04
1144	23.98	23.98	28.60	19.94	659.06
1145	24.81	24.81	29.42	20.19	659.07
1146	26.13	26.13	30.67	20.46	659.09
1147	27.34	27.34	31.82	20.76	659.11
1148	28.94	28.94	33.32	21.09	659.13

1149	33.23	33.23	37.18	21.49	659.15
1150	38.80	38.80	42.15	21.99	659.19
1151	44.46	44.46	47.19	22.63	659.22
1152	51.43	51.43	53.35	23.40	659.27
1153	58.38	58.38	59.46	24.32	659.33
1154	62.60	62.60	63.16	25.35	659.39
1155	65.06	65.06	65.31	26.43	659.46
1156	66.97	66.97	66.97	27.54	659.53
1157	64.55	64.55	64.87	28.61	659.59
1158	60.09	60.09	60.98	29.56	659.65
1159	55.41	55.41	56.87	30.38	659.70
1160	50.10	50.10	52.19	31.05	659.74
1161	44.06	44.06	46.85	31.57	659.78
1162	40.05	40.05	43.27	31.95	659.80
1163	37.69	37.69	41.13	32.23	659.82
1164	34.86	34.86	38.58	32.44	659.83
1165	31.64	31.64	35.66	32.57	659.84
1166	28.19	28.19	32.53	32.62	659.84
1167	25.49	25.49	30.06	32.58	659.84
1168	23.10	23.10	27.86	32.48	659.83
1169	21.29	21.29	26.16	32.33	659.82
1170	19.53	19.53	24.51	32.13	659.81
1171	17.92	17.92	22.99	31.90	659.80
1172	16.35	16.35	21.50	31.63	659.78
1173	15.44	15.44	20.61	31.33	659.76
1174	14.87	14.87	20.02	31.03	659.74
1175	14.21	14.21	19.34	30.71	659.72
1176	13.65	13.65	18.76	30.39	659.70
1177	12.97	12.97	18.06	30.05	659.68
1178	12.22	12.22	17.31	29.71	659.66
1179	11.56	11.56	16.64	29.35	659.64
1180	11.03	11.03	16.08	28.99	659.62
1181	10.63	10.63	15.64	28.62	659.59
1182	10.22	10.22	15.20	28.26	659.57
1183	9.74	9.74	14.68	27.89	659.55
1184	9.39	9.39	14.29	27.51	659.53
1185	9.10	9.10	13.96	27.14	659.50
1186	8.91	8.91	13.72	26.77	659.48
1187	8.76	8.76	13.51	26.40	659.46
1188	8.69	8.69	13.39	26.04	659.44
1189	8.34	8.34	13.00	25.68	659.41
1190	7.95	7.95	12.58	25.32	659.39
1191	7.76	7.76	12.34	24.97	659.37
1192	7.35	7.35	11.90	24.61	659.35
1193	7.06	7.06	11.57	24.25	659.33
1194	6.78	6.78	11.26	23.89	659.30
1195	6.55	6.55	10.98	23.53	659.28
1196	6.36	6.36	10.75	23.18	659.26
1197	6.20	6.20	10.55	22.83	659.24
1198	6.14	6.14	10.43	22.49	659.22
1199	6.04	6.04	10.28	22.15	659.20
1200	5.96	5.96	10.16	21.82	659.18
1201	5.87	5.87	10.02	21.49	659.15
1202	5.84	5.84	9.94	21.17	659.14
1203	5.74	5.74	9.80	20.86	659.12
1204	5.64	5.64	9.66	20.55	659.10

1205	5.61	5.61	9.58	20.24	659.08
1206	5.57	5.57	9.49	19.94	659.06
1207	5.55	5.55	9.42	19.65	659.04

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1208	5.53	5.53	9.36	19.36	659.02
1209	5.51	5.51	9.30	19.08	659.01
1210	5.50	5.50	9.24	18.83	658.99
1211	5.49	5.49	9.19	18.59	658.97
1212	5.48	5.48	9.14	18.36	658.95
1213	5.53	5.53	9.14	18.13	658.94
1214	5.51	5.51	9.08	17.91	658.92
1215	5.46	5.46	9.00	17.69	658.90
1216	5.47	5.47	8.97	17.48	658.89
1217	5.46	5.46	8.92	17.27	658.87
1218	5.47	5.47	8.89	17.06	658.86
1219	5.47	5.47	8.85	16.86	658.84
1220	5.47	5.47	8.81	16.66	658.83
1221	5.46	5.46	8.77	16.47	658.81
1222	5.46	5.46	8.73	16.28	658.80
1223	5.47	5.47	8.70	16.09	658.78
1224	5.51	5.51	8.71	15.91	658.77
1225	5.40	5.40	8.56	15.73	658.76
1226	5.15	5.15	8.30	15.55	658.74
1227	5.03	5.03	8.15	15.37	658.73
1228	4.86	4.86	7.96	15.19	658.72
1229	4.66	4.66	7.73	15.00	658.70
1230	4.49	4.49	7.54	14.82	658.69
1231	4.28	4.28	7.31	14.64	658.68
1232	4.02	4.02	7.03	14.46	658.66
1233	3.89	3.89	6.88	14.27	658.65
1234	3.86	3.86	6.81	14.09	658.64
1235	3.71	3.71	6.64	13.91	658.62
1236	3.63	3.63	6.54	13.73	658.61
1237	3.52	3.52	6.40	13.55	658.60
1238	3.42	3.42	6.28	13.37	658.58
1239	3.32	3.32	6.15	13.19	658.57
1240	3.23	3.23	6.04	13.02	658.56
1241	3.16	3.16	5.94	12.84	658.54
1242	3.06	3.06	5.82	12.67	658.53
1243	3.07	3.07	5.80	12.50	658.52
1244	3.02	3.02	5.73	12.34	658.50
1245	3.00	3.00	5.68	12.17	658.49
1246	2.97	2.97	5.63	12.01	658.48
1247	2.95	2.95	5.59	11.85	658.47
1248	2.93	2.93	5.54	11.70	658.46
1249	2.92	2.92	5.51	11.55	658.45

1250	2.95	2.95	5.52	11.40	658.43
1251	2.89	2.89	5.44	11.25	658.42
1252	2.90	2.90	5.42	11.11	658.41
1253	2.89	2.89	5.39	10.97	658.40
1254	2.89	2.89	5.37	10.83	658.39
1255	2.89	2.89	5.34	10.69	658.38
1256	2.89	2.89	5.31	10.56	658.37
1257	2.88	2.88	5.29	10.43	658.36
1258	2.88	2.88	5.27	10.31	658.35
1259	2.93	2.93	5.29	10.18	658.34
1260	2.87	2.87	5.22	10.06	658.34
1261	2.89	2.89	5.21	9.94	658.33
1262	2.88	2.88	5.18	9.82	658.32
1263	2.88	2.88	5.17	9.71	658.31
1264	2.88	2.88	5.14	9.60	658.30
1265	2.88	2.88	5.12	9.49	658.29
1266	2.88	2.88	5.10	9.38	658.28
1267	2.84	2.84	5.04	9.27	658.28
1268	2.89	2.89	5.07	9.17	658.27
1269	2.88	2.88	5.05	9.07	658.26
1270	2.88	2.88	5.03	8.97	658.25
1271	2.88	2.88	5.01	8.87	658.25
1272	2.88	2.88	4.99	8.77	658.24
1273	2.87	2.87	4.97	8.68	658.23
1274	2.87	2.87	4.95	8.59	658.23
1275	2.91	2.91	4.98	8.50	658.22
1276	2.86	2.86	4.91	8.41	658.21
1277	2.88	2.88	4.91	8.33	658.21
1278	2.87	2.87	4.89	8.24	658.20

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-EXISTING CONDITION 10YR (2017)

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1279	2.88	2.88	4.87	8.16	658.19
1280	2.88	2.88	4.86	8.08	658.19
1281	2.88	2.88	4.84	8.00	658.18
1282	2.88	2.88	4.82	7.92	658.18
1283	2.83	2.83	4.77	7.84	658.17
1284	2.89	2.89	4.80	7.77	658.16
1285	2.88	2.88	4.78	7.69	658.16
1286	2.88	2.88	4.77	7.62	658.15
1287	2.88	2.88	4.75	7.55	658.15
1288	2.88	2.88	4.74	7.48	658.14
1289	2.87	2.87	4.72	7.41	658.14
1290	2.87	2.87	4.70	7.35	658.13
1291	2.91	2.91	4.73	7.28	658.13
1292	2.86	2.86	4.67	7.22	658.12
1293	2.88	2.88	4.67	7.16	658.12
1294	2.87	2.87	4.65	7.09	658.11

1295	2.88	2.88	4.64	7.03	658.11
1296	2.88	2.88	4.63	6.97	658.11
1297	2.83	2.83	4.57	6.92	658.10
1298	2.75	2.75	4.48	6.86	658.10
1299	2.68	2.68	4.40	6.80	658.09
1300	2.65	2.65	4.35	6.74	658.09
1310	2.13	2.13	3.73	6.17	658.05
1320	1.86	1.86	3.36	5.61	658.00
1330	1.77	1.77	3.17	5.35	657.96
1340	1.78	1.78	3.10	5.12	657.92
1350	1.75	1.75	2.99	4.91	657.88
1360	1.75	1.75	2.92	4.71	657.85
1370	1.77	1.77	2.87	4.53	657.81
1380	1.76	1.76	2.81	4.36	657.78
1390	1.78	1.78	2.77	4.20	657.76
1400	1.76	1.76	2.70	4.05	657.73
1420	1.75	1.75	2.60	3.78	657.68
1440	1.75	1.75	2.53	3.55	657.64
1460	1.75	1.75	2.46	3.35	657.60
1500	1.75	1.75	2.35	3.03	657.54

Stage - Storage - Discharge Curve for Reservoir at 7B

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
657.00	0.000	0.00
658.00	0.710	5.56
659.00	1.450	18.98
660.00	2.240	35.19
661.00	3.070	50.07
662.00	3.920	67.10
663.00	4.890	90.17
664.00	5.850	114.77
665.00	6.850	137.09
666.00	7.850	159.41

RESERVOIR ROUTING AT 28C

INCOMING HYDROGRAPH	PEAK (cfs):	119.16	VOLUME (acre-ft):	10.96	
NO HYDROGRAPH ADJUSTMENT					
RUNOFF FACTOR(in):	1.53	TOTAL RAIN(in): 4.50	SCS Curve: 68		
FATTENED HYDROGRAPH	PEAK (cfs):	119.16	VOLUME (acre-ft):	11.48	
RESERVOIR INFLOW:	PEAK (cfs):	119.16 @ 1155	VOLUME (acre-ft):	11.48	
MAXIMUM ELEVATION:	STAGE (ft):	715.76 @ 1163	VOLUME (acre-ft):	2.76	
EMERGENCY SPILLWAY:	ELEV (ft):	720.00	VOLUME (acre-ft):	7.05	
DIFFERENCE:	IN STAGE (ft):	-4.24	IN VOLUME (acre-ft):	4.29	
NO SPILL EXPECTED.	PERCNT OF VOLUME REMAINING TO SPILLWAY:			60.8%	
TOP OF DAM:	ELEV (ft):	721.00	VOLUME (acre-ft):	8.15	
DIFFERENCE	IN STAGE (ft):	-5.24	IN VOLUME (acre-ft):	5.39	
NO OVERTOP EXPECTED.	PERCNT OF VOLUME REMAINING TO TOP OF DAM:			66.1%	
RESERVOIR OUTFLOW:	PEAK (cfs):	39.71 @ 1163	VOLUME (acre-ft):	10.60	

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	0.00	712.50
100	2.72	2.72	2.73	0.34	712.60
200	2.73	2.73	2.75	1.41	712.92
300	2.72	2.72	2.75	2.39	713.07
400	2.73	2.73	2.76	2.69	713.10
500	2.72	2.72	2.76	2.75	713.10
600	2.95	2.95	3.01	2.83	713.11
700	3.68	3.68	3.76	3.18	713.15
800	3.72	3.72	3.83	3.68	713.19
900	4.54	4.54	4.73	4.04	713.23
1000	6.36	6.36	6.72	5.14	713.33
1050	8.13	8.13	8.67	6.39	713.46
1100	11.22	11.22	12.15	8.30	713.64
1110	18.86	18.86	19.84	9.27	713.73
1120	28.77	28.77	29.79	11.41	713.94
1130	30.95	30.95	32.11	15.37	714.22
1131	30.84	30.84	32.02	15.78	714.24
1132	30.51	30.51	31.71	16.17	714.27
1133	30.08	30.08	31.31	16.55	714.29
1134	29.65	29.65	30.90	16.90	714.31
1135	29.21	29.21	30.49	17.24	714.34
1136	28.77	28.77	30.08	17.56	714.36
1137	28.38	28.38	29.72	17.86	714.38
1138	28.14	28.14	29.50	18.15	714.40
1139	28.01	28.01	29.40	18.43	714.41
1140	27.85	27.85	29.27	18.69	714.43
1141	27.91	27.91	29.35	18.95	714.45
1142	28.17	28.17	29.64	19.21	714.46
1143	28.67	28.67	30.15	19.47	714.48
1144	29.25	29.25	30.74	19.74	714.50
1145	30.66	30.66	32.16	20.03	714.52
1146	33.25	33.25	34.73	20.35	714.54
1147	36.50	36.50	37.95	20.75	714.56
1148	40.14	40.14	41.56	21.21	714.59
1149	47.29	47.29	48.60	21.79	714.63
1150	58.64	58.64	59.77	22.59	714.68
1151	72.43	72.43	73.31	23.66	714.75
1152	87.20	87.20	87.81	25.05	714.84
1153	102.52	102.52	102.85	26.77	714.95
1154	114.46	114.46	114.55	28.76	715.08
1155	119.16	119.16	119.16	30.88	715.21
1156	116.75	116.75	116.80	32.97	715.34
1157	109.13	109.13	109.33	34.90	715.46
1158	97.60	97.60	98.02	36.56	715.56
1159	82.51	82.51	83.21	37.86	715.64
1160	67.15	67.15	68.12	38.77	715.70
1161	54.37	54.37	55.56	39.32	715.73

1162	45.41	45.41	46.73	39.61	715.75
1163	39.48	39.48	40.89	39.71	715.76
1164	35.80	35.80	37.25	39.70	715.76
1165	32.79	32.79	34.26	39.60	715.75
1166	29.77	29.77	31.27	39.44	715.74
1167	26.91	26.91	28.43	39.20	715.73
1168	24.35	24.35	25.89	38.91	715.71
1169	21.95	21.95	23.50	38.57	715.69
1170	19.39	19.39	20.96	38.18	715.66
1171	17.20	17.20	18.78	37.74	715.64
1172	15.50	15.50	17.07	37.26	715.61
1173	14.32	14.32	15.89	36.76	715.58
1174	13.50	13.50	15.06	36.25	715.54
1175	12.87	12.87	14.41	35.73	715.51
1176	12.43	12.43	13.95	35.21	715.48
1177	12.05	12.05	13.56	34.69	715.45
1178	11.64	11.64	13.13	34.18	715.41
1179	11.20	11.20	12.67	33.67	715.38
1180	10.73	10.73	12.19	33.16	715.35
1181	10.33	10.33	11.77	32.65	715.32
1182	9.98	9.98	11.40	32.14	715.29
1183	9.65	9.65	11.06	31.64	715.26
1184	9.40	9.40	10.79	31.14	715.23
1185	9.22	9.22	10.59	30.65	715.20

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1186	9.08	9.08	10.43	30.16	715.17
1187	8.93	8.93	10.27	29.68	715.14
1188	8.85	8.85	10.16	29.22	715.11
1189	8.71	8.71	10.01	28.75	715.08
1190	8.51	8.51	9.80	28.30	715.05
1191	8.31	8.31	9.58	27.85	715.02
1192	8.07	8.07	9.32	27.41	714.99
1193	7.82	7.82	9.06	26.96	714.97
1194	7.53	7.53	8.76	26.52	714.94
1195	7.29	7.29	8.51	26.08	714.91
1196	7.08	7.08	8.28	25.65	714.88
1197	6.91	6.91	8.10	25.22	714.85
1198	6.79	6.79	7.96	24.80	714.83
1199	6.68	6.68	7.84	24.39	714.80
1200	6.62	6.62	7.76	23.98	714.77
1201	6.56	6.56	7.69	23.59	714.75
1202	6.53	6.53	7.64	23.20	714.72
1203	6.50	6.50	7.60	22.82	714.70
1204	6.47	6.47	7.56	22.44	714.67
1205	6.44	6.44	7.51	22.08	714.65
1206	6.43	6.43	7.49	21.72	714.63

1207	6.43	6.43	7.47	21.37	714.60
1208	6.41	6.41	7.45	21.03	714.58
1209	6.41	6.41	7.44	20.70	714.56
1210	6.41	6.41	7.42	20.38	714.54
1211	6.43	6.43	7.43	20.06	714.52
1212	6.43	6.43	7.42	19.75	714.50
1213	6.44	6.44	7.42	19.45	714.48
1214	6.45	6.45	7.41	19.16	714.46
1215	6.44	6.44	7.40	18.87	714.44
1216	6.42	6.42	7.36	18.59	714.42
1217	6.42	6.42	7.35	18.31	714.41
1218	6.42	6.42	7.34	18.04	714.39
1219	6.41	6.41	7.32	17.78	714.37
1220	6.41	6.41	7.31	17.53	714.35
1221	6.41	6.41	7.30	17.28	714.34
1222	6.43	6.43	7.31	17.03	714.32
1223	6.43	6.43	7.30	16.79	714.31
1224	6.44	6.44	7.30	16.56	714.29
1225	6.38	6.38	7.23	16.33	714.28
1226	6.19	6.19	7.04	16.11	714.26
1227	5.95	5.95	6.79	15.88	714.25
1228	5.67	5.67	6.50	15.66	714.23
1229	5.36	5.36	6.19	15.43	714.22
1230	5.03	5.03	5.84	15.20	714.20
1231	4.75	4.75	5.56	14.97	714.19
1232	4.49	4.49	5.30	14.73	714.17
1233	4.33	4.33	5.13	14.50	714.16
1234	4.22	4.22	5.01	14.27	714.14
1235	4.08	4.08	4.86	14.04	714.13
1236	3.98	3.98	4.76	13.82	714.11
1237	3.89	3.89	4.65	13.59	714.10
1238	3.84	3.84	4.60	13.37	714.09
1239	3.78	3.78	4.53	13.16	714.07
1240	3.77	3.77	4.51	12.95	714.06
1241	3.75	3.75	4.49	12.74	714.05
1242	3.72	3.72	4.45	12.54	714.03
1243	3.72	3.72	4.45	12.34	714.02
1244	3.69	3.69	4.41	12.15	714.01
1245	3.71	3.71	4.42	11.98	713.99
1246	3.69	3.69	4.39	11.85	713.98
1247	3.70	3.70	4.40	11.72	713.97
1248	3.71	3.71	4.40	11.60	713.96
1249	3.72	3.72	4.41	11.47	713.95
1250	3.74	3.74	4.42	11.35	713.93
1251	3.71	3.71	4.38	11.23	713.92
1252	3.71	3.71	4.38	11.11	713.91
1253	3.69	3.69	4.35	11.00	713.90
1254	3.71	3.71	4.36	10.88	713.89
1255	3.69	3.69	4.34	10.77	713.88
1256	3.71	3.71	4.35	10.66	713.87

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1257	3.71	3.71	4.34	10.55	713.86
1258	3.72	3.72	4.35	10.44	713.85
1259	3.74	3.74	4.36	10.34	713.84
1260	3.71	3.71	4.33	10.23	713.83
1261	3.71	3.71	4.32	10.13	713.82
1262	3.69	3.69	4.30	10.03	713.81
1263	3.71	3.71	4.31	9.93	713.80
1264	3.69	3.69	4.29	9.83	713.79
1265	3.71	3.71	4.30	9.74	713.78
1266	3.71	3.71	4.29	9.64	713.77
1267	3.69	3.69	4.27	9.55	713.76
1268	3.70	3.70	4.28	9.46	713.75
1269	3.68	3.68	4.25	9.37	713.74
1270	3.70	3.70	4.27	9.28	713.73
1271	3.68	3.68	4.24	9.20	713.73
1272	3.70	3.70	4.26	9.11	713.72
1273	3.70	3.70	4.26	9.03	713.71
1274	3.72	3.72	4.27	8.94	713.70
1275	3.74	3.74	4.28	8.86	713.69
1276	3.71	3.71	4.25	8.78	713.69
1277	3.71	3.71	4.25	8.71	713.68
1278	3.69	3.69	4.22	8.63	713.67
1279	3.71	3.71	4.23	8.55	713.66
1280	3.69	3.69	4.21	8.48	713.66
1281	3.71	3.71	4.22	8.40	713.65
1282	3.71	3.71	4.22	8.33	713.64
1283	3.69	3.69	4.20	8.26	713.64
1284	3.70	3.70	4.21	8.19	713.63
1285	3.68	3.68	4.18	8.12	713.62
1286	3.70	3.70	4.20	8.05	713.62
1287	3.68	3.68	4.17	7.99	713.61
1288	3.70	3.70	4.19	7.92	713.60
1289	3.70	3.70	4.19	7.86	713.60
1290	3.72	3.72	4.20	7.79	713.59
1291	3.74	3.74	4.22	7.73	713.58
1292	3.71	3.71	4.19	7.67	713.58
1293	3.71	3.71	4.18	7.61	713.57
1294	3.69	3.69	4.16	7.55	713.57
1295	3.71	3.71	4.17	7.49	713.56
1296	3.69	3.69	4.15	7.44	713.56
1297	3.67	3.67	4.13	7.38	713.55
1298	3.61	3.61	4.06	7.32	713.54
1299	3.53	3.53	3.98	7.26	713.54
1300	3.44	3.44	3.88	7.21	713.53
1310	2.88	2.88	3.30	6.65	713.48
1320	2.74	2.74	3.13	6.11	713.43
1330	2.75	2.75	3.11	5.63	713.38
1340	2.74	2.74	3.08	5.23	713.34
1350	2.71	2.71	3.03	4.88	713.31
1360	2.72	2.72	3.03	4.58	713.28
1370	2.74	2.74	3.03	4.34	713.26

1380	2.74	2.74	3.01	4.13	713.24
1390	2.74	2.74	3.00	3.95	713.22
1400	2.74	2.74	2.98	3.79	713.20
1420	2.72	2.72	2.94	3.55	713.18
1440	2.72	2.72	2.92	3.37	713.16
1460	2.56	2.56	2.74	3.22	713.15
1500	2.56	2.56	2.72	2.98	713.13

Hydrograph Printouts

Stage - Storage - Discharge Curve for Reservoir at 28C

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
712.50	0.000	0.00
713.00	0.390	1.67
714.00	1.210	12.04
715.00	2.070	27.50
716.00	2.980	43.60
717.00	3.930	62.27
718.00	4.920	86.09
719.00	5.960	111.17
720.00	7.050	133.82
721.00	8.150	154.00

HYDROGRAPH PRINTOUT AT: 45A

DESCRIPTION: DRAINAGE AREA FOR PROPOSED ESSEX AND EAST 1/2 OF HR PROPOSED BASIN 3 LOCAL
TOTAL AREA TO HYDROGRAPH: 916 acres
HYDROGRAPH PEAK: 503 cfs
TIME OF PEAK: 1163 minutes
HYDROGRAPH VOLUME: 127.68 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	14.56	200	16.61	300	19.85	400	21.58
500	22.46	600	24.78	700	31.97	800	36.25	900	45.56
1000	65.44	1050	83.81	1100	119.62	1110	142.54	1120	187.22
1130	230.28	1131	233.59	1132	236.90	1133	240.34	1134	243.62
1135	246.76	1136	249.85	1137	252.96	1138	256.08	1139	259.16
1140	262.01	1141	265.21	1142	268.17	1143	271.32	1144	274.41
1145	278.74	1146	283.67	1147	289.31	1148	295.85	1149	307.51
1150	320.64	1151	336.85	1152	356.54	1153	379.78	1154	401.84
1155	423.70	1156	442.87	1157	458.59	1158	470.78	1159	480.92
1160	488.45	1161	494.58	1162	499.74	1163	502.83	1164	499.56
1165	492.52	1166	482.79	1167	471.46	1168	459.54	1169	452.99
1170	449.15	1171	446.98	1172	444.45	1173	440.45	1174	434.93
1175	427.91	1176	419.80	1177	411.09	1178	402.59	1179	394.48
1180	387.17	1181	379.90	1182	372.45	1183	364.82	1184	357.14

1185	349.31	1186	341.49	1187	333.88	1188	326.78	1189	319.60
1190	312.86	1191	306.38	1192	300.12	1193	294.32	1194	288.77
1195	283.65	1196	278.71	1197	274.03	1198	269.64	1199	265.34
1200	261.22	1201	257.39	1202	253.75	1203	250.13	1204	247.07
1205	244.01	1206	241.26	1207	238.76	1208	236.22	1209	233.99
1210	231.75	1211	229.50	1212	227.50	1213	225.49	1214	223.47
1215	221.71	1216	219.82	1217	218.08	1218	216.45	1219	214.67
1220	213.10	1221	211.42	1222	209.67	1223	208.13	1224	206.52
1225	204.67	1226	202.92	1227	201.10	1228	199.10	1229	197.21
1230	195.09	1231	193.15	1232	191.01	1233	188.96	1234	186.89
1235	184.72	1236	182.61	1237	180.49	1238	178.35	1239	176.16
1240	174.49	1241	172.88	1242	171.24	1243	169.82	1244	168.23
1245	166.86	1246	165.31	1247	163.98	1248	162.45	1249	161.11
1250	159.65	1251	158.06	1252	156.61	1253	154.92	1254	153.41
1255	151.68	1256	150.16	1257	148.56	1258	146.97	1259	145.39
1260	143.72	1261	142.24	1262	140.57	1263	139.10	1264	137.47
1265	136.06	1266	134.60	1267	133.08	1268	131.78	1269	130.29
1270	129.02	1271	127.59	1272	126.38	1273	125.02	1274	123.90
1275	122.72	1276	121.49	1277	120.46	1278	119.25	1279	118.24
1280	117.06	1281	116.11	1282	115.10	1283	114.04	1284	113.20
1285	112.16	1286	111.31	1287	110.27	1288	109.45	1289	108.47
1290	107.70	1291	106.86	1292	105.94	1293	105.21	1294	104.28
1295	103.54	1296	102.61	1297	101.80	1298	100.91	1299	100.02
1300	99.11	1310	89.40	1320	81.57	1330	75.59	1340	70.37
1350	65.51	1360	61.49	1370	58.30	1380	55.26	1390	52.61
1400	50.24	1420	46.20	1440	43.42	1460	36.47	1500	30.66

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 49B

DESCRIPTION: EAST HITCH RANCH
TOTAL AREA TO HYDROGRAPH: 107 acres
HYDROGRAPH PEAK: 50 cfs
TIME OF PEAK: 1163 minutes
HYDROGRAPH VOLUME: 4.70 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	0.80	200	0.80	300	0.80	400	0.80
500	0.80	600	0.85	700	1.02	800	1.07	900	1.23
1000	1.61	1050	2.00	1100	3.04	1110	3.66	1120	5.62
1130	9.35	1131	9.66	1132	9.88	1133	10.20	1134	10.54
1135	10.88	1136	11.24	1137	11.60	1138	11.97	1139	12.32
1140	12.60	1141	13.16	1142	13.55	1143	14.00	1144	14.29
1145	15.28	1146	16.42	1147	17.53	1148	18.60	1149	21.86
1150	24.97	1151	28.08	1152	30.79	1153	33.57	1154	34.35
1155	34.83	1156	35.34	1157	36.59	1158	38.53	1159	41.20

1160	43.62	1161	45.81	1162	47.80	1163	49.55	1164	48.98
1165	47.33	1166	45.20	1167	42.68	1168	39.04	1169	39.80
1170	40.41	1171	40.80	1172	40.93	1173	40.75	1174	40.24
1175	39.40	1176	38.27	1177	36.77	1178	34.95	1179	32.90
1180	30.72	1181	28.44	1182	26.27	1183	24.08	1184	21.98
1185	20.18	1186	18.55	1187	17.08	1188	15.83	1189	14.69
1190	13.69	1191	12.81	1192	11.98	1193	11.23	1194	10.51
1195	9.87	1196	9.31	1197	8.78	1198	8.28	1199	7.80
1200	7.35	1201	6.94	1202	6.55	1203	6.18	1204	5.86
1205	5.54	1206	5.26	1207	5.05	1208	4.83	1209	4.63
1210	4.44	1211	4.26	1212	4.09	1213	3.93	1214	3.78
1215	3.64	1216	3.50	1217	3.38	1218	3.29	1219	3.19
1220	3.11	1221	3.03	1222	2.94	1223	2.88	1224	2.81
1225	2.72	1226	2.64	1227	2.57	1228	2.48	1229	2.42
1230	2.35	1231	2.29	1232	2.22	1233	2.17	1234	2.11
1235	2.05	1236	2.00	1237	1.95	1238	1.91	1239	1.86
1240	1.84	1241	1.81	1242	1.78	1243	1.77	1244	1.74
1245	1.73	1246	1.70	1247	1.69	1248	1.66	1249	1.65
1250	1.63	1251	1.61	1252	1.60	1253	1.57	1254	1.56
1255	1.54	1256	1.53	1257	1.51	1258	1.49	1259	1.47
1260	1.45	1261	1.44	1262	1.41	1263	1.40	1264	1.38
1265	1.37	1266	1.36	1267	1.34	1268	1.33	1269	1.31
1270	1.30	1271	1.28	1272	1.28	1273	1.26	1274	1.26
1275	1.25	1276	1.23	1277	1.23	1278	1.21	1279	1.21
1280	1.20	1281	1.20	1282	1.19	1283	1.18	1284	1.18
1285	1.17	1286	1.17	1287	1.16	1288	1.16	1289	1.15
1290	1.15	1291	1.15	1292	1.13	1293	1.14	1294	1.13
1295	1.13	1296	1.12	1297	1.12	1298	1.11	1299	1.10
1300	1.09	1310	0.99	1320	0.97	1330	0.94	1340	0.90
1350	0.86	1360	0.84	1370	0.83	1380	0.82	1390	0.81
1400	0.81	1420	0.80	1440	0.81	1460	0.63	1500	0.63

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 51A

DESCRIPTION: LOCAL SUBAREA DRAINING DIRECT TO WCC BETWEEN EAST AND WEST HR (OLD 37A WALNUT CYN PRIOR TO JCT W/ GABBERT,1/96 AERIAL PHOTO LU, Q100)
TOTAL AREA TO HYDROGRAPH: 1082 acres
HYDROGRAPH PEAK: 557 cfs
TIME OF PEAK: 1168 minutes
HYDROGRAPH VOLUME: 134.47 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	15.56	200	17.15	300	20.33	400	22.41
500	23.31	600	25.48	700	32.16	800	37.38	900	45.68
1000	65.53	1050	82.94	1100	116.80	1110	131.06	1120	166.57
1130	216.92	1131	222.13	1132	227.21	1133	232.29	1134	237.28

1135	241.94	1136	246.31	1137	250.47	1138	254.47	1139	258.32
1140	261.98	1141	265.79	1142	269.43	1143	273.10	1144	276.68
1145	280.88	1146	285.24	1147	289.52	1148	294.16	1149	301.49
1150	309.38	1151	318.36	1152	328.74	1153	341.71	1154	355.76
1155	372.14	1156	390.96	1157	411.31	1158	432.64	1159	453.79
1160	474.44	1161	494.15	1162	512.63	1163	527.09	1164	538.90
1165	547.73	1166	554.02	1167	556.56	1168	557.38	1169	554.66
1170	548.29	1171	539.46	1172	529.92	1173	521.19	1174	513.52
1175	506.74	1176	500.55	1177	494.55	1178	488.24	1179	481.31
1180	473.45	1181	464.82	1182	455.70	1183	446.18	1184	436.53
1185	426.87	1186	417.25	1187	407.68	1188	398.20	1189	388.80
1190	379.54	1191	370.48	1192	361.70	1193	353.21	1194	345.04
1195	337.20	1196	329.79	1197	322.69	1198	316.14	1199	309.90
1200	304.00	1201	298.30	1202	292.83	1203	287.58	1204	282.55
1205	277.74	1206	273.15	1207	268.78	1208	264.63	1209	260.73
1210	257.08	1211	253.65	1212	250.45	1213	247.44	1214	244.59
1215	241.89	1216	239.32	1217	236.87	1218	234.52	1219	232.27
1220	230.10	1221	228.03	1222	226.10	1223	224.22	1224	222.38
1225	220.56	1226	218.77	1227	217.00	1228	215.24	1229	213.48
1230	211.69	1231	209.88	1232	208.03	1233	206.14	1234	204.20
1235	202.22	1236	200.22	1237	198.18	1238	196.12	1239	194.04
1240	191.96	1241	189.87	1242	187.79	1243	185.70	1244	183.64
1245	181.64	1246	179.74	1247	177.93	1248	176.34	1249	174.79
1250	173.26	1251	171.74	1252	170.25	1253	168.77	1254	167.30
1255	165.83	1256	164.35	1257	162.84	1258	161.33	1259	159.78
1260	158.22	1261	156.65	1262	155.08	1263	153.50	1264	151.92
1265	150.34	1266	148.75	1267	147.17	1268	145.60	1269	144.05
1270	142.51	1271	140.99	1272	139.49	1273	138.02	1274	136.59
1275	135.20	1276	133.82	1277	132.46	1278	131.12	1279	129.81
1280	128.54	1281	127.29	1282	126.07	1283	124.87	1284	123.70
1285	122.55	1286	121.43	1287	120.34	1288	119.27	1289	118.23
1290	117.21	1291	116.21	1292	115.23	1293	114.26	1294	113.32
1295	112.39	1296	111.48	1297	110.59	1298	109.71	1299	108.85
1300	107.99	1310	99.02	1320	90.05	1330	82.46	1340	76.44
1350	71.20	1360	66.57	1370	62.94	1380	59.57	1390	56.59
1400	53.91	1420	49.41	1440	46.03	1460	41.32	1500	32.79

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 62BD

DESCRIPTION: WEST HITCH RANCH - CONFLUENCE OF WEST/MIDDLE AND EAST FORKS
TOTAL AREA TO HYDROGRAPH: 468 acres
HYDROGRAPH PEAK: 200 cfs
TIME OF PEAK: 1168 minutes
HYDROGRAPH VOLUME: 29.26 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)

0	0.00	100	5.25	200	5.27	300	5.26	400	5.27
500	5.26	600	5.77	700	7.63	800	8.24	900	10.02
1000	14.37	1050	18.06	1100	23.65	1110	26.39	1120	40.12
1130	56.22	1131	57.37	1132	58.36	1133	59.46	1134	60.35
1135	61.06	1136	61.71	1137	62.33	1138	62.93	1139	63.51
1140	63.91	1141	64.83	1142	65.66	1143	66.91	1144	67.99
1145	70.37	1146	72.98	1147	75.74	1148	79.03	1149	86.36
1150	93.79	1151	103.00	1152	114.89	1153	128.91	1154	141.04
1155	152.63	1156	161.43	1157	167.78	1158	173.25	1159	178.77
1160	181.56	1161	184.24	1162	186.41	1163	188.03	1164	188.53
1165	191.85	1166	195.85	1167	199.15	1168	199.83	1169	198.32
1170	194.61	1171	187.99	1172	179.00	1173	169.31	1174	159.74
1175	150.39	1176	142.27	1177	135.91	1178	131.07	1179	127.08
1180	123.53	1181	120.21	1182	116.94	1183	113.62	1184	110.28
1185	106.87	1186	103.46	1187	100.07	1188	96.79	1189	93.58
1190	90.45	1191	87.38	1192	84.35	1193	81.39	1194	78.55
1195	75.85	1196	73.24	1197	70.76	1198	68.42	1199	66.18
1200	64.06	1201	62.05	1202	60.16	1203	58.34	1204	56.60
1205	54.94	1206	53.34	1207	51.80	1208	50.33	1209	48.96
1210	47.66	1211	46.38	1212	45.16	1213	44.04	1214	42.97
1215	41.95	1216	40.97	1217	40.02	1218	39.10	1219	38.20
1220	37.34	1221	36.52	1222	35.73	1223	34.99	1224	34.28
1225	33.59	1226	32.93	1227	32.29	1228	31.64	1229	30.95
1230	30.24	1231	29.53	1232	28.84	1233	28.16	1234	27.51
1235	26.92	1236	26.33	1237	25.76	1238	25.18	1239	24.61
1240	24.04	1241	23.47	1242	22.94	1243	22.40	1244	21.85
1245	21.29	1246	20.76	1247	20.23	1248	19.73	1249	19.29
1250	18.88	1251	18.49	1252	18.13	1253	17.80	1254	17.47
1255	17.16	1256	16.86	1257	16.57	1258	16.30	1259	16.05
1260	15.80	1261	15.56	1262	15.33	1263	15.10	1264	14.88
1265	14.67	1266	14.47	1267	14.27	1268	14.08	1269	13.90
1270	13.73	1271	13.55	1272	13.38	1273	13.21	1274	13.05
1275	12.91	1276	12.76	1277	12.62	1278	12.49	1279	12.36
1280	12.24	1281	12.12	1282	12.00	1283	11.90	1284	11.80
1285	11.71	1286	11.61	1287	11.51	1288	11.42	1289	11.34
1290	11.25	1291	11.18	1292	11.11	1293	11.04	1294	10.98
1295	10.91	1296	10.83	1297	10.76	1298	10.70	1299	10.63
1300	10.58	1310	9.56	1320	8.31	1330	7.45	1340	6.93
1350	6.56	1360	6.24	1370	6.02	1380	5.89	1390	5.79
1400	5.70	1420	5.53	1440	5.43	1460	5.25	1500	5.25

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 69A

TOTAL AREA TO HYDROGRAPH:	1792	acres
HYDROGRAPH PEAK:	902	cfs
TIME OF PEAK:	1171	minutes

HYDROGRAPH VOLUME: 209.23 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	30.87	200	32.05	300	34.94	400	37.42
500	38.47	600	41.98	700	53.81	800	61.79	900	74.38
1000	106.94	1050	133.95	1100	182.55	1110	203.28	1120	250.33
1130	320.75	1131	328.34	1132	335.89	1133	343.38	1134	350.73
1135	357.94	1136	364.95	1137	371.77	1138	378.40	1139	384.84
1140	391.07	1141	397.02	1142	402.72	1143	408.21	1144	413.60
1145	419.09	1146	424.80	1147	430.80	1148	437.30	1149	444.54
1150	453.47	1151	465.30	1152	480.69	1153	500.10	1154	523.64
1155	550.37	1156	579.07	1157	609.18	1158	640.42	1159	671.70
1160	702.21	1161	732.13	1162	760.48	1163	786.33	1164	810.09
1165	832.08	1166	851.89	1167	869.26	1168	883.71	1169	894.00
1170	900.03	1171	902.29	1172	900.90	1173	895.85	1174	887.17
1175	874.70	1176	858.85	1177	840.78	1178	821.59	1179	801.56
1180	781.26	1181	761.30	1182	742.27	1183	724.60	1184	708.37
1185	693.29	1186	678.96	1187	665.05	1188	651.47	1189	638.22
1190	625.00	1191	612.16	1192	599.15	1193	585.97	1194	572.66
1195	559.27	1196	545.96	1197	532.79	1198	519.80	1199	507.05
1200	494.62	1201	482.55	1202	470.88	1203	459.72	1204	449.07
1205	438.96	1206	429.40	1207	420.39	1208	412.20	1209	404.70
1210	397.31	1211	390.08	1212	383.02	1213	376.16	1214	369.58
1215	363.26	1216	357.23	1217	351.50	1218	346.06	1219	340.92
1220	336.04	1221	331.43	1222	327.10	1223	323.00	1224	319.08
1225	315.37	1226	311.80	1227	308.33	1228	304.95	1229	301.64
1230	298.38	1231	295.14	1232	291.94	1233	288.78	1234	285.64
1235	282.48	1236	279.29	1237	276.07	1238	272.82	1239	269.60
1240	266.41	1241	263.22	1242	260.09	1243	257.02	1244	253.91
1245	250.82	1246	247.75	1247	244.69	1248	241.67	1249	238.70
1250	235.79	1251	232.93	1252	230.12	1253	227.37	1254	224.70
1255	222.13	1256	219.71	1257	217.45	1258	215.32	1259	213.28
1260	211.33	1261	209.46	1262	207.81	1263	206.12	1264	204.40
1265	202.68	1266	200.96	1267	199.24	1268	197.52	1269	195.78
1270	194.05	1271	192.31	1272	190.56	1273	188.81	1274	187.07
1275	185.33	1276	183.59	1277	181.85	1278	180.11	1279	178.39
1280	176.69	1281	175.02	1282	173.35	1283	171.71	1284	170.09
1285	168.49	1286	166.93	1287	165.40	1288	163.89	1289	162.40
1290	160.97	1291	159.56	1292	158.18	1293	156.83	1294	155.49
1295	154.20	1296	152.93	1297	151.70	1298	150.49	1299	149.29
1300	148.09	1310	135.66	1320	123.40	1330	112.49	1340	103.51
1350	96.21	1360	90.31	1370	85.46	1380	81.27	1390	77.65
1400	74.46	1420	69.02	1440	64.59	1460	58.94	1500	48.70

VCRat Model Input

Model Lines

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005     1  001A Header place holder
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005     1  005A Header place holder
005     1  007B Header place holder
005     1  028CDHeader place holder
005     1  045A Header place holder
005     1  049B Header place holder
005     1  051A Header place holder
005     1  062BDHeader place holder
005     1  069A Header place holder
999
999
006     1  001A 010012010023A97102450004000                    G1
006     1  002A 010004004519A97100275002500
006     1  003A 020004004213A97
006     1  004A 020016008120A97103100003000
006     1  005A 030004006911A97400516003686                  1
110
111  680.00    1.00000    1.60
112  663.78  664.00  665.00  666.00  667.00  668.00  669.00  670.00  672.00  675.00
112  676.00  677.00  680.00  681.00
113   0.000   0.360   1.540   2.880   4.280   5.740   7.250   8.820  12.320  17.580
113  19.670  21.760  28.030  30.120
114    0.00    0.26    7.60   23.50   45.67   71.69   98.81  118.64  148.37  188.54
114  210.58  236.61  302.67  324.69
110
006     1  006B 020046002210A97100560004500
006     1  007B 010046002308A97400121003586                  1
110
111  665.00    1.00000    2.73
112  657.00  658.00  659.00  660.00  661.00  662.00  663.00  664.00  665.00  666.00
113   0.000   0.710   1.450   2.240   3.070   3.920   4.890   5.850   6.850   7.850
114    0.00    5.56   18.98   35.19   50.07   67.10   90.17  114.77  137.09  159.41
110
006     1  008AB010         A97400394003686
006     1  009A 030000002212A97502080002950
006     1  010A 030036004312A97
006     1  011A 010      099A97
006     1  012B 020077001412A97400090000500
006     1  013C 020089001811A97400034002000
006     1  014BC010         A97400416003600
006     1  015B 020025007118A97200300000500
006     1  016B 010      099A97400193016500
006     1  017B 010      099A97400324001600
006     1  018C 050016001407A97400420004000
006     1  019C 020028001206A97
006     1  020C 030040001307A97400450007300
006     1  021D 040028000906A97400360001100
006     1  022E 040012001108A97400150005300
006     1  023E 040030001006A97
006     1  024DE010         A97400680004700
006     1  025D 020030000507A97400250001200
006     1  026D 050030001006A97400740001200
006     1  027D 020032000606A97
006     1  028CD010         A97                            1
110
111  720.00    1.00000    1.53
112  712.50  713.00  714.00  715.00  716.00  717.00  718.00  719.00  720.00  721.00
```

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113   0.000   0.390   1.210   2.070   2.980   3.930   4.920   5.960   7.050   8.150
114    0.00    1.67   12.04   27.50   43.60   62.27   86.09  111.17  133.82  154.00
110
006     1  029BC010         A97400314019700
006     1  030B 010000000908A97102300001830
006     1  031B 010      099A97200300001000
006     1  032B 020018006921A97
006     1  033AB010         A97501163003560
006     1  034C 020024004215A97301200007500
006     1  035C 020028001713A97301100001800
006     1  036C 050045001908A97
006     1  037D 050060001008A97300800001250
006     1  038D 010074000808A97
006     1  039CD010         A97300900001100
006     1  040E 040093001111A97
006     1  041E 040014000911A97
006     1  042CE010         A97400850000900
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VCRat Model Input

Model Lines

```
006     1  043C 050060003115A97
006     1  044AC010         A97501450000800
006     1  045A 040050005115A97500710000740                 1
006     1  046A 030006002720A97
006     1  047B 020006002918A97100275007300
006     1  048B 050006004422A97101850003800
006     1  049B 050006003415A97                            1
006     1  050AB010         A97502750000575
006     1  051A 040002003214A97500750000540                 1
006     1  052B 040006005414A97103800004000
006     1  053B 040006007317A97101700004120
006     1  054B 040006005815A97101900003950
006     1  055B 040016004917A97
006     1  056C 040030008420A97
006     1  057BC010         A97100500001540
006     1  058D 040004007224A97101100002270
006     1  059E 050030003812A97
006     1  060DE010         A97101300001310
006     1  061B 050000004011A97
006     1  062BD010         A97                            11
006     1  063AB010         A97501350000510
006     1  064A 020026007020A97501275000470
006     1  065C 050061006314A97401480000490
006     1  066C 050070006314A97401350000840
006     1  067C 040040004612A97
006     1  068AC010         A97501575000470
006     1  069A 010      099A97                            1  2
999
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```
PROGRAM VCRAT2.64PROJ
PROJECT 4 WALNUT CANYON HYDROLOGY-EXISTING CONDITION 100YR (2017)
DESCRIP 2017 HYDROLOGY MANUAL CONVERSION FROM 2010 VERSION
DESCRIP MERGED PACE/RBF/HALL-FOREMAN MODELS - NO BASIN 1 AT CASEY ROAD
DESCRIP 1996 LAND USE CONDITION - BASIN 0 (TR 5187) INCLUDED
DESCRIP NOTE1: ASSUMES ALL OF MOORPARK DRAIN NO.1 (43C - UPSTREAM MODEL) CAN REACH WCC AT HITCH RANCH
DESCRIP NOTE1: IN REALITY PIPE CAN ONLY CARRY 176 CFS OUT OF 266 CFS
DESCRIP NOTE2: ASSUMES ALL OF MP 72" RCP REACHES JUNCTION WITH WCC AT LA AVE
DESCRIP NOTE2: IN REALITY PIPE CAN ONLY CARRY 195 CFS OUT OF 351 CFS
JOB 1 1 100
CURVESET VC2016
RAIN1 REV1
PATHTYPE Relative
OUTPUT *.out
SUBAREA 1 A 0
DESCRIP WC HEADWATERS (AG DAM NOT MODELED)
SUBPARAMS 100 12 010 RAIN1 20
MISCPARAMS N
ROUTING 1 2450 0.04000
SUBAREA 2 A 0
DESCRIP WC HEADWATERS
SUBPARAMS 45 4 010 RAIN1 16
MISCPARAMS N
ROUTING 1 275 0.02500
SUBAREA 3 A 0
DESCRIP WC HEADWATERS
SUBPARAMS 42 4 020 RAIN1 12
MISCPARAMS N
SUBAREA 4 A 0
DESCRIP WC HEADWATERS
SUBPARAMS 81 16 020 RAIN1 17
MISCPARAMS N
ROUTING 1 3100 0.03000
SUBAREA 5 A 0
DESCRIP WALNUT CANYON (BASIN 0) DETENTION BASIN DD3-37 (FATTENED)
SUBPARAMS 69 4 030 RAIN1 10
MISCPARAMS N
RESERVOIR 5 A
DESCRIP BASIN 0 ZERO
FATSCS 69 6.50
DAM 680.00 681.00
USERES Y
STAGE   1    663.78   664.00   665.00   666.00   667.00   668.00   669.00   670.00
STORAGE 1     0.000    0.360    1.540    2.880    4.280    5.740    7.250    8.820
OUTFLOW 1      0.00     0.26     7.60    23.50    45.67    71.69    98.81   118.64
STAGE   9    672.00   675.00   676.00   677.00   680.00   681.00
STORAGE 9    12.320   17.580   19.670   21.760   28.030   30.120
OUTFLOW 9    148.37   188.54   210.58   236.61   302.67   324.69
ROUTING 4 516 0.03686 -1.00
SUBAREA 6 B 0
DESCRIP MERIDIAN HILLS EAST
SUBPARAMS 22 46 020 RAIN1 8
MISCPARAMS N
ROUTING 1 560 0.04500
SUBAREA 7 B 0
DESCRIP MERIDIAN HILLS EAST - IN-TRACT BASIN 5187-1 (DRAINS DIRECT TO WCC) (FATTENED)
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SUBPARAMS 23 46 010 RAIN1 6
MISCPARAMS N
RESERVOIR 7 B
DESCRIP IN-TRACT BASIN AT "BASIN 1A"
FATSCS 83 6.50
DAM 665.00 666.00
USERES Y
STAGE   1    657.00   658.00   659.00   660.00   661.00   662.00   663.00   664.00
STORAGE 1     0.000    0.710    1.450    2.240    3.070    3.920    4.890    5.850
OUTFLOW 1      0.00     5.56    18.98    35.19    50.07    67.10    90.17   114.77
STAGE   9    665.00   666.00
STORAGE 9     6.850    7.850
OUTFLOW 9    137.09   159.41
ROUTING 4 121 0.03586 -1.00
SUBAREA 8 A 2 B
DESCRIP WCC HEADWATERS/BASIN 0 OUTFLOW + MERIDIAN HILLS EAST OUTFLOW FROM IN-TRACT BASIN 5187-1
MISCPARAMS N N
ROUTING 4 394 0.03686 -1.00
SUBAREA 9 A 0
DESCRIP WALNUT CANYON RD (LOCAL) DIRECT TO WCC
SUBPARAMS 22 0 030 RAIN1 11
MISCPARAMS N
ROUTING 5 2080 0.02950 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 10 A 0
DESCRIP WALNUT CANYON RD (LOCAL) DIRECT TO WCC [OLD 7A]
SUBPARAMS 43 36 030 RAIN1 9
MISCPARAMS N
SUBAREA 11 A 1
DESCRIP WALNUT CANYON RD (LOCAL) DIRECT TO WCC
MISCPARAMS N
SUBAREA 12 B 0
DESCRIP MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
SUBPARAMS 14 77 020 RAIN1 10
MISCPARAMS N
ROUTING 4 90 0.00500 -1.00
SUBAREA 13 C 0
DESCRIP MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
SUBPARAMS 18 89 020 RAIN1 9
MISCPARAMS N
ROUTING 4 34 0.02000 -1.00
SUBAREA 14 B 2 C
DESCRIP MERIDIAN HILLS WEST [OLD 9BC]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
MISCPARAMS N N
ROUTING 4 416 0.03600 -1.00
SUBAREA 15 B 0
DESCRIP MERIDIAN HILLS WEST [OLD 15C]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
SUBPARAMS 71 25 020 RAIN1 15
MISCPARAMS N
ROUTING 2 300 0.00500
SUBAREA 16 B 1
DESCRIP MERIDIAN HILLS WEST [OLD 16AB]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
MISCPARAMS N
ROUTING 4 193 0.16500 -1.00
SUBAREA 17 B 1
DESCRIP MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
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MISCPARAMS N
ROUTING 4 324 0.01600 -1.00
SUBAREA 18 C 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
SUBPARAMS 14 16 050 RAIN1 6
MISCPARAMS N
ROUTING 4 420 0.04000 -1.00
SUBAREA 19 C 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
SUBPARAMS 12 28 020 RAIN1 5
MISCPARAMS N
SUBAREA 20 C 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
SUBPARAMS 13 40 030 RAIN1 6
MISCPARAMS N
ROUTING 4 450 0.07300 -1.00
SUBAREA 21 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
SUBPARAMS 9 28 040 RAIN1 5
MISCPARAMS N
ROUTING 4 360 0.01100 -1.00
SUBAREA 22 E 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
SUBPARAMS 11 12 040 RAIN1 7
MISCPARAMS N
ROUTING 4 150 0.05300 -1.00
SUBAREA 23 E 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
SUBPARAMS 10 30 040 RAIN1 5
MISCPARAMS N
SUBAREA 24 D 2 E
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
MISCPARAMS N N
ROUTING 4 680 0.04700 -1.00
SUBAREA 25 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
SUBPARAMS 5 30 020 RAIN1 6
MISCPARAMS N
ROUTING 4 250 0.01200 -1.00
SUBAREA 26 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
SUBPARAMS 10 30 050 RAIN1 5
MISCPARAMS N
ROUTING 4 740 0.01200 -1.00
SUBAREA 27 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
SUBPARAMS 6 32 020 RAIN1 5
MISCPARAMS N
SUBAREA 28 C 2 D
DESCRIP MERIDIAN HILLS WEST - IN-TRACT BASIN 5187-2 [OLD 31BC] DRAINS TO PROPOSED/NOT BUILT BASIN 1 AT CASEY RD
MISCPARAMS N N
RESERVOIR 28 C
FATSCS 68 6.50
DAM 720.00 721.00
USERES Y
STAGE   1    712.50   713.00   714.00   715.00   716.00   717.00   718.00   719.00
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STORAGE 1     0.000    0.390    1.210    2.070    2.980    3.930    4.920    5.960
OUTFLOW 1      0.00     1.67    12.04    27.50    43.60    62.27    86.09   111.17
STAGE   9    720.00   721.00
STORAGE 9     7.050    8.150
OUTFLOW 9    133.82   154.00
SUBAREA 29 B 2 C
DESCRIP COMBINES WEST MERIDIAN HILLS OUTFLOW (IN-TRACT BASIN 5187-2 + BY-PASS FLOW)
MISCPARAMS N N
ROUTING 4 314 0.19700 -1.00
SUBAREA 30 B 0
DESCRIP LOCAL CASEY ROAD
SUBPARAMS 9 0 010 RAIN1 7
MISCPARAMS N
ROUTING 1 2300 0.01830
SUBAREA 31 B 1
DESCRIP LOCAL CASEY ROAD
MISCPARAMS N
ROUTING 2 300 0.01000
SUBAREA 32 B 0
DESCRIP LOCATION OF PROPOSED BASIN 1 AT CASEY ROAD ****NOT BUILT AS OF 07/30/19****
SUBPARAMS 69 18 020 RAIN1 19
MISCPARAMS N
SUBAREA 33 A 2 B
DESCRIP COMBINED OUTFLOW FROM WCC MAIN AND WSHD DRAINING TO PROP BASIN 1 AT CASEY RD ****NO BUILT AS OF 07/30/2019****
MISCPARAMS N N
ROUTING 5 1163 0.03560 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 34 C 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 42 24 020 RAIN1 12
MISCPARAMS N
ROUTING 3 1200 0.07500
SUBAREA 35 C 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 17 28 020 RAIN1 10
MISCPARAMS N
ROUTING 3 1100 0.01800
SUBAREA 36 C 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 19 45 050 RAIN1 6
MISCPARAMS N
SUBAREA 37 D 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 10 60 050 RAIN1 6
MISCPARAMS N
ROUTING 3 800 0.01250
SUBAREA 38 D 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 8 74 010 RAIN1 6
MISCPARAMS N
SUBAREA 39 C 2 D
DESCRIP MOORPARK DRAIN NO.1
MISCPARAMS N N
ROUTING 3 900 0.01100
SUBAREA 40 E 0
DESCRIP MOORPARK DRAIN NO.1
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SUBPARAMS 11 93 040 RAIN1 9
MISCPARAMS N
SUBAREA 41 E 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 9 14 040 RAIN1 9
MISCPARAMS N
SUBAREA 42 C 2 E
DESCRIP MOORPARK DRAIN NO.1
MISCPARAMS N N
ROUTING 4 850 0.00900 -1.00
SUBAREA 43 C 0
DESCRIP MOORPARK DRAIN NO.1 - (LOCAL 43C = MOORPARK LIBRARY/CITY HALL/CIVIC CENTER)
SUBPARAMS 31 60 050 RAIN1 12
MISCPARAMS N
SUBAREA 44 A 2 C
DESCRIP WCC MAIN + MOORPARK DRAIN NO. 1 (OLD 28AC WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE)
MISCPARAMS Y Y
ROUTING 5 1450 0.00800 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 45 A 0
DESCRIP DRAINAGE AREA FOR PROPOSED ESSEX AND EAST 1/2 OF HR PROPOSED BASIN 3 LOCAL
SUBPARAMS 51 50 040 RAIN1 12
MISCPARAMS Y
ROUTING 5 710 0.00740 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 46 A 0
DESCRIP EAST HITCH RANCH - WEST 1/2 OF HR PROPOSED BASIN 3 LOCAL
SUBPARAMS 27 6 030 RAIN1 15
MISCPARAMS N
SUBAREA 47 B 0
DESCRIP EAST HITCH RANCH
SUBPARAMS 29 6 020 RAIN1 10
MISCPARAMS N
ROUTING 1 275 0.07300
SUBAREA 48 B 0
DESCRIP EAST HITCH RANCH
SUBPARAMS 44 6 050 RAIN1 9
MISCPARAMS N
ROUTING 1 1850 0.03800
SUBAREA 49 B 0
DESCRIP EAST HITCH RANCH
SUBPARAMS 34 6 050 RAIN1 14
MISCPARAMS Y
SUBAREA 50 A 2 B
DESCRIP CONFLUENCE OF EAST HITCH RANCH, PROPOSED ESSEX/BASIN 3 LOCAL, AND WCC (OLD 35AB PROPOSED LOCATION OF BASIN 3)
MISCPARAMS N Y
ROUTING 5 2750 0.00575 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 51 A 0
DESCRIP LOCAL SUBAREA DRAINING DIRECT TO WCC BETWEEN EAST AND WEST HR (OLD 37A  WALNUT CYN PRIOR TO JCT W/ GABBERT,1/96 AERIAL PHOTO LU, Q100)
SUBPARAMS 32 2 040 RAIN1 11
MISCPARAMS Y
ROUTING 5 750 0.00540 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 52 B 0
DESCRIP WEST HITCH RANCH - WEST FORK
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SUBPARAMS 54 6 040 RAIN1 11
MISCPARAMS N
ROUTING 1 3800 0.04000
SUBAREA 53 B 0
DESCRIP WEST HITCH RANCH - WEST FORK
SUBPARAMS 73 6 040 RAIN1 11
MISCPARAMS N
ROUTING 1 1700 0.04120
SUBAREA 54 B 0
DESCRIP WEST HITCH RANCH - WEST FORK
SUBPARAMS 58 6 040 RAIN1 10
MISCPARAMS N
ROUTING 1 1900 0.03950
SUBAREA 55 B 0
DESCRIP WEST HITCH RANCH - WEST FORK
SUBPARAMS 49 16 040 RAIN1 9
MISCPARAMS N
SUBAREA 56 C 0
DESCRIP WEST HITCH RANCH - MIDDLE FORK
SUBPARAMS 84 30 040 RAIN1 10
MISCPARAMS N
SUBAREA 57 B 2 C
DESCRIP WEST HITCH RANCH - CONFLUENCE OF WEST AND MIDDLE FORKS
MISCPARAMS N N
ROUTING 1 500 0.01540
SUBAREA 58 D 0
DESCRIP WEST HITCH RANCH - EAST FORK
SUBPARAMS 72 4 040 RAIN1 10
MISCPARAMS N
ROUTING 1 1100 0.02270
SUBAREA 59 E 0
DESCRIP WEST HITCH RANCH - EAST FORK
SUBPARAMS 38 30 050 RAIN1 11
MISCPARAMS N
SUBAREA 60 D 2 E
DESCRIP WEST HITCH RANCH - EAST FORK
MISCPARAMS N N
ROUTING 1 1300 0.01310
SUBAREA 61 B 0
DESCRIP WEST HITCH RANCH - WEST + MIDDLE FORKS
SUBPARAMS 40 0 050 RAIN1 14
MISCPARAMS N
SUBAREA 62 B 2 D
DESCRIP WEST HITCH RANCH - CONFLUENCE OF WEST/MIDDLE AND EAST FORKS
MISCPARAMS Y Y
SUBAREA 63 A 2 B
DESCRIP CONFLUENCE OF WEST HITCH RANCH + WCC FROM THE EAST
MISCPARAMS N N
ROUTING 5 1350 0.00510 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 64 A 0
DESCRIP INFLOW TO 10X8 RCB AT RR (EXISTING 1996 LAND USE WITH TR 5187 AND BASIN 0)
SUBPARAMS 70 26 020 RAIN1 19
MISCPARAMS N
ROUTING 5 1275 0.00470 -1
CHANLDATA 0.00000 0.014 0.014
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SUBAREA 65 C 0
DESCRIP 65C PACE
SUBPARAMS 63 61 050 RAIN1 12
MISCPARAMS N
ROUTING 4 1480 0.00490 -1.00
SUBAREA 66 C 0
DESCRIP 66C PACE
SUBPARAMS 63 70 050 RAIN1 12
MISCPARAMS N
ROUTING 4 1350 0.00840 -1.00
SUBAREA 67 C 0
DESCRIP 67C PACE
SUBPARAMS 46 40 040 RAIN1 10
MISCPARAMS Y
SUBAREA 68 A 2 C
DESCRIP LA Avenue - COMBINED WCC + INCOMING MP 72" RCP ***TARGET LOCATION -> WE WANT Q100 < 830CFS)***
MISCPARAMS N N
ROUTING 5 1575 0.00470 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 69 A 0
SUBPARAMS 43 15 050 RAIN1 10
MISCPARAMS N
SUBAREA 70 B 0
SUBPARAMS 64 5 040 RAIN1 16
MISCPARAMS N
ROUTING 1 1976 0.04000
SUBAREA 71 B 0
SUBPARAMS 59 5 040 RAIN1 14
MISCPARAMS N
ROUTING 1 2000 0.04000
SUBAREA 72 B 0
SUBPARAMS 48 5 040 RAIN1 19
MISCPARAMS N
ROUTING 1 1250 0.04000
SUBAREA 73 B 0
SUBPARAMS 68 5 030 RAIN1 15
MISCPARAMS N
ROUTING 1 1900 0.04000
SUBAREA 74 B 0
SUBPARAMS 82 5 040 RAIN1 18
MISCPARAMS N
ROUTING 1 3400 0.04000
SUBAREA 75 B 0
SUBPARAMS 113 10 030 RAIN1 21
MISCPARAMS N
ROUTING 1 2225 0.04000
SUBAREA 76 B 0
SUBPARAMS 95 10 040 RAIN1 19
MISCPARAMS N
ROUTING 1 1948 0.04000
SUBAREA 77 C 0
SUBPARAMS 68 5 020 RAIN1 15
MISCPARAMS N
SUBAREA 78 C 0
SUBPARAMS 70 5 030 RAIN1 20
MISCPARAMS N
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ROUTING 1 2600 0.04000
SUBAREA 79 C 0
SUBPARAMS 56 5 030 RAIN1 21
MISCPARAMS N
ROUTING 1 2485 0.04000
SUBAREA 80 D 0
SUBPARAMS 96 10 030 RAIN1 20
MISCPARAMS N
ROUTING 1 1700 0.04000
SUBAREA 81 D 0
SUBPARAMS 69 5 020 RAIN1 18
MISCPARAMS N
ROUTING 1 2200 0.04000
SUBAREA 82 D 0
SUBPARAMS 46 15 030 RAIN1 19
MISCPARAMS N
ROUTING 1 2112 0.04000
SUBAREA 83 C 2 D
MISCPARAMS N N
ROUTING 1 1600 0.04000
SUBAREA 84 C 0
SUBPARAMS 48 15 030 RAIN1 15
MISCPARAMS N
SUBAREA 85 D 0
SUBPARAMS 85 15 050 RAIN1 22
MISCPARAMS N
SUBAREA 86 C 2 D
MISCPARAMS N N
ROUTING 1 1782 0.03000
SUBAREA 87 C 0
SUBPARAMS 75 10 030 RAIN1 20
MISCPARAMS N
SUBAREA 88 D 0
SUBPARAMS 45 15 010 RAIN1 20
MISCPARAMS N
ROUTING 1 1700 0.03000
SUBAREA 89 C 2 D
MISCPARAMS N N
SUBAREA 90 E 0
SUBPARAMS 53 5 040 RAIN1 18
MISCPARAMS N
SUBAREA 91 F 0
SUBPARAMS 69 10 010 RAIN1 21
MISCPARAMS N
ROUTING 1 400 0.04000
SUBAREA 92 E 2 F
MISCPARAMS N N
SUBAREA 93 E 0
SUBPARAMS 75 15 030 RAIN1 20
MISCPARAMS N
ROUTING 1 1300 0.04000
SUBAREA 94 E 0
SUBPARAMS 32 0 020 RAIN1 21
MISCPARAMS N
ROUTING 1 1300 0.04000
SUBAREA 95 F 0
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SUBPARAMS 57 15 010 RAIN1 22
MISCPARAMS N
ROUTING 1 1600 0.04000
SUBAREA 96 F 0
SUBPARAMS 68 25 010 RAIN1 18
MISCPARAMS N
ROUTING 1 1400 0.04000
SUBAREA 97 E 2 F
MISCPARAMS N N
ROUTING 1 2000 0.03000
SUBAREA 98 E 0
SUBPARAMS 104 5 020 RAIN1 17
MISCPARAMS N
SUBAREA 99 E 0
SUBPARAMS 57 10 020 RAIN1 12
MISCPARAMS N
ROUTING 1 1393 0.03000
SUBAREA 100 C 2 E
MISCPARAMS N N
ROUTING 1 1800 0.03000
SUBAREA 101 C 0
SUBPARAMS 40 5 030 RAIN1 9
MISCPARAMS N
SUBAREA 102 B 2 C
MISCPARAMS N N
ROUTING 1 1930 0.03000
SUBAREA 103 B 0
SUBPARAMS 87 10 040 RAIN1 11
MISCPARAMS N
ROUTING 1 1950 0.03000
SUBAREA 104 C 0
SUBPARAMS 65 20 040 RAIN1 12
MISCPARAMS N
ROUTING 0 250 0.03000
SUBAREA 105 C 0
SUBPARAMS 59 15 040 RAIN1 12
MISCPARAMS N
ROUTING 0 1390 0.03000
SUBAREA 106 C 0
SUBPARAMS 51 15 040 RAIN1 11
MISCPARAMS N
ROUTING 0 2000 0.02000
SUBAREA 107 B 2 C
MISCPARAMS N N
ROUTING 1 1750 0.03000
SUBAREA 108 B 0
SUBPARAMS 89 30 040 RAIN1 12
MISCPARAMS N
SUBAREA 109 C 0
SUBPARAMS 49 5 030 RAIN1 11
MISCPARAMS N
SUBAREA 110 B 2 C
MISCPARAMS N N
SUBAREA 111 B 0
SUBPARAMS 69 15 030 RAIN1 11
MISCPARAMS N
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ROUTING 1 1900 0.01500
SUBAREA 112 C 0
SUBPARAMS 44 30 040 RAIN1 10
MISCPARAMS N
SUBAREA 113 B 2 C
MISCPARAMS N N
SUBAREA 114 B 0
SUBPARAMS 87 10 030 RAIN1 12
MISCPARAMS N
ROUTING 1 1700 0.01500
SUBAREA 115 B 0
SUBPARAMS 71 10 030 RAIN1 12
MISCPARAMS N
ROUTING 1 900 0.01500
SUBAREA 116 B 0
SUBPARAMS 21 5 030 RAIN1 9
MISCPARAMS N
ROUTING 1 1000 0.01500
SUBAREA 117 B 0
SUBPARAMS 30 5 030 RAIN1 10
MISCPARAMS N
ROUTING 2 2500 0.01500
SUBAREA 118 C 0
SUBPARAMS 62 10 040 RAIN1 11
MISCPARAMS N
SUBAREA 119 B 2 C
MISCPARAMS N N
SUBAREA 120 D 0
SUBPARAMS 39 0 030 RAIN1 12
MISCPARAMS N
SUBAREA 121 B 2 D
MISCPARAMS N N
ROUTING 5 892 0.01500 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 122 A 2 B
MISCPARAMS N N
ROUTING 5 1000 0.01500 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 123 A 0
SUBPARAMS 25 50 060 RAIN1 9
MISCPARAMS N
SUBAREA 124 A 0
SUBPARAMS 176 5 060 RAIN1 20
MISCPARAMS Y
ROUTING 5 3100 0.01500 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 125 A 1
DESCRIP DUMMY
MISCPARAMS Y
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Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Modified Rational Model Results Report

Job: 1 Project: WALNUT CANYON HYDROLOGY-EXISTING CONDITION 100YR (2017)

Project Description

2017 HYDROLOGY MANUAL CONVERSION FROM 2010 VERSION
MERGED PACE/RBF/HALL-FOREMAN MODELS - NO BASIN 1 AT CASEY ROAD
1996 LAND USE CONDITION - BASIN 0 (TR 5187) INCLUDED
NOTE1: ASSUMES ALL OF MOORPARK DRAIN NO.1 (43C - UPSTREAM MODEL) CAN REACH WCC AT HITCH RANCH
NOTE1: IN REALITY PIPE CAN ONLY CARRY 176 CFS OUT OF 266 CFS
NOTE2: ASSUMES ALL OF MP 72" RCP REACHES JUNCTION WITH WCC AT LA AVE
NOTE2: IN REALITY PIPE CAN ONLY CARRY 195 CFS OUT OF 351 CFS

VCRat version: 2.64.0.37
VCRain version: 201801
DOS EXE version: PC 2.64-201605
VCRain Curve Set: VCWPD 2016 Revised Curve Set
Curve A: REV1: South Mountain to Moorpark
Curve B: None
Curve C: None
Curve D: None

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-EXISTING CONDITION 100YR (2017)

Page: 2

Model Results

NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	ACCUMULATED AREA (AC)	ACCUMULATED FLOW (CFS)	ACCUMULATED TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
1A : WC HEADWATERS (AG DAM NOT MODELED)																		
1A	010	A100	20	12	100	134	100	134	1160	MOUNTAIN	2450	0.04000	---	----	-----	-----	--	--
2A : WC HEADWATERS																		
2A	010	A100	16	4	45	64	145	179	1164	MOUNTAIN	275	0.02500	---	----	-----	-----	--	--
3A : WC HEADWATERS																		
3A	020	A100	12	4	42	65	187	218	1160	-------	----	-------	---	----	-----	-----	--	--

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4A :  WC HEADWATERS
4A   020   A100   17   16     81    114      268     331   1160    MOUNTAIN   3100  0.03000    ---     ----    -----  -----    --     --
5A :  WALNUT CANYON (BASIN 0) DETENTION BASIN DD3-37 (FATTENED)
5A   030   A100   10    4     69    113      337     330   1169    PIPE        516  0.03686      4.25  ----    -----  -----    --     --
 5A :  BASIN 0 ZERO
     ********************************************************************************************
     *      INCOMING HYDROGRAPH  PEAK (cfs):    329.32         VOLUME (acre-ft):     45.34      *
     *      NO HYDROGRAPH ADJUSTMENT                                                           *
     *      RUNOFF FACTOR(in):   3.11      TOTAL RAIN(in):   6.50      SCS Curve: 69           *
     *      FATTENED HYDROGRAPH  PEAK (cfs):    329.32         VOLUME (acre-ft):     87.30      *
     *      RESERVOIR INFLOW:    PEAK (cfs):    329.32 @ 1169  VOLUME (acre-ft):     87.30      *
     *      MAXIMUM ELEVATION:   STAGE (ft):    675.67 @ 1198  VOLUME (acre-ft):     18.98      *
     *      EMERGENCY SPILLWAY:   ELEV (ft):    680.00         VOLUME (acre-ft):     28.03      *
     *          DIFFERENCE:   IN STAGE (ft):     -4.33      IN VOLUME (acre-ft):      9.05      *
     *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     32.3%      *
     *      TOP OF DAM:           ELEV (ft):    681.00         VOLUME (acre-ft):     30.12      *
     *          DIFFERENCE    IN STAGE (ft):     -5.33      IN VOLUME (acre-ft):     11.14      *
     *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     37.0%      *
     *      RESERVOIR OUTFLOW:   PEAK (cfs):    203.27 @ 1198  VOLUME (acre-ft):     80.88      *
     ********************************************************************************************
5A   ---   ---    --   --    ---    ---      337     203   1198    -------    ----  -------    ---     ----    -----  -----    --     --
6B :  MERIDIAN HILLS EAST
6B   020   A100    8   46     22     58       22      58   1153    MOUNTAIN    560  0.04500    ---     ----    -----  -----    --     --
7B :  MERIDIAN HILLS EAST - IN-TRACT BASIN 5187-1 (DRAINS DIRECT TO WCC) (FATTENED)
7B   010   A100    6   46     23     73       45     118   1154    PIPE        121  0.03586      3.00  ----    -----  -----    --     --
 7B :  IN-TRACT BASIN AT "BASIN 1A"
     ********************************************************************************************
     *      INCOMING HYDROGRAPH  PEAK (cfs):    117.64         VOLUME (acre-ft):     13.76      *
     *      NO HYDROGRAPH ADJUSTMENT                                                           *
     *      RUNOFF FACTOR(in):   4.56      TOTAL RAIN(in):   6.50      SCS Curve: 83           *
     *      FATTENED HYDROGRAPH  PEAK (cfs):    117.64         VOLUME (acre-ft):     17.11      *
     *      RESERVOIR INFLOW:    PEAK (cfs):    117.64 @ 1154  VOLUME (acre-ft):     17.11      *
     *      MAXIMUM ELEVATION:   STAGE (ft):    661.19 @ 1165  VOLUME (acre-ft):      3.23      *
     *      EMERGENCY SPILLWAY:   ELEV (ft):    665.00         VOLUME (acre-ft):      6.85      *
     *          DIFFERENCE:   IN STAGE (ft):     -3.81      IN VOLUME (acre-ft):      3.62      *
     *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     52.8%      *
     *      TOP OF DAM:           ELEV (ft):    666.00         VOLUME (acre-ft):      7.85      *
     *          DIFFERENCE    IN STAGE (ft):     -4.81      IN VOLUME (acre-ft):      4.62      *
     *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     58.8%      *
     *      RESERVOIR OUTFLOW:   PEAK (cfs):     53.32 @ 1165  VOLUME (acre-ft):     15.79      *
     ********************************************************************************************
 7B   ---   ---    --   --    ---    ---       45      53   1165    -------    ----  -------    ---     ----    -----  -----    --     --
 8AB:  WCC HEADWATERS/BASIN 0 OUTFLOW + MERIDIAN HILLS EAST OUTFLOW FROM IN-TRACT BASIN 5187-1
 8AB  ---   ---    --   --     45     53      382     244   1191    PIPE        394  0.03686      3.75  ----    -----  -----    --     --
 9A :  WALNUT CANYON RD (LOCAL) DIRECT TO WCC
 9A   030   A100   11    0     22     33      404     244   1190    CHANNEL    2080  0.02950      5     0.00    0.014  0.014    --     --
10A :  WALNUT CANYON RD (LOCAL) DIRECT TO WCC [OLD 7A]
10A   030   A100    9   36     43     98      447     319   1157    -------    ----  -------    ---     ----    -----  -----    --     --
11A :  WALNUT CANYON RD (LOCAL) DIRECT TO WCC
11A   ---   ---    --   --    ---    ---      447     319   1157    -------    ----  -------    ---     ----    -----  -----    --     --
12B :  MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
12B   020   A100   10   77     14     40       14      40   1154    PIPE         90  0.00500      3.00  ----    -----  -----    --     --
13C :  MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
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      13C   020   A100    9   89     18     58       18      58   1153    PIPE        34  0.02000      2.50  ----    -----  -----    --     --
      14BC:  MERIDIAN HILLS WEST [OLD 9BC]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
      14BC  ---   ---    --   --     18     58       32      98   1154    PIPE       416  0.03600      2.75  ----    -----  -----    --     --
      15B :  MERIDIAN HILLS WEST [OLD 15C]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
      15B   020   A100   15   25     71    116      103     213   1155    VALLEY     300  0.00500    ---     ----    -----  -----    --     --
      16B :  MERIDIAN HILLS WEST [OLD 16AB]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
      16B   ---   ---    --   --    ---    ---       103     212   1157    PIPE       193  0.16500      2.75  ----    -----  -----    --     --
      17B :  MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
      17B   ---   ---    --   --    ---    ---       103     211   1157    PIPE       324  0.01600      4.25  ----    -----  -----    --     --
      18C :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
      18C   050   A100    6   16     14     30       14      30   1153    PIPE       420  0.04000      2.00  ----    -----  -----    --     --
      19C :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
      19C   020   A100    5   28     12     36       26      64   1153    -------    ----  -------    ---     ----    -----  -----    --     --
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Model Results

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   |---------- SUBAREA DATA AND RESULTS --------|-- ACCUMULATED DATA --|------------ ROUTING AFTER ACCUMULATION ---------------------------------|
   | NODE   SOIL  RAIN   TC    %    AREA  FLOW  |  AREA    FLOW   TIME |  CHANNEL  LENGTH   SLOPE     SIZE    H:V       N VALUES      VEL  DEPTH |
   |  ID    TYPE  ZONE (MIN)  IMP    (AC)  (CFS) |  (AC)    (CFS)  (MIN)|    TYPE    (FT)   (FT/FT)    (FT)    (Z)     CHNL   SIDES  (FT/S)  (FT) |
   |-----------------------------------------|---------------------|-----------------------------------------------------------------------|
      20C :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
      20C   030   A100    6   40     13     38       39     102   1153    PIPE       450  0.07300      2.50  ----    -----  -----    --     --
      21D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
      21D   040   A100    5   28      9     26        9      26   1153    PIPE       360  0.01100      2.25  ----    -----  -----    --     --
      22E :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
      22E   040   A100    7   12     11     22       11      22   1153    PIPE       150  0.05300      2.00  ----    -----  -----    --     --
      23E :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
      23E   040   A100    5   30     10     29       21      51   1153    -------    ----  -------    ---     ----    -----  -----    --     --
      24DE:  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
      24DE  ---   ---    --   --     21     51       30      73   1153    PIPE       680  0.04700      2.50  ----    -----  -----    --     --
      25D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
      25D   020   A100    6   30      5     14       35      85   1154    PIPE       250  0.01200      3.25  ----    -----  -----    --     --
      26D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
      26D   050   A100    5   30     10     28       45     105   1154    PIPE       740  0.01200      3.50  ----    -----  -----    --     --
      27D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2
      27D   020   A100    5   32      6     19       51     113   1155    -------    ----  -------    ---     ----    -----  -----    --     --
      28CD:  MERIDIAN HILLS WEST - IN-TRACT BASIN 5187-2 [OLD 31BC] DRAINS TO PROPOSED/NOT BUILT BASIN 1 AT CASEY RD
      28CD  ---   ---    --   --     51    113       90     207   1155    -------    ----  -------    ---     ----    -----  -----    --     --
      ********************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):    207.32         VOLUME (acre-ft):     17.56      *
      *      NO HYDROGRAPH ADJUSTMENT                                                             *
      *      RUNOFF FACTOR(in):   3.01      TOTAL RAIN(in):   6.50      SCS Curve: 68           *
      *      FATTENED HYDROGRAPH  PEAK (cfs):    207.32         VOLUME (acre-ft):     22.57      *
      *      RESERVOIR INFLOW:    PEAK (cfs):    207.32 @ 1155  VOLUME (acre-ft):     22.57      *
      *      MAXIMUM ELEVATION:   STAGE (ft):    717.96 @ 1162  VOLUME (acre-ft):      4.88      *
      *      EMERGENCY SPILLWAY:   ELEV (ft):    720.00         VOLUME (acre-ft):      7.05      *
      *          DIFFERENCE:   IN STAGE (ft):     -2.04      IN VOLUME (acre-ft):      2.17      *
      *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     30.8%      *
      *      TOP OF DAM:           ELEV (ft):    721.00         VOLUME (acre-ft):      8.15      *
      *          DIFFERENCE    IN STAGE (ft):     -3.04      IN VOLUME (acre-ft):      3.27      *
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      *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     40.1%      *
      *      RESERVOIR OUTFLOW:   PEAK (cfs):     85.04 @ 1162  VOLUME (acre-ft):     20.99      *
      ********************************************************************************************
28C   ---   ---    --   --    ---    ---       90      85   1162    -------    ----  -------    ---     ----    -----  -----    --     --
29BC:  COMBINES WEST MERIDIAN HILLS OUTFLOW (IN-TRACT BASIN 5187-2 + BY-PASS FLOW)
29BC  ---   ---    --   --     90     85      193     292   1158    PIPE        314  0.19700      3.00  ----    -----  -----    --     --
30B :  LOCAL CASEY ROAD
30B   010   A100    7    0      9     19      202     303   1158    MOUNTAIN   2300  0.01830    ---     ----    -----  -----    --     --
31B :  LOCAL CASEY ROAD
31B   ---   ---    --   --    ---    ---      202     265   1169    VALLEY      300  0.01000    ---     ----    -----  -----    --     --
32B :  LOCATION OF PROPOSED BASIN 1 AT CASEY ROAD ****NOT BUILT AS OF 07/30/19****
32B   020   A100   19   18     69     93      271     338   1167    -------    ----  -------    ---     ----    -----  -----    --     --
33AB:  COMBINED OUTFLOW FROM WCC MAIN AND WSHD DRAINING TO PROP BASIN 1 AT CASEY RD ****NO BUILT AS OF 07/30/2019****
33AB  ---   ---    --   --    271    338      718     597   1167    CHANNEL    1163  0.03560      7     0.00    0.014  0.014    --     --
34C :  MOORPARK DRAIN NO.1
34C   020   A100   12   24     42     77       42      77   1154    40' ROAD   1200  0.07500    ---     ----    -----  -----    --     --
35C :  MOORPARK DRAIN NO.1
35C   020   A100   10   28     17     36       59     107   1158    40' ROAD   1100  0.01800    ---     ----    -----  -----    --     --
36C :  MOORPARK DRAIN NO.1
36C   050   A100    6   45     19     54       78     115   1162    -------    ----  -------    ---     ----    -----  -----    --     --
37D :  MOORPARK DRAIN NO.1
37D   050   A100    6   60     10     32       10      32   1153    40' ROAD    800  0.01250    ---     ----    -----  -----    --     --
38D :  MOORPARK DRAIN NO.1
38D   010   A100    6   74      8     29       18      47   1154    -------    ----  -------    ---     ----    -----  -----    --     --
39CD:  MOORPARK DRAIN NO.1
39CD  ---   ---    --   --     18     47       96     156   1154   #PIPE       900  0.01100      4.00  ----    -----  -----    --     --
40E :  MOORPARK DRAIN NO.1
40E   040   A100    9   93     11     36       11      36   1153    -------    ----  -------    ---     ----    -----  -----    --     --
41E :  MOORPARK DRAIN NO.1
41E   040   A100    9   14      9     16       20      52   1153    -------    ----  -------    ---     ----    -----  -----    --     --
42CE:  MOORPARK DRAIN NO.1
42CE  ---   ---    --   --     20     52      116     201   1157    PIPE        850  0.00900      4.75  ----    -----  -----    --     --
43C :  MOORPARK DRAIN NO.1 - (LOCAL 43C = MOORPARK LIBRARY/CITY HALL/CIVIC CENTER)
43C   050   A100   12   60     31     70      147     266   1158    -------    ----  -------    ---     ----    -----  -----    --     --
44AC:  WCC MAIN + MOORPARK DRAIN NO. 1 (OLD 28AC WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE)
44AC  ************************************************************************************************************
      *          Peak in A:      594.76 cfs @ 1168 min  Q in C:      170.78 cfs  Combined Q:      765.54 cfs   *
      *          Peak in C:      265.98 cfs @ 1158 min  Q in A:      551.97 cfs  Combined Q:      817.94 cfs   *
      *      Combined Peak:      817.94 cfs @ 1158 min  Q in A:      551.97 cfs      Q in C:      265.98 cfs   *
      ************************************************************************************************************
44AC  ---   ---    --   --    147    266      865     818   1158    CHANNEL    1450  0.00800     10     0.00    0.014  0.014    --     --
```


Model Results

NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	SUBAREA AREA (AC)	SUBAREA FLOW (CFS)	ACCUMULATED AREA (AC)	ACCUMULATED FLOW (CFS)	TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
45A : DRAINAGE AREA FOR PROPOSED ESSEX AND EAST 1/2 OF HR PROPOSED BASIN 3 LOCAL																		
45A	040	A100	12	50	51	108	916	912	1160	CHANNEL	710	0.00740	10	0.00	0.014	0.014	--	--

```
46A :  EAST HITCH RANCH - WEST 1/2 OF HR PROPOSED BASIN 3 LOCAL
46A   030   A100   15    6     27     35      943     943   1160    -------    ----  -------    ---     ----    -----  -----    --     --
47B :  EAST HITCH RANCH
47B   020   A100   10    6     29     51       29      51   1154    MOUNTAIN    275  0.07300    ---     ----    -----  -----    --     --
48B :  EAST HITCH RANCH
48B   050   A100    9    6     44     69       73     118   1155    MOUNTAIN   1850  0.03800    ---     ----    -----  -----    --     --
49B :  EAST HITCH RANCH
49B   050   A100   14    6     34     40      107     133   1162    -------    ----  -------    ---     ----    -----  -----    --     --
50AB:  CONFLUENCE OF EAST HITCH RANCH, PROPOSED ESSEX/BASIN 3 LOCAL, AND WCC (OLD 35AB PROPOSED LOCATION OF BASIN 3)
50AB  ***************************************************************************************************************
      *          Peak in A:      943.28 cfs @ 1160 min  Q in B:      126.34 cfs  Combined Q:     1069.62 cfs   *
      *          Peak in B:      132.57 cfs @ 1162 min  Q in A:      928.77 cfs  Combined Q:     1061.34 cfs   *
      *      Combined Peak:     1071.88 cfs @ 1161 min  Q in A:      941.19 cfs      Q in B:      130.69 cfs   *
      ***************************************************************************************************************
50AB  ---   ---    --   --    107    133     1050    1072   1161    CHANNEL    2750  0.00575     12     0.00    0.014  0.014    --     --
51A :  LOCAL SUBAREA DRAINING DIRECT TO WCC BETWEEN EAST AND WEST HR (OLD 37A  WALNUT CYN PRIOR TO JCT W/ GABBERT,1/96 AERIAL PHOTO LU, Q100)
51A   040   A100   11    2     32     45      1082    1062   1164    CHANNEL     750  0.00540     12     0.00    0.014  0.014    --     --
52B :  WEST HITCH RANCH - WEST FORK
52B   040   A100   11    6     54     80       54      80   1154    MOUNTAIN   3800  0.04000    ---     ----    -----  -----    --     --
53B :  WEST HITCH RANCH - WEST FORK
53B   040   A100   11    6     73    109      127     129   1155    MOUNTAIN   1700  0.04120    ---     ----    -----  -----    --     --
54B :  WEST HITCH RANCH - WEST FORK
54B   040   A100   10    6     58     92      185     183   1158    MOUNTAIN   1900  0.03950    ---     ----    -----  -----    --     --
55B :  WEST HITCH RANCH - WEST FORK
55B   040   A100    9   16     49     91      234     190   1164    -------    ----  -------    ---     ----    -----  -----    --     --
56C :  WEST HITCH RANCH - MIDDLE FORK
56C   040   A100   10   30     84    169       84     169   1154    -------    ----  -------    ---     ----    -----  -----    --     --
57BC:  WEST HITCH RANCH - CONFLUENCE OF WEST AND MIDDLE FORKS
57BC  ---   ---    --   --     84    169      318     347   1157    MOUNTAIN    500  0.01540    ---     ----    -----  -----    --     --
58D :  WEST HITCH RANCH - EAST FORK
58D   040   A100   10    4     72    112       72     112   1154    MOUNTAIN   1100  0.02270    ---     ----    -----  -----    --     --
59E :  WEST HITCH RANCH - EAST FORK
59E   050   A100   11   30     38     69       38      69   1154    -------    ----  -------    ---     ----    -----  -----    --     --
60DE:  WEST HITCH RANCH - EAST FORK
60DE  ---   ---    --   --     38     69      110     154   1159    MOUNTAIN   1300  0.01310    ---     ----    -----  -----    --     --
61B :  WEST HITCH RANCH - WEST + MIDDLE FORKS
61B   050   A100   14    0     40     44      358     385   1159    -------    ----  -------    ---     ----    -----  -----    --     --
62BD:  WEST HITCH RANCH - CONFLUENCE OF WEST/MIDDLE AND EAST FORKS
62BD  ***************************************************************************************************************
      *          Peak in B:      385.49 cfs @ 1159 min  Q in D:       79.60 cfs  Combined Q:      465.08 cfs   *
      *          Peak in D:      131.11 cfs @ 1167 min  Q in B:      257.84 cfs  Combined Q:      388.95 cfs   *
      *      Combined Peak:      466.43 cfs @ 1160 min  Q in B:      379.10 cfs      Q in D:       87.33 cfs   *
      ***************************************************************************************************************
62BD  ---   ---    --   --    110    131      468     466   1160    -------    ----  -------    ---     ----    -----  -----    --     --
63AB:  CONFLUENCE OF WEST HITCH RANCH + WCC FROM THE EAST
63AB  ---   ---    --   --    468    466     1550    1477   1164    CHANNEL    1350  0.00510     14     0.00    0.014  0.014    --     --
64A :  INFLOW TO 10X8 RCB AT RR (EXISTING 1996 LAND USE WITH TR 5187 AND BASIN 0)
64A   020   A100   19   26     70    101     1620    1566   1165    CHANNEL    1275  0.00470     14     0.00    0.014  0.014    --     --
65C :  65C PACE
65C   050   A100   12   61     63    143       63     143   1154    PIPE       1480  0.00490      4.50  ----    -----  -----    --     --
66C :  66C PACE
66C   050   A100   12   70     63    153      126     279   1158    PIPE       1350  0.00840      5.25  ----    -----  -----    --     --
67C :  67C PACE
```

67C	040	A100	10	40	46	101	172	353	1158	-------	----	-------	---	----	-----	-----	--	--
68AC:	LA Avenue - COMBINED WCC + INCOMING MP 72" RCP ***TARGET LOCATION -> WE WANT Q100 < 830CFS)***																	
68AC	---	---	--	--	172	353	1792	1809	1165	CHANNEL	1575	0.00470	15	0.00	0.014	0.014	--	--
69A	050	A100	10	15	43	71	1835	1815	1167	-------	----	-------	---	----	-----	-----	--	--
70B	040	A100	16	5	64	74	64	74	1156	MOUNTAIN	1976	0.04000	---	----	-----	-----	--	--
71B	040	A100	14	5	59	74	123	127	1162	MOUNTAIN	2000	0.04000	---	----	-----	-----	--	--
72B	040	A100	19	5	48	50	171	159	1167	MOUNTAIN	1250	0.04000	---	----	-----	-----	--	--
73B	030	A100	15	5	68	88	239	205	1163	MOUNTAIN	1900	0.04000	---	----	-----	-----	--	--
74B	040	A100	18	5	82	88	321	267	1166	MOUNTAIN	3400	0.04000	---	----	-----	-----	--	--
75B	030	A100	21	10	113	127	434	327	1169	MOUNTAIN	2225	0.04000	---	----	-----	-----	--	--
76B	040	A100	19	10	95	106	529	362	1167	MOUNTAIN	1948	0.04000	---	----	-----	-----	--	--
77C	020	A100	15	5	68	93	68	93	1155	-------	----	-------	---	----	-----	-----	--	--
78C	030	A100	20	5	70	76	138	169	1155	MOUNTAIN	2600	0.04000	---	----	-----	-----	--	--
79C	030	A100	21	5	56	59	194	211	1166	MOUNTAIN	2485	0.04000	---	----	-----	-----	--	--
80D	030	A100	20	10	96	111	96	111	1160	MOUNTAIN	1700	0.04000	---	----	-----	-----	--	--
81D	020	A100	18	5	69	85	165	187	1164	MOUNTAIN	2200	0.04000	---	----	-----	-----	--	--
82D	030	A100	19	15	46	57	211	221	1167	MOUNTAIN	2112	0.04000	---	----	-----	-----	--	--

Model Results

SUBAREA DATA AND RESULTS							ACCUMULATED DATA			ROUTING AFTER ACCUMULATION								
NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	AREA (AC)	FLOW (CFS)	TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
83CD	---	---	--	--	211	211	405	411	1174	MOUNTAIN	1600	0.04000	---	----	-----	-----	--	--
84C	030	A100	15	15	48	69	453	416	1177	-------	----	-------	---	----	-----	-----	--	--
85D	050	A100	22	15	85	88	85	88	1162	-------	----	-------	---	----	-----	-----	--	--
86CD	---	---	--	--	85	88	538	438	1177	MOUNTAIN	1782	0.03000	---	----	-----	-----	--	--
87C	030	A100	20	10	75	86	613	465	1168	-------	----	-------	---	----	-----	-----	--	--
88D	010	A100	20	15	45	62	45	62	1160	MOUNTAIN	1700	0.03000	---	----	-----	-----	--	--
89CD	---	---	--	--	45	59	658	524	1168	-------	----	-------	---	----	-----	-----	--	--
90E	040	A100	18	5	53	57	53	57	1156	-------	----	-------	---	----	-----	-----	--	--
91F	010	A100	21	10	69	89	69	89	1161	MOUNTAIN	400	0.04000	---	----	-----	-----	--	--
92EF	---	---	--	--	69	89	122	146	1162	-------	----	-------	---	----	-----	-----	--	--
93E	030	A100	20	15	75	91	197	237	1160	MOUNTAIN	1300	0.04000	---	----	-----	-----	--	--
94E	020	A100	21	0	32	34	229	270	1164	MOUNTAIN	1300	0.04000	---	----	-----	-----	--	--
95F	010	A100	22	15	57	75	57	75	1162	MOUNTAIN	1600	0.04000	---	----	-----	-----	--	--
96F	010	A100	18	25	68	106	125	174	1162	MOUNTAIN	1400	0.04000	---	----	-----	-----	--	--
97EF	---	---	--	--	125	171	354	438	1168	MOUNTAIN	2000	0.03000	---	----	-----	-----	--	--
98E	020	A100	17	5	104	132	458	466	1173	-------	----	-------	---	----	-----	-----	--	--
99E	020	A100	12	10	57	93	515	491	1167	MOUNTAIN	1393	0.03000	---	----	-----	-----	--	--
100CE	---	---	--	--	515	489	1173	1008	1168	MOUNTAIN	1800	0.03000	---	----	-----	-----	--	--
101C	030	A100	9	5	40	70	1213	1007	1172	-------	----	-------	---	----	-----	-----	--	--
102BC	---	---	--	--	1213	1007	1742	1360	1172	MOUNTAIN	1930	0.03000	---	----	-----	-----	--	--
103B	040	A100	11	10	87	135	1829	1362	1176	MOUNTAIN	1950	0.03000	---	----	-----	-----	--	--
104C	040	A100	12	20	65	106	65	106	1154	#40' ROAD	250	0.03000	---	----	-----	-----	--	--
105C	040	A100	12	15	59	92	124	197	1155	#40' ROAD	1390	0.03000	---	----	-----	-----	--	--
106C	040	A100	11	15	51	84	175	258	1159	#PIPE	2000	0.02000	4.50	----	-----	-----	--	--
107BC	---	---	--	--	175	250	2004	1413	1179	MOUNTAIN	1750	0.03000	---	----	-----	-----	--	--
108B	040	A100	12	30	89	160	2093	1426	1182	-------	----	-------	---	----	-----	-----	--	--

109C	030	A100	11	5	49	76	49	76	1154	-------	----	-------	---	----	-----	-----	--	--
110BC	---	---	--	--	49	76	2142	1432	1182	-------	----	-------	---	----	-----	-----	--	--
111B	030	A100	11	15	69	119	2211	1444	1181	MOUNTAIN	1900	0.01500	---	----	-----	-----	--	--
112C	040	A100	10	30	44	89	44	89	1154	-------	----	-------	---	----	-----	-----	--	--
113BC	---	---	--	--	44	89	2255	1444	1187	-------	----	-------	---	----	-----	-----	--	--
114B	030	A100	12	10	87	135	2342	1454	1186	MOUNTAIN	1700	0.01500	---	----	-----	-----	--	--
115B	030	A100	12	10	71	110	2413	1455	1191	MOUNTAIN	900	0.01500	---	----	-----	-----	--	--
116B	030	A100	9	5	21	37	2434	1455	1193	MOUNTAIN	1000	0.01500	---	----	-----	-----	--	--
117B	030	A100	10	5	30	50	2464	1454	1196	VALLEY	2500	0.01500	---	----	-----	-----	--	--
118C	040	A100	11	10	62	96	62	96	1154	-------	----	-------	---	----	-----	-----	--	--
119BC	---	---	--	--	62	96	2526	1454	1200	-------	----	-------	---	----	-----	-----	--	--
120D	030	A100	12	0	39	54	39	54	1154	-------	----	-------	---	----	-----	-----	--	--
121BD	---	---	--	--	39	54	2565	1454	1200	CHANNEL	892	0.01500	11	0.00	0.014	0.014	--	--
122AB	---	---	--	--	2565	1454	4400	2904	1170	CHANNEL	1000	0.01500	14	0.00	0.014	0.014	--	--
123A	060	A100	9	50	25	56	4425	2912	1171	-------	----	-------	---	----	-----	-----	--	--
124A	060	A100	20	5	176	123	4601	2985	1170	CHANNEL	3100	0.01500	14	0.00	0.014	0.014	--	--
125A : DUMMY																		
125A	---	---	--	--	---	---	4601	2975	1172	-------	----	-------	---	----	-----	-----	--	--

Issue/Warning Messages

TYPE	ERR NO	PROCEDURE	LOCATION	MESSAGE
NO ISSUES OR WARNINGS DETECTED				

RESERVOIR ROUTING AT 5A

DESCRIPTION: BASIN 0 ZERO

```
*      INCOMING HYDROGRAPH  PEAK (cfs):    329.32         VOLUME (acre-ft):     45.34      *
*      NO HYDROGRAPH ADJUSTMENT                                                            *
*      RUNOFF FACTOR(in):   3.11      TOTAL RAIN(in):   6.50      SCS Curve: 69           *
*      FATTENED HYDROGRAPH  PEAK (cfs):    329.32         VOLUME (acre-ft):     87.30      *
*      RESERVOIR INFLOW:    PEAK (cfs):    329.32 @ 1169  VOLUME (acre-ft):     87.30      *
*      MAXIMUM ELEVATION:   STAGE (ft):    675.67 @ 1198  VOLUME (acre-ft):     18.98      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    680.00         VOLUME (acre-ft):     28.03      *
*          DIFFERENCE:   IN STAGE (ft):     -4.33      IN VOLUME (acre-ft):      9.05      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     32.3%      *
*      TOP OF DAM:           ELEV (ft):    681.00         VOLUME (acre-ft):     30.12      *
*          DIFFERENCE    IN STAGE (ft):     -5.33      IN VOLUME (acre-ft):     11.14      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     37.0%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):    203.27 @ 1198  VOLUME (acre-ft):     80.88      *
```


Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)

0	0.00	0.00	0.00	0.00	663.78
100	4.22	4.22	5.19	0.13	663.89
200	4.22	4.22	6.54	2.78	664.34
300	4.22	4.22	7.04	5.03	664.65
400	4.22	4.22	7.73	6.30	664.82
500	4.22	4.22	8.69	7.28	664.96
600	4.51	4.51	10.41	8.79	665.07
700	5.76	5.76	13.85	10.97	665.21
800	6.71	6.71	18.52	14.49	665.43
900	7.97	7.97	26.77	19.84	665.77
1000	17.62	17.62	51.08	33.06	666.43
1050	34.51	34.51	80.97	51.52	667.22
1100	65.87	65.87	131.92	83.40	668.43
1110	87.31	87.31	154.70	95.46	668.88
1120	115.99	115.99	182.25	107.01	669.41
1130	147.60	147.60	210.86	119.77	670.08
1131	151.30	151.30	213.99	120.85	670.15
1132	154.63	154.63	216.88	121.95	670.22
1133	157.94	157.94	219.73	123.07	670.30
1134	161.08	161.08	222.45	124.21	670.37
1135	164.21	164.21	225.16	125.37	670.45
1136	167.14	167.14	227.72	126.54	670.53
1137	169.95	169.95	230.19	127.74	670.61
1138	172.61	172.61	232.56	128.94	670.69
1139	175.10	175.10	234.82	130.16	670.77
1140	177.47	177.47	236.98	131.39	670.86
1141	180.08	180.08	239.28	132.63	670.94
1142	182.91	182.91	241.70	133.89	671.03
1143	185.58	185.58	244.00	135.15	671.11
1144	188.06	188.06	246.18	136.43	671.20
1145	191.42	191.42	248.86	137.72	671.28
1146	195.88	195.88	252.15	139.04	671.37
1147	200.11	200.11	255.27	140.37	671.46
1148	204.24	204.24	258.31	141.72	671.55
1149	213.05	213.05	263.94	143.11	671.65
1150	226.92	226.92	272.30	144.57	671.74
1151	241.12	241.12	280.70	146.10	671.85
1152	255.34	255.34	288.96	147.72	671.96
1153	270.03	270.03	297.32	149.30	672.07
1154	280.33	280.33	303.16	150.88	672.19
1155	283.91	283.91	305.34	152.49	672.31
1156	286.47	286.47	306.95	154.09	672.43
1157	291.53	291.53	309.82	155.71	672.55
1158	299.41	299.41	314.08	157.34	672.67
1159	305.21	305.21	317.18	159.00	672.79
1160	306.87	306.87	318.16	160.66	672.92
1161	307.59	307.59	318.66	162.31	673.04
1162	307.35	307.35	318.69	163.95	673.16
1163	305.86	305.86	318.13	165.56	673.28
1164	307.54	307.54	319.08	167.17	673.40
1165	313.45	313.45	321.97	168.77	673.52
1166	319.36	319.36	324.78	170.39	673.64

1167	324.28	324.28	327.06	172.02	673.77
1168	327.77	327.77	328.64	173.65	673.89
1169	329.32	329.32	329.32	175.27	674.01
1170	329.14	329.14	329.24	176.88	674.13
1171	326.99	326.99	328.27	178.47	674.25
1172	322.39	322.39	326.16	180.03	674.36
1173	315.52	315.52	322.94	181.54	674.48
1174	306.87	306.87	318.80	183.00	674.59
1175	297.38	297.38	314.14	184.40	674.69
1176	288.25	288.25	309.54	185.73	674.79
1177	278.16	278.16	304.35	187.00	674.88
1178	268.01	268.01	299.02	188.20	674.97
1179	258.62	258.62	293.95	189.63	675.05
1180	249.77	249.77	289.04	191.10	675.12
1181	241.57	241.57	284.37	192.48	675.18
1182	233.76	233.76	279.80	193.77	675.24
1183	225.96	225.96	275.16	194.98	675.29
1184	218.20	218.20	270.47	196.10	675.34
1185	210.42	210.42	265.68	197.14	675.39

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1186	202.56	202.56	260.78	198.09	675.43
1187	194.86	194.86	255.88	198.96	675.47
1188	187.17	187.17	250.92	199.74	675.51
1189	179.28	179.28	245.78	200.45	675.54
1190	171.42	171.42	240.59	201.06	675.57
1191	163.73	163.73	235.42	201.59	675.59
1192	156.40	156.40	230.40	202.05	675.61
1193	149.39	149.39	225.50	202.42	675.63
1194	142.90	142.90	220.85	202.72	675.64
1195	137.09	137.09	216.55	202.95	675.65
1196	131.68	131.68	212.44	203.12	675.66
1197	126.44	126.44	208.40	203.22	675.67
1198	121.35	121.35	204.42	203.27	675.67
1199	116.45	116.45	200.52	203.26	675.67
1200	111.79	111.79	196.73	203.19	675.66
1201	107.21	107.21	192.97	203.07	675.66
1202	102.98	102.98	189.40	202.90	675.65
1203	98.99	98.99	185.96	202.68	675.64
1204	95.13	95.13	182.59	202.41	675.63
1205	91.39	91.39	179.27	202.10	675.62
1206	87.82	87.82	176.04	201.75	675.60
1207	84.44	84.44	172.92	201.36	675.58
1208	81.10	81.10	169.82	200.92	675.56

1209	77.90	77.90	166.79	200.45	675.54
1210	74.83	74.83	163.84	199.95	675.52
1211	71.94	71.94	160.99	199.41	675.49
1212	69.31	69.31	158.32	198.83	675.47
1213	66.88	66.88	155.77	198.23	675.44
1214	64.62	64.62	153.33	197.60	675.41
1215	62.45	62.45	150.95	196.94	675.38
1216	60.42	60.42	148.66	196.27	675.35
1217	58.51	58.51	146.45	195.56	675.32
1218	56.70	56.70	144.31	194.84	675.29
1219	54.96	54.96	142.22	194.10	675.25
1220	53.31	53.31	140.19	193.33	675.22
1221	51.73	51.73	138.21	192.55	675.18
1222	50.23	50.23	136.30	191.75	675.15
1223	48.83	48.83	134.45	190.94	675.11
1224	47.50	47.50	132.66	190.11	675.07
1225	46.20	46.20	130.89	189.27	675.03
1226	44.93	44.93	129.16	188.45	674.99
1227	43.71	43.71	127.45	187.82	674.95
1228	42.54	42.54	125.79	187.18	674.90
1229	41.44	41.44	124.19	186.53	674.85
1230	40.40	40.40	122.64	185.87	674.80
1231	39.41	39.41	121.12	185.20	674.75
1232	38.45	38.45	119.63	184.52	674.70
1233	37.52	37.52	118.18	183.84	674.65
1234	36.69	36.69	116.80	183.14	674.60
1235	35.98	35.98	115.51	182.44	674.54
1236	35.34	35.34	114.29	181.73	674.49
1237	34.72	34.72	113.08	181.02	674.44
1238	34.13	34.13	111.91	180.30	674.39
1239	33.46	33.46	110.68	179.58	674.33
1240	32.78	32.78	109.44	178.86	674.28
1241	32.08	32.08	108.21	178.12	674.22
1242	31.38	31.38	106.98	177.38	674.17
1243	30.69	30.69	105.77	176.64	674.11
1244	30.00	30.00	104.56	175.89	674.06
1245	29.32	29.32	103.37	175.14	674.00
1246	28.65	28.65	102.18	174.38	673.94
1247	27.99	27.99	101.01	173.62	673.89
1248	27.33	27.33	99.85	172.86	673.83
1249	26.69	26.69	98.71	172.09	673.77
1250	26.05	26.05	97.57	171.31	673.71
1251	25.42	25.42	96.45	170.53	673.66
1252	24.80	24.80	95.35	169.75	673.60
1253	24.21	24.21	94.27	168.97	673.54
1254	23.64	23.64	93.22	168.18	673.48
1255	23.09	23.09	92.18	167.39	673.42
1256	22.56	22.56	91.17	166.60	673.36

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1257	22.05	22.05	90.17	165.81	673.30
1258	21.56	21.56	89.20	165.01	673.24
1259	21.09	21.09	88.25	164.21	673.18
1260	20.64	20.64	87.33	163.41	673.12
1261	20.21	20.21	86.41	162.61	673.06
1262	19.80	19.80	85.53	161.81	673.00
1263	19.44	19.44	84.69	161.01	672.94
1264	19.12	19.12	83.89	160.20	672.88
1265	18.81	18.81	83.10	159.40	672.82
1266	18.49	18.49	82.31	158.60	672.76
1267	18.18	18.18	81.53	157.80	672.70
1268	17.88	17.88	80.77	156.99	672.64
1269	17.59	17.59	80.02	156.19	672.58
1270	17.31	17.31	79.28	155.39	672.52
1271	17.01	17.01	78.53	154.59	672.46
1272	16.71	16.71	77.79	153.79	672.40
1273	16.41	16.41	77.06	152.99	672.35
1274	16.12	16.12	76.33	152.19	672.29
1275	15.82	15.82	75.61	151.40	672.23
1276	15.53	15.53	74.89	150.60	672.17
1277	15.25	15.25	74.19	149.80	672.11
1278	14.96	14.96	73.49	149.01	672.05
1279	14.68	14.68	72.80	148.20	671.99
1280	14.40	14.40	72.11	147.32	671.93
1281	14.13	14.13	71.44	146.44	671.87
1282	13.86	13.86	70.77	145.56	671.81
1283	13.59	13.59	70.11	144.69	671.75
1284	13.33	13.33	69.46	143.82	671.69
1285	13.08	13.08	68.82	142.95	671.64
1286	12.83	12.83	68.18	142.08	671.58
1287	12.59	12.59	67.56	141.22	671.52
1288	12.35	12.35	66.95	140.36	671.46
1289	12.12	12.12	66.34	139.50	671.40
1290	11.89	11.89	65.75	138.65	671.35
1291	11.67	11.67	65.16	137.79	671.29
1292	11.46	11.46	64.58	136.95	671.23
1293	11.26	11.26	64.02	136.10	671.17
1294	11.06	11.06	63.46	135.26	671.12
1295	10.87	10.87	62.91	134.42	671.06
1296	10.68	10.68	62.37	133.59	671.01
1297	10.50	10.50	61.84	132.75	670.95
1298	10.32	10.32	61.31	131.93	670.89
1299	10.12	10.12	60.78	131.10	670.84
1300	9.94	9.94	60.25	130.28	670.78
1310	8.51	8.51	55.58	122.40	670.25
1320	7.70	7.70	51.77	113.17	669.72
1330	7.04	7.04	48.39	103.21	669.22

1340	6.41	6.41	45.29	92.54	668.77
1350	5.95	5.95	42.58	82.02	668.38
1360	5.59	5.59	40.15	73.22	668.06
1370	5.29	5.29	37.96	65.88	667.78
1380	5.03	5.03	35.97	59.68	667.54
1390	4.79	4.79	34.14	54.40	667.34
1400	4.64	4.64	32.52	49.89	667.16
1420	4.43	4.43	29.70	43.13	666.89
1440	4.31	4.31	27.34	38.15	666.66
1460	4.22	4.22	25.31	34.12	666.48
1500	4.22	4.22	22.14	28.45	666.22

Hydrograph Printouts

Stage - Storage - Discharge Curve for Reservoir at 5A

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
663.78	0.000	0.00
664.00	0.360	0.26
665.00	1.540	7.60
666.00	2.880	23.50
667.00	4.280	45.67
668.00	5.740	71.69
669.00	7.250	98.81
670.00	8.820	118.64
672.00	12.320	148.37
675.00	17.580	188.54
676.00	19.670	210.58
677.00	21.760	236.61
680.00	28.030	302.67
681.00	30.120	324.69

RESERVOIR ROUTING AT 7B

DESCRIPTION: IN-TRACT BASIN AT "BASIN 1A"

```
**********************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):    117.64         VOLUME (acre-ft):     13.76      *
*      NO HYDROGRAPH ADJUSTMENT                                                  *
*      RUNOFF FACTOR(in):   4.56      TOTAL RAIN(in):   6.50      SCS Curve: 83           *
*      FATTENED HYDROGRAPH  PEAK (cfs):    117.64         VOLUME (acre-ft):     17.11      *
*      RESERVOIR INFLOW:    PEAK (cfs):    117.64 @ 1154  VOLUME (acre-ft):     17.11      *
*      MAXIMUM ELEVATION:   STAGE (ft):    661.19 @ 1165  VOLUME (acre-ft):      3.23      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    665.00         VOLUME (acre-ft):      6.85      *
*          DIFFERENCE:   IN STAGE (ft):     -3.81      IN VOLUME (acre-ft):      3.62      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     52.8%      *
*      TOP OF DAM:           ELEV (ft):    666.00         VOLUME (acre-ft):      7.85      *
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```
*          DIFFERENCE    IN STAGE (ft):     -4.81      IN VOLUME (acre-ft):      4.62      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     58.8%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):     53.32 @ 1165  VOLUME (acre-ft):     15.79      *
*********************************************************************************************
```

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	0.00	657.00
100	2.78	2.78	2.85	0.56	657.10
200	2.78	2.78	2.93	2.09	657.38
300	2.78	2.78	2.97	2.65	657.48
400	2.78	2.78	3.01	2.87	657.52
500	2.78	2.78	3.08	2.98	657.54
600	3.17	3.17	3.56	3.14	657.56
700	4.41	4.41	4.94	3.68	657.66
800	4.51	4.51	5.30	4.58	657.82
900	5.83	5.83	7.11	5.41	657.97
1000	9.55	9.55	11.95	8.50	658.22
1050	13.46	13.46	17.03	12.07	658.48
1100	18.98	18.98	24.83	17.30	658.88
1110	29.42	29.42	35.38	19.72	659.05
1120	39.73	39.73	45.78	24.31	659.33
1130	40.99	40.99	47.88	29.74	659.66
1131	40.78	40.78	47.81	30.25	659.69
1132	40.49	40.49	47.65	30.73	659.73
1133	40.23	40.23	47.53	31.20	659.75
1134	39.92	39.92	47.36	31.66	659.78
1135	39.74	39.74	47.32	32.09	659.81
1136	39.32	39.32	47.07	32.51	659.83
1137	39.28	39.28	47.16	32.92	659.86
1138	39.10	39.10	47.13	33.32	659.88
1139	39.01	39.01	47.18	33.70	659.91
1140	38.85	38.85	47.18	34.08	659.93
1141	38.89	38.89	47.35	34.45	659.95
1142	39.39	39.39	47.94	34.81	659.98
1143	39.72	39.72	48.38	35.19	660.00
1144	40.32	40.32	49.06	35.52	660.02
1145	42.31	42.31	50.97	35.87	660.05
1146	44.92	44.92	53.42	36.27	660.07
1147	47.13	47.13	55.53	36.71	660.10

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1148	49.96	49.96	58.16	37.20	660.14

1149	59.15	59.15	66.37	37.81	660.18
1150	70.99	70.99	76.85	38.64	660.23
1151	81.74	81.74	86.33	39.69	660.30
1152	94.95	94.95	97.90	40.97	660.39
1153	109.06	109.06	110.20	42.50	660.49
1154	117.64	117.64	117.64	44.25	660.61
1155	115.54	115.54	115.82	46.01	660.73
1156	109.15	109.15	110.26	47.65	660.84
1157	100.50	100.50	102.69	49.08	660.93
1158	89.46	89.46	93.01	50.30	661.01
1159	76.55	76.55	81.64	51.31	661.07
1160	68.13	68.13	74.16	52.03	661.12
1161	62.83	62.83	69.39	52.57	661.15
1162	56.93	56.93	64.08	52.95	661.17
1163	52.06	52.06	59.66	53.20	661.18
1164	47.55	47.55	55.54	53.31	661.19
1165	43.35	43.35	51.68	53.32	661.19
1166	39.64	39.64	48.25	53.23	661.19
1167	36.96	36.96	45.72	53.06	661.18
1168	34.00	34.00	42.93	52.82	661.16
1169	31.12	31.12	40.22	52.52	661.14
1170	28.28	28.28	37.53	52.15	661.12
1171	26.74	26.74	36.01	51.73	661.10
1172	25.69	25.69	34.92	51.28	661.07
1173	24.46	24.46	33.67	50.82	661.04
1174	23.38	23.38	32.56	50.34	661.02
1175	22.28	22.28	31.43	49.86	660.99
1176	21.35	21.35	30.45	49.40	660.96
1177	20.48	20.48	29.53	48.93	660.92
1178	19.78	19.78	28.76	48.45	660.89
1179	18.92	18.92	27.85	47.96	660.86
1180	18.24	18.24	27.10	47.46	660.82
1181	17.68	17.68	26.46	46.95	660.79
1182	16.90	16.90	25.63	46.44	660.76
1183	16.50	16.50	25.14	45.93	660.72
1184	16.27	16.27	24.81	45.42	660.69
1185	15.96	15.96	24.41	44.91	660.65
1186	15.68	15.68	24.04	44.41	660.62
1187	15.40	15.40	23.67	43.90	660.59
1188	15.17	15.17	23.34	43.41	660.55
1189	14.61	14.61	22.72	42.91	660.52
1190	14.07	14.07	22.11	42.41	660.49
1191	13.68	13.68	21.64	41.91	660.45
1192	13.08	13.08	20.98	41.41	660.42
1193	12.40	12.40	20.26	40.90	660.38
1194	11.82	11.82	19.62	40.39	660.35
1195	11.63	11.63	19.33	39.88	660.32
1196	11.36	11.36	18.99	39.37	660.28
1197	11.02	11.02	18.58	38.87	660.25
1198	10.80	10.80	18.28	38.37	660.21
1199	10.52	10.52	17.93	37.88	660.18
1200	10.31	10.31	17.63	37.39	660.15
1201	10.11	10.11	17.36	36.90	660.12

1202	9.96	9.96	17.14	36.42	660.08
1203	9.85	9.85	16.94	35.95	660.05
1204	9.77	9.77	16.78	35.48	660.02
1205	9.74	9.74	16.66	35.00	659.99
1206	9.83	9.83	16.67	34.49	659.96
1207	9.74	9.74	16.50	33.99	659.93
1208	9.62	9.62	16.31	33.50	659.90
1209	9.63	9.63	16.25	33.02	659.87
1210	9.62	9.62	16.16	32.55	659.84
1211	9.76	9.76	16.22	32.10	659.81
1212	9.71	9.71	16.09	31.65	659.78
1213	9.60	9.60	15.92	31.22	659.75
1214	9.62	9.62	15.87	30.79	659.73
1215	9.61	9.61	15.79	30.37	659.70
1216	9.64	9.64	15.74	29.97	659.68
1217	9.63	9.63	15.67	29.57	659.65
1218	9.62	9.62	15.59	29.18	659.63

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1219	9.60	9.60	15.51	28.80	659.61
1220	9.60	9.60	15.44	28.43	659.58
1221	9.61	9.61	15.39	28.07	659.56
1222	9.74	9.74	15.44	27.71	659.54
1223	9.67	9.67	15.32	27.37	659.52
1224	9.57	9.57	15.17	27.03	659.50
1225	9.25	9.25	14.80	26.70	659.48
1226	8.69	8.69	14.22	26.36	659.46
1227	8.11	8.11	13.61	26.01	659.43
1228	7.42	7.42	12.89	25.65	659.41
1229	6.95	6.95	12.39	25.29	659.39
1230	6.52	6.52	11.93	24.93	659.37
1231	6.25	6.25	11.61	24.56	659.34
1232	6.03	6.03	11.35	24.19	659.32
1233	5.85	5.85	11.13	23.83	659.30
1234	5.72	5.72	10.95	23.48	659.28
1235	5.50	5.50	10.68	23.12	659.26
1236	5.30	5.30	10.44	22.77	659.23
1237	5.04	5.04	10.14	22.43	659.21
1238	4.92	4.92	9.98	22.08	659.19
1239	4.86	4.86	9.87	21.74	659.17
1240	4.78	4.78	9.74	21.41	659.15
1241	4.73	4.73	9.64	21.08	659.13
1242	4.60	4.60	9.48	20.76	659.11
1243	4.58	4.58	9.41	20.45	659.09

1244	4.60	4.60	9.39	20.14	659.07
1245	4.58	4.58	9.32	19.84	659.05
1246	4.57	4.57	9.27	19.54	659.03
1247	4.49	4.49	9.14	19.26	659.02
1248	4.49	4.49	9.10	18.97	659.00
1249	4.53	4.53	9.10	18.73	658.98
1250	4.52	4.52	9.05	18.49	658.96
1251	4.53	4.53	9.01	18.26	658.95
1252	4.46	4.46	8.90	18.03	658.93
1253	4.46	4.46	8.87	17.80	658.91
1254	4.51	4.51	8.88	17.58	658.90
1255	4.51	4.51	8.83	17.37	658.88
1256	4.52	4.52	8.80	17.16	658.86
1257	4.45	4.45	8.70	16.95	658.85
1258	4.46	4.46	8.67	16.75	658.83
1259	4.51	4.51	8.68	16.55	658.82
1260	4.50	4.50	8.64	16.35	658.80
1261	4.45	4.45	8.56	16.16	658.79
1262	4.40	4.40	8.47	15.97	658.78
1263	4.46	4.46	8.50	15.79	658.76
1264	4.50	4.50	8.50	15.61	658.75
1265	4.50	4.50	8.46	15.43	658.74
1266	4.44	4.44	8.37	15.26	658.72
1267	4.45	4.45	8.35	15.09	658.71
1268	4.50	4.50	8.36	14.92	658.70
1269	4.49	4.49	8.32	14.76	658.69
1270	4.50	4.50	8.30	14.60	658.67
1271	4.43	4.43	8.20	14.44	658.66
1272	4.45	4.45	8.18	14.29	658.65
1273	4.50	4.50	8.21	14.14	658.64
1274	4.50	4.50	8.17	13.99	658.63
1275	4.51	4.51	8.15	13.85	658.62
1276	4.44	4.44	8.06	13.71	658.61
1277	4.45	4.45	8.04	13.57	658.60
1278	4.51	4.51	8.06	13.43	658.59
1279	4.50	4.50	8.03	13.30	658.58
1280	4.51	4.51	8.01	13.17	658.57
1281	4.44	4.44	7.92	13.04	658.56
1282	4.45	4.45	7.90	12.91	658.55
1283	4.51	4.51	7.93	12.79	658.54
1284	4.50	4.50	7.90	12.67	658.53
1285	4.51	4.51	7.88	12.55	658.52
1286	4.44	4.44	7.79	12.44	658.51
1287	4.45	4.45	7.77	12.32	658.50
1288	4.51	4.51	7.80	12.21	658.50
1289	4.50	4.50	7.77	12.10	658.49

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1290	4.51	4.51	7.75	11.99	658.48
1291	4.44	4.44	7.66	11.89	658.47
1292	4.45	4.45	7.65	11.78	658.46
1293	4.51	4.51	7.67	11.68	658.46
1294	4.50	4.50	7.65	11.58	658.45
1295	4.51	4.51	7.63	11.48	658.44
1296	4.44	4.44	7.54	11.39	658.43
1297	4.39	4.39	7.47	11.29	658.43
1298	4.28	4.28	7.34	11.20	658.42
1299	4.07	4.07	7.11	11.10	658.41
1300	3.94	3.94	6.96	11.00	658.41
1310	3.24	3.24	6.07	10.05	658.33
1320	2.88	2.88	5.54	9.14	658.27
1330	2.82	2.82	5.30	8.33	658.21
1340	2.78	2.78	5.12	7.65	658.16
1350	2.78	2.78	4.98	7.08	658.11
1360	2.78	2.78	4.86	6.61	658.08
1370	2.78	2.78	4.74	6.21	658.05
1380	2.84	2.84	4.69	5.89	658.02
1390	2.78	2.78	4.54	5.61	658.00
1400	2.78	2.78	4.46	5.47	657.98
1420	2.80	2.80	4.32	5.27	657.95
1440	2.78	2.78	4.17	5.08	657.91
1460	2.78	2.78	4.05	4.89	657.88
1500	2.78	2.78	3.87	4.58	657.82

Stage - Storage - Discharge Curve for Reservoir at 7B

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
657.00	0.000	0.00
658.00	0.710	5.56
659.00	1.450	18.98
660.00	2.240	35.19
661.00	3.070	50.07
662.00	3.920	67.10
663.00	4.890	90.17
664.00	5.850	114.77
665.00	6.850	137.09
666.00	7.850	159.41

RESERVOIR ROUTING AT 28C

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*****************************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):    207.32         VOLUME (acre-ft):     17.56      *
*      NO HYDROGRAPH ADJUSTMENT                                                           *
*      RUNOFF FACTOR(in):   3.01      TOTAL RAIN(in):   6.50      SCS Curve: 68           *
*      FATTENED HYDROGRAPH  PEAK (cfs):    207.32         VOLUME (acre-ft):     22.57      *
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*      RESERVOIR INFLOW:    PEAK (cfs):    207.32 @ 1155  VOLUME (acre-ft):     22.57      *
*      MAXIMUM ELEVATION:   STAGE (ft):    717.96 @ 1162  VOLUME (acre-ft):      4.88      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    720.00         VOLUME (acre-ft):      7.05      *
*          DIFFERENCE:   IN STAGE (ft):     -2.04      IN VOLUME (acre-ft):      2.17      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     30.8%      *
*      TOP OF DAM:           ELEV (ft):    721.00         VOLUME (acre-ft):      8.15      *
*          DIFFERENCE    IN STAGE (ft):     -3.04      IN VOLUME (acre-ft):      3.27      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     40.1%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):     85.04 @ 1162  VOLUME (acre-ft):     20.99      *
*********************************************************************************************

TIME   PRE-ADJ   PRE-FAT   INFLOW   OUTFLOW  ELEVATION
(min)   (cfs)     (cfs)     (cfs)    (cfs)     (feet)
-----------------------------------------------------
  0      0.00      0.00      0.00      0.00     712.50
100      3.62      3.62      3.71      0.46     712.64
200      3.62      3.62      3.84      2.33     713.06
300      3.62      3.62      3.89      3.59     713.18
400      3.62      3.62      3.95      3.85     713.21
500      3.62      3.62      4.04      3.96     713.22
600      3.97      3.97      4.52      4.15     713.24
700      5.26      5.26      6.03      4.86     713.31
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Hydrograph Printouts

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 TIME   PRE-ADJ   PRE-FAT   INFLOW   OUTFLOW  ELEVATION
 (min)   (cfs)     (cfs)     (cfs)    (cfs)     (feet)
 -----------------------------------------------------
 800      5.38      5.38      6.52      5.95     713.41
 900      6.82      6.82      8.67      6.99     713.51
1000     10.10     10.10     13.63      9.69     713.77
1050     14.12     14.12     19.44     13.29     714.08
1100     20.93     20.93     29.82     19.91     714.51
1110     38.97     38.97     48.11     23.23     714.72
1120     58.88     58.88     68.14     29.90     715.15
1130     60.27     60.27     70.92     38.34     715.67
1131     59.99     59.99     70.82     39.13     715.72
1132     59.54     59.54     70.58     39.89     715.77
1133     58.99     58.99     70.25     40.62     715.81
1134     58.41     58.41     69.89     41.33     715.86
1135     57.85     57.85     69.56     42.01     715.90
1136     57.33     57.33     69.27     42.67     715.94
1137     56.93     56.93     69.10     43.31     715.98
1138     56.65     56.65     69.04     43.97     716.02
1139     56.46     56.46     69.07     44.64     716.06
1140     56.24     56.24     69.09     45.29     716.09
1141     56.41     56.41     69.46     45.93     716.12
1142     57.03     57.03     70.24     46.57     716.16
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1143	58.01	58.01	71.37	47.22	716.19
1144	59.16	59.16	72.64	47.88	716.23
1145	62.15	62.15	75.58	48.58	716.27
1146	66.68	66.68	79.93	49.36	716.31
1147	72.03	72.03	85.00	50.24	716.36
1148	77.93	77.93	90.55	51.25	716.41
1149	91.53	91.53	103.03	52.46	716.47
1150	112.18	112.18	121.81	54.06	716.56
1151	136.59	136.59	143.87	56.17	716.67
1152	163.31	163.31	167.93	58.83	716.82
1153	191.32	191.32	193.03	62.08	716.99
1154	206.95	206.95	206.99	66.54	717.18
1155	207.32	207.32	207.32	71.12	717.37
1156	193.49	193.49	194.99	75.36	717.55
1157	171.26	171.26	175.12	78.94	717.70
1158	142.60	142.60	149.40	81.65	717.81
1159	114.98	114.98	124.53	83.46	717.89
1160	93.55	93.55	105.11	84.48	717.93
1161	79.40	79.40	92.17	84.94	717.95
1162	70.71	70.71	84.12	85.04	717.96
1163	65.65	65.65	79.32	84.94	717.95
1164	62.90	62.90	76.60	84.71	717.94
1165	60.02	60.02	73.77	84.40	717.93
1166	56.17	56.17	70.05	83.99	717.91
1167	51.71	51.71	65.76	83.47	717.89
1168	46.64	46.64	60.92	82.81	717.86
1169	40.77	40.77	55.33	82.00	717.83
1170	35.42	35.42	50.22	81.05	717.79
1171	31.26	31.26	46.17	79.98	717.74
1172	28.49	28.49	43.40	78.83	717.70
1173	26.48	26.48	41.33	77.64	717.65
1174	24.97	24.97	39.72	76.43	717.59
1175	23.79	23.79	38.41	75.22	717.54
1176	22.97	22.97	37.43	74.00	717.49
1177	22.24	22.24	36.55	72.79	717.44
1178	21.47	21.47	35.62	71.60	717.39
1179	20.55	20.55	34.57	70.41	717.34
1180	19.60	19.60	33.48	69.22	717.29
1181	18.67	18.67	32.42	68.04	717.24
1182	17.79	17.79	31.40	66.86	717.19
1183	17.04	17.04	30.51	65.69	717.14
1184	16.56	16.56	29.88	64.53	717.09
1185	16.12	16.12	29.28	63.39	717.05
1186	15.77	15.77	28.77	62.27	717.00
1187	15.62	15.62	28.45	61.37	716.95
1188	15.45	15.45	28.12	60.49	716.90
1189	15.01	15.01	27.53	59.62	716.86
1190	14.47	14.47	26.86	58.75	716.81
1191	13.82	13.82	26.08	57.89	716.77
1192	13.07	13.07	25.21	57.03	716.72
1193	12.31	12.31	24.34	56.17	716.67

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1194	11.74	11.74	23.65	55.31	716.63
1195	11.36	11.36	23.13	54.45	716.58
1196	11.08	11.08	22.72	53.61	716.54
1197	10.83	10.83	22.34	52.78	716.49
1198	10.63	10.63	22.00	51.96	716.45
1199	10.48	10.48	21.72	51.16	716.40
1200	10.29	10.29	21.40	50.37	716.36
1201	10.24	10.24	21.21	49.59	716.32
1202	10.21	10.21	21.04	48.83	716.28
1203	10.20	10.20	20.90	48.09	716.24
1204	10.18	10.18	20.75	47.36	716.20
1205	10.17	10.17	20.62	46.65	716.16
1206	10.18	10.18	20.50	45.95	716.13
1207	10.19	10.19	20.39	45.27	716.09
1208	10.19	10.19	20.26	44.60	716.05
1209	10.18	10.18	20.14	43.95	716.02
1210	10.18	10.18	20.02	43.34	715.98
1211	10.19	10.19	19.91	42.78	715.95
1212	10.21	10.21	19.81	42.23	715.91
1213	10.20	10.20	19.70	41.69	715.88
1214	10.19	10.19	19.58	41.16	715.85
1215	10.19	10.19	19.47	40.64	715.82
1216	10.11	10.11	19.29	40.12	715.78
1217	10.13	10.13	19.20	39.62	715.75
1218	10.14	10.14	19.12	39.13	715.72
1219	10.16	10.16	19.04	38.65	715.69
1220	10.16	10.16	18.94	38.17	715.66
1221	10.16	10.16	18.84	37.71	715.63
1222	10.17	10.17	18.76	37.25	715.61
1223	10.19	10.19	18.68	36.81	715.58
1224	10.19	10.19	18.59	36.37	715.55
1225	9.94	9.94	18.26	35.94	715.52
1226	9.58	9.58	17.82	35.51	715.50
1227	9.05	9.05	17.24	35.07	715.47
1228	8.50	8.50	16.62	34.64	715.44
1229	7.89	7.89	15.94	34.19	715.42
1230	7.34	7.34	15.34	33.75	715.39
1231	6.88	6.88	14.81	33.30	715.36
1232	6.52	6.52	14.38	32.85	715.33
1233	6.22	6.22	14.01	32.40	715.30
1234	5.99	5.99	13.71	31.95	715.28
1235	5.81	5.81	13.46	31.51	715.25
1236	5.67	5.67	13.25	31.07	715.22
1237	5.56	5.56	13.07	30.64	715.20

1238	5.47	5.47	12.91	30.22	715.17
1239	5.42	5.42	12.79	29.80	715.14
1240	5.40	5.40	12.70	29.39	715.12
1241	5.38	5.38	12.61	28.99	715.09
1242	5.36	5.36	12.52	28.59	715.07
1243	5.34	5.34	12.43	28.20	715.04
1244	5.34	5.34	12.36	27.82	715.02
1245	5.35	5.35	12.30	27.45	715.00
1246	5.35	5.35	12.24	27.08	714.97
1247	5.34	5.34	12.17	26.71	714.95
1248	5.33	5.33	12.09	26.36	714.93
1249	5.33	5.33	12.03	26.01	714.90
1250	5.35	5.35	11.98	25.66	714.88
1251	5.35	5.35	11.92	25.33	714.86
1252	5.34	5.34	11.85	25.00	714.84
1253	5.33	5.33	11.78	24.68	714.82
1254	5.33	5.33	11.73	24.36	714.80
1255	5.35	5.35	11.68	24.05	714.78
1256	5.35	5.35	11.63	23.75	714.76
1257	5.34	5.34	11.56	23.45	714.74
1258	5.33	5.33	11.50	23.16	714.72
1259	5.33	5.33	11.45	22.87	714.70
1260	5.35	5.35	11.40	22.59	714.68
1261	5.31	5.31	11.31	22.32	714.66
1262	5.30	5.30	11.25	22.05	714.65
1263	5.29	5.29	11.19	21.78	714.63
1264	5.31	5.31	11.16	21.52	714.61

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1265	5.33	5.33	11.13	21.27	714.60
1266	5.32	5.32	11.08	21.02	714.58
1267	5.31	5.31	11.02	20.78	714.57
1268	5.32	5.32	10.98	20.54	714.55
1269	5.33	5.33	10.94	20.30	714.53
1270	5.34	5.34	10.90	20.08	714.52
1271	5.33	5.33	10.85	19.85	714.51
1272	5.32	5.32	10.79	19.63	714.49
1273	5.33	5.33	10.75	19.41	714.48
1274	5.34	5.34	10.72	19.20	714.46
1275	5.35	5.35	10.68	18.99	714.45
1276	5.34	5.34	10.63	18.79	714.44
1277	5.33	5.33	10.57	18.59	714.42
1278	5.33	5.33	10.54	18.39	714.41
1279	5.34	5.34	10.51	18.20	714.40

1280	5.35	5.35	10.47	18.01	714.39
1281	5.34	5.34	10.42	17.83	714.37
1282	5.33	5.33	10.37	17.64	714.36
1283	5.33	5.33	10.33	17.47	714.35
1284	5.35	5.35	10.31	17.29	714.34
1285	5.35	5.35	10.27	17.12	714.33
1286	5.34	5.34	10.22	16.95	714.32
1287	5.33	5.33	10.17	16.79	714.31
1288	5.33	5.33	10.14	16.62	714.30
1289	5.35	5.35	10.12	16.47	714.29
1290	5.35	5.35	10.08	16.31	714.28
1291	5.34	5.34	10.04	16.16	714.27
1292	5.33	5.33	9.99	16.01	714.26
1293	5.33	5.33	9.96	15.86	714.25
1294	5.35	5.35	9.94	15.71	714.24
1295	5.35	5.35	9.91	15.57	714.23
1296	5.34	5.34	9.87	15.43	714.22
1297	5.29	5.29	9.78	15.30	714.21
1298	5.18	5.18	9.64	15.16	714.20
1299	4.99	4.99	9.43	15.02	714.19
1300	4.77	4.77	9.18	14.88	714.18
1310	3.85	3.85	7.97	13.56	714.10
1320	3.63	3.63	7.48	12.30	714.02
1330	3.68	3.68	7.28	11.45	713.94
1340	3.62	3.62	7.00	10.78	713.88
1350	3.63	3.63	6.81	10.16	713.82
1360	3.62	3.62	6.62	9.62	713.77
1370	3.63	3.63	6.46	9.13	713.72
1380	3.67	3.67	6.36	8.70	713.68
1390	3.62	3.62	6.17	8.32	713.64
1400	3.63	3.63	6.05	7.97	713.61
1420	3.64	3.64	5.83	7.39	713.55
1440	3.62	3.62	5.62	6.91	713.51
1460	3.37	3.37	5.20	6.50	713.47
1500	3.37	3.37	4.93	5.81	713.40

Stage - Storage - Discharge Curve for Reservoir at 28C

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
712.50	0.000	0.00
713.00	0.390	1.67
714.00	1.210	12.04
715.00	2.070	27.50
716.00	2.980	43.60
717.00	3.930	62.27
718.00	4.920	86.09
719.00	5.960	111.17
720.00	7.050	133.82
721.00	8.150	154.00

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 44AC

DESCRIPTION: WCC MAIN + MOORPARK DRAIN NO. 1 (OLD 28AC WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE)
TOTAL AREA TO HYDROGRAPH: 865 acres
HYDROGRAPH PEAK: 818 cfs
TIME OF PEAK: 1158 minutes
HYDROGRAPH VOLUME: 212.89 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	19.71	200	24.14	300	29.35	400	31.14
500	32.81	600	36.41	700	47.35	800	54.36	900	69.02
1000	106.20	1050	153.96	1100	236.49	1110	296.07	1120	380.67
1130	441.90	1131	447.02	1132	452.22	1133	456.99	1134	461.45
1135	465.62	1136	469.40	1137	472.98	1138	476.22	1139	479.40
1140	482.39	1141	485.96	1142	489.93	1143	494.41	1144	498.77
1145	505.55	1146	514.31	1147	524.69	1148	536.23	1149	557.65
1150	588.76	1151	627.76	1152	672.16	1153	720.10	1154	759.28
1155	786.21	1156	803.48	1157	814.01	1158	817.94	1159	813.88
1160	805.72	1161	792.25	1162	780.11	1163	772.21	1164	771.40
1165	771.53	1166	773.38	1167	772.21	1168	765.54	1169	752.27
1170	734.76	1171	714.53	1172	691.84	1173	669.29	1174	649.85
1175	633.56	1176	618.66	1177	604.27	1178	589.66	1179	574.71
1180	560.15	1181	546.29	1182	533.04	1183	520.72	1184	509.76
1185	500.03	1186	491.37	1187	483.53	1188	476.34	1189	469.31
1190	462.26	1191	455.36	1192	448.62	1193	441.88	1194	435.49
1195	429.52	1196	423.84	1197	418.57	1198	413.63	1199	409.09
1200	404.82	1201	401.00	1202	397.25	1203	393.60	1204	389.91
1205	386.22	1206	382.69	1207	379.12	1208	375.75	1209	372.49
1210	369.30	1211	366.29	1212	363.37	1213	360.43	1214	357.60
1215	354.73	1216	351.87	1217	349.20	1218	346.54	1219	344.02
1220	341.48	1221	338.93	1222	336.62	1223	334.37	1224	332.25
1225	329.69	1226	326.74	1227	323.38	1228	320.05	1229	316.78
1230	313.74	1231	310.70	1232	307.50	1233	304.37	1234	301.29
1235	298.57	1236	296.11	1237	293.95	1238	291.88	1239	289.91
1240	287.86	1241	285.81	1242	283.66	1243	281.53	1244	279.50
1245	277.41	1246	275.36	1247	273.25	1248	271.19	1249	269.18
1250	267.09	1251	265.01	1252	262.90	1253	260.86	1254	258.92
1255	256.94	1256	255.02	1257	253.07	1258	251.21	1259	249.46
1260	247.68	1261	245.85	1262	244.16	1263	242.52	1264	241.00
1265	239.42	1266	237.79	1267	236.30	1268	234.86	1269	233.53
1270	232.15	1271	230.70	1272	229.34	1273	228.06	1274	226.72
1275	225.41	1276	224.04	1277	222.75	1278	221.53	1279	220.24
1280	218.99	1281	217.68	1282	216.42	1283	215.21	1284	213.92
1285	212.66	1286	211.33	1287	210.06	1288	208.86	1289	207.59
1290	206.37	1291	205.09	1292	203.87	1293	202.72	1294	201.51

1295	200.33	1296	199.11	1297	197.83	1298	196.44	1299	194.85
1300	193.30	1310	178.53	1320	165.92	1330	152.79	1340	138.90
1350	126.16	1360	115.05	1370	105.69	1380	98.18	1390	91.25
1400	86.06	1420	77.43	1440	71.16	1460	60.38	1500	52.42

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-EXISTING CONDITION 100YR (2017)

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 45A

DESCRIPTION: DRAINAGE AREA FOR PROPOSED ESSEX AND EAST 1/2 OF HR PROPOSED BASIN 3 LOCAL
TOTAL AREA TO HYDROGRAPH: 916 acres
HYDROGRAPH PEAK: 912 cfs
TIME OF PEAK: 1160 minutes
HYDROGRAPH VOLUME: 228.13 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	23.14	200	27.19	300	32.58	400	34.48
500	36.15	600	40.15	700	52.24	800	59.77	900	75.45
1000	115.36	1050	163.92	1100	249.99	1110	311.00	1120	403.06
1130	472.90	1131	477.85	1132	483.20	1133	488.46	1134	493.66
1135	498.45	1136	502.68	1137	506.76	1138	510.33	1139	513.81
1140	516.85	1141	520.30	1142	523.81	1143	527.96	1144	532.32
1145	539.28	1146	546.68	1147	555.69	1148	566.80	1149	587.67
1150	612.65	1151	645.38	1152	686.97	1153	735.54	1154	781.87
1155	826.29	1156	862.55	1157	886.73	1158	902.53	1159	911.02
1160	912.06	1161	898.28	1162	879.72	1163	858.26	1164	837.76
1165	818.84	1166	812.28	1167	809.91	1168	807.80	1169	803.07
1170	793.52	1171	778.55	1172	759.62	1173	737.92	1174	714.38
1175	691.45	1176	670.77	1177	653.79	1178	638.35	1179	623.02
1180	607.99	1181	592.99	1182	577.90	1183	563.81	1184	550.46
1185	537.81	1186	526.56	1187	516.45	1188	507.23	1189	498.85
1190	491.16	1191	483.75	1192	476.35	1193	469.10	1194	462.08
1195	455.22	1196	448.80	1197	442.74	1198	436.76	1199	431.07
1200	425.83	1201	421.29	1202	416.85	1203	412.83	1204	409.00
1205	405.27	1206	401.69	1207	397.92	1208	394.33	1209	390.81
1210	387.40	1211	384.22	1212	381.04	1213	377.88	1214	374.91
1215	371.99	1216	369.11	1217	366.36	1218	363.43	1219	360.70
1220	358.05	1221	355.47	1222	353.03	1223	350.42	1224	348.04
1225	345.40	1226	342.75	1227	339.74	1228	336.54	1229	332.94
1230	329.37	1231	325.82	1232	322.23	1233	318.76	1234	315.15
1235	311.67	1236	308.30	1237	305.39	1238	302.84	1239	300.65
1240	298.49	1241	296.42	1242	294.25	1243	292.22	1244	290.25
1245	288.17	1246	286.09	1247	283.91	1248	281.84	1249	279.89
1250	277.83	1251	275.79	1252	273.61	1253	271.53	1254	269.58

1255	267.54	1256	265.55	1257	263.46	1258	261.52	1259	259.72
1260	257.85	1261	255.91	1262	254.11	1263	252.33	1264	250.73
1265	249.07	1266	247.35	1267	245.76	1268	244.18	1269	242.78
1270	241.32	1271	239.80	1272	238.57	1273	237.38	1274	236.05
1275	234.73	1276	233.29	1277	231.96	1278	230.76	1279	229.45
1280	228.18	1281	226.78	1282	225.51	1283	224.36	1284	223.09
1285	221.84	1286	220.46	1287	219.19	1288	218.03	1289	216.76
1290	215.51	1291	214.14	1292	212.89	1293	211.77	1294	210.54
1295	209.34	1296	208.02	1297	206.71	1298	205.37	1299	203.87
1300	202.41	1310	186.32	1320	172.95	1330	160.30	1340	146.46
1350	133.52	1360	121.86	1370	112.10	1380	104.19	1390	97.04
1400	91.30	1420	82.37	1440	75.64	1460	62.81	1500	52.57

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 49B

DESCRIPTION: EAST HITCH RANCH
TOTAL AREA TO HYDROGRAPH: 107 acres
HYDROGRAPH PEAK: 133 cfs
TIME OF PEAK: 1162 minutes
HYDROGRAPH VOLUME: 9.21 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	1.04	200	1.04	300	1.04	400	1.04
500	1.04	600	1.11	700	1.36	800	1.44	900	1.74
1000	2.78	1050	4.50	1100	7.81	1110	14.52	1120	29.66
1130	43.75	1131	44.58	1132	45.33	1133	45.87	1134	46.37
1135	46.81	1136	47.07	1137	47.33	1138	47.41	1139	47.51
1140	47.45	1141	47.59	1142	47.69	1143	47.74	1144	47.75
1145	48.83	1146	49.72	1147	50.62	1148	51.60	1149	56.02
1150	60.51	1151	65.00	1152	70.08	1153	75.98	1154	79.55
1155	84.37	1156	91.79	1157	101.29	1158	111.62	1159	119.84
1160	126.34	1161	130.69	1162	132.57	1163	128.66	1164	122.96
1165	114.46	1166	104.38	1167	92.82	1168	84.62	1169	77.66
1170	71.28	1171	65.40	1172	60.07	1173	54.94	1174	49.97
1175	45.40	1176	41.07	1177	37.41	1178	34.68	1179	32.10
1180	29.59	1181	27.54	1182	25.63	1183	23.85	1184	22.18
1185	20.64	1186	19.23	1187	17.97	1188	16.83	1189	15.78
1190	14.85	1191	14.00	1192	13.23	1193	12.52	1194	11.87
1195	11.27	1196	10.71	1197	10.18	1198	9.71	1199	9.32
1200	8.96	1201	8.62	1202	8.30	1203	8.01	1204	7.77
1205	7.54	1206	7.33	1207	7.10	1208	6.88	1209	6.65
1210	6.43	1211	6.23	1212	6.02	1213	5.81	1214	5.60

1215	5.40	1216	5.21	1217	5.04	1218	4.87	1219	4.74
1220	4.61	1221	4.50	1222	4.41	1223	4.31	1224	4.23
1225	4.11	1226	4.01	1227	3.91	1228	3.82	1229	3.74
1230	3.66	1231	3.57	1232	3.49	1233	3.42	1234	3.36
1235	3.29	1236	3.22	1237	3.16	1238	3.10	1239	3.07
1240	3.04	1241	3.02	1242	2.98	1243	2.94	1244	2.89
1245	2.84	1246	2.79	1247	2.72	1248	2.66	1249	2.59
1250	2.53	1251	2.49	1252	2.43	1253	2.37	1254	2.32
1255	2.27	1256	2.23	1257	2.18	1258	2.13	1259	2.09
1260	2.05	1261	2.02	1262	1.98	1263	1.95	1264	1.92
1265	1.89	1266	1.86	1267	1.83	1268	1.81	1269	1.79
1270	1.76	1271	1.74	1272	1.72	1273	1.71	1274	1.69
1275	1.68	1276	1.66	1277	1.65	1278	1.64	1279	1.62
1280	1.62	1281	1.60	1282	1.60	1283	1.59	1284	1.58
1285	1.58	1286	1.56	1287	1.56	1288	1.55	1289	1.54
1290	1.55	1291	1.53	1292	1.53	1293	1.52	1294	1.52
1295	1.52	1296	1.51	1297	1.49	1298	1.47	1299	1.45
1300	1.45	1310	1.30	1320	1.26	1330	1.20	1340	1.13
1350	1.10	1360	1.07	1370	1.06	1380	1.06	1390	1.05
1400	1.05	1420	1.05	1440	1.04	1460	0.76	1500	0.76

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 51A

DESCRIPTION: LOCAL SUBAREA DRAINING DIRECT TO WCC BETWEEN EAST AND WEST HR (OLD 37A WALNUT CYN PRIOR TO JCT W/ GABBERT,1/96 AERIAL PHOTO LU, Q100)
TOTAL AREA TO HYDROGRAPH: 1082 acres
HYDROGRAPH PEAK: 1062 cfs
TIME OF PEAK: 1164 minutes
HYDROGRAPH VOLUME: 241.85 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	24.50	200	27.69	300	33.36	400	35.62
500	37.27	600	41.02	700	52.29	800	61.38	900	75.45
1000	115.44	1050	161.02	1100	249.47	1110	299.70	1120	393.25
1130	496.40	1131	505.23	1132	514.20	1133	522.75	1134	530.73
1135	538.07	1136	544.89	1137	551.38	1138	557.33	1139	562.94
1140	567.99	1141	572.89	1142	577.54	1143	581.76	1144	585.90
1145	590.99	1146	596.03	1147	601.59	1148	608.13	1149	619.94
1150	632.78	1151	648.63	1152	669.05	1153	695.09	1154	723.58
1155	759.44	1156	801.48	1157	847.09	1158	894.64	1159	941.67
1160	981.35	1161	1015.39	1162	1041.07	1163	1056.78	1164	1061.51
1165	1058.19	1166	1045.91	1167	1026.39	1168	1002.52	1169	977.70
1170	955.32	1171	936.16	1172	919.20	1173	902.85	1174	885.17

1175	865.27	1176	844.05	1177	820.45	1178	795.36	1179	770.05
1180	745.82	1181	723.06	1182	702.06	1183	683.16	1184	665.17
1185	647.92	1186	631.11	1187	614.80	1188	599.15	1189	584.31
1190	570.42	1191	557.48	1192	545.52	1193	534.47	1194	524.27
1195	514.94	1196	506.05	1197	497.68	1198	489.58	1199	481.76
1200	474.26	1201	467.09	1202	460.24	1203	453.72	1204	447.56
1205	441.80	1206	436.42	1207	431.41	1208	426.72	1209	422.28
1210	418.03	1211	413.93	1212	409.95	1213	406.26	1214	402.63
1215	399.05	1216	395.54	1217	392.11	1218	388.74	1219	385.46
1220	382.27	1221	379.14	1222	376.08	1223	373.07	1224	370.15
1225	367.30	1226	364.52	1227	361.80	1228	359.10	1229	356.40
1230	353.65	1231	350.81	1232	347.83	1233	344.69	1234	341.39
1235	338.00	1236	334.54	1237	331.04	1238	327.52	1239	324.00
1240	320.53	1241	317.19	1242	314.06	1243	311.16	1244	308.48
1245	306.01	1246	303.64	1247	301.36	1248	299.14	1249	296.97
1250	294.81	1251	292.65	1252	290.50	1253	288.37	1254	286.26
1255	284.16	1256	282.05	1257	279.93	1258	277.84	1259	275.76
1260	273.69	1261	271.62	1262	269.58	1263	267.58	1264	265.61
1265	263.66	1266	261.74	1267	259.86	1268	258.03	1269	256.25
1270	254.55	1271	253.10	1272	251.62	1273	250.13	1274	248.64
1275	247.17	1276	245.71	1277	244.30	1278	242.92	1279	241.56
1280	240.20	1281	238.83	1282	237.49	1283	236.16	1284	234.85
1285	233.53	1286	232.21	1287	230.91	1288	229.63	1289	228.35
1290	227.07	1291	225.79	1292	224.51	1293	223.25	1294	221.99
1295	220.72	1296	219.44	1297	218.19	1298	216.94	1299	215.70
1300	214.45	1310	200.24	1320	185.17	1330	171.76	1340	158.81
1350	145.56	1360	133.01	1370	121.92	1380	112.70	1390	104.92
1400	98.11	1420	87.77	1440	80.22	1460	70.52	1500	55.38

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 62BD

DESCRIPTION: WEST HITCH RANCH - CONFLUENCE OF WEST/MIDDLE AND EAST FORKS
TOTAL AREA TO HYDROGRAPH: 468 acres
HYDROGRAPH PEAK: 466 cfs
TIME OF PEAK: 1160 minutes
HYDROGRAPH VOLUME: 53.49 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	7.95	200	7.95	300	7.95	400	7.95
500	7.95	600	8.77	700	11.73	800	12.78	900	15.68
1000	22.57	1050	28.24	1100	43.56	1110	73.99	1120	127.02
1130	168.26	1131	171.54	1132	174.91	1133	178.03	1134	181.08

1135	184.00	1136	186.73	1137	189.41	1138	191.68	1139	193.89
1140	195.73	1141	197.64	1142	199.54	1143	201.77	1144	204.33
1145	208.17	1146	212.47	1147	218.54	1148	226.19	1149	238.31
1150	254.60	1151	279.54	1152	312.06	1153	348.90	1154	384.30
1155	414.38	1156	433.71	1157	446.36	1158	457.21	1159	465.08
1160	466.43	1161	461.17	1162	452.90	1163	438.90	1164	424.57
1165	411.10	1166	400.61	1167	388.95	1168	378.87	1169	367.06
1170	353.53	1171	338.47	1172	322.26	1173	304.95	1174	287.10
1175	269.15	1176	252.60	1177	238.33	1178	226.37	1179	215.00
1180	204.26	1181	193.94	1182	184.35	1183	175.74	1184	167.90
1185	160.83	1186	154.28	1187	148.19	1188	142.73	1189	137.54
1190	132.52	1191	127.61	1192	122.79	1193	118.10	1194	113.55
1195	109.13	1196	104.97	1197	101.17	1198	97.49	1199	93.90
1200	90.50	1201	87.35	1202	84.58	1203	81.93	1204	79.41
1205	76.97	1206	74.60	1207	72.28	1208	70.07	1209	68.00
1210	66.02	1211	64.17	1212	62.46	1213	60.87	1214	59.38
1215	58.02	1216	56.75	1217	55.52	1218	54.31	1219	53.14
1220	52.05	1221	50.99	1222	49.96	1223	48.93	1224	47.94
1225	47.01	1226	46.11	1227	45.19	1228	44.13	1229	42.94
1230	41.79	1231	40.60	1232	39.39	1233	38.18	1234	36.95
1235	35.68	1236	34.42	1237	33.24	1238	32.20	1239	31.31
1240	30.52	1241	29.79	1242	29.12	1243	28.50	1244	27.96
1245	27.44	1246	26.92	1247	26.41	1248	25.90	1249	25.42
1250	24.95	1251	24.49	1252	24.04	1253	23.62	1254	23.22
1255	22.84	1256	22.47	1257	22.13	1258	21.83	1259	21.54
1260	21.26	1261	20.99	1262	20.72	1263	20.45	1264	20.19
1265	19.93	1266	19.70	1267	19.47	1268	19.25	1269	19.03
1270	18.81	1271	18.61	1272	18.42	1273	18.24	1274	18.08
1275	17.91	1276	17.74	1277	17.58	1278	17.43	1279	17.28
1280	17.14	1281	17.00	1282	16.86	1283	16.73	1284	16.61
1285	16.50	1286	16.38	1287	16.27	1288	16.16	1289	16.07
1290	15.97	1291	15.87	1292	15.78	1293	15.70	1294	15.62
1295	15.55	1296	15.48	1297	15.41	1298	15.35	1299	15.29
1300	15.22	1310	13.38	1320	11.54	1330	10.75	1340	10.12
1350	9.61	1360	9.25	1370	8.96	1380	8.81	1390	8.64
1400	8.50	1420	8.36	1440	8.22	1460	7.94	1500	7.94

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 67C

DESCRIPTION: 67C PACE
TOTAL AREA TO HYDROGRAPH: 172 acres
HYDROGRAPH PEAK: 353 cfs
TIME OF PEAK: 1158 minutes
HYDROGRAPH VOLUME: 59.48 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	13.59	200	13.59	300	13.59	400	13.58
500	13.59	600	15.41	700	21.36	800	22.09	900	28.16
1000	40.89	1050	51.81	1100	68.77	1110	100.47	1120	141.07
1130	156.31	1131	156.42	1132	156.74	1133	156.56	1134	156.33
1135	155.96	1136	155.33	1137	154.81	1138	154.01	1139	153.36
1140	152.49	1141	152.53	1142	152.43	1143	152.75	1144	153.13
1145	155.94	1146	159.44	1147	163.78	1148	169.37	1149	184.00
1150	201.51	1151	223.56	1152	249.46	1153	278.38	1154	301.04
1155	319.28	1156	333.88	1157	344.70	1158	352.60	1159	349.21
1160	343.23	1161	334.82	1162	323.12	1163	305.51	1164	290.96
1165	271.84	1166	248.76	1167	224.56	1168	202.19	1169	182.41
1170	165.06	1171	149.81	1172	136.90	1173	125.81	1174	115.89
1175	108.95	1176	102.48	1177	95.79	1178	90.06	1179	85.13
1180	80.80	1181	77.04	1182	73.66	1183	70.90	1184	68.57
1185	66.45	1186	64.76	1187	63.42	1188	62.07	1189	60.73
1190	59.42	1191	58.00	1192	56.74	1193	55.44	1194	54.12
1195	52.99	1196	51.68	1197	50.43	1198	49.30	1199	48.37
1200	47.32	1201	46.45	1202	45.52	1203	44.77	1204	44.14
1205	43.44	1206	43.05	1207	42.64	1208	42.36	1209	42.12
1210	41.89	1211	41.73	1212	41.63	1213	41.60	1214	41.60
1215	41.55	1216	41.37	1217	41.44	1218	41.43	1219	41.46
1220	41.46	1221	41.31	1222	41.38	1223	41.38	1224	41.42
1225	41.11	1226	40.74	1227	40.03	1228	39.35	1229	38.55
1230	37.63	1231	36.60	1232	35.26	1233	34.07	1234	32.78
1235	31.72	1236	30.60	1237	29.45	1238	28.30	1239	27.22
1240	26.31	1241	25.57	1242	24.95	1243	24.38	1244	23.85
1245	23.36	1246	23.01	1247	22.78	1248	22.60	1249	22.41
1250	22.23	1251	22.13	1252	22.10	1253	22.08	1254	22.02
1255	21.94	1256	21.91	1257	21.94	1258	21.96	1259	21.93
1260	21.87	1261	21.76	1262	21.90	1263	21.90	1264	21.85
1265	21.81	1266	21.72	1267	21.87	1268	21.87	1269	21.82
1270	21.78	1271	21.79	1272	21.84	1273	21.85	1274	21.81
1275	21.80	1276	21.85	1277	21.88	1278	21.87	1279	21.83
1280	21.82	1281	21.87	1282	21.91	1283	21.90	1284	21.84
1285	21.84	1286	21.88	1287	21.92	1288	21.90	1289	21.85
1290	21.84	1291	21.89	1292	21.92	1293	21.91	1294	21.85
1295	21.85	1296	21.89	1297	21.82	1298	21.59	1299	21.30
1300	21.06	1310	17.20	1320	14.54	1330	13.89	1340	13.54
1350	13.63	1360	13.53	1370	13.63	1380	13.72	1390	13.56
1400	13.63	1420	13.59	1440	13.58	1460	11.11	1500	11.11

HYDROGRAPH PRINTOUT AT: 124A

TOTAL AREA TO HYDROGRAPH: 4601 acres
HYDROGRAPH PEAK: 2985 cfs
TIME OF PEAK: 1170 minutes
HYDROGRAPH VOLUME: 705.62 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	89.75	200	92.00	300	97.35	400	100.54
500	102.01	600	109.67	700	136.05	800	158.49	900	190.85
1000	276.34	1050	366.58	1100	567.55	1110	689.97	1120	940.97
1130	1206.13	1131	1230.26	1132	1255.71	1133	1280.75	1134	1305.66
1135	1330.05	1136	1353.82	1137	1377.57	1138	1400.50	1139	1423.44
1140	1446.01	1141	1469.06	1142	1492.15	1143	1515.30	1144	1538.49
1145	1565.82	1146	1594.34	1147	1624.70	1148	1656.73	1149	1707.06
1150	1766.06	1151	1836.43	1152	1916.75	1153	2007.17	1154	2088.74
1155	2168.65	1156	2247.44	1157	2326.41	1158	2403.24	1159	2480.94
1160	2556.75	1161	2626.49	1162	2687.44	1163	2745.93	1164	2802.22
1165	2850.80	1166	2895.85	1167	2936.41	1168	2968.94	1169	2982.11
1170	2984.58	1171	2976.48	1172	2957.37	1173	2926.04	1174	2896.78
1175	2864.87	1176	2828.86	1177	2790.95	1178	2755.92	1179	2726.11
1180	2695.83	1181	2664.87	1182	2633.22	1183	2601.47	1184	2569.84
1185	2539.01	1186	2509.27	1187	2480.29	1188	2452.38	1189	2425.70
1190	2400.51	1191	2376.93	1192	2354.92	1193	2334.09	1194	2314.30
1195	2295.54	1196	2277.83	1197	2261.11	1198	2244.63	1199	2227.93
1200	2211.21	1201	2194.58	1202	2177.86	1203	2161.03	1204	2143.93
1205	2126.67	1206	2109.19	1207	2091.26	1208	2072.96	1209	2054.27
1210	2035.02	1211	2015.61	1212	1995.72	1213	1975.20	1214	1953.98
1215	1932.18	1216	1909.83	1217	1886.97	1218	1863.63	1219	1839.72
1220	1815.10	1221	1790.14	1222	1764.92	1223	1739.11	1224	1712.98
1225	1686.27	1226	1659.25	1227	1632.03	1228	1604.75	1229	1577.33
1230	1549.80	1231	1522.16	1232	1494.66	1233	1467.47	1234	1440.72
1235	1414.15	1236	1387.89	1237	1361.96	1238	1336.83	1239	1311.86
1240	1286.93	1241	1262.31	1242	1237.78	1243	1213.75	1244	1190.15
1245	1167.10	1246	1144.62	1247	1122.53	1248	1101.02	1249	1080.20
1250	1060.12	1251	1040.81	1252	1021.97	1253	1003.77	1254	986.09
1255	969.06	1256	952.76	1257	936.80	1258	921.36	1259	906.38
1260	892.01	1261	878.57	1262	864.88	1263	851.49	1264	838.46
1265	825.77	1266	813.35	1267	801.23	1268	789.36	1269	777.79
1270	766.58	1271	755.43	1272	744.62	1273	734.03	1274	723.78
1275	714.00	1276	704.35	1277	694.98	1278	685.69	1279	676.59
1280	667.79	1281	659.00	1282	650.47	1283	642.14	1284	634.05
1285	626.25	1286	618.49	1287	610.99	1288	603.70	1289	596.58
1290	589.68	1291	582.81	1292	576.26	1293	569.92	1294	563.74
1295	558.04	1296	552.25	1297	546.30	1298	540.30	1299	534.38
1300	528.73	1310	475.23	1320	428.42	1330	386.13	1340	349.14
1350	318.35	1360	291.68	1370	268.13	1380	246.90	1390	228.96
1400	213.63	1420	189.30	1440	172.42	1460	151.33	1500	122.86

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-EXISTING CONDITION 100YR (2017)

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 125A

DESCRIPTION: DUMMY
TOTAL AREA TO HYDROGRAPH: 4601 acres
HYDROGRAPH PEAK: 2975 cfs
TIME OF PEAK: 1172 minutes
HYDROGRAPH VOLUME: 705.98 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	89.75	200	91.78	300	96.95	400	100.41
500	101.88	600	109.04	700	134.16	800	157.59	900	188.77
1000	271.94	1050	357.74	1100	549.78	1110	645.47	1120	854.33
1130	1129.26	1131	1154.87	1132	1180.82	1133	1206.59	1134	1232.12
1135	1257.52	1136	1282.70	1137	1307.52	1138	1331.96	1139	1356.36
1140	1380.90	1141	1405.00	1142	1428.54	1143	1451.88	1144	1475.17
1145	1498.47	1146	1522.56	1147	1548.35	1148	1575.91	1149	1605.22
1150	1639.56	1151	1682.96	1152	1736.53	1153	1800.65	1154	1876.62
1155	1959.83	1156	2043.27	1157	2125.21	1158	2206.02	1159	2285.77
1160	2364.90	1161	2444.40	1162	2521.54	1163	2592.93	1164	2658.39
1165	2719.69	1166	2776.47	1167	2828.11	1168	2875.12	1169	2916.65
1170	2948.64	1171	2967.89	1172	2975.10	1173	2970.95	1174	2955.39
1175	2931.81	1176	2904.83	1177	2874.19	1178	2840.26	1179	2804.97
1180	2771.15	1181	2739.36	1182	2708.30	1183	2677.19	1184	2645.84
1185	2614.37	1186	2583.07	1187	2552.33	1188	2522.36	1189	2493.23
1190	2465.11	1191	2438.22	1192	2412.64	1193	2388.64	1194	2366.35
1195	2345.08	1196	2324.84	1197	2305.68	1198	2287.56	1199	2270.22
1200	2253.31	1201	2236.53	1202	2219.83	1203	2203.16	1204	2186.47
1205	2169.67	1206	2152.70	1207	2135.56	1208	2118.18	1209	2100.46
1210	2082.39	1211	2063.91	1212	2045.04	1213	2025.82	1214	2006.17
1215	1985.97	1216	1965.22	1217	1943.86	1218	1921.94	1219	1899.51
1220	1876.88	1221	1853.51	1222	1829.51	1223	1805.42	1224	1780.90
1225	1755.75	1226	1730.07	1227	1703.91	1228	1677.38	1229	1650.57
1230	1623.59	1231	1596.46	1232	1569.21	1233	1541.89	1234	1514.62
1235	1487.56	1236	1460.76	1237	1434.23	1238	1407.98	1239	1382.14
1240	1357.07	1241	1332.87	1242	1308.81	1243	1284.56	1244	1260.34
1245	1236.32	1246	1212.64	1247	1189.39	1248	1166.64	1249	1144.58
1250	1122.91	1251	1101.76	1252	1081.24	1253	1061.37	1254	1042.10
1255	1023.42	1256	1005.32	1257	987.82	1258	970.92	1259	954.56
1260	938.71	1261	923.35	1262	908.55	1263	894.90	1264	881.70
1265	868.47	1266	855.35	1267	842.45	1268	829.80	1269	817.41
1270	805.29	1271	793.44	1272	781.87	1273	770.55	1274	759.47
1275	748.64	1276	738.09	1277	727.87	1278	717.93	1279	708.25
1280	698.77	1281	689.49	1282	680.41	1283	671.50	1284	662.93

```
     1285     654.52  1286     646.26  1287     638.19  1288     630.29  1289     622.56
     1290     615.02  1291     607.68  1292     600.52  1293     593.52  1294     586.69
     1295     580.08  1296     573.67  1297     567.50  1298     561.52  1299     556.11
     1300     550.60  1310     496.08  1320     446.78  1330     403.07  1340     364.10
     1350     331.77  1360     303.23  1370     278.60  1380     256.46  1390     237.16
     1400     220.75  1420     194.83  1440     176.60  1460     157.14  1500     126.67
```


VCRat Model Input

Model Lines

```
005     1  001A Header place holder
005     1  005A Header place holder
005     1  007B Header place holder
005     1  028CDHeader place holder
005     1  044ACHeader place holder
005     1  045A Header place holder
005     1  049B Header place holder
005     1  051A Header place holder
005     1  062BDHeader place holder
005     1  067C Header place holder
005     1  124A Header place holder
005     1  125A Header place holder
999
999
006     1  001A 010012010020A97102450004000                    G1
006     1  002A 010004004516A97100275002500
006     1  003A 020004004212A97
006     1  004A 020016008117A97103100003000
006     1  005A 030004006910A97400516003686                  1
110
111  680.00    1.00000    3.11
112  663.78  664.00  665.00  666.00  667.00  668.00  669.00  670.00  672.00  675.00
112  676.00  677.00  680.00  681.00
113   0.000   0.360   1.540   2.880   4.280   5.740   7.250   8.820  12.320  17.580
113  19.670  21.760  28.030  30.120
114    0.00    0.26    7.60   23.50   45.67   71.69   98.81  118.64  148.37  188.54
114  210.58  236.61  302.67  324.69
110
006     1  006B 020046002208A97100560004500
006     1  007B 010046002306A97400121003586                  1
110
111  665.00    1.00000    4.56
112  657.00  658.00  659.00  660.00  661.00  662.00  663.00  664.00  665.00  666.00
113   0.000   0.710   1.450   2.240   3.070   3.920   4.890   5.850   6.850   7.850
114    0.00    5.56   18.98   35.19   50.07   67.10   90.17  114.77  137.09  159.41
110
006     1  008AB010         A97400394003686
```

```
006     1  009A 030000002211A97502080002950
006     1  010A 030036004309A97
006     1  011A 010      099A97
006     1  012B 020077001410A97400090000500
006     1  013C 020089001809A97400034002000
006     1  014BC010         A97400416003600
006     1  015B 020025007115A97200300000500
006     1  016B 010      099A97400193016500
006     1  017B 010      099A97400324001600
006     1  018C 050016001406A97400420004000
006     1  019C 020028001205A97
006     1  020C 030040001306A97400450007300
006     1  021D 040028000905A97400360001100
006     1  022E 040012001107A97400150005300
006     1  023E 040030001005A97
006     1  024DE010         A97400680004700
006     1  025D 020030000506A97400250001200
006     1  026D 050030001005A97400740001200
006     1  027D 020032000605A97
006     1  028CD010         A97                              1
110
111  720.00    1.00000    3.01
112  712.50  713.00  714.00  715.00  716.00  717.00  718.00  719.00  720.00  721.00
113   0.000   0.390   1.210   2.070   2.980   3.930   4.920   5.960   7.050   8.150
114    0.00    1.67   12.04   27.50   43.60   62.27   86.09  111.17  133.82  154.00
110
006     1  029BC010         A97400314019700
006     1  030B 010000000907A97102300001830
006     1  031B 010      099A97200300001000
006     1  032B 020018006919A97
006     1  033AB010         A97501163003560
006     1  034C 020024004212A97301200007500
006     1  035C 020028001710A97301100001800
006     1  036C 050045001906A97
006     1  037D 050060001006A97300800001250
006     1  038D 010074000806A97
006     1  039CD010         A97300900001100
```


VCRat Model Input

Model Lines

```
006     1  040E 040093001109A97
006     1  041E 040014000909A97
006     1  042CE010         A97400850000900
006     1  043C 050060003112A97
006     1  044AC010         A97501450000800                  11
006     1  045A 040050005112A97500710000740                  1
006     1  046A 030006002715A97
006     1  047B 020006002910A97100275007300
```

```
006     1  048B 050006004409A97101850003800
006     1  049B 050006003414A97                          1
006     1  050AB010         A97502750000575               1
006     1  051A 040002003211A97500750000540              1
006     1  052B 040006005411A97103800004000
006     1  053B 040006007311A97101700004120
006     1  054B 040006005810A97101900003950
006     1  055B 040016004909A97
006     1  056C 040030008410A97
006     1  057BC010         A97100500001540
006     1  058D 040004007210A97101100002270
006     1  059E 050030003811A97
006     1  060DE010         A97101300001310
006     1  061B 050000004014A97
006     1  062BD010         A97                           11
006     1  063AB010         A97501350000510
006     1  064A 020026007019A97501275000470
006     1  065C 050061006312A97401480000490
006     1  066C 050070006312A97401350000840
006     1  067C 040040004610A97                          1
006     1  068AC010         A97501575000470
006     1  069A 050015004310A97
006     1  070B 040005006416A97101976004000
006     1  071B 040005005914A97102000004000
006     1  072B 040005004819A97101250004000
006     1  073B 030005006815A97101900004000
006     1  074B 040005008218A97103400004000
006     1  075B 030010011321A97102225004000
006     1  076B 040010009519A97101948004000
006     1  077C 020005006815A97
006     1  078C 030005007020A97102600004000
006     1  079C 030005005621A97102485004000
006     1  080D 030010009620A97101700004000
006     1  081D 020005006918A97102200004000
006     1  082D 030015004619A97102112004000
006     1  083CD010         A97101600004000
006     1  084C 030015004815A97
006     1  085D 050015008522A97
006     1  086CD010         A97101782003000
006     1  087C 030010007520A97
006     1  088D 010015004520A97101700003000
006     1  089CD010         A97
006     1  090E 040005005318A97
006     1  091F 010010006921A97100400004000
006     1  092EF010         A97
006     1  093E 030015007520A97101300004000
006     1  094E 020000003221A97101300004000
006     1  095F 010015005722A97101600004000
006     1  096F 010025006818A97101400004000
006     1  097EF010         A97102000003000
006     1  098E 020005010417A97
006     1  099E 020010005712A97101393003000
006     1  100CE010         A97101800003000
```

```
006     1  101C 030005004009A97
006     1  102BC010         A97101930003000
006     1  103B 040010008711A97101950003000
006     1  104C 040020006512A97 00250003000
006     1  105C 040015005912A97 01390003000
006     1  106C 040015005111A97 02000002000
006     1  107BC010         A97101750003000
006     1  108B 040030008912A97
006     1  109C 030005004911A97
006     1  110BC010         A97
006     1  111B 030015006911A97101900001500
006     1  112C 040030004410A97
006     1  113BC010         A97
```

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-EXISTING CONDITION 100YR (2017)

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VCRat Model Input

Model Lines

```
---------------------------------------------------------------------------------------------------
006     1  114B 030010008712A97101700001500
006     1  115B 030010007112A97100900001500
006     1  116B 030005002109A97101000001500
006     1  117B 030005003010A97202500001500
006     1  118C 040010006211A97
006     1  119BC010         A97
006     1  120D 030000003912A97
006     1  121BD010         A97500892001500
006     1  122AB010         A97501000001500
006     1  123A 060050002509A97
006     1  124A 060005017620A97503100001500                  1
006     1  125A 010      099A97                              1  2
999
```

APPENDIX 5-b

VCRAT Interim Condition Model Input/Output

```
PROGRAM VCRAT2.64PROJ
PROJECT 4 WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)
DESCRIP PROPOSED MODEL AS OF 07/30/2019
DESCRIP 2017 HYDROLOGY MANUAL
DESCRIP 100 YR INTERIM CONDITION MODEL
DESCRIP US 45A - MERGED PACE/RBF/HALL-FOREMAN MODELS, 2018 LAND USE CONDITION
DESCRIP INCLUDES REG BASIN 0
DESCRIP INCLUDES IN-TRACT 5187 BASINS 1 AND 2
DESCRIP DOES NOT INCLUDE PROPOSED BASIN 1 AT CASEY ROAD (NOT BUILT AS OF 07/30/2019)
JOB 1 1 100
CURVESET VC2016
RAIN1 REV1
PATHTYPE Relative
OUTPUT *.out
SUBAREA 1 A 0
DESCRIP WC HEADWATERS (AG DAM NOT MODELED)
SUBPARAMS 100 12 010 RAIN1 20
MISCPARAMS N
ROUTING 1 2450 0.04000
SUBAREA 2 A 0
DESCRIP WC HEADWATERS
SUBPARAMS 45 4 010 RAIN1 16
MISCPARAMS N
ROUTING 1 275 0.02500
SUBAREA 3 A 0
DESCRIP WC HEADWATERS
SUBPARAMS 42 4 020 RAIN1 12
MISCPARAMS N
SUBAREA 4 A 0
DESCRIP WC HEADWATERS
SUBPARAMS 81 16 020 RAIN1 17
MISCPARAMS N
ROUTING 1 3100 0.03000
SUBAREA 5 A 0
DESCRIP WALNUT CANYON (BASIN 0) DETENTION BASIN DD3-37 (FATTENED)
SUBPARAMS 69 4 030 RAIN1 10
MISCPARAMS Y
RESERVOIR 5 A
DESCRIP BASIN 0 ZERO
FATSCS 69 6.50
DAM 680.00 681.00
USERES Y
STAGE   1    663.78   664.00   665.00   666.00   667.00   668.00   669.00   670.00
STORAGE 1     0.000    0.360    1.540    2.880    4.280    5.740    7.250    8.820
OUTFLOW 1      0.00     0.26     7.60    23.50    45.67    71.69    98.81   118.64
STAGE   9    672.00   675.00   676.00   677.00   680.00   681.00
STORAGE 9    12.320   17.580   19.670   21.760   28.030   30.120
OUTFLOW 9    148.37   188.54   210.58   236.61   302.67   324.69
ROUTING 4 516 0.03686 -1.00
SUBAREA 6 B 0
DESCRIP MERIDIAN HILLS EAST
SUBPARAMS 22 46 020 RAIN1 8
MISCPARAMS N
ROUTING 1 560 0.04500
SUBAREA 7 B 0
DESCRIP MERIDIAN HILLS EAST - IN-TRACT BASIN 5187-1 (DRAINS DIRECT TO WCC) (FATTENED)
```

```
SUBPARAMS 23 46 010 RAIN1 6
MISCPARAMS N
RESERVOIR 7 B
DESCRIP IN-TRACT BASIN AT "BASIN 1A"
FATSCS 83 6.50
DAM 665.00 666.00
USERES Y
STAGE   1    657.00   658.00   659.00   660.00   661.00   662.00   663.00   664.00
STORAGE 1     0.000    0.710    1.450    2.240    3.070    3.920    4.890    5.850
OUTFLOW 1      0.00     5.56    18.98    35.19    50.07    67.10    90.17   114.77
STAGE   9    665.00   666.00
STORAGE 9     6.850    7.850
OUTFLOW 9    137.09   159.41
ROUTING 4 121 0.03586 -1.00
SUBAREA 8 A 2 B
DESCRIP WCC HEADWATERS/BASIN 0 OUTFLOW + MERIDIAN HILLS EAST OUTFLOW FROM IN-TRACT BASIN 5187-1
MISCPARAMS N N
ROUTING 4 967 0.03686 -1.00
SUBAREA 9 A 0
DESCRIP WALNUT CANYON RD (LOCAL) DIRECT TO WCC
SUBPARAMS 22 0 030 RAIN1 11
MISCPARAMS N
ROUTING 5 2100 0.02950 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 10 A 0
DESCRIP WALNUT CANYON RD (LOCAL) DIRECT TO WCC [OLD 7A]
SUBPARAMS 43 36 030 RAIN1 9
MISCPARAMS N
SUBAREA 11 A 1
DESCRIP WALNUT CANYON RD (LOCAL) DIRECT TO WCC
MISCPARAMS N
SUBAREA 12 B 0
DESCRIP MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
SUBPARAMS 16 77 020 RAIN1 10
MISCPARAMS N
ROUTING 4 90 0.00500 -1.00
SUBAREA 13 C 0
DESCRIP MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
SUBPARAMS 18 45 020 RAIN1 9
MISCPARAMS N
ROUTING 4 34 0.02000 -1.00
SUBAREA 14 B 2 C
DESCRIP MERIDIAN HILLS WEST [OLD 9BC]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
MISCPARAMS N N
ROUTING 4 1416 0.03600 -1.00
SUBAREA 15 B 0
DESCRIP MERIDIAN HILLS WEST [OLD 15C]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
SUBPARAMS 80 25 020 RAIN1 15
MISCPARAMS N
ROUTING 2 1000 0.00500
SUBAREA 16 B 1
DESCRIP MERIDIAN HILLS WEST [OLD 16AB]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
MISCPARAMS N
SUBAREA 17 B 1
DESCRIP MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
MISCPARAMS N
```

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SUBAREA 18 C 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 14 16 050 RAIN1 6
MISCPARAMS N
ROUTING 4 420 0.04000 -1.00
SUBAREA 19 C 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 12 28 020 RAIN1 5
MISCPARAMS N
ROUTING 4 100 0.04000 -1.00
SUBAREA 20 C 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 13 40 030 RAIN1 6
MISCPARAMS N
ROUTING 4 450 0.07300 -1.00
SUBAREA 21 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 9 28 040 RAIN1 5
MISCPARAMS N
ROUTING 4 360 0.01100 -1.00
SUBAREA 22 E 0
DESCRIP MERIDIAN HILLS WEST (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 11 12 040 RAIN1 7
MISCPARAMS N
ROUTING 4 150 0.05300 -1.00
SUBAREA 23 E 0
DESCRIP MERIDIAN HILLS WEST (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 10 30 040 RAIN1 5
MISCPARAMS N
SUBAREA 24 D 2 E
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
MISCPARAMS N N
ROUTING 4 680 0.04700 -1.00
SUBAREA 25 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 5 30 020 RAIN1 6
MISCPARAMS N
ROUTING 4 250 0.01200 -1.00
SUBAREA 26 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 10 30 050 RAIN1 5
MISCPARAMS N
ROUTING 4 740 0.01200 -1.00
SUBAREA 27 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 6 32 020 RAIN1 5
MISCPARAMS N
SUBAREA 28 C 2 D
DESCRIP MERIDIAN HILLS WEST - IN-TRACT BASIN 5187-2 [OLD 31BC] DRAINS TO PROPOSED/NOT BUILT BASIN 1 AT CASEY RD
MISCPARAMS N N
RESERVOIR 28 C
DESCRIP OLD 31BC
FATSCS 68 6.50
DAM 720.00 721.00
USERES Y
STAGE   1    712.50   713.00   714.00   715.00   716.00   717.00   718.00   719.00
```

```
STORAGE 1     0.000    0.390    1.210    2.070    2.980    3.930    4.920    5.960
OUTFLOW 1      0.00     1.67    12.04    27.50    43.60    62.27    86.09   111.17
STAGE   9    720.00   721.00
STORAGE 9     7.050    8.150
OUTFLOW 9    133.82   154.00
SUBAREA 29 B 2 C
DESCRIP COMBINES WEST MERIDIAN HILLS OUTFLOW (IN-TRACT BASIN 5187-2 + BY-PASS FLOW)
MISCPARAMS N N
ROUTING 4 314 0.19700 -1.00
SUBAREA 30 B 0
DESCRIP LOCAL CASEY ROAD
SUBPARAMS 9 0 010 RAIN1 7
MISCPARAMS N
ROUTING 1 2300 0.01830
SUBAREA 31 B 1
DESCRIP LOCAL CASEY ROAD
MISCPARAMS N
SUBAREA 32 B 0
DESCRIP LOCATION OF PROPOSED BASIN 1 AT CASEY ROAD ****NOT BUILT AS OF 07/30/19****
SUBPARAMS 69 18 020 RAIN1 19
MISCPARAMS N
SUBAREA 33 A 2 B
DESCRIP COMBINED OUTFLOW FROM WCC MAIN AND WSHD DRAINING TO PROP BASIN 1 AT CASEY RD ****NO BUILT AS OF 07/30/2019****
MISCPARAMS N N
ROUTING 5 1163 0.03560 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 34 C 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 42 24 020 RAIN1 12
MISCPARAMS N
ROUTING 3 1200 0.07500
SUBAREA 35 C 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 17 28 020 RAIN1 10
MISCPARAMS N
ROUTING 3 1100 0.01800
SUBAREA 36 C 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 19 45 050 RAIN1 6
MISCPARAMS N
SUBAREA 37 D 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 10 60 050 RAIN1 6
MISCPARAMS N
ROUTING 3 800 0.01250
SUBAREA 38 D 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 8 74 010 RAIN1 6
MISCPARAMS N
SUBAREA 39 C 2 D
DESCRIP MOORPARK DRAIN NO.1
MISCPARAMS N N
ROUTING 3 900 0.01100
SUBAREA 40 E 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 11 93 040 RAIN1 9
```

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MISCPARAMS N
SUBAREA 41 E 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 9 14 040 RAIN1 9
MISCPARAMS N
SUBAREA 42 C 2 E
DESCRIP MOORPARK DRAIN NO.1
MISCPARAMS N N
ROUTING 4 850 0.00900 -1.00
SUBAREA 43 C 0
DESCRIP MOORPARK DRAIN NO.1 - (LOCAL 43C = MOORPARK LIBRARY/CITY HALL/CIVIC CENTER)
SUBPARAMS 31 60 050 RAIN1 12
MISCPARAMS N
SUBAREA 44 A 2 C
DESCRIP WCC MAIN + MOORPARK DRAIN NO. 1 (OLD 28AC WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE)
MISCPARAMS N N
ROUTING 5 1450 0.00800 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 45 A 0
DESCRIP POST OFFICE, WC SCHOOL, AND PROPOSED ESSEX (FATTENING REDUCES VOLUME [RUNOFF FACTOR = 2.9] ---NO FATTENING USED)
SUBPARAMS 30 50 040 RAIN1 12
MISCPARAMS Y
ROUTING 5 450 0.00740 -1
CHANLDATA 0.00000 0.014 0.014
```

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Modified Rational Model Results Report

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Project Description

PROPOSED MODEL AS OF 07/30/2019
2017 HYDROLOGY MANUAL
100 YR INTERIM CONDITION MODEL
US 45A - MERGED PACE/RBF/HALL-FOREMAN MODELS, 2018 LAND USE CONDITION
INCLUDES REG BASIN 0
INCLUDES IN-TRACT 5187 BASINS 1 AND 2
DOES NOT INCLUDE PROPOSED BASIN 1 AT CASEY ROAD (NOT BUILT AS OF 07/30/2019)

VCRat version: 2.64.0.37
VCRain version: 201801
DOS EXE version: PC 2.64-201605
VCRain Curve Set: VCWPD 2016 Revised Curve Set
Curve A: REV1: South Mountain to Moorpark
Curve B: None
Curve C: None
Curve D: None

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)
Page: 2

Model Results

SUBAREA DATA AND RESULTS							ACCUMULATED DATA			ROUTING AFTER ACCUMULATION							
NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	AREA (AC)	FLOW (CFS)	TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
1A : WC HEADWATERS (AG DAM NOT MODELED)																		
1A	010	A100	20	12	100	134	100	134	1160	MOUNTAIN	2450	0.04000	---	----	-----	-----	--	--
2A : WC HEADWATERS																		
2A	010	A100	16	4	45	64	145	179	1164	MOUNTAIN	275	0.02500	---	----	-----	-----	--	--
3A : WC HEADWATERS																		
3A	020	A100	12	4	42	65	187	218	1160	-------	----	-------	---	----	-----	-----	--	--
4A : WC HEADWATERS																		
4A	020	A100	17	16	81	114	268	331	1160	MOUNTAIN	3100	0.03000	---	----	-----	-----	--	--
5A : WALNUT CANYON (BASIN 0) DETENTION BASIN DD3-37 (FATTENED)																		

```
5A   030   A100   10    4     69    113      337     330   1169    PIPE        516  0.03686      4.25  ----    -----  -----    --     --
 5A :  BASIN 0 ZERO
     ********************************************************************************************
     *      INCOMING HYDROGRAPH  PEAK (cfs):    329.32         VOLUME (acre-ft):     45.34      *
     *      NO HYDROGRAPH ADJUSTMENT                                                            *
     *      RUNOFF FACTOR(in):   3.11      TOTAL RAIN(in):   6.50      SCS Curve: 69            *
     *      FATTENED HYDROGRAPH  PEAK (cfs):    329.32         VOLUME (acre-ft):     87.30      *
     *      RESERVOIR INFLOW:    PEAK (cfs):    329.32 @ 1169  VOLUME (acre-ft):     87.30      *
     *      MAXIMUM ELEVATION:   STAGE (ft):    675.67 @ 1198  VOLUME (acre-ft):     18.98      *
     *      EMERGENCY SPILLWAY:   ELEV (ft):    680.00         VOLUME (acre-ft):     28.03      *
     *          DIFFERENCE:   IN STAGE (ft):     -4.33      IN VOLUME (acre-ft):      9.05      *
     *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     32.3%      *
     *      TOP OF DAM:           ELEV (ft):    681.00         VOLUME (acre-ft):     30.12      *
     *          DIFFERENCE    IN STAGE (ft):     -5.33      IN VOLUME (acre-ft):     11.14      *
     *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     37.0%      *
     *      RESERVOIR OUTFLOW:   PEAK (cfs):    203.27 @ 1198  VOLUME (acre-ft):     80.88      *
     ********************************************************************************************
5A   ---   ---    --   --    ---    ---      337     203   1198    -------    ----  -------    ---     ----    -----  -----    --     --
6B :  MERIDIAN HILLS EAST
6B   020   A100    8   46     22     58       22      58   1153    MOUNTAIN    560  0.04500    ---     ----    -----  -----    --     --
7B :  MERIDIAN HILLS EAST - IN-TRACT BASIN 5187-1 (DRAINS DIRECT TO WCC) (FATTENED)
7B   010   A100    6   46     23     73       45     118   1154    PIPE        121  0.03586      3.00  ----    -----  -----    --     --
 7B :  IN-TRACT BASIN AT "BASIN 1A"
     ********************************************************************************************
     *      INCOMING HYDROGRAPH  PEAK (cfs):    117.64         VOLUME (acre-ft):     13.76      *
     *      NO HYDROGRAPH ADJUSTMENT                                                            *
     *      RUNOFF FACTOR(in):   4.56      TOTAL RAIN(in):   6.50      SCS Curve: 83            *
     *      FATTENED HYDROGRAPH  PEAK (cfs):    117.64         VOLUME (acre-ft):     17.11      *
     *      RESERVOIR INFLOW:    PEAK (cfs):    117.64 @ 1154  VOLUME (acre-ft):     17.11      *
     *      MAXIMUM ELEVATION:   STAGE (ft):    661.19 @ 1165  VOLUME (acre-ft):      3.23      *
     *      EMERGENCY SPILLWAY:   ELEV (ft):    665.00         VOLUME (acre-ft):      6.85      *
     *          DIFFERENCE:   IN STAGE (ft):     -3.81      IN VOLUME (acre-ft):      3.62      *
     *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     52.8%      *
     *      TOP OF DAM:           ELEV (ft):    666.00         VOLUME (acre-ft):      7.85      *
     *          DIFFERENCE    IN STAGE (ft):     -4.81      IN VOLUME (acre-ft):      4.62      *
     *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     58.8%      *
     *      RESERVOIR OUTFLOW:   PEAK (cfs):     53.32 @ 1165  VOLUME (acre-ft):     15.79      *
     ********************************************************************************************
 7B   ---   ---    --   --    ---    ---       45      53   1165    -------    ----  -------    ---     ----    -----  -----    --     --
 8AB:  WCC HEADWATERS/BASIN 0 OUTFLOW + MERIDIAN HILLS EAST OUTFLOW FROM IN-TRACT BASIN 5187-1
 8AB  ---   ---    --   --     45     53      382     244   1191    PIPE        967  0.03686      3.75  ----    -----  -----    --     --
 9A :  WALNUT CANYON RD (LOCAL) DIRECT TO WCC
 9A   030   A100   11    0     22     33      404     244   1190    CHANNEL    2100  0.02950      5     0.00    0.014  0.014    --     --
10A :  WALNUT CANYON RD (LOCAL) DIRECT TO WCC [OLD 7A]
10A  030   A100    9   36     43     98      447     316   1157    -------    ----  -------    ---     ----    -----  -----    --     --
11A :  WALNUT CANYON RD (LOCAL) DIRECT TO WCC
11A  ---   ---    --   --    ---    ---      447     316   1157    -------    ----  -------    ---     ----    -----  -----    --     --
12B :  MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
12B  020   A100   10   77     16     46       16      46   1154    PIPE         90  0.00500      3.00  ----    -----  -----    --     --
13C :  MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
13C  020   A100    9   45     18     45       18      45   1153    PIPE         34  0.02000      2.25  ----    -----  -----    --     --
14BC:  MERIDIAN HILLS WEST [OLD 9BC]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
14BC ---   ---    --   --     18     45       34      91   1154    PIPE       1416  0.03600      2.75  ----    -----  -----    --     --
15B :  MERIDIAN HILLS WEST [OLD 15C]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
15B  020   A100   15   25     80    131      114     219   1156    VALLEY     1000  0.00500    ---     ----    -----  -----    --     --
16B :  MERIDIAN HILLS WEST [OLD 16AB]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
```

```
   16B   ---   ---    --   --    ---    ---      114     207   1162    -------    ----  -------    ---     ----    -----  -----    --     --
   17B :  MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
   17B   ---   ---    --   --    ---    ---      114     207   1162    -------    ----  -------    ---     ----    -----  -----    --     --
   18C :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
   18C   050   A100    6   16     14     30       14      30   1153    PIPE        420  0.04000      2.00  ----    -----  -----    --     --
   19C :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
   19C   020   A100    5   28     12     36       26      64   1153    PIPE        100  0.04000      2.25  ----    -----  -----    --     --
```


Model Results

```
   |---------- SUBAREA DATA AND RESULTS --------|-- ACCUMULATED DATA --|------------ ROUTING AFTER ACCUMULATION ---------------------------------|
   | NODE   SOIL  RAIN   TC    %    AREA  FLOW  |  AREA    FLOW   TIME |  CHANNEL  LENGTH   SLOPE     SIZE    H:V       N VALUES      VEL  DEPTH |
   |  ID    TYPE  ZONE (MIN)  IMP   (AC)  (CFS) |  (AC)    (CFS)  (MIN)|    TYPE    (FT)   (FT/FT)    (FT)    (Z)     CHNL   SIDES  (FT/S)  (FT) |
   |-----------------------------------------|----------------------|-------------------------------------------------------------------------|
   20C :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
   20C   030   A100    6   40     13     38       39     101   1154    PIPE        450  0.07300      2.50  ----    -----  -----    --     --
   21D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
   21D   040   A100    5   28      9     26        9      26   1153    PIPE        360  0.01100      2.25  ----    -----  -----    --     --
   22E :  MERIDIAN HILLS WEST (DRAINS TO IN-TRACT BASIN 5187-2)
   22E   040   A100    7   12     11     22       11      22   1153    PIPE        150  0.05300      2.00  ----    -----  -----    --     --
   23E :  MERIDIAN HILLS WEST (DRAINS TO IN-TRACT BASIN 5187-2)
   23E   040   A100    5   30     10     29       21      51   1153    -------    ----  -------    ---     ----    -----  -----    --     --
   24DE:  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
   24DE  ---   ---    --   --     21     51       30      73   1153    PIPE        680  0.04700      2.50  ----    -----  -----    --     --
   25D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
   25D   020   A100    6   30      5     14       35      85   1154    PIPE        250  0.01200      3.25  ----    -----  -----    --     --
   26D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
   26D   050   A100    5   30     10     28       45     105   1154    PIPE        740  0.01200      3.50  ----    -----  -----    --     --
   27D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
   27D   020   A100    5   32      6     19       51     113   1155    -------    ----  -------    ---     ----    -----  -----    --     --
   28CD:  MERIDIAN HILLS WEST - IN-TRACT BASIN 5187-2 [OLD 31BC] DRAINS TO PROPOSED/NOT BUILT BASIN 1 AT CASEY RD
   28CD  ---   ---    --   --     51    113       90     208   1155    -------    ----  -------    ---     ----    -----  -----    --     --
    28C :  OLD 31BC
   ********************************************************************************************
   *      INCOMING HYDROGRAPH  PEAK (cfs):    208.16         VOLUME (acre-ft):     17.56      *
   *      NO HYDROGRAPH ADJUSTMENT                                                            *
   *      RUNOFF FACTOR(in):   3.01      TOTAL RAIN(in):   6.50      SCS Curve: 68            *
   *      FATTENED HYDROGRAPH  PEAK (cfs):    208.16         VOLUME (acre-ft):     22.58      *
   *      RESERVOIR INFLOW:    PEAK (cfs):    208.16 @ 1155  VOLUME (acre-ft):     22.58      *
   *      MAXIMUM ELEVATION:   STAGE (ft):    717.96 @ 1162  VOLUME (acre-ft):      4.88      *
   *      EMERGENCY SPILLWAY:   ELEV (ft):    720.00         VOLUME (acre-ft):      7.05      *
   *          DIFFERENCE:   IN STAGE (ft):     -2.04      IN VOLUME (acre-ft):      2.17      *
   *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     30.8%      *
   *      TOP OF DAM:           ELEV (ft):    721.00         VOLUME (acre-ft):      8.15      *
   *          DIFFERENCE    IN STAGE (ft):     -3.04      IN VOLUME (acre-ft):      3.27      *
   *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     40.1%      *
   *      RESERVOIR OUTFLOW:   PEAK (cfs):     85.10 @ 1162  VOLUME (acre-ft):     20.99      *
   ********************************************************************************************
   28C   ---   ---    --   --    ---    ---       90      85   1162    -------    ----  -------    ---     ----    -----  -----    --     --
   29BC:  COMBINES WEST MERIDIAN HILLS OUTFLOW (IN-TRACT BASIN 5187-2 + BY-PASS FLOW)
   29BC  ---   ---    --   --     90     85      204     292   1162    PIPE        314  0.19700      3.00  ----    -----  -----    --     --
   30B :  LOCAL CASEY ROAD
   30B   010   A100    7    0      9     19      213     297   1163    MOUNTAIN   2300  0.01830    ---     ----    -----  -----    --     --
```

```
31B :  LOCAL CASEY ROAD
31B   ---   ---    --   --    ---    ---      213     269   1172    -------    ----  -------    ---     ----    -----  -----    --     --
32B :  LOCATION OF PROPOSED BASIN 1 AT CASEY ROAD ****NOT BUILT AS OF 07/30/19****
32B   020   A100   19   18     69     93      282     321   1168    -------    ----  -------    ---     ----    -----  -----    --     --
33AB:  COMBINED OUTFLOW FROM WCC MAIN AND WSHD DRAINING TO PROP BASIN 1 AT CASEY RD ****NO BUILT AS OF 07/30/2019****
33AB  ---   ---    --   --    282    321      729     578   1167    CHANNEL    1163  0.03560      7     0.00    0.014  0.014    --     --
34C :  MOORPARK DRAIN NO.1
34C   020   A100   12   24     42     77       42      77   1154    40' ROAD   1200  0.07500    ---     ----    -----  -----    --     --
35C :  MOORPARK DRAIN NO.1
35C   020   A100   10   28     17     36       59     107   1158    40' ROAD   1100  0.01800    ---     ----    -----  -----    --     --
36C :  MOORPARK DRAIN NO.1
36C   050   A100    6   45     19     54       78     115   1162    -------    ----  -------    ---     ----    -----  -----    --     --
37D :  MOORPARK DRAIN NO.1
37D   050   A100    6   60     10     32       10      32   1153    40' ROAD    800  0.01250    ---     ----    -----  -----    --     --
38D :  MOORPARK DRAIN NO.1
38D   010   A100    6   74      8     29       18      47   1154    -------    ----  -------    ---     ----    -----  -----    --     --
39CD:  MOORPARK DRAIN NO.1
39CD  ---   ---    --   --     18     47       96     156   1154   #PIPE       900  0.01100     4.00  ----    -----  -----    --     --
40E :  MOORPARK DRAIN NO.1
40E   040   A100    9   93     11     36       11      36   1153    -------    ----  -------    ---     ----    -----  -----    --     --
41E :  MOORPARK DRAIN NO.1
41E   040   A100    9   14      9     16       20      52   1153    -------    ----  -------    ---     ----    -----  -----    --     --
42CE:  MOORPARK DRAIN NO.1
42CE  ---   ---    --   --     20     52      116     201   1157    PIPE        850  0.00900     4.75  ----    -----  -----    --     --
43C :  MOORPARK DRAIN NO.1 - (LOCAL 43C = MOORPARK LIBRARY/CITY HALL/CIVIC CENTER)
43C   050   A100   12   60     31     70      147     266   1158    -------    ----  -------    ---     ----    -----  -----    --     --
44AC:  WCC MAIN + MOORPARK DRAIN NO. 1 (OLD 28AC WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE)
44AC  ---   ---    --   --    147    266      876     818   1158    CHANNEL    1450  0.00800     10     0.00    0.014  0.014    --     --
45A :  POST OFFICE, WC SCHOOL, AND PROPOSED ESSEX (FATTENING REDUCES VOLUME [RUNOFF FACTOR = 2.9] ---NO FATTENING USED)
45A   040   A100   12   50     30     64      906     871   1160    CHANNEL     450  0.00740     10     0.00    0.014  0.014    --     --
```


Issue/Warning Messages

TYPE	ERR NO	PROCEDURE	LOCATION	MESSAGE
NO ISSUES OR WARNINGS DETECTED				

RESERVOIR ROUTING AT 5A

DESCRIPTION: BASIN 0 ZERO

```
**********************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):    329.32         VOLUME (acre-ft):     45.34      *
*      NO HYDROGRAPH ADJUSTMENT                                                  *
*      RUNOFF FACTOR(in):   3.11      TOTAL RAIN(in):   6.50      SCS Curve: 69          *
*      FATTENED HYDROGRAPH  PEAK (cfs):    329.32         VOLUME (acre-ft):     87.30      *
*      RESERVOIR INFLOW:    PEAK (cfs):    329.32 @ 1169  VOLUME (acre-ft):     87.30      *
*      MAXIMUM ELEVATION:   STAGE (ft):    675.67 @ 1198  VOLUME (acre-ft):     18.98      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    680.00         VOLUME (acre-ft):     28.03      *
*          DIFFERENCE:   IN STAGE (ft):     -4.33      IN VOLUME (acre-ft):      9.05      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     32.3%      *
*      TOP OF DAM:           ELEV (ft):    681.00         VOLUME (acre-ft):     30.12      *
```

```
*          DIFFERENCE    IN STAGE (ft):     -5.33      IN VOLUME (acre-ft):     11.14      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     37.0%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):    203.27 @ 1198  VOLUME (acre-ft):     80.88      *
*****************************************************************************************

 TIME   PRE-ADJ   PRE-FAT   INFLOW   OUTFLOW  ELEVATION
 (min)   (cfs)     (cfs)     (cfs)    (cfs)     (feet)
 ---------------------------------------------------
   0      0.00      0.00      0.00      0.00     663.78
 100      4.22      4.22      5.19      0.13     663.89
 200      4.22      4.22      6.54      2.78     664.34
 300      4.22      4.22      7.04      5.03     664.65
 400      4.22      4.22      7.73      6.30     664.82
 500      4.22      4.22      8.69      7.28     664.96
 600      4.51      4.51     10.41      8.79     665.07
 700      5.76      5.76     13.85     10.97     665.21
 800      6.71      6.71     18.52     14.49     665.43
 900      7.97      7.97     26.77     19.84     665.77
1000     17.62     17.62     51.08     33.06     666.43
1050     34.51     34.51     80.97     51.52     667.22
1100     65.87     65.87    131.92     83.40     668.43
1110     87.31     87.31    154.70     95.46     668.88
1120    115.99    115.99    182.25    107.01     669.41
1130    147.60    147.60    210.86    119.77     670.08
1131    151.30    151.30    213.99    120.85     670.15
1132    154.63    154.63    216.88    121.95     670.22
1133    157.94    157.94    219.73    123.07     670.30
1134    161.08    161.08    222.45    124.21     670.37
1135    164.21    164.21    225.16    125.37     670.45
1136    167.14    167.14    227.72    126.54     670.53
1137    169.95    169.95    230.19    127.74     670.61
1138    172.61    172.61    232.56    128.94     670.69
1139    175.10    175.10    234.82    130.16     670.77
1140    177.47    177.47    236.98    131.39     670.86
1141    180.08    180.08    239.28    132.63     670.94
1142    182.91    182.91    241.70    133.89     671.03
1143    185.58    185.58    244.00    135.15     671.11
1144    188.06    188.06    246.18    136.43     671.20
1145    191.42    191.42    248.86    137.72     671.28
1146    195.88    195.88    252.15    139.04     671.37
1147    200.11    200.11    255.27    140.37     671.46
1148    204.24    204.24    258.31    141.72     671.55
1149    213.05    213.05    263.94    143.11     671.65
1150    226.92    226.92    272.30    144.57     671.74
1151    241.12    241.12    280.70    146.10     671.85
1152    255.34    255.34    288.96    147.72     671.96
1153    270.03    270.03    297.32    149.30     672.07
1154    280.33    280.33    303.16    150.88     672.19
1155    283.91    283.91    305.34    152.49     672.31
1156    286.47    286.47    306.95    154.09     672.43
1157    291.53    291.53    309.82    155.71     672.55
1158    299.41    299.41    314.08    157.34     672.67
1159    305.21    305.21    317.18    159.00     672.79
1160    306.87    306.87    318.16    160.66     672.92
1161    307.59    307.59    318.66    162.31     673.04
1162    307.35    307.35    318.69    163.95     673.16
```

1163	305.86	305.86	318.13	165.56	673.28
1164	307.54	307.54	319.08	167.17	673.40

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1165	313.45	313.45	321.97	168.77	673.52
1166	319.36	319.36	324.78	170.39	673.64
1167	324.28	324.28	327.06	172.02	673.77
1168	327.77	327.77	328.64	173.65	673.89
1169	329.32	329.32	329.32	175.27	674.01
1170	329.14	329.14	329.24	176.88	674.13
1171	326.99	326.99	328.27	178.47	674.25
1172	322.39	322.39	326.16	180.03	674.36
1173	315.52	315.52	322.94	181.54	674.48
1174	306.87	306.87	318.80	183.00	674.59
1175	297.38	297.38	314.14	184.40	674.69
1176	288.25	288.25	309.54	185.73	674.79
1177	278.16	278.16	304.35	187.00	674.88
1178	268.01	268.01	299.02	188.20	674.97
1179	258.62	258.62	293.95	189.63	675.05
1180	249.77	249.77	289.04	191.10	675.12
1181	241.57	241.57	284.37	192.48	675.18
1182	233.76	233.76	279.80	193.77	675.24
1183	225.96	225.96	275.16	194.98	675.29
1184	218.20	218.20	270.47	196.10	675.34
1185	210.42	210.42	265.68	197.14	675.39
1186	202.56	202.56	260.78	198.09	675.43
1187	194.86	194.86	255.88	198.96	675.47
1188	187.17	187.17	250.92	199.74	675.51
1189	179.28	179.28	245.78	200.45	675.54
1190	171.42	171.42	240.59	201.06	675.57
1191	163.73	163.73	235.42	201.59	675.59
1192	156.40	156.40	230.40	202.05	675.61
1193	149.39	149.39	225.50	202.42	675.63
1194	142.90	142.90	220.85	202.72	675.64
1195	137.09	137.09	216.55	202.95	675.65
1196	131.68	131.68	212.44	203.12	675.66
1197	126.44	126.44	208.40	203.22	675.67
1198	121.35	121.35	204.42	203.27	675.67
1199	116.45	116.45	200.52	203.26	675.67
1200	111.79	111.79	196.73	203.19	675.66
1201	107.21	107.21	192.97	203.07	675.66
1202	102.98	102.98	189.40	202.90	675.65
1203	98.99	98.99	185.96	202.68	675.64
1204	95.13	95.13	182.59	202.41	675.63
1205	91.39	91.39	179.27	202.10	675.62
1206	87.82	87.82	176.04	201.75	675.60
1207	84.44	84.44	172.92	201.36	675.58

1208	81.10	81.10	169.82	200.92	675.56
1209	77.90	77.90	166.79	200.45	675.54
1210	74.83	74.83	163.84	199.95	675.52
1211	71.94	71.94	160.99	199.41	675.49
1212	69.31	69.31	158.32	198.83	675.47
1213	66.88	66.88	155.77	198.23	675.44
1214	64.62	64.62	153.33	197.60	675.41
1215	62.45	62.45	150.95	196.94	675.38
1216	60.42	60.42	148.66	196.27	675.35
1217	58.51	58.51	146.45	195.56	675.32
1218	56.70	56.70	144.31	194.84	675.29
1219	54.96	54.96	142.22	194.10	675.25
1220	53.31	53.31	140.19	193.33	675.22
1221	51.73	51.73	138.21	192.55	675.18
1222	50.23	50.23	136.30	191.75	675.15
1223	48.83	48.83	134.45	190.94	675.11
1224	47.50	47.50	132.66	190.11	675.07
1225	46.20	46.20	130.89	189.27	675.03
1226	44.93	44.93	129.16	188.45	674.99
1227	43.71	43.71	127.45	187.82	674.95
1228	42.54	42.54	125.79	187.18	674.90
1229	41.44	41.44	124.19	186.53	674.85
1230	40.40	40.40	122.64	185.87	674.80
1231	39.41	39.41	121.12	185.20	674.75
1232	38.45	38.45	119.63	184.52	674.70
1233	37.52	37.52	118.18	183.84	674.65
1234	36.69	36.69	116.80	183.14	674.60
1235	35.98	35.98	115.51	182.44	674.54

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1236	35.34	35.34	114.29	181.73	674.49
1237	34.72	34.72	113.08	181.02	674.44
1238	34.13	34.13	111.91	180.30	674.39
1239	33.46	33.46	110.68	179.58	674.33
1240	32.78	32.78	109.44	178.86	674.28
1241	32.08	32.08	108.21	178.12	674.22
1242	31.38	31.38	106.98	177.38	674.17
1243	30.69	30.69	105.77	176.64	674.11
1244	30.00	30.00	104.56	175.89	674.06
1245	29.32	29.32	103.37	175.14	674.00
1246	28.65	28.65	102.18	174.38	673.94
1247	27.99	27.99	101.01	173.62	673.89
1248	27.33	27.33	99.85	172.86	673.83
1249	26.69	26.69	98.71	172.09	673.77
1250	26.05	26.05	97.57	171.31	673.71
1251	25.42	25.42	96.45	170.53	673.66
1252	24.80	24.80	95.35	169.75	673.60

1253	24.21	24.21	94.27	168.97	673.54
1254	23.64	23.64	93.22	168.18	673.48
1255	23.09	23.09	92.18	167.39	673.42
1256	22.56	22.56	91.17	166.60	673.36
1257	22.05	22.05	90.17	165.81	673.30
1258	21.56	21.56	89.20	165.01	673.24
1259	21.09	21.09	88.25	164.21	673.18
1260	20.64	20.64	87.33	163.41	673.12
1261	20.21	20.21	86.41	162.61	673.06
1262	19.80	19.80	85.53	161.81	673.00
1263	19.44	19.44	84.69	161.01	672.94
1264	19.12	19.12	83.89	160.20	672.88
1265	18.81	18.81	83.10	159.40	672.82
1266	18.49	18.49	82.31	158.60	672.76
1267	18.18	18.18	81.53	157.80	672.70
1268	17.88	17.88	80.77	156.99	672.64
1269	17.59	17.59	80.02	156.19	672.58
1270	17.31	17.31	79.28	155.39	672.52
1271	17.01	17.01	78.53	154.59	672.46
1272	16.71	16.71	77.79	153.79	672.40
1273	16.41	16.41	77.06	152.99	672.35
1274	16.12	16.12	76.33	152.19	672.29
1275	15.82	15.82	75.61	151.40	672.23
1276	15.53	15.53	74.89	150.60	672.17
1277	15.25	15.25	74.19	149.80	672.11
1278	14.96	14.96	73.49	149.01	672.05
1279	14.68	14.68	72.80	148.20	671.99
1280	14.40	14.40	72.11	147.32	671.93
1281	14.13	14.13	71.44	146.44	671.87
1282	13.86	13.86	70.77	145.56	671.81
1283	13.59	13.59	70.11	144.69	671.75
1284	13.33	13.33	69.46	143.82	671.69
1285	13.08	13.08	68.82	142.95	671.64
1286	12.83	12.83	68.18	142.08	671.58
1287	12.59	12.59	67.56	141.22	671.52
1288	12.35	12.35	66.95	140.36	671.46
1289	12.12	12.12	66.34	139.50	671.40
1290	11.89	11.89	65.75	138.65	671.35
1291	11.67	11.67	65.16	137.79	671.29
1292	11.46	11.46	64.58	136.95	671.23
1293	11.26	11.26	64.02	136.10	671.17
1294	11.06	11.06	63.46	135.26	671.12
1295	10.87	10.87	62.91	134.42	671.06
1296	10.68	10.68	62.37	133.59	671.01
1297	10.50	10.50	61.84	132.75	670.95
1298	10.32	10.32	61.31	131.93	670.89
1299	10.12	10.12	60.78	131.10	670.84
1300	9.94	9.94	60.25	130.28	670.78
1310	8.51	8.51	55.58	122.40	670.25
1320	7.70	7.70	51.77	113.17	669.72
1330	7.04	7.04	48.39	103.21	669.22
1340	6.41	6.41	45.29	92.54	668.77
1350	5.95	5.95	42.58	82.02	668.38
1360	5.59	5.59	40.15	73.22	668.06

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1370	5.29	5.29	37.96	65.88	667.78
1380	5.03	5.03	35.97	59.68	667.54
1390	4.79	4.79	34.14	54.40	667.34
1400	4.64	4.64	32.52	49.89	667.16
1420	4.43	4.43	29.70	43.13	666.89
1440	4.31	4.31	27.34	38.15	666.66
1460	4.22	4.22	25.31	34.12	666.48
1500	4.22	4.22	22.14	28.45	666.22

Stage - Storage - Discharge Curve for Reservoir at 5A

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
663.78	0.000	0.00
664.00	0.360	0.26
665.00	1.540	7.60
666.00	2.880	23.50
667.00	4.280	45.67
668.00	5.740	71.69
669.00	7.250	98.81
670.00	8.820	118.64
672.00	12.320	148.37
675.00	17.580	188.54
676.00	19.670	210.58
677.00	21.760	236.61
680.00	28.030	302.67
681.00	30.120	324.69

RESERVOIR ROUTING AT 7B

DESCRIPTION: IN-TRACT BASIN AT "BASIN 1A"

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*      INCOMING HYDROGRAPH  PEAK (cfs):    117.64         VOLUME (acre-ft):     13.76      *
*      NO HYDROGRAPH ADJUSTMENT                                                  *
*      RUNOFF FACTOR(in):   4.56      TOTAL RAIN(in):   6.50      SCS Curve: 83          *
*      FATTENED HYDROGRAPH  PEAK (cfs):    117.64         VOLUME (acre-ft):     17.11      *
*      RESERVOIR INFLOW:    PEAK (cfs):    117.64 @ 1154  VOLUME (acre-ft):     17.11      *
*      MAXIMUM ELEVATION:   STAGE (ft):    661.19 @ 1165  VOLUME (acre-ft):      3.23      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    665.00         VOLUME (acre-ft):      6.85      *
*          DIFFERENCE:   IN STAGE (ft):     -3.81      IN VOLUME (acre-ft):      3.62      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     52.8%      *
*      TOP OF DAM:           ELEV (ft):    666.00         VOLUME (acre-ft):      7.85      *
*          DIFFERENCE    IN STAGE (ft):     -4.81      IN VOLUME (acre-ft):      4.62      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     58.8%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):     53.32 @ 1165  VOLUME (acre-ft):     15.79      *
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TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	0.00	657.00
100	2.78	2.78	2.85	0.56	657.10
200	2.78	2.78	2.93	2.09	657.38
300	2.78	2.78	2.97	2.65	657.48
400	2.78	2.78	3.01	2.87	657.52
500	2.78	2.78	3.08	2.98	657.54
600	3.17	3.17	3.56	3.14	657.56
700	4.41	4.41	4.94	3.68	657.66
800	4.51	4.51	5.30	4.58	657.82
900	5.83	5.83	7.11	5.41	657.97
1000	9.55	9.55	11.95	8.50	658.22
1050	13.46	13.46	17.03	12.07	658.48
1100	18.98	18.98	24.83	17.30	658.88
1110	29.42	29.42	35.38	19.72	659.05
1120	39.73	39.73	45.78	24.31	659.33
1130	40.99	40.99	47.88	29.74	659.66
1131	40.78	40.78	47.81	30.25	659.69
1132	40.49	40.49	47.65	30.73	659.73
1133	40.23	40.23	47.53	31.20	659.75
1134	39.92	39.92	47.36	31.66	659.78

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1135	39.74	39.74	47.32	32.09	659.81
1136	39.32	39.32	47.07	32.51	659.83
1137	39.28	39.28	47.16	32.92	659.86
1138	39.10	39.10	47.13	33.32	659.88
1139	39.01	39.01	47.18	33.70	659.91
1140	38.85	38.85	47.18	34.08	659.93
1141	38.89	38.89	47.35	34.45	659.95
1142	39.39	39.39	47.94	34.81	659.98
1143	39.72	39.72	48.38	35.19	660.00
1144	40.32	40.32	49.06	35.52	660.02
1145	42.31	42.31	50.97	35.87	660.05
1146	44.92	44.92	53.42	36.27	660.07
1147	47.13	47.13	55.53	36.71	660.10
1148	49.96	49.96	58.16	37.20	660.14
1149	59.15	59.15	66.37	37.81	660.18
1150	70.99	70.99	76.85	38.64	660.23
1151	81.74	81.74	86.33	39.69	660.30
1152	94.95	94.95	97.90	40.97	660.39
1153	109.06	109.06	110.20	42.50	660.49
1154	117.64	117.64	117.64	44.25	660.61
1155	115.54	115.54	115.82	46.01	660.73

1156	109.15	109.15	110.26	47.65	660.84
1157	100.50	100.50	102.69	49.08	660.93
1158	89.46	89.46	93.01	50.30	661.01
1159	76.55	76.55	81.64	51.31	661.07
1160	68.13	68.13	74.16	52.03	661.12
1161	62.83	62.83	69.39	52.57	661.15
1162	56.93	56.93	64.08	52.95	661.17
1163	52.06	52.06	59.66	53.20	661.18
1164	47.55	47.55	55.54	53.31	661.19
1165	43.35	43.35	51.68	53.32	661.19
1166	39.64	39.64	48.25	53.23	661.19
1167	36.96	36.96	45.72	53.06	661.18
1168	34.00	34.00	42.93	52.82	661.16
1169	31.12	31.12	40.22	52.52	661.14
1170	28.28	28.28	37.53	52.15	661.12
1171	26.74	26.74	36.01	51.73	661.10
1172	25.69	25.69	34.92	51.28	661.07
1173	24.46	24.46	33.67	50.82	661.04
1174	23.38	23.38	32.56	50.34	661.02
1175	22.28	22.28	31.43	49.86	660.99
1176	21.35	21.35	30.45	49.40	660.96
1177	20.48	20.48	29.53	48.93	660.92
1178	19.78	19.78	28.76	48.45	660.89
1179	18.92	18.92	27.85	47.96	660.86
1180	18.24	18.24	27.10	47.46	660.82
1181	17.68	17.68	26.46	46.95	660.79
1182	16.90	16.90	25.63	46.44	660.76
1183	16.50	16.50	25.14	45.93	660.72
1184	16.27	16.27	24.81	45.42	660.69
1185	15.96	15.96	24.41	44.91	660.65
1186	15.68	15.68	24.04	44.41	660.62
1187	15.40	15.40	23.67	43.90	660.59
1188	15.17	15.17	23.34	43.41	660.55
1189	14.61	14.61	22.72	42.91	660.52
1190	14.07	14.07	22.11	42.41	660.49
1191	13.68	13.68	21.64	41.91	660.45
1192	13.08	13.08	20.98	41.41	660.42
1193	12.40	12.40	20.26	40.90	660.38
1194	11.82	11.82	19.62	40.39	660.35
1195	11.63	11.63	19.33	39.88	660.32
1196	11.36	11.36	18.99	39.37	660.28
1197	11.02	11.02	18.58	38.87	660.25
1198	10.80	10.80	18.28	38.37	660.21
1199	10.52	10.52	17.93	37.88	660.18
1200	10.31	10.31	17.63	37.39	660.15
1201	10.11	10.11	17.36	36.90	660.12
1202	9.96	9.96	17.14	36.42	660.08
1203	9.85	9.85	16.94	35.95	660.05
1204	9.77	9.77	16.78	35.48	660.02
1205	9.74	9.74	16.66	35.00	659.99

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1206	9.83	9.83	16.67	34.49	659.96
1207	9.74	9.74	16.50	33.99	659.93
1208	9.62	9.62	16.31	33.50	659.90
1209	9.63	9.63	16.25	33.02	659.87
1210	9.62	9.62	16.16	32.55	659.84
1211	9.76	9.76	16.22	32.10	659.81
1212	9.71	9.71	16.09	31.65	659.78
1213	9.60	9.60	15.92	31.22	659.75
1214	9.62	9.62	15.87	30.79	659.73
1215	9.61	9.61	15.79	30.37	659.70
1216	9.64	9.64	15.74	29.97	659.68
1217	9.63	9.63	15.67	29.57	659.65
1218	9.62	9.62	15.59	29.18	659.63
1219	9.60	9.60	15.51	28.80	659.61
1220	9.60	9.60	15.44	28.43	659.58
1221	9.61	9.61	15.39	28.07	659.56
1222	9.74	9.74	15.44	27.71	659.54
1223	9.67	9.67	15.32	27.37	659.52
1224	9.57	9.57	15.17	27.03	659.50
1225	9.25	9.25	14.80	26.70	659.48
1226	8.69	8.69	14.22	26.36	659.46
1227	8.11	8.11	13.61	26.01	659.43
1228	7.42	7.42	12.89	25.65	659.41
1229	6.95	6.95	12.39	25.29	659.39
1230	6.52	6.52	11.93	24.93	659.37
1231	6.25	6.25	11.61	24.56	659.34
1232	6.03	6.03	11.35	24.19	659.32
1233	5.85	5.85	11.13	23.83	659.30
1234	5.72	5.72	10.95	23.48	659.28
1235	5.50	5.50	10.68	23.12	659.26
1236	5.30	5.30	10.44	22.77	659.23
1237	5.04	5.04	10.14	22.43	659.21
1238	4.92	4.92	9.98	22.08	659.19
1239	4.86	4.86	9.87	21.74	659.17
1240	4.78	4.78	9.74	21.41	659.15
1241	4.73	4.73	9.64	21.08	659.13
1242	4.60	4.60	9.48	20.76	659.11
1243	4.58	4.58	9.41	20.45	659.09
1244	4.60	4.60	9.39	20.14	659.07
1245	4.58	4.58	9.32	19.84	659.05
1246	4.57	4.57	9.27	19.54	659.03
1247	4.49	4.49	9.14	19.26	659.02
1248	4.49	4.49	9.10	18.97	659.00
1249	4.53	4.53	9.10	18.73	658.98
1250	4.52	4.52	9.05	18.49	658.96
1251	4.53	4.53	9.01	18.26	658.95
1252	4.46	4.46	8.90	18.03	658.93
1253	4.46	4.46	8.87	17.80	658.91
1254	4.51	4.51	8.88	17.58	658.90
1255	4.51	4.51	8.83	17.37	658.88
1256	4.52	4.52	8.80	17.16	658.86

1257	4.45	4.45	8.70	16.95	658.85
1258	4.46	4.46	8.67	16.75	658.83
1259	4.51	4.51	8.68	16.55	658.82
1260	4.50	4.50	8.64	16.35	658.80
1261	4.45	4.45	8.56	16.16	658.79
1262	4.40	4.40	8.47	15.97	658.78
1263	4.46	4.46	8.50	15.79	658.76
1264	4.50	4.50	8.50	15.61	658.75
1265	4.50	4.50	8.46	15.43	658.74
1266	4.44	4.44	8.37	15.26	658.72
1267	4.45	4.45	8.35	15.09	658.71
1268	4.50	4.50	8.36	14.92	658.70
1269	4.49	4.49	8.32	14.76	658.69
1270	4.50	4.50	8.30	14.60	658.67
1271	4.43	4.43	8.20	14.44	658.66
1272	4.45	4.45	8.18	14.29	658.65
1273	4.50	4.50	8.21	14.14	658.64
1274	4.50	4.50	8.17	13.99	658.63
1275	4.51	4.51	8.15	13.85	658.62
1276	4.44	4.44	8.06	13.71	658.61

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1277	4.45	4.45	8.04	13.57	658.60
1278	4.51	4.51	8.06	13.43	658.59
1279	4.50	4.50	8.03	13.30	658.58
1280	4.51	4.51	8.01	13.17	658.57
1281	4.44	4.44	7.92	13.04	658.56
1282	4.45	4.45	7.90	12.91	658.55
1283	4.51	4.51	7.93	12.79	658.54
1284	4.50	4.50	7.90	12.67	658.53
1285	4.51	4.51	7.88	12.55	658.52
1286	4.44	4.44	7.79	12.44	658.51
1287	4.45	4.45	7.77	12.32	658.50
1288	4.51	4.51	7.80	12.21	658.50
1289	4.50	4.50	7.77	12.10	658.49
1290	4.51	4.51	7.75	11.99	658.48
1291	4.44	4.44	7.66	11.89	658.47
1292	4.45	4.45	7.65	11.78	658.46
1293	4.51	4.51	7.67	11.68	658.46
1294	4.50	4.50	7.65	11.58	658.45
1295	4.51	4.51	7.63	11.48	658.44
1296	4.44	4.44	7.54	11.39	658.43
1297	4.39	4.39	7.47	11.29	658.43
1298	4.28	4.28	7.34	11.20	658.42
1299	4.07	4.07	7.11	11.10	658.41
1300	3.94	3.94	6.96	11.00	658.41
1310	3.24	3.24	6.07	10.05	658.33

1320	2.88	2.88	5.54	9.14	658.27
1330	2.82	2.82	5.30	8.33	658.21
1340	2.78	2.78	5.12	7.65	658.16
1350	2.78	2.78	4.98	7.08	658.11
1360	2.78	2.78	4.86	6.61	658.08
1370	2.78	2.78	4.74	6.21	658.05
1380	2.84	2.84	4.69	5.89	658.02
1390	2.78	2.78	4.54	5.61	658.00
1400	2.78	2.78	4.46	5.47	657.98
1420	2.80	2.80	4.32	5.27	657.95
1440	2.78	2.78	4.17	5.08	657.91
1460	2.78	2.78	4.05	4.89	657.88
1500	2.78	2.78	3.87	4.58	657.82

Stage - Storage - Discharge Curve for Reservoir at 7B

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
657.00	0.000	0.00
658.00	0.710	5.56
659.00	1.450	18.98
660.00	2.240	35.19
661.00	3.070	50.07
662.00	3.920	67.10
663.00	4.890	90.17
664.00	5.850	114.77
665.00	6.850	137.09
666.00	7.850	159.41

Hydrograph Printouts

RESERVOIR ROUTING AT 28C

DESCRIPTION: OLD 31BC

INCOMING HYDROGRAPH	PEAK (cfs):	208.16	VOLUME (acre-ft):	17.56	
NO HYDROGRAPH ADJUSTMENT					
RUNOFF FACTOR(in):	3.01	TOTAL RAIN(in):	6.50	SCS Curve: 68	
FATTENED HYDROGRAPH	PEAK (cfs):	208.16	VOLUME (acre-ft):	22.58	
RESERVOIR INFLOW:	PEAK (cfs):	208.16 @ 1155	VOLUME (acre-ft):	22.58	
MAXIMUM ELEVATION:	STAGE (ft):	717.96 @ 1162	VOLUME (acre-ft):	4.88	
EMERGENCY SPILLWAY:	ELEV (ft):	720.00	VOLUME (acre-ft):	7.05	
DIFFERENCE:	IN STAGE (ft):	-2.04	IN VOLUME (acre-ft):	2.17	
NO SPILL EXPECTED.	PERCNT OF VOLUME REMAINING TO SPILLWAY:			30.8%	
TOP OF DAM:	ELEV (ft):	721.00	VOLUME (acre-ft):	8.15	
DIFFERENCE	IN STAGE (ft):	-3.04	IN VOLUME (acre-ft):	3.27	
NO OVERTOP EXPECTED.	PERCNT OF VOLUME REMAINING TO TOP OF DAM:			40.1%	
RESERVOIR OUTFLOW:	PEAK (cfs):	85.10 @ 1162	VOLUME (acre-ft):	20.99	

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	0.00	712.50
100	3.62	3.62	3.71	0.46	712.64
200	3.62	3.62	3.84	2.33	713.06
300	3.62	3.62	3.89	3.59	713.18
400	3.62	3.62	3.95	3.85	713.21
500	3.62	3.62	4.04	3.96	713.22
600	3.97	3.97	4.52	4.15	713.24
700	5.26	5.26	6.03	4.86	713.31
800	5.38	5.38	6.52	5.95	713.41
900	6.81	6.81	8.67	6.99	713.51
1000	10.10	10.10	13.62	9.69	713.77
1050	14.11	14.11	19.43	13.29	714.08
1100	20.92	20.92	29.81	19.90	714.51
1110	38.79	38.79	47.94	23.21	714.72
1120	58.84	58.84	68.12	29.86	715.15
1130	60.26	60.26	70.92	38.31	715.67
1131	59.99	59.99	70.84	39.09	715.72
1132	59.57	59.57	70.63	39.85	715.77
1133	59.03	59.03	70.30	40.59	715.81
1134	58.45	58.45	69.94	41.30	715.86
1135	57.88	57.88	69.60	41.99	715.90
1136	57.35	57.35	69.30	42.65	715.94
1137	56.94	56.94	69.12	43.29	715.98
1138	56.65	56.65	69.06	43.94	716.02
1139	56.46	56.46	69.09	44.61	716.05
1140	56.25	56.25	69.11	45.27	716.09
1141	56.39	56.39	69.45	45.91	716.12
1142	56.97	56.97	70.20	46.55	716.16
1143	57.93	57.93	71.31	47.19	716.19
1144	59.08	59.08	72.58	47.86	716.23
1145	61.92	61.92	75.40	48.55	716.27
1146	66.35	66.35	79.65	49.33	716.31
1147	71.70	71.70	84.72	50.21	716.35
1148	77.59	77.59	90.28	51.20	716.41
1149	90.65	90.65	102.27	52.41	716.47
1150	110.88	110.88	120.68	53.98	716.56
1151	135.26	135.26	142.73	56.06	716.67
1152	161.95	161.95	166.78	58.69	716.81
1153	189.96	189.96	191.90	61.92	716.98
1154	207.17	207.17	207.28	66.33	717.17
1155	208.16	208.16	208.16	70.94	717.36
1156	194.93	194.93	196.37	75.22	717.54
1157	172.83	172.83	176.60	78.85	717.70
1158	144.15	144.15	150.85	81.61	717.81
1159	116.12	116.12	125.59	83.46	717.89
1160	94.21	94.21	105.73	84.51	717.93
1161	79.79	79.79	92.55	84.98	717.95
1162	70.79	70.79	84.21	85.10	717.96
1163	65.65	65.65	79.34	84.99	717.95
1164	62.87	62.87	76.59	84.76	717.94
1165	60.13	60.13	73.89	84.45	717.93
1166	56.46	56.46	70.33	84.05	717.91

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1167	52.06	52.06	66.09	83.53	717.89
1168	47.00	47.00	61.26	82.88	717.87
1169	41.21	41.21	55.74	82.09	717.83
1170	35.76	35.76	50.53	81.14	717.79
1171	31.45	31.45	46.36	80.08	717.75
1172	28.61	28.61	43.52	78.93	717.70
1173	26.52	26.52	41.37	77.74	717.65
1174	24.97	24.97	39.72	76.53	717.60
1175	23.80	23.80	38.42	75.31	717.55
1176	22.98	22.98	37.44	74.09	717.50
1177	22.27	22.27	36.57	72.88	717.45
1178	21.52	21.52	35.67	71.68	717.40
1179	20.63	20.63	34.64	70.49	717.35
1180	19.67	19.67	33.55	69.31	717.30
1181	18.74	18.74	32.48	68.12	717.25
1182	17.85	17.85	31.45	66.94	717.20
1183	17.07	17.07	30.53	65.77	717.15
1184	16.57	16.57	29.88	64.61	717.10
1185	16.12	16.12	29.28	63.47	717.05
1186	15.79	15.79	28.78	62.35	717.00
1187	15.61	15.61	28.44	61.43	716.96
1188	15.45	15.45	28.11	60.55	716.91
1189	15.05	15.05	27.56	59.67	716.86
1190	14.53	14.53	26.91	58.81	716.81
1191	13.88	13.88	26.14	57.94	716.77
1192	13.15	13.15	25.29	57.08	716.72
1193	12.39	12.39	24.42	56.22	716.68
1194	11.80	11.80	23.71	55.36	716.63
1195	11.38	11.38	23.15	54.51	716.58
1196	11.09	11.09	22.73	53.67	716.54
1197	10.84	10.84	22.34	52.84	716.49
1198	10.63	10.63	22.00	52.02	716.45
1199	10.48	10.48	21.72	51.21	716.41
1200	10.30	10.30	21.41	50.42	716.37
1201	10.25	10.25	21.21	49.64	716.32
1202	10.20	10.20	21.03	48.88	716.28
1203	10.19	10.19	20.89	48.14	716.24
1204	10.18	10.18	20.75	47.41	716.20
1205	10.17	10.17	20.61	46.69	716.17
1206	10.18	10.18	20.50	45.99	716.13
1207	10.19	10.19	20.38	45.31	716.09
1208	10.19	10.19	20.26	44.64	716.06
1209	10.18	10.18	20.13	43.99	716.02
1210	10.18	10.18	20.02	43.38	715.99
1211	10.19	10.19	19.91	42.81	715.95
1212	10.21	10.21	19.81	42.26	715.92

1213	10.20	10.20	19.69	41.72	715.88
1214	10.19	10.19	19.58	41.19	715.85
1215	10.19	10.19	19.47	40.67	715.82
1216	10.12	10.12	19.29	40.15	715.79
1217	10.13	10.13	19.21	39.65	715.75
1218	10.13	10.13	19.11	39.16	715.72
1219	10.16	10.16	19.03	38.67	715.69
1220	10.16	10.16	18.94	38.20	715.66
1221	10.16	10.16	18.84	37.73	715.64
1222	10.17	10.17	18.76	37.28	715.61
1223	10.19	10.19	18.68	36.83	715.58
1224	10.19	10.19	18.58	36.39	715.55
1225	9.96	9.96	18.28	35.96	715.53
1226	9.63	9.63	17.88	35.53	715.50
1227	9.12	9.12	17.29	35.10	715.47
1228	8.56	8.56	16.68	34.66	715.44
1229	7.95	7.95	16.00	34.22	715.42
1230	7.40	7.40	15.39	33.77	715.39
1231	6.92	6.92	14.84	33.33	715.36
1232	6.54	6.54	14.40	32.87	715.33
1233	6.23	6.23	14.03	32.43	715.31
1234	6.00	6.00	13.72	31.98	715.28
1235	5.81	5.81	13.46	31.54	715.25
1236	5.67	5.67	13.25	31.10	715.22
1237	5.56	5.56	13.06	30.67	715.20

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1238	5.47	5.47	12.91	30.24	715.17
1239	5.43	5.43	12.79	29.82	715.14
1240	5.40	5.40	12.70	29.41	715.12
1241	5.38	5.38	12.61	29.01	715.09
1242	5.36	5.36	12.52	28.61	715.07
1243	5.34	5.34	12.43	28.22	715.04
1244	5.34	5.34	12.36	27.84	715.02
1245	5.35	5.35	12.30	27.47	715.00
1246	5.35	5.35	12.23	27.10	714.97
1247	5.34	5.34	12.16	26.73	714.95
1248	5.33	5.33	12.09	26.37	714.93
1249	5.34	5.34	12.03	26.02	714.90
1250	5.35	5.35	11.98	25.68	714.88
1251	5.35	5.35	11.92	25.35	714.86
1252	5.34	5.34	11.85	25.02	714.84
1253	5.33	5.33	11.78	24.69	714.82
1254	5.34	5.34	11.73	24.38	714.80
1255	5.35	5.35	11.68	24.07	714.78
1256	5.35	5.35	11.62	23.76	714.76
1257	5.34	5.34	11.56	23.47	714.74

1258	5.33	5.33	11.49	23.17	714.72
1259	5.34	5.34	11.45	22.89	714.70
1260	5.35	5.35	11.40	22.61	714.68
1261	5.31	5.31	11.31	22.33	714.67
1262	5.30	5.30	11.25	22.06	714.65
1263	5.29	5.29	11.19	21.80	714.63
1264	5.30	5.30	11.15	21.54	714.61
1265	5.33	5.33	11.12	21.28	714.60
1266	5.32	5.32	11.07	21.03	714.58
1267	5.31	5.31	11.01	20.79	714.57
1268	5.32	5.32	10.97	20.55	714.55
1269	5.34	5.34	10.94	20.31	714.54
1270	5.34	5.34	10.89	20.08	714.52
1271	5.33	5.33	10.84	19.86	714.51
1272	5.32	5.32	10.79	19.64	714.49
1273	5.33	5.33	10.75	19.42	714.48
1274	5.34	5.34	10.72	19.21	714.46
1275	5.34	5.34	10.68	19.00	714.45
1276	5.34	5.34	10.63	18.80	714.44
1277	5.33	5.33	10.57	18.60	714.42
1278	5.33	5.33	10.54	18.40	714.41
1279	5.35	5.35	10.51	18.21	714.40
1280	5.35	5.35	10.46	18.02	714.39
1281	5.34	5.34	10.42	17.83	714.37
1282	5.33	5.33	10.37	17.65	714.36
1283	5.34	5.34	10.33	17.47	714.35
1284	5.35	5.35	10.30	17.30	714.34
1285	5.35	5.35	10.27	17.13	714.33
1286	5.34	5.34	10.22	16.96	714.32
1287	5.33	5.33	10.17	16.79	714.31
1288	5.34	5.34	10.14	16.63	714.30
1289	5.35	5.35	10.12	16.47	714.29
1290	5.35	5.35	10.08	16.31	714.28
1291	5.34	5.34	10.04	16.16	714.27
1292	5.33	5.33	9.99	16.01	714.26
1293	5.34	5.34	9.96	15.86	714.25
1294	5.35	5.35	9.94	15.72	714.24
1295	5.35	5.35	9.90	15.58	714.23
1296	5.34	5.34	9.86	15.44	714.22
1297	5.29	5.29	9.79	15.30	714.21
1298	5.20	5.20	9.66	15.16	714.20
1299	5.02	5.02	9.45	15.03	714.19
1300	4.81	4.81	9.21	14.89	714.18
1310	3.85	3.85	7.97	13.56	714.10
1320	3.64	3.64	7.48	12.31	714.02
1330	3.67	3.67	7.28	11.46	713.94
1340	3.62	3.62	7.00	10.78	713.88
1350	3.63	3.63	6.81	10.17	713.82
1360	3.62	3.62	6.62	9.62	713.77
1370	3.63	3.63	6.46	9.13	713.72
1380	3.67	3.67	6.36	8.70	713.68

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1390	3.62	3.62	6.17	8.32	713.64
1400	3.63	3.63	6.04	7.97	713.61
1420	3.64	3.64	5.83	7.39	713.55
1440	3.62	3.62	5.62	6.91	713.51
1460	3.37	3.37	5.20	6.50	713.47
1500	3.37	3.37	4.93	5.81	713.40

Stage - Storage - Discharge Curve for Reservoir at 28C

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
712.50	0.000	0.00
713.00	0.390	1.67
714.00	1.210	12.04
715.00	2.070	27.50
716.00	2.980	43.60
717.00	3.930	62.27
718.00	4.920	86.09
719.00	5.960	111.17
720.00	7.050	133.82
721.00	8.150	154.00

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 45A

DESCRIPTION: POST OFFICE, WC SCHOOL, AND PROPOSED ESSEX (FATTENING REDUCES VOLUME [RUNOFF FACTOR = 2.9] ---NO FATTENING USED)
TOTAL AREA TO HYDROGRAPH: 906 acres
HYDROGRAPH PEAK: 871 cfs
TIME OF PEAK: 1160 minutes
HYDROGRAPH VOLUME: 220.78 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	21.17	200	25.15	300	30.61	400	32.50
500	34.17	600	37.87	700	48.98	800	56.49	900	71.20
1000	109.13	1050	156.12	1100	240.20	1110	295.47	1120	381.84
1130	449.04	1131	453.97	1132	459.18	1133	464.37	1134	469.51
1135	474.37	1136	478.89	1137	483.24	1138	487.22	1139	491.10
1140	494.71	1141	498.58	1142	502.54	1143	507.02	1144	511.77
1145	518.16	1146	525.12	1147	533.71	1148	544.26	1149	561.20
1150	582.23	1151	611.00	1152	648.43	1153	692.98	1154	738.78
1155	783.27	1156	819.66	1157	844.78	1158	861.26	1159	870.13

1160	871.18	1161	860.09	1162	843.00	1163	821.99	1164	801.31
1165	783.31	1166	775.12	1167	771.86	1168	770.66	1169	768.57
1170	763.18	1171	753.61	1172	740.65	1173	725.03	1174	707.55
1175	690.27	1176	674.81	1177	661.71	1178	649.19	1179	636.45
1180	623.44	1181	609.75	1182	595.58	1183	581.71	1184	568.13
1185	555.06	1186	543.09	1187	532.16	1188	522.13	1189	512.90
1190	504.32	1191	496.00	1192	487.77	1193	479.70	1194	471.80
1195	464.07	1196	456.58	1197	449.53	1198	442.82	1199	436.83
1200	431.17	1201	425.96	1202	420.95	1203	416.33	1204	411.95
1205	407.77	1206	403.79	1207	399.78	1208	395.93	1209	392.19
1210	388.59	1211	385.17	1212	381.78	1213	378.41	1214	375.18
1215	372.00	1216	368.87	1217	365.85	1218	362.79	1219	359.89
1220	357.10	1221	354.37	1222	351.73	1223	348.99	1224	346.42
1225	343.71	1226	340.98	1227	337.96	1228	334.68	1229	331.07
1230	327.42	1231	323.79	1232	320.15	1233	316.59	1234	312.96
1235	309.44	1236	306.07	1237	303.08	1238	300.42	1239	298.08
1240	295.83	1241	293.68	1242	291.49	1243	289.40	1244	287.41
1245	285.38	1246	283.40	1247	281.38	1248	279.46	1249	277.60
1250	275.70	1251	273.82	1252	271.87	1253	269.99	1254	268.18
1255	266.32	1256	264.47	1257	262.55	1258	260.69	1259	258.91
1260	257.08	1261	255.20	1262	253.39	1263	251.57	1264	249.87
1265	248.15	1266	246.40	1267	244.72	1268	243.03	1269	241.46
1270	239.87	1271	238.27	1272	236.74	1273	235.33	1274	234.03
1275	232.70	1276	231.27	1277	229.89	1278	228.58	1279	227.23
1280	225.90	1281	224.52	1282	223.20	1283	221.96	1284	220.67
1285	219.39	1286	218.04	1287	216.75	1288	215.51	1289	214.22
1290	212.95	1291	211.61	1292	210.35	1293	209.15	1294	207.91
1295	206.69	1296	205.40	1297	204.12	1298	202.82	1299	201.41
1300	199.98	1310	184.39	1320	171.11	1330	158.92	1340	145.60
1350	132.71	1360	120.86	1370	110.82	1380	102.70	1390	95.55
1400	89.62	1420	80.66	1440	73.84	1460	62.39	1500	52.12

VCRat Model Input

Model Lines

```
005     1  001A Header place holder
005     1  005A Header place holder
005     1  007B Header place holder
005     1  028CDHeader place holder
005     1  045A Header place holder
999
999
006     1  001A 010012010020A97102450004000                    G1
006     1  002A 010004004516A97100275002500
006     1  003A 020004004212A97
006     1  004A 020016008117A97103100003000
006     1  005A 030004006910A97400516003686                  1
110
111  680.00    1.00000    3.11
112  663.78  664.00  665.00  666.00  667.00  668.00  669.00  670.00  672.00  675.00
```

```
112  676.00  677.00  680.00  681.00
113   0.000   0.360   1.540   2.880   4.280   5.740   7.250   8.820  12.320  17.580
113  19.670  21.760  28.030  30.120
114    0.00    0.26    7.60   23.50   45.67   71.69   98.81  118.64  148.37  188.54
114  210.58  236.61  302.67  324.69
110
006     1  006B 020046002208A97100560004500
006     1  007B 010046002306A97400121003586                  1
110
111  665.00    1.00000    4.56
112  657.00  658.00  659.00  660.00  661.00  662.00  663.00  664.00  665.00  666.00
113   0.000   0.710   1.450   2.240   3.070   3.920   4.890   5.850   6.850   7.850
114    0.00    5.56   18.98   35.19   50.07   67.10   90.17  114.77  137.09  159.41
110
006     1  008AB010         A97400967003686
006     1  009A 030000002211A97502100002950
006     1  010A 030036004309A97
006     1  011A 010      099A97
006     1  012B 020077001610A97400090000500
006     1  013C 020045001809A97400034002000
006     1  014BC010         A97401416003600
006     1  015B 020025008015A97201000000500
006     1  016B 010      099A97
006     1  017B 010      099A97
006     1  018C 050016001406A97400420004000
006     1  019C 020028001205A97400100004000
006     1  020C 030040001306A97400450007300
006     1  021D 040028000905A97400360001100
006     1  022E 040012001107A97400150005300
006     1  023E 040030001005A97
006     1  024DE010         A97400680004700
006     1  025D 020030000506A97400250001200
006     1  026D 050030001005A97400740001200
006     1  027D 020032000605A97
006     1  028CD010         A97                              1
110
111  720.00    1.00000    3.01
112  712.50  713.00  714.00  715.00  716.00  717.00  718.00  719.00  720.00  721.00
113   0.000   0.390   1.210   2.070   2.980   3.930   4.920   5.960   7.050   8.150
114    0.00    1.67   12.04   27.50   43.60   62.27   86.09  111.17  133.82  154.00
110
006     1  029BC010         A97400314019700
006     1  030B 010000000907A97102300001830
006     1  031B 010      099A97
006     1  032B 020018006919A97
006     1  033AB010         A97501163003560
006     1  034C 020024004212A97301200007500
006     1  035C 020028001710A97301100001800
006     1  036C 050045001906A97
006     1  037D 050060001006A97300800001250
006     1  038D 010074000806A97
006     1  039CD010         A97300900001100
006     1  040E 040093001109A97
006     1  041E 040014000909A97
006     1  042CE010         A97400850000900
006     1  043C 050060003112A97
```

```
006     1  044AC010         A97501450000800
006     1  045A 040050003012A97500450000740                  1  2
999
```

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Modified Rational Model Results Report

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Project Description

2017 HYDROLOGY MANUAL
100 YR INTERIM CONDITION MODEL
DS 45A - PROPOSED HITCH RANCH LAND USE (AUG 2018 TTM)
20190729HR_RegionalBasin3_4_ComboOutlet.hcp HYDROCAD MODEL USED 45A AS INPUT TO BASIN 3 DIVERSION STRUCTURE
46A AND 47D REPRESENT DIVERSION STRUCTURE BASED ON HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp
IMPORTED HYDROGRAPHS DO NOT INCLUDE CASEY RD BASIN 1
EMERGENCY SPILLWAY SET TO 1' ABOVE HYDROCAD 100YR WSE
TOP OF DAM = WSE100 + 1' ESPILL + HEAD OVER ESPILL + 3' FREEBOARD
****RWG - RATING CURVES UP-TO-DATE AS OF 07/31/2019****
FLOODWALLS WILL BE REQUIRED AT BASIN 2B, 2, AND 3 TO MEET 3' FREEBOARD ABOVE ESPILL WSE REQUIREMENT
GOAL OF PROJECT:
1 - REDUCE FLOWS FROM HITCH RANCH LOCAL BELOW 10-YR EXISTING
2- REDUCE FLOW IN WCC AT LA AVE D/S OF 72" RCP TO 830 CFS OR LESS BASED ON 2005 PLAN
REDUCTION TO 508 CFS AT RR IS NOT NECESSARY TO MEET GOAL 2
NOTE1: ASSUMES ALL OF MOORPARK DRAIN NO.1 (43C - UPSTREAM MODEL) CAN REACH WCC AT HITCH RANCH
NOTE1: IN REALITY PIPE CAN ONLY CARRY 176 CFS OUT OF 266 CFS
NOTE2: ASSUMES ALL OF MP 72" RCP REACHES JUNCTION WITH WCC AT LA AVE
NOTE2: IN REALITY PIPE CAN ONLY CARRY 195 CFS OUT OF 351 CFS

VCRat version: 2.64.0.37
VCRain version: 201801
DOS EXE version: PC 2.64-201605
VCRain Curve Set: VCWPD 2016 Revised Curve Set
Curve A: REV1: South Mountain to Moorpark
Curve B: None
Curve C: None
Curve D: None

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)
Page: 2

Model Results

NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	AREA (AC)	FLOW (CFS)	TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
45A	---	---	--	--	---	---	0	0	----	-------	----	-------	---	----	-----	-----	--	--
46A : IMPORTED HYDROGRAPH (BYPASS) FROM DIVERSION STRUCTURE TO CHANNEL IN 20190729HR_RegionalBasin3_4_ComboOutlet.hcp (SET ACREAGE TO 906-10)																		
46A : Import Hydro: HR_HCAD_INT100DIV2CH																		
46A	---	---	--	--	896	135	896	135	1160	CHANNEL	1411	0.07000	4	0.00	0.014	0.014	--	--
47D : IMPORTED HYDROGRAPH FROM DIVERSION STRUCTURE TO BASIN 3 IN 20190729HR_RegionalBasin3_4_ComboOutlet.hcp (SET ACREAGE TO 906-896 = 10)																		
47D : Import Hydro: HR_HCAD_INT100DIV2B3																		
47D	---	---	--	--	10	728	10	728	1160	-------	----	-------	---	----	-----	-----	--	--
48B : EAST HITCH RANCH (HEADWATER TO DEBRIS BASIN)																		
48B	060	A100	6	1	29	39	29	39	1153	PIPE	816	0.06200	2.00	----	-----	-----	--	--
49B : EAST HITCH RANCH (BETWEEN DEBRIS BASIN AND NORTH HILLS PKWY)																		
49B	040	A100	6	51	21	64	50	102	1154	-------	----	-------	---	----	-----	-----	--	--
50C : EAST HITCH RANCH (HEADWATER TO DOWNSTREAM OF DEBRIS BASIN)																		
50C	040	A100	6	11	13	29	13	29	1153	PIPE	700	0.05000	2.00	----	-----	-----	--	--
51BC: EAST HITCH RANCH																		
51BC	---	---	--	--	13	28	63	129	1154	PIPE	775	0.05000	3.00	----	-----	-----	--	--
52B : EAST HITCH RANCH (PROPOSED MULTI-FAMILY NORTH OF CASEY RD)																		
52B	020	A100	5	57	39	142	102	250	1153	PIPE	1200	0.04500	3.75	----	-----	-----	--	--
53B : EAST HITCH RANCH																		
53B	030	A100	7	59	33	100	135	341	1155	-------	----	-------	---	----	-----	-----	--	--

****

* INCOMING HYDROGRAPH PEAK (cfs): 341.29 VOLUME (acre-ft): 34.92 *

* NO HYDROGRAPH ADJUSTMENT *

* NO HYDROGRAPH FATTENING *

****

53B	---	---	--	--	---	---	135	341	1155	-------	----	-------	---	----	-----	-----	--	--
54B : EAST HITCH RANCH																		
54B	---	---	--	--	---	---	135	341	1155	PIPE	500	0.01000	5.50	----	-----	-----	--	--
55B : LOCAL SUBAREA TO REGIONAL BASIN 3 [Proposed Multi-Family South of Casey Road+Area to WCC]) Based on 07/06/19 CONTOURS																		
55B	040	A100	6	35	42	114	177	428	1155	-------	----	-------	---	----	-----	-----	--	--

****

* INCOMING HYDROGRAPH PEAK (cfs): 427.89 VOLUME (acre-ft): 44.52 *

* NO HYDROGRAPH ADJUSTMENT *

* RUNOFF FACTOR(in): 3.51 TOTAL RAIN(in): 6.50 SCS Curve: 73 *

* FATTENED HYDROGRAPH PEAK (cfs): 427.89 VOLUME (acre-ft): 51.77 *

****

55B	---	---	--	--	---	---	177	428	----	-------	----	-------	---	----	-----	-----	--	--
56BD: REGIONAL BASIN 3 (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)																		
56BD	---	---	--	--	10	728	187	1082	1156	-------	----	-------	---	----	-----	-----	--	--
56B : EMERGENCY SPILLWAY DESIGNED TO PASS 1084 CFS AT 2' OVER 140 WEIR CREST (C=2.8)																		

****

* INCOMING HYDROGRAPH PEAK (cfs): 1082.44 VOLUME (acre-ft): 164.74 *

* NO HYDROGRAPH ADJUSTMENT *

* NO HYDROGRAPH FATTENING *

* RESERVOIR INFLOW: PEAK (cfs): 1082.44 @ 1156 VOLUME (acre-ft): 164.74 *

* MAXIMUM ELEVATION: STAGE (ft): 489.81 @ 1194 VOLUME (acre-ft): 60.09 *

* EMERGENCY SPILLWAY: ELEV (ft): 491.00 VOLUME (acre-ft): 70.56 *

* DIFFERENCE: IN STAGE (ft): -1.19 IN VOLUME (acre-ft): 10.47 *

* NO SPILL EXPECTED. PERCNT OF VOLUME REMAINING TO SPILLWAY: 14.8% *

```
      *      TOP OF DAM:           ELEV (ft):    496.00         VOLUME (acre-ft):    117.01      *
      *          DIFFERENCE    IN STAGE (ft):     -6.19      IN VOLUME (acre-ft):     56.93      *
      *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     48.6%      *
      *      RESERVOIR OUTFLOW:   PEAK (cfs):    412.75 @ 1194  VOLUME (acre-ft):    135.42      *
      ********************************************************************************************
56B   ---   ---    --   --    ---    ---      187     413   1194    -------    ----  -------    ---     ----    -----  -----    --     --
57AB:  COMBINED OUTFLOW FROM BASIN 3 AND BY-PASS DIVERTED UPSTREAM OF BASIN 3
57AB  ********************************************************************************************
      *          Peak in A:      134.39 cfs @ 1161 min  Q in B:      174.24 cfs  Combined Q:      308.63 cfs   *
      *          Peak in B:      412.75 cfs @ 1194 min  Q in A:      112.30 cfs  Combined Q:      525.05 cfs   *
      *      Combined Peak:      525.45 cfs @ 1193 min  Q in A:      112.93 cfs      Q in B:      412.52 cfs   *
      ********************************************************************************************
57AB  ---   ---    --   --    187    413     1083     525   1193    CHANNEL    1875  0.07000      6     0.00    0.014  0.014    --     --
58B :  EAST OF A STREET AND BASIN 3 (POTENTIAL WQ TREATMENT AREA) DRAINS DIRECT TO WCC - ASSUMED PIPE BELOW HIGH ABLE TO CARRY PEAK FLOW
58B   040   A100   10   17     21     37       21      37   1154    -------    ----  -------    ---     ----    -----  -----    --     --
59AB:  CONNECTION OF LOCAL EAST OF A STREET AND BASIN 3 (POTENTIAL WQ TREATMENT AREA) DRAINS DIRECT TO WCC - ASSUMED PIPE BELOW HIGH ABLE TO CARRY PEAK FLOW
59AB  ---   ---    --   --     21     37     1104     527   1194    CHANNEL     500  0.07000      6     0.00    0.014  0.014    --     --
60B :  WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
60B   040   A100   11    0     54     75       54      75   1154    -------    ----  -------    ---     ----    -----  -----    --     --
61B :  WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
61B   040   A100   11    0     53     73      107     148   1154    MOUNTAIN   1865  0.03700    ---     ----    -----  -----    --     --
62C :  WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
62C   050   A100   12    0     20     24       20      24   1154    -------    ----  -------    ---     ----    -----  -----    --     --
```

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

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Model Results

NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	ACCUMULATED AREA (AC)	ACCUMULATED FLOW (CFS)	TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
63BC: WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B																		
63BC	---	---	--	--	20	24	127	142	1162	MOUNTAIN	707	0.05600	---	----	-----	-----	--	--
64B : WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B																		
64B	040	A100	9	6	27	45	154	153	1164	MOUNTAIN	1427	0.03800	---	----	-----	-----	--	--
65B : WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B																		
65B	040	A100	9	1	31	49	185	154	1168	-------	----	-------	---	----	-----	-----	--	--
66C : WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B																		
66C	030	A100	9	4	21	36	21	36	1153	-------	----	-------	---	----	-----	-----	--	--
67BC: WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B																		
67BC	---	---	--	--	21	36	206	165	1157	VALLEY	1482	0.00330	---	----	-----	-----	--	--
68B : WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B																		
68B	040	A100	10	24	28	53	234	159	1176	-------	----	-------	---	----	-----	-----	--	--
69C : WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B																		
69C	030	A100	9	4	37	64	37	64	1153	-------	----	-------	---	----	-----	-----	--	--
70D : WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B																		
70D	040	A100	6	10	31	67	31	67	1153	-------	----	-------	---	----	-----	-----	--	--
71CD: WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B																		
71CD	---	---	--	--	31	67	68	131	1153	40' ROAD	1100	0.03200	---	----	-----	-----	--	--
72C : WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B																		
72C	050	A100	7	20	14	29	82	136	1156	-------	----	-------	---	----	-----	-----	--	--

```
73BC:  CONFLUENCE OF WEST HITCH RANCH (WEST AND MIDDLE FORK) - UPSTREAM OF BASIN 2B
73BC  ********************************************************************************************************
      *          Peak in B:      159.22 cfs @ 1176 min  Q in C:       17.06 cfs  Combined Q:      176.29 cfs   *
      *          Peak in C:      136.49 cfs @ 1156 min  Q in B:      130.96 cfs  Combined Q:      267.45 cfs   *
      *      Combined Peak:      272.12 cfs @ 1158 min  Q in B:      141.98 cfs      Q in C:      130.14 cfs   *
      ********************************************************************************************************
73BC  ---   ---    --   --     82    136      316     272   1158    -------    ----  -------    ---     ----    -----  -----    --     --
74C :  WEST HITCH RANCH (EAST FORK HEADWATER UPSTREAM OF DEBRIS BASIN) - DRAINS TO BASIN 2A
74C   050   A100    6    0     23     41       23      41   1153    PIPE       1366  0.03000      2.00  ----    -----  -----    --     --
75C :  WEST HITCH RANCH (EAST FORK) - DRAINS TO BASIN 2A
75C   020   A100    5   38     21     68       44      96   1153    PIPE        321  0.24000      2.00  ----    -----  -----    --     --
76C :  BASIN 2A (INCLUDES LOCAL DRAINAGE) - WEST HITCH RANCH (EAST FORK) (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
76C   030   A100   10   12     20     36       64     130   1154    -------    ----  -------    ---     ----    -----  -----    --     --
      ********************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):    129.61         VOLUME (acre-ft):      9.70      *
      *      NO HYDROGRAPH ADJUSTMENT                                                              *
      *      RUNOFF FACTOR(in):   2.44      TOTAL RAIN(in):   6.50      SCS Curve: 62          *
      *      FATTENED HYDROGRAPH  PEAK (cfs):    129.61         VOLUME (acre-ft):     13.02      *
      *      RESERVOIR INFLOW:    PEAK (cfs):    129.61 @ 1154  VOLUME (acre-ft):     13.02      *
      *      MAXIMUM ELEVATION:   STAGE (ft):    516.30 @ 1163  VOLUME (acre-ft):      1.75      *
      *      EMERGENCY SPILLWAY:   ELEV (ft):    517.34         VOLUME (acre-ft):      2.92      *
      *          DIFFERENCE:   IN STAGE (ft):     -1.04      IN VOLUME (acre-ft):      1.17      *
      *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     39.9%      *
      *      TOP OF DAM:           ELEV (ft):    522.00         VOLUME (acre-ft):      9.52      *
      *          DIFFERENCE    IN STAGE (ft):     -5.70      IN VOLUME (acre-ft):      7.77      *
      *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     81.6%      *
      *      RESERVOIR OUTFLOW:   PEAK (cfs):     48.87 @ 1163  VOLUME (acre-ft):     12.29      *
      ********************************************************************************************
      76C   ---   ---    --   --    ---    ---       64      49   1163    PIPE        287  0.05000      2.00  ----    -----  -----    --     --
      77D :  WEST HITCH RANCH (NORTH HILLS PKWY LOCAL DRAINS DIRECTLY TO BASIN 2B) - DID NOT FATTEN, REDUCES VOLUME
      77D   030   A100    8   36      9     22        9      22   1153    PIPE        625  0.03600      2.00  ----    -----  -----    --     --
      78CD:  WEST HITCH RANCH - OUTFLOW FROM BASIN 2A + NORTH HILLS PKWY LOCAL
      78CD  ---   ---    --   --      9     22       73      67   1156    -------    ----  -------    ---     ----    -----  -----    --     --
      79B :  WEST HITCH RANCH - BASIN 2B LOCAL (AREA SURROUNDING BASIN)
      79B   040   A100    6   17     30     70      346     317   1156    -------    ----  -------    ---     ----    -----  -----    --     --
            ********************************************************************************************
            *      INCOMING HYDROGRAPH  PEAK (cfs):    316.86         VOLUME (acre-ft):     30.21      *
            *      NO HYDROGRAPH ADJUSTMENT                                                           *
            *      RUNOFF FACTOR(in):   1.80                                                          *
            *      FATTENED HYDROGRAPH  PEAK (cfs):    316.86         VOLUME (acre-ft):     51.88      *
            ********************************************************************************************
      79B   ---   ---    --   --    ---    ---      346     317   ----    -------    ----  -------    ---     ----    -----  -----    --     --
```


Model Results

SUBAREA DATA AND RESULTS						ACCUMULATED DATA			ROUTING AFTER ACCUMULATION							
NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	AREA (AC)	FLOW (CFS)	TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)

```
      80BC:  BASIN 2B (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
```

```
80BC  ********************************************************************************************************************
      *          Peak in B:      316.86 cfs @ 1156 min  Q in C:       67.15 cfs  Combined Q:      384.01 cfs   *
      *          Peak in C:       67.15 cfs @ 1156 min  Q in B:      316.86 cfs  Combined Q:      384.01 cfs   *
      *      Combined Peak:      384.01 cfs @ 1156 min  Q in B:      316.86 cfs      Q in C:       67.15 cfs   *
      ********************************************************************************************************************
80BC  ---   ---    --   --     73     67      419     384   1156    -------    ----  -------    ---     ----    -----  -----    --     --
 80B :  Basin 2B
      ********************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):    384.01         VOLUME (acre-ft):     66.35      *
      *      NO HYDROGRAPH ADJUSTMENT                                                            *
      *      NO HYDROGRAPH FATTENING                                                             *
      *      RESERVOIR INFLOW:    PEAK (cfs):    384.01 @ 1156  VOLUME (acre-ft):     66.35      *
      *      MAXIMUM ELEVATION:   STAGE (ft):    507.80 @ 1185  VOLUME (acre-ft):     20.82      *
      *      EMERGENCY SPILLWAY:   ELEV (ft):    508.90         VOLUME (acre-ft):     24.72      *
      *          DIFFERENCE:   IN STAGE (ft):     -1.10      IN VOLUME (acre-ft):      3.90      *
      *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     15.8%      *
      *      TOP OF DAM:           ELEV (ft):    513.40         VOLUME (acre-ft):     43.20      *
      *          DIFFERENCE    IN STAGE (ft):     -5.60      IN VOLUME (acre-ft):     22.38      *
      *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     51.8%      *
      *      RESERVOIR OUTFLOW:   PEAK (cfs):    219.94 @ 1185  VOLUME (acre-ft):     54.74      *
      ********************************************************************************************
80B   ---   ---    --   --    ---    ---      419     220   1185    -------    ----  -------    ---     ----    -----  -----    --     --
81C :  WEST HITCH RANCH - EAST OF BASIN 2, DRAINS DIRECTLY TO BASIN 2
81C   020   A100    6   62     10     34       10      34   1153    -------    ----  -------    ---     ----    -----  -----    --     --
82C :  WEST HITCH RANCH - BASIN 2 LOCAL (IMMEDIATELY AROUND BASIN) DID NOT FATTEN, REDUCES VOLUME (RUNOFF FACTOR 1.9)
82C   050   A100    5   14     18     43       28      77   1153    -------    ----  -------    ---     ----    -----  -----    --     --
      ********************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):     76.50         VOLUME (acre-ft):      5.72      *
      *      NO HYDROGRAPH ADJUSTMENT                                                            *
      *      NO HYDROGRAPH FATTENING                                                             *
      ********************************************************************************************
82C   ---   ---    --   --    ---    ---       28      77   1153    -------    ----  -------    ---     ----    -----  -----    --     --
83D :  WEST HITCH RANCH (BASIN IMMEDIATELY WEST OF BASIN 2 - DRAINS TOWARD GABBERT, ASSUMED CAPTURED IN BASIN 2)
83D   040   A100    7   28     13     31       13      31   1153    -------    ----  -------    ---     ----    -----  -----    --     --
84CD:  WEST HITCH RANCH - COMBINES WEST, EAST, AND LOCAL BASIN 2 SUBAREAS
84CD  ********************************************************************************************************************
      *          Peak in C:       76.50 cfs @ 1153 min  Q in D:       30.55 cfs  Combined Q:      107.06 cfs   *
      *          Peak in D:       30.55 cfs @ 1153 min  Q in C:       76.50 cfs  Combined Q:      107.06 cfs   *
      *      Combined Peak:      107.06 cfs @ 1153 min  Q in C:       76.50 cfs      Q in D:       30.55 cfs   *
      ********************************************************************************************************************
84CD  ---   ---    --   --     13     31       41     107   1153    -------    ----  -------    ---     ----    -----  -----    --     --
85BC:  COMBINES OUTFLOW FROM BASIN 2B AND LOCAL BASIN 2/EAST AND WEST OF BASIN 2 SUBAREAS
85BC  ********************************************************************************************************************
      *          Peak in B:      219.94 cfs @ 1185 min  Q in C:        7.18 cfs  Combined Q:      227.12 cfs   *
      *          Peak in C:      107.06 cfs @ 1153 min  Q in B:       45.30 cfs  Combined Q:      152.36 cfs   *
      *      Combined Peak:      227.12 cfs @ 1185 min  Q in B:      219.94 cfs      Q in C:        7.18 cfs   *
      ********************************************************************************************************************
85BC  ---   ---    --   --     41    107      460     227   1185    -------    ----  -------    ---     ----    -----  -----    --     --
86B :  BASIN 2 (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
86B   ---   ---    --   --    ---    ---      460     227   1185    PIPE        175  0.05000      3.50  ----    -----  -----    --     --
      ********************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):    227.11         VOLUME (acre-ft):     62.92      *
      *      NO HYDROGRAPH ADJUSTMENT                                                            *
```

```
      *      NO HYDROGRAPH FATTENING                                                  *
      *      RESERVOIR INFLOW:    PEAK (cfs):    227.11 @ 1186  VOLUME (acre-ft):     62.92      *
      *      MAXIMUM ELEVATION:   STAGE (ft):    479.17 @ 1205  VOLUME (acre-ft):     11.50      *
      *      EMERGENCY SPILLWAY:   ELEV (ft):    480.34         VOLUME (acre-ft):     14.57      *
      *          DIFFERENCE:   IN STAGE (ft):     -1.17      IN VOLUME (acre-ft):      3.07      *
      *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     21.0%      *
      *      TOP OF DAM:           ELEV (ft):    484.84         VOLUME (acre-ft):     27.86      *
      *          DIFFERENCE    IN STAGE (ft):     -5.67      IN VOLUME (acre-ft):     16.35      *
      *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     58.7%      *
      *      RESERVOIR OUTFLOW:   PEAK (cfs):    185.96 @ 1205  VOLUME (acre-ft):     56.17      *
      ********************************************************************************************
86B   ---   ---    --   --    ---    ---      460     186   1205    -------    ----  -------    ---     ----    -----  -----    --     --
87AB:  OUTFLOW OF BASIN 2 COMBINED WITH WCC COMING FROM EAST
87AB  ---   ---    --   --    460    186     1564     704   1199    CHANNEL    1458  0.00600     10     0.00    0.014  0.014    --     --
88B :  LOCAL SUBAREA TO 10X8 RCB AT RR
88B   020   A100   18   26     70    104       70     104   1156    CHANNEL    1275  0.00470      5     0.00    0.014  0.014    --     --
89AB:  INFLOW TO 10X8 RCB AT RR
89AB  ---   ---    --   --     70    103     1634     717   1201    -------    ----  -------    ---     ----    -----  -----    --     --
```


Model Results

SUBAREA DATA AND RESULTS							ACCUMULATED DATA			ROUTING AFTER ACCUMULATION							
NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	AREA (AC)	FLOW (CFS)	TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
90C : 65C from PACE																		
90C	050	A100	12	61	62	140	62	140	1154	PIPE	1480	0.00490	4.50	----	-----	-----	--	--
91C : 66C from PACE																		
91C	050	A100	12	70	63	153	125	277	1158	PIPE	1350	0.00840	5.25	----	-----	-----	--	--
92C : 67C from PACE																		
92C	040	A100	10	40	46	101	171	351	1158	-------	----	-------	---	----	-----	-----	--	--
93AC: LA Avenue - COMBINED WCC + INCOMING MP 72" RCP ***TARGET LOCATION -> WE WANT Q100 < 830CFS)***																		
93AC	********** Peak in A: 716.77 cfs @ 1201 min Q in C: 46.16 cfs Combined Q: 762.92 cfs * ********** Peak in C: 351.12 cfs @ 1158 min Q in A: 452.83 cfs Combined Q: 803.95 cfs * ********** Combined Peak: 806.44 cfs @ 1159 min Q in A: 458.83 cfs Q in C: 347.60 cfs *																	
93AC	---	---	--	--	171	351	1805	806	1159	CHANNEL	1575	0.00470	11	0.00	0.014	0.014	--	--
94A : Beg of Addition																		
94A	050	A100	10	15	43	71	1848	837	1161	-------	----	-------	---	----	-----	-----	--	--
95B : Gabbert Headwaters																		
95B	040	A100	16	5	64	74	64	74	1156	#40' ROAD	1976	0.04000	---	----	-----	-----	--	--
96B	040	A100	14	5	59	74	123	136	1161	MOUNTAIN	2000	0.04000	---	----	-----	-----	--	--
97B	040	A100	19	5	48	50	171	169	1167	MOUNTAIN	1250	0.04000	---	----	-----	-----	--	--
98B	030	A100	15	5	68	88	239	210	1163	MOUNTAIN	1900	0.04000	---	----	-----	-----	--	--
99B	040	A100	18	5	82	88	321	270	1166	MOUNTAIN	3400	0.04000	---	----	-----	-----	--	--
100B	030	A100	21	10	113	127	434	333	1169	MOUNTAIN	2225	0.04000	---	----	-----	-----	--	--
101B	040	A100	19	10	95	106	529	369	1167	MOUNTAIN	1948	0.04000	---	----	-----	-----	--	--
102C	020	A100	15	5	68	93	68	93	1155	-------	----	-------	---	----	-----	-----	--	--
103C : 1631D																		

103C	030	A100	20	5	70	76	138	169	1155	MOUNTAIN	2600	0.04000	---	----	-----	-----	--	--
104C	030	A100	21	5	56	59	194	211	1166	MOUNTAIN	2485	0.04000	---	----	-----	-----	--	--
105D : 1634E																		
105D	030	A100	20	10	96	111	96	111	1160	MOUNTAIN	1700	0.04000	---	----	-----	-----	--	--
106D	030	A100	18	5	69	79	165	182	1164	MOUNTAIN	2200	0.04000	---	----	-----	-----	--	--
107D	030	A100	19	15	46	57	211	216	1167	MOUNTAIN	2112	0.04000	---	----	-----	-----	--	--
108CD	---	---	--	--	211	206	405	406	1174	MOUNTAIN	1600	0.03000	---	----	-----	-----	--	--
109C	030	A100	15	15	48	69	453	407	1178	-------	----	-------	---	----	-----	-----	--	--
110D	050	A100	22	15	85	88	85	88	1162	-------	----	-------	---	----	-----	-----	--	--
111CD	---	---	--	--	85	88	538	428	1177	MOUNTAIN	1782	0.03000	---	----	-----	-----	--	--
112C	030	A100	20	10	75	86	613	455	1168	-------	----	-------	---	----	-----	-----	--	--
113D	010	A100	20	15	45	62	45	62	1160	MOUNTAIN	1700	0.03000	---	----	-----	-----	--	--
114CD	---	---	--	--	45	59	658	514	1168	-------	----	-------	---	----	-----	-----	--	--
115E	040	A100	18	5	53	57	53	57	1156	-------	----	-------	---	----	-----	-----	--	--
116F	010	A100	21	10	69	89	69	89	1161	MOUNTAIN	400	0.04000	---	----	-----	-----	--	--
117EF	---	---	--	--	69	89	122	146	1162	-------	----	-------	---	----	-----	-----	--	--
118E	030	A100	20	15	75	91	197	237	1160	MOUNTAIN	1300	0.04000	---	----	-----	-----	--	--
119E	020	A100	21	10	32	38	229	273	1164	MOUNTAIN	1300	0.04000	---	----	-----	-----	--	--
120F	010	A100	22	15	59	78	59	78	1162	MOUNTAIN	1600	0.02000	---	----	-----	-----	--	--
121F	010	A100	18	25	68	106	127	170	1164	MOUNTAIN	1400	0.02000	---	----	-----	-----	--	--
122EF	---	---	--	--	127	164	356	435	1169	-------	----	-------	---	----	-----	-----	--	--
123E	020	A100	17	5	104	132	460	538	1165	MOUNTAIN	1350	0.03000	---	----	-----	-----	--	--
124E	020	A100	12	10	57	93	517	555	1168	MOUNTAIN	1393	0.03000	---	----	-----	-----	--	--
125CE	---	---	--	--	517	548	1175	1045	1170	MOUNTAIN	1800	0.03000	---	----	-----	-----	--	--
126C	030	A100	9	5	40	70	1215	1045	1174	-------	----	-------	---	----	-----	-----	--	--
127BC	---	---	--	--	1215	1045	1744	1404	1174	MOUNTAIN	1930	0.03000	---	----	-----	-----	--	--
128B	040	A100	11	10	87	135	1831	1405	1178	MOUNTAIN	1950	0.03000	---	----	-----	-----	--	--
129D	040	A100	12	20	65	106	65	106	1154	#40' ROAD	250	0.03000	---	----	-----	-----	--	--
130D	040	A100	12	15	59	92	124	197	1155	CHANNEL	1390	0.03000	5	0.00	0.014	0.014	--	--
131D	040	A100	11	5	51	75	175	267	1157	#CHANNEL	2000	0.02000	5	0.00	0.014	0.014	--	--
132BD	---	---	--	--	175	261	2006	1434	1181	MOUNTAIN	1750	0.03000	---	----	-----	-----	--	--
133B	040	A100	12	30	89	160	2095	1445	1184	-------	----	-------	---	----	-----	-----	--	--
134C	030	A100	11	5	49	76	49	76	1154	-------	----	-------	---	----	-----	-----	--	--
135BC	---	---	--	--	49	76	2144	1449	1184	-------	----	-------	---	----	-----	-----	--	--
136B	030	A100	11	5	69	108	2213	1456	1184	MOUNTAIN	1900	0.01500	---	----	-----	-----	--	--
137C	040	A100	10	30	44	89	44	89	1154	-------	----	-------	---	----	-----	-----	--	--
138BC	---	---	--	--	44	89	2257	1453	1189	-------	----	-------	---	----	-----	-----	--	--
139B	030	A100	12	10	87	135	2344	1461	1189	MOUNTAIN	1700	0.01500	---	----	-----	-----	--	--
140B	030	A100	12	10	71	110	2415	1457	1194	MOUNTAIN	900	0.01500	---	----	-----	-----	--	--
141B	030	A100	9	5	21	37	2436	1456	1196	MOUNTAIN	1000	0.01500	---	----	-----	-----	--	--
142B	030	A100	10	5	30	50	2466	1454	1199	VALLEY	2500	0.01500	---	----	-----	-----	--	--
143C	040	A100	11	10	62	96	62	96	1154	-------	----	-------	---	----	-----	-----	--	--
144BC	---	---	--	--	62	96	2528	1453	1203	-------	----	-------	---	----	-----	-----	--	--
145D	030	A100	12	10	39	60	39	60	1154	-------	----	-------	---	----	-----	-----	--	--

Model Results

SUBAREA DATA AND RESULTS							ACCUMULATED DATA			ROUTING AFTER ACCUMULATION								
NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	AREA (AC)	FLOW (CFS)	TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)

```
|-------------------------------------------|-----------------------|-------------------------------------------------------------------------|
  146BD  ***************************************************************************************************
         *          Peak in B:     1453.17 cfs @ 1203 min  Q in D:        1.62 cfs  Combined Q:     1454.80 cfs   *
         *          Peak in D:       60.46 cfs @ 1154 min  Q in B:      719.60 cfs  Combined Q:      780.06 cfs   *
         *      Combined Peak:     1454.80 cfs @ 1203 min  Q in B:     1453.17 cfs      Q in D:        1.62 cfs   *
         ***************************************************************************************************
  146BD  ---   ---    --   --     39     60     2567    1455   1203    -------    ----  -------    ---     ----    -----  -----    --     --
  147AB  ***************************************************************************************************
         *          Peak in A:      837.17 cfs @ 1161 min  Q in B:      910.54 cfs  Combined Q:     1747.71 cfs   *
         *          Peak in B:     1454.80 cfs @ 1203 min  Q in A:      765.55 cfs  Combined Q:     2220.35 cfs   *
         *      Combined Peak:     2220.35 cfs @ 1203 min  Q in A:      765.55 cfs      Q in B:     1454.80 cfs   *
         ***************************************************************************************************
  147AB  ---   ---    --   --   2567   1455     4415    2220   1203    -------    ----  -------    ---     ----    -----  -----    --     --
  148A   060   A100    9   50     25     56     4440    2226   1203    CHANNEL     900  0.01500     13     0.00    0.014  0.014    --     --
  149A   060   A100   20    5    176    123     4616    2229   1203    CHANNEL    3100  0.01500     13     0.00    0.014  0.014    --     --
  150A :  DUMMY
  150A   ---   ---    --   --    ---    ---     4616    2227   1206    -------    ----  -------    ---     ----    -----  -----    --     --


                                    Issue/Warning Messages
   TYPE      ERR NO   PROCEDURE    LOCATION   MESSAGE
  ------------------------------------------------------------------------------------------------------------------------------------------
    NO ISSUES OR WARNINGS DETECTED
------------------------------------------------------------------------------------------------------------------------------------------
------------------------------------------------------------------------------------------------------------------------------------------
         ***************************************************************************************
         *      INCOMING HYDROGRAPH  PEAK (cfs):    341.29         VOLUME (acre-ft):     34.92      *
         *      NO HYDROGRAPH ADJUSTMENT                                                          *
         *      NO HYDROGRAPH FATTENING                                                           *
         ***************************************************************************************

         TIME   PRE-ADJ  POST-ADJ                TIME   PRE-ADJ  POST-ADJ
         (min)   (cfs)    (cfs)                  (min)   (cfs)    (cfs)
         -------------------------------------------------------------
            0      0.00      0.00                 100      7.86      7.86
          200      7.86      7.86                 300      7.86      7.86
          400      7.85      7.85                 500      7.86      7.86
          600      8.87      8.87                 700     12.05     12.05
          800     12.20     12.20                 900     15.68     15.68
         1000     22.69     22.69                1050     30.37     30.37
         1100     42.37     42.37                1110     71.08     71.08
         1120    100.42    100.42                1130    102.20    102.20
         1131    101.56    101.56                1132    101.02    101.02
         1133    100.08    100.08                1134     99.25     99.25
         1135     98.38     98.38                1136     97.39     97.39
         1137     96.75     96.75                1138     96.41     96.41
         1139     96.15     96.15                1140     95.96     95.96
         1141     96.28     96.28                1142     97.11     97.11
         1143     98.73     98.73                1144    100.44    100.44
         1145    105.52    105.52                1146    112.25    112.25
         1147    121.06    121.06                1148    130.27    130.27
         1149    152.68    152.68                1150    184.11    184.11
         1151    223.99    223.99                1152    265.06    265.06
```

1153	307.41	307.41	1154	334.28	334.28
1155	341.29	341.29	1156	317.82	317.82
1157	279.99	279.99	1158	232.76	232.76
1159	184.96	184.96	1160	145.71	145.71
1161	125.47	125.47	1162	113.55	113.55
1163	107.03	107.03	1164	104.29	104.29
1165	100.45	100.45	1166	95.42	95.42
1167	88.83	88.83	1168	80.92	80.92
1169	72.06	72.06	1170	63.23	63.23
1171	55.62	55.62	1172	51.95	51.95
1173	49.10	49.10	1174	46.79	46.79
1175	45.66	45.66	1176	44.89	44.89
1177	43.74	43.74	1178	42.76	42.76
1179	41.12	41.12	1180	39.29	39.29
1181	37.55	37.55	1182	35.63	35.63
1183	34.10	34.10	1184	33.36	33.36
1185	32.80	32.80	1186	32.79	32.79
1187	32.55	32.55	1188	32.33	32.33
1189	31.88	31.88	1190	30.94	30.94

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)	TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)
1191	29.56	29.56	1192	28.32	28.32
1193	26.73	26.73	1194	25.13	25.13
1195	24.14	24.14	1196	23.64	23.64
1197	23.17	23.17	1198	22.99	22.99
1199	22.88	22.88	1200	22.82	22.82
1201	22.83	22.83	1202	22.61	22.61
1203	22.68	22.68	1204	22.72	22.72
1205	22.73	22.73	1206	22.89	22.89
1207	22.89	22.89	1208	22.75	22.75
1209	22.76	22.76	1210	22.76	22.76
1211	22.91	22.91	1212	22.91	22.91
1213	22.75	22.75	1214	22.77	22.77
1215	22.77	22.77	1216	22.75	22.75
1217	22.80	22.80	1218	22.59	22.59
1219	22.67	22.67	1220	22.71	22.71
1221	22.73	22.73	1222	22.89	22.89
1223	22.89	22.89	1224	22.75	22.75
1225	22.29	22.29	1226	21.52	21.52
1227	20.23	20.23	1228	18.81	18.81
1229	17.06	17.06	1230	15.46	15.46
1231	14.07	14.07	1232	13.30	13.30
1233	12.84	12.84	1234	12.67	12.67
1235	12.46	12.46	1236	12.34	12.34

1237	12.13	12.13	1238	12.11	12.11
1239	12.25	12.25	1240	12.23	12.23
1241	12.22	12.22	1242	12.07	12.07
1243	12.07	12.07	1244	12.23	12.23
1245	12.22	12.22	1246	12.22	12.22
1247	12.06	12.06	1248	12.07	12.07
1249	12.23	12.23	1250	12.22	12.22
1251	12.22	12.22	1252	12.06	12.06
1253	12.07	12.07	1254	12.23	12.23
1255	12.22	12.22	1256	12.22	12.22
1257	12.06	12.06	1258	12.07	12.07
1259	12.23	12.23	1260	12.22	12.22
1261	12.06	12.06	1262	12.02	12.02
1263	11.98	11.98	1264	12.15	12.15
1265	12.17	12.17	1266	12.03	12.03
1267	12.04	12.04	1268	12.21	12.21
1269	12.21	12.21	1270	12.21	12.21
1271	12.06	12.06	1272	12.07	12.07
1273	12.23	12.23	1274	12.22	12.22
1275	12.22	12.22	1276	12.06	12.06
1277	12.07	12.07	1278	12.23	12.23
1279	12.22	12.22	1280	12.22	12.22
1281	12.06	12.06	1282	12.07	12.07
1283	12.23	12.23	1284	12.22	12.22
1285	12.22	12.22	1286	12.06	12.06
1287	12.07	12.07	1288	12.23	12.23
1289	12.22	12.22	1290	12.22	12.22
1291	12.06	12.06	1292	12.07	12.07
1293	12.23	12.23	1294	12.22	12.22
1295	12.22	12.22	1296	12.06	12.06
1297	11.91	11.91	1298	11.71	11.71
1299	11.19	11.19	1300	10.67	10.67
1310	7.84	7.84	1320	7.96	7.96
1330	7.96	7.96	1340	7.79	7.79
1350	7.90	7.90	1360	7.79	7.79
1370	7.90	7.90	1380	7.99	7.99
1390	7.79	7.79	1400	7.90	7.90
1420	7.88	7.88	1440	7.85	7.85
1460	5.23	5.23	1500	5.23	5.23

Hydrograph Printouts

HYDROGRAPH FATTENED AT 55B

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*      INCOMING HYDROGRAPH  PEAK (cfs):    427.89         VOLUME (acre-ft):     44.52      *
*      NO HYDROGRAPH ADJUSTMENT                                                            *
*      RUNOFF FACTOR(in):   3.51      TOTAL RAIN(in):   6.50      SCS Curve: 73            *
*      FATTENED HYDROGRAPH  PEAK (cfs):    427.89         VOLUME (acre-ft):     51.77      *
*****************************************************************************************

TIME   PRE-ADJ  PRE-FAT  FATTENED        TIME   PRE-ADJ  PRE-FAT  FATTENED
(min)   (cfs)    (cfs)     (cfs)         (min)   (cfs)    (cfs)     (cfs)
-------------------------------------------------------------------------
   0      0.00      0.00      0.00          100      9.84      9.84      9.97
 200      9.84      9.84     10.15          300      9.84      9.84     10.22
 400      9.83      9.83     10.31          500      9.84      9.84     10.45
 600     11.12     11.12     11.93          700     15.17     15.17     16.28
 800     15.43     15.43     17.09          900     19.78     19.78     22.47
1000     28.67     28.67     33.76         1050     37.86     37.86     45.52
1100     53.29     53.29     66.07         1110     90.10     90.10    103.25
1120    129.25    129.25    142.61         1130    132.65    132.65    148.01
1131    131.82    131.82    147.47         1132    131.20    131.20    147.13
1133    130.03    130.03    146.28         1134    129.01    129.01    145.58
1135    127.94    127.94    144.84         1136    126.56    126.56    143.81
1137    125.99    125.99    143.56         1138    125.04    125.04    142.96
1139    124.94    124.94    143.16         1140    124.38    124.38    142.95
1141    124.89    124.89    143.74         1142    126.09    126.09    145.19
1143    127.58    127.58    146.92         1144    129.90    129.90    149.43
1145    136.29    136.29    155.74         1146    144.66    144.66    163.89
1147    154.44    154.44    173.34         1148    166.08    166.08    184.50
1149    194.63    194.63    211.35         1150    232.81    232.81    247.05
1151    278.53    278.53    289.63         1152    330.65    330.65    338.02
1153    384.48    384.48    387.83         1154    420.23    420.23    420.83
1155    427.89    427.89    427.89         1156    415.46    415.46    416.44
1157    378.24    378.24    382.08         1158    322.52    322.52    330.52
1159    259.63    259.63    272.17         1160    211.43    211.43    227.29
1161    176.74    176.74    194.82         1162    156.05    156.05    175.29
1163    144.88    144.88    164.57         1164    138.61    138.61    158.39
1165    131.53    131.53    151.46         1166    124.45    124.45    144.51
1167    116.49    116.49    136.74         1168    106.78    106.78    127.33
1169     95.79     95.79    116.70         1170     84.31     84.31    105.60
1171     76.16     76.16     97.60         1172     69.25     69.25     90.78
1173     64.55     64.55     86.02         1174     61.50     61.50     82.81
1175     59.23     59.23     80.35         1176     57.47     57.47     78.37
1177     55.88     55.88     76.55         1178     54.28     54.28     74.73
1179     51.92     51.92     72.19         1180     50.26     50.26     70.32
1181     48.33     48.33     68.20         1182     46.15     46.15     65.84
1183     44.37     44.37     63.87         1184     42.83     42.83     62.13
1185     41.79     41.79     60.87         1186     41.20     41.20     60.04
1187     40.92     40.92     59.51         1188     40.74     40.74     59.08
1189     40.07     40.07     58.19         1190     39.36     39.36     57.26
1191     38.28     38.28     56.00         1192     36.72     36.72     54.27
1193     35.02     35.02     52.41         1194     33.30     33.30     50.54
1195     31.97     31.97     49.03         1196     30.65     30.65     47.55
1197     29.91     29.91     46.62         1198     29.42     29.42     45.94
1199     29.12     29.12     45.44         1200     28.96     28.96     45.08
1201     28.88     28.88     44.80         1202     28.83     28.83     44.55
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1203	28.74	28.74	44.27	1204	28.69	28.69	44.03
1205	28.72	28.72	43.87	1206	28.90	28.90	43.86
1207	28.84	28.84	43.62	1208	28.89	28.89	43.49
1209	28.83	28.83	43.26	1210	28.79	28.79	43.05
1211	28.94	28.94	43.03	1212	28.87	28.87	42.79
1213	28.90	28.90	42.67	1214	28.84	28.84	42.45
1215	28.79	28.79	42.25	1216	28.79	28.79	42.09
1217	28.79	28.79	41.94	1218	28.78	28.78	41.78
1219	28.71	28.71	41.57	1220	28.67	28.67	41.39
1221	28.71	28.71	41.29	1222	28.90	28.90	41.33
1223	28.84	28.84	41.14	1224	28.89	28.89	41.05
1225	28.36	28.36	40.41	1226	27.61	27.61	39.55
1227	26.42	26.42	38.27	1228	24.86	24.86	36.63
1229	23.13	23.13	34.83	1230	21.19	21.19	32.82
1231	19.60	19.60	31.15	1232	18.09	18.09	29.56
1233	17.19	17.19	28.58	1234	16.50	16.50	27.79
1235	16.10	16.10	27.28	1236	15.85	15.85	26.93
1237	15.53	15.53	26.50	1238	15.50	15.50	26.37

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)	TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)
1239	15.39	15.39	26.15	1240	15.40	15.40	26.06
1241	15.44	15.44	25.99	1242	15.30	15.30	25.75
1243	15.38	15.38	25.73	1244	15.33	15.33	25.57
1245	15.37	15.37	25.52	1246	15.42	15.42	25.47
1247	15.29	15.29	25.25	1248	15.38	15.38	25.24
1249	15.32	15.32	25.10	1250	15.37	15.37	25.04
1251	15.42	15.42	25.01	1252	15.29	15.29	24.79
1253	15.38	15.38	24.79	1254	15.32	15.32	24.65
1255	15.37	15.37	24.61	1256	15.42	15.42	24.58
1257	15.29	15.29	24.37	1258	15.38	15.38	24.37
1259	15.32	15.32	24.24	1260	15.37	15.37	24.20
1261	15.28	15.28	24.04	1262	15.23	15.23	23.91
1263	15.29	15.29	23.90	1264	15.25	15.25	23.78
1265	15.28	15.28	23.74	1266	15.21	15.21	23.59
1267	15.32	15.32	23.64	1268	15.29	15.29	23.53
1269	15.34	15.34	23.51	1270	15.41	15.41	23.51
1271	15.28	15.28	23.32	1272	15.37	15.37	23.34
1273	15.32	15.32	23.23	1274	15.36	15.36	23.20
1275	15.42	15.42	23.19	1276	15.29	15.29	23.00
1277	15.38	15.38	23.02	1278	15.32	15.32	22.91
1279	15.37	15.37	22.89	1280	15.42	15.42	22.89
1281	15.29	15.29	22.69	1282	15.38	15.38	22.72
1283	15.32	15.32	22.61	1284	15.37	15.37	22.60
1285	15.42	15.42	22.59	1286	15.29	15.29	22.41

1287	15.38	15.38	22.44	1288	15.32	15.32	22.33
1289	15.37	15.37	22.32	1290	15.42	15.42	22.32
1291	15.29	15.29	22.14	1292	15.38	15.38	22.17
1293	15.32	15.32	22.07	1294	15.37	15.37	22.06
1295	15.42	15.42	22.07	1296	15.29	15.29	21.88
1297	15.23	15.23	21.77	1298	14.82	14.82	21.33
1299	14.36	14.36	20.82	1300	13.90	13.90	20.32
1310	10.24	10.24	16.28	1320	9.87	9.87	15.51
1330	10.04	10.04	15.31	1340	9.79	9.79	14.74
1350	9.87	9.87	14.53	1360	9.79	9.79	14.18
1370	9.87	9.87	14.02	1380	10.01	10.01	13.93
1390	9.79	9.79	13.51	1400	9.87	9.87	13.41
1420	9.88	9.88	13.09	1440	9.83	9.83	12.75
1460	7.86	7.86	10.55	1500	7.86	7.86	10.15

RESERVOIR ROUTING AT 56F

DESCRIPTION: EMERGENCY SPILLWAY DESIGNED TO PASS 1084 CFS AT 2' OVER 140 WEIR CREST (C=2.8)

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**********************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):   1082.44         VOLUME (acre-ft):    164.74      *
*      NO HYDROGRAPH ADJUSTMENT                                                    *
*      NO HYDROGRAPH FATTENING                                                     *
*      RESERVOIR INFLOW:    PEAK (cfs):   1082.44 @ 1156  VOLUME (acre-ft):    164.74      *
*      MAXIMUM ELEVATION:   STAGE (ft):    489.81 @ 1194  VOLUME (acre-ft):     60.09      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    491.00         VOLUME (acre-ft):     70.56      *
*          DIFFERENCE:   IN STAGE (ft):     -1.19      IN VOLUME (acre-ft):     10.47      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     14.8%      *
*      TOP OF DAM:           ELEV (ft):    496.00         VOLUME (acre-ft):    117.01      *
*          DIFFERENCE    IN STAGE (ft):     -6.19      IN VOLUME (acre-ft):     56.93      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     48.6%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):    412.75 @ 1194  VOLUME (acre-ft):    135.42      *
**********************************************************************************
```

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	480.00
100	9.97	9.97	0.91	480.58
200	10.15	10.15	5.06	481.27
300	10.22	10.22	8.58	481.44
400	10.31	10.31	9.73	481.50
500	10.45	10.45	10.16	481.52
600	11.93	11.93	10.66	481.55
700	17.28	17.28	12.68	481.64

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
800	22.09	22.09	16.95	481.79
900	37.47	37.47	23.86	482.03
1000	76.76	76.76	41.91	482.55
1050	125.52	125.52	63.00	483.09
1100	216.07	216.07	87.39	483.97
1110	307.25	307.25	94.12	484.27
1120	417.61	417.61	103.37	484.74
1130	485.01	485.01	113.89	485.32
1131	489.47	489.47	114.99	485.38
1132	494.13	494.13	116.11	485.45
1133	497.28	497.28	117.23	485.51
1134	501.58	501.58	118.36	485.58
1135	505.84	505.84	119.45	485.65
1136	509.81	509.81	120.52	485.71
1137	514.56	514.56	121.61	485.78
1138	517.96	517.96	122.70	485.85
1139	523.16	523.16	123.80	485.92
1140	526.95	526.95	124.91	485.99
1141	530.74	530.74	125.97	486.06
1142	536.19	536.19	127.04	486.13
1143	541.92	541.92	128.11	486.20
1144	547.43	547.43	129.20	486.27
1145	557.74	557.74	130.30	486.34
1146	576.89	576.89	131.43	486.42
1147	597.34	597.34	132.55	486.49
1148	619.50	619.50	133.73	486.57
1149	658.35	658.35	134.97	486.66
1150	705.05	705.05	136.32	486.75
1151	791.63	791.63	137.79	486.86
1152	884.02	884.02	139.43	486.97
1153	978.83	978.83	141.29	487.11
1154	1055.83	1055.83	143.30	487.25
1155	1077.89	1077.89	145.37	487.41
1156	1082.44	1082.44	147.46	487.56
1157	1063.08	1063.08	149.60	487.72
1158	1027.52	1027.52	151.69	487.86
1159	984.17	984.17	154.01	488.00
1160	955.29	955.29	164.43	488.14
1161	908.82	908.82	174.24	488.26
1162	876.29	876.29	183.42	488.38
1163	851.57	851.57	196.21	488.49
1164	832.39	832.39	209.20	488.59
1165	811.46	811.46	221.52	488.69
1166	798.51	798.51	233.26	488.79
1167	784.74	784.74	246.76	488.88
1168	769.33	769.33	259.97	488.96
1169	751.70	751.70	272.44	489.04
1170	730.60	730.60	284.12	489.11

1171	711.60	711.60	295.00	489.18
1172	693.78	693.78	306.31	489.25
1173	679.02	679.02	317.22	489.31
1174	664.81	664.81	327.40	489.36
1175	651.35	651.35	336.89	489.42
1176	637.37	637.37	345.71	489.46
1177	622.55	622.55	353.86	489.51
1178	607.73	607.73	361.36	489.55
1179	593.19	593.19	368.22	489.59
1180	578.32	578.32	374.92	489.62
1181	560.20	560.20	381.11	489.65
1182	541.84	541.84	386.52	489.68
1183	523.87	523.87	391.18	489.70
1184	506.13	506.13	395.13	489.72
1185	496.87	496.87	398.52	489.74
1186	488.04	488.04	401.51	489.75
1187	479.51	479.51	404.13	489.77
1188	471.08	471.08	406.40	489.78
1189	461.19	461.19	408.30	489.79
1190	452.26	452.26	409.85	489.79
1191	444.00	444.00	411.07	489.80
1192	434.27	434.27	411.96	489.80
1193	424.41	424.41	412.52	489.81

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1194	415.54	415.54	412.75	489.81
1195	406.03	406.03	412.69	489.81
1196	396.55	396.55	412.33	489.81
1197	388.62	388.62	411.70	489.80
1198	379.94	379.94	410.82	489.80
1199	371.44	371.44	409.70	489.79
1200	367.08	367.08	408.42	489.79
1201	363.80	363.80	407.05	489.78
1202	359.55	359.55	405.60	489.77
1203	355.27	355.27	404.07	489.76
1204	352.03	352.03	402.46	489.76
1205	347.87	347.87	400.79	489.75
1206	343.86	343.86	399.04	489.74
1207	340.62	340.62	397.23	489.73
1208	336.49	336.49	395.36	489.72
1209	333.26	333.26	393.43	489.71
1210	329.05	329.05	391.44	489.70
1211	325.03	325.03	389.39	489.69
1212	320.79	320.79	387.27	489.68

1213	316.67	316.67	385.09	489.67
1214	313.45	313.45	382.86	489.66
1215	310.25	310.25	380.60	489.65
1216	308.09	308.09	378.32	489.64
1217	305.94	305.94	376.05	489.63
1218	302.78	302.78	373.76	489.62
1219	300.57	300.57	371.47	489.61
1220	298.39	298.39	369.29	489.59
1221	295.29	295.29	367.21	489.58
1222	293.33	293.33	365.12	489.57
1223	291.14	291.14	363.03	489.56
1224	288.05	288.05	360.92	489.55
1225	285.41	285.41	358.79	489.54
1226	280.55	280.55	356.62	489.52
1227	275.27	275.27	354.36	489.51
1228	270.63	270.63	352.03	489.50
1229	264.83	264.83	349.61	489.49
1230	260.82	260.82	347.12	489.47
1231	256.15	256.15	344.57	489.46
1232	251.56	251.56	341.97	489.44
1233	248.58	248.58	339.33	489.43
1234	244.79	244.79	336.67	489.41
1235	241.28	241.28	333.99	489.40
1236	238.93	238.93	331.29	489.39
1237	235.50	235.50	328.59	489.37
1238	233.37	233.37	325.89	489.36
1239	230.15	230.15	323.19	489.34
1240	228.06	228.06	320.49	489.33
1241	224.99	224.99	317.80	489.31
1242	222.75	222.75	315.10	489.30
1243	219.73	219.73	312.41	489.28
1244	217.57	217.57	309.72	489.27
1245	216.52	216.52	307.06	489.25
1246	214.47	214.47	304.43	489.24
1247	213.25	213.25	301.83	489.22
1248	211.24	211.24	299.26	489.21
1249	210.10	210.10	296.83	489.20
1250	208.04	208.04	294.64	489.18
1251	207.01	207.01	292.47	489.17
1252	204.79	204.79	290.32	489.15
1253	202.79	202.79	288.16	489.14
1254	201.65	201.65	286.02	489.13
1255	199.61	199.61	283.89	489.11
1256	197.58	197.58	281.77	489.10
1257	195.37	195.37	279.64	489.09
1258	193.37	193.37	277.52	489.07
1259	191.24	191.24	275.39	489.06
1260	189.20	189.20	273.27	489.04
1261	188.04	188.04	271.16	489.03
1262	185.91	185.91	269.07	489.02
1263	183.90	183.90	266.97	489.00
1264	182.78	182.78	264.89	488.99

Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1265	181.74	181.74	262.83	488.98
1266	179.59	179.59	260.78	488.96
1267	178.64	178.64	258.75	488.95
1268	177.53	177.53	256.74	488.94
1269	176.51	176.51	254.75	488.93
1270	175.51	175.51	252.79	488.91
1271	173.32	173.32	250.84	488.90
1272	171.34	171.34	248.88	488.89
1273	170.23	170.23	246.94	488.88
1274	168.20	168.20	245.00	488.86
1275	167.19	167.19	243.07	488.85
1276	166.00	166.00	241.17	488.84
1277	165.02	165.02	239.28	488.83
1278	162.91	162.91	237.41	488.82
1279	161.89	161.89	235.54	488.80
1280	160.89	160.89	233.94	488.79
1281	159.69	159.69	232.46	488.78
1282	158.72	158.72	230.98	488.77
1283	158.61	158.61	229.53	488.76
1284	157.60	157.60	228.09	488.74
1285	156.59	156.59	226.66	488.73
1286	154.41	154.41	225.23	488.72
1287	153.44	153.44	223.80	488.71
1288	151.33	151.33	222.36	488.70
1289	150.32	150.32	220.92	488.69
1290	149.32	149.32	219.49	488.68
1291	148.14	148.14	218.07	488.66
1292	147.17	147.17	216.65	488.65
1293	146.07	146.07	215.25	488.64
1294	145.06	145.06	213.84	488.63
1295	144.07	144.07	212.45	488.62
1296	142.88	142.88	211.06	488.61
1297	141.77	141.77	209.68	488.60
1298	140.33	140.33	208.30	488.59
1299	138.82	138.82	206.92	488.58
1300	137.32	137.32	205.53	488.56
1310	119.28	119.28	192.05	488.46
1320	106.51	106.51	180.48	488.34
1330	97.31	97.31	171.24	488.22
1340	85.74	85.74	161.93	488.11
1350	74.53	74.53	153.39	487.98
1360	66.18	66.18	151.51	487.85
1370	58.02	58.02	149.48	487.71

1380	51.93	51.93	147.36	487.56
1390	46.51	46.51	145.21	487.40
1400	41.41	41.41	142.99	487.23
1420	35.09	35.09	138.28	486.89
1440	29.75	29.75	133.31	486.54
1460	19.55	19.55	128.01	486.19
1500	10.15	10.15	116.39	485.46

Hydrograph Printouts

Stage - Storage - Discharge Curve for Reservoir at 56F

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
480.00	0.000	0.00
480.40	0.126	0.52
480.80	0.504	1.39
481.20	1.142	3.73
481.60	2.081	11.68
482.00	3.330	22.77
482.40	4.842	36.26
482.80	6.574	51.76
483.20	8.529	67.25
483.60	10.738	78.61
484.00	13.206	88.23
484.40	15.909	96.81
484.80	18.826	104.64
485.20	21.934	111.89
485.60	25.094	118.69
486.00	28.282	125.10
486.40	31.499	131.20
486.80	34.744	137.02
487.20	38.017	142.59
487.60	41.320	147.96
488.00	44.651	153.62
488.40	48.010	184.98
488.80	51.399	234.97
489.20	54.816	297.55
489.60	58.262	370.38
490.00	61.737	452.07
490.40	65.241	541.69
490.80	68.774	638.54
491.20	72.337	776.41
491.60	75.929	1,030.22
492.00	79.550	1,313.70
492.40	83.200	1,339.36
492.80	86.880	1,364.54
493.20	90.589	1,389.26
493.60	94.329	1,413.55

494.00	98.097	1,437.43
494.40	101.880	1,460.92
494.80	105.663	1,484.04
495.20	109.447	1,506.80
495.60	113.230	1,529.23
496.00	117.013	1,551.33

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 57AB

DESCRIPTION: COMBINED OUTFLOW FROM BASIN 3 AND BY-PASS DIVERTED UPSTREAM OF BASIN 3
TOTAL AREA TO HYDROGRAPH: 1083 acres
HYDROGRAPH PEAK: 525 cfs
TIME OF PEAK: 1193 minutes
HYDROGRAPH VOLUME: 242.22 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	21.91	200	29.92	300	39.47	400	41.74
500	44.07	600	48.61	700	60.42	800	68.03	900	79.63
1000	107.85	1050	139.46	1100	176.20	1110	188.83	1120	205.64
1130	221.93	1131	223.81	1132	225.64	1133	227.16	1134	228.49
1135	230.03	1136	231.60	1137	233.18	1138	234.63	1139	235.92
1140	237.49	1141	238.91	1142	240.16	1143	241.69	1144	243.14
1145	244.29	1146	245.56	1147	247.27	1148	249.39	1149	251.63
1150	253.83	1151	256.14	1152	259.61	1153	264.30	1154	269.31
1155	274.09	1156	277.99	1157	281.26	1158	284.22	1159	287.09
1160	298.17	1161	308.63	1162	317.75	1163	330.11	1164	342.46
1165	353.84	1166	364.73	1167	377.68	1168	390.39	1169	402.50
1170	413.98	1171	424.41	1172	435.23	1173	445.49	1174	454.87
1175	463.81	1176	471.98	1177	479.19	1178	485.84	1179	492.15
1180	498.19	1181	503.44	1182	507.86	1183	511.53	1184	514.48
1185	516.87	1186	518.86	1187	520.62	1188	522.34	1189	523.60
1190	524.33	1191	525.00	1192	525.39	1193	525.45	1194	525.05
1195	524.18	1196	523.27	1197	522.13	1198	520.76	1199	519.01
1200	516.91	1201	515.12	1202	513.48	1203	511.49	1204	509.52
1205	507.67	1206	505.46	1207	503.29	1208	501.24	1209	498.86
1210	496.38	1211	493.83	1212	491.34	1213	488.97	1214	486.29
1215	483.66	1216	481.33	1217	478.92	1218	476.20	1219	473.53
1220	471.30	1221	469.09	1222	466.56	1223	464.10	1224	461.93
1225	459.67	1226	457.05	1227	454.43	1228	451.91	1229	449.04
1230	446.18	1231	443.46	1232	440.41	1233	437.40	1234	434.57
1235	431.43	1236	428.36	1237	425.49	1238	422.33	1239	419.26
1240	416.50	1241	413.68	1242	410.54	1243	407.47	1244	404.61

1245	401.50	1246	398.50	1247	395.84	1248	393.26	1249	390.83
1250	388.53	1251	385.92	1252	383.38	1253	381.17	1254	379.02
1255	376.78	1256	374.21	1257	371.71	1258	369.42	1259	366.84
1260	364.34	1261	362.17	1262	360.07	1263	357.86	1264	355.34
1265	352.90	1266	350.79	1267	348.75	1268	346.63	1269	344.20
1270	341.86	1271	339.85	1272	337.88	1273	335.83	1274	333.48
1275	331.17	1276	329.19	1277	327.29	1278	325.41	1279	323.44
1280	321.42	1281	319.56	1282	318.00	1283	316.53	1284	315.09
1285	313.57	1286	311.72	1287	309.90	1288	308.38	1289	306.93
1290	305.40	1291	303.56	1292	301.76	1293	300.27	1294	298.85
1295	297.45	1296	295.97	1297	294.17	1298	292.40	1299	290.94
1300	289.54	1310	273.65	1320	259.65	1330	248.66	1340	237.17
1350	225.97	1360	220.92	1370	216.82	1380	212.68	1390	208.54
1400	204.32	1420	197.39	1440	190.52	1460	181.40	1500	137.39

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 58B

DESCRIPTION: EAST OF A STREET AND BASIN 3 (POTENTIAL WQ TREATMENT AREA) DRAINS DIRECT TO WCC - ASSUMED PIPE BELOW HIGH ABLE TO CARRY PEAK FLOW

TOTAL AREA TO HYDROGRAPH: 21 acres
HYDROGRAPH PEAK: 37 cfs
TIME OF PEAK: 1154 minutes
HYDROGRAPH VOLUME: 2.86 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	0.48	200	0.48	300	0.48	400	0.48
500	0.48	600	0.56	700	0.78	800	0.78	900	1.03
1000	1.47	1050	1.90	1100	3.17	1110	8.64	1120	12.08
1130	11.84	1131	11.71	1132	11.65	1133	11.51	1134	11.46
1135	11.40	1136	11.27	1137	11.21	1138	11.07	1139	11.02
1140	10.88	1141	11.12	1142	11.28	1143	11.52	1144	11.68
1145	12.72	1146	13.75	1147	14.63	1148	15.66	1149	19.91
1150	24.13	1151	28.27	1152	32.46	1153	36.67	1154	37.42
1155	36.59	1156	35.69	1157	34.71	1158	33.74	1159	29.47
1160	25.30	1161	21.15	1162	16.98	1163	12.72	1164	11.84
1165	10.88	1166	10.08	1167	9.44	1168	8.64	1169	7.76
1170	6.96	1171	6.06	1172	5.16	1173	4.34	1174	3.44
1175	3.44	1176	3.44	1177	3.19	1178	3.03	1179	2.78
1180	2.53	1181	2.36	1182	2.19	1183	2.13	1184	2.09
1185	2.03	1186	1.99	1187	1.99	1188	1.97	1189	1.93
1190	1.89	1191	1.83	1192	1.78	1193	1.72	1194	1.66
1195	1.64	1196	1.58	1197	1.52	1198	1.48	1199	1.48
1200	1.46	1201	1.48	1202	1.48	1203	1.48	1204	1.48

1205	1.46	1206	1.48	1207	1.48	1208	1.48	1209	1.48
1210	1.48	1211	1.48	1212	1.48	1213	1.48	1214	1.48
1215	1.48	1216	1.46	1217	1.48	1218	1.48	1219	1.48
1220	1.48	1221	1.46	1222	1.48	1223	1.48	1224	1.48
1225	1.42	1226	1.35	1227	1.25	1228	1.19	1229	1.13
1230	1.07	1231	1.00	1232	0.90	1233	0.84	1234	0.78
1235	0.78	1236	0.78	1237	0.78	1238	0.78	1239	0.78
1240	0.78	1241	0.78	1242	0.78	1243	0.78	1244	0.78
1245	0.78	1246	0.78	1247	0.78	1248	0.78	1249	0.78
1250	0.78	1251	0.78	1252	0.78	1253	0.78	1254	0.78
1255	0.78	1256	0.78	1257	0.78	1258	0.78	1259	0.78
1260	0.78	1261	0.76	1262	0.78	1263	0.78	1264	0.78
1265	0.78	1266	0.76	1267	0.78	1268	0.78	1269	0.78
1270	0.78	1271	0.78	1272	0.78	1273	0.78	1274	0.78
1275	0.78	1276	0.78	1277	0.78	1278	0.78	1279	0.78
1280	0.78	1281	0.78	1282	0.78	1283	0.78	1284	0.78
1285	0.78	1286	0.78	1287	0.78	1288	0.78	1289	0.78
1290	0.78	1291	0.78	1292	0.78	1293	0.78	1294	0.78
1295	0.78	1296	0.78	1297	0.76	1298	0.72	1299	0.68
1300	0.66	1310	0.47	1320	0.49	1330	0.49	1340	0.47
1350	0.49	1360	0.47	1370	0.49	1380	0.49	1390	0.47
1400	0.49	1420	0.48	1440	0.48	1460	0.00	1500	0.00

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 65B

DESCRIPTION: WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
TOTAL AREA TO HYDROGRAPH: 185 acres
HYDROGRAPH PEAK: 154 cfs
TIME OF PEAK: 1168 minutes
HYDROGRAPH VOLUME: 11.15 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	0.68	200	0.68	300	0.68	400	0.68
500	0.68	600	0.70	700	0.81	800	0.85	900	0.94
1000	1.18	1050	1.37	1100	4.23	1110	12.44	1120	23.89
1130	40.32	1131	42.32	1132	44.43	1133	46.42	1134	48.51
1135	50.60	1136	52.71	1137	54.87	1138	56.82	1139	58.79
1140	60.82	1141	62.89	1142	64.87	1143	66.52	1144	67.99
1145	70.73	1146	73.06	1147	75.28	1148	77.44	1149	84.54
1150	91.33	1151	98.54	1152	106.18	1153	114.74	1154	118.27
1155	121.96	1156	126.56	1157	131.36	1158	130.90	1159	130.43
1160	130.09	1161	129.94	1162	129.78	1163	134.83	1164	141.03

1165	145.49	1166	149.31	1167	152.28	1168	153.60	1169	153.06
1170	150.67	1171	146.35	1172	140.57	1173	133.76	1174	127.31
1175	120.27	1176	112.76	1177	105.17	1178	97.86	1179	90.63
1180	84.05	1181	77.90	1182	72.38	1183	67.30	1184	62.67
1185	58.44	1186	54.59	1187	51.09	1188	47.92	1189	45.11
1190	42.53	1191	40.07	1192	37.74	1193	35.65	1194	33.63
1195	31.66	1196	29.76	1197	27.95	1198	26.24	1199	24.64
1200	23.13	1201	21.72	1202	20.38	1203	19.11	1204	18.14
1205	17.24	1206	16.37	1207	15.51	1208	14.68	1209	13.87
1210	13.10	1211	12.36	1212	11.65	1213	10.97	1214	10.33
1215	9.72	1216	9.16	1217	8.65	1218	8.18	1219	7.74
1220	7.34	1221	6.97	1222	6.64	1223	6.32	1224	6.03
1225	5.74	1226	5.48	1227	5.23	1228	5.00	1229	4.80
1230	4.64	1231	4.49	1232	4.33	1233	4.19	1234	4.05
1235	3.92	1236	3.79	1237	3.67	1238	3.54	1239	3.42
1240	3.33	1241	3.24	1242	3.15	1243	3.06	1244	2.97
1245	2.88	1246	2.80	1247	2.71	1248	2.63	1249	2.56
1250	2.48	1251	2.42	1252	2.34	1253	2.28	1254	2.22
1255	2.15	1256	2.10	1257	2.04	1258	1.99	1259	1.93
1260	1.88	1261	1.84	1262	1.79	1263	1.75	1264	1.70
1265	1.66	1266	1.62	1267	1.59	1268	1.55	1269	1.52
1270	1.49	1271	1.45	1272	1.42	1273	1.39	1274	1.37
1275	1.34	1276	1.31	1277	1.30	1278	1.28	1279	1.26
1280	1.24	1281	1.23	1282	1.21	1283	1.19	1284	1.18
1285	1.17	1286	1.15	1287	1.14	1288	1.12	1289	1.11
1290	1.10	1291	1.09	1292	1.08	1293	1.07	1294	1.06
1295	1.05	1296	1.04	1297	1.03	1298	1.01	1299	1.00
1300	0.99	1310	0.91	1320	0.85	1330	0.79	1340	0.74
1350	0.71	1360	0.69	1370	0.69	1380	0.68	1390	0.68
1400	0.68	1420	0.68	1440	0.68	1460	0.63	1500	0.63

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 73BC

DESCRIPTION: CONFLUENCE OF WEST HITCH RANCH (WEST AND MIDDLE FORK) - UPSTREAM OF BASIN 2B
TOTAL AREA TO HYDROGRAPH: 316 acres
HYDROGRAPH PEAK: 272 cfs
TIME OF PEAK: 1158 minutes
HYDROGRAPH VOLUME: 26.16 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	2.71	200	2.71	300	2.71	400	2.71
500	2.71	600	3.01	700	3.98	800	4.13	900	5.16

1000	7.21	1050	10.19	1100	19.99	1110	40.69	1120	66.23
1130	82.47	1131	83.78	1132	85.30	1133	86.57	1134	87.98
1135	89.33	1136	90.45	1137	91.79	1138	93.06	1139	94.49
1140	96.05	1141	98.36	1142	100.62	1143	103.19	1144	105.82
1145	110.76	1146	115.68	1147	121.13	1148	127.66	1149	142.31
1150	157.29	1151	175.24	1152	197.25	1153	222.02	1154	240.63
1155	257.04	1156	267.45	1157	272.05	1158	272.12	1159	264.65
1160	253.60	1161	242.59	1162	232.12	1163	222.05	1164	216.69
1165	210.47	1166	205.53	1167	201.07	1168	196.16	1169	191.59
1170	188.09	1171	185.24	1172	183.03	1173	181.00	1174	178.93
1175	177.86	1176	176.29	1177	173.79	1178	170.90	1179	167.29
1180	163.11	1181	158.59	1182	153.45	1183	148.02	1184	142.61
1185	136.94	1186	131.16	1187	125.53	1188	119.87	1189	114.23
1190	108.91	1191	103.69	1192	98.71	1193	93.87	1194	89.24
1195	84.93	1196	80.76	1197	76.79	1198	73.11	1199	69.73
1200	66.51	1201	63.58	1202	60.75	1203	58.13	1204	55.71
1205	53.40	1206	51.28	1207	49.17	1208	47.12	1209	45.18
1210	43.39	1211	41.80	1212	40.24	1213	38.70	1214	37.25
1215	35.86	1216	34.50	1217	33.30	1218	32.06	1219	30.90
1220	29.79	1221	28.68	1222	27.72	1223	26.84	1224	26.05
1225	25.12	1226	24.21	1227	23.22	1228	22.34	1229	21.45
1230	20.57	1231	19.70	1232	18.81	1233	18.02	1234	17.28
1235	16.65	1236	16.05	1237	15.46	1238	14.92	1239	14.44
1240	13.96	1241	13.50	1242	13.04	1243	12.63	1244	12.27
1245	11.90	1246	11.55	1247	11.19	1248	10.88	1249	10.60
1250	10.32	1251	10.09	1252	9.87	1253	9.69	1254	9.53
1255	9.35	1256	9.18	1257	8.99	1258	8.83	1259	8.70
1260	8.55	1261	8.35	1262	8.24	1263	8.11	1264	8.00
1265	7.87	1266	7.68	1267	7.59	1268	7.50	1269	7.39
1270	7.27	1271	7.14	1272	7.04	1273	6.96	1274	6.86
1275	6.77	1276	6.65	1277	6.56	1278	6.50	1279	6.42
1280	6.33	1281	6.23	1282	6.15	1283	6.10	1284	6.03
1285	5.96	1286	5.87	1287	5.80	1288	5.76	1289	5.70
1290	5.64	1291	5.56	1292	5.50	1293	5.47	1294	5.42
1295	5.37	1296	5.30	1297	5.19	1298	5.06	1299	4.90
1300	4.80	1310	3.88	1320	3.53	1330	3.32	1340	3.12
1350	3.06	1360	2.92	1370	2.91	1380	2.86	1390	2.77
1400	2.79	1420	2.74	1440	2.72	1460	1.43	1500	1.43

RESERVOIR ROUTING AT 76D

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**********************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):    129.61         VOLUME (acre-ft):      9.70      *
*      NO HYDROGRAPH ADJUSTMENT                                                  *
*      RUNOFF FACTOR(in):   2.44      TOTAL RAIN(in):   6.50      SCS Curve: 62          *
*      FATTENED HYDROGRAPH  PEAK (cfs):    129.61         VOLUME (acre-ft):     13.02      *
*      RESERVOIR INFLOW:    PEAK (cfs):    129.61 @ 1154  VOLUME (acre-ft):     13.02      *
*      MAXIMUM ELEVATION:   STAGE (ft):    516.30 @ 1163  VOLUME (acre-ft):      1.75      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    517.34         VOLUME (acre-ft):      2.92      *
*          DIFFERENCE:   IN STAGE (ft):     -1.04      IN VOLUME (acre-ft):      1.17      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     39.9%      *
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*      TOP OF DAM:           ELEV (ft):    522.00         VOLUME (acre-ft):      9.52      *
*          DIFFERENCE    IN STAGE (ft):     -5.70      IN VOLUME (acre-ft):      7.77      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     81.6%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):     48.87 @ 1163  VOLUME (acre-ft):     12.29      *
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Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	0.00	513.00
100	1.80	1.80	1.86	0.91	513.02
200	1.80	1.80	1.94	1.90	513.04
300	1.80	1.80	1.97	1.96	513.04
400	1.80	1.80	2.02	2.00	513.04
500	1.80	1.80	2.08	2.05	513.04
600	2.01	2.01	2.38	2.22	513.05
700	2.65	2.65	3.16	2.76	513.06
800	2.66	2.66	3.42	3.28	513.07
900	3.38	3.38	4.61	4.01	513.09
1000	4.89	4.89	7.26	5.91	513.13
1050	7.56	7.56	11.13	9.13	513.20
1100	12.01	12.01	17.99	13.88	513.50
1110	25.20	25.20	31.25	18.66	513.79
1120	36.86	36.86	43.03	26.50	514.25
1130	37.62	37.62	44.74	32.52	514.65
1131	37.32	37.32	44.57	32.87	514.69
1132	36.94	36.94	44.34	33.20	514.72
1133	36.54	36.54	44.09	33.52	514.74
1134	36.16	36.16	43.86	33.82	514.77
1135	35.89	35.89	43.74	34.11	514.80
1136	35.58	35.58	43.58	34.37	514.82
1137	35.43	35.43	43.57	34.62	514.84
1138	35.18	35.18	43.48	34.86	514.86
1139	35.04	35.04	43.50	35.10	514.88
1140	34.75	34.75	43.37	35.33	514.90
1141	35.20	35.20	43.93	35.55	514.92
1142	35.80	35.80	44.62	35.79	514.94
1143	36.46	36.46	45.37	36.04	514.96
1144	37.19	37.19	46.18	36.30	514.99
1145	40.08	40.08	48.94	36.59	515.01
1146	43.49	43.49	52.17	36.91	515.04
1147	46.60	46.60	55.11	37.30	515.08
1148	50.61	50.61	58.85	37.76	515.12
1149	63.34	63.34	70.39	38.38	515.18
1150	78.33	78.33	83.88	39.20	515.26
1151	93.20	93.20	97.22	40.24	515.36

1152	110.69	110.69	112.82	41.44	515.48
1153	127.60	127.60	127.83	42.80	515.62
1154	129.61	129.61	129.61	44.14	515.76
1155	122.06	122.06	122.92	45.32	515.89
1156	113.97	113.97	115.73	46.34	516.00
1157	101.27	101.27	104.40	47.14	516.09
1158	86.73	86.73	91.39	47.77	516.17
1159	72.89	72.89	78.94	48.22	516.22
1160	63.28	63.28	70.24	48.53	516.25
1161	53.85	53.85	61.67	48.72	516.28
1162	46.59	46.59	55.01	48.83	516.29
1163	40.57	40.57	49.45	48.87	516.30
1164	38.79	38.79	47.70	48.87	516.30
1165	36.09	36.09	45.11	48.84	516.29
1166	33.10	33.10	42.27	48.78	516.29
1167	30.34	30.34	39.61	48.69	516.27
1168	26.98	26.98	36.42	48.57	516.26
1169	23.32	23.32	32.94	48.41	516.24
1170	20.96	20.96	30.64	48.22	516.22
1171	19.19	19.19	28.88	48.01	516.19
1172	17.18	17.18	26.89	47.75	516.16
1173	15.64	15.64	25.33	47.49	516.13
1174	14.16	14.16	23.83	47.20	516.10
1175	13.53	13.53	23.10	46.90	516.07
1176	13.11	13.11	22.58	46.60	516.03
1177	12.45	12.45	21.83	46.30	516.00
1178	11.67	11.67	20.98	45.95	515.96
1179	10.83	10.83	20.07	45.60	515.92
1180	10.11	10.11	19.27	45.24	515.88
1181	9.58	9.58	18.64	44.88	515.84
1182	9.07	9.07	18.05	44.51	515.80
1183	8.77	8.77	17.64	44.09	515.75
1184	8.71	8.71	17.46	43.68	515.71
1185	8.46	8.46	17.11	43.27	515.66

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1186	8.21	8.21	16.76	42.86	515.62
1187	8.33	8.33	16.75	42.42	515.58
1188	8.22	8.22	16.54	41.97	515.53
1189	7.67	7.67	15.91	41.52	515.48
1190	7.20	7.20	15.36	41.07	515.44
1191	6.61	6.61	14.71	40.60	515.39
1192	5.92	5.92	13.95	40.07	515.34
1193	5.27	5.27	13.24	39.53	515.29

1194	5.03	5.03	12.91	38.99	515.24
1195	5.02	5.02	12.80	38.44	515.18
1196	4.98	4.98	12.66	37.84	515.13
1197	4.94	4.94	12.52	37.25	515.07
1198	4.91	4.91	12.40	36.68	515.02
1199	4.91	4.91	12.30	36.05	514.96
1200	4.80	4.80	12.11	35.40	514.91
1201	4.82	4.82	12.04	34.77	514.85
1202	4.91	4.91	12.04	34.15	514.80
1203	4.91	4.91	11.94	33.51	514.74
1204	4.91	4.91	11.86	32.89	514.69
1205	4.89	4.89	11.76	32.28	514.63
1206	4.91	4.91	11.69	31.59	514.58
1207	4.91	4.91	11.61	30.76	514.52
1208	4.91	4.91	11.53	29.96	514.47
1209	4.91	4.91	11.46	29.20	514.41
1210	4.91	4.91	11.38	28.30	514.36
1211	4.91	4.91	11.30	27.40	514.30
1212	4.91	4.91	11.23	26.54	514.25
1213	4.91	4.91	11.16	25.73	514.20
1214	4.91	4.91	11.09	24.82	514.15
1215	4.91	4.91	11.02	23.97	514.10
1216	4.80	4.80	10.85	23.16	514.05
1217	4.82	4.82	10.80	22.39	514.01
1218	4.91	4.91	10.82	21.57	513.96
1219	4.91	4.91	10.75	20.78	513.91
1220	4.91	4.91	10.69	20.05	513.87
1221	4.89	4.89	10.61	19.37	513.83
1222	4.91	4.91	10.56	18.71	513.79
1223	4.91	4.91	10.50	18.05	513.75
1224	4.91	4.91	10.44	17.43	513.72
1225	4.60	4.60	10.09	16.85	513.68
1226	4.17	4.17	9.62	16.28	513.65
1227	3.74	3.74	9.15	15.72	513.62
1228	3.34	3.34	8.72	15.14	513.58
1229	3.04	3.04	8.37	14.54	513.54
1230	2.85	2.85	8.13	13.96	513.51
1231	2.81	2.81	8.04	13.42	513.47
1232	2.74	2.74	7.92	12.93	513.44
1233	2.70	2.70	7.83	12.46	513.41
1234	2.66	2.66	7.73	12.01	513.38
1235	2.66	2.66	7.68	11.58	513.35
1236	2.66	2.66	7.63	11.18	513.33
1237	2.66	2.66	7.58	10.82	513.30
1238	2.66	2.66	7.53	10.48	513.28
1239	2.66	2.66	7.49	10.18	513.26
1240	2.66	2.66	7.44	9.91	513.24
1241	2.66	2.66	7.39	9.65	513.22
1242	2.66	2.66	7.35	9.42	513.21
1243	2.66	2.66	7.30	9.00	513.19
1244	2.66	2.66	7.26	8.38	513.18
1245	2.66	2.66	7.21	7.97	513.17
1246	2.66	2.66	7.17	7.69	513.17

1247	2.66	2.66	7.13	7.49	513.16
1248	2.66	2.66	7.09	7.35	513.16
1249	2.66	2.66	7.05	7.25	513.16
1250	2.66	2.66	7.01	7.17	513.15
1251	2.66	2.66	6.97	7.10	513.15
1252	2.66	2.66	6.93	7.05	513.15
1253	2.66	2.66	6.89	7.00	513.15
1254	2.66	2.66	6.85	6.95	513.15
1255	2.66	2.66	6.81	6.91	513.15
1256	2.66	2.66	6.77	6.87	513.15

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1257	2.66	2.66	6.74	6.83	513.15
1258	2.66	2.66	6.70	6.79	513.15
1259	2.66	2.66	6.67	6.75	513.15
1260	2.66	2.66	6.63	6.71	513.14
1261	2.60	2.60	6.54	6.67	513.14
1262	2.61	2.61	6.52	6.62	513.14
1263	2.65	2.65	6.52	6.58	513.14
1264	2.66	2.66	6.50	6.56	513.14
1265	2.66	2.66	6.46	6.53	513.14
1266	2.64	2.64	6.42	6.50	513.14
1267	2.66	2.66	6.40	6.46	513.14
1268	2.66	2.66	6.37	6.43	513.14
1269	2.66	2.66	6.34	6.40	513.14
1270	2.66	2.66	6.31	6.37	513.14
1271	2.66	2.66	6.27	6.34	513.14
1272	2.66	2.66	6.24	6.31	513.14
1273	2.66	2.66	6.22	6.28	513.14
1274	2.66	2.66	6.19	6.25	513.13
1275	2.66	2.66	6.16	6.22	513.13
1276	2.66	2.66	6.13	6.19	513.13
1277	2.66	2.66	6.10	6.17	513.13
1278	2.66	2.66	6.07	6.14	513.13
1279	2.66	2.66	6.05	6.11	513.13
1280	2.66	2.66	6.02	6.08	513.13
1281	2.66	2.66	5.99	6.05	513.13
1282	2.66	2.66	5.97	6.03	513.13
1283	2.66	2.66	5.94	6.00	513.13
1284	2.66	2.66	5.91	5.97	513.13
1285	2.66	2.66	5.89	5.95	513.13
1286	2.66	2.66	5.86	5.92	513.13
1287	2.66	2.66	5.84	5.90	513.13
1288	2.66	2.66	5.82	5.87	513.13

1289	2.66	2.66	5.79	5.85	513.13
1290	2.66	2.66	5.77	5.82	513.13
1291	2.66	2.66	5.74	5.80	513.12
1292	2.66	2.66	5.72	5.77	513.12
1293	2.66	2.66	5.70	5.75	513.12
1294	2.66	2.66	5.67	5.73	513.12
1295	2.66	2.66	5.65	5.70	513.12
1296	2.66	2.66	5.63	5.68	513.12
1297	2.60	2.60	5.56	5.65	513.12
1298	2.45	2.45	5.38	5.58	513.12
1299	2.24	2.24	5.16	5.47	513.12
1300	2.09	2.09	4.99	5.33	513.11
1310	1.79	1.79	4.50	4.79	513.10
1320	1.81	1.81	4.34	4.44	513.10
1330	1.84	1.84	4.21	4.28	513.09
1340	1.79	1.79	4.02	4.13	513.09
1350	1.81	1.81	3.90	3.97	513.09
1360	1.79	1.79	3.77	3.84	513.08
1370	1.81	1.81	3.67	3.73	513.08
1380	1.84	1.84	3.60	3.64	513.08
1390	1.79	1.79	3.47	3.55	513.08
1400	1.81	1.81	3.40	3.44	513.07
1420	1.81	1.81	3.25	3.33	513.07
1440	1.80	1.80	3.12	3.19	513.07
1460	1.47	1.47	2.68	2.92	513.06
1500	1.47	1.47	2.50	2.60	513.06

Hydrograph Printouts

Stage - Storage - Discharge Curve for Reservoir at 76D

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
513.00	0.000	0.00
513.20	0.029	9.29
513.40	0.067	12.24
513.60	0.113	15.44
513.80	0.168	18.82
514.00	0.231	22.28
514.20	0.305	25.72
514.40	0.388	29.01
514.60	0.482	31.91
514.80	0.587	34.14
515.00	0.703	36.46
515.20	0.830	38.63
515.40	0.969	40.70
515.60	1.122	42.66
515.80	1.287	44.54
516.00	1.465	46.34

516.20	1.655	48.07
516.40	1.855	49.74
516.60	2.064	51.36
516.80	2.284	52.93
517.00	2.513	54.45
517.20	2.751	55.93
517.40	2.994	58.36
517.60	3.244	67.69
517.80	3.501	81.13
518.00	3.763	97.54
518.20	4.031	116.41
518.40	4.300	137.45
518.60	4.573	160.42
518.80	4.847	181.73
519.00	5.125	185.21
519.20	5.405	188.63
519.40	5.686	191.98
519.60	5.970	195.28
519.80	6.255	198.52
520.00	6.542	201.71
520.20	6.831	204.85
520.40	7.122	207.94
520.60	7.415	210.99
520.80	7.710	213.99
521.00	8.006	216.95
521.20	8.305	219.87
521.40	8.606	222.76
521.60	8.909	225.60
521.80	9.214	228.42
522.00	9.520	231.19

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

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Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 77D

DESCRIPTION: WEST HITCH RANCH (NORTH HILLS PKWY LOCAL DRAINS DIRECTLY TO BASIN 2B) - DID NOT FATTEN, REDUCES VOLUME
TOTAL AREA TO HYDROGRAPH: 9 acres
HYDROGRAPH PEAK: 22 cfs
TIME OF PEAK: 1153 minutes
HYDROGRAPH VOLUME: 2.15 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	0.44	200	0.44	300	0.44	400	0.44
500	0.44	600	0.50	700	0.70	800	0.70	900	0.93

1000	1.33	1050	1.90	1100	2.94	1110	5.50	1120	7.09
1130	6.98	1131	6.91	1132	6.87	1133	6.79	1134	6.76
1135	6.73	1136	6.65	1137	6.62	1138	6.54	1139	6.59
1140	6.54	1141	6.68	1142	6.77	1143	6.86	1144	7.00
1145	7.60	1146	8.19	1147	8.73	1148	9.36	1149	11.90
1150	14.43	1151	17.02	1152	19.64	1153	21.72	1154	21.72
1155	21.26	1156	20.66	1157	17.91	1158	15.26	1159	12.63
1160	10.03	1161	7.46	1162	6.96	1163	6.91	1164	6.96
1165	6.54	1166	6.08	1167	5.61	1168	5.10	1169	4.59
1170	4.10	1171	3.57	1172	3.04	1173	3.09	1174	3.09
1175	3.04	1176	3.04	1177	2.95	1178	2.80	1179	2.66
1180	2.56	1181	2.42	1182	2.28	1183	2.18	1184	2.09
1185	2.04	1186	2.04	1187	2.09	1188	2.04	1189	1.90
1190	1.85	1191	1.70	1192	1.56	1193	1.51	1194	1.44
1195	1.39	1196	1.34	1197	1.34	1198	1.32	1199	1.32
1200	1.32	1201	1.34	1202	1.34	1203	1.32	1204	1.32
1205	1.32	1206	1.34	1207	1.34	1208	1.34	1209	1.32
1210	1.32	1211	1.34	1212	1.34	1213	1.34	1214	1.32
1215	1.32	1216	1.32	1217	1.34	1218	1.34	1219	1.32
1220	1.32	1221	1.32	1222	1.34	1223	1.34	1224	1.34
1225	1.25	1226	1.18	1227	1.09	1228	1.02	1229	0.95
1230	0.86	1231	0.79	1232	0.70	1233	0.70	1234	0.70
1235	0.72	1236	0.72	1237	0.70	1238	0.70	1239	0.70
1240	0.72	1241	0.72	1242	0.70	1243	0.70	1244	0.70
1245	0.72	1246	0.72	1247	0.70	1248	0.70	1249	0.70
1250	0.72	1251	0.72	1252	0.70	1253	0.70	1254	0.70
1255	0.72	1256	0.72	1257	0.70	1258	0.70	1259	0.70
1260	0.72	1261	0.70	1262	0.70	1263	0.70	1264	0.70
1265	0.72	1266	0.70	1267	0.70	1268	0.70	1269	0.72
1270	0.72	1271	0.70	1272	0.70	1273	0.70	1274	0.72
1275	0.72	1276	0.70	1277	0.70	1278	0.70	1279	0.72
1280	0.72	1281	0.70	1282	0.70	1283	0.70	1284	0.72
1285	0.72	1286	0.70	1287	0.70	1288	0.70	1289	0.72
1290	0.72	1291	0.70	1292	0.70	1293	0.70	1294	0.72
1295	0.72	1296	0.70	1297	0.67	1298	0.63	1299	0.60
1300	0.58	1310	0.43	1320	0.44	1330	0.44	1340	0.43
1350	0.44	1360	0.43	1370	0.44	1380	0.44	1390	0.43
1400	0.44	1420	0.44	1440	0.44	1460	0.00	1500	0.00

HYDROGRAPH FATTENED AT 79B

```
**********************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):    316.86         VOLUME (acre-ft):     30.21      *
*      NO HYDROGRAPH ADJUSTMENT                                                  *
*      RUNOFF FACTOR(in):   1.80                                                 *
*      FATTENED HYDROGRAPH  PEAK (cfs):    316.86         VOLUME (acre-ft):     51.88      *
**********************************************************************************

TIME   PRE-ADJ  PRE-FAT  FATTENED       TIME   PRE-ADJ  PRE-FAT  FATTENED
(min)   (cfs)    (cfs)     (cfs)        (min)   (cfs)    (cfs)     (cfs)
-------------------------------------------------------------------------
```

0	0.00	0.00	0.00	100	3.41	3.41	3.84
200	3.41	3.41	4.45	300	3.41	3.41	4.69
400	3.40	3.40	4.99	500	3.41	3.41	5.45
600	3.80	3.80	6.51	700	5.09	5.09	8.84
800	5.24	5.24	10.80	900	6.63	6.63	15.66
1000	9.32	9.32	26.40	1050	12.91	12.91	38.60
1100	24.52	24.52	66.30	1110	53.04	53.04	95.65
1120	83.49	83.49	126.39	1130	99.38	99.38	145.25

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)	TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)
1131	100.37	100.37	146.68	1132	101.76	101.76	148.43
1133	102.71	102.71	149.85	1134	103.98	103.98	151.52
1135	105.20	105.20	153.16	1136	106.00	106.00	154.48
1137	107.53	107.53	156.37	1138	108.60	108.60	157.92
1139	110.22	110.22	159.89	1140	111.59	111.59	161.68
1141	114.28	114.28	164.47	1142	117.12	117.12	167.36
1143	120.07	120.07	170.33	1144	123.27	123.27	173.48
1145	130.65	130.65	179.70	1146	137.84	137.84	185.73
1147	145.04	145.04	191.73	1148	153.48	153.48	198.58
1149	177.86	177.86	216.85	1150	202.59	202.59	235.16
1151	228.59	228.59	254.15	1152	258.73	258.73	275.84
1153	291.72	291.72	299.24	1154	310.16	310.16	312.19
1155	316.59	316.59	316.67	1156	316.86	316.86	316.86
1157	310.95	310.95	312.78	1158	300.91	300.91	305.77
1159	283.44	283.44	293.46	1160	270.29	270.29	284.04
1161	259.09	259.09	275.88	1162	248.81	248.81	268.29
1163	239.12	239.12	261.03	1164	233.94	233.94	256.97
1165	225.63	225.63	250.59	1166	218.61	218.61	245.08
1167	212.24	212.24	240.02	1168	205.21	205.21	234.42
1169	198.50	198.50	229.02	1170	193.04	193.04	224.51
1171	190.19	190.19	221.92	1172	187.99	187.99	219.81
1173	185.96	185.96	217.83	1174	183.88	183.88	215.81
1175	182.82	182.82	214.55	1176	181.05	181.05	212.75
1177	178.15	178.15	210.08	1178	174.87	174.87	207.11
1179	170.46	170.46	203.25	1180	166.19	166.19	199.48
1181	161.57	161.57	195.43	1182	156.28	156.28	190.83
1183	150.86	150.86	186.09	1184	145.44	145.44	181.35
1185	139.77	139.77	176.38	1186	134.00	134.00	171.31
1187	128.36	128.36	166.33	1188	122.70	122.70	161.31
1189	116.91	116.91	156.17	1190	111.50	111.50	151.31
1191	106.18	106.18	146.51	1192	101.06	101.06	141.85
1193	96.07	96.07	137.29	1194	91.34	91.34	132.92
1195	87.08	87.08	128.93	1196	82.86	82.86	124.95
1197	78.89	78.89	121.18	1198	75.21	75.21	117.64

1199	71.83	71.83	114.34	1200	68.61	68.61	111.17
1201	65.68	65.68	108.23	1202	62.85	62.85	105.37
1203	60.23	60.23	102.69	1204	57.81	57.81	100.17
1205	55.50	55.50	97.75	1206	53.43	53.43	95.52
1207	51.27	51.27	93.23	1208	49.22	49.22	91.02
1209	47.28	47.28	88.91	1210	45.49	45.49	86.93
1211	43.95	43.95	85.16	1212	42.34	42.34	83.33
1213	40.80	40.80	81.57	1214	39.35	39.35	79.88
1215	37.96	37.96	78.26	1216	36.60	36.60	76.66
1217	35.40	35.40	75.19	1218	34.16	34.16	73.70
1219	33.00	33.00	72.28	1220	31.89	31.89	70.91
1221	30.78	30.78	69.54	1222	29.87	29.87	68.34
1223	28.94	28.94	67.14	1224	28.15	28.15	66.06
1225	27.08	27.08	64.74	1226	26.02	26.02	63.43
1227	24.83	24.83	62.01	1228	23.76	23.76	60.70
1229	22.72	22.72	59.41	1230	21.70	21.70	58.15
1231	20.83	20.83	57.03	1232	19.88	19.88	55.84
1233	19.15	19.15	54.84	1234	18.40	18.40	53.83
1235	17.78	17.78	52.94	1236	17.18	17.18	52.07
1237	16.53	16.53	51.16	1238	16.05	16.05	50.40
1239	15.56	15.56	49.64	1240	15.08	15.08	48.89
1241	14.63	14.63	48.17	1242	14.12	14.12	47.40
1243	13.76	13.76	46.77	1244	13.39	13.39	46.13
1245	13.02	13.02	45.50	1246	12.67	12.67	44.89
1247	12.27	12.27	44.23	1248	12.00	12.00	43.71
1249	11.73	11.73	43.17	1250	11.45	11.45	42.64
1251	11.22	11.22	42.15	1252	10.95	10.95	41.63
1253	10.81	10.81	41.23	1254	10.65	10.65	40.82
1255	10.47	10.47	40.40	1256	10.30	10.30	39.98
1257	10.06	10.06	39.51	1258	9.96	9.96	39.15
1259	9.83	9.83	38.79	1260	9.68	9.68	38.40
1261	9.42	9.42	37.93	1262	9.32	9.32	37.59
1263	9.23	9.23	37.27	1264	9.12	9.12	36.94
1265	8.99	8.99	36.58	1266	8.75	8.75	36.14
1267	8.72	8.72	35.88	1268	8.62	8.62	35.57
1269	8.51	8.51	35.24	1270	8.40	8.40	34.92
1271	8.22	8.22	34.54	1272	8.16	8.16	34.28

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)	TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)
1273	8.08	8.08	33.99	1274	7.99	7.99	33.70
1275	7.89	7.89	33.40	1276	7.73	7.73	33.05
1277	7.69	7.69	32.81	1278	7.62	7.62	32.55
1279	7.54	7.54	32.28	1280	7.46	7.46	32.01
1281	7.30	7.30	31.68	1282	7.27	7.27	31.47

1283	7.22	7.22	31.23	1284	7.15	7.15	30.98
1285	7.08	7.08	30.73	1286	6.94	6.94	30.42
1287	6.92	6.92	30.23	1288	6.89	6.89	30.02
1289	6.83	6.83	29.79	1290	6.77	6.77	29.56
1291	6.63	6.63	29.27	1292	6.63	6.63	29.10
1293	6.60	6.60	28.90	1294	6.55	6.55	28.69
1295	6.50	6.50	28.48	1296	6.38	6.38	28.21
1297	6.27	6.27	27.95	1298	6.03	6.03	27.58
1299	5.78	5.78	27.18	1300	5.63	5.63	26.90
1310	4.56	4.56	24.44	1320	4.23	4.23	22.84
1330	4.02	4.02	21.47	1340	3.79	3.79	20.20
1350	3.77	3.77	19.21	1360	3.59	3.59	18.18
1370	3.61	3.61	17.40	1380	3.56	3.56	16.62
1390	3.44	3.44	15.84	1400	3.50	3.50	15.28
1420	3.43	3.43	14.12	1440	3.41	3.41	13.17
1460	1.43	1.43	10.44	1500	1.43	1.43	9.10

RESERVOIR ROUTING AT 80B

DESCRIPTION: Basin 2B

```
**********************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):    384.01         VOLUME (acre-ft):     66.35      *
*      NO HYDROGRAPH ADJUSTMENT                                                  *
*      NO HYDROGRAPH FATTENING                                                   *
*      RESERVOIR INFLOW:    PEAK (cfs):    384.01 @ 1156  VOLUME (acre-ft):     66.35      *
*      MAXIMUM ELEVATION:   STAGE (ft):    507.80 @ 1185  VOLUME (acre-ft):     20.82      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    508.90         VOLUME (acre-ft):     24.72      *
*          DIFFERENCE:   IN STAGE (ft):     -1.10      IN VOLUME (acre-ft):      3.90      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     15.8%      *
*      TOP OF DAM:           ELEV (ft):    513.40         VOLUME (acre-ft):     43.20      *
*          DIFFERENCE    IN STAGE (ft):     -5.60      IN VOLUME (acre-ft):     22.38      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     51.8%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):    219.94 @ 1185  VOLUME (acre-ft):     54.74      *
**********************************************************************************
```

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	498.00
100	5.19	5.19	1.95	498.43
200	6.78	6.78	5.75	498.79
300	7.09	7.09	6.85	498.87
400	7.42	7.42	7.20	498.90
500	7.94	7.94	7.60	498.93
600	9.23	9.23	8.39	498.99
700	12.30	12.30	10.29	499.13
800	14.78	14.78	12.69	499.33
900	20.58	20.58	15.83	499.62
1000	33.62	33.62	20.56	500.22
1050	49.55	49.55	24.78	500.87

1100	83.04	83.04	30.61	501.99
1110	118.97	118.97	32.46	502.39
1120	159.55	159.55	35.02	502.99
1130	184.51	184.51	37.99	503.74
1131	186.37	186.37	38.30	503.82
1132	188.43	188.43	38.61	503.90
1133	190.12	190.12	38.92	503.98
1134	192.05	192.05	39.22	504.06
1135	193.93	193.93	39.51	504.14
1136	195.49	195.49	39.81	504.22
1137	197.58	197.58	40.11	504.31
1138	199.32	199.32	40.41	504.39
1139	201.48	201.48	40.70	504.47

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1140	203.48	203.48	40.99	504.55
1141	206.50	206.50	41.28	504.63
1142	209.67	209.67	41.57	504.72
1143	212.98	212.98	41.87	504.80
1144	216.49	216.49	42.15	504.89
1145	223.15	223.15	42.45	504.97
1146	229.87	229.87	42.75	505.06
1147	236.78	236.78	43.06	505.15
1148	244.66	244.66	43.37	505.25
1149	264.35	264.35	43.70	505.35
1150	285.20	285.20	44.06	505.45
1151	307.69	307.69	44.45	505.57
1152	333.20	333.20	44.86	505.70
1153	360.50	360.50	45.30	505.84
1154	376.69	376.69	45.77	505.99
1155	383.03	383.03	50.38	506.13
1156	384.01	384.01	55.41	506.28
1157	379.88	379.88	61.48	506.42
1158	371.58	371.58	72.55	506.56
1159	357.26	357.26	82.83	506.68
1160	345.71	345.71	92.30	506.80
1161	335.36	335.36	103.53	506.90
1162	325.73	325.73	113.87	506.99
1163	317.29	317.29	123.33	507.08
1164	312.86	312.86	132.06	507.16
1165	306.36	306.36	140.71	507.23
1166	300.59	300.59	149.33	507.30
1167	295.06	295.06	157.19	507.36
1168	288.91	288.91	164.33	507.41

1169	282.89	282.89	170.76	507.46
1170	277.75	277.75	176.56	507.50
1171	274.48	274.48	181.83	507.54
1172	271.64	271.64	186.66	507.58
1173	268.90	268.90	191.26	507.61
1174	266.31	266.31	195.74	507.64
1175	264.70	264.70	199.84	507.67
1176	262.57	262.57	203.59	507.69
1177	259.57	259.57	206.97	507.72
1178	256.23	256.23	209.96	507.74
1179	251.92	251.92	212.55	507.75
1180	247.68	247.68	214.74	507.77
1181	243.14	243.14	216.54	507.78
1182	238.05	238.05	217.95	507.79
1183	232.79	232.79	218.98	507.80
1184	227.51	227.51	219.63	507.80
1185	222.02	222.02	219.94	507.80
1186	216.46	216.46	219.90	507.80
1187	211.01	211.01	219.53	507.80
1188	205.54	205.54	218.87	507.79
1189	199.95	199.95	217.93	507.79
1190	194.58	194.58	216.71	507.78
1191	189.23	189.23	215.25	507.77
1192	183.99	183.99	213.57	507.76
1193	178.78	178.78	211.68	507.75
1194	173.77	173.77	209.60	507.73
1195	169.14	169.14	207.36	507.72
1196	164.52	164.52	204.98	507.70
1197	160.10	160.10	202.47	507.69
1198	155.94	155.94	199.86	507.67
1199	152.01	152.01	197.17	507.65
1200	148.19	148.19	194.40	507.63
1201	144.60	144.60	191.58	507.61
1202	141.12	141.12	188.80	507.59
1203	137.82	137.82	186.19	507.57
1204	134.67	134.67	183.54	507.55
1205	131.62	131.62	180.87	507.53
1206	128.74	128.74	178.19	507.51
1207	125.68	125.68	175.49	507.49
1208	122.67	122.67	172.78	507.47
1209	119.78	119.78	170.05	507.45
1210	116.96	116.96	167.31	507.43

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)

1211	114.29	114.29	164.58	507.41
1212	111.58	111.58	161.84	507.39
1213	109.00	109.00	159.11	507.37
1214	106.46	106.46	156.39	507.35
1215	103.95	103.95	153.68	507.33
1216	101.51	101.51	150.99	507.31
1217	99.26	99.26	148.31	507.29
1218	96.98	96.98	145.65	507.27
1219	94.76	94.76	143.02	507.25
1220	92.63	92.63	140.40	507.23
1221	90.55	90.55	137.82	507.21
1222	88.68	88.68	135.47	507.19
1223	86.83	86.83	133.29	507.17
1224	85.13	85.13	131.14	507.15
1225	83.21	83.21	129.00	507.13
1226	81.31	81.31	126.87	507.11
1227	79.28	79.28	124.75	507.09
1228	77.32	77.32	122.63	507.07
1229	75.37	75.37	120.52	507.05
1230	73.45	73.45	118.42	507.03
1231	71.70	71.70	116.33	507.02
1232	69.93	69.93	114.26	507.00
1233	68.39	68.39	112.21	506.98
1234	66.87	66.87	110.18	506.96
1235	65.48	65.48	108.17	506.94
1236	64.18	64.18	106.20	506.92
1237	62.89	62.89	104.25	506.91
1238	61.77	61.77	102.34	506.89
1239	60.69	60.69	100.47	506.87
1240	59.65	59.65	98.64	506.86
1241	58.66	58.66	96.84	506.84
1242	57.66	57.66	95.08	506.82
1243	56.70	56.70	93.35	506.81
1244	55.58	55.58	91.86	506.79
1245	54.42	54.42	90.56	506.78
1246	53.45	53.45	89.27	506.76
1247	52.55	52.55	87.99	506.74
1248	51.85	51.85	86.73	506.73
1249	51.19	51.19	85.49	506.71
1250	50.55	50.55	84.27	506.70
1251	50.00	50.00	83.07	506.69
1252	49.42	49.42	81.90	506.67
1253	48.97	48.97	80.74	506.66
1254	48.50	48.50	79.62	506.64
1255	48.03	48.03	78.51	506.63
1256	47.57	47.57	77.43	506.62
1257	47.07	47.07	76.37	506.60
1258	46.67	46.67	75.33	506.59
1259	46.26	46.26	74.31	506.58
1260	45.84	45.84	73.32	506.57
1261	45.32	45.32	72.34	506.56
1262	44.94	44.94	71.38	506.54
1263	44.58	44.58	70.44	506.53

1264	44.21	44.21	69.53	506.52
1265	43.83	43.83	68.63	506.51
1266	43.35	43.35	67.74	506.50
1267	43.06	43.06	66.88	506.49
1268	42.72	42.72	66.03	506.48
1269	42.36	42.36	65.21	506.47
1270	42.01	42.01	64.40	506.46
1271	41.61	41.61	63.60	506.45
1272	41.32	41.32	62.82	506.44
1273	41.00	41.00	62.06	506.43
1274	40.67	40.67	61.31	506.42
1275	40.35	40.35	60.58	506.41
1276	39.97	39.97	59.86	506.40
1277	39.70	39.70	59.34	506.40
1278	39.41	39.41	59.05	506.39
1279	39.11	39.11	58.75	506.38
1280	38.81	38.81	58.45	506.37
1281	38.46	38.46	58.15	506.36

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1282	38.22	38.22	57.85	506.35
1283	37.95	37.95	57.55	506.34
1284	37.67	37.67	57.25	506.33
1285	37.40	37.40	56.95	506.33
1286	37.07	37.07	56.66	506.32
1287	36.85	36.85	56.36	506.31
1288	36.61	36.61	56.06	506.30
1289	36.35	36.35	55.77	506.29
1290	36.10	36.10	55.47	506.28
1291	35.79	35.79	55.18	506.27
1292	35.60	35.60	54.88	506.27
1293	35.37	35.37	54.59	506.26
1294	35.14	35.14	54.30	506.25
1295	34.90	34.90	54.01	506.24
1296	34.61	34.61	53.72	506.23
1297	34.33	34.33	53.42	506.22
1298	33.90	33.90	53.13	506.21
1299	33.41	33.41	52.84	506.21
1300	32.97	32.97	52.54	506.20
1310	29.71	29.71	49.65	506.11
1320	27.75	27.75	46.76	506.03
1330	26.19	26.19	45.64	505.94
1340	24.79	24.79	45.35	505.85
1350	23.61	23.61	45.05	505.76

1360	22.48	22.48	44.73	505.66
1370	21.56	21.56	44.40	505.56
1380	20.73	20.73	44.04	505.45
1390	19.82	19.82	43.68	505.34
1400	19.17	19.17	43.31	505.23
1420	17.88	17.88	42.52	505.00
1440	16.81	16.81	41.71	504.76
1460	13.80	13.80	40.81	504.50
1500	12.14	12.14	38.80	503.95

Hydrograph Printouts

Stage - Storage - Discharge Curve for Reservoir at 80B

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
498.00	0.000	0.00
498.40	0.061	1.63
498.80	0.203	5.84
499.20	0.433	11.30
499.60	0.785	15.69
500.00	1.265	19.03
500.40	1.841	21.86
500.80	2.481	24.37
501.20	3.183	26.64
501.60	3.933	28.73
502.00	4.730	30.68
502.40	5.569	32.51
502.80	6.447	34.25
503.20	7.363	35.90
503.60	8.323	37.48
504.00	9.325	38.99
504.40	10.373	40.45
504.80	11.469	41.86
505.20	12.611	43.22
505.60	13.785	44.54
506.00	14.990	45.82
506.40	16.227	59.49
506.80	17.497	92.56
507.20	18.801	136.69
507.60	20.139	189.51
508.00	21.510	249.75
508.40	22.916	316.57
508.80	24.356	389.35
509.20	25.832	510.43
509.60	27.341	570.39
510.00	28.883	582.80
510.40	30.458	594.94
510.80	32.064	606.84

511.20	33.705	618.51
511.60	35.385	629.96
512.00	37.106	641.21
512.40	38.848	652.27
512.80	40.589	663.14
513.20	42.331	673.84
513.60	44.072	684.37
514.00	45.814	694.74

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)
Page: 29

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 81C

DESCRIPTION: WEST HITCH RANCH - EAST OF BASIN 2, DRAINS DIRECTLY TO BASIN 2
TOTAL AREA TO HYDROGRAPH: 10 acres
HYDROGRAPH PEAK: 34 cfs
TIME OF PEAK: 1153 minutes
HYDROGRAPH VOLUME: 3.68 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	0.83	200	0.83	300	0.83	400	0.83
500	0.83	600	0.96	700	1.34	800	1.34	900	1.77
1000	2.61	1050	3.60	1100	4.91	1110	8.16	1120	10.21
1130	10.07	1131	9.94	1132	9.88	1133	9.75	1134	9.69
1135	9.63	1136	9.50	1137	9.58	1138	9.50	1139	9.58
1140	9.50	1141	9.66	1142	9.90	1143	10.05	1144	10.29
1145	11.32	1146	12.35	1147	13.14	1148	14.02	1149	18.48
1150	22.88	1151	26.49	1152	30.20	1153	33.90	1154	33.82
1155	29.32	1156	24.72	1157	20.00	1158	15.36	1159	10.85
1160	9.98	1161	9.90	1162	9.98	1163	10.13	1164	10.21
1165	9.34	1166	8.46	1167	7.67	1168	6.78	1169	5.89
1170	5.08	1171	5.08	1172	5.08	1173	5.08	1174	5.08
1175	5.08	1176	5.00	1177	4.84	1178	4.68	1179	4.36
1180	4.20	1181	4.04	1182	3.80	1183	3.80	1184	3.80
1185	3.80	1186	3.80	1187	3.80	1188	3.80	1189	3.56
1190	3.40	1191	3.24	1192	3.00	1193	2.76	1194	2.60
1195	2.68	1196	2.60	1197	2.60	1198	2.60	1199	2.60
1200	2.60	1201	2.60	1202	2.60	1203	2.60	1204	2.60
1205	2.60	1206	2.68	1207	2.60	1208	2.60	1209	2.60
1210	2.60	1211	2.68	1212	2.60	1213	2.60	1214	2.60
1215	2.60	1216	2.60	1217	2.60	1218	2.60	1219	2.60
1220	2.60	1221	2.60	1222	2.68	1223	2.60	1224	2.60
1225	2.36	1226	2.18	1227	1.94	1228	1.71	1229	1.53
1230	1.35	1231	1.35	1232	1.30	1233	1.35	1234	1.35

1235	1.35	1236	1.35	1237	1.30	1238	1.35	1239	1.35
1240	1.35	1241	1.35	1242	1.30	1243	1.35	1244	1.35
1245	1.35	1246	1.35	1247	1.30	1248	1.35	1249	1.35
1250	1.35	1251	1.35	1252	1.30	1253	1.35	1254	1.35
1255	1.35	1256	1.35	1257	1.30	1258	1.35	1259	1.35
1260	1.35	1261	1.30	1262	1.30	1263	1.35	1264	1.35
1265	1.35	1266	1.30	1267	1.35	1268	1.35	1269	1.35
1270	1.35	1271	1.30	1272	1.35	1273	1.35	1274	1.35
1275	1.35	1276	1.30	1277	1.35	1278	1.35	1279	1.35
1280	1.35	1281	1.30	1282	1.35	1283	1.35	1284	1.35
1285	1.35	1286	1.30	1287	1.35	1288	1.35	1289	1.35
1290	1.35	1291	1.30	1292	1.35	1293	1.35	1294	1.35
1295	1.35	1296	1.30	1297	1.30	1298	1.18	1299	1.06
1300	1.00	1310	0.81	1320	0.85	1330	0.85	1340	0.81
1350	0.85	1360	0.81	1370	0.85	1380	0.85	1390	0.81
1400	0.85	1420	0.83	1440	0.83	1460	0.00	1500	0.00

```
*****************************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):     76.50         VOLUME (acre-ft):      5.72      *
*      NO HYDROGRAPH ADJUSTMENT                                                           *
*      NO HYDROGRAPH FATTENING                                                            *
*****************************************************************************************
```

TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)	TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)
0	0.00	0.00	100	1.18	1.18
200	1.18	1.18	300	1.18	1.18
400	1.17	1.17	500	1.18	1.18
600	1.35	1.35	700	1.89	1.89
800	1.89	1.89	900	2.50	2.50
1000	3.65	3.65	1050	4.94	4.94
1100	6.64	6.64	1110	14.40	14.40
1120	19.38	19.38	1130	19.03	19.03
1131	18.67	18.67	1132	18.52	18.52

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

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Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)	TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)
1133	18.16	18.16	1134	18.01	18.01
1135	17.86	17.86	1136	17.73	17.73
1137	17.81	17.81	1138	17.73	17.73
1139	17.81	17.81	1140	17.59	17.59

1141	18.15	18.15	1142	18.66	18.66
1143	19.22	19.22	1144	19.72	19.72
1145	22.49	22.49	1146	24.72	24.72
1147	26.69	26.69	1148	28.86	28.86
1149	39.71	39.71	1150	49.50	49.50
1151	58.53	58.53	1152	67.62	67.62
1153	76.50	76.50	1154	71.12	71.12
1155	60.18	60.18	1156	48.69	48.69
1157	37.01	37.01	1158	25.57	25.57
1159	19.61	19.61	1160	18.60	18.60
1161	18.66	18.66	1162	19.01	19.01
1163	19.30	19.30	1164	19.38	19.38
1165	17.04	17.04	1166	14.64	14.64
1167	12.42	12.42	1168	9.63	9.63
1169	7.65	7.65	1170	6.87	6.87
1171	6.87	6.87	1172	6.84	6.84
1173	6.87	6.87	1174	6.87	6.87
1175	6.85	6.85	1176	6.76	6.76
1177	6.55	6.55	1178	6.30	6.30
1179	5.89	5.89	1180	5.67	5.67
1181	5.46	5.46	1182	5.19	5.19
1183	5.19	5.19	1184	5.22	5.22
1185	5.19	5.19	1186	5.19	5.19
1187	5.22	5.22	1188	5.19	5.19
1189	4.86	4.86	1190	4.67	4.67
1191	4.42	4.42	1192	4.10	4.10
1193	3.80	3.80	1194	3.64	3.64
1195	3.72	3.72	1196	3.64	3.64
1197	3.64	3.64	1198	3.64	3.64
1199	3.64	3.64	1200	3.61	3.61
1201	3.64	3.64	1202	3.64	3.64
1203	3.64	3.64	1204	3.64	3.64
1205	3.64	3.64	1206	3.72	3.72
1207	3.64	3.64	1208	3.64	3.64
1209	3.64	3.64	1210	3.64	3.64
1211	3.72	3.72	1212	3.64	3.64
1213	3.64	3.64	1214	3.64	3.64
1215	3.64	3.64	1216	3.61	3.61
1217	3.64	3.64	1218	3.64	3.64
1219	3.64	3.64	1220	3.64	3.64
1221	3.64	3.64	1222	3.72	3.72
1223	3.64	3.64	1224	3.64	3.64
1225	3.31	3.31	1226	3.05	3.05
1227	2.67	2.67	1228	2.35	2.35
1229	2.08	2.08	1230	1.90	1.90
1231	1.90	1.90	1232	1.85	1.85
1233	1.90	1.90	1234	1.90	1.90
1235	1.90	1.90	1236	1.90	1.90
1237	1.85	1.85	1238	1.90	1.90
1239	1.90	1.90	1240	1.90	1.90
1241	1.90	1.90	1242	1.85	1.85
1243	1.90	1.90	1244	1.90	1.90
1245	1.90	1.90	1246	1.90	1.90

1247	1.85	1.85	1248	1.90	1.90
1249	1.90	1.90	1250	1.90	1.90
1251	1.90	1.90	1252	1.85	1.85
1253	1.90	1.90	1254	1.90	1.90
1255	1.90	1.90	1256	1.90	1.90
1257	1.85	1.85	1258	1.90	1.90
1259	1.90	1.90	1260	1.90	1.90
1261	1.82	1.82	1262	1.85	1.85
1263	1.90	1.90	1264	1.90	1.90
1265	1.90	1.90	1266	1.85	1.85
1267	1.90	1.90	1268	1.90	1.90
1269	1.90	1.90	1270	1.90	1.90
1271	1.85	1.85	1272	1.90	1.90
1273	1.90	1.90	1274	1.90	1.90

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)	TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)
1275	1.90	1.90	1276	1.85	1.85
1277	1.90	1.90	1278	1.90	1.90
1279	1.90	1.90	1280	1.90	1.90
1281	1.85	1.85	1282	1.90	1.90
1283	1.90	1.90	1284	1.90	1.90
1285	1.90	1.90	1286	1.85	1.85
1287	1.90	1.90	1288	1.90	1.90
1289	1.90	1.90	1290	1.90	1.90
1291	1.85	1.85	1292	1.90	1.90
1293	1.90	1.90	1294	1.90	1.90
1295	1.90	1.90	1296	1.85	1.85
1297	1.82	1.82	1298	1.64	1.64
1299	1.47	1.47	1300	1.38	1.38
1310	1.15	1.15	1320	1.20	1.20
1330	1.20	1.20	1340	1.15	1.15
1350	1.20	1.20	1360	1.15	1.15
1370	1.20	1.20	1380	1.20	1.20
1390	1.15	1.15	1400	1.20	1.20
1420	1.17	1.17	1440	1.17	1.17
1460	0.00	0.00	1500	0.00	0.00

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 84CD

DESCRIPTION: WEST HITCH RANCH - COMBINES WEST, EAST, AND LOCAL BASIN 2 SUBAREAS
TOTAL AREA TO HYDROGRAPH: 41 acres
HYDROGRAPH PEAK: 107 cfs
TIME OF PEAK: 1153 minutes
HYDROGRAPH VOLUME: 8.19 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	1.67	200	1.67	300	1.67	400	1.66
500	1.67	600	1.91	700	2.68	800	2.69	900	3.55
1000	5.15	1050	6.87	1100	9.52	1110	20.88	1120	28.12
1130	27.62	1131	27.13	1132	26.93	1133	26.44	1134	26.24
1135	26.04	1136	25.77	1137	25.80	1138	25.72	1139	25.80
1140	25.59	1141	26.30	1142	26.95	1143	27.74	1144	28.39
1145	32.21	1146	35.29	1147	38.17	1148	41.12	1149	55.90
1150	69.57	1151	82.61	1152	94.91	1153	107.06	1154	101.68
1155	89.95	1156	74.34	1157	58.50	1158	42.94	1159	32.99
1160	27.95	1161	27.18	1162	27.45	1163	27.82	1164	28.05
1165	24.95	1166	21.72	1167	18.75	1168	15.14	1169	12.32
1170	10.77	1171	9.92	1172	9.89	1173	10.00	1174	9.92
1175	9.89	1176	9.81	1177	9.36	1178	8.96	1179	8.32
1180	7.91	1181	7.63	1182	7.27	1183	7.21	1184	7.24
1185	7.18	1186	7.21	1187	7.24	1188	7.18	1189	6.79
1190	6.55	1191	6.21	1192	5.82	1193	5.44	1194	5.19
1195	5.24	1196	5.16	1197	5.13	1198	5.13	1199	5.13
1200	5.10	1201	5.16	1202	5.13	1203	5.13	1204	5.13
1205	5.13	1206	5.24	1207	5.16	1208	5.13	1209	5.13
1210	5.13	1211	5.24	1212	5.16	1213	5.13	1214	5.13
1215	5.13	1216	5.10	1217	5.16	1218	5.13	1219	5.13
1220	5.13	1221	5.13	1222	5.24	1223	5.16	1224	5.13
1225	4.71	1226	4.36	1227	3.86	1228	3.45	1229	3.06
1230	2.80	1231	2.71	1232	2.62	1233	2.68	1234	2.71
1235	2.71	1236	2.71	1237	2.62	1238	2.68	1239	2.71
1240	2.71	1241	2.71	1242	2.62	1243	2.68	1244	2.71
1245	2.71	1246	2.71	1247	2.62	1248	2.68	1249	2.71
1250	2.71	1251	2.71	1252	2.62	1253	2.68	1254	2.71
1255	2.71	1256	2.71	1257	2.62	1258	2.68	1259	2.71
1260	2.71	1261	2.59	1262	2.62	1263	2.68	1264	2.71
1265	2.71	1266	2.62	1267	2.68	1268	2.71	1269	2.71
1270	2.71	1271	2.62	1272	2.68	1273	2.71	1274	2.71
1275	2.71	1276	2.62	1277	2.68	1278	2.71	1279	2.71
1280	2.71	1281	2.62	1282	2.68	1283	2.71	1284	2.71
1285	2.71	1286	2.62	1287	2.68	1288	2.71	1289	2.71
1290	2.71	1291	2.62	1292	2.68	1293	2.71	1294	2.71
1295	2.71	1296	2.62	1297	2.56	1298	2.36	1299	2.12
1300	2.00	1310	1.63	1320	1.70	1330	1.70	1340	1.63
1350	1.70	1360	1.63	1370	1.70	1380	1.70	1390	1.63

1400	1.70	1420	1.66	1440	1.66	1460	0.00	1500	0.00

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 85BC

DESCRIPTION: COMBINES OUTFLOW FROM BASIN 2B AND LOCAL BASIN 2/EAST AND WEST OF BASIN 2 SUBAREAS
TOTAL AREA TO HYDROGRAPH: 460 acres
HYDROGRAPH PEAK: 227 cfs
TIME OF PEAK: 1185 minutes
HYDROGRAPH VOLUME: 62.93 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	3.62	200	7.41	300	8.52	400	8.86
500	9.26	600	10.30	700	12.96	800	15.38	900	19.38
1000	25.71	1050	31.65	1100	40.13	1110	53.34	1120	63.14
1130	65.61	1131	65.43	1132	65.54	1133	65.36	1134	65.46
1135	65.55	1136	65.58	1137	65.91	1138	66.13	1139	66.50
1140	66.57	1141	67.57	1142	68.52	1143	69.61	1144	70.55
1145	74.66	1146	78.04	1147	81.23	1148	84.49	1149	99.60
1150	113.63	1151	127.06	1152	139.77	1153	152.36	1154	147.45
1155	140.33	1156	129.75	1157	119.98	1158	115.48	1159	115.83
1160	120.25	1161	130.71	1162	141.32	1163	151.15	1164	160.11
1165	165.67	1166	171.05	1167	175.94	1168	179.46	1169	183.08
1170	187.33	1171	191.75	1172	196.55	1173	201.26	1174	205.67
1175	209.74	1176	213.40	1177	216.33	1178	218.92	1179	220.87
1180	222.65	1181	224.17	1182	225.22	1183	226.19	1184	226.88
1185	227.12	1186	227.11	1187	226.77	1188	226.05	1189	224.72
1190	223.26	1191	221.46	1192	219.39	1193	217.12	1194	214.79
1195	212.60	1196	210.14	1197	207.60	1198	204.99	1199	202.29
1200	199.50	1201	196.74	1202	193.92	1203	191.31	1204	188.67
1205	186.00	1206	183.43	1207	180.65	1208	177.90	1209	175.17
1210	172.44	1211	169.81	1212	167.00	1213	164.24	1214	161.52
1215	158.81	1216	156.08	1217	153.46	1218	150.78	1219	148.14
1220	145.53	1221	142.95	1222	140.70	1223	138.45	1224	136.27
1225	133.71	1226	131.23	1227	128.61	1228	126.08	1229	123.59
1230	121.22	1231	119.04	1232	116.88	1233	114.89	1234	112.88
1235	110.88	1236	108.91	1237	106.87	1238	105.02	1239	103.18
1240	101.34	1241	99.55	1242	97.70	1243	96.03	1244	94.57
1245	93.27	1246	91.98	1247	90.61	1248	89.41	1249	88.20
1250	86.98	1251	85.78	1252	84.52	1253	83.42	1254	82.33
1255	81.22	1256	80.14	1257	78.99	1258	78.01	1259	77.02
1260	76.03	1261	74.93	1262	74.00	1263	73.12	1264	72.23
1265	71.34	1266	70.36	1267	69.56	1268	68.74	1269	67.92

1270	67.10	1271	66.22	1272	65.50	1273	64.77	1274	64.02
1275	63.28	1276	62.48	1277	62.02	1278	61.75	1279	61.46
1280	61.16	1281	60.77	1282	60.53	1283	60.26	1284	59.96
1285	59.66	1286	59.28	1287	59.04	1288	58.77	1289	58.48
1290	58.18	1291	57.80	1292	57.56	1293	57.30	1294	57.01
1295	56.71	1296	56.34	1297	55.99	1298	55.49	1299	54.96
1300	54.54	1310	51.27	1320	48.45	1330	47.33	1340	46.97
1350	46.74	1360	46.36	1370	46.09	1380	45.74	1390	45.30
1400	45.01	1420	44.19	1440	43.37	1460	40.81	1500	38.80

RESERVOIR ROUTING AT 86B

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**********************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):    227.11         VOLUME (acre-ft):     62.92      *
*      NO HYDROGRAPH ADJUSTMENT                                                  *
*      NO HYDROGRAPH FATTENING                                                   *
*      RESERVOIR INFLOW:    PEAK (cfs):    227.11 @ 1186  VOLUME (acre-ft):     62.92      *
*      MAXIMUM ELEVATION:   STAGE (ft):    479.17 @ 1205  VOLUME (acre-ft):     11.50      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    480.34         VOLUME (acre-ft):     14.57      *
*          DIFFERENCE:   IN STAGE (ft):     -1.17      IN VOLUME (acre-ft):      3.07      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     21.0%      *
*      TOP OF DAM:           ELEV (ft):    484.84         VOLUME (acre-ft):     27.86      *
*          DIFFERENCE    IN STAGE (ft):     -5.67      IN VOLUME (acre-ft):     16.35      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     58.7%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):    185.96 @ 1205  VOLUME (acre-ft):     56.17      *
**********************************************************************************
```


Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	471.00
100	3.62	3.62	0.37	471.32
200	7.39	7.39	1.92	472.19
300	8.53	8.53	3.17	473.11
400	8.84	8.84	7.21	473.55
500	9.27	9.27	8.60	473.68
600	10.28	10.28	9.41	473.74
700	12.96	12.96	10.84	473.84
800	15.36	15.36	13.24	474.01
900	19.37	19.37	16.15	474.19
1000	25.68	25.68	20.73	474.46
1050	31.63	31.63	25.06	474.69
1100	40.08	40.08	30.82	474.99
1110	52.93	52.93	33.03	475.11

1120	63.09	63.09	36.39	475.32
1130	65.49	65.49	39.79	475.57
1131	65.54	65.54	40.09	475.59
1132	65.46	65.46	40.38	475.61
1133	65.45	65.45	40.67	475.64
1134	65.39	65.39	40.96	475.66
1135	65.56	65.56	41.24	475.68
1136	65.56	65.56	41.53	475.71
1137	65.84	65.84	41.81	475.73
1138	66.10	66.10	42.09	475.75
1139	66.41	66.41	42.37	475.77
1140	66.58	66.58	42.64	475.80
1141	67.31	67.31	42.90	475.82
1142	68.37	68.37	43.15	475.84
1143	69.35	69.35	43.41	475.86
1144	70.39	70.39	43.67	475.89
1145	73.64	73.64	43.96	475.91
1146	77.52	77.52	44.28	475.94
1147	80.50	80.50	44.63	475.97
1148	83.91	83.91	45.01	476.00
1149	96.05	96.05	45.46	476.04
1150	111.47	111.47	46.05	476.10
1151	124.28	124.28	46.68	476.16
1152	137.69	137.69	47.41	476.23
1153	149.91	149.91	48.25	476.31
1154	149.31	149.31	49.14	476.39
1155	141.07	141.07	49.88	476.47
1156	132.25	132.25	50.54	476.54
1157	121.36	121.36	51.12	476.60
1158	116.35	116.35	51.64	476.65
1159	115.50	115.50	52.13	476.70
1160	119.41	119.41	52.58	476.75
1161	128.50	128.50	53.06	476.81
1162	139.57	139.57	53.62	476.87
1163	149.27	149.27	54.24	476.93
1164	158.59	158.59	54.91	477.01
1165	164.75	164.75	55.56	477.08
1166	170.02	170.02	56.24	477.16
1167	175.10	175.10	56.95	477.24
1168	178.84	178.84	57.66	477.32
1169	182.38	182.38	58.33	477.41
1170	186.52	186.52	59.03	477.49
1171	190.93	190.93	59.75	477.58
1172	195.61	195.61	60.61	477.66
1173	200.39	200.39	61.54	477.75
1174	204.79	204.79	62.50	477.84
1175	208.96	208.96	64.71	477.93
1176	212.64	212.64	69.66	478.01
1177	215.75	215.75	74.57	478.10
1178	218.37	218.37	79.40	478.18
1179	220.49	220.49	85.94	478.26
1180	222.25	222.25	92.67	478.34
1181	223.87	223.87	99.14	478.42

1182	225.00	225.00	105.36	478.49
1183	225.97	225.97	112.29	478.55
1184	226.74	226.74	119.08	478.62
1185	227.08	227.08	125.49	478.68

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1186	227.11	227.11	131.53	478.73
1187	226.87	226.87	137.21	478.78
1188	226.23	226.23	142.95	478.83
1189	225.05	225.05	148.47	478.88
1190	223.55	223.55	153.52	478.92
1191	221.87	221.87	158.14	478.95
1192	219.83	219.83	162.32	478.99
1193	217.61	217.61	166.08	479.02
1194	215.27	215.27	169.44	479.04
1195	213.05	213.05	172.42	479.07
1196	210.65	210.65	175.05	479.09
1197	208.10	208.10	177.40	479.11
1198	205.50	205.50	179.55	479.12
1199	202.82	202.82	181.35	479.13
1200	200.04	200.04	182.81	479.14
1201	197.25	197.25	183.97	479.15
1202	194.47	194.47	184.84	479.16
1203	191.79	191.79	185.44	479.16
1204	189.17	189.17	185.81	479.16
1205	186.49	186.49	185.96	479.17
1206	183.91	183.91	185.90	479.17
1207	181.17	181.17	185.66	479.16
1208	178.40	178.40	185.23	479.16
1209	175.68	175.68	184.63	479.16
1210	172.94	172.94	183.88	479.15
1211	170.29	170.29	182.98	479.14
1212	167.52	167.52	181.95	479.14
1213	164.73	164.73	180.80	479.13
1214	162.02	162.02	179.53	479.12
1215	159.30	159.30	178.15	479.11
1216	156.58	156.58	176.68	479.10
1217	153.93	153.93	175.25	479.09
1218	151.27	151.27	173.74	479.08
1219	148.61	148.61	172.15	479.06
1220	146.01	146.01	170.49	479.05
1221	143.41	143.41	168.77	479.04
1222	141.10	141.10	167.01	479.02
1223	138.87	138.87	165.20	479.01

1224	136.66	136.66	163.37	478.99
1225	134.20	134.20	161.51	478.98
1226	131.66	131.66	159.60	478.96
1227	129.11	129.11	157.65	478.95
1228	126.52	126.52	155.66	478.93
1229	124.06	124.06	153.64	478.92
1230	121.65	121.65	151.59	478.90
1231	119.45	119.45	149.52	478.88
1232	117.28	117.28	147.44	478.87
1233	115.25	115.25	145.36	478.85
1234	113.26	113.26	143.28	478.83
1235	111.25	111.25	141.21	478.82
1236	109.28	109.28	139.15	478.80
1237	107.26	107.26	137.30	478.78
1238	105.36	105.36	135.45	478.77
1239	103.54	103.54	133.61	478.75
1240	101.69	101.69	131.77	478.73
1241	99.89	99.89	129.92	478.72
1242	98.05	98.05	128.08	478.70
1243	96.34	96.34	126.25	478.68
1244	94.85	94.85	124.42	478.67
1245	93.52	93.52	122.62	478.65
1246	92.23	92.23	120.85	478.63
1247	90.88	90.88	119.11	478.62
1248	89.63	89.63	117.40	478.60
1249	88.44	88.44	115.71	478.59
1250	87.21	87.21	114.05	478.57
1251	86.02	86.02	112.42	478.56
1252	84.77	84.77	110.81	478.54
1253	83.63	83.63	109.23	478.53
1254	82.55	82.55	107.67	478.51
1255	81.44	81.44	106.20	478.50
1256	80.36	80.36	104.94	478.48

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1257	79.22	79.22	103.69	478.47
1258	78.19	78.19	102.45	478.45
1259	77.23	77.23	101.22	478.44
1260	76.22	76.22	100.01	478.43
1261	75.16	75.16	98.80	478.41
1262	74.18	74.18	97.60	478.40
1263	73.31	73.31	96.42	478.38
1264	72.41	72.41	95.25	478.37
1265	71.52	71.52	94.09	478.36

1266	70.57	70.57	92.95	478.35
1267	69.72	69.72	91.82	478.33
1268	68.92	68.92	90.70	478.32
1269	68.08	68.08	89.60	478.31
1270	67.27	67.27	88.51	478.29
1271	66.41	66.41	87.43	478.28
1272	65.64	65.64	86.37	478.27
1273	64.93	64.93	85.32	478.26
1274	64.17	64.17	84.29	478.25
1275	63.44	63.44	83.27	478.23
1276	62.65	62.65	82.27	478.22
1277	62.10	62.10	81.28	478.21
1278	61.81	61.81	80.32	478.20
1279	61.52	61.52	79.68	478.19
1280	61.22	61.22	79.06	478.18
1281	60.86	60.86	78.44	478.17
1282	60.57	60.57	77.84	478.16
1283	60.32	60.32	77.25	478.15
1284	60.02	60.02	76.67	478.14
1285	59.73	59.73	76.10	478.13
1286	59.36	59.36	75.54	478.12
1287	59.08	59.08	74.99	478.11
1288	58.84	58.84	74.44	478.10
1289	58.54	58.54	73.91	478.09
1290	58.25	58.25	73.38	478.08
1291	57.88	57.88	72.86	478.07
1292	57.60	57.60	72.35	478.06
1293	57.36	57.36	71.85	478.05
1294	57.07	57.07	71.35	478.04
1295	56.78	56.78	70.86	478.03
1296	56.42	56.42	70.38	478.03
1297	56.06	56.06	69.90	478.02
1298	55.61	55.61	69.42	478.01
1299	55.07	55.07	68.94	478.00
1300	54.63	54.63	68.46	477.99
1310	51.34	51.34	64.15	477.92
1320	48.52	48.52	62.51	477.84
1330	47.34	47.34	61.57	477.75
1340	46.99	46.99	60.63	477.66
1350	46.74	46.74	59.76	477.58
1360	46.38	46.38	59.06	477.49
1370	46.08	46.08	58.37	477.41
1380	45.76	45.76	57.71	477.33
1390	45.30	45.30	57.02	477.25
1400	45.02	45.02	56.32	477.17
1420	44.19	44.19	54.99	477.02
1440	43.39	43.39	53.60	476.86
1460	40.85	40.85	52.20	476.71
1500	38.80	38.80	49.05	476.39

Hydrograph Printouts

Stage - Storage - Discharge Curve for Reservoir at 86B

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
471.00	0.000	0.00
471.30	0.099	0.31
471.60	0.227	1.00
471.90	0.383	1.54
472.20	0.568	1.93
472.50	0.778	2.26
472.80	1.012	2.54
473.10	1.270	3.10
473.40	1.554	5.46
473.70	1.861	8.88
474.00	2.193	13.08
474.30	2.545	17.91
474.60	2.914	23.31
474.90	3.299	29.21
475.20	3.702	34.72
475.50	4.123	38.98
475.80	4.563	42.70
476.10	5.023	46.08
476.40	5.512	49.19
476.70	6.034	52.10
477.00	6.587	54.85
477.30	7.174	57.45
477.60	7.794	59.94
477.90	8.447	63.17
478.20	9.130	80.28
478.50	9.838	106.45
478.80	10.569	138.98
479.10	11.322	176.70
479.40	12.090	218.95
479.70	12.868	265.25
480.00	13.657	315.26
480.30	14.458	368.71
480.60	15.270	467.69
480.90	16.093	618.84
481.20	16.927	802.24
481.50	17.772	1,011.81
481.80	18.628	1,244.10
482.10	19.496	1,496.81
482.40	20.375	1,768.24
482.70	21.265	1,998.21
483.00	22.166	2,028.88
483.30	23.079	2,059.08
483.60	24.003	2,088.86
483.90	24.939	2,118.21
484.20	25.883	2,147.16
484.50	26.827	2,175.73

484.80	27.772	2,203.92
485.10	28.402	2,231.76

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 88B

DESCRIPTION: LOCAL SUBAREA TO 10X8 RCB AT RR
TOTAL AREA TO HYDROGRAPH: 70 acres
HYDROGRAPH PEAK: 104 cfs
TIME OF PEAK: 1156 minutes
HYDROGRAPH VOLUME: 14.28 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	2.45	200	2.45	300	2.45	400	2.44
500	2.45	600	2.81	700	3.93	800	3.94	900	5.21
1000	8.37	1050	14.10	1100	21.63	1110	32.23	1120	47.12
1130	51.83	1131	51.53	1132	51.38	1133	51.08	1134	50.93
1135	50.78	1136	50.48	1137	50.33	1138	50.03	1139	49.92
1140	49.67	1141	49.86	1142	50.06	1143	50.25	1144	50.45
1145	52.30	1146	53.99	1147	55.69	1148	57.54	1149	66.38
1150	74.92	1151	83.83	1152	92.68	1153	101.53	1154	103.52
1155	103.82	1156	103.98	1157	103.82	1158	103.98	1159	103.82
1160	103.67	1161	103.52	1162	103.36	1163	101.53	1164	99.85
1165	96.49	1166	92.98	1167	82.76	1168	72.67	1169	62.48
1170	52.43	1171	42.14	1172	38.78	1173	37.10	1174	35.57
1175	34.16	1176	32.58	1177	30.52	1178	28.46	1179	26.24
1180	24.18	1181	22.15	1182	19.99	1183	19.68	1184	19.38
1185	18.76	1186	18.45	1187	18.15	1188	17.53	1189	16.76
1190	16.15	1191	15.22	1192	14.45	1193	13.68	1194	12.92
1195	12.61	1196	12.15	1197	11.84	1198	11.38	1199	10.92
1200	10.61	1201	10.30	1202	9.84	1203	9.53	1204	9.07
1205	8.61	1206	8.45	1207	8.45	1208	8.30	1209	8.30
1210	8.30	1211	8.45	1212	8.45	1213	8.30	1214	8.30
1215	8.30	1216	8.30	1217	8.45	1218	8.45	1219	8.30
1220	8.30	1221	8.30	1222	8.45	1223	8.45	1224	8.30
1225	7.84	1226	7.38	1227	6.86	1228	6.69	1229	6.45
1230	6.28	1231	6.11	1232	5.88	1233	5.71	1234	5.53
1235	5.30	1236	5.13	1237	4.90	1238	4.73	1239	4.55
1240	4.32	1241	4.15	1242	3.92	1243	3.92	1244	3.92
1245	3.98	1246	3.98	1247	3.92	1248	3.92	1249	3.92
1250	3.98	1251	3.98	1252	3.92	1253	3.92	1254	3.92
1255	3.98	1256	3.98	1257	3.92	1258	3.92	1259	3.92
1260	3.98	1261	3.92	1262	3.92	1263	3.92	1264	3.92

1265	3.98	1266	3.92	1267	3.92	1268	3.92	1269	3.92
1270	3.98	1271	3.92	1272	3.92	1273	3.92	1274	3.92
1275	3.98	1276	3.92	1277	3.92	1278	3.92	1279	3.98
1280	3.98	1281	3.92	1282	3.92	1283	3.92	1284	3.98
1285	3.98	1286	3.92	1287	3.92	1288	3.92	1289	3.98
1290	3.98	1291	3.92	1292	3.92	1293	3.92	1294	3.98
1295	3.98	1296	3.92	1297	3.86	1298	3.75	1299	3.69
1300	3.63	1310	2.77	1320	2.44	1330	2.49	1340	2.43
1350	2.44	1360	2.43	1370	2.44	1380	2.49	1390	2.43
1400	2.44	1420	2.44	1440	2.44	1460	0.00	1500	0.00

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 92C

DESCRIPTION: 67C from PACE
TOTAL AREA TO HYDROGRAPH: 171 acres
HYDROGRAPH PEAK: 351 cfs
TIME OF PEAK: 1158 minutes
HYDROGRAPH VOLUME: 59.12 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	13.51	200	13.51	300	13.51	400	13.50
500	13.51	600	15.31	700	21.23	800	21.96	900	27.99
1000	40.64	1050	51.50	1100	68.36	1110	99.94	1120	140.29
1130	155.39	1131	155.50	1132	155.82	1133	155.63	1134	155.40
1135	155.03	1136	154.40	1137	153.89	1138	153.09	1139	152.44
1140	151.57	1141	151.62	1142	151.53	1143	151.85	1144	152.23
1145	155.05	1146	158.55	1147	162.88	1148	168.46	1149	183.07
1150	200.55	1151	222.56	1152	248.42	1153	277.27	1154	299.86
1155	318.03	1156	332.57	1157	343.32	1158	351.12	1159	347.60
1160	341.51	1161	333.03	1162	321.15	1163	303.29	1164	288.54
1165	269.36	1166	246.36	1167	222.33	1168	200.23	1169	180.73
1170	163.64	1171	148.61	1172	135.86	1173	124.88	1174	115.05
1175	108.17	1176	101.77	1177	95.14	1178	89.45	1179	84.56
1180	80.27	1181	76.55	1182	73.19	1183	70.45	1184	68.15
1185	66.04	1186	64.36	1187	63.02	1188	61.68	1189	60.35
1190	59.05	1191	57.64	1192	56.39	1193	55.09	1194	53.78
1195	52.66	1196	51.36	1197	50.11	1198	48.99	1199	48.07
1200	47.02	1201	46.16	1202	45.23	1203	44.49	1204	43.87
1205	43.18	1206	42.79	1207	42.39	1208	42.11	1209	41.87
1210	41.64	1211	41.49	1212	41.38	1213	41.36	1214	41.35
1215	41.30	1216	41.12	1217	41.19	1218	41.18	1219	41.21
1220	41.21	1221	41.06	1222	41.14	1223	41.13	1224	41.17

1225	40.86	1226	40.49	1227	39.78	1228	39.11	1229	38.30
1230	37.38	1231	36.36	1232	35.02	1233	33.84	1234	32.55
1235	31.50	1236	30.40	1237	29.25	1238	28.11	1239	27.04
1240	26.14	1241	25.40	1242	24.79	1243	24.23	1244	23.70
1245	23.22	1246	22.87	1247	22.64	1248	22.47	1249	22.28
1250	22.10	1251	22.00	1252	21.97	1253	21.95	1254	21.89
1255	21.81	1256	21.78	1257	21.81	1258	21.83	1259	21.80
1260	21.74	1261	21.62	1262	21.77	1263	21.77	1264	21.72
1265	21.68	1266	21.58	1267	21.73	1268	21.74	1269	21.69
1270	21.65	1271	21.66	1272	21.71	1273	21.72	1274	21.68
1275	21.67	1276	21.71	1277	21.75	1278	21.74	1279	21.69
1280	21.69	1281	21.74	1282	21.78	1283	21.76	1284	21.71
1285	21.71	1286	21.75	1287	21.79	1288	21.77	1289	21.72
1290	21.71	1291	21.75	1292	21.79	1293	21.77	1294	21.72
1295	21.71	1296	21.76	1297	21.68	1298	21.46	1299	21.17
1300	20.93	1310	17.09	1320	14.46	1330	13.81	1340	13.46
1350	13.55	1360	13.45	1370	13.55	1380	13.64	1390	13.47
1400	13.55	1420	13.50	1440	13.50	1460	11.03	1500	11.03

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 93AC

DESCRIPTION: LA Avenue - COMBINED WCC + INCOMING MP 72" RCP ***TARGET LOCATION -> WE WANT Q100 < 830CFS)***
TOTAL AREA TO HYDROGRAPH: 1805 acres
HYDROGRAPH PEAK: 806 cfs
TIME OF PEAK: 1159 minutes
HYDROGRAPH VOLUME: 373.58 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	38.72	200	47.09	300	58.41	400	64.97
500	68.93	600	76.10	700	96.01	800	107.65	900	128.60
1000	176.83	1050	226.46	1100	295.48	1110	348.29	1120	424.90
1130	470.60	1131	472.90	1132	475.52	1133	477.54	1134	479.34
1135	480.90	1136	482.09	1137	483.29	1138	484.10	1139	485.01
1140	485.67	1141	487.22	1142	488.64	1143	490.58	1144	492.76
1145	497.48	1146	503.04	1147	510.02	1148	518.99	1149	537.40
1150	559.51	1151	589.00	1152	625.89	1153	668.04	1154	705.57
1155	739.39	1156	767.51	1157	788.45	1158	803.95	1159	806.44
1160	804.73	1161	798.84	1162	788.65	1163	773.19	1164	762.20
1165	748.25	1166	732.31	1167	716.52	1168	702.55	1169	689.74
1170	677.92	1171	667.76	1172	659.78	1173	652.88	1174	647.24
1175	645.79	1176	646.35	1177	648.74	1178	653.62	1179	659.62
1180	666.31	1181	674.06	1182	682.07	1183	690.26	1184	698.33

1185	706.15	1186	713.91	1187	721.48	1188	728.38	1189	734.76
1190	740.75	1191	746.10	1192	750.87	1193	754.82	1194	757.99
1195	760.58	1196	762.28	1197	763.29	1198	763.77	1199	763.95
1200	763.59	1201	762.92	1202	761.62	1203	760.01	1204	758.17
1205	756.00	1206	753.83	1207	751.37	1208	748.78	1209	745.95
1210	742.91	1211	739.79	1212	736.52	1213	733.12	1214	729.57
1215	725.87	1216	721.93	1217	718.09	1218	714.09	1219	710.15
1220	706.14	1221	701.89	1222	697.82	1223	693.66	1224	689.54
1225	685.06	1226	680.49	1227	675.58	1228	670.60	1229	665.28
1230	659.65	1231	653.76	1232	647.41	1233	641.13	1234	634.68
1235	628.41	1236	622.06	1237	615.67	1238	609.34	1239	603.16
1240	597.25	1241	591.49	1242	585.87	1243	580.49	1244	575.09
1245	569.67	1246	564.36	1247	559.17	1248	554.07	1249	549.06
1250	544.22	1251	539.65	1252	535.33	1253	531.13	1254	526.94
1255	522.79	1256	518.84	1257	515.12	1258	511.54	1259	507.91
1260	504.21	1261	500.46	1262	496.96	1263	493.34	1264	489.74
1265	486.25	1266	482.73	1267	479.42	1268	475.95	1269	472.49
1270	469.12	1271	465.85	1272	462.60	1273	459.29	1274	455.99
1275	452.81	1276	449.72	1277	446.60	1278	443.41	1279	440.23
1280	437.27	1281	434.56	1282	431.95	1283	429.35	1284	426.79
1285	424.40	1286	422.19	1287	420.06	1288	417.91	1289	415.69
1290	413.48	1291	411.34	1292	409.25	1293	407.13	1294	404.94
1295	402.78	1296	400.76	1297	398.66	1298	396.44	1299	394.22
1300	391.98	1310	367.44	1320	346.80	1330	332.48	1340	319.90
1350	307.70	1360	298.79	1370	293.89	1380	289.10	1390	284.13
1400	279.36	1420	270.57	1440	262.49	1460	249.67	1500	206.96

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 147AB

TOTAL AREA TO HYDROGRAPH: 4415 acres
HYDROGRAPH PEAK: 2220 cfs
TIME OF PEAK: 1203 minutes
HYDROGRAPH VOLUME: 688.57 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	76.49	200	84.12	300	95.71	400	102.34
500	106.57	600	114.72	700	140.55	800	161.18	900	191.41
1000	262.23	1050	339.31	1100	490.62	1110	589.63	1120	733.23
1130	868.10	1131	880.13	1132	892.84	1133	904.69	1134	916.84
1135	928.89	1136	940.31	1137	952.40	1138	964.06	1139	976.21
1140	987.88	1141	1001.31	1142	1015.09	1143	1029.35	1144	1043.91
1145	1064.06	1146	1084.41	1147	1105.80	1148	1129.10	1149	1173.68

1150	1220.75	1151	1273.68	1152	1333.46	1153	1401.28	1154	1457.24
1155	1512.94	1156	1567.69	1157	1619.82	1158	1669.17	1159	1708.32
1160	1733.52	1161	1747.71	1162	1756.03	1163	1759.47	1164	1765.44
1165	1774.79	1166	1792.30	1167	1812.79	1168	1833.16	1169	1852.99
1170	1872.16	1171	1888.58	1172	1902.86	1173	1916.05	1174	1929.18
1175	1941.59	1176	1955.59	1177	1970.05	1178	1984.24	1179	1997.79
1180	2011.23	1181	2023.55	1182	2034.50	1183	2045.18	1184	2054.88
1185	2063.43	1186	2071.62	1187	2079.56	1188	2087.47	1189	2095.71
1190	2104.80	1191	2114.65	1192	2125.36	1193	2136.88	1194	2149.00
1195	2161.44	1196	2173.61	1197	2185.08	1198	2195.39	1199	2204.25
1200	2211.36	1201	2216.60	1202	2219.60	1203	2220.35	1204	2218.76
1205	2214.87	1206	2208.86	1207	2200.70	1208	2190.61	1209	2178.65
1210	2164.94	1211	2149.60	1212	2132.65	1213	2114.30	1214	2094.69
1215	2073.90	1216	2052.00	1217	2029.23	1218	2005.53	1219	1981.17
1220	1956.25	1221	1930.84	1222	1905.13	1223	1879.03	1224	1852.82
1225	1826.17	1226	1799.49	1227	1772.53	1228	1745.59	1229	1718.59
1230	1691.55	1231	1664.52	1232	1637.26	1233	1610.13	1234	1582.96
1235	1556.04	1236	1529.50	1237	1503.22	1238	1477.38	1239	1451.85
1240	1426.65	1241	1402.01	1242	1377.79	1243	1354.20	1244	1331.17
1245	1308.62	1246	1286.56	1247	1264.96	1248	1243.83	1249	1223.18
1250	1203.00	1251	1183.31	1252	1164.27	1253	1145.83	1254	1127.92
1255	1110.52	1256	1093.58	1257	1077.08	1258	1061.17	1259	1045.77
1260	1030.84	1261	1016.19	1262	1001.99	1263	988.10	1264	974.51
1265	961.17	1266	947.98	1267	935.17	1268	922.62	1269	910.29
1270	898.14	1271	886.13	1272	874.44	1273	863.08	1274	852.04
1275	841.13	1276	830.33	1277	819.91	1278	809.75	1279	799.73
1280	789.84	1281	780.06	1282	770.61	1283	761.48	1284	752.63
1285	744.02	1286	735.58	1287	727.46	1288	719.59	1289	711.95
1290	704.49	1291	697.41	1292	690.58	1293	683.86	1294	677.27
1295	670.75	1296	664.23	1297	657.84	1298	651.49	1299	645.23
1300	639.12	1310	581.73	1320	532.85	1330	492.64	1340	459.02
1350	430.48	1360	408.06	1370	391.49	1380	377.77	1390	365.44
1400	354.27	1420	335.20	1440	320.34	1460	300.84	1500	251.03

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 149A

TOTAL AREA TO HYDROGRAPH: 4616 acres
HYDROGRAPH PEAK: 2229 cfs
TIME OF PEAK: 1203 minutes
HYDROGRAPH VOLUME: 705.35 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)

0	0.00	100	79.38	200	86.78	300	98.40	400	105.13
500	109.38	600	117.87	700	144.62	800	165.70	900	196.90
1000	270.07	1050	348.22	1100	501.46	1110	599.56	1120	784.37
1130	929.42	1131	941.61	1132	954.04	1133	965.92	1134	977.71
1135	989.48	1136	1000.87	1137	1012.29	1138	1023.60	1139	1035.18
1140	1046.61	1141	1059.25	1142	1072.95	1143	1087.39	1144	1102.18
1145	1121.57	1146	1144.32	1147	1168.67	1148	1194.30	1149	1238.14
1150	1296.61	1151	1364.30	1152	1437.29	1153	1517.24	1154	1586.71
1155	1645.62	1156	1700.19	1157	1752.79	1158	1801.71	1159	1842.97
1160	1872.99	1161	1889.67	1162	1896.66	1163	1899.30	1164	1902.56
1165	1904.21	1166	1910.77	1167	1923.11	1168	1937.56	1169	1942.85
1170	1947.80	1171	1951.31	1172	1952.47	1173	1949.97	1174	1956.26
1175	1965.43	1176	1973.85	1177	1981.04	1178	1989.88	1179	2003.30
1180	2016.33	1181	2028.86	1182	2040.25	1183	2050.70	1184	2060.53
1185	2069.67	1186	2078.03	1187	2086.06	1188	2093.94	1189	2101.76
1190	2109.97	1191	2118.94	1192	2128.71	1193	2139.24	1194	2150.56
1195	2162.47	1196	2174.55	1197	2186.31	1198	2197.26	1199	2207.05
1200	2215.29	1201	2221.85	1202	2226.43	1203	2228.76	1204	2228.75
1205	2226.44	1206	2221.95	1207	2215.32	1208	2206.61	1209	2196.02
1210	2183.55	1211	2169.48	1212	2153.90	1213	2136.67	1214	2118.03
1215	2098.09	1216	2077.00	1217	2054.97	1218	2032.03	1219	2008.23
1220	1983.74	1221	1958.67	1222	1933.28	1223	1907.53	1224	1881.48
1225	1855.00	1226	1828.09	1227	1800.94	1228	1773.70	1229	1746.45
1230	1719.26	1231	1692.05	1232	1664.76	1233	1637.38	1234	1610.08
1235	1582.94	1236	1556.11	1237	1529.53	1238	1503.31	1239	1477.47
1240	1451.98	1241	1426.92	1242	1402.27	1243	1378.15	1244	1354.60
1245	1331.70	1246	1309.32	1247	1287.47	1248	1266.07	1249	1245.05
1250	1224.80	1251	1204.86	1252	1185.35	1253	1166.54	1254	1148.17
1255	1130.36	1256	1113.07	1257	1096.23	1258	1079.83	1259	1063.99
1260	1048.67	1261	1033.74	1262	1019.23	1263	1005.06	1264	991.23
1265	977.69	1266	964.34	1267	951.28	1268	938.50	1269	925.99
1270	913.73	1271	901.60	1272	889.77	1273	878.29	1274	867.08
1275	856.05	1276	845.15	1277	834.46	1278	824.03	1279	813.87
1280	803.89	1281	794.04	1282	784.32	1283	774.88	1284	765.76
1285	756.95	1286	748.36	1287	740.19	1288	732.07	1289	724.21
1290	716.59	1291	709.21	1292	702.09	1293	695.22	1294	688.52
1295	681.94	1296	675.43	1297	668.88	1298	662.33	1299	655.81
1300	649.43	1310	590.52	1320	540.63	1330	499.65	1340	465.88
1350	436.41	1360	413.54	1370	396.11	1380	382.41	1390	369.65
1400	358.55	1420	339.15	1440	324.15	1460	302.37	1500	252.61

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 150A

DESCRIPTION: DUMMY

TOTAL AREA TO HYDROGRAPH: 4616 acres
HYDROGRAPH PEAK: 2227 cfs
TIME OF PEAK: 1206 minutes
HYDROGRAPH VOLUME: 704.51 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	79.38	200	86.05	300	97.68	400	104.83
500	109.09	600	117.29	700	142.68	800	165.16	900	194.77
1000	266.56	1050	340.26	1100	488.15	1110	562.76	1120	718.63
1130	886.84	1131	899.81	1132	913.34	1133	926.73	1134	939.76
1135	952.44	1136	964.73	1137	976.76	1138	988.56	1139	1000.19
1140	1011.74	1141	1023.28	1142	1034.98	1143	1047.19	1144	1060.14
1145	1073.81	1146	1088.69	1147	1105.84	1148	1125.65	1149	1147.77
1150	1174.35	1151	1210.16	1152	1259.01	1153	1319.26	1154	1387.83
1155	1460.42	1156	1530.70	1157	1595.46	1158	1655.43	1159	1712.15
1160	1764.70	1161	1809.78	1162	1844.83	1163	1868.93	1164	1883.65
1165	1892.40	1166	1897.90	1167	1902.51	1168	1909.13	1169	1918.92
1170	1929.11	1171	1937.10	1172	1943.21	1173	1947.53	1174	1949.53
1175	1951.23	1176	1955.53	1177	1962.08	1178	1969.39	1179	1977.06
1180	1986.26	1181	1997.38	1182	2009.43	1183	2021.52	1184	2033.10
1185	2044.00	1186	2054.22	1187	2063.75	1188	2072.63	1189	2081.05
1190	2089.18	1191	2097.25	1192	2105.54	1193	2114.34	1194	2123.79
1195	2133.96	1196	2144.84	1197	2156.29	1198	2168.12	1199	2179.89
1200	2191.05	1201	2201.18	1202	2209.97	1203	2217.17	1204	2222.51
1205	2225.78	1206	2226.84	1207	2225.68	1208	2222.32	1209	2216.80
1210	2209.23	1211	2199.68	1212	2188.28	1213	2175.19	1214	2160.59
1215	2144.65	1216	2127.10	1217	2108.13	1218	2087.93	1219	2066.65
1220	2044.39	1221	2021.27	1222	1997.38	1223	1972.89	1224	1947.92
1225	1922.56	1226	1896.83	1227	1870.70	1228	1844.21	1229	1817.44
1230	1790.51	1231	1763.50	1232	1736.50	1233	1709.63	1234	1682.73
1235	1656.25	1236	1629.46	1237	1602.77	1238	1576.11	1239	1549.62
1240	1523.40	1241	1497.49	1242	1471.92	1243	1446.74	1244	1421.97
1245	1397.67	1246	1373.90	1247	1350.68	1248	1328.01	1249	1305.86
1250	1284.19	1251	1263.24	1252	1242.81	1253	1222.73	1254	1203.83
1255	1185.05	1256	1166.57	1257	1148.48	1258	1130.84	1259	1113.65
1260	1096.92	1261	1080.68	1262	1064.92	1263	1049.62	1264	1034.75
1265	1020.26	1266	1006.13	1267	992.31	1268	978.77	1269	965.51
1270	952.52	1271	939.79	1272	927.42	1273	915.35	1274	903.55
1275	892.02	1276	880.66	1277	869.48	1278	858.47	1279	847.64
1280	837.03	1281	826.64	1282	816.45	1283	806.43	1284	796.59
1285	786.95	1286	777.56	1287	768.44	1288	759.59	1289	751.26
1290	743.29	1291	735.38	1292	727.60	1293	720.00	1294	712.61
1295	705.44	1296	698.47	1297	691.68	1298	685.01	1299	678.41
1300	671.85	1310	610.77	1320	558.21	1330	514.25	1340	478.83
1350	448.22	1360	422.55	1370	403.10	1380	387.92	1390	374.88
1400	363.06	1420	343.08	1440	327.31	1460	307.53	1500	258.13

VCRat Model Input

Model Lines

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005     1  045A Header place holder
005     1  053B Header place holder
005     1  055B Header place holder
005     1  056BDHeader place holder
005     1  057ABHeader place holder
005     1  058B Header place holder
005     1  065B Header place holder
005     1  073BCHeader place holder
005     1  076C Header place holder
005     1  077D Header place holder
005     1  079B Header place holder
005     1  080BCHeader place holder
005     1  081C Header place holder
005     1  082C Header place holder
005     1  084CDHeader place holder
005     1  085BCHeader place holder
005     1  086B Header place holder
005     1  088B Header place holder
005     1  092C Header place holder
005     1  093ACHeader place holder
005     1  147ABHeader place holder
005     1  149A Header place holder
005     1  150A Header place holder
999
007     1   46A     896 461160     135200  4
008  5    0       0  100      21  200      25  300      31  400      32
008 10  500      34  600      38  700      48  800      51  900      56
008 15 1000      66 1050      77 1100      89 1110      96 1120     103
008 20 1130     109 1131     110 1132     110 1133     110 1134     111
008 25 1135     111 1136     112 1137     112 1138     112 1139     113
008 30 1140     113 1141     113 1142     114 1143     114 1144     114
008 35 1145     114 1146     115 1147     116 1148     117 1149     118
008 40 1150     118 1151     121 1152     124 1153     127 1154     130
008 45 1155     131 1156     132 1157     133 1158     133 1159     134
008 50 1160     135 1161     134 1162     134 1163     133 1164     132
008 55 1165     131 1166     131 1167     130 1168     130 1169     130
008 60 1170     129 1171     129 1172     128 1173     127 1174     127
008 65 1175     126 1176     125 1177     124 1178     124 1179     123
008 70 1180     122 1181     121 1182     120 1183     119 1184     118
008 75 1185     117 1186     116 1187     116 1188     115 1189     114
008 80 1190     114 1191     113 1192     113 1193     112 1194     111
008 85 1195     111 1196     110 1197     110 1198     109 1199     108
008 90 1200     108 1201     108 1202     107 1203     107 1204     107
008 95 1205     106 1206     106 1207     106 1208     105 1209     105
008100 1210     104 1211     104 1212     104 1213     103 1214     103
008105 1215     103 1216     103 1217     102 1218     102 1219     102
008110 1220     102 1221     101 1222     101 1223     101 1224     101
008115 1225     100 1226     100 1227     100 1228      99 1229      99
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008120 1230      99 1231      98 1232      98 1233      98 1234      97
008125 1235      97 1236      97 1237      96 1238      96 1239      96
008130 1240      96 1241      95 1242      95 1243      95 1244      94
008135 1245      94 1246      94 1247      94 1248      94 1249      94
008140 1250      93 1251      93 1252      93 1253      93 1254      93
008145 1255      92 1256      92 1257      92 1258      91 1259      91
008150 1260      91 1261      91 1262      91 1263      90 1264      90
008155 1265      90 1266      90 1267      90 1268      89 1269      89
008160 1270      89 1271      89 1272      89 1273      88 1274      88
008165 1275      88 1276      88 1277      88 1278      88 1279      87
008170 1280      87 1281      87 1282      87 1283      87 1284      87
008175 1285      86 1286      86 1287      86 1288      86 1289      86
008180 1290      85 1291      85 1292      85 1293      85 1294      85
008185 1295      85 1296      84 1297      84 1298      84 1299      84
008190 1300      84 1310      81 1320      79 1330      77 1340      75
008195 1350      72 1360      69 1370      67 1380      65 1390      63
008200 1400      61 1420      59 1440      57 1460      53 1500       0
007     1   47D      10 461160     728200  4
008  5    0       0  100       0  200       0  300       0  400       0
008 10  500       0  600       0  700       1  800       5  900      15
008 15 1000      43 1050      80 1100     150 1110     204 1120     275
008 20 1130     337 1131     342 1132     347 1133     351 1134     356
008 25 1135     361 1136     366 1137     371 1138     375 1139     380
008 30 1140     384 1141     387 1142     391 1143     395 1144     398
008 35 1145     402 1146     413 1147     424 1148     435 1149     447
008 40 1150     458 1151     502 1152     546 1153     591 1154     635
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VCRat Model Input

Model Lines

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008 45 1155     650 1156     666 1157     681 1158     697 1159     712
008 50 1160     728 1161     714 1162     701 1163     687 1164     674
008 55 1165     660 1166     654 1167     648 1168     642 1169     635
008 60 1170     625 1171     614 1172     603 1173     593 1174     582
008 65 1175     571 1176     559 1177     546 1178     533 1179     521
008 70 1180     508 1181     492 1182     476 1183     460 1184     444
008 75 1185     436 1186     428 1187     420 1188     412 1189     403
008 80 1190     395 1191     388 1192     380 1193     372 1194     365
008 85 1195     357 1196     349 1197     342 1198     334 1199     326
008 90 1200     322 1201     319 1202     315 1203     311 1204     308
008 95 1205     304 1206     300 1207     297 1208     293 1209     290
008100 1210     286 1211     282 1212     278 1213     274 1214     271
008105 1215     268 1216     266 1217     264 1218     261 1219     259
008110 1220     257 1221     254 1222     252 1223     250 1224     247
008115 1225     245 1226     241 1227     237 1228     234 1229     230
008120 1230     228 1231     225 1232     222 1233     220 1234     217
008125 1235     214 1236     212 1237     209 1238     207 1239     204
008130 1240     202 1241     199 1242     197 1243     194 1244     192
008135 1245     191 1246     189 1247     188 1248     186 1249     185
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008140 1250     183 1251     182 1252     180 1253     178 1254     177
008145 1255     175 1256     173 1257     171 1258     169 1259     167
008150 1260     165 1261     164 1262     162 1263     160 1264     159
008155 1265     158 1266     156 1267     155 1268     154 1269     153
008160 1270     152 1271     150 1272     148 1273     147 1274     145
008165 1275     144 1276     143 1277     142 1278     140 1279     139
008170 1280     138 1281     137 1282     136 1283     136 1284     135
008175 1285     134 1286     132 1287     131 1288     129 1289     128
008180 1290     127 1291     126 1292     125 1293     124 1294     123
008185 1295     122 1296     121 1297     120 1298     119 1299     118
008190 1300     117 1310     103 1320      91 1330      82 1340      71
008195 1350      60 1360      52 1370      44 1380      38 1390      33
008200 1400      28 1420      22 1440      17 1460       9 1500       0
999
006     1  045A 010      099A97                                G1
006     1  046A 010         A97501411007000                     A
006     1  047D 010         A97                                 A
006     1  048B 060001002906A97400816006200
006     1  049B 040051002106A97
006     1  050C 040011001306A97400700005000
006     1  051BC010         A97400775005000
006     1  052B 020057003905A97401200004500
006     1  053B 030059003307A97                              1
110
111           1.00000
110
006     1  054B 010      099A97400500001000
006     1  055B 040035004206A97                              1
110
111           1.00000    3.51
110
006     1  056BD010         A97                              1
110
111  491.00    1.00000
112  480.00  480.40  480.80  481.20  481.60  482.00  482.40  482.80  483.20  483.60
112  484.00  484.40  484.80  485.20  485.60  486.00  486.40  486.80  487.20  487.60
112  488.00  488.40  488.80  489.20  489.60  490.00  490.40  490.80  491.20  491.60
112  492.00  492.40  492.80  493.20  493.60  494.00  494.40  494.80  495.20  495.60
112  496.00
113   0.000   0.126   0.504   1.142   2.081   3.330   4.842   6.574   8.529  10.738
113  13.206  15.909  18.826  21.934  25.094  28.282  31.499  34.744  38.017  41.320
113  44.651  48.010  51.399  54.816  58.262  61.737  65.241  68.774  72.337  75.929
113  79.550  83.200  86.880  90.589  94.329  98.097 101.880 105.663 109.447 113.230
113 117.013
114    0.00    0.52    1.39    3.73   11.68   22.77   36.26   51.76   67.25   78.61
114   88.23   96.81  104.64  111.89  118.69  125.10  131.20  137.02  142.59  147.96
114  153.62  184.98  234.97  297.55  370.38  452.07  541.69  638.54  776.41 1030.22
114 1313.70 1339.36 1364.54 1389.26 1413.55 1437.43 1460.92 1484.04 1506.80 1529.23
114 1551.33
110
006     1  057AB010         A97501875007000                    11
006     1  058B 040017002110A97                               1
006     1  059AB010         A97500500007000
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006     1  060B 040000005411A97
006     1  061B 040000005311A97101865003700
↟                              Ventura County Watershed Protection District
                         Modified Rational Method Hydrology Program (VCRat v2.64)

               Job:      1  Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)
Page:    46
                                           VCRat Model Input
Model Lines
-----------------------------------------------------------------------------------------------
006     1  062C 050000002012A97
006     1  063BC010         A97100707005600
006     1  064B 040006002709A97101427003800
006     1  065B 040001003109A97                              1
006     1  066C 030004002109A97
006     1  067BC010         A97201482000330
006     1  068B 040024002810A97
006     1  069C 030004003709A97
006     1  070D 040010003106A97
006     1  071CD010         A97301100003200
006     1  072C 050020001407A97
006     1  073BC010         A97                              11
006     1  074C 050000002306A97401366003000
006     1  075C 020038002105A97400321024000
006     1  076C 030012002010A97                              1
110
111  517.34    1.00000    2.44
112  513.00  513.20  513.40  513.60  513.80  514.00  514.20  514.40  514.60  514.80
112  515.00  515.20  515.40  515.60  515.80  516.00  516.20  516.40  516.60  516.80
112  517.00  517.20  517.40  517.60  517.80  518.00  518.20  518.40  518.60  518.80
112  519.00  519.20  519.40  519.60  519.80  520.00  520.20  520.40  520.60  520.80
112  521.00  521.20  521.40  521.60  521.80  522.00
113   0.000   0.029   0.067   0.113   0.168   0.231   0.305   0.388   0.482   0.587
113   0.703   0.830   0.969   1.122   1.287   1.465   1.655   1.855   2.064   2.284
113   2.513   2.751   2.994   3.244   3.501   3.763   4.031   4.300   4.573   4.847
113   5.125   5.405   5.686   5.970   6.255   6.542   6.831   7.122   7.415   7.710
113   8.006   8.305   8.606   8.909   9.214   9.520
114    0.00    9.29   12.24   15.44   18.82   22.28   25.72   29.01   31.91   34.14
114   36.46   38.63   40.70   42.66   44.54   46.34   48.07   49.74   51.36   52.93
114   54.45   55.93   58.36   67.69   81.13   97.54  116.41  137.45  160.42  181.73
114  185.21  188.63  191.98  195.28  198.52  201.71  204.85  207.94  210.99  213.99
114  216.95  219.87  222.76  225.60  228.42  231.19
115
116     1  076D 010      099D96400287005000
110
006     1  077D 030036000908A97400625003600                  1
006     1  078CD010         A97
006     1  079B 040017003006A97                              1
110
111            1.00000    1.80
110
006     1  080BC010         A97                              11
110
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111  508.90    1.00000
112  498.00  498.40  498.80  499.20  499.60  500.00  500.40  500.80  501.20  501.60
112  502.00  502.40  502.80  503.20  503.60  504.00  504.40  504.80  505.20  505.60
112  506.00  506.40  506.80  507.20  507.60  508.00  508.40  508.80  509.20  509.60
112  510.00  510.40  510.80  511.20  511.60  512.00  512.40  512.80  513.20  513.60
112  514.00
113   0.000   0.061   0.203   0.433   0.785   1.265   1.841   2.481   3.183   3.933
113   4.730   5.569   6.447   7.363   8.323   9.325  10.373  11.469  12.611  13.785
113  14.990  16.227  17.497  18.801  20.139  21.510  22.916  24.356  25.832  27.341
113  28.883  30.458  32.064  33.705  35.385  37.106  38.848  40.589  42.331  44.072
113  45.814
114   0.00    1.63    5.84   11.30   15.69   19.03   21.86   24.37   26.64   28.73
114  30.68   32.51   34.25   35.90   37.48   38.99   40.45   41.86   43.22   44.54
114  45.82   59.49   92.56  136.69  189.51  249.75  316.57  389.35  510.43  570.39
114 582.80  594.94  606.84  618.51  629.96  641.21  652.27  663.14  673.84  684.37
114 694.74
110
006     1  081C 020062001006A97                              1
006     1  082C 050014001805A97                              1
110
111           1.00000
110
006     1  083D 040028001307A97
006     1  084CD010         A97                              11
006     1  085BC010         A97                              11
006     1  086B 010      099A97400175005000                  1
110
111  480.34    1.00000
112  471.00  471.30  471.60  471.90  472.20  472.50  472.80  473.10  473.40  473.70
112  474.00  474.30  474.60  474.90  475.20  475.50  475.80  476.10  476.40  476.70
112  477.00  477.30  477.60  477.90  478.20  478.50  478.80  479.10  479.40  479.70
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VCRat Model Input

Model Lines

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112  480.00  480.30  480.60  480.90  481.20  481.50  481.80  482.10  482.40  482.70
112  483.00  483.30  483.60  483.90  484.20  484.50  484.80  485.10
113   0.000   0.099   0.227   0.383   0.568   0.778   1.012   1.270   1.554   1.861
113   2.193   2.545   2.914   3.299   3.702   4.123   4.563   5.023   5.512   6.034
113   6.587   7.174   7.794   8.447   9.130   9.838  10.569  11.322  12.090  12.868
113  13.657  14.458  15.270  16.093  16.927  17.772  18.628  19.496  20.375  21.265
113  22.166  23.079  24.003  24.939  25.883  26.827  27.772  28.402
114   0.00    0.31    1.00    1.54    1.93    2.26    2.54    3.10    5.46    8.88
114  13.08   17.91   23.31   29.21   34.72   38.98   42.70   46.08   49.19   52.10
114  54.85   57.45   59.94   63.17   80.28  106.45  138.98  176.70  218.95  265.25
114 315.26  368.71  467.69  618.84  802.24 1011.81 1244.10 1496.81 1768.24 1998.21
114 2028.88 2059.08 2088.86 2118.21 2147.16 2175.73 2203.92 2231.76
110
006     1  087AB010         A97501458000600
```

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006     1  088B 020026007018A97501275000470                  1
006     1  089AB010         A97
006     1  090C 050061006212A97401480000490
006     1  091C 050070006312A97401350000840
006     1  092C 040040004610A97                           1
006     1  093AC010         A97501575000470                11
006     1  094A 050015004310A97
006     1  095B 040005006416A97 01976004000
006     1  096B 040005005914A97102000004000
006     1  097B 040005004819A97101250004000
006     1  098B 030005006815A97101900004000
006     1  099B 040005008218A97103400004000
006     1  100B 030010011321A97102225004000
006     1  101B 040010009519A97101948004000
006     1  102C 020005006815A97
006     1  103C 030005007020A97102600004000
006     1  104C 030005005621A97102485004000
006     1  105D 030010009620A97101700004000
006     1  106D 030005006918A97102200004000
006     1  107D 030015004619A97102112004000
006     1  108CD010         A97101600003000
006     1  109C 030015004815A97
006     1  110D 050015008522A97
006     1  111CD010         A97101782003000
006     1  112C 030010007520A97
006     1  113D 010015004520A97101700003000
006     1  114CD010         A97
006     1  115E 040005005318A97
006     1  116F 010010006921A97100400004000
006     1  117EF010         A97
006     1  118E 030015007520A97101300004000
006     1  119E 020010003221A97101300004000
006     1  120F 010015005922A97101600002000
006     1  121F 010025006818A97101400002000
006     1  122EF010         A97
006     1  123E 020005010417A97101350003000
006     1  124E 020010005712A97101393003000
006     1  125CE010         A97101800003000
006     1  126C 030005004009A97
006     1  127BC010         A97101930003000
006     1  128B 040010008711A97101950003000
006     1  129D 040020006512A97 00250003000
006     1  130D 040015005912A97501390003000
006     1  131D 040005005111A97402000002000
006     1  132BD010         A97101750003000
006     1  133B 040030008912A97
006     1  134C 030005004911A97
006     1  135BC010         A97
006     1  136B 030005006911A97101900001500
006     1  137C 040030004410A97
006     1  138BC010         A97
006     1  139B 030010008712A97101700001500
006     1  140B 030010007112A97100900001500
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006     1  141B 030005002109A97101000001500
006     1  142B 030005003010A97202500001500
006     1  143C 040010006211A97
006     1  144BC010         A97
006     1  145D 030010003912A97
006     1  146BD010         A97                              1
006     1  147AB010         A97                             11
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VCRat Model Input

Model Lines

```
006     1  148A 060050002509A97500900001500
006     1  149A 060005017620A97503100001500                 1
006     1  150A 010      099A97                             1  2
999
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PROGRAM VCRAT2.64PROJ
PROJECT 4 WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)
DESCRIP 2017 HYDROLOGY MANUAL
DESCRIP 100 YR INTERIM CONDITION MODEL
DESCRIP DS 45A - PROPOSED HITCH RANCH LAND USE (AUG 2018 TTM)
DESCRIP 20190729HR_RegionalBasin3_4_ComboOutlet.hcp HYDROCAD MODEL USED 45A AS INPUT TO BASIN 3 DIVERSION STRUCTURE
DESCRIP 46A AND 47D REPRESENT DIVERSION STRUCTURE BASED ON HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp
DESCRIP IMPORTED HYDROGRAPHS DO NOT INCLUDE CASEY RD BASIN 1
DESCRIP EMERGENCY SPILLWAY SET TO 1' ABOVE HYDROCAD 100YR WSE
DESCRIP TOP OF DAM = WSE100 + 1' ESPILL + HEAD OVER ESPILL + 3' FREEBOARD
DESCRIP ****RWG - RATING CURVES UP-TO-DATE AS OF 07/31/2019****
DESCRIP FLOODWALLS WILL BE REQUIRED AT BASIN 2B, 2, AND 3 TO MEET 3' FREEBOARD ABOVE ESPILL WSE REQUIREMENT
DESCRIP GOAL OF PROJECT:
DESCRIP 1 - REDUCE FLOWS FROM HITCH RANCH LOCAL BELOW 10-YR EXISTING
DESCRIP 2- REDUCE FLOW IN WCC AT LA AVE D/S OF 72" RCP TO 830 CFS OR LESS BASED ON 2005 PLAN
DESCRIP REDUCTION TO 508 CFS AT RR IS NOT NECESSARY TO MEET GOAL 2
DESCRIP NOTE1: ASSUMES ALL OF MOORPARK DRAIN NO.1 (43C - UPSTREAM MODEL) CAN REACH WCC AT HITCH RANCH
DESCRIP NOTE1: IN REALITY PIPE CAN ONLY CARRY 176 CFS OUT OF 266 CFS
DESCRIP NOTE2: ASSUMES ALL OF MP 72" RCP REACHES JUNCTION WITH WCC AT LA AVE
DESCRIP NOTE2: IN REALITY PIPE CAN ONLY CARRY 195 CFS OUT OF 351 CFS
JOB 1 45 100
CURVESET VC2016
RAIN1 REV1
PATHTYPE Relative
OUTPUT 20190730DSHR_IntCond_100.out
HYDROFILE 20190730DSHR_IntCond_100.hyd
SUBAREA 45 A 1
MISCPARAMS N
SUBAREA 46 A 4
DESCRIP IMPORTED HYDROGRAPH (BYPASS) FROM DIVERSION STRUCTURE TO CHANNEL IN 20190729HR_RegionalBasin3_4_ComboOutlet.hcp (SET ACREAGE TO 906-10)
MISCPARAMS N
IMPORT 896 HR_HCAD_INT100DIV2CH N
ROUTING 5 1411 0.07000 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 47 D 4
DESCRIP IMPORTED HYDROGRAPH FROM DIVERSION STRUCTURE TO BASIN 3 IN 20190729HR_RegionalBasin3_4_ComboOutlet.hcp (SET ACREAGE TO 906-896 = 10)
MISCPARAMS N
IMPORT 10 HR_HCAD_INT100DIV2B3 N
SUBAREA 48 B 0
DESCRIP EAST HITCH RANCH (HEADWATER TO DEBRIS BASIN)
SUBPARAMS 29 1 060 RAIN1 6
MISCPARAMS N
ROUTING 4 816 0.06200 -1.00
SUBAREA 49 B 0
DESCRIP EAST HITCH RANCH (BETWEEN DEBRIS BASIN AND NORTH HILLS PKWY)
SUBPARAMS 21 51 040 RAIN1 6
MISCPARAMS N
SUBAREA 50 C 0
DESCRIP EAST HITCH RANCH (HEADWATER TO DOWNSTREAM OF DEBRIS BASIN)
SUBPARAMS 13 11 040 RAIN1 6
MISCPARAMS N
ROUTING 4 700 0.05000 -1.00
SUBAREA 51 B 2 C
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DESCRIP EAST HITCH RANCH
MISCPARAMS N N
ROUTING 4 775 0.05000 -1.00
SUBAREA 52 B 0
DESCRIP EAST HITCH RANCH (PROPOSED MULTI-FAMILY NORTH OF CASEY RD)
SUBPARAMS 39 57 020 RAIN1 5
MISCPARAMS N
ROUTING 4 1200 0.04500 -1.00
SUBAREA 53 B 0
DESCRIP EAST HITCH RANCH
SUBPARAMS 33 59 030 RAIN1 7
MISCPARAMS N
RESERVOIR 53 B
SUBAREA 54 B 1
DESCRIP EAST HITCH RANCH
MISCPARAMS N
ROUTING 4 500 0.01000 -1.00
SUBAREA 55 B 0
DESCRIP LOCAL SUBAREA TO REGIONAL BASIN 3 [Proposed Multi-Family South of Casey Road+Area to WCC]) Based on 07/06/19 CONTOURS
SUBPARAMS 42 35 040 RAIN1 6
MISCPARAMS Y
RESERVOIR 55 B
FATSCS 73 6.50
SUBAREA 56 B 2 D
DESCRIP REGIONAL BASIN 3 (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
MISCPARAMS N N
RESERVOIR 56 F
DESCRIP EMERGENCY SPILLWAY DESIGNED TO PASS 1084 CFS AT 2' OVER 140 WEIR CREST (C=2.8)
DAM 491.00 496.00
USERES Y
STAGE   1    480.00   480.40   480.80   481.20   481.60   482.00   482.40   482.80
STORAGE 1     0.000    0.126    0.504    1.142    2.081    3.330    4.842    6.574
OUTFLOW 1      0.00     0.52     1.39     3.73    11.68    22.77    36.26    51.76
STAGE   9    483.20   483.60   484.00   484.40   484.80   485.20   485.60   486.00
STORAGE 9     8.529   10.738   13.206   15.909   18.826   21.934   25.094   28.282
OUTFLOW 9     67.25    78.61    88.23    96.81   104.64   111.89   118.69   125.10
STAGE   17    486.40   486.80   487.20   487.60   488.00   488.40   488.80   489.20
STORAGE 17    31.499   34.744   38.017   41.320   44.651   48.010   51.399   54.816
OUTFLOW 17    131.20   137.02   142.59   147.96   153.62   184.98   234.97   297.55
STAGE   25    489.60   490.00   490.40   490.80   491.20   491.60   492.00   492.40
STORAGE 25    58.262   61.737   65.241   68.774   72.337   75.929   79.550   83.200
OUTFLOW 25    370.38   452.07   541.69   638.54   776.41  1030.22  1313.70  1339.36
STAGE   33    492.80   493.20   493.60   494.00   494.40   494.80   495.20   495.60
STORAGE 33    86.880   90.589   94.329   98.097  101.880  105.663  109.447  113.230
OUTFLOW 33   1364.54  1389.26  1413.55  1437.43  1460.92  1484.04  1506.80  1529.23
STAGE   41    496.00
STORAGE 41   117.013
OUTFLOW 41   1551.33
SUBAREA 57 A 2 B
DESCRIP COMBINED OUTFLOW FROM BASIN 3 AND BY-PASS DIVERTED UPSTREAM OF BASIN 3
MISCPARAMS Y Y
ROUTING 5 1875 0.07000 -1
CHANLDATA 0.00000 0.014 0.014
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SUBAREA 58 B 0
DESCRIP EAST OF A STREET AND BASIN 3 (POTENTIAL WQ TREATMENT AREA) DRAINS DIRECT TO WCC - ASSUMED PIPE BELOW HIGH ABLE TO CARRY PEAK FLOW
SUBPARAMS 21 17 040 RAIN1 10
MISCPARAMS Y
SUBAREA 59 A 2 B
DESCRIP CONNECTION OF LOCAL EAST OF A STREET AND BASIN 3 (POTENTIAL WQ TREATMENT AREA) DRAINS DIRECT TO WCC - ASSUMED PIPE BELOW HIGH ABLE TO CARRY PEAK FLOW
MISCPARAMS N N
ROUTING 5 500 0.07000 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 60 B 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 54 0 040 RAIN1 11
MISCPARAMS N
SUBAREA 61 B 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 53 0 040 RAIN1 11
MISCPARAMS N
ROUTING 1 1865 0.03700
SUBAREA 62 C 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 20 0 050 RAIN1 12
MISCPARAMS N
SUBAREA 63 B 2 C
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
MISCPARAMS N N
ROUTING 1 707 0.05600
SUBAREA 64 B 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 27 6 040 RAIN1 9
MISCPARAMS N
ROUTING 1 1427 0.03800
SUBAREA 65 B 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 31 1 040 RAIN1 9
MISCPARAMS Y
SUBAREA 66 C 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 21 4 030 RAIN1 9
MISCPARAMS N
SUBAREA 67 B 2 C
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
MISCPARAMS N N
ROUTING 2 1482 0.00330
SUBAREA 68 B 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 28 24 040 RAIN1 10
MISCPARAMS N
SUBAREA 69 C 0
DESCRIP WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 37 4 030 RAIN1 9
MISCPARAMS N
SUBAREA 70 D 0
DESCRIP WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B
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SUBPARAMS 31 10 040 RAIN1 6
MISCPARAMS N
SUBAREA 71 C 2 D
DESCRIP WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B
MISCPARAMS N N
ROUTING 3 1100 0.03200
SUBAREA 72 C 0
DESCRIP WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 14 20 050 RAIN1 7
MISCPARAMS N
SUBAREA 73 B 2 C
DESCRIP CONFLUENCE OF WEST HITCH RANCH (WEST AND MIDDLE FORK) - UPSTREAM OF BASIN 2B
MISCPARAMS Y Y
SUBAREA 74 C 0
DESCRIP WEST HITCH RANCH (EAST FORK HEADWATER UPSTREAM OF DEBRIS BASIN) - DRAINS TO BASIN 2A
SUBPARAMS 23 0 050 RAIN1 6
MISCPARAMS N
ROUTING 4 1366 0.03000 -1.00
SUBAREA 75 C 0
DESCRIP WEST HITCH RANCH (EAST FORK) - DRAINS TO BASIN 2A
SUBPARAMS 21 38 020 RAIN1 5
MISCPARAMS N
ROUTING 4 321 0.24000 -1.00
SUBAREA 76 C 0
DESCRIP BASIN 2A (INCLUDES LOCAL DRAINAGE) - WEST HITCH RANCH (EAST FORK) (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
SUBPARAMS 20 12 030 RAIN1 10
MISCPARAMS Y
RESERVOIR 76 D
FATSCS 62 6.50
DAM 517.34 522.00
USERES Y
STAGE   1    513.00   513.20   513.40   513.60   513.80   514.00   514.20   514.40
STORAGE 1     0.000    0.029    0.067    0.113    0.168    0.231    0.305    0.388
OUTFLOW 1      0.00     9.29    12.24    15.44    18.82    22.28    25.72    29.01
STAGE   9    514.60   514.80   515.00   515.20   515.40   515.60   515.80   516.00
STORAGE 9     0.482    0.587    0.703    0.830    0.969    1.122    1.287    1.465
OUTFLOW 9     31.91    34.14    36.46    38.63    40.70    42.66    44.54    46.34
STAGE   17    516.20   516.40   516.60   516.80   517.00   517.20   517.40   517.60
STORAGE 17     1.655    1.855    2.064    2.284    2.513    2.751    2.994    3.244
OUTFLOW 17     48.07    49.74    51.36    52.93    54.45    55.93    58.36    67.69
STAGE   25    517.80   518.00   518.20   518.40   518.60   518.80   519.00   519.20
STORAGE 25     3.501    3.763    4.031    4.300    4.573    4.847    5.125    5.405
OUTFLOW 25     81.13    97.54   116.41   137.45   160.42   181.73   185.21   188.63
STAGE   33    519.40   519.60   519.80   520.00   520.20   520.40   520.60   520.80
STORAGE 33     5.686    5.970    6.255    6.542    6.831    7.122    7.415    7.710
OUTFLOW 33    191.98   195.28   198.52   201.71   204.85   207.94   210.99   213.99
STAGE   41    521.00   521.20   521.40   521.60   521.80   522.00
STORAGE 41     8.006    8.305    8.606    8.909    9.214    9.520
OUTFLOW 41    216.95   219.87   222.76   225.60   228.42   231.19
ROUTING2 4 287 0.05000 -1.00
SUBAREA 77 D 0
DESCRIP WEST HITCH RANCH (NORTH HILLS PKWY LOCAL DRAINS DIRECTLY TO BASIN 2B) - DID NOT FATTEN, REDUCES VOLUME
SUBPARAMS 9 36 030 RAIN1 8
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MISCPARAMS Y
ROUTING 4 625 0.03600 -1.00
SUBAREA 78 C 2 D
DESCRIP WEST HITCH RANCH - OUTFLOW FROM BASIN 2A + NORTH HILLS PKWY LOCAL
MISCPARAMS N N
SUBAREA 79 B 0
DESCRIP WEST HITCH RANCH - BASIN 2B LOCAL (AREA SURROUNDING BASIN)
SUBPARAMS 30 17 040 RAIN1 6
MISCPARAMS Y
RESERVOIR 79 B
FATRUN 1.80
SUBAREA 80 B 2 C
DESCRIP BASIN 2B (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
MISCPARAMS Y Y
RESERVOIR 80 B
DESCRIP Basin 2B
DAM 508.90 513.40
USERES Y
STAGE   1    498.00   498.40   498.80   499.20   499.60   500.00   500.40   500.80
STORAGE 1     0.000    0.061    0.203    0.433    0.785    1.265    1.841    2.481
OUTFLOW 1      0.00     1.63     5.84    11.30    15.69    19.03    21.86    24.37
STAGE   9    501.20   501.60   502.00   502.40   502.80   503.20   503.60   504.00
STORAGE 9     3.183    3.933    4.730    5.569    6.447    7.363    8.323    9.325
OUTFLOW 9     26.64    28.73    30.68    32.51    34.25    35.90    37.48    38.99
STAGE   17    504.40   504.80   505.20   505.60   506.00   506.40   506.80   507.20
STORAGE 17    10.373   11.469   12.611   13.785   14.990   16.227   17.497   18.801
OUTFLOW 17     40.45    41.86    43.22    44.54    45.82    59.49    92.56   136.69
STAGE   25    507.60   508.00   508.40   508.80   509.20   509.60   510.00   510.40
STORAGE 25    20.139   21.510   22.916   24.356   25.832   27.341   28.883   30.458
OUTFLOW 25    189.51   249.75   316.57   389.35   510.43   570.39   582.80   594.94
STAGE   33    510.80   511.20   511.60   512.00   512.40   512.80   513.20   513.60
STORAGE 33    32.064   33.705   35.385   37.106   38.848   40.589   42.331   44.072
OUTFLOW 33    606.84   618.51   629.96   641.21   652.27   663.14   673.84   684.37
STAGE   41    514.00
STORAGE 41    45.814
OUTFLOW 41    694.74
SUBAREA 81 C 0
DESCRIP WEST HITCH RANCH - EAST OF BASIN 2, DRAINS DIRECTLY TO BASIN 2
SUBPARAMS 10 62 020 RAIN1 6
MISCPARAMS Y
SUBAREA 82 C 0
DESCRIP WEST HITCH RANCH - BASIN 2 LOCAL (IMMEDIATELY AROUND BASIN) DID NOT FATTEN, REDUCES VOLUME (RUNOFF FACTOR 1.9)
SUBPARAMS 18 14 050 RAIN1 5
MISCPARAMS Y
RESERVOIR 82 C
SUBAREA 83 D 0
DESCRIP WEST HITCH RANCH (BASIN IMMEDIATELY WEST OF BASIN 2 - DRAINS TOWARD GABBERT, ASSUMED CAPTURED IN BASIN 2)
SUBPARAMS 13 28 040 RAIN1 7
MISCPARAMS N
SUBAREA 84 C 2 D
DESCRIP WEST HITCH RANCH - COMBINES WEST, EAST, AND LOCAL BASIN 2 SUBAREAS
MISCPARAMS Y Y
SUBAREA 85 B 2 C
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DESCRIP COMBINES OUTFLOW FROM BASIN 2B AND LOCAL BASIN 2/EAST AND WEST OF BASIN 2 SUBAREAS
MISCPARAMS Y Y
SUBAREA 86 B 1
DESCRIP BASIN 2 (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
MISCPARAMS N
RESERVOIR 86 B
DAM 480.34 484.84
USERES Y
STAGE   1    471.00   471.30   471.60   471.90   472.20   472.50   472.80   473.10
STORAGE 1     0.000    0.099    0.227    0.383    0.568    0.778    1.012    1.270
OUTFLOW 1      0.00     0.31     1.00     1.54     1.93     2.26     2.54     3.10
STAGE   9    473.40   473.70   474.00   474.30   474.60   474.90   475.20   475.50
STORAGE 9     1.554    1.861    2.193    2.545    2.914    3.299    3.702    4.123
OUTFLOW 9      5.46     8.88    13.08    17.91    23.31    29.21    34.72    38.98
STAGE   17    475.80   476.10   476.40   476.70   477.00   477.30   477.60   477.90
STORAGE 17     4.563    5.023    5.512    6.034    6.587    7.174    7.794    8.447
OUTFLOW 17     42.70    46.08    49.19    52.10    54.85    57.45    59.94    63.17
STAGE   25    478.20   478.50   478.80   479.10   479.40   479.70   480.00   480.30
STORAGE 25     9.130    9.838   10.569   11.322   12.090   12.868   13.657   14.458
OUTFLOW 25     80.28   106.45   138.98   176.70   218.95   265.25   315.26   368.71
STAGE   33    480.60   480.90   481.20   481.50   481.80   482.10   482.40   482.70
STORAGE 33    15.270   16.093   16.927   17.772   18.628   19.496   20.375   21.265
OUTFLOW 33    467.69   618.84   802.24  1011.81  1244.10  1496.81  1768.24  1998.21
STAGE   41    483.00   483.30   483.60   483.90   484.20   484.50   484.80   485.10
STORAGE 41    22.166   23.079   24.003   24.939   25.883   26.827   27.772   28.402
OUTFLOW 41   2028.88  2059.08  2088.86  2118.21  2147.16  2175.73  2203.92  2231.76
STAGE   49
STORAGE 49
OUTFLOW 49
ROUTING 4 175 0.05000 -1.00
SUBAREA 87 A 2 B
DESCRIP OUTFLOW OF BASIN 2 COMBINED WITH WCC COMING FROM EAST
MISCPARAMS N N
ROUTING 5 1458 0.00600 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 88 B 0
DESCRIP LOCAL SUBAREA TO 10X8 RCB AT RR
SUBPARAMS 70 26 020 RAIN1 18
MISCPARAMS Y
ROUTING 5 1275 0.00470 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 89 A 2 B
DESCRIP INFLOW TO 10X8 RCB AT RR
MISCPARAMS N N
SUBAREA 90 C 0
DESCRIP 65C from PACE
SUBPARAMS 62 61 050 RAIN1 12
MISCPARAMS N
ROUTING 4 1480 0.00490 -1.00
SUBAREA 91 C 0
DESCRIP 66C from PACE
SUBPARAMS 63 70 050 RAIN1 12
MISCPARAMS N
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ROUTING 4 1350 0.00840 -1.00
SUBAREA 92 C 0
DESCRIP 67C from PACE
SUBPARAMS 46 40 040 RAIN1 10
MISCPARAMS Y
SUBAREA 93 A 2 C
DESCRIP LA Avenue - COMBINED WCC + INCOMING MP 72" RCP ***TARGET LOCATION -> WE WANT Q100 < 830CFS)***
MISCPARAMS Y Y
ROUTING 5 1575 0.00470 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 94 A 0
DESCRIP Beg of Addition
SUBPARAMS 43 15 050 RAIN1 10
MISCPARAMS N
SUBAREA 95 B 0
DESCRIP Gabbert Headwaters
SUBPARAMS 64 5 040 RAIN1 16
MISCPARAMS N
ROUTING 0 1976 0.04000
SUBAREA 96 B 0
SUBPARAMS 59 5 040 RAIN1 14
MISCPARAMS N
ROUTING 1 2000 0.04000
SUBAREA 97 B 0
SUBPARAMS 48 5 040 RAIN1 19
MISCPARAMS N
ROUTING 1 1250 0.04000
SUBAREA 98 B 0
SUBPARAMS 68 5 030 RAIN1 15
MISCPARAMS N
ROUTING 1 1900 0.04000
SUBAREA 99 B 0
SUBPARAMS 82 5 040 RAIN1 18
MISCPARAMS N
ROUTING 1 3400 0.04000
SUBAREA 100 B 0
SUBPARAMS 113 10 030 RAIN1 21
MISCPARAMS N
ROUTING 1 2225 0.04000
SUBAREA 101 B 0
SUBPARAMS 95 10 040 RAIN1 19
MISCPARAMS N
ROUTING 1 1948 0.04000
SUBAREA 102 C 0
SUBPARAMS 68 5 020 RAIN1 15
MISCPARAMS N
SUBAREA 103 C 0
DESCRIP 1631D
SUBPARAMS 70 5 030 RAIN1 20
MISCPARAMS N
ROUTING 1 2600 0.04000
SUBAREA 104 C 0
SUBPARAMS 56 5 030 RAIN1 21
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MISCPARAMS N
ROUTING 1 2485 0.04000
SUBAREA 105 D 0
DESCRIP 1634E
SUBPARAMS 96 10 030 RAIN1 20
MISCPARAMS N
ROUTING 1 1700 0.04000
SUBAREA 106 D 0
SUBPARAMS 69 5 030 RAIN1 18
MISCPARAMS N
ROUTING 1 2200 0.04000
SUBAREA 107 D 0
SUBPARAMS 46 15 030 RAIN1 19
MISCPARAMS N
ROUTING 1 2112 0.04000
SUBAREA 108 C 2 D
MISCPARAMS N N
ROUTING 1 1600 0.03000
SUBAREA 109 C 0
SUBPARAMS 48 15 030 RAIN1 15
MISCPARAMS N
SUBAREA 110 D 0
SUBPARAMS 85 15 050 RAIN1 22
MISCPARAMS N
SUBAREA 111 C 2 D
MISCPARAMS N N
ROUTING 1 1782 0.03000
SUBAREA 112 C 0
SUBPARAMS 75 10 030 RAIN1 20
MISCPARAMS N
SUBAREA 113 D 0
SUBPARAMS 45 15 010 RAIN1 20
MISCPARAMS N
ROUTING 1 1700 0.03000
SUBAREA 114 C 2 D
MISCPARAMS N N
SUBAREA 115 E 0
SUBPARAMS 53 5 040 RAIN1 18
MISCPARAMS N
SUBAREA 116 F 0
SUBPARAMS 69 10 010 RAIN1 21
MISCPARAMS N
ROUTING 1 400 0.04000
SUBAREA 117 E 2 F
MISCPARAMS N N
SUBAREA 118 E 0
SUBPARAMS 75 15 030 RAIN1 20
MISCPARAMS N
ROUTING 1 1300 0.04000
SUBAREA 119 E 0
SUBPARAMS 32 10 020 RAIN1 21
MISCPARAMS N
ROUTING 1 1300 0.04000
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SUBAREA 120 F 0
SUBPARAMS 59 15 010 RAIN1 22
MISCPARAMS N
ROUTING 1 1600 0.02000
SUBAREA 121 F 0
SUBPARAMS 68 25 010 RAIN1 18
MISCPARAMS N
ROUTING 1 1400 0.02000
SUBAREA 122 E 2 F
MISCPARAMS N N
SUBAREA 123 E 0
SUBPARAMS 104 5 020 RAIN1 17
MISCPARAMS N
ROUTING 1 1350 0.03000
SUBAREA 124 E 0
SUBPARAMS 57 10 020 RAIN1 12
MISCPARAMS N
ROUTING 1 1393 0.03000
SUBAREA 125 C 2 E
MISCPARAMS N N
ROUTING 1 1800 0.03000
SUBAREA 126 C 0
SUBPARAMS 40 5 030 RAIN1 9
MISCPARAMS N
SUBAREA 127 B 2 C
MISCPARAMS N N
ROUTING 1 1930 0.03000
SUBAREA 128 B 0
SUBPARAMS 87 10 040 RAIN1 11
MISCPARAMS N
ROUTING 1 1950 0.03000
SUBAREA 129 D 0
SUBPARAMS 65 20 040 RAIN1 12
MISCPARAMS N
ROUTING 0 250 0.03000
SUBAREA 130 D 0
SUBPARAMS 59 15 040 RAIN1 12
MISCPARAMS N
ROUTING 5 1390 0.03000 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 131 D 0
SUBPARAMS 51 5 040 RAIN1 11
MISCPARAMS N
ROUTING 4 2000 0.02000 -1.00
SUBAREA 132 B 2 D
MISCPARAMS N N
ROUTING 1 1750 0.03000
SUBAREA 133 B 0
SUBPARAMS 89 30 040 RAIN1 12
MISCPARAMS N
SUBAREA 134 C 0
SUBPARAMS 49 5 030 RAIN1 11
MISCPARAMS N
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SUBAREA 135 B 2 C
MISCPARAMS N N
SUBAREA 136 B 0
SUBPARAMS 69 5 030 RAIN1 11
MISCPARAMS N
ROUTING 1 1900 0.01500
SUBAREA 137 C 0
SUBPARAMS 44 30 040 RAIN1 10
MISCPARAMS N
SUBAREA 138 B 2 C
MISCPARAMS N N
SUBAREA 139 B 0
SUBPARAMS 87 10 030 RAIN1 12
MISCPARAMS N
ROUTING 1 1700 0.01500
SUBAREA 140 B 0
SUBPARAMS 71 10 030 RAIN1 12
MISCPARAMS N
ROUTING 1 900 0.01500
SUBAREA 141 B 0
SUBPARAMS 21 5 030 RAIN1 9
MISCPARAMS N
ROUTING 1 1000 0.01500
SUBAREA 142 B 0
SUBPARAMS 30 5 030 RAIN1 10
MISCPARAMS N
ROUTING 2 2500 0.01500
SUBAREA 143 C 0
SUBPARAMS 62 10 040 RAIN1 11
MISCPARAMS N
SUBAREA 144 B 2 C
MISCPARAMS N N
SUBAREA 145 D 0
SUBPARAMS 39 10 030 RAIN1 12
MISCPARAMS N
SUBAREA 146 B 2 D
MISCPARAMS N Y
SUBAREA 147 A 2 B
MISCPARAMS Y Y
SUBAREA 148 A 0
SUBPARAMS 25 50 060 RAIN1 9
MISCPARAMS N
ROUTING 5 900 0.01500 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 149 A 0
SUBPARAMS 176 5 060 RAIN1 20
MISCPARAMS Y
ROUTING 5 3100 0.01500 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 150 A 1
DESCRIP DUMMY
MISCPARAMS Y
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APPENDIX 5-c

VCRAT Ultimate Conditions Model Input/Output

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PROGRAM VCRAT2.64PROJ
PROJECT 4 WALNUT CANYON HYDROLOGY-ULTIMATE CONDITION 100YR (2017)
DESCRIP PROPOSED MODEL AS OF 07/30/2019
DESCRIP 2017 HYDROLOGY MANUAL
DESCRIP 100 YR ULTIMATE CONDITION MODEL
DESCRIP US 45A - MERGED PACE/RBF/HALL-FOREMAN MODELS, 2018 LAND USE CONDITION
DESCRIP INCLUDES REG BASIN 0
DESCRIP INCLUDES IN-TRACT 5187 BASINS 1 AND 2
DESCRIP ***INCLUDES*** PROPOSED BASIN 1 AT CASEY ROAD (NOT BUILT AS OF 07/30/2019)
JOB 1 1 100
CURVESET VC2016
RAIN1 REV1
PATHTYPE Relative
OUTPUT *.out
SUBAREA 1 A 0
DESCRIP WC HEADWATERS (AG DAM NOT MODELED)
SUBPARAMS 100 12 010 RAIN1 20
MISCPARAMS N
ROUTING 1 2450 0.04000
SUBAREA 2 A 0
DESCRIP WC HEADWATERS
SUBPARAMS 45 4 010 RAIN1 16
MISCPARAMS N
ROUTING 1 275 0.02500
SUBAREA 3 A 0
DESCRIP WC HEADWATERS
SUBPARAMS 42 4 020 RAIN1 12
MISCPARAMS N
SUBAREA 4 A 0
DESCRIP WC HEADWATERS
SUBPARAMS 81 16 020 RAIN1 17
MISCPARAMS N
ROUTING 1 3100 0.03000
SUBAREA 5 A 0
DESCRIP WALNUT CANYON (BASIN 0) DETENTION BASIN DD3-37 (FATTENED)
SUBPARAMS 69 4 030 RAIN1 10
MISCPARAMS Y
RESERVOIR 5 A
DESCRIP BASIN 0 ZERO
FATSCS 69 6.50
DAM 680.00 681.00
USERES Y
STAGE   1    663.78   664.00   665.00   666.00   667.00   668.00   669.00   670.00
STORAGE 1     0.000    0.360    1.540    2.880    4.280    5.740    7.250    8.820
OUTFLOW 1      0.00     0.26     7.60    23.50    45.67    71.69    98.81   118.64
STAGE   9    672.00   675.00   676.00   677.00   680.00   681.00
STORAGE 9    12.320   17.580   19.670   21.760   28.030   30.120
OUTFLOW 9    148.37   188.54   210.58   236.61   302.67   324.69
ROUTING 4 516 0.03686 -1.00
SUBAREA 6 B 0
DESCRIP MERIDIAN HILLS EAST
SUBPARAMS 22 46 020 RAIN1 8
MISCPARAMS N
ROUTING 1 560 0.04500
SUBAREA 7 B 0
DESCRIP MERIDIAN HILLS EAST - IN-TRACT BASIN 5187-1 (DRAINS DIRECT TO WCC) (FATTENED)
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SUBPARAMS 23 46 010 RAIN1 6
MISCPARAMS N
RESERVOIR 7 B
DESCRIP IN-TRACT BASIN AT "BASIN 1A"
FATSCS 83 6.50
DAM 665.00 666.00
USERES Y
STAGE   1    657.00   658.00   659.00   660.00   661.00   662.00   663.00   664.00
STORAGE 1     0.000    0.710    1.450    2.240    3.070    3.920    4.890    5.850
OUTFLOW 1      0.00     5.56    18.98    35.19    50.07    67.10    90.17   114.77
STAGE   9    665.00   666.00
STORAGE 9     6.850    7.850
OUTFLOW 9    137.09   159.41
ROUTING 4 121 0.03586 -1.00
SUBAREA 8 A 2 B
DESCRIP WCC HEADWATERS/BASIN 0 OUTFLOW + MERIDIAN HILLS EAST OUTFLOW FROM IN-TRACT BASIN 5187-1
MISCPARAMS N N
ROUTING 4 967 0.03686 -1.00
SUBAREA 9 A 0
DESCRIP WALNUT CANYON RD (LOCAL) DIRECT TO WCC
SUBPARAMS 22 0 030 RAIN1 11
MISCPARAMS N
ROUTING 5 2100 0.02950 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 10 A 0
DESCRIP WALNUT CANYON RD (LOCAL) DIRECT TO WCC [OLD 7A]
SUBPARAMS 43 36 030 RAIN1 9
MISCPARAMS N
SUBAREA 11 A 1
DESCRIP WALNUT CANYON RD (LOCAL) DIRECT TO WCC
MISCPARAMS N
SUBAREA 12 B 0
DESCRIP MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
SUBPARAMS 16 77 020 RAIN1 10
MISCPARAMS N
ROUTING 4 90 0.00500 -1.00
SUBAREA 13 C 0
DESCRIP MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
SUBPARAMS 18 45 020 RAIN1 9
MISCPARAMS N
ROUTING 4 34 0.02000 -1.00
SUBAREA 14 B 2 C
DESCRIP MERIDIAN HILLS WEST [OLD 9BC]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
MISCPARAMS N N
ROUTING 4 1416 0.03600 -1.00
SUBAREA 15 B 0
DESCRIP MERIDIAN HILLS WEST [OLD 15C]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
SUBPARAMS 80 25 020 RAIN1 15
MISCPARAMS N
ROUTING 2 1000 0.00500
SUBAREA 16 B 1
DESCRIP MERIDIAN HILLS WEST [OLD 16AB]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
MISCPARAMS N
SUBAREA 17 B 1
DESCRIP MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
MISCPARAMS N
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SUBAREA 18 C 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 14 16 050 RAIN1 6
MISCPARAMS N
ROUTING 4 420 0.04000 -1.00
SUBAREA 19 C 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 12 28 020 RAIN1 5
MISCPARAMS N
ROUTING 4 100 0.04000 -1.00
SUBAREA 20 C 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 13 40 030 RAIN1 6
MISCPARAMS N
ROUTING 4 450 0.07300 -1.00
SUBAREA 21 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 9 28 040 RAIN1 5
MISCPARAMS N
ROUTING 4 360 0.01100 -1.00
SUBAREA 22 E 0
DESCRIP MERIDIAN HILLS WEST (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 11 12 040 RAIN1 7
MISCPARAMS N
ROUTING 4 150 0.05300 -1.00
SUBAREA 23 E 0
DESCRIP MERIDIAN HILLS WEST (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 10 30 040 RAIN1 5
MISCPARAMS N
SUBAREA 24 D 2 E
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
MISCPARAMS N N
ROUTING 4 680 0.04700 -1.00
SUBAREA 25 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 5 30 020 RAIN1 6
MISCPARAMS N
ROUTING 4 250 0.01200 -1.00
SUBAREA 26 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 10 30 050 RAIN1 5
MISCPARAMS N
ROUTING 4 740 0.01200 -1.00
SUBAREA 27 D 0
DESCRIP MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
SUBPARAMS 6 32 020 RAIN1 5
MISCPARAMS N
SUBAREA 28 C 2 D
DESCRIP MERIDIAN HILLS WEST - IN-TRACT BASIN 5187-2 [OLD 31BC] DRAINS TO PROPOSED/NOT BUILT BASIN 1 AT CASEY RD
MISCPARAMS N N
RESERVOIR 28 C
DESCRIP OLD 31BC
FATSCS 68 6.50
DAM 720.00 721.00
USERES Y
STAGE   1    712.50   713.00   714.00   715.00   716.00   717.00   718.00   719.00
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STORAGE 1     0.000    0.390    1.210    2.070    2.980    3.930    4.920    5.960
OUTFLOW 1      0.00     1.67    12.04    27.50    43.60    62.27    86.09   111.17
STAGE   9    720.00   721.00
STORAGE 9     7.050    8.150
OUTFLOW 9    133.82   154.00
SUBAREA 29 B 2 C
DESCRIP COMBINES WEST MERIDIAN HILLS OUTFLOW (IN-TRACT BASIN 5187-2 + BY-PASS FLOW)
MISCPARAMS N N
ROUTING 4 314 0.19700 -1.00
SUBAREA 30 B 0
DESCRIP LOCAL CASEY ROAD
SUBPARAMS 9 0 010 RAIN1 7
MISCPARAMS N
ROUTING 1 2300 0.01830
SUBAREA 31 B 1
DESCRIP LOCAL CASEY ROAD
MISCPARAMS N
SUBAREA 32 B 0
DESCRIP LOCATION OF PROPOSED BASIN 1 AT CASEY ROAD ****NOT BUILT AS OF 07/30/19****
SUBPARAMS 69 18 020 RAIN1 19
MISCPARAMS N
RESERVOIR 32 B
FATRUN 2.70
DAM 538.00 539.00
USERES Y
STAGE   1    529.00   530.00   531.00   532.00   533.00   534.00   535.00   536.00
STORAGE 1     0.000    1.310    2.710    4.180    5.740    7.390    9.120   10.940
OUTFLOW 1      0.00    19.00    38.00    70.00   100.00   122.00   144.00   160.00
STAGE   9    537.00   538.00   538.50   539.00
STORAGE 9    12.860   14.870   16.980   20.000
OUTFLOW 9    176.00   190.00   204.00   216.00
SUBAREA 33 A 2 B
DESCRIP COMBINED OUTFLOW FROM WCC MAIN AND WSHD DRAINING TO PROP BASIN 1 AT CASEY RD ****NO BUILT AS OF 07/30/2019****
MISCPARAMS N N
ROUTING 5 1163 0.03560 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 34 C 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 42 24 020 RAIN1 12
MISCPARAMS N
ROUTING 3 1200 0.07500
SUBAREA 35 C 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 17 28 020 RAIN1 10
MISCPARAMS N
ROUTING 3 1100 0.01800
SUBAREA 36 C 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 19 45 050 RAIN1 6
MISCPARAMS N
SUBAREA 37 D 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 10 60 050 RAIN1 6
MISCPARAMS N
ROUTING 3 800 0.01250
SUBAREA 38 D 0
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DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 8 74 010 RAIN1 6
MISCPARAMS N
SUBAREA 39 C 2 D
DESCRIP MOORPARK DRAIN NO.1
MISCPARAMS N N
ROUTING 3 900 0.01100
SUBAREA 40 E 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 11 93 040 RAIN1 9
MISCPARAMS N
SUBAREA 41 E 0
DESCRIP MOORPARK DRAIN NO.1
SUBPARAMS 9 14 040 RAIN1 9
MISCPARAMS N
SUBAREA 42 C 2 E
DESCRIP MOORPARK DRAIN NO.1
MISCPARAMS N N
ROUTING 4 850 0.00900 -1.00
SUBAREA 43 C 0
DESCRIP MOORPARK DRAIN NO.1 - (LOCAL 43C = MOORPARK LIBRARY/CITY HALL/CIVIC CENTER)
SUBPARAMS 31 60 050 RAIN1 12
MISCPARAMS N
SUBAREA 44 A 2 C
DESCRIP WCC MAIN + MOORPARK DRAIN NO. 1 (OLD 28AC WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE)
MISCPARAMS N N
ROUTING 5 1450 0.00800 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 45 A 0
DESCRIP POST OFFICE, WC SCHOOL, AND PROPOSED ESSEX (FATTENING REDUCES VOLUME [RUNOFF FACTOR = 2.9] ---NO FATTENING USED)
SUBPARAMS 30 50 040 RAIN1 12
MISCPARAMS Y
ROUTING 5 450 0.00740 -1
CHANLDATA 0.00000 0.014 0.014
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Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Modified Rational Model Results Report

Job: 1 Project: WALNUT CANYON HYDROLOGY-ULTIMATE CONDITION 100YR (2017)

Project Description

PROPOSED MODEL AS OF 07/30/2019
2017 HYDROLOGY MANUAL
100 YR ULTIMATE CONDITION MODEL
US 45A - MERGED PACE/RBF/HALL-FOREMAN MODELS, 2018 LAND USE CONDITION
INCLUDES REG BASIN 0
INCLUDES IN-TRACT 5187 BASINS 1 AND 2
INCLUDES PROPOSED BASIN 1 AT CASEY ROAD (NOT BUILT AS OF 07/30/2019)

VCRat version: 2.64.0.37
VCRain version: 201801
DOS EXE version: PC 2.64-201605
VCRain Curve Set: VCWPD 2016 Revised Curve Set
Curve A: REV1: South Mountain to Moorpark
Curve B: None
Curve C: None
Curve D: None

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-ULTIMATE CONDITION 100YR (2017)

Model Results

NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	ACCUM AREA (AC)	ACCUM FLOW (CFS)	ACCUM TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
1A : WC HEADWATERS (AG DAM NOT MODELED)																		
1A	010	A100	20	12	100	134	100	134	1160	MOUNTAIN	2450	0.04000	---	----	-----	-----	--	--
2A : WC HEADWATERS																		
2A	010	A100	16	4	45	64	145	179	1164	MOUNTAIN	275	0.02500	---	----	-----	-----	--	--
3A : WC HEADWATERS																		
3A	020	A100	12	4	42	65	187	218	1160	-------	----	-------	---	----	-----	-----	--	--

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4A :  WC HEADWATERS
4A   020   A100   17   16     81    114      268     331   1160    MOUNTAIN   3100  0.03000    ---     ----    -----  -----    --     --
5A :  WALNUT CANYON (BASIN 0) DETENTION BASIN DD3-37 (FATTENED)
5A   030   A100   10    4     69    113      337     330   1169    PIPE        516  0.03686      4.25  ----    -----  -----    --     --
 5A :  BASIN 0 ZERO
     ********************************************************************************************
     *      INCOMING HYDROGRAPH  PEAK (cfs):    329.32         VOLUME (acre-ft):     45.34      *
     *      NO HYDROGRAPH ADJUSTMENT                                                           *
     *      RUNOFF FACTOR(in):   3.11      TOTAL RAIN(in):   6.50      SCS Curve: 69           *
     *      FATTENED HYDROGRAPH  PEAK (cfs):    329.32         VOLUME (acre-ft):     87.30      *
     *      RESERVOIR INFLOW:    PEAK (cfs):    329.32 @ 1169  VOLUME (acre-ft):     87.30      *
     *      MAXIMUM ELEVATION:   STAGE (ft):    675.67 @ 1198  VOLUME (acre-ft):     18.98      *
     *      EMERGENCY SPILLWAY:   ELEV (ft):    680.00         VOLUME (acre-ft):     28.03      *
     *          DIFFERENCE:   IN STAGE (ft):     -4.33      IN VOLUME (acre-ft):      9.05      *
     *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     32.3%      *
     *      TOP OF DAM:           ELEV (ft):    681.00         VOLUME (acre-ft):     30.12      *
     *          DIFFERENCE    IN STAGE (ft):     -5.33      IN VOLUME (acre-ft):     11.14      *
     *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     37.0%      *
     *      RESERVOIR OUTFLOW:   PEAK (cfs):    203.27 @ 1198  VOLUME (acre-ft):     80.88      *
     ********************************************************************************************
5A   ---   ---    --   --    ---    ---      337     203   1198    -------    ----  -------    ---     ----    -----  -----    --     --
6B :  MERIDIAN HILLS EAST
6B   020   A100    8   46     22     58       22      58   1153    MOUNTAIN    560  0.04500    ---     ----    -----  -----    --     --
7B :  MERIDIAN HILLS EAST - IN-TRACT BASIN 5187-1 (DRAINS DIRECT TO WCC) (FATTENED)
7B   010   A100    6   46     23     73       45     118   1154    PIPE        121  0.03586      3.00  ----    -----  -----    --     --
 7B :  IN-TRACT BASIN AT "BASIN 1A"
     ********************************************************************************************
     *      INCOMING HYDROGRAPH  PEAK (cfs):    117.64         VOLUME (acre-ft):     13.76      *
     *      NO HYDROGRAPH ADJUSTMENT                                                           *
     *      RUNOFF FACTOR(in):   4.56      TOTAL RAIN(in):   6.50      SCS Curve: 83           *
     *      FATTENED HYDROGRAPH  PEAK (cfs):    117.64         VOLUME (acre-ft):     17.11      *
     *      RESERVOIR INFLOW:    PEAK (cfs):    117.64 @ 1154  VOLUME (acre-ft):     17.11      *
     *      MAXIMUM ELEVATION:   STAGE (ft):    661.19 @ 1165  VOLUME (acre-ft):      3.23      *
     *      EMERGENCY SPILLWAY:   ELEV (ft):    665.00         VOLUME (acre-ft):      6.85      *
     *          DIFFERENCE:   IN STAGE (ft):     -3.81      IN VOLUME (acre-ft):      3.62      *
     *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     52.8%      *
     *      TOP OF DAM:           ELEV (ft):    666.00         VOLUME (acre-ft):      7.85      *
     *          DIFFERENCE    IN STAGE (ft):     -4.81      IN VOLUME (acre-ft):      4.62      *
     *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     58.8%      *
     *      RESERVOIR OUTFLOW:   PEAK (cfs):     53.32 @ 1165  VOLUME (acre-ft):     15.79      *
     ********************************************************************************************
 7B   ---   ---    --   --    ---    ---       45      53   1165    -------    ----  -------    ---     ----    -----  -----    --     --
 8AB:  WCC HEADWATERS/BASIN 0 OUTFLOW + MERIDIAN HILLS EAST OUTFLOW FROM IN-TRACT BASIN 5187-1
 8AB  ---   ---    --   --     45     53      382     244   1191    PIPE        967  0.03686      3.75  ----    -----  -----    --     --
 9A :  WALNUT CANYON RD (LOCAL) DIRECT TO WCC
 9A   030   A100   11    0     22     33      404     244   1190    CHANNEL    2100  0.02950      5     0.00    0.014  0.014    --     --
10A :  WALNUT CANYON RD (LOCAL) DIRECT TO WCC [OLD 7A]
10A   030   A100    9   36     43     98      447     316   1157    -------    ----  -------    ---     ----    -----  -----    --     --
11A :  WALNUT CANYON RD (LOCAL) DIRECT TO WCC
11A   ---   ---    --   --    ---    ---      447     316   1157    -------    ----  -------    ---     ----    -----  -----    --     --
12B :  MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
12B   020   A100   10   77     16     46       16      46   1154    PIPE         90  0.00500      3.00  ----    -----  -----    --     --
13C :  MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
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      13C   020   A100    9   45     18     45       18      45   1153    PIPE         34  0.02000      2.25  ----    -----  -----    --     --
      14BC:  MERIDIAN HILLS WEST [OLD 9BC]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
      14BC  ---   ---    --   --     18     45       34      91   1154    PIPE       1416  0.03600      2.75  ----    -----  -----    --     --
      15B :  MERIDIAN HILLS WEST [OLD 15C]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
      15B   020   A100   15   25     80    131      114     219   1156    VALLEY     1000  0.00500    ---     ----    -----  -----    --     --
      16B :  MERIDIAN HILLS WEST [OLD 16AB]  (BY-PASSES TO IN-TRACT BASIN 5187-2)
      16B   ---   ---    --   --    ---    ---       114     207   1162    -------    ----  -------    ---     ----    -----  -----    --     --
      17B :  MERIDIAN HILLS WEST  (BY-PASSES TO IN-TRACT BASIN 5187-2)
      17B   ---   ---    --   --    ---    ---       114     207   1162    -------    ----  -------    ---     ----    -----  -----    --     --
      18C :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      18C   050   A100    6   16     14     30       14      30   1153    PIPE        420  0.04000      2.00  ----    -----  -----    --     --
      19C :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      19C   020   A100    5   28     12     36       26      64   1153    PIPE        100  0.04000      2.25  ----    -----  -----    --     --
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Model Results

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   |---------- SUBAREA DATA AND RESULTS --------|-- ACCUMULATED DATA --|------------ ROUTING AFTER ACCUMULATION ---------------------------------|
   | NODE   SOIL  RAIN   TC    %    AREA  FLOW  |  AREA    FLOW   TIME |  CHANNEL  LENGTH   SLOPE     SIZE    H:V       N VALUES      VEL  DEPTH |
   |  ID    TYPE  ZONE (MIN)  IMP    (AC)  (CFS) |  (AC)    (CFS)  (MIN)|    TYPE    (FT)   (FT/FT)    (FT)    (Z)     CHNL   SIDES  (FT/S)  (FT) |
   |-----------------------------------------|----------------------|-------------------------------------------------------------------------|
      20C :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      20C   030   A100    6   40     13     38       39     101   1154    PIPE        450  0.07300      2.50  ----    -----  -----    --     --
      21D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      21D   040   A100    5   28      9     26        9      26   1153    PIPE        360  0.01100      2.25  ----    -----  -----    --     --
      22E :  MERIDIAN HILLS WEST (DRAINS TO IN-TRACT BASIN 5187-2)
      22E   040   A100    7   12     11     22       11      22   1153    PIPE        150  0.05300      2.00  ----    -----  -----    --     --
      23E :  MERIDIAN HILLS WEST (DRAINS TO IN-TRACT BASIN 5187-2)
      23E   040   A100    5   30     10     29       21      51   1153    -------    ----  -------    ---     ----    -----  -----    --     --
      24DE:  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      24DE  ---   ---    --   --     21     51       30      73   1153    PIPE        680  0.04700      2.50  ----    -----  -----    --     --
      25D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      25D   020   A100    6   30      5     14       35      85   1154    PIPE        250  0.01200      3.25  ----    -----  -----    --     --
      26D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      26D   050   A100    5   30     10     28       45     105   1154    PIPE        740  0.01200      3.50  ----    -----  -----    --     --
      27D :  MERIDIAN HILLS WEST  (DRAINS TO IN-TRACT BASIN 5187-2)
      27D   020   A100    5   32      6     19       51     113   1155    -------    ----  -------    ---     ----    -----  -----    --     --
      28CD:  MERIDIAN HILLS WEST - IN-TRACT BASIN 5187-2 [OLD 31BC] DRAINS TO PROPOSED/NOT BUILT BASIN 1 AT CASEY RD
      28CD  ---   ---    --   --     51    113       90     208   1155    -------    ----  -------    ---     ----    -----  -----    --     --
       28C :  OLD 31BC
      ********************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):    208.16         VOLUME (acre-ft):     17.56      *
      *      NO HYDROGRAPH ADJUSTMENT                                                            *
      *      RUNOFF FACTOR(in):   3.01      TOTAL RAIN(in):   6.50      SCS Curve: 68            *
      *      FATTENED HYDROGRAPH  PEAK (cfs):    208.16         VOLUME (acre-ft):     22.58      *
      *      RESERVOIR INFLOW:    PEAK (cfs):    208.16 @ 1155  VOLUME (acre-ft):     22.58      *
      *      MAXIMUM ELEVATION:   STAGE (ft):    717.96 @ 1162  VOLUME (acre-ft):      4.88      *
      *      EMERGENCY SPILLWAY:   ELEV (ft):    720.00         VOLUME (acre-ft):      7.05      *
      *          DIFFERENCE:   IN STAGE (ft):     -2.04      IN VOLUME (acre-ft):      2.17      *
      *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     30.8%      *
      *      TOP OF DAM:           ELEV (ft):    721.00         VOLUME (acre-ft):      8.15      *
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      *          DIFFERENCE    IN STAGE (ft):     -3.04      IN VOLUME (acre-ft):      3.27      *
      *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     40.1%      *
      *      RESERVOIR OUTFLOW:   PEAK (cfs):     85.10 @ 1162  VOLUME (acre-ft):     20.99      *
      ********************************************************************************************
28C   ---   ---    --   --    ---    ---       90      85   1162    -------    ----  -------    ---     ----    -----  -----    --     --
29BC:  COMBINES WEST MERIDIAN HILLS OUTFLOW (IN-TRACT BASIN 5187-2 + BY-PASS FLOW)
29BC  ---   ---    --   --     90     85      204     292   1162    PIPE        314  0.19700      3.00  ----    -----  -----    --     --
30B :  LOCAL CASEY ROAD
30B   010   A100    7    0      9     19      213     297   1163    MOUNTAIN   2300  0.01830    ---     ----    -----  -----    --     --
31B :  LOCAL CASEY ROAD
31B   ---   ---    --   --    ---    ---      213     269   1172    -------    ----  -------    ---     ----    -----  -----    --     --
32B :  LOCATION OF PROPOSED BASIN 1 AT CASEY ROAD ****NOT BUILT AS OF 07/30/19****
32B   020   A100   19   18     69     93      282     321   1168    -------    ----  -------    ---     ----    -----  -----    --     --
      ********************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):    320.96         VOLUME (acre-ft):     62.00      *
      *      NO HYDROGRAPH ADJUSTMENT                                                           *
      *      RUNOFF FACTOR(in):   2.70                                                          *
      *      FATTENED HYDROGRAPH  PEAK (cfs):    320.96         VOLUME (acre-ft):     63.43      *
      *      RESERVOIR INFLOW:    PEAK (cfs):    320.96 @ 1168  VOLUME (acre-ft):     63.43      *
      *      MAXIMUM ELEVATION:   STAGE (ft):    536.82 @ 1190  VOLUME (acre-ft):     12.51      *
      *      EMERGENCY SPILLWAY:   ELEV (ft):    538.00         VOLUME (acre-ft):     14.87      *
      *          DIFFERENCE:   IN STAGE (ft):     -1.18      IN VOLUME (acre-ft):      2.36      *
      *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     15.8%      *
      *      TOP OF DAM:           ELEV (ft):    539.00         VOLUME (acre-ft):     20.00      *
      *          DIFFERENCE    IN STAGE (ft):     -2.18      IN VOLUME (acre-ft):      7.49      *
      *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     37.4%      *
      *      RESERVOIR OUTFLOW:   PEAK (cfs):    173.05 @ 1190  VOLUME (acre-ft):     60.33      *
      ********************************************************************************************
      32B   ---   ---    --   --    ---    ---      282     173   1190    -------    ----  -------    ---     ----    -----  -----    --     --
      33AB:  COMBINED OUTFLOW FROM WCC MAIN AND WSHD DRAINING TO PROP BASIN 1 AT CASEY RD ****NO BUILT AS OF 07/30/2019****
      33AB  ---   ---    --   --    282    173      729     442   1157    CHANNEL    1163  0.03560      6     0.00    0.014  0.014    --     --
      34C :  MOORPARK DRAIN NO.1
      34C   020   A100   12   24     42     77       42      77   1154    40' ROAD   1200  0.07500    ---     ----    -----  -----    --     --
      35C :  MOORPARK DRAIN NO.1
      35C   020   A100   10   28     17     36       59     107   1158    40' ROAD   1100  0.01800    ---     ----    -----  -----    --     --
      36C :  MOORPARK DRAIN NO.1
      36C   050   A100    6   45     19     54       78     115   1162    -------    ----  -------    ---     ----    -----  -----    --     --
      37D :  MOORPARK DRAIN NO.1
      37D   050   A100    6   60     10     32       10      32   1153    40' ROAD    800  0.01250    ---     ----    -----  -----    --     --
      38D :  MOORPARK DRAIN NO.1
      38D   010   A100    6   74      8     29       18      47   1154    -------    ----  -------    ---     ----    -----  -----    --     --
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Model Results

SUBAREA DATA AND RESULTS							ACCUMULATED DATA			ROUTING AFTER ACCUMULATION							
NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	AREA (AC)	FLOW (CFS)	TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
39CD: MOORPARK DRAIN NO.1																		
39CD	---	---	--	--	18	47	96	156	1154	#PIPE	900	0.01100	4.00	----	-----	-----	--	--

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40E :  MOORPARK DRAIN NO.1
40E   040   A100    9   93     11     36       11      36   1153    -------    ----  -------    ---     ----    -----  -----    --     --
41E :  MOORPARK DRAIN NO.1
41E   040   A100    9   14      9     16       20      52   1153    -------    ----  -------    ---     ----    -----  -----    --     --
42CE:  MOORPARK DRAIN NO.1
42CE  ---   ---    --   --     20     52      116     201   1157    PIPE        850  0.00900      4.75  ----    -----  -----    --     --
43C :  MOORPARK DRAIN NO.1 - (LOCAL 43C = MOORPARK LIBRARY/CITY HALL/CIVIC CENTER)
43C   050   A100   12   60     31     70      147     266   1158    -------    ----  -------    ---     ----    -----  -----    --     --
44AC:  WCC MAIN + MOORPARK DRAIN NO. 1 (OLD 28AC WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE)
44AC  ---   ---    --   --    147    266      876     705   1158    CHANNEL    1450  0.00800     10     0.00    0.014  0.014    --     --
45A :  POST OFFICE, WC SCHOOL, AND PROPOSED ESSEX (FATTENING REDUCES VOLUME [RUNOFF FACTOR = 2.9] ---NO FATTENING USED)
45A   040   A100   12   50     30     64      906     758   1160    CHANNEL     450  0.00740     10     0.00    0.014  0.014    --     --


                                    Issue/Warning Messages
 TYPE      ERR NO   PROCEDURE    LOCATION   MESSAGE
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  NO ISSUES OR WARNINGS DETECTED
-----------------------------------------------------------------------------------------------------------------------------------------------------
           RESERVOIR ROUTING AT      5A
-----------------------------------------------------------------------------------------------------------------------------------------------------
           DESCRIPTION: BASIN 0 ZERO
           ********************************************************************************
           *      INCOMING HYDROGRAPH  PEAK (cfs):    329.32         VOLUME (acre-ft):     45.34      *
           *      NO HYDROGRAPH ADJUSTMENT                                                  *
           *      RUNOFF FACTOR(in):   3.11      TOTAL RAIN(in):   6.50      SCS Curve: 69          *
           *      FATTENED HYDROGRAPH  PEAK (cfs):    329.32         VOLUME (acre-ft):     87.30      *
           *      RESERVOIR INFLOW:    PEAK (cfs):    329.32 @ 1169  VOLUME (acre-ft):     87.30      *
           *      MAXIMUM ELEVATION:   STAGE (ft):    675.67 @ 1198  VOLUME (acre-ft):     18.98      *
           *      EMERGENCY SPILLWAY:   ELEV (ft):    680.00         VOLUME (acre-ft):     28.03      *
           *          DIFFERENCE:   IN STAGE (ft):     -4.33      IN VOLUME (acre-ft):      9.05      *
           *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     32.3%      *
           *      TOP OF DAM:           ELEV (ft):    681.00         VOLUME (acre-ft):     30.12      *
           *          DIFFERENCE    IN STAGE (ft):     -5.33      IN VOLUME (acre-ft):     11.14      *
           *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     37.0%      *
           *      RESERVOIR OUTFLOW:   PEAK (cfs):    203.27 @ 1198  VOLUME (acre-ft):     80.88      *
           ********************************************************************************

 TIME   PRE-ADJ   PRE-FAT   INFLOW   OUTFLOW  ELEVATION
 (min)   (cfs)     (cfs)     (cfs)    (cfs)     (feet)
 ---------------------------------------------------
   0      0.00      0.00      0.00      0.00     663.78
 100      4.22      4.22      5.19      0.13     663.89
 200      4.22      4.22      6.54      2.78     664.34
 300      4.22      4.22      7.04      5.03     664.65
 400      4.22      4.22      7.73      6.30     664.82
 500      4.22      4.22      8.69      7.28     664.96
 600      4.51      4.51     10.41      8.79     665.07
 700      5.76      5.76     13.85     10.97     665.21
 800      6.71      6.71     18.52     14.49     665.43
 900      7.97      7.97     26.77     19.84     665.77
1000     17.62     17.62     51.08     33.06     666.43
1050     34.51     34.51     80.97     51.52     667.22
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1100	65.87	65.87	131.92	83.40	668.43
1110	87.31	87.31	154.70	95.46	668.88
1120	115.99	115.99	182.25	107.01	669.41
1130	147.60	147.60	210.86	119.77	670.08
1131	151.30	151.30	213.99	120.85	670.15
1132	154.63	154.63	216.88	121.95	670.22
1133	157.94	157.94	219.73	123.07	670.30
1134	161.08	161.08	222.45	124.21	670.37
1135	164.21	164.21	225.16	125.37	670.45
1136	167.14	167.14	227.72	126.54	670.53
1137	169.95	169.95	230.19	127.74	670.61
1138	172.61	172.61	232.56	128.94	670.69
1139	175.10	175.10	234.82	130.16	670.77
1140	177.47	177.47	236.98	131.39	670.86
1141	180.08	180.08	239.28	132.63	670.94
1142	182.91	182.91	241.70	133.89	671.03
1143	185.58	185.58	244.00	135.15	671.11

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1144	188.06	188.06	246.18	136.43	671.20
1145	191.42	191.42	248.86	137.72	671.28
1146	195.88	195.88	252.15	139.04	671.37
1147	200.11	200.11	255.27	140.37	671.46
1148	204.24	204.24	258.31	141.72	671.55
1149	213.05	213.05	263.94	143.11	671.65
1150	226.92	226.92	272.30	144.57	671.74
1151	241.12	241.12	280.70	146.10	671.85
1152	255.34	255.34	288.96	147.72	671.96
1153	270.03	270.03	297.32	149.30	672.07
1154	280.33	280.33	303.16	150.88	672.19
1155	283.91	283.91	305.34	152.49	672.31
1156	286.47	286.47	306.95	154.09	672.43
1157	291.53	291.53	309.82	155.71	672.55
1158	299.41	299.41	314.08	157.34	672.67
1159	305.21	305.21	317.18	159.00	672.79
1160	306.87	306.87	318.16	160.66	672.92
1161	307.59	307.59	318.66	162.31	673.04
1162	307.35	307.35	318.69	163.95	673.16
1163	305.86	305.86	318.13	165.56	673.28
1164	307.54	307.54	319.08	167.17	673.40
1165	313.45	313.45	321.97	168.77	673.52
1166	319.36	319.36	324.78	170.39	673.64
1167	324.28	324.28	327.06	172.02	673.77
1168	327.77	327.77	328.64	173.65	673.89

1169	329.32	329.32	329.32	175.27	674.01
1170	329.14	329.14	329.24	176.88	674.13
1171	326.99	326.99	328.27	178.47	674.25
1172	322.39	322.39	326.16	180.03	674.36
1173	315.52	315.52	322.94	181.54	674.48
1174	306.87	306.87	318.80	183.00	674.59
1175	297.38	297.38	314.14	184.40	674.69
1176	288.25	288.25	309.54	185.73	674.79
1177	278.16	278.16	304.35	187.00	674.88
1178	268.01	268.01	299.02	188.20	674.97
1179	258.62	258.62	293.95	189.63	675.05
1180	249.77	249.77	289.04	191.10	675.12
1181	241.57	241.57	284.37	192.48	675.18
1182	233.76	233.76	279.80	193.77	675.24
1183	225.96	225.96	275.16	194.98	675.29
1184	218.20	218.20	270.47	196.10	675.34
1185	210.42	210.42	265.68	197.14	675.39
1186	202.56	202.56	260.78	198.09	675.43
1187	194.86	194.86	255.88	198.96	675.47
1188	187.17	187.17	250.92	199.74	675.51
1189	179.28	179.28	245.78	200.45	675.54
1190	171.42	171.42	240.59	201.06	675.57
1191	163.73	163.73	235.42	201.59	675.59
1192	156.40	156.40	230.40	202.05	675.61
1193	149.39	149.39	225.50	202.42	675.63
1194	142.90	142.90	220.85	202.72	675.64
1195	137.09	137.09	216.55	202.95	675.65
1196	131.68	131.68	212.44	203.12	675.66
1197	126.44	126.44	208.40	203.22	675.67
1198	121.35	121.35	204.42	203.27	675.67
1199	116.45	116.45	200.52	203.26	675.67
1200	111.79	111.79	196.73	203.19	675.66
1201	107.21	107.21	192.97	203.07	675.66
1202	102.98	102.98	189.40	202.90	675.65
1203	98.99	98.99	185.96	202.68	675.64
1204	95.13	95.13	182.59	202.41	675.63
1205	91.39	91.39	179.27	202.10	675.62
1206	87.82	87.82	176.04	201.75	675.60
1207	84.44	84.44	172.92	201.36	675.58
1208	81.10	81.10	169.82	200.92	675.56
1209	77.90	77.90	166.79	200.45	675.54
1210	74.83	74.83	163.84	199.95	675.52
1211	71.94	71.94	160.99	199.41	675.49
1212	69.31	69.31	158.32	198.83	675.47
1213	66.88	66.88	155.77	198.23	675.44
1214	64.62	64.62	153.33	197.60	675.41

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1215	62.45	62.45	150.95	196.94	675.38
1216	60.42	60.42	148.66	196.27	675.35
1217	58.51	58.51	146.45	195.56	675.32
1218	56.70	56.70	144.31	194.84	675.29
1219	54.96	54.96	142.22	194.10	675.25
1220	53.31	53.31	140.19	193.33	675.22
1221	51.73	51.73	138.21	192.55	675.18
1222	50.23	50.23	136.30	191.75	675.15
1223	48.83	48.83	134.45	190.94	675.11
1224	47.50	47.50	132.66	190.11	675.07
1225	46.20	46.20	130.89	189.27	675.03
1226	44.93	44.93	129.16	188.45	674.99
1227	43.71	43.71	127.45	187.82	674.95
1228	42.54	42.54	125.79	187.18	674.90
1229	41.44	41.44	124.19	186.53	674.85
1230	40.40	40.40	122.64	185.87	674.80
1231	39.41	39.41	121.12	185.20	674.75
1232	38.45	38.45	119.63	184.52	674.70
1233	37.52	37.52	118.18	183.84	674.65
1234	36.69	36.69	116.80	183.14	674.60
1235	35.98	35.98	115.51	182.44	674.54
1236	35.34	35.34	114.29	181.73	674.49
1237	34.72	34.72	113.08	181.02	674.44
1238	34.13	34.13	111.91	180.30	674.39
1239	33.46	33.46	110.68	179.58	674.33
1240	32.78	32.78	109.44	178.86	674.28
1241	32.08	32.08	108.21	178.12	674.22
1242	31.38	31.38	106.98	177.38	674.17
1243	30.69	30.69	105.77	176.64	674.11
1244	30.00	30.00	104.56	175.89	674.06
1245	29.32	29.32	103.37	175.14	674.00
1246	28.65	28.65	102.18	174.38	673.94
1247	27.99	27.99	101.01	173.62	673.89
1248	27.33	27.33	99.85	172.86	673.83
1249	26.69	26.69	98.71	172.09	673.77
1250	26.05	26.05	97.57	171.31	673.71
1251	25.42	25.42	96.45	170.53	673.66
1252	24.80	24.80	95.35	169.75	673.60
1253	24.21	24.21	94.27	168.97	673.54
1254	23.64	23.64	93.22	168.18	673.48
1255	23.09	23.09	92.18	167.39	673.42
1256	22.56	22.56	91.17	166.60	673.36
1257	22.05	22.05	90.17	165.81	673.30
1258	21.56	21.56	89.20	165.01	673.24
1259	21.09	21.09	88.25	164.21	673.18
1260	20.64	20.64	87.33	163.41	673.12
1261	20.21	20.21	86.41	162.61	673.06
1262	19.80	19.80	85.53	161.81	673.00
1263	19.44	19.44	84.69	161.01	672.94

1264	19.12	19.12	83.89	160.20	672.88
1265	18.81	18.81	83.10	159.40	672.82
1266	18.49	18.49	82.31	158.60	672.76
1267	18.18	18.18	81.53	157.80	672.70
1268	17.88	17.88	80.77	156.99	672.64
1269	17.59	17.59	80.02	156.19	672.58
1270	17.31	17.31	79.28	155.39	672.52
1271	17.01	17.01	78.53	154.59	672.46
1272	16.71	16.71	77.79	153.79	672.40
1273	16.41	16.41	77.06	152.99	672.35
1274	16.12	16.12	76.33	152.19	672.29
1275	15.82	15.82	75.61	151.40	672.23
1276	15.53	15.53	74.89	150.60	672.17
1277	15.25	15.25	74.19	149.80	672.11
1278	14.96	14.96	73.49	149.01	672.05
1279	14.68	14.68	72.80	148.20	671.99
1280	14.40	14.40	72.11	147.32	671.93
1281	14.13	14.13	71.44	146.44	671.87
1282	13.86	13.86	70.77	145.56	671.81
1283	13.59	13.59	70.11	144.69	671.75
1284	13.33	13.33	69.46	143.82	671.69
1285	13.08	13.08	68.82	142.95	671.64

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1286	12.83	12.83	68.18	142.08	671.58
1287	12.59	12.59	67.56	141.22	671.52
1288	12.35	12.35	66.95	140.36	671.46
1289	12.12	12.12	66.34	139.50	671.40
1290	11.89	11.89	65.75	138.65	671.35
1291	11.67	11.67	65.16	137.79	671.29
1292	11.46	11.46	64.58	136.95	671.23
1293	11.26	11.26	64.02	136.10	671.17
1294	11.06	11.06	63.46	135.26	671.12
1295	10.87	10.87	62.91	134.42	671.06
1296	10.68	10.68	62.37	133.59	671.01
1297	10.50	10.50	61.84	132.75	670.95
1298	10.32	10.32	61.31	131.93	670.89
1299	10.12	10.12	60.78	131.10	670.84
1300	9.94	9.94	60.25	130.28	670.78
1310	8.51	8.51	55.58	122.40	670.25
1320	7.70	7.70	51.77	113.17	669.72
1330	7.04	7.04	48.39	103.21	669.22
1340	6.41	6.41	45.29	92.54	668.77
1350	5.95	5.95	42.58	82.02	668.38

1360	5.59	5.59	40.15	73.22	668.06
1370	5.29	5.29	37.96	65.88	667.78
1380	5.03	5.03	35.97	59.68	667.54
1390	4.79	4.79	34.14	54.40	667.34
1400	4.64	4.64	32.52	49.89	667.16
1420	4.43	4.43	29.70	43.13	666.89
1440	4.31	4.31	27.34	38.15	666.66
1460	4.22	4.22	25.31	34.12	666.48
1500	4.22	4.22	22.14	28.45	666.22

Stage - Storage - Discharge Curve for Reservoir at 5A

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
663.78	0.000	0.00
664.00	0.360	0.26
665.00	1.540	7.60
666.00	2.880	23.50
667.00	4.280	45.67
668.00	5.740	71.69
669.00	7.250	98.81
670.00	8.820	118.64
672.00	12.320	148.37
675.00	17.580	188.54
676.00	19.670	210.58
677.00	21.760	236.61
680.00	28.030	302.67
681.00	30.120	324.69

RESERVOIR ROUTING AT 7B

DESCRIPTION: IN-TRACT BASIN AT "BASIN 1A"

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*      INCOMING HYDROGRAPH  PEAK (cfs):    117.64         VOLUME (acre-ft):     13.76      *
*      NO HYDROGRAPH ADJUSTMENT                                                             *
*      RUNOFF FACTOR(in):   4.56      TOTAL RAIN(in):   6.50      SCS Curve: 83             *
*      FATTENED HYDROGRAPH  PEAK (cfs):    117.64         VOLUME (acre-ft):     17.11      *
*      RESERVOIR INFLOW:    PEAK (cfs):    117.64 @ 1154  VOLUME (acre-ft):     17.11      *
*      MAXIMUM ELEVATION:   STAGE (ft):    661.19 @ 1165  VOLUME (acre-ft):      3.23      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    665.00         VOLUME (acre-ft):      6.85      *
*          DIFFERENCE:   IN STAGE (ft):     -3.81      IN VOLUME (acre-ft):      3.62      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     52.8%      *
*      TOP OF DAM:           ELEV (ft):    666.00         VOLUME (acre-ft):      7.85      *
*          DIFFERENCE    IN STAGE (ft):     -4.81      IN VOLUME (acre-ft):      4.62      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     58.8%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):     53.32 @ 1165  VOLUME (acre-ft):     15.79      *
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Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	0.00	657.00
100	2.78	2.78	2.85	0.56	657.10
200	2.78	2.78	2.93	2.09	657.38
300	2.78	2.78	2.97	2.65	657.48
400	2.78	2.78	3.01	2.87	657.52
500	2.78	2.78	3.08	2.98	657.54
600	3.17	3.17	3.56	3.14	657.56
700	4.41	4.41	4.94	3.68	657.66
800	4.51	4.51	5.30	4.58	657.82
900	5.83	5.83	7.11	5.41	657.97
1000	9.55	9.55	11.95	8.50	658.22
1050	13.46	13.46	17.03	12.07	658.48
1100	18.98	18.98	24.83	17.30	658.88
1110	29.42	29.42	35.38	19.72	659.05
1120	39.73	39.73	45.78	24.31	659.33
1130	40.99	40.99	47.88	29.74	659.66
1131	40.78	40.78	47.81	30.25	659.69
1132	40.49	40.49	47.65	30.73	659.73
1133	40.23	40.23	47.53	31.20	659.75
1134	39.92	39.92	47.36	31.66	659.78
1135	39.74	39.74	47.32	32.09	659.81
1136	39.32	39.32	47.07	32.51	659.83
1137	39.28	39.28	47.16	32.92	659.86
1138	39.10	39.10	47.13	33.32	659.88
1139	39.01	39.01	47.18	33.70	659.91
1140	38.85	38.85	47.18	34.08	659.93
1141	38.89	38.89	47.35	34.45	659.95
1142	39.39	39.39	47.94	34.81	659.98
1143	39.72	39.72	48.38	35.19	660.00
1144	40.32	40.32	49.06	35.52	660.02
1145	42.31	42.31	50.97	35.87	660.05
1146	44.92	44.92	53.42	36.27	660.07
1147	47.13	47.13	55.53	36.71	660.10
1148	49.96	49.96	58.16	37.20	660.14
1149	59.15	59.15	66.37	37.81	660.18
1150	70.99	70.99	76.85	38.64	660.23
1151	81.74	81.74	86.33	39.69	660.30
1152	94.95	94.95	97.90	40.97	660.39
1153	109.06	109.06	110.20	42.50	660.49
1154	117.64	117.64	117.64	44.25	660.61
1155	115.54	115.54	115.82	46.01	660.73
1156	109.15	109.15	110.26	47.65	660.84
1157	100.50	100.50	102.69	49.08	660.93
1158	89.46	89.46	93.01	50.30	661.01
1159	76.55	76.55	81.64	51.31	661.07
1160	68.13	68.13	74.16	52.03	661.12
1161	62.83	62.83	69.39	52.57	661.15

1162	56.93	56.93	64.08	52.95	661.17
1163	52.06	52.06	59.66	53.20	661.18
1164	47.55	47.55	55.54	53.31	661.19
1165	43.35	43.35	51.68	53.32	661.19
1166	39.64	39.64	48.25	53.23	661.19
1167	36.96	36.96	45.72	53.06	661.18
1168	34.00	34.00	42.93	52.82	661.16
1169	31.12	31.12	40.22	52.52	661.14
1170	28.28	28.28	37.53	52.15	661.12
1171	26.74	26.74	36.01	51.73	661.10
1172	25.69	25.69	34.92	51.28	661.07
1173	24.46	24.46	33.67	50.82	661.04
1174	23.38	23.38	32.56	50.34	661.02
1175	22.28	22.28	31.43	49.86	660.99
1176	21.35	21.35	30.45	49.40	660.96
1177	20.48	20.48	29.53	48.93	660.92
1178	19.78	19.78	28.76	48.45	660.89
1179	18.92	18.92	27.85	47.96	660.86
1180	18.24	18.24	27.10	47.46	660.82
1181	17.68	17.68	26.46	46.95	660.79
1182	16.90	16.90	25.63	46.44	660.76
1183	16.50	16.50	25.14	45.93	660.72
1184	16.27	16.27	24.81	45.42	660.69
1185	15.96	15.96	24.41	44.91	660.65

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1186	15.68	15.68	24.04	44.41	660.62
1187	15.40	15.40	23.67	43.90	660.59
1188	15.17	15.17	23.34	43.41	660.55
1189	14.61	14.61	22.72	42.91	660.52
1190	14.07	14.07	22.11	42.41	660.49
1191	13.68	13.68	21.64	41.91	660.45
1192	13.08	13.08	20.98	41.41	660.42
1193	12.40	12.40	20.26	40.90	660.38
1194	11.82	11.82	19.62	40.39	660.35
1195	11.63	11.63	19.33	39.88	660.32
1196	11.36	11.36	18.99	39.37	660.28
1197	11.02	11.02	18.58	38.87	660.25
1198	10.80	10.80	18.28	38.37	660.21
1199	10.52	10.52	17.93	37.88	660.18
1200	10.31	10.31	17.63	37.39	660.15
1201	10.11	10.11	17.36	36.90	660.12
1202	9.96	9.96	17.14	36.42	660.08
1203	9.85	9.85	16.94	35.95	660.05

1204	9.77	9.77	16.78	35.48	660.02
1205	9.74	9.74	16.66	35.00	659.99
1206	9.83	9.83	16.67	34.49	659.96
1207	9.74	9.74	16.50	33.99	659.93
1208	9.62	9.62	16.31	33.50	659.90
1209	9.63	9.63	16.25	33.02	659.87
1210	9.62	9.62	16.16	32.55	659.84
1211	9.76	9.76	16.22	32.10	659.81
1212	9.71	9.71	16.09	31.65	659.78
1213	9.60	9.60	15.92	31.22	659.75
1214	9.62	9.62	15.87	30.79	659.73
1215	9.61	9.61	15.79	30.37	659.70
1216	9.64	9.64	15.74	29.97	659.68
1217	9.63	9.63	15.67	29.57	659.65
1218	9.62	9.62	15.59	29.18	659.63
1219	9.60	9.60	15.51	28.80	659.61
1220	9.60	9.60	15.44	28.43	659.58
1221	9.61	9.61	15.39	28.07	659.56
1222	9.74	9.74	15.44	27.71	659.54
1223	9.67	9.67	15.32	27.37	659.52
1224	9.57	9.57	15.17	27.03	659.50
1225	9.25	9.25	14.80	26.70	659.48
1226	8.69	8.69	14.22	26.36	659.46
1227	8.11	8.11	13.61	26.01	659.43
1228	7.42	7.42	12.89	25.65	659.41
1229	6.95	6.95	12.39	25.29	659.39
1230	6.52	6.52	11.93	24.93	659.37
1231	6.25	6.25	11.61	24.56	659.34
1232	6.03	6.03	11.35	24.19	659.32
1233	5.85	5.85	11.13	23.83	659.30
1234	5.72	5.72	10.95	23.48	659.28
1235	5.50	5.50	10.68	23.12	659.26
1236	5.30	5.30	10.44	22.77	659.23
1237	5.04	5.04	10.14	22.43	659.21
1238	4.92	4.92	9.98	22.08	659.19
1239	4.86	4.86	9.87	21.74	659.17
1240	4.78	4.78	9.74	21.41	659.15
1241	4.73	4.73	9.64	21.08	659.13
1242	4.60	4.60	9.48	20.76	659.11
1243	4.58	4.58	9.41	20.45	659.09
1244	4.60	4.60	9.39	20.14	659.07
1245	4.58	4.58	9.32	19.84	659.05
1246	4.57	4.57	9.27	19.54	659.03
1247	4.49	4.49	9.14	19.26	659.02
1248	4.49	4.49	9.10	18.97	659.00
1249	4.53	4.53	9.10	18.73	658.98
1250	4.52	4.52	9.05	18.49	658.96
1251	4.53	4.53	9.01	18.26	658.95
1252	4.46	4.46	8.90	18.03	658.93
1253	4.46	4.46	8.87	17.80	658.91
1254	4.51	4.51	8.88	17.58	658.90
1255	4.51	4.51	8.83	17.37	658.88
1256	4.52	4.52	8.80	17.16	658.86

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-ULTIMATE CONDITION 100YR (2017)

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1257	4.45	4.45	8.70	16.95	658.85
1258	4.46	4.46	8.67	16.75	658.83
1259	4.51	4.51	8.68	16.55	658.82
1260	4.50	4.50	8.64	16.35	658.80
1261	4.45	4.45	8.56	16.16	658.79
1262	4.40	4.40	8.47	15.97	658.78
1263	4.46	4.46	8.50	15.79	658.76
1264	4.50	4.50	8.50	15.61	658.75
1265	4.50	4.50	8.46	15.43	658.74
1266	4.44	4.44	8.37	15.26	658.72
1267	4.45	4.45	8.35	15.09	658.71
1268	4.50	4.50	8.36	14.92	658.70
1269	4.49	4.49	8.32	14.76	658.69
1270	4.50	4.50	8.30	14.60	658.67
1271	4.43	4.43	8.20	14.44	658.66
1272	4.45	4.45	8.18	14.29	658.65
1273	4.50	4.50	8.21	14.14	658.64
1274	4.50	4.50	8.17	13.99	658.63
1275	4.51	4.51	8.15	13.85	658.62
1276	4.44	4.44	8.06	13.71	658.61
1277	4.45	4.45	8.04	13.57	658.60
1278	4.51	4.51	8.06	13.43	658.59
1279	4.50	4.50	8.03	13.30	658.58
1280	4.51	4.51	8.01	13.17	658.57
1281	4.44	4.44	7.92	13.04	658.56
1282	4.45	4.45	7.90	12.91	658.55
1283	4.51	4.51	7.93	12.79	658.54
1284	4.50	4.50	7.90	12.67	658.53
1285	4.51	4.51	7.88	12.55	658.52
1286	4.44	4.44	7.79	12.44	658.51
1287	4.45	4.45	7.77	12.32	658.50
1288	4.51	4.51	7.80	12.21	658.50
1289	4.50	4.50	7.77	12.10	658.49
1290	4.51	4.51	7.75	11.99	658.48
1291	4.44	4.44	7.66	11.89	658.47
1292	4.45	4.45	7.65	11.78	658.46
1293	4.51	4.51	7.67	11.68	658.46
1294	4.50	4.50	7.65	11.58	658.45
1295	4.51	4.51	7.63	11.48	658.44
1296	4.44	4.44	7.54	11.39	658.43
1297	4.39	4.39	7.47	11.29	658.43
1298	4.28	4.28	7.34	11.20	658.42

1299	4.07	4.07	7.11	11.10	658.41
1300	3.94	3.94	6.96	11.00	658.41
1310	3.24	3.24	6.07	10.05	658.33
1320	2.88	2.88	5.54	9.14	658.27
1330	2.82	2.82	5.30	8.33	658.21
1340	2.78	2.78	5.12	7.65	658.16
1350	2.78	2.78	4.98	7.08	658.11
1360	2.78	2.78	4.86	6.61	658.08
1370	2.78	2.78	4.74	6.21	658.05
1380	2.84	2.84	4.69	5.89	658.02
1390	2.78	2.78	4.54	5.61	658.00
1400	2.78	2.78	4.46	5.47	657.98
1420	2.80	2.80	4.32	5.27	657.95
1440	2.78	2.78	4.17	5.08	657.91
1460	2.78	2.78	4.05	4.89	657.88
1500	2.78	2.78	3.87	4.58	657.82

Hydrograph Printouts

Stage - Storage - Discharge Curve for Reservoir at 7B

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
657.00	0.000	0.00
658.00	0.710	5.56
659.00	1.450	18.98
660.00	2.240	35.19
661.00	3.070	50.07
662.00	3.920	67.10
663.00	4.890	90.17
664.00	5.850	114.77
665.00	6.850	137.09
666.00	7.850	159.41

RESERVOIR ROUTING AT 28C

DESCRIPTION: OLD 31BC

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**********************************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):    208.16         VOLUME (acre-ft):     17.56      *
*      NO HYDROGRAPH ADJUSTMENT                                                              *
*      RUNOFF FACTOR(in):   3.01      TOTAL RAIN(in):   6.50      SCS Curve: 68            *
*      FATTENED HYDROGRAPH  PEAK (cfs):    208.16         VOLUME (acre-ft):     22.58      *
*      RESERVOIR INFLOW:    PEAK (cfs):    208.16 @ 1155  VOLUME (acre-ft):     22.58      *
*      MAXIMUM ELEVATION:   STAGE (ft):    717.96 @ 1162  VOLUME (acre-ft):      4.88      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    720.00         VOLUME (acre-ft):      7.05      *
*          DIFFERENCE:   IN STAGE (ft):     -2.04      IN VOLUME (acre-ft):      2.17      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     30.8%      *
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*      TOP OF DAM:           ELEV (ft):    721.00         VOLUME (acre-ft):      8.15      *
*          DIFFERENCE    IN STAGE (ft):     -3.04      IN VOLUME (acre-ft):      3.27      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     40.1%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):     85.10 @ 1162  VOLUME (acre-ft):     20.99      *
*********************************************************************************************

 TIME   PRE-ADJ   PRE-FAT   INFLOW   OUTFLOW  ELEVATION
 (min)   (cfs)     (cfs)     (cfs)    (cfs)     (feet)
 ---------------------------------------------------
   0      0.00      0.00      0.00      0.00     712.50
 100      3.62      3.62      3.71      0.46     712.64
 200      3.62      3.62      3.84      2.33     713.06
 300      3.62      3.62      3.89      3.59     713.18
 400      3.62      3.62      3.95      3.85     713.21
 500      3.62      3.62      4.04      3.96     713.22
 600      3.97      3.97      4.52      4.15     713.24
 700      5.26      5.26      6.03      4.86     713.31
 800      5.38      5.38      6.52      5.95     713.41
 900      6.81      6.81      8.67      6.99     713.51
1000     10.10     10.10     13.62      9.69     713.77
1050     14.11     14.11     19.43     13.29     714.08
1100     20.92     20.92     29.81     19.90     714.51
1110     38.79     38.79     47.94     23.21     714.72
1120     58.84     58.84     68.12     29.86     715.15
1130     60.26     60.26     70.92     38.31     715.67
1131     59.99     59.99     70.84     39.09     715.72
1132     59.57     59.57     70.63     39.85     715.77
1133     59.03     59.03     70.30     40.59     715.81
1134     58.45     58.45     69.94     41.30     715.86
1135     57.88     57.88     69.60     41.99     715.90
1136     57.35     57.35     69.30     42.65     715.94
1137     56.94     56.94     69.12     43.29     715.98
1138     56.65     56.65     69.06     43.94     716.02
1139     56.46     56.46     69.09     44.61     716.05
1140     56.25     56.25     69.11     45.27     716.09
1141     56.39     56.39     69.45     45.91     716.12
1142     56.97     56.97     70.20     46.55     716.16
1143     57.93     57.93     71.31     47.19     716.19
1144     59.08     59.08     72.58     47.86     716.23
1145     61.92     61.92     75.40     48.55     716.27
1146     66.35     66.35     79.65     49.33     716.31
1147     71.70     71.70     84.72     50.21     716.35
1148     77.59     77.59     90.28     51.20     716.41
1149     90.65     90.65    102.27     52.41     716.47
1150    110.88    110.88    120.68     53.98     716.56
1151    135.26    135.26    142.73     56.06     716.67
```

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1152	161.95	161.95	166.78	58.69	716.81
1153	189.96	189.96	191.90	61.92	716.98
1154	207.17	207.17	207.28	66.33	717.17
1155	208.16	208.16	208.16	70.94	717.36
1156	194.93	194.93	196.37	75.22	717.54
1157	172.83	172.83	176.60	78.85	717.70
1158	144.15	144.15	150.85	81.61	717.81
1159	116.12	116.12	125.59	83.46	717.89
1160	94.21	94.21	105.73	84.51	717.93
1161	79.79	79.79	92.55	84.98	717.95
1162	70.79	70.79	84.21	85.10	717.96
1163	65.65	65.65	79.34	84.99	717.95
1164	62.87	62.87	76.59	84.76	717.94
1165	60.13	60.13	73.89	84.45	717.93
1166	56.46	56.46	70.33	84.05	717.91
1167	52.06	52.06	66.09	83.53	717.89
1168	47.00	47.00	61.26	82.88	717.87
1169	41.21	41.21	55.74	82.09	717.83
1170	35.76	35.76	50.53	81.14	717.79
1171	31.45	31.45	46.36	80.08	717.75
1172	28.61	28.61	43.52	78.93	717.70
1173	26.52	26.52	41.37	77.74	717.65
1174	24.97	24.97	39.72	76.53	717.60
1175	23.80	23.80	38.42	75.31	717.55
1176	22.98	22.98	37.44	74.09	717.50
1177	22.27	22.27	36.57	72.88	717.45
1178	21.52	21.52	35.67	71.68	717.40
1179	20.63	20.63	34.64	70.49	717.35
1180	19.67	19.67	33.55	69.31	717.30
1181	18.74	18.74	32.48	68.12	717.25
1182	17.85	17.85	31.45	66.94	717.20
1183	17.07	17.07	30.53	65.77	717.15
1184	16.57	16.57	29.88	64.61	717.10
1185	16.12	16.12	29.28	63.47	717.05
1186	15.79	15.79	28.78	62.35	717.00
1187	15.61	15.61	28.44	61.43	716.96
1188	15.45	15.45	28.11	60.55	716.91
1189	15.05	15.05	27.56	59.67	716.86
1190	14.53	14.53	26.91	58.81	716.81
1191	13.88	13.88	26.14	57.94	716.77
1192	13.15	13.15	25.29	57.08	716.72
1193	12.39	12.39	24.42	56.22	716.68
1194	11.80	11.80	23.71	55.36	716.63
1195	11.38	11.38	23.15	54.51	716.58
1196	11.09	11.09	22.73	53.67	716.54
1197	10.84	10.84	22.34	52.84	716.49
1198	10.63	10.63	22.00	52.02	716.45
1199	10.48	10.48	21.72	51.21	716.41
1200	10.30	10.30	21.41	50.42	716.37

1201	10.25	10.25	21.21	49.64	716.32
1202	10.20	10.20	21.03	48.88	716.28
1203	10.19	10.19	20.89	48.14	716.24
1204	10.18	10.18	20.75	47.41	716.20
1205	10.17	10.17	20.61	46.69	716.17
1206	10.18	10.18	20.50	45.99	716.13
1207	10.19	10.19	20.38	45.31	716.09
1208	10.19	10.19	20.26	44.64	716.06
1209	10.18	10.18	20.13	43.99	716.02
1210	10.18	10.18	20.02	43.38	715.99
1211	10.19	10.19	19.91	42.81	715.95
1212	10.21	10.21	19.81	42.26	715.92
1213	10.20	10.20	19.69	41.72	715.88
1214	10.19	10.19	19.58	41.19	715.85
1215	10.19	10.19	19.47	40.67	715.82
1216	10.12	10.12	19.29	40.15	715.79
1217	10.13	10.13	19.21	39.65	715.75
1218	10.13	10.13	19.11	39.16	715.72
1219	10.16	10.16	19.03	38.67	715.69
1220	10.16	10.16	18.94	38.20	715.66
1221	10.16	10.16	18.84	37.73	715.64
1222	10.17	10.17	18.76	37.28	715.61

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1223	10.19	10.19	18.68	36.83	715.58
1224	10.19	10.19	18.58	36.39	715.55
1225	9.96	9.96	18.28	35.96	715.53
1226	9.63	9.63	17.88	35.53	715.50
1227	9.12	9.12	17.29	35.10	715.47
1228	8.56	8.56	16.68	34.66	715.44
1229	7.95	7.95	16.00	34.22	715.42
1230	7.40	7.40	15.39	33.77	715.39
1231	6.92	6.92	14.84	33.33	715.36
1232	6.54	6.54	14.40	32.87	715.33
1233	6.23	6.23	14.03	32.43	715.31
1234	6.00	6.00	13.72	31.98	715.28
1235	5.81	5.81	13.46	31.54	715.25
1236	5.67	5.67	13.25	31.10	715.22
1237	5.56	5.56	13.06	30.67	715.20
1238	5.47	5.47	12.91	30.24	715.17
1239	5.43	5.43	12.79	29.82	715.14
1240	5.40	5.40	12.70	29.41	715.12
1241	5.38	5.38	12.61	29.01	715.09
1242	5.36	5.36	12.52	28.61	715.07

1243	5.34	5.34	12.43	28.22	715.04
1244	5.34	5.34	12.36	27.84	715.02
1245	5.35	5.35	12.30	27.47	715.00
1246	5.35	5.35	12.23	27.10	714.97
1247	5.34	5.34	12.16	26.73	714.95
1248	5.33	5.33	12.09	26.37	714.93
1249	5.34	5.34	12.03	26.02	714.90
1250	5.35	5.35	11.98	25.68	714.88
1251	5.35	5.35	11.92	25.35	714.86
1252	5.34	5.34	11.85	25.02	714.84
1253	5.33	5.33	11.78	24.69	714.82
1254	5.34	5.34	11.73	24.38	714.80
1255	5.35	5.35	11.68	24.07	714.78
1256	5.35	5.35	11.62	23.76	714.76
1257	5.34	5.34	11.56	23.47	714.74
1258	5.33	5.33	11.49	23.17	714.72
1259	5.34	5.34	11.45	22.89	714.70
1260	5.35	5.35	11.40	22.61	714.68
1261	5.31	5.31	11.31	22.33	714.67
1262	5.30	5.30	11.25	22.06	714.65
1263	5.29	5.29	11.19	21.80	714.63
1264	5.30	5.30	11.15	21.54	714.61
1265	5.33	5.33	11.12	21.28	714.60
1266	5.32	5.32	11.07	21.03	714.58
1267	5.31	5.31	11.01	20.79	714.57
1268	5.32	5.32	10.97	20.55	714.55
1269	5.34	5.34	10.94	20.31	714.54
1270	5.34	5.34	10.89	20.08	714.52
1271	5.33	5.33	10.84	19.86	714.51
1272	5.32	5.32	10.79	19.64	714.49
1273	5.33	5.33	10.75	19.42	714.48
1274	5.34	5.34	10.72	19.21	714.46
1275	5.34	5.34	10.68	19.00	714.45
1276	5.34	5.34	10.63	18.80	714.44
1277	5.33	5.33	10.57	18.60	714.42
1278	5.33	5.33	10.54	18.40	714.41
1279	5.35	5.35	10.51	18.21	714.40
1280	5.35	5.35	10.46	18.02	714.39
1281	5.34	5.34	10.42	17.83	714.37
1282	5.33	5.33	10.37	17.65	714.36
1283	5.34	5.34	10.33	17.47	714.35
1284	5.35	5.35	10.30	17.30	714.34
1285	5.35	5.35	10.27	17.13	714.33
1286	5.34	5.34	10.22	16.96	714.32
1287	5.33	5.33	10.17	16.79	714.31
1288	5.34	5.34	10.14	16.63	714.30
1289	5.35	5.35	10.12	16.47	714.29
1290	5.35	5.35	10.08	16.31	714.28
1291	5.34	5.34	10.04	16.16	714.27
1292	5.33	5.33	9.99	16.01	714.26
1293	5.34	5.34	9.96	15.86	714.25

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1294	5.35	5.35	9.94	15.72	714.24
1295	5.35	5.35	9.90	15.58	714.23
1296	5.34	5.34	9.86	15.44	714.22
1297	5.29	5.29	9.79	15.30	714.21
1298	5.20	5.20	9.66	15.16	714.20
1299	5.02	5.02	9.45	15.03	714.19
1300	4.81	4.81	9.21	14.89	714.18
1310	3.85	3.85	7.97	13.56	714.10
1320	3.64	3.64	7.48	12.31	714.02
1330	3.67	3.67	7.28	11.46	713.94
1340	3.62	3.62	7.00	10.78	713.88
1350	3.63	3.63	6.81	10.17	713.82
1360	3.62	3.62	6.62	9.62	713.77
1370	3.63	3.63	6.46	9.13	713.72
1380	3.67	3.67	6.36	8.70	713.68
1390	3.62	3.62	6.17	8.32	713.64
1400	3.63	3.63	6.04	7.97	713.61
1420	3.64	3.64	5.83	7.39	713.55
1440	3.62	3.62	5.62	6.91	713.51
1460	3.37	3.37	5.20	6.50	713.47
1500	3.37	3.37	4.93	5.81	713.40

Stage - Storage - Discharge Curve for Reservoir at 28C

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
712.50	0.000	0.00
713.00	0.390	1.67
714.00	1.210	12.04
715.00	2.070	27.50
716.00	2.980	43.60
717.00	3.930	62.27
718.00	4.920	86.09
719.00	5.960	111.17
720.00	7.050	133.82
721.00	8.150	154.00

RESERVOIR ROUTING AT 32B

****
* INCOMING HYDROGRAPH PEAK (cfs): 320.96 VOLUME (acre-ft): 62.00 *
* NO HYDROGRAPH ADJUSTMENT *
* RUNOFF FACTOR(in): 2.70 *

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*      FATTENED HYDROGRAPH  PEAK (cfs):    320.96         VOLUME (acre-ft):     63.43      *
*      RESERVOIR INFLOW:    PEAK (cfs):    320.96 @ 1168  VOLUME (acre-ft):     63.43      *
*      MAXIMUM ELEVATION:   STAGE (ft):    536.82 @ 1190  VOLUME (acre-ft):     12.51      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    538.00         VOLUME (acre-ft):     14.87      *
*          DIFFERENCE:   IN STAGE (ft):     -1.18      IN VOLUME (acre-ft):      2.36      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     15.8%      *
*      TOP OF DAM:           ELEV (ft):    539.00         VOLUME (acre-ft):     20.00      *
*          DIFFERENCE    IN STAGE (ft):     -2.18      IN VOLUME (acre-ft):      7.49      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     37.4%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):    173.05 @ 1190  VOLUME (acre-ft):     60.33      *
*********************************************************************************************

 TIME   PRE-ADJ   PRE-FAT   INFLOW   OUTFLOW  ELEVATION
 (min)   (cfs)     (cfs)     (cfs)    (cfs)     (feet)
 ---------------------------------------------------
   0      0.00      0.00      0.00      0.00     529.00
 100      7.57      7.57      7.60      2.17     529.11
 200      8.70      8.70      8.78      7.20     529.38
 300     10.34     10.34     10.42      9.03     529.48
 400     10.88     10.88     10.99     10.40     529.55
 500     11.03     11.03     11.17     10.96     529.58
 600     11.84     11.84     12.02     11.39     529.60
 700     14.86     14.86     15.11     12.82     529.67
 800     17.17     17.17     17.54     15.49     529.82
 900     20.51     20.51     21.10     18.28     529.96
1000     30.99     30.99     32.07     23.70     530.25
1050     45.87     45.87     47.41     31.51     530.66
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Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1100	70.86	70.86	73.21	48.94	531.34
1110	85.21	85.21	87.72	56.30	531.57
1120	109.83	109.83	112.38	66.28	531.88
1130	136.52	136.52	139.09	79.13	532.30
1131	139.15	139.15	141.72	80.73	532.36
1132	141.92	141.92	144.48	82.36	532.41
1133	144.55	144.55	147.11	84.02	532.47
1134	147.31	147.31	149.87	85.71	532.52
1135	150.07	150.07	152.63	87.42	532.58
1136	152.70	152.70	155.25	89.16	532.64
1137	155.43	155.43	157.99	90.92	532.70
1138	158.05	158.05	160.60	92.71	532.76
1139	160.72	160.72	163.27	94.52	532.82
1140	163.12	163.12	165.67	96.35	532.88
1141	165.75	165.75	168.30	98.20	532.94

1142	168.21	168.21	170.75	100.04	533.00
1143	170.47	170.47	173.02	101.35	533.06
1144	172.56	172.56	175.11	102.67	533.12
1145	175.93	175.93	178.47	104.02	533.18
1146	179.03	179.03	181.55	105.40	533.25
1147	181.99	181.99	184.50	106.82	533.31
1148	184.98	184.98	187.47	108.26	533.38
1149	193.81	193.81	196.18	109.78	533.44
1150	202.62	202.62	204.87	111.43	533.52
1151	211.40	211.40	213.51	113.21	533.60
1152	220.43	220.43	222.40	115.11	533.69
1153	229.35	229.35	231.18	117.15	533.78
1154	232.10	232.10	233.90	119.25	533.87
1155	233.84	233.84	235.64	121.35	533.97
1156	235.63	235.63	237.42	123.38	534.06
1157	238.05	238.05	239.82	125.38	534.15
1158	241.26	241.26	243.00	127.40	534.25
1159	245.90	245.90	247.57	129.44	534.34
1160	251.77	251.77	253.33	131.54	534.43
1161	259.70	259.70	261.11	133.73	534.53
1162	269.77	269.77	270.97	136.02	534.64
1163	281.56	281.56	282.50	138.47	534.75
1164	292.76	292.76	293.45	141.06	534.87
1165	302.74	302.74	303.19	143.79	534.99
1166	311.99	311.99	312.22	145.83	535.11
1167	320.31	320.31	320.33	147.88	535.24
1168	320.96	320.96	320.96	149.96	535.37
1169	320.25	320.25	320.27	152.01	535.50
1170	317.49	317.49	317.58	154.02	535.63
1171	312.53	312.53	312.74	155.96	535.75
1172	305.35	305.35	305.73	157.81	535.86
1173	302.35	302.35	302.80	159.57	535.97
1174	298.55	298.55	299.08	161.21	536.08
1175	293.20	293.20	293.85	162.75	536.17
1176	286.46	286.46	287.25	164.21	536.26
1177	278.04	278.04	279.00	165.57	536.35
1178	268.58	268.58	269.73	166.81	536.43
1179	258.52	258.52	259.87	167.93	536.50
1180	248.29	248.29	249.84	168.92	536.56
1181	238.19	238.19	239.92	169.78	536.61
1182	228.20	228.20	230.10	170.53	536.66
1183	218.60	218.60	220.67	171.16	536.70
1184	210.99	210.99	213.18	171.68	536.73
1185	203.51	203.51	205.81	172.11	536.76
1186	196.41	196.41	198.81	172.45	536.78
1187	189.74	189.74	192.23	172.72	536.79
1188	183.24	183.24	185.81	172.90	536.81
1189	176.58	176.58	179.23	173.01	536.81
1190	170.46	170.46	173.18	173.05	536.82
1191	164.45	164.45	167.24	173.02	536.81
1192	158.58	158.58	161.43	172.92	536.81
1193	153.13	153.13	156.03	172.76	536.80
1194	147.97	147.97	150.92	172.54	536.78

1195	143.24	143.24	146.23	172.26	536.77
1196	138.96	138.96	141.97	171.94	536.75
1197	134.96	134.96	137.99	171.58	536.72

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1198	131.28	131.28	134.33	171.17	536.70
1199	127.63	127.63	130.69	170.73	536.67
1200	124.14	124.14	127.21	170.25	536.64
1201	121.06	121.06	124.14	169.75	536.61
1202	117.91	117.91	120.99	169.21	536.58
1203	114.97	114.97	118.05	168.64	536.54
1204	112.25	112.25	115.33	168.05	536.50
1205	109.47	109.47	112.55	167.43	536.46
1206	106.90	106.90	109.97	166.79	536.42
1207	104.40	104.40	107.46	166.13	536.38
1208	102.24	102.24	105.29	165.44	536.34
1209	100.01	100.01	103.05	164.74	536.30
1210	97.97	97.97	101.00	164.03	536.25
1211	96.12	96.12	99.14	163.30	536.21
1212	94.20	94.20	97.20	162.56	536.16
1213	92.33	92.33	95.32	161.80	536.11
1214	90.37	90.37	93.35	161.03	536.06
1215	88.61	88.61	91.58	160.25	536.02
1216	86.89	86.89	89.84	159.42	535.96
1217	85.44	85.44	88.37	158.58	535.91
1218	83.93	83.93	86.85	157.72	535.86
1219	82.46	82.46	85.36	156.86	535.80
1220	80.91	80.91	83.79	155.99	535.75
1221	79.54	79.54	82.40	155.11	535.69
1222	78.37	78.37	81.21	154.23	535.64
1223	77.11	77.11	79.93	153.34	535.58
1224	75.91	75.91	78.71	152.45	535.53
1225	74.22	74.22	77.01	151.56	535.47
1226	72.73	72.73	75.50	150.65	535.42
1227	71.21	71.21	73.97	149.73	535.36
1228	70.12	70.12	72.85	148.82	535.30
1229	69.07	69.07	71.79	147.90	535.24
1230	68.04	68.04	70.73	146.97	535.19
1231	67.08	67.08	69.75	146.05	535.13
1232	66.14	66.14	68.79	145.13	535.07
1233	65.32	65.32	67.95	144.20	535.01
1234	64.52	64.52	67.13	142.96	534.95
1235	63.73	63.73	66.32	141.64	534.89
1236	62.91	62.91	65.48	140.32	534.83

1237	62.10	62.10	64.65	139.01	534.77
1238	61.33	61.33	63.86	137.72	534.71
1239	60.59	60.59	63.09	136.43	534.66
1240	59.85	59.85	62.34	135.15	534.60
1241	59.11	59.11	61.57	133.88	534.54
1242	58.37	58.37	60.82	132.61	534.48
1243	57.66	57.66	60.09	131.36	534.43
1244	57.05	57.05	59.46	130.12	534.37
1245	56.43	56.43	58.82	128.89	534.31
1246	55.83	55.83	58.20	127.66	534.26
1247	55.14	55.14	57.50	126.45	534.20
1248	54.48	54.48	56.81	125.25	534.15
1249	53.80	53.80	56.11	124.05	534.09
1250	53.10	53.10	55.40	122.87	534.04
1251	52.43	52.43	54.71	121.67	533.99
1252	51.67	51.67	53.93	120.45	533.93
1253	50.93	50.93	53.18	119.23	533.87
1254	50.19	50.19	52.42	118.02	533.82
1255	49.43	49.43	51.65	116.82	533.76
1256	48.71	48.71	50.92	115.63	533.71
1257	47.92	47.92	50.11	114.44	533.66
1258	47.17	47.17	49.34	113.27	533.60
1259	46.43	46.43	48.59	112.10	533.55
1260	45.71	45.71	47.85	110.93	533.50
1261	45.00	45.00	47.13	109.78	533.44
1262	44.32	44.32	46.43	108.63	533.39
1263	43.65	43.65	45.74	107.49	533.34
1264	43.00	43.00	45.08	106.36	533.29
1265	42.38	42.38	44.44	105.24	533.24
1266	41.77	41.77	43.82	104.13	533.19
1267	41.19	41.19	43.22	103.03	533.14
1268	40.62	40.62	42.64	101.93	533.09

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1269	40.08	40.08	42.09	100.85	533.04
1270	39.58	39.58	41.58	99.68	532.99
1271	39.14	39.14	41.11	98.15	532.94
1272	38.70	38.70	40.66	96.66	532.89
1273	38.27	38.27	40.22	95.19	532.84
1274	37.86	37.86	39.79	93.74	532.79
1275	37.45	37.45	39.37	92.33	532.74
1276	37.06	37.06	38.97	90.94	532.70
1277	36.68	36.68	38.57	89.58	532.65
1278	36.31	36.31	38.19	88.24	532.61

1279	35.95	35.95	37.81	86.92	532.56
1280	35.64	35.64	37.49	85.64	532.52
1281	35.26	35.26	37.09	84.37	532.48
1282	34.93	34.93	36.75	83.13	532.44
1283	34.60	34.60	36.41	81.91	532.40
1284	34.29	34.29	36.08	80.72	532.36
1285	34.02	34.02	35.80	79.55	532.32
1286	33.68	33.68	35.45	78.40	532.28
1287	33.39	33.39	35.15	77.27	532.24
1288	33.11	33.11	34.85	76.17	532.21
1289	32.84	32.84	34.57	75.09	532.17
1290	32.60	32.60	34.32	74.02	532.13
1291	32.31	32.31	34.01	72.98	532.10
1292	32.05	32.05	33.74	71.96	532.07
1293	31.80	31.80	33.48	70.96	532.03
1294	31.56	31.56	33.23	69.97	532.00
1295	31.36	31.36	33.02	68.88	531.97
1296	31.10	31.10	32.74	67.82	531.93
1297	30.83	30.83	32.47	66.78	531.90
1298	30.54	30.54	32.16	65.76	531.87
1299	30.25	30.25	31.86	64.76	531.84
1300	30.04	30.04	31.64	63.79	531.81
1310	27.68	27.68	29.17	55.28	531.54
1320	25.84	25.84	27.24	48.37	531.32
1330	24.08	24.08	25.39	42.76	531.15
1340	22.06	22.06	23.30	38.10	531.00
1350	20.29	20.29	21.46	35.46	530.87
1360	18.96	18.96	20.06	33.00	530.74
1370	18.05	18.05	19.09	30.75	530.62
1380	17.36	17.36	18.34	28.72	530.51
1390	16.72	16.72	17.65	26.92	530.42
1400	16.22	16.22	17.11	25.31	530.33
1420	15.44	15.44	16.24	22.68	530.19
1440	14.79	14.79	15.52	20.61	530.08
1460	12.60	12.60	13.26	18.81	529.99
1500	11.78	11.78	12.34	15.61	529.82

Stage - Storage - Discharge Curve for Reservoir at 32B

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
529.00	0.000	0.00
530.00	1.310	19.00
531.00	2.710	38.00
532.00	4.180	70.00
533.00	5.740	100.00
534.00	7.390	122.00
535.00	9.120	144.00
536.00	10.940	160.00
537.00	12.860	176.00
538.00	14.870	190.00
538.50	16.980	204.00
539.00	20.000	216.00

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-ULTIMATE CONDITION 100YR (2017)
Page: 18

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 45A

DESCRIPTION: POST OFFICE, WC SCHOOL, AND PROPOSED ESSEX (FATTENING REDUCES VOLUME [RUNOFF FACTOR = 2.9] ---NO FATTENING USED)
TOTAL AREA TO HYDROGRAPH: 906 acres
HYDROGRAPH PEAK: 758 cfs
TIME OF PEAK: 1160 minutes
HYDROGRAPH VOLUME: 218.98 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	15.78	200	23.08	300	29.58	400	31.67
500	34.33	600	37.24	700	47.27	800	54.55	900	69.23
1000	101.95	1050	142.61	1100	218.57	1110	268.42	1120	343.37
1130	395.80	1131	399.48	1132	403.41	1133	407.09	1134	410.80
1135	414.42	1136	417.81	1137	421.12	1138	424.12	1139	427.05
1140	429.76	1141	432.76	1142	435.90	1143	439.58	1144	443.54
1145	449.12	1146	455.09	1147	462.32	1148	471.58	1149	486.94
1150	505.68	1151	530.41	1152	561.92	1153	599.49	1154	637.10
1155	674.27	1156	706.60	1157	731.12	1158	748.00	1159	757.17
1160	758.03	1161	745.84	1162	726.36	1163	701.33	1164	675.06
1165	649.84	1166	633.26	1167	621.70	1168	612.88	1169	604.64
1170	595.86	1171	586.15	1172	575.77	1173	564.91	1174	553.64
1175	542.68	1176	532.82	1177	525.65	1178	520.04	1179	515.30
1180	511.37	1181	507.77	1182	504.23	1183	501.17	1184	498.34
1185	495.63	1186	493.27	1187	491.07	1188	489.06	1189	487.34
1190	485.85	1191	484.36	1192	482.69	1193	480.88	1194	478.98
1195	476.93	1196	474.76	1197	472.63	1198	470.40	1199	468.16
1200	466.03	1201	464.22	1202	462.43	1203	460.82	1204	459.24
1205	457.66	1206	456.10	1207	454.35	1208	452.64	1209	450.88
1210	449.09	1211	447.32	1212	445.44	1213	443.45	1214	441.46
1215	439.47	1216	437.57	1217	435.65	1218	433.55	1219	431.52
1220	429.47	1221	427.42	1222	425.43	1223	423.29	1224	421.24
1225	418.97	1226	416.63	1227	414.03	1228	411.25	1229	408.17
1230	404.98	1231	401.70	1232	398.29	1233	394.87	1234	391.32
1235	387.82	1236	384.33	1237	381.09	1238	378.05	1239	375.27
1240	372.54	1241	369.89	1242	367.18	1243	364.55	1244	362.00
1245	359.42	1246	356.88	1247	354.28	1248	351.76	1249	349.32
1250	346.86	1251	344.43	1252	341.96	1253	339.57	1254	337.26
1255	334.90	1256	332.58	1257	330.19	1258	327.89	1259	325.67
1260	323.41	1261	321.11	1262	318.86	1263	316.61	1264	314.47
1265	312.30	1266	310.10	1267	307.94	1268	305.78	1269	303.72
1270	301.63	1271	299.51	1272	297.41	1273	295.28	1274	293.00
1275	290.68	1276	288.28	1277	285.93	1278	283.64	1279	281.32

1280	279.02	1281	276.67	1282	274.40	1283	272.22	1284	270.00
1285	267.82	1286	265.57	1287	263.39	1288	261.36	1289	259.34
1290	257.29	1291	255.15	1292	253.08	1293	251.09	1294	249.06
1295	247.08	1296	245.03	1297	242.98	1298	240.88	1299	238.66
1300	236.44	1310	214.07	1320	195.78	1330	179.04	1340	162.69
1350	148.08	1360	135.16	1370	123.86	1380	114.42	1390	106.06
1400	99.09	1420	88.35	1440	79.95	1460	68.31	1500	56.50

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-ULTIMATE CONDITION 100YR (2017)

VCRat Model Input

Model Lines

```
005     1  001A Header place holder
005     1  005A Header place holder
005     1  007B Header place holder
005     1  028CDHeader place holder
005     1  032B Header place holder
005     1  045A Header place holder
999
999
006     1  001A 010012010020A97102450004000                   G1
006     1  002A 010004004516A97100275002500
006     1  003A 020004004212A97
006     1  004A 020016008117A97103100003000
006     1  005A 030004006910A97400516003686                  1
110
111  680.00    1.00000    3.11
112  663.78  664.00  665.00  666.00  667.00  668.00  669.00  670.00  672.00  675.00
112  676.00  677.00  680.00  681.00
113   0.000   0.360   1.540   2.880   4.280   5.740   7.250   8.820  12.320  17.580
113  19.670  21.760  28.030  30.120
114    0.00    0.26    7.60   23.50   45.67   71.69   98.81  118.64  148.37  188.54
114  210.58  236.61  302.67  324.69
110
006     1  006B 020046002208A97100560004500
006     1  007B 010046002306A97400121003586                  1
110
111  665.00    1.00000    4.56
112  657.00  658.00  659.00  660.00  661.00  662.00  663.00  664.00  665.00  666.00
113   0.000   0.710   1.450   2.240   3.070   3.920   4.890   5.850   6.850   7.850
114    0.00    5.56   18.98   35.19   50.07   67.10   90.17  114.77  137.09  159.41
110
006     1  008AB010         A97400967003686
006     1  009A 030000002211A97502100002950
006     1  010A 030036004309A97
006     1  011A 010      099A97
006     1  012B 020077001610A97400090000500
006     1  013C 020045001809A97400034002000
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006     1  014BC010         A97401416003600
006     1  015B 020025008015A97201000000500
006     1  016B 010      099A97
006     1  017B 010      099A97
006     1  018C 050016001406A97400420004000
006     1  019C 020028001205A97400100004000
006     1  020C 030040001306A97400450007300
006     1  021D 040028000905A97400360001100
006     1  022E 040012001107A97400150005300
006     1  023E 040030001005A97
006     1  024DE010         A97400680004700
006     1  025D 020030000506A97400250001200
006     1  026D 050030001005A97400740001200
006     1  027D 020032000605A97
006     1  028CD010         A97                              1
110
111  720.00    1.00000    3.01
112  712.50  713.00  714.00  715.00  716.00  717.00  718.00  719.00  720.00  721.00
113   0.000   0.390   1.210   2.070   2.980   3.930   4.920   5.960   7.050   8.150
114    0.00    1.67   12.04   27.50   43.60   62.27   86.09  111.17  133.82  154.00
110
006     1  029BC010         A97400314019700
006     1  030B 010000000907A97102300001830
006     1  031B 010      099A97
006     1  032B 020018006919A97                              1
110
111  538.00    1.00000    2.70
112  529.00  530.00  531.00  532.00  533.00  534.00  535.00  536.00  537.00  538.00
112  538.50  539.00
113   0.000   1.310   2.710   4.180   5.740   7.390   9.120  10.940  12.860  14.870
113  16.980  20.000
114    0.00   19.00   38.00   70.00  100.00  122.00  144.00  160.00  176.00  190.00
114  204.00  216.00
110
006     1  033AB010         A97501163003560
006     1  034C 020024004212A97301200007500
006     1  035C 020028001710A97301100001800
006     1  036C 050045001906A97
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VCRat Model Input

Model Lines

```
006     1  037D 050060001006A97300800001250
006     1  038D 010074000806A97
006     1  039CD010         A97300900001100
006     1  040E 040093001109A97
006     1  041E 040014000909A97
006     1  042CE010         A97400850000900
006     1  043C 050060003112A97
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```
006     1  044AC010         A97501450000800
006     1  045A 040050003012A97500450000740                 1  2
999
```

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PROGRAM VCRAT2.64PROJ
PROJECT 4 WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)
DESCRIP 2017 HYDROLOGY MANUAL
DESCRIP 100 YR INTERIM CONDITION MODEL
DESCRIP DS 45A - PROPOSED HITCH RANCH LAND USE (AUG 2018 TTM)
DESCRIP 20190729HR_RegionalBasin3_4_ComboOutlet.hcp HYDROCAD MODEL USED 45A AS INPUT TO BASIN 3 DIVERSION STRUCTURE
DESCRIP 46A AND 47D REPRESENT DIVERSION STRUCTURE BASED ON HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp
DESCRIP IMPORTED HYDROGRAPHS DO NOT INCLUDE CASEY RD BASIN 1
DESCRIP EMERGENCY SPILLWAY SET TO 1' ABOVE HYDROCAD 100YR WSE
DESCRIP TOP OF DAM = WSE100 + 1' ESPILL + HEAD OVER ESPILL + 3' FREEBOARD
DESCRIP ****RWG - RATING CURVES UP-TO-DATE AS OF 07/31/2019****
DESCRIP FLOODWALLS WILL BE REQUIRED AT BASIN 2B, 2, AND 3 TO MEET 3' FREEBOARD ABOVE ESPILL WSE REQUIREMENT
DESCRIP GOAL OF PROJECT:
DESCRIP 1 - REDUCE FLOWS FROM HITCH RANCH LOCAL BELOW 10-YR EXISTING
DESCRIP 2- REDUCE FLOW IN WCC AT LA AVE D/S OF 72" RCP TO 830 CFS OR LESS BASED ON 2005 PLAN
DESCRIP REDUCTION TO 508 CFS AT RR IS NOT NECESSARY TO MEET GOAL 2
DESCRIP NOTE1: ASSUMES ALL OF MOORPARK DRAIN NO.1 (43C - UPSTREAM MODEL) CAN REACH WCC AT HITCH RANCH
DESCRIP NOTE1: IN REALITY PIPE CAN ONLY CARRY 176 CFS OUT OF 266 CFS
DESCRIP NOTE2: ASSUMES ALL OF MP 72" RCP REACHES JUNCTION WITH WCC AT LA AVE
DESCRIP NOTE2: IN REALITY PIPE CAN ONLY CARRY 195 CFS OUT OF 351 CFS
JOB 1 45 100
CURVESET VC2016
RAIN1 REV1
PATHTYPE Relative
OUTPUT 20190730DSHR_UltCond_100.out
HYDROFILE 20190730DSHR_UltCond_100_hydros_in.hyd
SUBAREA 45 A 1
MISCPARAMS N
SUBAREA 46 A 4
DESCRIP IMPORTED HYDROGRAPH (BYPASS) FROM DIVERSION STRUCTURE TO CHANNEL IN 20190729HR_RegionalBasin3_4_ComboOutlet.hcp (SET ACREAGE TO 906-10)
MISCPARAMS N
IMPORT 896 HR_HCAD_INT100DIV2CH N
ROUTING 5 1411 0.07000 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 47 D 4
DESCRIP IMPORTED HYDROGRAPH FROM DIVERSION STRUCTURE TO BASIN 3 IN 20190729HR_RegionalBasin3_4_ComboOutlet.hcp (SET ACREAGE TO 906-896 = 10)
MISCPARAMS N
IMPORT 10 HR_HCAD_INT100DIV2B3 N
SUBAREA 48 B 0
DESCRIP EAST HITCH RANCH (HEADWATER TO DEBRIS BASIN)
SUBPARAMS 29 1 060 RAIN1 6
MISCPARAMS N
ROUTING 4 816 0.06200 -1.00
SUBAREA 49 B 0
DESCRIP EAST HITCH RANCH (BETWEEN DEBRIS BASIN AND NORTH HILLS PKWY)
SUBPARAMS 21 51 040 RAIN1 6
MISCPARAMS N
SUBAREA 50 C 0
DESCRIP EAST HITCH RANCH (HEADWATER TO DOWNSTREAM OF DEBRIS BASIN)
SUBPARAMS 13 11 040 RAIN1 6
MISCPARAMS N
ROUTING 4 700 0.05000 -1.00
SUBAREA 51 B 2 C
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DESCRIP EAST HITCH RANCH
MISCPARAMS N N
ROUTING 4 775 0.05000 -1.00
SUBAREA 52 B 0
DESCRIP EAST HITCH RANCH (PROPOSED MULTI-FAMILY NORTH OF CASEY RD)
SUBPARAMS 39 57 020 RAIN1 5
MISCPARAMS N
ROUTING 4 1200 0.04500 -1.00
SUBAREA 53 B 0
DESCRIP EAST HITCH RANCH
SUBPARAMS 33 59 030 RAIN1 7
MISCPARAMS N
RESERVOIR 53 B
SUBAREA 54 B 1
DESCRIP EAST HITCH RANCH
MISCPARAMS N
ROUTING 4 500 0.01000 -1.00
SUBAREA 55 B 0
DESCRIP LOCAL SUBAREA TO REGIONAL BASIN 3 [Proposed Multi-Family South of Casey Road+Area to WCC]) Based on 07/06/19 CONTOURS
SUBPARAMS 42 35 040 RAIN1 6
MISCPARAMS Y
RESERVOIR 55 B
FATSCS 73 6.50
SUBAREA 56 B 2 D
DESCRIP REGIONAL BASIN 3 (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
MISCPARAMS N N
RESERVOIR 56 F
DESCRIP EMERGENCY SPILLWAY DESIGNED TO PASS 1084 CFS AT 2' OVER 140 WEIR CREST (C=2.8)
DAM 491.00 496.00
USERES Y
STAGE   1    480.00   480.40   480.80   481.20   481.60   482.00   482.40   482.80
STORAGE 1      0.000    0.126    0.504    1.142    2.081    3.330    4.842    6.574
OUTFLOW 1       0.00     0.52     1.39     3.73    11.68    22.77    36.26    51.76
STAGE   9    483.20   483.60   484.00   484.40   484.80   485.20   485.60   486.00
STORAGE 9      8.529   10.738   13.206   15.909   18.826   21.934   25.094   28.282
OUTFLOW 9      67.25    78.61    88.23    96.81   104.64   111.89   118.69   125.10
STAGE   17    486.40   486.80   487.20   487.60   488.00   488.40   488.80   489.20
STORAGE 17     31.499   34.744   38.017   41.320   44.651   48.010   51.399   54.816
OUTFLOW 17    131.20   137.02   142.59   147.96   153.62   184.98   234.97   297.55
STAGE   25    489.60   490.00   490.40   490.80   491.20   491.60   492.00   492.40
STORAGE 25     58.262   61.737   65.241   68.774   72.337   75.929   79.550   83.200
OUTFLOW 25    370.38   452.07   541.69   638.54   776.41  1030.22  1313.70  1339.36
STAGE   33    492.80   493.20   493.60   494.00   494.40   494.80   495.20   495.60
STORAGE 33     86.880   90.589   94.329   98.097  101.880  105.663  109.447  113.230
OUTFLOW 33   1364.54  1389.26  1413.55  1437.43  1460.92  1484.04  1506.80  1529.23
STAGE   41    496.00
STORAGE 41   117.013
OUTFLOW 41   1551.33
SUBAREA 57 A 2 B
DESCRIP COMBINED OUTFLOW FROM BASIN 3 AND BY-PASS DIVERTED UPSTREAM OF BASIN 3
MISCPARAMS Y Y
ROUTING 5 1875 0.07000 -1
CHANLDATA 0.00000 0.014 0.014
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SUBAREA 58 B 0
DESCRIP EAST OF A STREET AND BASIN 3 (POTENTIAL WQ TREATMENT AREA) DRAINS DIRECT TO WCC - ASSUMED PIPE BELOW HIGH ABLE TO CARRY PEAK FLOW
SUBPARAMS 21 17 040 RAIN1 10
MISCPARAMS Y
SUBAREA 59 A 2 B
DESCRIP CONNECTION OF LOCAL EAST OF A STREET AND BASIN 3 (POTENTIAL WQ TREATMENT AREA) DRAINS DIRECT TO WCC - ASSUMED PIPE BELOW HIGH ABLE TO CARRY PEAK FLOW
MISCPARAMS N N
ROUTING 5 500 0.07000 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 60 B 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 54 0 040 RAIN1 11
MISCPARAMS N
SUBAREA 61 B 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 53 0 040 RAIN1 11
MISCPARAMS N
ROUTING 1 1865 0.03700
SUBAREA 62 C 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 20 0 050 RAIN1 12
MISCPARAMS N
SUBAREA 63 B 2 C
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
MISCPARAMS N N
ROUTING 1 707 0.05600
SUBAREA 64 B 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 27 6 040 RAIN1 9
MISCPARAMS N
ROUTING 1 1427 0.03800
SUBAREA 65 B 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 31 1 040 RAIN1 9
MISCPARAMS Y
SUBAREA 66 C 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 21 4 030 RAIN1 9
MISCPARAMS N
SUBAREA 67 B 2 C
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
MISCPARAMS N N
ROUTING 2 1482 0.00330
SUBAREA 68 B 0
DESCRIP WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 28 24 040 RAIN1 10
MISCPARAMS N
SUBAREA 69 C 0
DESCRIP WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 37 4 030 RAIN1 9
MISCPARAMS N
SUBAREA 70 D 0
DESCRIP WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B
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SUBPARAMS 31 10 040 RAIN1 6
MISCPARAMS N
SUBAREA 71 C 2 D
DESCRIP WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B
MISCPARAMS N N
ROUTING 3 1100 0.03200
SUBAREA 72 C 0
DESCRIP WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B
SUBPARAMS 14 20 050 RAIN1 7
MISCPARAMS N
SUBAREA 73 B 2 C
DESCRIP CONFLUENCE OF WEST HITCH RANCH (WEST AND MIDDLE FORK) - UPSTREAM OF BASIN 2B
MISCPARAMS Y Y
SUBAREA 74 C 0
DESCRIP WEST HITCH RANCH (EAST FORK HEADWATER UPSTREAM OF DEBRIS BASIN) - DRAINS TO BASIN 2A
SUBPARAMS 23 0 050 RAIN1 6
MISCPARAMS N
ROUTING 4 1366 0.03000 -1.00
SUBAREA 75 C 0
DESCRIP WEST HITCH RANCH (EAST FORK) - DRAINS TO BASIN 2A
SUBPARAMS 21 38 020 RAIN1 5
MISCPARAMS N
ROUTING 4 321 0.24000 -1.00
SUBAREA 76 C 0
DESCRIP BASIN 2A (INCLUDES LOCAL DRAINAGE) - WEST HITCH RANCH (EAST FORK) (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
SUBPARAMS 20 12 030 RAIN1 10
MISCPARAMS Y
RESERVOIR 76 D
FATSCS 62 6.50
DAM 517.34 522.00
USERES Y
STAGE   1    513.00   513.20   513.40   513.60   513.80   514.00   514.20   514.40
STORAGE 1     0.000    0.029    0.067    0.113    0.168    0.231    0.305    0.388
OUTFLOW 1      0.00     9.29    12.24    15.44    18.82    22.28    25.72    29.01
STAGE   9    514.60   514.80   515.00   515.20   515.40   515.60   515.80   516.00
STORAGE 9     0.482    0.587    0.703    0.830    0.969    1.122    1.287    1.465
OUTFLOW 9     31.91    34.14    36.46    38.63    40.70    42.66    44.54    46.34
STAGE   17    516.20   516.40   516.60   516.80   517.00   517.20   517.40   517.60
STORAGE 17     1.655    1.855    2.064    2.284    2.513    2.751    2.994    3.244
OUTFLOW 17     48.07    49.74    51.36    52.93    54.45    55.93    58.36    67.69
STAGE   25    517.80   518.00   518.20   518.40   518.60   518.80   519.00   519.20
STORAGE 25     3.501    3.763    4.031    4.300    4.573    4.847    5.125    5.405
OUTFLOW 25     81.13    97.54   116.41   137.45   160.42   181.73   185.21   188.63
STAGE   33    519.40   519.60   519.80   520.00   520.20   520.40   520.60   520.80
STORAGE 33     5.686    5.970    6.255    6.542    6.831    7.122    7.415    7.710
OUTFLOW 33    191.98   195.28   198.52   201.71   204.85   207.94   210.99   213.99
STAGE   41    521.00   521.20   521.40   521.60   521.80   522.00
STORAGE 41     8.006    8.305    8.606    8.909    9.214    9.520
OUTFLOW 41    216.95   219.87   222.76   225.60   228.42   231.19
ROUTING2 4 287 0.05000 -1.00
SUBAREA 77 D 0
DESCRIP WEST HITCH RANCH (NORTH HILLS PKWY LOCAL DRAINS DIRECTLY TO BASIN 2B) - DID NOT FATTEN, REDUCES VOLUME
SUBPARAMS 9 36 030 RAIN1 8
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MISCPARAMS Y
ROUTING 4 625 0.03600 -1.00
SUBAREA 78 C 2 D
DESCRIP WEST HITCH RANCH - OUTFLOW FROM BASIN 2A + NORTH HILLS PKWY LOCAL
MISCPARAMS N N
SUBAREA 79 B 0
DESCRIP WEST HITCH RANCH - BASIN 2B LOCAL (AREA SURROUNDING BASIN)
SUBPARAMS 30 17 040 RAIN1 6
MISCPARAMS Y
RESERVOIR 79 B
FATRUN 1.80
SUBAREA 80 B 2 C
DESCRIP BASIN 2B (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
MISCPARAMS Y Y
RESERVOIR 80 B
DESCRIP Basin 2B
DAM 508.90 513.40
USERES Y
STAGE   1    498.00   498.40   498.80   499.20   499.60   500.00   500.40   500.80
STORAGE 1     0.000    0.061    0.203    0.433    0.785    1.265    1.841    2.481
OUTFLOW 1      0.00     1.63     5.84    11.30    15.69    19.03    21.86    24.37
STAGE   9    501.20   501.60   502.00   502.40   502.80   503.20   503.60   504.00
STORAGE 9     3.183    3.933    4.730    5.569    6.447    7.363    8.323    9.325
OUTFLOW 9     26.64    28.73    30.68    32.51    34.25    35.90    37.48    38.99
STAGE   17    504.40   504.80   505.20   505.60   506.00   506.40   506.80   507.20
STORAGE 17    10.373   11.469   12.611   13.785   14.990   16.227   17.497   18.801
OUTFLOW 17     40.45    41.86    43.22    44.54    45.82    59.49    92.56   136.69
STAGE   25    507.60   508.00   508.40   508.80   509.20   509.60   510.00   510.40
STORAGE 25    20.139   21.510   22.916   24.356   25.832   27.341   28.883   30.458
OUTFLOW 25    189.51   249.75   316.57   389.35   510.43   570.39   582.80   594.94
STAGE   33    510.80   511.20   511.60   512.00   512.40   512.80   513.20   513.60
STORAGE 33    32.064   33.705   35.385   37.106   38.848   40.589   42.331   44.072
OUTFLOW 33    606.84   618.51   629.96   641.21   652.27   663.14   673.84   684.37
STAGE   41    514.00
STORAGE 41    45.814
OUTFLOW 41    694.74
SUBAREA 81 C 0
DESCRIP WEST HITCH RANCH - EAST OF BASIN 2, DRAINS DIRECTLY TO BASIN 2
SUBPARAMS 10 62 020 RAIN1 6
MISCPARAMS Y
SUBAREA 82 C 0
DESCRIP WEST HITCH RANCH - BASIN 2 LOCAL (IMMEDIATELY AROUND BASIN) DID NOT FATTEN, REDUCES VOLUME (RUNOFF FACTOR 1.9)
SUBPARAMS 18 14 050 RAIN1 5
MISCPARAMS Y
RESERVOIR 82 C
SUBAREA 83 D 0
DESCRIP WEST HITCH RANCH (BASIN IMMEDIATELY WEST OF BASIN 2 - DRAINS TOWARD GABBERT, ASSUMED CAPTURED IN BASIN 2)
SUBPARAMS 13 28 040 RAIN1 7
MISCPARAMS N
SUBAREA 84 C 2 D
DESCRIP WEST HITCH RANCH - COMBINES WEST, EAST, AND LOCAL BASIN 2 SUBAREAS
MISCPARAMS Y Y
SUBAREA 85 B 2 C
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DESCRIP COMBINES OUTFLOW FROM BASIN 2B AND LOCAL BASIN 2/EAST AND WEST OF BASIN 2 SUBAREAS
MISCPARAMS Y Y
SUBAREA 86 B 1
DESCRIP BASIN 2 (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
MISCPARAMS N
RESERVOIR 86 B
DAM 480.34 484.84
USERES Y
STAGE   1    471.00   471.30   471.60   471.90   472.20   472.50   472.80   473.10
STORAGE 1     0.000    0.099    0.227    0.383    0.568    0.778    1.012    1.270
OUTFLOW 1      0.00     0.31     1.00     1.54     1.93     2.26     2.54     3.10
STAGE   9    473.40   473.70   474.00   474.30   474.60   474.90   475.20   475.50
STORAGE 9     1.554    1.861    2.193    2.545    2.914    3.299    3.702    4.123
OUTFLOW 9      5.46     8.88    13.08    17.91    23.31    29.21    34.72    38.98
STAGE   17    475.80   476.10   476.40   476.70   477.00   477.30   477.60   477.90
STORAGE 17     4.563    5.023    5.512    6.034    6.587    7.174    7.794    8.447
OUTFLOW 17     42.70    46.08    49.19    52.10    54.85    57.45    59.94    63.17
STAGE   25    478.20   478.50   478.80   479.10   479.40   479.70   480.00   480.30
STORAGE 25     9.130    9.838   10.569   11.322   12.090   12.868   13.657   14.458
OUTFLOW 25     80.28   106.45   138.98   176.70   218.95   265.25   315.26   368.71
STAGE   33    480.60   480.90   481.20   481.50   481.80   482.10   482.40   482.70
STORAGE 33    15.270   16.093   16.927   17.772   18.628   19.496   20.375   21.265
OUTFLOW 33    467.69   618.84   802.24  1011.81  1244.10  1496.81  1768.24  1998.21
STAGE   41    483.00   483.30   483.60   483.90   484.20   484.50   484.80   485.10
STORAGE 41    22.166   23.079   24.003   24.939   25.883   26.827   27.772   28.402
OUTFLOW 41   2028.88  2059.08  2088.86  2118.21  2147.16  2175.73  2203.92  2231.76
STAGE   49
STORAGE 49
OUTFLOW 49
ROUTING 4 175 0.05000 -1.00
SUBAREA 87 A 2 B
DESCRIP OUTFLOW OF BASIN 2 COMBINED WITH WCC COMING FROM EAST
MISCPARAMS N N
ROUTING 5 1458 0.00600 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 88 B 0
DESCRIP LOCAL SUBAREA TO 10X8 RCB AT RR
SUBPARAMS 70 26 020 RAIN1 18
MISCPARAMS Y
ROUTING 5 1275 0.00470 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 89 A 2 B
DESCRIP INFLOW TO 10X8 RCB AT RR
MISCPARAMS N N
SUBAREA 90 C 0
DESCRIP 65C from PACE
SUBPARAMS 62 61 050 RAIN1 12
MISCPARAMS N
ROUTING 4 1480 0.00490 -1.00
SUBAREA 91 C 0
DESCRIP 66C from PACE
SUBPARAMS 63 70 050 RAIN1 12
MISCPARAMS N
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ROUTING 4 1350 0.00840 -1.00
SUBAREA 92 C 0
DESCRIP 67C from PACE
SUBPARAMS 46 40 040 RAIN1 10
MISCPARAMS Y
SUBAREA 93 A 2 C
DESCRIP LA Avenue - COMBINED WCC + INCOMING MP 72" RCP ***TARGET LOCATION -> WE WANT Q100 < 830CFS)***
MISCPARAMS Y Y
ROUTING 5 1575 0.00470 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 94 A 0
DESCRIP Beg of Addition
SUBPARAMS 43 15 050 RAIN1 10
MISCPARAMS N
SUBAREA 95 B 0
DESCRIP Gabbert Headwaters
SUBPARAMS 64 5 040 RAIN1 16
MISCPARAMS N
ROUTING 0 1976 0.04000
SUBAREA 96 B 0
SUBPARAMS 59 5 040 RAIN1 14
MISCPARAMS N
ROUTING 1 2000 0.04000
SUBAREA 97 B 0
SUBPARAMS 48 5 040 RAIN1 19
MISCPARAMS N
ROUTING 1 1250 0.04000
SUBAREA 98 B 0
SUBPARAMS 68 5 030 RAIN1 15
MISCPARAMS N
ROUTING 1 1900 0.04000
SUBAREA 99 B 0
SUBPARAMS 82 5 040 RAIN1 18
MISCPARAMS N
ROUTING 1 3400 0.04000
SUBAREA 100 B 0
SUBPARAMS 113 10 030 RAIN1 21
MISCPARAMS N
ROUTING 1 2225 0.04000
SUBAREA 101 B 0
SUBPARAMS 95 10 040 RAIN1 19
MISCPARAMS N
ROUTING 1 1948 0.04000
SUBAREA 102 C 0
SUBPARAMS 68 5 020 RAIN1 15
MISCPARAMS N
SUBAREA 103 C 0
DESCRIP 1631D
SUBPARAMS 70 5 030 RAIN1 20
MISCPARAMS N
ROUTING 1 2600 0.04000
SUBAREA 104 C 0
SUBPARAMS 56 5 030 RAIN1 21
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MISCPARAMS N
ROUTING 1 2485 0.04000
SUBAREA 105 D 0
DESCRIP 1634E
SUBPARAMS 96 10 030 RAIN1 20
MISCPARAMS N
ROUTING 1 1700 0.04000
SUBAREA 106 D 0
SUBPARAMS 69 5 030 RAIN1 18
MISCPARAMS N
ROUTING 1 2200 0.04000
SUBAREA 107 D 0
SUBPARAMS 46 15 030 RAIN1 19
MISCPARAMS N
ROUTING 1 2112 0.04000
SUBAREA 108 C 2 D
MISCPARAMS N N
ROUTING 1 1600 0.03000
SUBAREA 109 C 0
SUBPARAMS 48 15 030 RAIN1 15
MISCPARAMS N
SUBAREA 110 D 0
SUBPARAMS 85 15 050 RAIN1 22
MISCPARAMS N
SUBAREA 111 C 2 D
MISCPARAMS N N
ROUTING 1 1782 0.03000
SUBAREA 112 C 0
SUBPARAMS 75 10 030 RAIN1 20
MISCPARAMS N
SUBAREA 113 D 0
SUBPARAMS 45 15 010 RAIN1 20
MISCPARAMS N
ROUTING 1 1700 0.03000
SUBAREA 114 C 2 D
MISCPARAMS N N
SUBAREA 115 E 0
SUBPARAMS 53 5 040 RAIN1 18
MISCPARAMS N
SUBAREA 116 F 0
SUBPARAMS 69 10 010 RAIN1 21
MISCPARAMS N
ROUTING 1 400 0.04000
SUBAREA 117 E 2 F
MISCPARAMS N N
SUBAREA 118 E 0
SUBPARAMS 75 15 030 RAIN1 20
MISCPARAMS N
ROUTING 1 1300 0.04000
SUBAREA 119 E 0
SUBPARAMS 32 10 020 RAIN1 21
MISCPARAMS N
ROUTING 1 1300 0.04000
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SUBAREA 120 F 0
SUBPARAMS 59 15 010 RAIN1 22
MISCPARAMS N
ROUTING 1 1600 0.02000
SUBAREA 121 F 0
SUBPARAMS 68 25 010 RAIN1 18
MISCPARAMS N
ROUTING 1 1400 0.02000
SUBAREA 122 E 2 F
MISCPARAMS N N
SUBAREA 123 E 0
SUBPARAMS 104 5 020 RAIN1 17
MISCPARAMS N
ROUTING 1 1350 0.03000
SUBAREA 124 E 0
SUBPARAMS 57 10 020 RAIN1 12
MISCPARAMS N
ROUTING 1 1393 0.03000
SUBAREA 125 C 2 E
MISCPARAMS N N
ROUTING 1 1800 0.03000
SUBAREA 126 C 0
SUBPARAMS 40 5 030 RAIN1 9
MISCPARAMS N
SUBAREA 127 B 2 C
MISCPARAMS N N
ROUTING 1 1930 0.03000
SUBAREA 128 B 0
SUBPARAMS 87 10 040 RAIN1 11
MISCPARAMS N
ROUTING 1 1950 0.03000
SUBAREA 129 D 0
SUBPARAMS 65 20 040 RAIN1 12
MISCPARAMS N
ROUTING 0 250 0.03000
SUBAREA 130 D 0
SUBPARAMS 59 15 040 RAIN1 12
MISCPARAMS N
ROUTING 5 1390 0.03000 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 131 D 0
SUBPARAMS 51 5 040 RAIN1 11
MISCPARAMS N
ROUTING 4 2000 0.02000 -1.00
SUBAREA 132 B 2 D
MISCPARAMS N N
ROUTING 1 1750 0.03000
SUBAREA 133 B 0
SUBPARAMS 89 30 040 RAIN1 12
MISCPARAMS N
SUBAREA 134 C 0
SUBPARAMS 49 5 030 RAIN1 11
MISCPARAMS N
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SUBAREA 135 B 2 C
MISCPARAMS N N
SUBAREA 136 B 0
SUBPARAMS 69 5 030 RAIN1 11
MISCPARAMS N
ROUTING 1 1900 0.01500
SUBAREA 137 C 0
SUBPARAMS 44 30 040 RAIN1 10
MISCPARAMS N
SUBAREA 138 B 2 C
MISCPARAMS N N
SUBAREA 139 B 0
SUBPARAMS 87 10 030 RAIN1 12
MISCPARAMS N
ROUTING 1 1700 0.01500
SUBAREA 140 B 0
SUBPARAMS 71 10 030 RAIN1 12
MISCPARAMS N
ROUTING 1 900 0.01500
SUBAREA 141 B 0
SUBPARAMS 21 5 030 RAIN1 9
MISCPARAMS N
ROUTING 1 1000 0.01500
SUBAREA 142 B 0
SUBPARAMS 30 5 030 RAIN1 10
MISCPARAMS N
ROUTING 2 2500 0.01500
SUBAREA 143 C 0
SUBPARAMS 62 10 040 RAIN1 11
MISCPARAMS N
SUBAREA 144 B 2 C
MISCPARAMS N N
SUBAREA 145 D 0
SUBPARAMS 39 10 030 RAIN1 12
MISCPARAMS N
SUBAREA 146 B 2 D
MISCPARAMS N Y
SUBAREA 147 A 2 B
MISCPARAMS Y Y
SUBAREA 148 A 0
SUBPARAMS 25 50 060 RAIN1 9
MISCPARAMS N
ROUTING 5 900 0.01500 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 149 A 0
SUBPARAMS 176 5 060 RAIN1 20
MISCPARAMS Y
ROUTING 5 3100 0.01500 -1
CHANLDATA 0.00000 0.014 0.014
SUBAREA 150 A 1
DESCRIP DUMMY
MISCPARAMS Y
```

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Modified Rational Model Results Report

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Project Description

2017 HYDROLOGY MANUAL
100 YR INTERIM CONDITION MODEL
DS 45A - PROPOSED HITCH RANCH LAND USE (AUG 2018 TTM)
20190729HR_RegionalBasin3_4_ComboOutlet.hcp HYDROCAD MODEL USED 45A AS INPUT TO BASIN 3 DIVERSION STRUCTURE
46A AND 47D REPRESENT DIVERSION STRUCTURE BASED ON HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp
IMPORTED HYDROGRAPHS DO NOT INCLUDE CASEY RD BASIN 1
EMERGENCY SPILLWAY SET TO 1' ABOVE HYDROCAD 100YR WSE
TOP OF DAM = WSE100 + 1' ESPILL + HEAD OVER ESPILL + 3' FREEBOARD
****RWG - RATING CURVES UP-TO-DATE AS OF 07/31/2019****
FLOODWALLS WILL BE REQUIRED AT BASIN 2B, 2, AND 3 TO MEET 3' FREEBOARD ABOVE ESPILL WSE REQUIREMENT
GOAL OF PROJECT:
1 - REDUCE FLOWS FROM HITCH RANCH LOCAL BELOW 10-YR EXISTING
2- REDUCE FLOW IN WCC AT LA AVE D/S OF 72" RCP TO 830 CFS OR LESS BASED ON 2005 PLAN
REDUCTION TO 508 CFS AT RR IS NOT NECESSARY TO MEET GOAL 2
NOTE1: ASSUMES ALL OF MOORPARK DRAIN NO.1 (43C - UPSTREAM MODEL) CAN REACH WCC AT HITCH RANCH
NOTE1: IN REALITY PIPE CAN ONLY CARRY 176 CFS OUT OF 266 CFS
NOTE2: ASSUMES ALL OF MP 72" RCP REACHES JUNCTION WITH WCC AT LA AVE
NOTE2: IN REALITY PIPE CAN ONLY CARRY 195 CFS OUT OF 351 CFS

VCRat version: 2.64.0.37
VCRain version: 201801
DOS EXE version: PC 2.64-201605
VCRain Curve Set: VCWPD 2016 Revised Curve Set
Curve A: REV1: South Mountain to Moorpark
Curve B: None
Curve C: None
Curve D: None

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)
Page: 2

Model Results

SUBAREA DATA AND RESULTS							ACCUMULATED DATA			ROUTING AFTER ACCUMULATION						
NODE	SOIL	RAIN	TC	%	AREA	FLOW	AREA	FLOW	TIME	CHANNEL	LENGTH	SLOPE	SIZE	H:V	N VALUES	VEL	DEPTH

```
|  ID    TYPE  ZONE (MIN)  IMP   (AC)  (CFS) |  (AC)    (CFS)  (MIN)|    TYPE    (FT)   (FT/FT)    (FT)    (Z)     CHNL   SIDES  (FT/S)  (FT) |
|-----------------------------------------------|---------------------|-----------------------------------------------------------------------|
  45A   ---   ---    --   --    ---    ---        0       0   ----    -------    ----  -------    ---     ----    -----  -----    --     --
  46A :  IMPORTED HYDROGRAPH (BYPASS) FROM DIVERSION STRUCTURE TO CHANNEL IN 20190729HR_RegionalBasin3_4_ComboOutlet.hcp (SET ACREAGE TO 906-10)
  46A :  Import Hydro: HR_HCAD_INT100DIV2CH
  46A   ---   ---    --   --    896    129      896     129   1160    CHANNEL    1411  0.07000      3     0.00    0.014  0.014    --     --
  47D :  IMPORTED HYDROGRAPH FROM DIVERSION STRUCTURE TO BASIN 3 IN 20190729HR_RegionalBasin3_4_ComboOutlet.hcp (SET ACREAGE TO 906-896 = 10)
  47D :  Import Hydro: HR_HCAD_INT100DIV2B3
  47D   ---   ---    --   --     10    628       10     628   1160    -------    ----  -------    ---     ----    -----  -----    --     --
  48B :  EAST HITCH RANCH (HEADWATER TO DEBRIS BASIN)
  48B   060   A100    6    1     29     39       29      39   1153    PIPE        816  0.06200      2.00  ----    -----  -----    --     --
  49B :  EAST HITCH RANCH (BETWEEN DEBRIS BASIN AND NORTH HILLS PKWY)
  49B   040   A100    6   51     21     64       50     102   1154    -------    ----  -------    ---     ----    -----  -----    --     --
  50C :  EAST HITCH RANCH (HEADWATER TO DOWNSTREAM OF DEBRIS BASIN)
  50C   040   A100    6   11     13     29       13      29   1153    PIPE        700  0.05000      2.00  ----    -----  -----    --     --
  51BC:  EAST HITCH RANCH
  51BC  ---   ---    --   --     13     28       63     129   1154    PIPE        775  0.05000      3.00  ----    -----  -----    --     --
  52B :  EAST HITCH RANCH (PROPOSED MULTI-FAMILY NORTH OF CASEY RD)
  52B   020   A100    5   57     39    142      102     250   1153    PIPE       1200  0.04500      3.75  ----    -----  -----    --     --
  53B :  EAST HITCH RANCH
  53B   030   A100    7   59     33    100      135     341   1155    -------    ----  -------    ---     ----    -----  -----    --     --
        ********************************************************************************************
        *      INCOMING HYDROGRAPH  PEAK (cfs):    341.29         VOLUME (acre-ft):     34.92      *
        *      NO HYDROGRAPH ADJUSTMENT                                                            *
        *      NO HYDROGRAPH FATTENING                                                             *
        ********************************************************************************************
  53B   ---   ---    --   --    ---    ---      135     341   1155    -------    ----  -------    ---     ----    -----  -----    --     --
  54B :  EAST HITCH RANCH
  54B   ---   ---    --   --    ---    ---      135     341   1155    PIPE        500  0.01000      5.50  ----    -----  -----    --     --
  55B :  LOCAL SUBAREA TO REGIONAL BASIN 3 [Proposed Multi-Family South of Casey Road+Area to WCC]) Based on 07/06/19 CONTOURS
  55B   040   A100    6   35     42    114      177     428   1155    -------    ----  -------    ---     ----    -----  -----    --     --
        ********************************************************************************************
        *      INCOMING HYDROGRAPH  PEAK (cfs):    427.89         VOLUME (acre-ft):     44.52      *
        *      NO HYDROGRAPH ADJUSTMENT                                                            *
        *      RUNOFF FACTOR(in):   3.51      TOTAL RAIN(in):   6.50      SCS Curve: 73            *
        *      FATTENED HYDROGRAPH  PEAK (cfs):    427.89         VOLUME (acre-ft):     51.77      *
        ********************************************************************************************
  55B   ---   ---    --   --    ---    ---      177     428   ----    -------    ----  -------    ---     ----    -----  -----    --     --
  56BD:  REGIONAL BASIN 3 (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
  56BD  ---   ---    --   --     10    628      187     981   1156    -------    ----  -------    ---     ----    -----  -----    --     --
   56B :  EMERGENCY SPILLWAY DESIGNED TO PASS 1084 CFS AT 2' OVER 140 WEIR CREST (C=2.8)
        ********************************************************************************************
        *      INCOMING HYDROGRAPH  PEAK (cfs):    981.44         VOLUME (acre-ft):    164.02      *
        *      NO HYDROGRAPH ADJUSTMENT                                                            *
        *      NO HYDROGRAPH FATTENING                                                             *
        *      RESERVOIR INFLOW:    PEAK (cfs):    981.44 @ 1156  VOLUME (acre-ft):    164.02      *
        *      MAXIMUM ELEVATION:   STAGE (ft):    489.49 @ 1226  VOLUME (acre-ft):     57.31      *
        *      EMERGENCY SPILLWAY:   ELEV (ft):    491.00         VOLUME (acre-ft):     70.56      *
        *          DIFFERENCE:   IN STAGE (ft):     -1.51      IN VOLUME (acre-ft):     13.24      *
        *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     18.8%      *
        *      TOP OF DAM:           ELEV (ft):    496.00         VOLUME (acre-ft):    117.01      *
        *          DIFFERENCE    IN STAGE (ft):     -6.51      IN VOLUME (acre-ft):     59.70      *
        *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     51.0%      *
        *      RESERVOIR OUTFLOW:   PEAK (cfs):    351.10 @ 1226  VOLUME (acre-ft):    133.09      *
        ********************************************************************************************
  56B   ---   ---    --   --    ---    ---      187     351   1226    -------    ----  -------    ---     ----    -----  -----    --     --
```

```
57AB:  COMBINED OUTFLOW FROM BASIN 3 AND BY-PASS DIVERTED UPSTREAM OF BASIN 3
57AB  ***************************************************************************************************
      *          Peak in A:      128.31 cfs @ 1161 min  Q in B:      148.97 cfs  Combined Q:      277.28 cfs   *
      *          Peak in B:      351.10 cfs @ 1226 min  Q in A:      107.00 cfs  Combined Q:      458.11 cfs   *
      *      Combined Peak:      458.43 cfs @ 1222 min  Q in A:      107.88 cfs      Q in B:      350.56 cfs   *
      ***************************************************************************************************
57AB  ---   ---    --   --    187    351     1083     458   1222    CHANNEL    1875  0.07000      6     0.00    0.014  0.014    --     --
58B :  EAST OF A STREET AND BASIN 3 (POTENTIAL WQ TREATMENT AREA) DRAINS DIRECT TO WCC - ASSUMED PIPE BELOW HIGH ABLE TO CARRY PEAK FLOW
58B   040   A100   10   17     21     37       21      37   1154    -------    ----  -------    ---     ----    -----  -----    --     --
59AB:  CONNECTION OF LOCAL EAST OF A STREET AND BASIN 3 (POTENTIAL WQ TREATMENT AREA) DRAINS DIRECT TO WCC - ASSUMED PIPE BELOW HIGH ABLE TO CARRY PEAK FLOW
59AB  ---   ---    --   --     21     37     1104     460   1223    CHANNEL     500  0.07000      6     0.00    0.014  0.014    --     --
60B :  WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
60B   040   A100   11    0     54     75       54      75   1154    -------    ----  -------    ---     ----    -----  -----    --     --
61B :  WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
61B   040   A100   11    0     53     73      107     148   1154    MOUNTAIN   1865  0.03700    ---     ----    -----  -----    --     --
62C :  WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
62C   050   A100   12    0     20     24       20      24   1154    -------    ----  -------    ---     ----    -----  -----    --     --
```

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Model Results

SUBAREA DATA AND RESULTS							ACCUMULATED DATA		ROUTING AFTER ACCUMULATION							
NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	AREA (AC)	FLOW (CFS)	TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
63BC: WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B																		
63BC	---	---	--	--	20	24	127	142	1162	MOUNTAIN	707	0.05600	---	---	---	---	--	--
64B : WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B																		
64B	040	A100	9	6	27	45	154	153	1164	MOUNTAIN	1427	0.03800	---	---	---	---	--	--
65B : WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B																		
65B	040	A100	9	1	31	49	185	154	1168	-------	----	-------	---	---	---	---	--	--
66C : WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B																		
66C	030	A100	9	4	21	36	21	36	1153	-------	----	-------	---	---	---	---	--	--
67BC: WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B																		
67BC	---	---	--	--	21	36	206	165	1157	VALLEY	1482	0.00330	---	---	---	---	--	--
68B : WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B																		
68B	040	A100	10	24	28	53	234	159	1176	-------	----	-------	---	---	---	---	--	--
69C : WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B																		
69C	030	A100	9	4	37	64	37	64	1153	-------	----	-------	---	---	---	---	--	--
70D : WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B																		
70D	040	A100	6	10	31	67	31	67	1153	-------	----	-------	---	---	---	---	--	--
71CD: WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B																		
71CD	---	---	--	--	31	67	68	131	1153	40' ROAD	1100	0.03200	---	---	---	---	--	--
72C : WEST HITCH RANCH (MIDDLE FORK) - UPSTREAM OF BASIN 2B																		
72C	050	A100	7	20	14	29	82	136	1156	-------	----	-------	---	---	---	---	--	--
73BC: CONFLUENCE OF WEST HITCH RANCH (WEST AND MIDDLE FORK) - UPSTREAM OF BASIN 2B																		
73BC	**********																	
	* Peak in B: 159.22 cfs @ 1176 min Q in C: 17.06 cfs Combined Q: 176.29 cfs *																	
	* Peak in C: 136.49 cfs @ 1156 min Q in B: 130.96 cfs Combined Q: 267.45 cfs *																	
	* Combined Peak: 272.12 cfs @ 1158 min Q in B: 141.98 cfs Q in C: 130.14 cfs *																	
	**********																	
73BC	---	---	--	--	82	136	316	272	1158	-------	----	-------	---	---	---	---	--	--
74C : WEST HITCH RANCH (EAST FORK HEADWATER UPSTREAM OF DEBRIS BASIN) - DRAINS TO BASIN 2A																		
74C	050	A100	6	0	23	41	23	41	1153	PIPE	1366	0.03000	2.00	----	-----	-----	--	--

```
75C :  WEST HITCH RANCH (EAST FORK) - DRAINS TO BASIN 2A
75C   020   A100    5   38     21     68       44      96   1153    PIPE        321  0.24000      2.00  ----    -----  -----    --     --
76C :  BASIN 2A (INCLUDES LOCAL DRAINAGE) - WEST HITCH RANCH (EAST FORK) (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
76C   030   A100   10   12     20     36       64     130   1154    -------    ----  -------    ---     ----    -----  -----    --     --
      ********************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):    129.61         VOLUME (acre-ft):      9.70      *
      *      NO HYDROGRAPH ADJUSTMENT                                                              *
      *      RUNOFF FACTOR(in):   2.44      TOTAL RAIN(in):   6.50      SCS Curve: 62             *
      *      FATTENED HYDROGRAPH  PEAK (cfs):    129.61         VOLUME (acre-ft):     13.02      *
      *      RESERVOIR INFLOW:    PEAK (cfs):    129.61 @ 1154  VOLUME (acre-ft):     13.02      *
      *      MAXIMUM ELEVATION:   STAGE (ft):    516.30 @ 1163  VOLUME (acre-ft):      1.75      *
      *      EMERGENCY SPILLWAY:   ELEV (ft):    517.34         VOLUME (acre-ft):      2.92      *
      *          DIFFERENCE:   IN STAGE (ft):     -1.04      IN VOLUME (acre-ft):      1.17      *
      *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     39.9%      *
      *      TOP OF DAM:           ELEV (ft):    522.00         VOLUME (acre-ft):      9.52      *
      *          DIFFERENCE    IN STAGE (ft):     -5.70      IN VOLUME (acre-ft):      7.77      *
      *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     81.6%      *
      *      RESERVOIR OUTFLOW:   PEAK (cfs):     48.87 @ 1163  VOLUME (acre-ft):     12.29      *
      ********************************************************************************************
76C   ---   ---    --   --    ---    ---       64      49   1163    PIPE        287  0.05000      2.00  ----    -----  -----    --     --
77D :  WEST HITCH RANCH (NORTH HILLS PKWY LOCAL DRAINS DIRECTLY TO BASIN 2B) - DID NOT FATTEN, REDUCES VOLUME
77D   030   A100    8   36      9     22        9      22   1153    PIPE        625  0.03600      2.00  ----    -----  -----    --     --
78CD:  WEST HITCH RANCH - OUTFLOW FROM BASIN 2A + NORTH HILLS PKWY LOCAL
78CD  ---   ---    --   --      9     22       73      67   1156    -------    ----  -------    ---     ----    -----  -----    --     --
79B :  WEST HITCH RANCH - BASIN 2B LOCAL (AREA SURROUNDING BASIN)
79B   040   A100    6   17     30     70      346     317   1156    -------    ----  -------    ---     ----    -----  -----    --     --
      ********************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):    316.86         VOLUME (acre-ft):     30.21      *
      *      NO HYDROGRAPH ADJUSTMENT                                                              *
      *      RUNOFF FACTOR(in):   1.80                                                             *
      *      FATTENED HYDROGRAPH  PEAK (cfs):    316.86         VOLUME (acre-ft):     51.88      *
      ********************************************************************************************
   79B   ---   ---    --   --    ---    ---      346     317   ----    -------    ----  -------    ---     ----    -----  -----    --     --
```


Model Results

NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	ACCUMULATED AREA (AC)	ACCUMULATED FLOW (CFS)	TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
80BC: BASIN 2B (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)																		
80BC	**********																	
	* Peak in B: 316.86 cfs @ 1156 min Q in C: 67.15 cfs Combined Q: 384.01 cfs *																	
	* Peak in C: 67.15 cfs @ 1156 min Q in B: 316.86 cfs Combined Q: 384.01 cfs *																	
	* Combined Peak: 384.01 cfs @ 1156 min Q in B: 316.86 cfs Q in C: 67.15 cfs *																	
	**********																	
80BC	---	---	--	--	73	67	419	384	1156	-------	----	-------	---	----	-----	-----	--	--
80B : Basin 2B																		
	**********																	
	* INCOMING HYDROGRAPH PEAK (cfs): 384.01 VOLUME (acre-ft): 66.35 *																	
	* NO HYDROGRAPH ADJUSTMENT																	
	* NO HYDROGRAPH FATTENING																	
	* RESERVOIR INFLOW: PEAK (cfs): 384.01 @ 1156 VOLUME (acre-ft): 66.35 *																	

```
      *      MAXIMUM ELEVATION:   STAGE (ft):    507.80 @ 1185  VOLUME (acre-ft):     20.82      *
      *      EMERGENCY SPILLWAY:   ELEV (ft):    508.90         VOLUME (acre-ft):     24.72      *
      *          DIFFERENCE:   IN STAGE (ft):     -1.10      IN VOLUME (acre-ft):      3.90      *
      *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     15.8%      *
      *      TOP OF DAM:           ELEV (ft):    513.40         VOLUME (acre-ft):     43.20      *
      *          DIFFERENCE    IN STAGE (ft):     -5.60      IN VOLUME (acre-ft):     22.38      *
      *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     51.8%      *
      *      RESERVOIR OUTFLOW:   PEAK (cfs):    219.94 @ 1185  VOLUME (acre-ft):     54.74      *
      ********************************************************************************************
80B   ---   ---    --   --    ---    ---      419     220   1185    -------    ----  -------    ---     ----    -----  -----    --     --
81C :  WEST HITCH RANCH - EAST OF BASIN 2, DRAINS DIRECTLY TO BASIN 2
81C   020   A100    6   62     10     34       10      34   1153    -------    ----  -------    ---     ----    -----  -----    --     --
82C :  WEST HITCH RANCH - BASIN 2 LOCAL (IMMEDIATELY AROUND BASIN) DID NOT FATTEN, REDUCES VOLUME (RUNOFF FACTOR 1.9)
82C   050   A100    5   14     18     43       28      77   1153    -------    ----  -------    ---     ----    -----  -----    --     --
      ********************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):     76.50         VOLUME (acre-ft):      5.72      *
      *      NO HYDROGRAPH ADJUSTMENT                                                             *
      *      NO HYDROGRAPH FATTENING                                                              *
      ********************************************************************************************
82C   ---   ---    --   --    ---    ---       28      77   1153    -------    ----  -------    ---     ----    -----  -----    --     --
83D :  WEST HITCH RANCH (BASIN IMMEDIATELY WEST OF BASIN 2 - DRAINS TOWARD GABBERT, ASSUMED CAPTURED IN BASIN 2)
83D   040   A100    7   28     13     31       13      31   1153    -------    ----  -------    ---     ----    -----  -----    --     --
84CD:  WEST HITCH RANCH - COMBINES WEST, EAST, AND LOCAL BASIN 2 SUBAREAS
84CD  ************************************************************************************************************
      *          Peak in C:       76.50 cfs @ 1153 min  Q in D:       30.55 cfs  Combined Q:      107.06 cfs   *
      *          Peak in D:       30.55 cfs @ 1153 min  Q in C:       76.50 cfs  Combined Q:      107.06 cfs   *
      *      Combined Peak:      107.06 cfs @ 1153 min  Q in C:       76.50 cfs      Q in D:       30.55 cfs   *
      ************************************************************************************************************
84CD  ---   ---    --   --     13     31       41     107   1153    -------    ----  -------    ---     ----    -----  -----    --     --
85BC:  COMBINES OUTFLOW FROM BASIN 2B AND LOCAL BASIN 2/EAST AND WEST OF BASIN 2 SUBAREAS
85BC  ************************************************************************************************************
      *          Peak in B:      219.94 cfs @ 1185 min  Q in C:        7.18 cfs  Combined Q:      227.12 cfs   *
      *          Peak in C:      107.06 cfs @ 1153 min  Q in B:       45.30 cfs  Combined Q:      152.36 cfs   *
      *      Combined Peak:      227.12 cfs @ 1185 min  Q in B:      219.94 cfs      Q in C:        7.18 cfs   *
      ************************************************************************************************************
85BC  ---   ---    --   --     41    107      460     227   1185    -------    ----  -------    ---     ----    -----  -----    --     --
86B :  BASIN 2 (OUTLET RATING CURVE BASED HYDROCAD 20190729HR_RegionalBasin3_4_ComboOutlet.hcp)
86B   ---   ---    --   --    ---    ---      460     227   1185    PIPE        175  0.05000      3.50  ----    -----  -----    --     --
      ********************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):    227.11         VOLUME (acre-ft):     62.92      *
      *      NO HYDROGRAPH ADJUSTMENT                                                             *
      *      NO HYDROGRAPH FATTENING                                                              *
      *      RESERVOIR INFLOW:    PEAK (cfs):    227.11 @ 1186  VOLUME (acre-ft):     62.92      *
      *      MAXIMUM ELEVATION:   STAGE (ft):    479.17 @ 1205  VOLUME (acre-ft):     11.50      *
      *      EMERGENCY SPILLWAY:   ELEV (ft):    480.34         VOLUME (acre-ft):     14.57      *
      *          DIFFERENCE:   IN STAGE (ft):     -1.17      IN VOLUME (acre-ft):      3.07      *
      *          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     21.0%      *
      *      TOP OF DAM:           ELEV (ft):    484.84         VOLUME (acre-ft):     27.86      *
      *          DIFFERENCE    IN STAGE (ft):     -5.67      IN VOLUME (acre-ft):     16.35      *
      *          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     58.7%      *
      *      RESERVOIR OUTFLOW:   PEAK (cfs):    185.96 @ 1205  VOLUME (acre-ft):     56.17      *
      ********************************************************************************************
86B   ---   ---    --   --    ---    ---      460     186   1205    -------    ----  -------    ---     ----    -----  -----    --     --
87AB:  OUTFLOW OF BASIN 2 COMBINED WITH WCC COMING FROM EAST
87AB  ---   ---    --   --    460    186     1564     636   1211    CHANNEL    1458  0.00600     10     0.00    0.014  0.014    --     --
88B :  LOCAL SUBAREA TO 10X8 RCB AT RR
```

88B 020 A100 18 26 70 104 70 104 1156 CHANNEL 1275 0.00470 5 0.00 0.014 0.014 -- --
89AB: INFLOW TO 10X8 RCB AT RR
89AB --- --- -- -- 70 103 1634 644 1213 ------- ---- ------- --- ---- ----- ----- -- --

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Model Results

NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	ACCUMULATED AREA (AC)	ACCUMULATED FLOW (CFS)	ACCUMULATED TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
90C : 65C from PACE																		
90C	050	A100	12	61	62	140	62	140	1154	PIPE	1480	0.00490	4.50	----	-----	-----	--	--
91C : 66C from PACE																		
91C	050	A100	12	70	63	153	125	277	1158	PIPE	1350	0.00840	5.25	----	-----	-----	--	--
92C : 67C from PACE																		
92C	040	A100	10	40	46	101	171	351	1158	-------	----	-------	---	----	-----	-----	--	--
93AC: LA Avenue - COMBINED WCC + INCOMING MP 72" RCP ***TARGET LOCATION -> WE WANT Q100 < 830CFS)***																		
93AC	**********																	
* Peak in A: 644.23 cfs @ 1213 min Q in C: 41.36 cfs Combined Q: 685.58 cfs *																		
* Peak in C: 351.12 cfs @ 1158 min Q in A: 439.88 cfs Combined Q: 791.00 cfs *																		
* Combined Peak: 793.26 cfs @ 1159 min Q in A: 445.66 cfs Q in C: 347.60 cfs *																		
**********																		
93AC	---	---	--	--	171	351	1805	793	1159	CHANNEL	1575	0.00470	11	0.00	0.014	0.014	--	--
94A : Beg of Addition																		
94A	050	A100	10	15	43	71	1848	824	1161	-------	----	-------	---	----	-----	-----	--	--
95B : Gabbert Headwaters																		
95B	040	A100	16	5	64	74	64	74	1156	#40' ROAD	1976	0.04000	---	----	-----	-----	--	--
96B	040	A100	14	5	59	74	123	136	1161	MOUNTAIN	2000	0.04000	---	----	-----	-----	--	--
97B	040	A100	19	5	48	50	171	169	1167	MOUNTAIN	1250	0.04000	---	----	-----	-----	--	--
98B	030	A100	15	5	68	88	239	210	1163	MOUNTAIN	1900	0.04000	---	----	-----	-----	--	--
99B	040	A100	18	5	82	88	321	270	1166	MOUNTAIN	3400	0.04000	---	----	-----	-----	--	--
100B	030	A100	21	10	113	127	434	333	1169	MOUNTAIN	2225	0.04000	---	----	-----	-----	--	--
101B	040	A100	19	10	95	106	529	369	1167	MOUNTAIN	1948	0.04000	---	----	-----	-----	--	--
102C	020	A100	15	5	68	93	68	93	1155	-------	----	-------	---	----	-----	-----	--	--
103C : 1631D																		
103C	030	A100	20	5	70	76	138	169	1155	MOUNTAIN	2600	0.04000	---	----	-----	-----	--	--
104C	030	A100	21	5	56	59	194	211	1166	MOUNTAIN	2485	0.04000	---	----	-----	-----	--	--
105D : 1634E																		
105D	030	A100	20	10	96	111	96	111	1160	MOUNTAIN	1700	0.04000	---	----	-----	-----	--	--
106D	030	A100	18	5	69	79	165	182	1164	MOUNTAIN	2200	0.04000	---	----	-----	-----	--	--
107D	030	A100	19	15	46	57	211	216	1167	MOUNTAIN	2112	0.04000	---	----	-----	-----	--	--
108CD	---	---	--	--	211	206	405	406	1174	MOUNTAIN	1600	0.03000	---	----	-----	-----	--	--
109C	030	A100	15	15	48	69	453	407	1178	-------	----	-------	---	----	-----	-----	--	--
110D	050	A100	22	15	85	88	85	88	1162	-------	----	-------	---	----	-----	-----	--	--
111CD	---	---	--	--	85	88	538	428	1177	MOUNTAIN	1782	0.03000	---	----	-----	-----	--	--
112C	030	A100	20	10	75	86	613	455	1168	-------	----	-------	---	----	-----	-----	--	--
113D	010	A100	20	15	45	62	45	62	1160	MOUNTAIN	1700	0.03000	---	----	-----	-----	--	--
114CD	---	---	--	--	45	59	658	514	1168	-------	----	-------	---	----	-----	-----	--	--
115E	040	A100	18	5	53	57	53	57	1156	-------	----	-------	---	----	-----	-----	--	--
116F	010	A100	21	10	69	89	69	89	1161	MOUNTAIN	400	0.04000	---	----	-----	-----	--	--
117EF	---	---	--	--	69	89	122	146	1162	-------	----	-------	---	----	-----	-----	--	--
118E	030	A100	20	15	75	91	197	237	1160	MOUNTAIN	1300	0.04000	---	----	-----	-----	--	--
119E	020	A100	21	10	32	38	229	273	1164	MOUNTAIN	1300	0.04000	---	----	-----	-----	--	--

120F	010	A100	22	15	59	78	59	78	1162	MOUNTAIN	1600	0.02000	---	----	-----	-----	--	--
121F	010	A100	18	25	68	106	127	170	1164	MOUNTAIN	1400	0.02000	---	----	-----	-----	--	--
122EF	---	---	--	--	127	164	356	435	1169	-------	----	-------	---	----	-----	-----	--	--
123E	020	A100	17	5	104	132	460	538	1165	MOUNTAIN	1350	0.03000	---	----	-----	-----	--	--
124E	020	A100	12	10	57	93	517	555	1168	MOUNTAIN	1393	0.03000	---	----	-----	-----	--	--
125CE	---	---	--	--	517	548	1175	1045	1170	MOUNTAIN	1800	0.03000	---	----	-----	-----	--	--
126C	030	A100	9	5	40	70	1215	1045	1174	-------	----	-------	---	----	-----	-----	--	--
127BC	---	---	--	--	1215	1045	1744	1404	1174	MOUNTAIN	1930	0.03000	---	----	-----	-----	--	--
128B	040	A100	11	10	87	135	1831	1405	1178	MOUNTAIN	1950	0.03000	---	----	-----	-----	--	--
129D	040	A100	12	20	65	106	65	106	1154	#40' ROAD	250	0.03000	---	----	-----	-----	--	--
130D	040	A100	12	15	59	92	124	197	1155	CHANNEL	1390	0.03000	5	0.00	0.014	0.014	--	--
131D	040	A100	11	5	51	75	175	267	1157	#CHANNEL	2000	0.02000	5	0.00	0.014	0.014	--	--
132BD	---	---	--	--	175	261	2006	1434	1181	MOUNTAIN	1750	0.03000	---	----	-----	-----	--	--
133B	040	A100	12	30	89	160	2095	1445	1184	-------	----	-------	---	----	-----	-----	--	--
134C	030	A100	11	5	49	76	49	76	1154	-------	----	-------	---	----	-----	-----	--	--
135BC	---	---	--	--	49	76	2144	1449	1184	-------	----	-------	---	----	-----	-----	--	--
136B	030	A100	11	5	69	108	2213	1456	1184	MOUNTAIN	1900	0.01500	---	----	-----	-----	--	--
137C	040	A100	10	30	44	89	44	89	1154	-------	----	-------	---	----	-----	-----	--	--
138BC	---	---	--	--	44	89	2257	1453	1189	-------	----	-------	---	----	-----	-----	--	--
139B	030	A100	12	10	87	135	2344	1461	1189	MOUNTAIN	1700	0.01500	---	----	-----	-----	--	--
140B	030	A100	12	10	71	110	2415	1457	1194	MOUNTAIN	900	0.01500	---	----	-----	-----	--	--
141B	030	A100	9	5	21	37	2436	1456	1196	MOUNTAIN	1000	0.01500	---	----	-----	-----	--	--
142B	030	A100	10	5	30	50	2466	1454	1199	VALLEY	2500	0.01500	---	----	-----	-----	--	--
143C	040	A100	11	10	62	96	62	96	1154	-------	----	-------	---	----	-----	-----	--	--
144BC	---	---	--	--	62	96	2528	1453	1203	-------	----	-------	---	----	-----	-----	--	--
145D	030	A100	12	10	39	60	39	60	1154	-------	----	-------	---	----	-----	-----	--	--

Model Results

NODE ID	SOIL TYPE	RAIN ZONE	TC (MIN)	% IMP	AREA (AC)	FLOW (CFS)	AREA (AC)	FLOW (CFS)	TIME (MIN)	CHANNEL TYPE	LENGTH (FT)	SLOPE (FT/FT)	SIZE (FT)	H:V (Z)	N VALUES CHNL	N VALUES SIDES	VEL (FT/S)	DEPTH (FT)
146BD	**********																	
	* Peak in B:		1453.17 cfs @ 1203 min		Q in D:		1.62 cfs	Combined Q:		1454.80 cfs	*							
	* Peak in D:		60.46 cfs @ 1154 min		Q in B:		719.60 cfs	Combined Q:		780.06 cfs	*							
	* Combined Peak:		1454.80 cfs @ 1203 min		Q in B:		1453.17 cfs	Q in D:		1.62 cfs	*							
	**********																	
146BD	---	---	--	--	39	60	2567	1455	1203	-------	----	-------	---	----	-----	-----	--	--
147AB	**********																	
	* Peak in A:		823.94 cfs @ 1161 min		Q in B:		910.54 cfs	Combined Q:		1734.48 cfs	*							
	* Peak in B:		1454.80 cfs @ 1203 min		Q in A:		671.24 cfs	Combined Q:		2126.04 cfs	*							
	* Combined Peak:		2128.26 cfs @ 1204 min		Q in A:		674.11 cfs	Q in B:		1454.15 cfs	*							
	**********																	
147AB	---	---	--	--	2567	1455	4415	2128	1204	-------	----	-------	---	----	-----	-----	--	--
148A	060	A100	9	50	25	56	4440	2133	1204	CHANNEL	900	0.01500	13	0.00	0.014	0.014	--	--
149A	060	A100	20	5	176	123	4616	2137	1205	CHANNEL	3100	0.01500	13	0.00	0.014	0.014	--	--
150A :	DUMMY																	
150A	---	---	--	--	---	---	4616	2135	1208	-------	----	-------	---	----	-----	-----	--	--

Issue/Warning Messages

TYPE	ERR NO	PROCEDURE	LOCATION	MESSAGE

NO ISSUES OR WARNINGS DETECTED

****
* INCOMING HYDROGRAPH PEAK (cfs): 341.29 VOLUME (acre-ft): 34.92 *
* NO HYDROGRAPH ADJUSTMENT *
* NO HYDROGRAPH FATTENING *
****

TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)	TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)
0	0.00	0.00	100	7.86	7.86
200	7.86	7.86	300	7.86	7.86
400	7.85	7.85	500	7.86	7.86
600	8.87	8.87	700	12.05	12.05
800	12.20	12.20	900	15.68	15.68
1000	22.69	22.69	1050	30.37	30.37
1100	42.37	42.37	1110	71.08	71.08
1120	100.42	100.42	1130	102.20	102.20
1131	101.56	101.56	1132	101.02	101.02
1133	100.08	100.08	1134	99.25	99.25
1135	98.38	98.38	1136	97.39	97.39
1137	96.75	96.75	1138	96.41	96.41
1139	96.15	96.15	1140	95.96	95.96
1141	96.28	96.28	1142	97.11	97.11
1143	98.73	98.73	1144	100.44	100.44
1145	105.52	105.52	1146	112.25	112.25
1147	121.06	121.06	1148	130.27	130.27
1149	152.68	152.68	1150	184.11	184.11
1151	223.99	223.99	1152	265.06	265.06
1153	307.41	307.41	1154	334.28	334.28
1155	341.29	341.29	1156	317.82	317.82
1157	279.99	279.99	1158	232.76	232.76
1159	184.96	184.96	1160	145.71	145.71
1161	125.47	125.47	1162	113.55	113.55
1163	107.03	107.03	1164	104.29	104.29
1165	100.45	100.45	1166	95.42	95.42
1167	88.83	88.83	1168	80.92	80.92
1169	72.06	72.06	1170	63.23	63.23
1171	55.62	55.62	1172	51.95	51.95
1173	49.10	49.10	1174	46.79	46.79
1175	45.66	45.66	1176	44.89	44.89
1177	43.74	43.74	1178	42.76	42.76
1179	41.12	41.12	1180	39.29	39.29
1181	37.55	37.55	1182	35.63	35.63
1183	34.10	34.10	1184	33.36	33.36
1185	32.80	32.80	1186	32.79	32.79
1187	32.55	32.55	1188	32.33	32.33
1189	31.88	31.88	1190	30.94	30.94

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)	TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)
1191	29.56	29.56	1192	28.32	28.32
1193	26.73	26.73	1194	25.13	25.13
1195	24.14	24.14	1196	23.64	23.64
1197	23.17	23.17	1198	22.99	22.99
1199	22.88	22.88	1200	22.82	22.82
1201	22.83	22.83	1202	22.61	22.61
1203	22.68	22.68	1204	22.72	22.72
1205	22.73	22.73	1206	22.89	22.89
1207	22.89	22.89	1208	22.75	22.75
1209	22.76	22.76	1210	22.76	22.76
1211	22.91	22.91	1212	22.91	22.91
1213	22.75	22.75	1214	22.77	22.77
1215	22.77	22.77	1216	22.75	22.75
1217	22.80	22.80	1218	22.59	22.59
1219	22.67	22.67	1220	22.71	22.71
1221	22.73	22.73	1222	22.89	22.89
1223	22.89	22.89	1224	22.75	22.75
1225	22.29	22.29	1226	21.52	21.52
1227	20.23	20.23	1228	18.81	18.81
1229	17.06	17.06	1230	15.46	15.46
1231	14.07	14.07	1232	13.30	13.30
1233	12.84	12.84	1234	12.67	12.67
1235	12.46	12.46	1236	12.34	12.34
1237	12.13	12.13	1238	12.11	12.11
1239	12.25	12.25	1240	12.23	12.23
1241	12.22	12.22	1242	12.07	12.07
1243	12.07	12.07	1244	12.23	12.23
1245	12.22	12.22	1246	12.22	12.22
1247	12.06	12.06	1248	12.07	12.07
1249	12.23	12.23	1250	12.22	12.22
1251	12.22	12.22	1252	12.06	12.06
1253	12.07	12.07	1254	12.23	12.23
1255	12.22	12.22	1256	12.22	12.22
1257	12.06	12.06	1258	12.07	12.07
1259	12.23	12.23	1260	12.22	12.22
1261	12.06	12.06	1262	12.02	12.02
1263	11.98	11.98	1264	12.15	12.15
1265	12.17	12.17	1266	12.03	12.03
1267	12.04	12.04	1268	12.21	12.21
1269	12.21	12.21	1270	12.21	12.21
1271	12.06	12.06	1272	12.07	12.07
1273	12.23	12.23	1274	12.22	12.22
1275	12.22	12.22	1276	12.06	12.06
1277	12.07	12.07	1278	12.23	12.23
1279	12.22	12.22	1280	12.22	12.22
1281	12.06	12.06	1282	12.07	12.07
1283	12.23	12.23	1284	12.22	12.22
1285	12.22	12.22	1286	12.06	12.06
1287	12.07	12.07	1288	12.23	12.23
1289	12.22	12.22	1290	12.22	12.22

1291	12.06	12.06	1292	12.07	12.07
1293	12.23	12.23	1294	12.22	12.22
1295	12.22	12.22	1296	12.06	12.06
1297	11.91	11.91	1298	11.71	11.71
1299	11.19	11.19	1300	10.67	10.67
1310	7.84	7.84	1320	7.96	7.96
1330	7.96	7.96	1340	7.79	7.79
1350	7.90	7.90	1360	7.79	7.79
1370	7.90	7.90	1380	7.99	7.99
1390	7.79	7.79	1400	7.90	7.90
1420	7.88	7.88	1440	7.85	7.85
1460	5.23	5.23	1500	5.23	5.23

Hydrograph Printouts

HYDROGRAPH FATTENED AT 55B

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**********************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):    427.89         VOLUME (acre-ft):     44.52      *
*      NO HYDROGRAPH ADJUSTMENT                                                    *
*      RUNOFF FACTOR(in):   3.51      TOTAL RAIN(in):   6.50      SCS Curve: 73           *
*      FATTENED HYDROGRAPH  PEAK (cfs):    427.89         VOLUME (acre-ft):     51.77      *
**********************************************************************************
```

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)	TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)
0	0.00	0.00	0.00	100	9.84	9.84	9.97
200	9.84	9.84	10.15	300	9.84	9.84	10.22
400	9.83	9.83	10.31	500	9.84	9.84	10.45
600	11.12	11.12	11.93	700	15.17	15.17	16.28
800	15.43	15.43	17.09	900	19.78	19.78	22.47
1000	28.67	28.67	33.76	1050	37.86	37.86	45.52
1100	53.29	53.29	66.07	1110	90.10	90.10	103.25
1120	129.25	129.25	142.61	1130	132.65	132.65	148.01
1131	131.82	131.82	147.47	1132	131.20	131.20	147.13
1133	130.03	130.03	146.28	1134	129.01	129.01	145.58
1135	127.94	127.94	144.84	1136	126.56	126.56	143.81
1137	125.99	125.99	143.56	1138	125.04	125.04	142.96
1139	124.94	124.94	143.16	1140	124.38	124.38	142.95
1141	124.89	124.89	143.74	1142	126.09	126.09	145.19
1143	127.58	127.58	146.92	1144	129.90	129.90	149.43
1145	136.29	136.29	155.74	1146	144.66	144.66	163.89
1147	154.44	154.44	173.34	1148	166.08	166.08	184.50
1149	194.63	194.63	211.35	1150	232.81	232.81	247.05
1151	278.53	278.53	289.63	1152	330.65	330.65	338.02
1153	384.48	384.48	387.83	1154	420.23	420.23	420.83
1155	427.89	427.89	427.89	1156	415.46	415.46	416.44

1157	378.24	378.24	382.08	1158	322.52	322.52	330.52
1159	259.63	259.63	272.17	1160	211.43	211.43	227.29
1161	176.74	176.74	194.82	1162	156.05	156.05	175.29
1163	144.88	144.88	164.57	1164	138.61	138.61	158.39
1165	131.53	131.53	151.46	1166	124.45	124.45	144.51
1167	116.49	116.49	136.74	1168	106.78	106.78	127.33
1169	95.79	95.79	116.70	1170	84.31	84.31	105.60
1171	76.16	76.16	97.60	1172	69.25	69.25	90.78
1173	64.55	64.55	86.02	1174	61.50	61.50	82.81
1175	59.23	59.23	80.35	1176	57.47	57.47	78.37
1177	55.88	55.88	76.55	1178	54.28	54.28	74.73
1179	51.92	51.92	72.19	1180	50.26	50.26	70.32
1181	48.33	48.33	68.20	1182	46.15	46.15	65.84
1183	44.37	44.37	63.87	1184	42.83	42.83	62.13
1185	41.79	41.79	60.87	1186	41.20	41.20	60.04
1187	40.92	40.92	59.51	1188	40.74	40.74	59.08
1189	40.07	40.07	58.19	1190	39.36	39.36	57.26
1191	38.28	38.28	56.00	1192	36.72	36.72	54.27
1193	35.02	35.02	52.41	1194	33.30	33.30	50.54
1195	31.97	31.97	49.03	1196	30.65	30.65	47.55
1197	29.91	29.91	46.62	1198	29.42	29.42	45.94
1199	29.12	29.12	45.44	1200	28.96	28.96	45.08
1201	28.88	28.88	44.80	1202	28.83	28.83	44.55
1203	28.74	28.74	44.27	1204	28.69	28.69	44.03
1205	28.72	28.72	43.87	1206	28.90	28.90	43.86
1207	28.84	28.84	43.62	1208	28.89	28.89	43.49
1209	28.83	28.83	43.26	1210	28.79	28.79	43.05
1211	28.94	28.94	43.03	1212	28.87	28.87	42.79
1213	28.90	28.90	42.67	1214	28.84	28.84	42.45
1215	28.79	28.79	42.25	1216	28.79	28.79	42.09
1217	28.79	28.79	41.94	1218	28.78	28.78	41.78
1219	28.71	28.71	41.57	1220	28.67	28.67	41.39
1221	28.71	28.71	41.29	1222	28.90	28.90	41.33
1223	28.84	28.84	41.14	1224	28.89	28.89	41.05
1225	28.36	28.36	40.41	1226	27.61	27.61	39.55
1227	26.42	26.42	38.27	1228	24.86	24.86	36.63
1229	23.13	23.13	34.83	1230	21.19	21.19	32.82
1231	19.60	19.60	31.15	1232	18.09	18.09	29.56
1233	17.19	17.19	28.58	1234	16.50	16.50	27.79
1235	16.10	16.10	27.28	1236	15.85	15.85	26.93
1237	15.53	15.53	26.50	1238	15.50	15.50	26.37

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)	TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)
1239	15.39	15.39	26.15	1240	15.40	15.40	26.06
1241	15.44	15.44	25.99	1242	15.30	15.30	25.75
1243	15.38	15.38	25.73	1244	15.33	15.33	25.57
1245	15.37	15.37	25.52	1246	15.42	15.42	25.47

1247	15.29	15.29	25.25	1248	15.38	15.38	25.24
1249	15.32	15.32	25.10	1250	15.37	15.37	25.04
1251	15.42	15.42	25.01	1252	15.29	15.29	24.79
1253	15.38	15.38	24.79	1254	15.32	15.32	24.65
1255	15.37	15.37	24.61	1256	15.42	15.42	24.58
1257	15.29	15.29	24.37	1258	15.38	15.38	24.37
1259	15.32	15.32	24.24	1260	15.37	15.37	24.20
1261	15.28	15.28	24.04	1262	15.23	15.23	23.91
1263	15.29	15.29	23.90	1264	15.25	15.25	23.78
1265	15.28	15.28	23.74	1266	15.21	15.21	23.59
1267	15.32	15.32	23.64	1268	15.29	15.29	23.53
1269	15.34	15.34	23.51	1270	15.41	15.41	23.51
1271	15.28	15.28	23.32	1272	15.37	15.37	23.34
1273	15.32	15.32	23.23	1274	15.36	15.36	23.20
1275	15.42	15.42	23.19	1276	15.29	15.29	23.00
1277	15.38	15.38	23.02	1278	15.32	15.32	22.91
1279	15.37	15.37	22.89	1280	15.42	15.42	22.89
1281	15.29	15.29	22.69	1282	15.38	15.38	22.72
1283	15.32	15.32	22.61	1284	15.37	15.37	22.60
1285	15.42	15.42	22.59	1286	15.29	15.29	22.41
1287	15.38	15.38	22.44	1288	15.32	15.32	22.33
1289	15.37	15.37	22.32	1290	15.42	15.42	22.32
1291	15.29	15.29	22.14	1292	15.38	15.38	22.17
1293	15.32	15.32	22.07	1294	15.37	15.37	22.06
1295	15.42	15.42	22.07	1296	15.29	15.29	21.88
1297	15.23	15.23	21.77	1298	14.82	14.82	21.33
1299	14.36	14.36	20.82	1300	13.90	13.90	20.32
1310	10.24	10.24	16.28	1320	9.87	9.87	15.51
1330	10.04	10.04	15.31	1340	9.79	9.79	14.74
1350	9.87	9.87	14.53	1360	9.79	9.79	14.18
1370	9.87	9.87	14.02	1380	10.01	10.01	13.93
1390	9.79	9.79	13.51	1400	9.87	9.87	13.41
1420	9.88	9.88	13.09	1440	9.83	9.83	12.75
1460	7.86	7.86	10.55	1500	7.86	7.86	10.15

RESERVOIR ROUTING AT 56F

DESCRIPTION: EMERGENCY SPILLWAY DESIGNED TO PASS 1084 CFS AT 2' OVER 140 WEIR CREST (C=2.8)

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*      INCOMING HYDROGRAPH  PEAK (cfs):    981.44         VOLUME (acre-ft):    164.02      *
*      NO HYDROGRAPH ADJUSTMENT                                                *
*      NO HYDROGRAPH FATTENING                                                 *
*      RESERVOIR INFLOW:    PEAK (cfs):    981.44 @ 1156  VOLUME (acre-ft):    164.02      *
*      MAXIMUM ELEVATION:   STAGE (ft):    489.49 @ 1226  VOLUME (acre-ft):     57.31      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    491.00         VOLUME (acre-ft):     70.56      *
*          DIFFERENCE:   IN STAGE (ft):     -1.51      IN VOLUME (acre-ft):     13.24      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     18.8%      *
*      TOP OF DAM:           ELEV (ft):    496.00         VOLUME (acre-ft):    117.01      *
*          DIFFERENCE    IN STAGE (ft):     -6.51      IN VOLUME (acre-ft):     59.70      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     51.0%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):    351.10 @ 1226  VOLUME (acre-ft):    133.09      *
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TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	480.00
100	9.97	9.97	0.91	480.58
200	10.15	10.15	5.06	481.27
300	10.22	10.22	8.58	481.44
400	10.31	10.31	9.73	481.50
500	10.45	10.45	10.16	481.52
600	11.93	11.93	10.66	481.55
700	16.28	16.28	12.46	481.63

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
800	21.09	21.09	16.18	481.76
900	36.47	36.47	22.93	482.00
1000	70.76	70.76	39.85	482.49
1050	114.52	114.52	58.90	482.98
1100	198.07	198.07	83.02	483.78
1110	282.25	282.25	89.88	484.08
1120	382.61	382.61	98.91	484.51
1130	437.01	437.01	109.09	485.05
1131	439.47	439.47	110.15	485.10
1132	443.13	443.13	111.21	485.16
1133	445.28	445.28	112.25	485.22
1134	448.58	448.58	113.24	485.28
1135	450.84	450.84	114.23	485.34
1136	453.81	453.81	115.24	485.40
1137	457.56	457.56	116.24	485.46
1138	459.96	459.96	117.26	485.52
1139	464.16	464.16	118.28	485.58
1140	466.95	466.95	119.26	485.64
1141	469.74	469.74	120.23	485.70
1142	474.19	474.19	121.20	485.76
1143	478.92	478.92	122.19	485.82
1144	484.43	484.43	123.18	485.88
1145	492.74	492.74	124.19	485.94
1146	510.89	510.89	125.23	486.01
1147	529.34	529.34	126.26	486.08
1148	549.50	549.50	127.34	486.15
1149	586.35	586.35	128.48	486.22
1150	631.05	631.05	129.74	486.30
1151	710.63	710.63	131.15	486.40
1152	797.02	797.02	132.69	486.50
1153	883.83	883.83	134.43	486.62
1154	954.83	954.83	136.37	486.76
1155	976.89	976.89	138.35	486.90
1156	981.44	981.44	140.31	487.04

1157	963.08	963.08	142.26	487.18
1158	927.52	927.52	144.07	487.31
1159	884.17	884.17	145.78	487.44
1160	855.29	855.29	147.40	487.56
1161	804.82	804.82	148.97	487.67
1162	767.29	767.29	150.46	487.78
1163	738.57	738.57	151.86	487.88
1164	714.39	714.39	153.21	487.97
1165	689.46	689.46	158.38	488.06
1166	667.51	667.51	165.03	488.15
1167	645.74	645.74	171.31	488.23
1168	621.33	621.33	177.21	488.30
1169	596.70	596.70	182.73	488.37
1170	577.60	577.60	189.57	488.44
1171	561.60	561.60	197.22	488.50
1172	546.78	546.78	204.40	488.56
1173	534.02	534.02	211.15	488.61
1174	521.81	521.81	217.53	488.66
1175	511.35	511.35	223.54	488.71
1176	503.37	503.37	229.25	488.75
1177	494.55	494.55	234.67	488.80
1178	486.73	486.73	240.98	488.84
1179	478.19	478.19	247.00	488.88
1180	469.32	469.32	252.64	488.91
1181	463.20	463.20	257.97	488.95
1182	457.84	457.84	263.01	488.98
1183	451.87	451.87	267.79	489.01
1184	446.13	446.13	272.31	489.04
1185	442.87	442.87	276.60	489.07
1186	441.04	441.04	280.72	489.09
1187	438.51	438.51	284.68	489.12
1188	437.08	437.08	288.49	489.14
1189	434.19	434.19	292.16	489.17
1190	431.26	431.26	295.66	489.19
1191	429.00	429.00	299.23	489.21
1192	425.27	425.27	302.90	489.23
1193	422.41	422.41	306.37	489.25

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1194	418.54	418.54	309.65	489.27
1195	415.03	415.03	312.72	489.28
1196	411.55	411.55	315.61	489.30
1197	407.62	407.62	318.30	489.31
1198	404.94	404.94	320.83	489.33
1199	401.44	401.44	323.19	489.34
1200	400.08	400.08	325.41	489.35
1201	398.80	398.80	327.54	489.36

1202	396.55	396.55	329.55	489.38
1203	395.27	395.27	331.46	489.39
1204	394.03	394.03	333.27	489.40
1205	391.87	391.87	334.98	489.41
1206	390.86	390.86	336.60	489.41
1207	388.62	388.62	338.12	489.42
1208	387.49	387.49	339.56	489.43
1209	385.26	385.26	340.90	489.44
1210	384.05	384.05	342.16	489.45
1211	381.03	381.03	343.31	489.45
1212	378.79	378.79	344.36	489.46
1213	376.67	376.67	345.32	489.46
1214	374.45	374.45	346.19	489.47
1215	372.25	372.25	346.97	489.47
1216	371.09	371.09	347.68	489.48
1217	368.94	368.94	348.32	489.48
1218	367.78	367.78	348.89	489.48
1219	365.57	365.57	349.40	489.48
1220	364.39	364.39	349.85	489.49
1221	362.29	362.29	350.24	489.49
1222	360.33	360.33	350.56	489.49
1223	358.14	358.14	350.80	489.49
1224	356.05	356.05	350.98	489.49
1225	353.41	353.41	351.09	489.49
1226	349.55	349.55	351.10	489.49
1227	345.27	345.27	351.00	489.49
1228	340.63	340.63	350.77	489.49
1229	335.83	335.83	350.41	489.49
1230	330.82	330.82	349.92	489.49
1231	327.15	327.15	349.32	489.48
1232	322.56	322.56	348.61	489.48
1233	318.58	318.58	347.81	489.48
1234	315.79	315.79	346.93	489.47
1235	312.28	312.28	345.99	489.47
1236	308.93	308.93	344.97	489.46
1237	305.50	305.50	343.89	489.45
1238	303.37	303.37	342.76	489.45
1239	300.15	300.15	341.58	489.44
1240	297.06	297.06	340.35	489.44
1241	293.99	293.99	339.06	489.43
1242	290.75	290.75	337.72	489.42
1243	287.73	287.73	336.33	489.41
1244	284.57	284.57	334.89	489.41
1245	282.52	282.52	333.42	489.40
1246	280.47	280.47	331.93	489.39
1247	278.25	278.25	330.42	489.38
1248	276.24	276.24	328.89	489.37
1249	274.10	274.10	327.35	489.36
1250	272.04	272.04	325.79	489.36
1251	270.01	270.01	324.22	489.35
1252	267.79	267.79	322.63	489.34
1253	265.79	265.79	321.03	489.33
1254	263.65	263.65	319.42	489.32
1255	261.61	261.61	317.79	489.31
1256	258.58	258.58	316.13	489.30
1257	255.37	255.37	314.43	489.29

1258	253.37	253.37	312.71	489.28
1259	250.24	250.24	310.96	489.27
1260	248.20	248.20	309.19	489.26
1261	246.04	246.04	307.41	489.25
1262	243.91	243.91	305.62	489.24
1263	241.90	241.90	303.82	489.23
1264	239.78	239.78	302.01	489.22

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1265	237.74	237.74	300.20	489.21
1266	236.59	236.59	298.39	489.20
1267	234.64	234.64	296.71	489.19
1268	233.53	233.53	295.15	489.18
1269	231.51	231.51	293.59	489.17
1270	229.51	229.51	292.02	489.16
1271	227.32	227.32	290.44	489.15
1272	225.34	225.34	288.84	489.14
1273	222.23	222.23	287.22	489.13
1274	220.20	220.20	285.58	489.12
1275	218.19	218.19	283.92	489.11
1276	216.00	216.00	282.26	489.10
1277	214.02	214.02	280.58	489.09
1278	210.91	210.91	278.88	489.08
1279	208.89	208.89	277.17	489.07
1280	207.89	207.89	275.45	489.06
1281	205.69	205.69	273.74	489.05
1282	203.72	203.72	272.02	489.04
1283	202.61	202.61	270.31	489.03
1284	200.60	200.60	268.60	489.01
1285	198.59	198.59	266.88	489.00
1286	196.41	196.41	265.15	488.99
1287	194.44	194.44	263.41	488.98
1288	191.33	191.33	261.65	488.97
1289	189.32	189.32	259.88	488.96
1290	187.32	187.32	258.09	488.95
1291	186.14	186.14	256.32	488.94
1292	184.17	184.17	254.54	488.93
1293	182.07	182.07	252.76	488.91
1294	180.06	180.06	250.98	488.90
1295	179.07	179.07	249.20	488.89
1296	176.88	176.88	247.42	488.88
1297	174.77	174.77	245.64	488.87
1298	173.33	173.33	243.86	488.86
1299	170.82	170.82	242.07	488.85
1300	169.32	169.32	240.28	488.83
1310	144.28	144.28	225.06	488.72
1320	127.51	127.51	209.33	488.59

1330	114.31	114.31	193.60	488.47
1340	99.74	99.74	180.65	488.34
1350	87.53	87.53	170.48	488.22
1360	77.18	77.18	160.12	488.08
1370	68.02	68.02	152.91	487.95
1380	60.93	60.93	150.90	487.81
1390	54.51	54.51	148.78	487.66
1400	48.41	48.41	146.62	487.50
1420	41.09	41.09	142.22	487.17
1440	33.75	33.75	137.50	486.83
1460	23.55	23.55	132.39	486.48
1500	10.15	10.15	121.08	485.75

Hydrograph Printouts

Stage - Storage - Discharge Curve for Reservoir at 56F

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
480.00	0.000	0.00
480.40	0.126	0.52
480.80	0.504	1.39
481.20	1.142	3.73
481.60	2.081	11.68
482.00	3.330	22.77
482.40	4.842	36.26
482.80	6.574	51.76
483.20	8.529	67.25
483.60	10.738	78.61
484.00	13.206	88.23
484.40	15.909	96.81
484.80	18.826	104.64
485.20	21.934	111.89
485.60	25.094	118.69
486.00	28.282	125.10
486.40	31.499	131.20
486.80	34.744	137.02
487.20	38.017	142.59
487.60	41.320	147.96
488.00	44.651	153.62
488.40	48.010	184.98
488.80	51.399	234.97
489.20	54.816	297.55
489.60	58.262	370.38
490.00	61.737	452.07
490.40	65.241	541.69
490.80	68.774	638.54
491.20	72.337	776.41
491.60	75.929	1,030.22
492.00	79.550	1,313.70
492.40	83.200	1,339.36
492.80	86.880	1,364.54

493.20	90.589	1,389.26
493.60	94.329	1,413.55
494.00	98.097	1,437.43
494.40	101.880	1,460.92
494.80	105.663	1,484.04
495.20	109.447	1,506.80
495.60	113.230	1,529.23
496.00	117.013	1,551.33

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 57AB

DESCRIPTION: COMBINED OUTFLOW FROM BASIN 3 AND BY-PASS DIVERTED UPSTREAM OF BASIN 3
TOTAL AREA TO HYDROGRAPH: 1083 acres
HYDROGRAPH PEAK: 458 cfs
TIME OF PEAK: 1222 minutes
HYDROGRAPH VOLUME: 236.40 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	1.31	200	27.11	300	39.01	400	41.18
500	44.60	600	47.13	700	59.68	800	66.78	900	79.15
1000	104.37	1050	132.87	1100	168.38	1110	181.83	1120	197.89
1130	213.45	1131	214.88	1132	216.15	1133	217.36	1134	218.78
1135	220.14	1136	221.34	1137	222.78	1138	224.16	1139	225.38
1140	226.80	1141	228.13	1142	229.18	1143	230.31	1144	231.72
1145	233.09	1146	234.33	1147	235.93	1148	237.79	1149	239.50
1150	241.39	1151	243.98	1152	247.48	1153	251.62	1154	256.18
1155	260.81	1156	264.66	1157	267.65	1158	270.08	1159	272.45
1160	274.99	1161	277.28	1162	278.64	1163	279.24	1164	279.62
1165	283.80	1166	289.45	1167	294.73	1168	299.64	1169	304.16
1170	310.00	1171	316.78	1172	323.38	1173	329.63	1174	335.49
1175	341.01	1176	346.22	1177	351.14	1178	356.95	1179	362.47
1180	367.61	1181	372.44	1182	377.11	1183	381.68	1184	385.76
1185	389.69	1186	393.74	1187	397.68	1188	401.37	1189	404.61
1190	407.75	1191	411.25	1192	414.91	1193	418.37	1194	421.65
1195	424.72	1196	427.48	1197	429.75	1198	431.92	1199	434.21
1200	436.42	1201	438.41	1202	440.00	1203	441.55	1204	443.29
1205	444.99	1206	446.60	1207	448.12	1208	449.56	1209	450.90
1210	452.03	1211	452.77	1212	453.46	1213	454.34	1214	455.19
1215	455.85	1216	456.13	1217	456.41	1218	456.91	1219	457.41
1220	457.85	1221	458.24	1222	458.43	1223	458.26	1224	458.08
1225	458.11	1226	458.11	1227	457.88	1228	457.22	1229	456.50
1230	455.94	1231	455.20	1232	454.07	1233	452.91	1234	451.95
1235	450.87	1236	449.43	1237	447.98	1238	446.78	1239	445.46
1240	443.81	1241	442.16	1242	440.62	1243	438.79	1244	436.99
1245	435.44	1246	433.81	1247	431.88	1248	429.99	1249	428.37

1250	426.80	1251	425.10	1252	423.10	1253	421.13	1254	419.44
1255	417.79	1256	416.02	1257	413.90	1258	411.81	1259	409.87
1260	407.66	1261	405.51	1262	403.64	1263	401.71	1264	399.48
1265	397.30	1266	395.41	1267	393.72	1268	392.15	1269	390.48
1270	388.49	1271	386.54	1272	384.86	1273	383.11	1274	381.04
1275	379.02	1276	377.28	1277	375.47	1278	373.35	1279	371.26
1280	369.47	1281	367.63	1282	365.49	1283	363.41	1284	361.62
1285	359.77	1286	357.62	1287	355.51	1288	353.68	1289	351.77
1290	349.57	1291	347.42	1292	345.56	1293	343.66	1294	341.45
1295	339.30	1296	337.45	1297	335.54	1298	333.33	1299	331.17
1300	329.30	1310	311.63	1320	292.69	1330	274.92	1340	259.14
1350	245.92	1360	233.40	1370	223.44	1380	219.12	1390	215.16
1400	210.89	1420	203.48	1440	196.62	1460	187.83	1500	126.63

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 58B

DESCRIPTION: EAST OF A STREET AND BASIN 3 (POTENTIAL WQ TREATMENT AREA) DRAINS DIRECT TO WCC - ASSUMED PIPE BELOW HIGH ABLE TO CARRY PEAK FLOW
TOTAL AREA TO HYDROGRAPH: 21 acres
HYDROGRAPH PEAK: 37 cfs
TIME OF PEAK: 1154 minutes
HYDROGRAPH VOLUME: 2.86 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	0.48	200	0.48	300	0.48	400	0.48
500	0.48	600	0.56	700	0.78	800	0.78	900	1.03
1000	1.47	1050	1.90	1100	3.17	1110	8.64	1120	12.08
1130	11.84	1131	11.71	1132	11.65	1133	11.51	1134	11.46
1135	11.40	1136	11.27	1137	11.21	1138	11.07	1139	11.02
1140	10.88	1141	11.12	1142	11.28	1143	11.52	1144	11.68
1145	12.72	1146	13.75	1147	14.63	1148	15.66	1149	19.91
1150	24.13	1151	28.27	1152	32.46	1153	36.67	1154	37.42
1155	36.59	1156	35.69	1157	34.71	1158	33.74	1159	29.47
1160	25.30	1161	21.15	1162	16.98	1163	12.72	1164	11.84
1165	10.88	1166	10.08	1167	9.44	1168	8.64	1169	7.76
1170	6.96	1171	6.06	1172	5.16	1173	4.34	1174	3.44
1175	3.44	1176	3.44	1177	3.19	1178	3.03	1179	2.78
1180	2.53	1181	2.36	1182	2.19	1183	2.13	1184	2.09
1185	2.03	1186	1.99	1187	1.99	1188	1.97	1189	1.93
1190	1.89	1191	1.83	1192	1.78	1193	1.72	1194	1.66
1195	1.64	1196	1.58	1197	1.52	1198	1.48	1199	1.48
1200	1.46	1201	1.48	1202	1.48	1203	1.48	1204	1.48
1205	1.46	1206	1.48	1207	1.48	1208	1.48	1209	1.48
1210	1.48	1211	1.48	1212	1.48	1213	1.48	1214	1.48
1215	1.48	1216	1.46	1217	1.48	1218	1.48	1219	1.48
1220	1.48	1221	1.46	1222	1.48	1223	1.48	1224	1.48

1225	1.42	1226	1.35	1227	1.25	1228	1.19	1229	1.13
1230	1.07	1231	1.00	1232	0.90	1233	0.84	1234	0.78
1235	0.78	1236	0.78	1237	0.78	1238	0.78	1239	0.78
1240	0.78	1241	0.78	1242	0.78	1243	0.78	1244	0.78
1245	0.78	1246	0.78	1247	0.78	1248	0.78	1249	0.78
1250	0.78	1251	0.78	1252	0.78	1253	0.78	1254	0.78
1255	0.78	1256	0.78	1257	0.78	1258	0.78	1259	0.78
1260	0.78	1261	0.76	1262	0.78	1263	0.78	1264	0.78
1265	0.78	1266	0.76	1267	0.78	1268	0.78	1269	0.78
1270	0.78	1271	0.78	1272	0.78	1273	0.78	1274	0.78
1275	0.78	1276	0.78	1277	0.78	1278	0.78	1279	0.78
1280	0.78	1281	0.78	1282	0.78	1283	0.78	1284	0.78
1285	0.78	1286	0.78	1287	0.78	1288	0.78	1289	0.78
1290	0.78	1291	0.78	1292	0.78	1293	0.78	1294	0.78
1295	0.78	1296	0.78	1297	0.76	1298	0.72	1299	0.68
1300	0.66	1310	0.47	1320	0.49	1330	0.49	1340	0.47
1350	0.49	1360	0.47	1370	0.49	1380	0.49	1390	0.47
1400	0.49	1420	0.48	1440	0.48	1460	0.00	1500	0.00

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 65B

DESCRIPTION: WEST HITCH RANCH (WEST FORK) - UPSTREAM OF BASIN 2B
TOTAL AREA TO HYDROGRAPH: 185 acres
HYDROGRAPH PEAK: 154 cfs
TIME OF PEAK: 1168 minutes
HYDROGRAPH VOLUME: 11.15 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	0.68	200	0.68	300	0.68	400	0.68
500	0.68	600	0.70	700	0.81	800	0.85	900	0.94
1000	1.18	1050	1.37	1100	4.23	1110	12.44	1120	23.89
1130	40.32	1131	42.32	1132	44.43	1133	46.42	1134	48.51
1135	50.60	1136	52.71	1137	54.87	1138	56.82	1139	58.79
1140	60.82	1141	62.89	1142	64.87	1143	66.52	1144	67.99
1145	70.73	1146	73.06	1147	75.28	1148	77.44	1149	84.54
1150	91.33	1151	98.54	1152	106.18	1153	114.74	1154	118.27
1155	121.96	1156	126.56	1157	131.36	1158	130.90	1159	130.43
1160	130.09	1161	129.94	1162	129.78	1163	134.83	1164	141.03
1165	145.49	1166	149.31	1167	152.28	1168	153.60	1169	153.06
1170	150.67	1171	146.35	1172	140.57	1173	133.76	1174	127.31
1175	120.27	1176	112.76	1177	105.17	1178	97.86	1179	90.63
1180	84.05	1181	77.90	1182	72.38	1183	67.30	1184	62.67
1185	58.44	1186	54.59	1187	51.09	1188	47.92	1189	45.11
1190	42.53	1191	40.07	1192	37.74	1193	35.65	1194	33.63
1195	31.66	1196	29.76	1197	27.95	1198	26.24	1199	24.64

1200	23.13	1201	21.72	1202	20.38	1203	19.11	1204	18.14
1205	17.24	1206	16.37	1207	15.51	1208	14.68	1209	13.87
1210	13.10	1211	12.36	1212	11.65	1213	10.97	1214	10.33
1215	9.72	1216	9.16	1217	8.65	1218	8.18	1219	7.74
1220	7.34	1221	6.97	1222	6.64	1223	6.32	1224	6.03
1225	5.74	1226	5.48	1227	5.23	1228	5.00	1229	4.80
1230	4.64	1231	4.49	1232	4.33	1233	4.19	1234	4.05
1235	3.92	1236	3.79	1237	3.67	1238	3.54	1239	3.42
1240	3.33	1241	3.24	1242	3.15	1243	3.06	1244	2.97
1245	2.88	1246	2.80	1247	2.71	1248	2.63	1249	2.56
1250	2.48	1251	2.42	1252	2.34	1253	2.28	1254	2.22
1255	2.15	1256	2.10	1257	2.04	1258	1.99	1259	1.93
1260	1.88	1261	1.84	1262	1.79	1263	1.75	1264	1.70
1265	1.66	1266	1.62	1267	1.59	1268	1.55	1269	1.52
1270	1.49	1271	1.45	1272	1.42	1273	1.39	1274	1.37
1275	1.34	1276	1.31	1277	1.30	1278	1.28	1279	1.26
1280	1.24	1281	1.23	1282	1.21	1283	1.19	1284	1.18
1285	1.17	1286	1.15	1287	1.14	1288	1.12	1289	1.11
1290	1.10	1291	1.09	1292	1.08	1293	1.07	1294	1.06
1295	1.05	1296	1.04	1297	1.03	1298	1.01	1299	1.00
1300	0.99	1310	0.91	1320	0.85	1330	0.79	1340	0.74
1350	0.71	1360	0.69	1370	0.69	1380	0.68	1390	0.68
1400	0.68	1420	0.68	1440	0.68	1460	0.63	1500	0.63

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 73BC

DESCRIPTION: CONFLUENCE OF WEST HITCH RANCH (WEST AND MIDDLE FORK) - UPSTREAM OF BASIN 2B
TOTAL AREA TO HYDROGRAPH: 316 acres
HYDROGRAPH PEAK: 272 cfs
TIME OF PEAK: 1158 minutes
HYDROGRAPH VOLUME: 26.16 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	2.71	200	2.71	300	2.71	400	2.71
500	2.71	600	3.01	700	3.98	800	4.13	900	5.16
1000	7.21	1050	10.19	1100	19.99	1110	40.69	1120	66.23
1130	82.47	1131	83.78	1132	85.30	1133	86.57	1134	87.98
1135	89.33	1136	90.45	1137	91.79	1138	93.06	1139	94.49
1140	96.05	1141	98.36	1142	100.62	1143	103.19	1144	105.82
1145	110.76	1146	115.68	1147	121.13	1148	127.66	1149	142.31
1150	157.29	1151	175.24	1152	197.25	1153	222.02	1154	240.63
1155	257.04	1156	267.45	1157	272.05	1158	272.12	1159	264.65
1160	253.60	1161	242.59	1162	232.12	1163	222.05	1164	216.69
1165	210.47	1166	205.53	1167	201.07	1168	196.16	1169	191.59
1170	188.09	1171	185.24	1172	183.03	1173	181.00	1174	178.93

1175	177.86	1176	176.29	1177	173.79	1178	170.90	1179	167.29
1180	163.11	1181	158.59	1182	153.45	1183	148.02	1184	142.61
1185	136.94	1186	131.16	1187	125.53	1188	119.87	1189	114.23
1190	108.91	1191	103.69	1192	98.71	1193	93.87	1194	89.24
1195	84.93	1196	80.76	1197	76.79	1198	73.11	1199	69.73
1200	66.51	1201	63.58	1202	60.75	1203	58.13	1204	55.71
1205	53.40	1206	51.28	1207	49.17	1208	47.12	1209	45.18
1210	43.39	1211	41.80	1212	40.24	1213	38.70	1214	37.25
1215	35.86	1216	34.50	1217	33.30	1218	32.06	1219	30.90
1220	29.79	1221	28.68	1222	27.72	1223	26.84	1224	26.05
1225	25.12	1226	24.21	1227	23.22	1228	22.34	1229	21.45
1230	20.57	1231	19.70	1232	18.81	1233	18.02	1234	17.28
1235	16.65	1236	16.05	1237	15.46	1238	14.92	1239	14.44
1240	13.96	1241	13.50	1242	13.04	1243	12.63	1244	12.27
1245	11.90	1246	11.55	1247	11.19	1248	10.88	1249	10.60
1250	10.32	1251	10.09	1252	9.87	1253	9.69	1254	9.53
1255	9.35	1256	9.18	1257	8.99	1258	8.83	1259	8.70
1260	8.55	1261	8.35	1262	8.24	1263	8.11	1264	8.00
1265	7.87	1266	7.68	1267	7.59	1268	7.50	1269	7.39
1270	7.27	1271	7.14	1272	7.04	1273	6.96	1274	6.86
1275	6.77	1276	6.65	1277	6.56	1278	6.50	1279	6.42
1280	6.33	1281	6.23	1282	6.15	1283	6.10	1284	6.03
1285	5.96	1286	5.87	1287	5.80	1288	5.76	1289	5.70
1290	5.64	1291	5.56	1292	5.50	1293	5.47	1294	5.42
1295	5.37	1296	5.30	1297	5.19	1298	5.06	1299	4.90
1300	4.80	1310	3.88	1320	3.53	1330	3.32	1340	3.12
1350	3.06	1360	2.92	1370	2.91	1380	2.86	1390	2.77
1400	2.79	1420	2.74	1440	2.72	1460	1.43	1500	1.43

RESERVOIR ROUTING AT 76D

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**********************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):    129.61         VOLUME (acre-ft):      9.70      *
*      NO HYDROGRAPH ADJUSTMENT                                                   *
*      RUNOFF FACTOR(in):   2.44      TOTAL RAIN(in):   6.50      SCS Curve: 62           *
*      FATTENED HYDROGRAPH  PEAK (cfs):    129.61         VOLUME (acre-ft):     13.02      *
*      RESERVOIR INFLOW:    PEAK (cfs):    129.61 @ 1154  VOLUME (acre-ft):     13.02      *
*      MAXIMUM ELEVATION:   STAGE (ft):    516.30 @ 1163  VOLUME (acre-ft):      1.75      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    517.34         VOLUME (acre-ft):      2.92      *
*          DIFFERENCE:   IN STAGE (ft):     -1.04      IN VOLUME (acre-ft):      1.17      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     39.9%      *
*      TOP OF DAM:           ELEV (ft):    522.00         VOLUME (acre-ft):      9.52      *
*          DIFFERENCE    IN STAGE (ft):     -5.70      IN VOLUME (acre-ft):      7.77      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     81.6%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):     48.87 @ 1163  VOLUME (acre-ft):     12.29      *
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TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	0.00	513.00
100	1.80	1.80	1.86	0.91	513.02
200	1.80	1.80	1.94	1.90	513.04
300	1.80	1.80	1.97	1.96	513.04
400	1.80	1.80	2.02	2.00	513.04
500	1.80	1.80	2.08	2.05	513.04
600	2.01	2.01	2.38	2.22	513.05
700	2.65	2.65	3.16	2.76	513.06
800	2.66	2.66	3.42	3.28	513.07
900	3.38	3.38	4.61	4.01	513.09
1000	4.89	4.89	7.26	5.91	513.13
1050	7.56	7.56	11.13	9.13	513.20
1100	12.01	12.01	17.99	13.88	513.50
1110	25.20	25.20	31.25	18.66	513.79
1120	36.86	36.86	43.03	26.50	514.25
1130	37.62	37.62	44.74	32.52	514.65
1131	37.32	37.32	44.57	32.87	514.69
1132	36.94	36.94	44.34	33.20	514.72
1133	36.54	36.54	44.09	33.52	514.74
1134	36.16	36.16	43.86	33.82	514.77
1135	35.89	35.89	43.74	34.11	514.80
1136	35.58	35.58	43.58	34.37	514.82
1137	35.43	35.43	43.57	34.62	514.84
1138	35.18	35.18	43.48	34.86	514.86
1139	35.04	35.04	43.50	35.10	514.88
1140	34.75	34.75	43.37	35.33	514.90
1141	35.20	35.20	43.93	35.55	514.92
1142	35.80	35.80	44.62	35.79	514.94
1143	36.46	36.46	45.37	36.04	514.96
1144	37.19	37.19	46.18	36.30	514.99
1145	40.08	40.08	48.94	36.59	515.01
1146	43.49	43.49	52.17	36.91	515.04
1147	46.60	46.60	55.11	37.30	515.08
1148	50.61	50.61	58.85	37.76	515.12
1149	63.34	63.34	70.39	38.38	515.18
1150	78.33	78.33	83.88	39.20	515.26
1151	93.20	93.20	97.22	40.24	515.36
1152	110.69	110.69	112.82	41.44	515.48
1153	127.60	127.60	127.83	42.80	515.62
1154	129.61	129.61	129.61	44.14	515.76
1155	122.06	122.06	122.92	45.32	515.89
1156	113.97	113.97	115.73	46.34	516.00
1157	101.27	101.27	104.40	47.14	516.09
1158	86.73	86.73	91.39	47.77	516.17
1159	72.89	72.89	78.94	48.22	516.22
1160	63.28	63.28	70.24	48.53	516.25
1161	53.85	53.85	61.67	48.72	516.28
1162	46.59	46.59	55.01	48.83	516.29
1163	40.57	40.57	49.45	48.87	516.30
1164	38.79	38.79	47.70	48.87	516.30
1165	36.09	36.09	45.11	48.84	516.29
1166	33.10	33.10	42.27	48.78	516.29
1167	30.34	30.34	39.61	48.69	516.27

1168	26.98	26.98	36.42	48.57	516.26
1169	23.32	23.32	32.94	48.41	516.24
1170	20.96	20.96	30.64	48.22	516.22
1171	19.19	19.19	28.88	48.01	516.19
1172	17.18	17.18	26.89	47.75	516.16
1173	15.64	15.64	25.33	47.49	516.13
1174	14.16	14.16	23.83	47.20	516.10
1175	13.53	13.53	23.10	46.90	516.07
1176	13.11	13.11	22.58	46.60	516.03
1177	12.45	12.45	21.83	46.30	516.00
1178	11.67	11.67	20.98	45.95	515.96
1179	10.83	10.83	20.07	45.60	515.92
1180	10.11	10.11	19.27	45.24	515.88
1181	9.58	9.58	18.64	44.88	515.84
1182	9.07	9.07	18.05	44.51	515.80
1183	8.77	8.77	17.64	44.09	515.75
1184	8.71	8.71	17.46	43.68	515.71
1185	8.46	8.46	17.11	43.27	515.66

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

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Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1186	8.21	8.21	16.76	42.86	515.62
1187	8.33	8.33	16.75	42.42	515.58
1188	8.22	8.22	16.54	41.97	515.53
1189	7.67	7.67	15.91	41.52	515.48
1190	7.20	7.20	15.36	41.07	515.44
1191	6.61	6.61	14.71	40.60	515.39
1192	5.92	5.92	13.95	40.07	515.34
1193	5.27	5.27	13.24	39.53	515.29
1194	5.03	5.03	12.91	38.99	515.24
1195	5.02	5.02	12.80	38.44	515.18
1196	4.98	4.98	12.66	37.84	515.13
1197	4.94	4.94	12.52	37.25	515.07
1198	4.91	4.91	12.40	36.68	515.02
1199	4.91	4.91	12.30	36.05	514.96
1200	4.80	4.80	12.11	35.40	514.91
1201	4.82	4.82	12.04	34.77	514.85
1202	4.91	4.91	12.04	34.15	514.80
1203	4.91	4.91	11.94	33.51	514.74
1204	4.91	4.91	11.86	32.89	514.69
1205	4.89	4.89	11.76	32.28	514.63
1206	4.91	4.91	11.69	31.59	514.58
1207	4.91	4.91	11.61	30.76	514.52
1208	4.91	4.91	11.53	29.96	514.47
1209	4.91	4.91	11.46	29.20	514.41
1210	4.91	4.91	11.38	28.30	514.36
1211	4.91	4.91	11.30	27.40	514.30
1212	4.91	4.91	11.23	26.54	514.25

1213	4.91	4.91	11.16	25.73	514.20
1214	4.91	4.91	11.09	24.82	514.15
1215	4.91	4.91	11.02	23.97	514.10
1216	4.80	4.80	10.85	23.16	514.05
1217	4.82	4.82	10.80	22.39	514.01
1218	4.91	4.91	10.82	21.57	513.96
1219	4.91	4.91	10.75	20.78	513.91
1220	4.91	4.91	10.69	20.05	513.87
1221	4.89	4.89	10.61	19.37	513.83
1222	4.91	4.91	10.56	18.71	513.79
1223	4.91	4.91	10.50	18.05	513.75
1224	4.91	4.91	10.44	17.43	513.72
1225	4.60	4.60	10.09	16.85	513.68
1226	4.17	4.17	9.62	16.28	513.65
1227	3.74	3.74	9.15	15.72	513.62
1228	3.34	3.34	8.72	15.14	513.58
1229	3.04	3.04	8.37	14.54	513.54
1230	2.85	2.85	8.13	13.96	513.51
1231	2.81	2.81	8.04	13.42	513.47
1232	2.74	2.74	7.92	12.93	513.44
1233	2.70	2.70	7.83	12.46	513.41
1234	2.66	2.66	7.73	12.01	513.38
1235	2.66	2.66	7.68	11.58	513.35
1236	2.66	2.66	7.63	11.18	513.33
1237	2.66	2.66	7.58	10.82	513.30
1238	2.66	2.66	7.53	10.48	513.28
1239	2.66	2.66	7.49	10.18	513.26
1240	2.66	2.66	7.44	9.91	513.24
1241	2.66	2.66	7.39	9.65	513.22
1242	2.66	2.66	7.35	9.42	513.21
1243	2.66	2.66	7.30	9.00	513.19
1244	2.66	2.66	7.26	8.38	513.18
1245	2.66	2.66	7.21	7.97	513.17
1246	2.66	2.66	7.17	7.69	513.17
1247	2.66	2.66	7.13	7.49	513.16
1248	2.66	2.66	7.09	7.35	513.16
1249	2.66	2.66	7.05	7.25	513.16
1250	2.66	2.66	7.01	7.17	513.15
1251	2.66	2.66	6.97	7.10	513.15
1252	2.66	2.66	6.93	7.05	513.15
1253	2.66	2.66	6.89	7.00	513.15
1254	2.66	2.66	6.85	6.95	513.15
1255	2.66	2.66	6.81	6.91	513.15
1256	2.66	2.66	6.77	6.87	513.15

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1257	2.66	2.66	6.74	6.83	513.15

1258	2.66	2.66	6.70	6.79	513.15
1259	2.66	2.66	6.67	6.75	513.15
1260	2.66	2.66	6.63	6.71	513.14
1261	2.60	2.60	6.54	6.67	513.14
1262	2.61	2.61	6.52	6.62	513.14
1263	2.65	2.65	6.52	6.58	513.14
1264	2.66	2.66	6.50	6.56	513.14
1265	2.66	2.66	6.46	6.53	513.14
1266	2.64	2.64	6.42	6.50	513.14
1267	2.66	2.66	6.40	6.46	513.14
1268	2.66	2.66	6.37	6.43	513.14
1269	2.66	2.66	6.34	6.40	513.14
1270	2.66	2.66	6.31	6.37	513.14
1271	2.66	2.66	6.27	6.34	513.14
1272	2.66	2.66	6.24	6.31	513.14
1273	2.66	2.66	6.22	6.28	513.14
1274	2.66	2.66	6.19	6.25	513.13
1275	2.66	2.66	6.16	6.22	513.13
1276	2.66	2.66	6.13	6.19	513.13
1277	2.66	2.66	6.10	6.17	513.13
1278	2.66	2.66	6.07	6.14	513.13
1279	2.66	2.66	6.05	6.11	513.13
1280	2.66	2.66	6.02	6.08	513.13
1281	2.66	2.66	5.99	6.05	513.13
1282	2.66	2.66	5.97	6.03	513.13
1283	2.66	2.66	5.94	6.00	513.13
1284	2.66	2.66	5.91	5.97	513.13
1285	2.66	2.66	5.89	5.95	513.13
1286	2.66	2.66	5.86	5.92	513.13
1287	2.66	2.66	5.84	5.90	513.13
1288	2.66	2.66	5.82	5.87	513.13
1289	2.66	2.66	5.79	5.85	513.13
1290	2.66	2.66	5.77	5.82	513.13
1291	2.66	2.66	5.74	5.80	513.12
1292	2.66	2.66	5.72	5.77	513.12
1293	2.66	2.66	5.70	5.75	513.12
1294	2.66	2.66	5.67	5.73	513.12
1295	2.66	2.66	5.65	5.70	513.12
1296	2.66	2.66	5.63	5.68	513.12
1297	2.60	2.60	5.56	5.65	513.12
1298	2.45	2.45	5.38	5.58	513.12
1299	2.24	2.24	5.16	5.47	513.12
1300	2.09	2.09	4.99	5.33	513.11
1310	1.79	1.79	4.50	4.79	513.10
1320	1.81	1.81	4.34	4.44	513.10
1330	1.84	1.84	4.21	4.28	513.09
1340	1.79	1.79	4.02	4.13	513.09
1350	1.81	1.81	3.90	3.97	513.09
1360	1.79	1.79	3.77	3.84	513.08
1370	1.81	1.81	3.67	3.73	513.08
1380	1.84	1.84	3.60	3.64	513.08
1390	1.79	1.79	3.47	3.55	513.08
1400	1.81	1.81	3.40	3.44	513.07
1420	1.81	1.81	3.25	3.33	513.07
1440	1.80	1.80	3.12	3.19	513.07
1460	1.47	1.47	2.68	2.92	513.06

1500 1.47 1.47 2.50 2.60 513.06

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Hydrograph Printouts

Stage - Storage - Discharge Curve for Reservoir at 76D

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
513.00	0.000	0.00
513.20	0.029	9.29
513.40	0.067	12.24
513.60	0.113	15.44
513.80	0.168	18.82
514.00	0.231	22.28
514.20	0.305	25.72
514.40	0.388	29.01
514.60	0.482	31.91
514.80	0.587	34.14
515.00	0.703	36.46
515.20	0.830	38.63
515.40	0.969	40.70
515.60	1.122	42.66
515.80	1.287	44.54
516.00	1.465	46.34
516.20	1.655	48.07
516.40	1.855	49.74
516.60	2.064	51.36
516.80	2.284	52.93
517.00	2.513	54.45
517.20	2.751	55.93
517.40	2.994	58.36
517.60	3.244	67.69
517.80	3.501	81.13
518.00	3.763	97.54
518.20	4.031	116.41
518.40	4.300	137.45
518.60	4.573	160.42
518.80	4.847	181.73
519.00	5.125	185.21
519.20	5.405	188.63
519.40	5.686	191.98
519.60	5.970	195.28
519.80	6.255	198.52
520.00	6.542	201.71
520.20	6.831	204.85
520.40	7.122	207.94
520.60	7.415	210.99
520.80	7.710	213.99
521.00	8.006	216.95
521.20	8.305	219.87
521.40	8.606	222.76
521.60	8.909	225.60

521.80	9.214	228.42
522.00	9.520	231.19

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 77D

DESCRIPTION: WEST HITCH RANCH (NORTH HILLS PKWY LOCAL DRAINS DIRECTLY TO BASIN 2B) - DID NOT FATTEN, REDUCES VOLUME
TOTAL AREA TO HYDROGRAPH: 9 acres
HYDROGRAPH PEAK: 22 cfs
TIME OF PEAK: 1153 minutes
HYDROGRAPH VOLUME: 2.15 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	0.44	200	0.44	300	0.44	400	0.44
500	0.44	600	0.50	700	0.70	800	0.70	900	0.93
1000	1.33	1050	1.90	1100	2.94	1110	5.50	1120	7.09
1130	6.98	1131	6.91	1132	6.87	1133	6.79	1134	6.76
1135	6.73	1136	6.65	1137	6.62	1138	6.54	1139	6.59
1140	6.54	1141	6.68	1142	6.77	1143	6.86	1144	7.00
1145	7.60	1146	8.19	1147	8.73	1148	9.36	1149	11.90
1150	14.43	1151	17.02	1152	19.64	1153	21.72	1154	21.72
1155	21.26	1156	20.66	1157	17.91	1158	15.26	1159	12.63
1160	10.03	1161	7.46	1162	6.96	1163	6.91	1164	6.96
1165	6.54	1166	6.08	1167	5.61	1168	5.10	1169	4.59
1170	4.10	1171	3.57	1172	3.04	1173	3.09	1174	3.09
1175	3.04	1176	3.04	1177	2.95	1178	2.80	1179	2.66
1180	2.56	1181	2.42	1182	2.28	1183	2.18	1184	2.09
1185	2.04	1186	2.04	1187	2.09	1188	2.04	1189	1.90
1190	1.85	1191	1.70	1192	1.56	1193	1.51	1194	1.44
1195	1.39	1196	1.34	1197	1.34	1198	1.32	1199	1.32
1200	1.32	1201	1.34	1202	1.34	1203	1.32	1204	1.32
1205	1.32	1206	1.34	1207	1.34	1208	1.34	1209	1.32
1210	1.32	1211	1.34	1212	1.34	1213	1.34	1214	1.32
1215	1.32	1216	1.32	1217	1.34	1218	1.34	1219	1.32
1220	1.32	1221	1.32	1222	1.34	1223	1.34	1224	1.34
1225	1.25	1226	1.18	1227	1.09	1228	1.02	1229	0.95
1230	0.86	1231	0.79	1232	0.70	1233	0.70	1234	0.70
1235	0.72	1236	0.72	1237	0.70	1238	0.70	1239	0.70
1240	0.72	1241	0.72	1242	0.70	1243	0.70	1244	0.70
1245	0.72	1246	0.72	1247	0.70	1248	0.70	1249	0.70
1250	0.72	1251	0.72	1252	0.70	1253	0.70	1254	0.70
1255	0.72	1256	0.72	1257	0.70	1258	0.70	1259	0.70
1260	0.72	1261	0.70	1262	0.70	1263	0.70	1264	0.70
1265	0.72	1266	0.70	1267	0.70	1268	0.70	1269	0.72
1270	0.72	1271	0.70	1272	0.70	1273	0.70	1274	0.72
1275	0.72	1276	0.70	1277	0.70	1278	0.70	1279	0.72

1280	0.72	1281	0.70	1282	0.70	1283	0.70	1284	0.72
1285	0.72	1286	0.70	1287	0.70	1288	0.70	1289	0.72
1290	0.72	1291	0.70	1292	0.70	1293	0.70	1294	0.72
1295	0.72	1296	0.70	1297	0.67	1298	0.63	1299	0.60
1300	0.58	1310	0.43	1320	0.44	1330	0.44	1340	0.43
1350	0.44	1360	0.43	1370	0.44	1380	0.44	1390	0.43
1400	0.44	1420	0.44	1440	0.44	1460	0.00	1500	0.00

HYDROGRAPH FATTENED AT 79B

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**********************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):    316.86         VOLUME (acre-ft):     30.21      *
*      NO HYDROGRAPH ADJUSTMENT                                                    *
*      RUNOFF FACTOR(in):   1.80                                                   *
*      FATTENED HYDROGRAPH  PEAK (cfs):    316.86         VOLUME (acre-ft):     51.88      *
**********************************************************************************
```

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)	TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)
0	0.00	0.00	0.00	100	3.41	3.41	3.84
200	3.41	3.41	4.45	300	3.41	3.41	4.69
400	3.40	3.40	4.99	500	3.41	3.41	5.45
600	3.80	3.80	6.51	700	5.09	5.09	8.84
800	5.24	5.24	10.80	900	6.63	6.63	15.66
1000	9.32	9.32	26.40	1050	12.91	12.91	38.60
1100	24.52	24.52	66.30	1110	53.04	53.04	95.65
1120	83.49	83.49	126.39	1130	99.38	99.38	145.25

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)	TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)
1131	100.37	100.37	146.68	1132	101.76	101.76	148.43
1133	102.71	102.71	149.85	1134	103.98	103.98	151.52
1135	105.20	105.20	153.16	1136	106.00	106.00	154.48
1137	107.53	107.53	156.37	1138	108.60	108.60	157.92
1139	110.22	110.22	159.89	1140	111.59	111.59	161.68
1141	114.28	114.28	164.47	1142	117.12	117.12	167.36
1143	120.07	120.07	170.33	1144	123.27	123.27	173.48
1145	130.65	130.65	179.70	1146	137.84	137.84	185.73
1147	145.04	145.04	191.73	1148	153.48	153.48	198.58
1149	177.86	177.86	216.85	1150	202.59	202.59	235.16
1151	228.59	228.59	254.15	1152	258.73	258.73	275.84
1153	291.72	291.72	299.24	1154	310.16	310.16	312.19
1155	316.59	316.59	316.67	1156	316.86	316.86	316.86
1157	310.95	310.95	312.78	1158	300.91	300.91	305.77
1159	283.44	283.44	293.46	1160	270.29	270.29	284.04

1161	259.09	259.09	275.88	1162	248.81	248.81	268.29
1163	239.12	239.12	261.03	1164	233.94	233.94	256.97
1165	225.63	225.63	250.59	1166	218.61	218.61	245.08
1167	212.24	212.24	240.02	1168	205.21	205.21	234.42
1169	198.50	198.50	229.02	1170	193.04	193.04	224.51
1171	190.19	190.19	221.92	1172	187.99	187.99	219.81
1173	185.96	185.96	217.83	1174	183.88	183.88	215.81
1175	182.82	182.82	214.55	1176	181.05	181.05	212.75
1177	178.15	178.15	210.08	1178	174.87	174.87	207.11
1179	170.46	170.46	203.25	1180	166.19	166.19	199.48
1181	161.57	161.57	195.43	1182	156.28	156.28	190.83
1183	150.86	150.86	186.09	1184	145.44	145.44	181.35
1185	139.77	139.77	176.38	1186	134.00	134.00	171.31
1187	128.36	128.36	166.33	1188	122.70	122.70	161.31
1189	116.91	116.91	156.17	1190	111.50	111.50	151.31
1191	106.18	106.18	146.51	1192	101.06	101.06	141.85
1193	96.07	96.07	137.29	1194	91.34	91.34	132.92
1195	87.08	87.08	128.93	1196	82.86	82.86	124.95
1197	78.89	78.89	121.18	1198	75.21	75.21	117.64
1199	71.83	71.83	114.34	1200	68.61	68.61	111.17
1201	65.68	65.68	108.23	1202	62.85	62.85	105.37
1203	60.23	60.23	102.69	1204	57.81	57.81	100.17
1205	55.50	55.50	97.75	1206	53.43	53.43	95.52
1207	51.27	51.27	93.23	1208	49.22	49.22	91.02
1209	47.28	47.28	88.91	1210	45.49	45.49	86.93
1211	43.95	43.95	85.16	1212	42.34	42.34	83.33
1213	40.80	40.80	81.57	1214	39.35	39.35	79.88
1215	37.96	37.96	78.26	1216	36.60	36.60	76.66
1217	35.40	35.40	75.19	1218	34.16	34.16	73.70
1219	33.00	33.00	72.28	1220	31.89	31.89	70.91
1221	30.78	30.78	69.54	1222	29.87	29.87	68.34
1223	28.94	28.94	67.14	1224	28.15	28.15	66.06
1225	27.08	27.08	64.74	1226	26.02	26.02	63.43
1227	24.83	24.83	62.01	1228	23.76	23.76	60.70
1229	22.72	22.72	59.41	1230	21.70	21.70	58.15
1231	20.83	20.83	57.03	1232	19.88	19.88	55.84
1233	19.15	19.15	54.84	1234	18.40	18.40	53.83
1235	17.78	17.78	52.94	1236	17.18	17.18	52.07
1237	16.53	16.53	51.16	1238	16.05	16.05	50.40
1239	15.56	15.56	49.64	1240	15.08	15.08	48.89
1241	14.63	14.63	48.17	1242	14.12	14.12	47.40
1243	13.76	13.76	46.77	1244	13.39	13.39	46.13
1245	13.02	13.02	45.50	1246	12.67	12.67	44.89
1247	12.27	12.27	44.23	1248	12.00	12.00	43.71
1249	11.73	11.73	43.17	1250	11.45	11.45	42.64
1251	11.22	11.22	42.15	1252	10.95	10.95	41.63
1253	10.81	10.81	41.23	1254	10.65	10.65	40.82
1255	10.47	10.47	40.40	1256	10.30	10.30	39.98
1257	10.06	10.06	39.51	1258	9.96	9.96	39.15
1259	9.83	9.83	38.79	1260	9.68	9.68	38.40
1261	9.42	9.42	37.93	1262	9.32	9.32	37.59
1263	9.23	9.23	37.27	1264	9.12	9.12	36.94
1265	8.99	8.99	36.58	1266	8.75	8.75	36.14
1267	8.72	8.72	35.88	1268	8.62	8.62	35.57
1269	8.51	8.51	35.24	1270	8.40	8.40	34.92
1271	8.22	8.22	34.54	1272	8.16	8.16	34.28

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)	TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)
1273	8.08	8.08	33.99	1274	7.99	7.99	33.70
1275	7.89	7.89	33.40	1276	7.73	7.73	33.05
1277	7.69	7.69	32.81	1278	7.62	7.62	32.55
1279	7.54	7.54	32.28	1280	7.46	7.46	32.01
1281	7.30	7.30	31.68	1282	7.27	7.27	31.47
1283	7.22	7.22	31.23	1284	7.15	7.15	30.98
1285	7.08	7.08	30.73	1286	6.94	6.94	30.42
1287	6.92	6.92	30.23	1288	6.89	6.89	30.02
1289	6.83	6.83	29.79	1290	6.77	6.77	29.56
1291	6.63	6.63	29.27	1292	6.63	6.63	29.10
1293	6.60	6.60	28.90	1294	6.55	6.55	28.69
1295	6.50	6.50	28.48	1296	6.38	6.38	28.21
1297	6.27	6.27	27.95	1298	6.03	6.03	27.58
1299	5.78	5.78	27.18	1300	5.63	5.63	26.90
1310	4.56	4.56	24.44	1320	4.23	4.23	22.84
1330	4.02	4.02	21.47	1340	3.79	3.79	20.20
1350	3.77	3.77	19.21	1360	3.59	3.59	18.18
1370	3.61	3.61	17.40	1380	3.56	3.56	16.62
1390	3.44	3.44	15.84	1400	3.50	3.50	15.28
1420	3.43	3.43	14.12	1440	3.41	3.41	13.17
1460	1.43	1.43	10.44	1500	1.43	1.43	9.10

RESERVOIR ROUTING AT 80B

DESCRIPTION: Basin 2B

```
**********************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):    384.01         VOLUME (acre-ft):     66.35      *
*      NO HYDROGRAPH ADJUSTMENT                                                   *
*      NO HYDROGRAPH FATTENING                                                    *
*      RESERVOIR INFLOW:    PEAK (cfs):    384.01 @ 1156  VOLUME (acre-ft):     66.35      *
*      MAXIMUM ELEVATION:   STAGE (ft):    507.80 @ 1185  VOLUME (acre-ft):     20.82      *
*      EMERGENCY SPILLWAY:   ELEV (ft):    508.90         VOLUME (acre-ft):     24.72      *
*          DIFFERENCE:   IN STAGE (ft):     -1.10      IN VOLUME (acre-ft):      3.90      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     15.8%      *
*      TOP OF DAM:           ELEV (ft):    513.40         VOLUME (acre-ft):     43.20      *
*          DIFFERENCE    IN STAGE (ft):     -5.60      IN VOLUME (acre-ft):     22.38      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     51.8%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):    219.94 @ 1185  VOLUME (acre-ft):     54.74      *
**********************************************************************************
```

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)

0	0.00	0.00	0.00	498.00
100	5.19	5.19	1.95	498.43
200	6.78	6.78	5.75	498.79
300	7.09	7.09	6.85	498.87
400	7.42	7.42	7.20	498.90
500	7.94	7.94	7.60	498.93
600	9.23	9.23	8.39	498.99
700	12.30	12.30	10.29	499.13
800	14.78	14.78	12.69	499.33
900	20.58	20.58	15.83	499.62
1000	33.62	33.62	20.56	500.22
1050	49.55	49.55	24.78	500.87
1100	83.04	83.04	30.61	501.99
1110	118.97	118.97	32.46	502.39
1120	159.55	159.55	35.02	502.99
1130	184.51	184.51	37.99	503.74
1131	186.37	186.37	38.30	503.82
1132	188.43	188.43	38.61	503.90
1133	190.12	190.12	38.92	503.98
1134	192.05	192.05	39.22	504.06
1135	193.93	193.93	39.51	504.14
1136	195.49	195.49	39.81	504.22
1137	197.58	197.58	40.11	504.31
1138	199.32	199.32	40.41	504.39
1139	201.48	201.48	40.70	504.47

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1140	203.48	203.48	40.99	504.55
1141	206.50	206.50	41.28	504.63
1142	209.67	209.67	41.57	504.72
1143	212.98	212.98	41.87	504.80
1144	216.49	216.49	42.15	504.89
1145	223.15	223.15	42.45	504.97
1146	229.87	229.87	42.75	505.06
1147	236.78	236.78	43.06	505.15
1148	244.66	244.66	43.37	505.25
1149	264.35	264.35	43.70	505.35
1150	285.20	285.20	44.06	505.45
1151	307.69	307.69	44.45	505.57
1152	333.20	333.20	44.86	505.70
1153	360.50	360.50	45.30	505.84
1154	376.69	376.69	45.77	505.99
1155	383.03	383.03	50.38	506.13
1156	384.01	384.01	55.41	506.28
1157	379.88	379.88	61.48	506.42
1158	371.58	371.58	72.55	506.56

1159	357.26	357.26	82.83	506.68
1160	345.71	345.71	92.30	506.80
1161	335.36	335.36	103.53	506.90
1162	325.73	325.73	113.87	506.99
1163	317.29	317.29	123.33	507.08
1164	312.86	312.86	132.06	507.16
1165	306.36	306.36	140.71	507.23
1166	300.59	300.59	149.33	507.30
1167	295.06	295.06	157.19	507.36
1168	288.91	288.91	164.33	507.41
1169	282.89	282.89	170.76	507.46
1170	277.75	277.75	176.56	507.50
1171	274.48	274.48	181.83	507.54
1172	271.64	271.64	186.66	507.58
1173	268.90	268.90	191.26	507.61
1174	266.31	266.31	195.74	507.64
1175	264.70	264.70	199.84	507.67
1176	262.57	262.57	203.59	507.69
1177	259.57	259.57	206.97	507.72
1178	256.23	256.23	209.96	507.74
1179	251.92	251.92	212.55	507.75
1180	247.68	247.68	214.74	507.77
1181	243.14	243.14	216.54	507.78
1182	238.05	238.05	217.95	507.79
1183	232.79	232.79	218.98	507.80
1184	227.51	227.51	219.63	507.80
1185	222.02	222.02	219.94	507.80
1186	216.46	216.46	219.90	507.80
1187	211.01	211.01	219.53	507.80
1188	205.54	205.54	218.87	507.79
1189	199.95	199.95	217.93	507.79
1190	194.58	194.58	216.71	507.78
1191	189.23	189.23	215.25	507.77
1192	183.99	183.99	213.57	507.76
1193	178.78	178.78	211.68	507.75
1194	173.77	173.77	209.60	507.73
1195	169.14	169.14	207.36	507.72
1196	164.52	164.52	204.98	507.70
1197	160.10	160.10	202.47	507.69
1198	155.94	155.94	199.86	507.67
1199	152.01	152.01	197.17	507.65
1200	148.19	148.19	194.40	507.63
1201	144.60	144.60	191.58	507.61
1202	141.12	141.12	188.80	507.59
1203	137.82	137.82	186.19	507.57
1204	134.67	134.67	183.54	507.55
1205	131.62	131.62	180.87	507.53
1206	128.74	128.74	178.19	507.51
1207	125.68	125.68	175.49	507.49
1208	122.67	122.67	172.78	507.47
1209	119.78	119.78	170.05	507.45
1210	116.96	116.96	167.31	507.43

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1211	114.29	114.29	164.58	507.41
1212	111.58	111.58	161.84	507.39
1213	109.00	109.00	159.11	507.37
1214	106.46	106.46	156.39	507.35
1215	103.95	103.95	153.68	507.33
1216	101.51	101.51	150.99	507.31
1217	99.26	99.26	148.31	507.29
1218	96.98	96.98	145.65	507.27
1219	94.76	94.76	143.02	507.25
1220	92.63	92.63	140.40	507.23
1221	90.55	90.55	137.82	507.21
1222	88.68	88.68	135.47	507.19
1223	86.83	86.83	133.29	507.17
1224	85.13	85.13	131.14	507.15
1225	83.21	83.21	129.00	507.13
1226	81.31	81.31	126.87	507.11
1227	79.28	79.28	124.75	507.09
1228	77.32	77.32	122.63	507.07
1229	75.37	75.37	120.52	507.05
1230	73.45	73.45	118.42	507.03
1231	71.70	71.70	116.33	507.02
1232	69.93	69.93	114.26	507.00
1233	68.39	68.39	112.21	506.98
1234	66.87	66.87	110.18	506.96
1235	65.48	65.48	108.17	506.94
1236	64.18	64.18	106.20	506.92
1237	62.89	62.89	104.25	506.91
1238	61.77	61.77	102.34	506.89
1239	60.69	60.69	100.47	506.87
1240	59.65	59.65	98.64	506.86
1241	58.66	58.66	96.84	506.84
1242	57.66	57.66	95.08	506.82
1243	56.70	56.70	93.35	506.81
1244	55.58	55.58	91.86	506.79
1245	54.42	54.42	90.56	506.78
1246	53.45	53.45	89.27	506.76
1247	52.55	52.55	87.99	506.74
1248	51.85	51.85	86.73	506.73
1249	51.19	51.19	85.49	506.71
1250	50.55	50.55	84.27	506.70
1251	50.00	50.00	83.07	506.69
1252	49.42	49.42	81.90	506.67
1253	48.97	48.97	80.74	506.66
1254	48.50	48.50	79.62	506.64
1255	48.03	48.03	78.51	506.63
1256	47.57	47.57	77.43	506.62
1257	47.07	47.07	76.37	506.60
1258	46.67	46.67	75.33	506.59
1259	46.26	46.26	74.31	506.58

1260	45.84	45.84	73.32	506.57
1261	45.32	45.32	72.34	506.56
1262	44.94	44.94	71.38	506.54
1263	44.58	44.58	70.44	506.53
1264	44.21	44.21	69.53	506.52
1265	43.83	43.83	68.63	506.51
1266	43.35	43.35	67.74	506.50
1267	43.06	43.06	66.88	506.49
1268	42.72	42.72	66.03	506.48
1269	42.36	42.36	65.21	506.47
1270	42.01	42.01	64.40	506.46
1271	41.61	41.61	63.60	506.45
1272	41.32	41.32	62.82	506.44
1273	41.00	41.00	62.06	506.43
1274	40.67	40.67	61.31	506.42
1275	40.35	40.35	60.58	506.41
1276	39.97	39.97	59.86	506.40
1277	39.70	39.70	59.34	506.40
1278	39.41	39.41	59.05	506.39
1279	39.11	39.11	58.75	506.38
1280	38.81	38.81	58.45	506.37
1281	38.46	38.46	58.15	506.36

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1282	38.22	38.22	57.85	506.35
1283	37.95	37.95	57.55	506.34
1284	37.67	37.67	57.25	506.33
1285	37.40	37.40	56.95	506.33
1286	37.07	37.07	56.66	506.32
1287	36.85	36.85	56.36	506.31
1288	36.61	36.61	56.06	506.30
1289	36.35	36.35	55.77	506.29
1290	36.10	36.10	55.47	506.28
1291	35.79	35.79	55.18	506.27
1292	35.60	35.60	54.88	506.27
1293	35.37	35.37	54.59	506.26
1294	35.14	35.14	54.30	506.25
1295	34.90	34.90	54.01	506.24
1296	34.61	34.61	53.72	506.23
1297	34.33	34.33	53.42	506.22
1298	33.90	33.90	53.13	506.21
1299	33.41	33.41	52.84	506.21
1300	32.97	32.97	52.54	506.20
1310	29.71	29.71	49.65	506.11
1320	27.75	27.75	46.76	506.03
1330	26.19	26.19	45.64	505.94
1340	24.79	24.79	45.35	505.85

1350	23.61	23.61	45.05	505.76
1360	22.48	22.48	44.73	505.66
1370	21.56	21.56	44.40	505.56
1380	20.73	20.73	44.04	505.45
1390	19.82	19.82	43.68	505.34
1400	19.17	19.17	43.31	505.23
1420	17.88	17.88	42.52	505.00
1440	16.81	16.81	41.71	504.76
1460	13.80	13.80	40.81	504.50
1500	12.14	12.14	38.80	503.95

Hydrograph Printouts

Stage - Storage - Discharge Curve for Reservoir at 80B

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
498.00	0.000	0.00
498.40	0.061	1.63
498.80	0.203	5.84
499.20	0.433	11.30
499.60	0.785	15.69
500.00	1.265	19.03
500.40	1.841	21.86
500.80	2.481	24.37
501.20	3.183	26.64
501.60	3.933	28.73
502.00	4.730	30.68
502.40	5.569	32.51
502.80	6.447	34.25
503.20	7.363	35.90
503.60	8.323	37.48
504.00	9.325	38.99
504.40	10.373	40.45
504.80	11.469	41.86
505.20	12.611	43.22
505.60	13.785	44.54
506.00	14.990	45.82
506.40	16.227	59.49
506.80	17.497	92.56
507.20	18.801	136.69
507.60	20.139	189.51
508.00	21.510	249.75
508.40	22.916	316.57
508.80	24.356	389.35
509.20	25.832	510.43
509.60	27.341	570.39
510.00	28.883	582.80
510.40	30.458	594.94
510.80	32.064	606.84
511.20	33.705	618.51
511.60	35.385	629.96

512.00	37.106	641.21
512.40	38.848	652.27
512.80	40.589	663.14
513.20	42.331	673.84
513.60	44.072	684.37
514.00	45.814	694.74

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 81C

DESCRIPTION: WEST HITCH RANCH - EAST OF BASIN 2, DRAINS DIRECTLY TO BASIN 2
TOTAL AREA TO HYDROGRAPH: 10 acres
HYDROGRAPH PEAK: 34 cfs
TIME OF PEAK: 1153 minutes
HYDROGRAPH VOLUME: 3.68 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	0.83	200	0.83	300	0.83	400	0.83
500	0.83	600	0.96	700	1.34	800	1.34	900	1.77
1000	2.61	1050	3.60	1100	4.91	1110	8.16	1120	10.21
1130	10.07	1131	9.94	1132	9.88	1133	9.75	1134	9.69
1135	9.63	1136	9.50	1137	9.58	1138	9.50	1139	9.58
1140	9.50	1141	9.66	1142	9.90	1143	10.05	1144	10.29
1145	11.32	1146	12.35	1147	13.14	1148	14.02	1149	18.48
1150	22.88	1151	26.49	1152	30.20	1153	33.90	1154	33.82
1155	29.32	1156	24.72	1157	20.00	1158	15.36	1159	10.85
1160	9.98	1161	9.90	1162	9.98	1163	10.13	1164	10.21
1165	9.34	1166	8.46	1167	7.67	1168	6.78	1169	5.89
1170	5.08	1171	5.08	1172	5.08	1173	5.08	1174	5.08
1175	5.08	1176	5.00	1177	4.84	1178	4.68	1179	4.36
1180	4.20	1181	4.04	1182	3.80	1183	3.80	1184	3.80
1185	3.80	1186	3.80	1187	3.80	1188	3.80	1189	3.56
1190	3.40	1191	3.24	1192	3.00	1193	2.76	1194	2.60
1195	2.68	1196	2.60	1197	2.60	1198	2.60	1199	2.60
1200	2.60	1201	2.60	1202	2.60	1203	2.60	1204	2.60
1205	2.60	1206	2.68	1207	2.60	1208	2.60	1209	2.60
1210	2.60	1211	2.68	1212	2.60	1213	2.60	1214	2.60
1215	2.60	1216	2.60	1217	2.60	1218	2.60	1219	2.60
1220	2.60	1221	2.60	1222	2.68	1223	2.60	1224	2.60
1225	2.36	1226	2.18	1227	1.94	1228	1.71	1229	1.53
1230	1.35	1231	1.35	1232	1.30	1233	1.35	1234	1.35
1235	1.35	1236	1.35	1237	1.30	1238	1.35	1239	1.35
1240	1.35	1241	1.35	1242	1.30	1243	1.35	1244	1.35
1245	1.35	1246	1.35	1247	1.30	1248	1.35	1249	1.35
1250	1.35	1251	1.35	1252	1.30	1253	1.35	1254	1.35
1255	1.35	1256	1.35	1257	1.30	1258	1.35	1259	1.35

1260	1.35	1261	1.30	1262	1.30	1263	1.35	1264	1.35
1265	1.35	1266	1.30	1267	1.35	1268	1.35	1269	1.35
1270	1.35	1271	1.30	1272	1.35	1273	1.35	1274	1.35
1275	1.35	1276	1.30	1277	1.35	1278	1.35	1279	1.35
1280	1.35	1281	1.30	1282	1.35	1283	1.35	1284	1.35
1285	1.35	1286	1.30	1287	1.35	1288	1.35	1289	1.35
1290	1.35	1291	1.30	1292	1.35	1293	1.35	1294	1.35
1295	1.35	1296	1.30	1297	1.30	1298	1.18	1299	1.06
1300	1.00	1310	0.81	1320	0.85	1330	0.85	1340	0.81
1350	0.85	1360	0.81	1370	0.85	1380	0.85	1390	0.81
1400	0.85	1420	0.83	1440	0.83	1460	0.00	1500	0.00

****
*   INCOMING HYDROGRAPH PEAK (cfs):   76.50   VOLUME (acre-ft):   5.72   *
*   NO HYDROGRAPH ADJUSTMENT   *
*   NO HYDROGRAPH FATTENING   *
****

TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)	TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)
0	0.00	0.00	100	1.18	1.18
200	1.18	1.18	300	1.18	1.18
400	1.17	1.17	500	1.18	1.18
600	1.35	1.35	700	1.89	1.89
800	1.89	1.89	900	2.50	2.50
1000	3.65	3.65	1050	4.94	4.94
1100	6.64	6.64	1110	14.40	14.40
1120	19.38	19.38	1130	19.03	19.03
1131	18.67	18.67	1132	18.52	18.52

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)	TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)
1133	18.16	18.16	1134	18.01	18.01
1135	17.86	17.86	1136	17.73	17.73
1137	17.81	17.81	1138	17.73	17.73
1139	17.81	17.81	1140	17.59	17.59
1141	18.15	18.15	1142	18.66	18.66
1143	19.22	19.22	1144	19.72	19.72
1145	22.49	22.49	1146	24.72	24.72
1147	26.69	26.69	1148	28.86	28.86
1149	39.71	39.71	1150	49.50	49.50
1151	58.53	58.53	1152	67.62	67.62
1153	76.50	76.50	1154	71.12	71.12
1155	60.18	60.18	1156	48.69	48.69

1157	37.01	37.01	1158	25.57	25.57
1159	19.61	19.61	1160	18.60	18.60
1161	18.66	18.66	1162	19.01	19.01
1163	19.30	19.30	1164	19.38	19.38
1165	17.04	17.04	1166	14.64	14.64
1167	12.42	12.42	1168	9.63	9.63
1169	7.65	7.65	1170	6.87	6.87
1171	6.87	6.87	1172	6.84	6.84
1173	6.87	6.87	1174	6.87	6.87
1175	6.85	6.85	1176	6.76	6.76
1177	6.55	6.55	1178	6.30	6.30
1179	5.89	5.89	1180	5.67	5.67
1181	5.46	5.46	1182	5.19	5.19
1183	5.19	5.19	1184	5.22	5.22
1185	5.19	5.19	1186	5.19	5.19
1187	5.22	5.22	1188	5.19	5.19
1189	4.86	4.86	1190	4.67	4.67
1191	4.42	4.42	1192	4.10	4.10
1193	3.80	3.80	1194	3.64	3.64
1195	3.72	3.72	1196	3.64	3.64
1197	3.64	3.64	1198	3.64	3.64
1199	3.64	3.64	1200	3.61	3.61
1201	3.64	3.64	1202	3.64	3.64
1203	3.64	3.64	1204	3.64	3.64
1205	3.64	3.64	1206	3.72	3.72
1207	3.64	3.64	1208	3.64	3.64
1209	3.64	3.64	1210	3.64	3.64
1211	3.72	3.72	1212	3.64	3.64
1213	3.64	3.64	1214	3.64	3.64
1215	3.64	3.64	1216	3.61	3.61
1217	3.64	3.64	1218	3.64	3.64
1219	3.64	3.64	1220	3.64	3.64
1221	3.64	3.64	1222	3.72	3.72
1223	3.64	3.64	1224	3.64	3.64
1225	3.31	3.31	1226	3.05	3.05
1227	2.67	2.67	1228	2.35	2.35
1229	2.08	2.08	1230	1.90	1.90
1231	1.90	1.90	1232	1.85	1.85
1233	1.90	1.90	1234	1.90	1.90
1235	1.90	1.90	1236	1.90	1.90
1237	1.85	1.85	1238	1.90	1.90
1239	1.90	1.90	1240	1.90	1.90
1241	1.90	1.90	1242	1.85	1.85
1243	1.90	1.90	1244	1.90	1.90
1245	1.90	1.90	1246	1.90	1.90
1247	1.85	1.85	1248	1.90	1.90
1249	1.90	1.90	1250	1.90	1.90
1251	1.90	1.90	1252	1.85	1.85
1253	1.90	1.90	1254	1.90	1.90
1255	1.90	1.90	1256	1.90	1.90
1257	1.85	1.85	1258	1.90	1.90
1259	1.90	1.90	1260	1.90	1.90
1261	1.82	1.82	1262	1.85	1.85
1263	1.90	1.90	1264	1.90	1.90
1265	1.90	1.90	1266	1.85	1.85
1267	1.90	1.90	1268	1.90	1.90

1269	1.90	1.90	1270	1.90	1.90
1271	1.85	1.85	1272	1.90	1.90
1273	1.90	1.90	1274	1.90	1.90

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)	TIME (min)	PRE-ADJ (cfs)	POST-ADJ (cfs)
1275	1.90	1.90	1276	1.85	1.85
1277	1.90	1.90	1278	1.90	1.90
1279	1.90	1.90	1280	1.90	1.90
1281	1.85	1.85	1282	1.90	1.90
1283	1.90	1.90	1284	1.90	1.90
1285	1.90	1.90	1286	1.85	1.85
1287	1.90	1.90	1288	1.90	1.90
1289	1.90	1.90	1290	1.90	1.90
1291	1.85	1.85	1292	1.90	1.90
1293	1.90	1.90	1294	1.90	1.90
1295	1.90	1.90	1296	1.85	1.85
1297	1.82	1.82	1298	1.64	1.64
1299	1.47	1.47	1300	1.38	1.38
1310	1.15	1.15	1320	1.20	1.20
1330	1.20	1.20	1340	1.15	1.15
1350	1.20	1.20	1360	1.15	1.15
1370	1.20	1.20	1380	1.20	1.20
1390	1.15	1.15	1400	1.20	1.20
1420	1.17	1.17	1440	1.17	1.17
1460	0.00	0.00	1500	0.00	0.00

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 84CD

DESCRIPTION: WEST HITCH RANCH - COMBINES WEST, EAST, AND LOCAL BASIN 2 SUBAREAS
TOTAL AREA TO HYDROGRAPH: 41 acres
HYDROGRAPH PEAK: 107 cfs
TIME OF PEAK: 1153 minutes
HYDROGRAPH VOLUME: 8.19 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)

0	0.00	100	1.67	200	1.67	300	1.67	400	1.66
500	1.67	600	1.91	700	2.68	800	2.69	900	3.55
1000	5.15	1050	6.87	1100	9.52	1110	20.88	1120	28.12
1130	27.62	1131	27.13	1132	26.93	1133	26.44	1134	26.24
1135	26.04	1136	25.77	1137	25.80	1138	25.72	1139	25.80
1140	25.59	1141	26.30	1142	26.95	1143	27.74	1144	28.39
1145	32.21	1146	35.29	1147	38.17	1148	41.12	1149	55.90
1150	69.57	1151	82.61	1152	94.91	1153	107.06	1154	101.68
1155	89.95	1156	74.34	1157	58.50	1158	42.94	1159	32.99
1160	27.95	1161	27.18	1162	27.45	1163	27.82	1164	28.05
1165	24.95	1166	21.72	1167	18.75	1168	15.14	1169	12.32
1170	10.77	1171	9.92	1172	9.89	1173	10.00	1174	9.92
1175	9.89	1176	9.81	1177	9.36	1178	8.96	1179	8.32
1180	7.91	1181	7.63	1182	7.27	1183	7.21	1184	7.24
1185	7.18	1186	7.21	1187	7.24	1188	7.18	1189	6.79
1190	6.55	1191	6.21	1192	5.82	1193	5.44	1194	5.19
1195	5.24	1196	5.16	1197	5.13	1198	5.13	1199	5.13
1200	5.10	1201	5.16	1202	5.13	1203	5.13	1204	5.13
1205	5.13	1206	5.24	1207	5.16	1208	5.13	1209	5.13
1210	5.13	1211	5.24	1212	5.16	1213	5.13	1214	5.13
1215	5.13	1216	5.10	1217	5.16	1218	5.13	1219	5.13
1220	5.13	1221	5.13	1222	5.24	1223	5.16	1224	5.13
1225	4.71	1226	4.36	1227	3.86	1228	3.45	1229	3.06
1230	2.80	1231	2.71	1232	2.62	1233	2.68	1234	2.71
1235	2.71	1236	2.71	1237	2.62	1238	2.68	1239	2.71
1240	2.71	1241	2.71	1242	2.62	1243	2.68	1244	2.71
1245	2.71	1246	2.71	1247	2.62	1248	2.68	1249	2.71
1250	2.71	1251	2.71	1252	2.62	1253	2.68	1254	2.71
1255	2.71	1256	2.71	1257	2.62	1258	2.68	1259	2.71
1260	2.71	1261	2.59	1262	2.62	1263	2.68	1264	2.71
1265	2.71	1266	2.62	1267	2.68	1268	2.71	1269	2.71
1270	2.71	1271	2.62	1272	2.68	1273	2.71	1274	2.71
1275	2.71	1276	2.62	1277	2.68	1278	2.71	1279	2.71
1280	2.71	1281	2.62	1282	2.68	1283	2.71	1284	2.71
1285	2.71	1286	2.62	1287	2.68	1288	2.71	1289	2.71
1290	2.71	1291	2.62	1292	2.68	1293	2.71	1294	2.71
1295	2.71	1296	2.62	1297	2.56	1298	2.36	1299	2.12
1300	2.00	1310	1.63	1320	1.70	1330	1.70	1340	1.63
1350	1.70	1360	1.63	1370	1.70	1380	1.70	1390	1.63
1400	1.70	1420	1.66	1440	1.66	1460	0.00	1500	0.00

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 85BC

DESCRIPTION: COMBINES OUTFLOW FROM BASIN 2B AND LOCAL BASIN 2/EAST AND WEST OF BASIN 2 SUBAREAS
TOTAL AREA TO HYDROGRAPH: 460 acres
HYDROGRAPH PEAK: 227 cfs
TIME OF PEAK: 1185 minutes

HYDROGRAPH VOLUME: 62.93 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	3.62	200	7.41	300	8.52	400	8.86
500	9.26	600	10.30	700	12.96	800	15.38	900	19.38
1000	25.71	1050	31.65	1100	40.13	1110	53.34	1120	63.14
1130	65.61	1131	65.43	1132	65.54	1133	65.36	1134	65.46
1135	65.55	1136	65.58	1137	65.91	1138	66.13	1139	66.50
1140	66.57	1141	67.57	1142	68.52	1143	69.61	1144	70.55
1145	74.66	1146	78.04	1147	81.23	1148	84.49	1149	99.60
1150	113.63	1151	127.06	1152	139.77	1153	152.36	1154	147.45
1155	140.33	1156	129.75	1157	119.98	1158	115.48	1159	115.83
1160	120.25	1161	130.71	1162	141.32	1163	151.15	1164	160.11
1165	165.67	1166	171.05	1167	175.94	1168	179.46	1169	183.08
1170	187.33	1171	191.75	1172	196.55	1173	201.26	1174	205.67
1175	209.74	1176	213.40	1177	216.33	1178	218.92	1179	220.87
1180	222.65	1181	224.17	1182	225.22	1183	226.19	1184	226.88
1185	227.12	1186	227.11	1187	226.77	1188	226.05	1189	224.72
1190	223.26	1191	221.46	1192	219.39	1193	217.12	1194	214.79
1195	212.60	1196	210.14	1197	207.60	1198	204.99	1199	202.29
1200	199.50	1201	196.74	1202	193.92	1203	191.31	1204	188.67
1205	186.00	1206	183.43	1207	180.65	1208	177.90	1209	175.17
1210	172.44	1211	169.81	1212	167.00	1213	164.24	1214	161.52
1215	158.81	1216	156.08	1217	153.46	1218	150.78	1219	148.14
1220	145.53	1221	142.95	1222	140.70	1223	138.45	1224	136.27
1225	133.71	1226	131.23	1227	128.61	1228	126.08	1229	123.59
1230	121.22	1231	119.04	1232	116.88	1233	114.89	1234	112.88
1235	110.88	1236	108.91	1237	106.87	1238	105.02	1239	103.18
1240	101.34	1241	99.55	1242	97.70	1243	96.03	1244	94.57
1245	93.27	1246	91.98	1247	90.61	1248	89.41	1249	88.20
1250	86.98	1251	85.78	1252	84.52	1253	83.42	1254	82.33
1255	81.22	1256	80.14	1257	78.99	1258	78.01	1259	77.02
1260	76.03	1261	74.93	1262	74.00	1263	73.12	1264	72.23
1265	71.34	1266	70.36	1267	69.56	1268	68.74	1269	67.92
1270	67.10	1271	66.22	1272	65.50	1273	64.77	1274	64.02
1275	63.28	1276	62.48	1277	62.02	1278	61.75	1279	61.46
1280	61.16	1281	60.77	1282	60.53	1283	60.26	1284	59.96
1285	59.66	1286	59.28	1287	59.04	1288	58.77	1289	58.48
1290	58.18	1291	57.80	1292	57.56	1293	57.30	1294	57.01
1295	56.71	1296	56.34	1297	55.99	1298	55.49	1299	54.96
1300	54.54	1310	51.27	1320	48.45	1330	47.33	1340	46.97
1350	46.74	1360	46.36	1370	46.09	1380	45.74	1390	45.30
1400	45.01	1420	44.19	1440	43.37	1460	40.81	1500	38.80

RESERVOIR ROUTING AT 86B

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**********************************************************************************
*      INCOMING HYDROGRAPH  PEAK (cfs):    227.11         VOLUME (acre-ft):     62.92      *
*      NO HYDROGRAPH ADJUSTMENT                                                  *
*      NO HYDROGRAPH FATTENING                                                   *
*      RESERVOIR INFLOW:    PEAK (cfs):    227.11 @ 1186  VOLUME (acre-ft):     62.92      *
*      MAXIMUM ELEVATION:   STAGE (ft):    479.17 @ 1205  VOLUME (acre-ft):     11.50      *
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*      EMERGENCY SPILLWAY:   ELEV (ft):    480.34         VOLUME (acre-ft):     14.57      *
*          DIFFERENCE:   IN STAGE (ft):     -1.17      IN VOLUME (acre-ft):      3.07      *
*          NO SPILL EXPECTED.       PERCNT OF VOLUME REMAINING TO SPILLWAY:     21.0%      *
*      TOP OF DAM:           ELEV (ft):    484.84         VOLUME (acre-ft):     27.86      *
*          DIFFERENCE    IN STAGE (ft):     -5.67      IN VOLUME (acre-ft):     16.35      *
*          NO OVERTOP EXPECTED.   PERCNT OF VOLUME REMAINING TO TOP OF DAM:     58.7%      *
*      RESERVOIR OUTFLOW:   PEAK (cfs):    185.96 @ 1205  VOLUME (acre-ft):     56.17      *
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Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
0	0.00	0.00	0.00	471.00
100	3.62	3.62	0.37	471.32
200	7.39	7.39	1.92	472.19
300	8.53	8.53	3.17	473.11
400	8.84	8.84	7.21	473.55
500	9.27	9.27	8.60	473.68
600	10.28	10.28	9.41	473.74
700	12.96	12.96	10.84	473.84
800	15.36	15.36	13.24	474.01
900	19.37	19.37	16.15	474.19
1000	25.68	25.68	20.73	474.46
1050	31.63	31.63	25.06	474.69
1100	40.08	40.08	30.82	474.99
1110	52.93	52.93	33.03	475.11
1120	63.09	63.09	36.39	475.32
1130	65.49	65.49	39.79	475.57
1131	65.54	65.54	40.09	475.59
1132	65.46	65.46	40.38	475.61
1133	65.45	65.45	40.67	475.64
1134	65.39	65.39	40.96	475.66
1135	65.56	65.56	41.24	475.68
1136	65.56	65.56	41.53	475.71
1137	65.84	65.84	41.81	475.73
1138	66.10	66.10	42.09	475.75
1139	66.41	66.41	42.37	475.77
1140	66.58	66.58	42.64	475.80
1141	67.31	67.31	42.90	475.82
1142	68.37	68.37	43.15	475.84
1143	69.35	69.35	43.41	475.86
1144	70.39	70.39	43.67	475.89
1145	73.64	73.64	43.96	475.91
1146	77.52	77.52	44.28	475.94
1147	80.50	80.50	44.63	475.97
1148	83.91	83.91	45.01	476.00
1149	96.05	96.05	45.46	476.04
1150	111.47	111.47	46.05	476.10
1151	124.28	124.28	46.68	476.16

1152	137.69	137.69	47.41	476.23
1153	149.91	149.91	48.25	476.31
1154	149.31	149.31	49.14	476.39
1155	141.07	141.07	49.88	476.47
1156	132.25	132.25	50.54	476.54
1157	121.36	121.36	51.12	476.60
1158	116.35	116.35	51.64	476.65
1159	115.50	115.50	52.13	476.70
1160	119.41	119.41	52.58	476.75
1161	128.50	128.50	53.06	476.81
1162	139.57	139.57	53.62	476.87
1163	149.27	149.27	54.24	476.93
1164	158.59	158.59	54.91	477.01
1165	164.75	164.75	55.56	477.08
1166	170.02	170.02	56.24	477.16
1167	175.10	175.10	56.95	477.24
1168	178.84	178.84	57.66	477.32
1169	182.38	182.38	58.33	477.41
1170	186.52	186.52	59.03	477.49
1171	190.93	190.93	59.75	477.58
1172	195.61	195.61	60.61	477.66
1173	200.39	200.39	61.54	477.75
1174	204.79	204.79	62.50	477.84
1175	208.96	208.96	64.71	477.93
1176	212.64	212.64	69.66	478.01
1177	215.75	215.75	74.57	478.10
1178	218.37	218.37	79.40	478.18
1179	220.49	220.49	85.94	478.26
1180	222.25	222.25	92.67	478.34
1181	223.87	223.87	99.14	478.42
1182	225.00	225.00	105.36	478.49
1183	225.97	225.97	112.29	478.55
1184	226.74	226.74	119.08	478.62
1185	227.08	227.08	125.49	478.68

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1186	227.11	227.11	131.53	478.73
1187	226.87	226.87	137.21	478.78
1188	226.23	226.23	142.95	478.83
1189	225.05	225.05	148.47	478.88
1190	223.55	223.55	153.52	478.92
1191	221.87	221.87	158.14	478.95
1192	219.83	219.83	162.32	478.99
1193	217.61	217.61	166.08	479.02
1194	215.27	215.27	169.44	479.04
1195	213.05	213.05	172.42	479.07
1196	210.65	210.65	175.05	479.09

1197	208.10	208.10	177.40	479.11
1198	205.50	205.50	179.55	479.12
1199	202.82	202.82	181.35	479.13
1200	200.04	200.04	182.81	479.14
1201	197.25	197.25	183.97	479.15
1202	194.47	194.47	184.84	479.16
1203	191.79	191.79	185.44	479.16
1204	189.17	189.17	185.81	479.16
1205	186.49	186.49	185.96	479.17
1206	183.91	183.91	185.90	479.17
1207	181.17	181.17	185.66	479.16
1208	178.40	178.40	185.23	479.16
1209	175.68	175.68	184.63	479.16
1210	172.94	172.94	183.88	479.15
1211	170.29	170.29	182.98	479.14
1212	167.52	167.52	181.95	479.14
1213	164.73	164.73	180.80	479.13
1214	162.02	162.02	179.53	479.12
1215	159.30	159.30	178.15	479.11
1216	156.58	156.58	176.68	479.10
1217	153.93	153.93	175.25	479.09
1218	151.27	151.27	173.74	479.08
1219	148.61	148.61	172.15	479.06
1220	146.01	146.01	170.49	479.05
1221	143.41	143.41	168.77	479.04
1222	141.10	141.10	167.01	479.02
1223	138.87	138.87	165.20	479.01
1224	136.66	136.66	163.37	478.99
1225	134.20	134.20	161.51	478.98
1226	131.66	131.66	159.60	478.96
1227	129.11	129.11	157.65	478.95
1228	126.52	126.52	155.66	478.93
1229	124.06	124.06	153.64	478.92
1230	121.65	121.65	151.59	478.90
1231	119.45	119.45	149.52	478.88
1232	117.28	117.28	147.44	478.87
1233	115.25	115.25	145.36	478.85
1234	113.26	113.26	143.28	478.83
1235	111.25	111.25	141.21	478.82
1236	109.28	109.28	139.15	478.80
1237	107.26	107.26	137.30	478.78
1238	105.36	105.36	135.45	478.77
1239	103.54	103.54	133.61	478.75
1240	101.69	101.69	131.77	478.73
1241	99.89	99.89	129.92	478.72
1242	98.05	98.05	128.08	478.70
1243	96.34	96.34	126.25	478.68
1244	94.85	94.85	124.42	478.67
1245	93.52	93.52	122.62	478.65
1246	92.23	92.23	120.85	478.63
1247	90.88	90.88	119.11	478.62
1248	89.63	89.63	117.40	478.60
1249	88.44	88.44	115.71	478.59
1250	87.21	87.21	114.05	478.57
1251	86.02	86.02	112.42	478.56
1252	84.77	84.77	110.81	478.54

1253	83.63	83.63	109.23	478.53
1254	82.55	82.55	107.67	478.51
1255	81.44	81.44	106.20	478.50
1256	80.36	80.36	104.94	478.48

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

Hydrograph Printouts

TIME (min)	PRE-ADJ (cfs)	INFLOW (cfs)	OUTFLOW (cfs)	ELEVATION (feet)
1257	79.22	79.22	103.69	478.47
1258	78.19	78.19	102.45	478.45
1259	77.23	77.23	101.22	478.44
1260	76.22	76.22	100.01	478.43
1261	75.16	75.16	98.80	478.41
1262	74.18	74.18	97.60	478.40
1263	73.31	73.31	96.42	478.38
1264	72.41	72.41	95.25	478.37
1265	71.52	71.52	94.09	478.36
1266	70.57	70.57	92.95	478.35
1267	69.72	69.72	91.82	478.33
1268	68.92	68.92	90.70	478.32
1269	68.08	68.08	89.60	478.31
1270	67.27	67.27	88.51	478.29
1271	66.41	66.41	87.43	478.28
1272	65.64	65.64	86.37	478.27
1273	64.93	64.93	85.32	478.26
1274	64.17	64.17	84.29	478.25
1275	63.44	63.44	83.27	478.23
1276	62.65	62.65	82.27	478.22
1277	62.10	62.10	81.28	478.21
1278	61.81	61.81	80.32	478.20
1279	61.52	61.52	79.68	478.19
1280	61.22	61.22	79.06	478.18
1281	60.86	60.86	78.44	478.17
1282	60.57	60.57	77.84	478.16
1283	60.32	60.32	77.25	478.15
1284	60.02	60.02	76.67	478.14
1285	59.73	59.73	76.10	478.13
1286	59.36	59.36	75.54	478.12
1287	59.08	59.08	74.99	478.11
1288	58.84	58.84	74.44	478.10
1289	58.54	58.54	73.91	478.09
1290	58.25	58.25	73.38	478.08
1291	57.88	57.88	72.86	478.07
1292	57.60	57.60	72.35	478.06
1293	57.36	57.36	71.85	478.05
1294	57.07	57.07	71.35	478.04
1295	56.78	56.78	70.86	478.03
1296	56.42	56.42	70.38	478.03
1297	56.06	56.06	69.90	478.02

1298	55.61	55.61	69.42	478.01
1299	55.07	55.07	68.94	478.00
1300	54.63	54.63	68.46	477.99
1310	51.34	51.34	64.15	477.92
1320	48.52	48.52	62.51	477.84
1330	47.34	47.34	61.57	477.75
1340	46.99	46.99	60.63	477.66
1350	46.74	46.74	59.76	477.58
1360	46.38	46.38	59.06	477.49
1370	46.08	46.08	58.37	477.41
1380	45.76	45.76	57.71	477.33
1390	45.30	45.30	57.02	477.25
1400	45.02	45.02	56.32	477.17
1420	44.19	44.19	54.99	477.02
1440	43.39	43.39	53.60	476.86
1460	40.85	40.85	52.20	476.71
1500	38.80	38.80	49.05	476.39

Hydrograph Printouts

Stage - Storage - Discharge Curve for Reservoir at 86B

STAGE (ft)	STORAGE (ac-ft)	DISCHARGE (cfs)
471.00	0.000	0.00
471.30	0.099	0.31
471.60	0.227	1.00
471.90	0.383	1.54
472.20	0.568	1.93
472.50	0.778	2.26
472.80	1.012	2.54
473.10	1.270	3.10
473.40	1.554	5.46
473.70	1.861	8.88
474.00	2.193	13.08
474.30	2.545	17.91
474.60	2.914	23.31
474.90	3.299	29.21
475.20	3.702	34.72
475.50	4.123	38.98
475.80	4.563	42.70
476.10	5.023	46.08
476.40	5.512	49.19
476.70	6.034	52.10
477.00	6.587	54.85
477.30	7.174	57.45
477.60	7.794	59.94
477.90	8.447	63.17
478.20	9.130	80.28
478.50	9.838	106.45
478.80	10.569	138.98
479.10	11.322	176.70

479.40	12.090	218.95
479.70	12.868	265.25
480.00	13.657	315.26
480.30	14.458	368.71
480.60	15.270	467.69
480.90	16.093	618.84
481.20	16.927	802.24
481.50	17.772	1,011.81
481.80	18.628	1,244.10
482.10	19.496	1,496.81
482.40	20.375	1,768.24
482.70	21.265	1,998.21
483.00	22.166	2,028.88
483.30	23.079	2,059.08
483.60	24.003	2,088.86
483.90	24.939	2,118.21
484.20	25.883	2,147.16
484.50	26.827	2,175.73
484.80	27.772	2,203.92
485.10	28.402	2,231.76

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 88B

DESCRIPTION: LOCAL SUBAREA TO 10X8 RCB AT RR
TOTAL AREA TO HYDROGRAPH: 70 acres
HYDROGRAPH PEAK: 104 cfs
TIME OF PEAK: 1156 minutes
HYDROGRAPH VOLUME: 14.28 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	2.45	200	2.45	300	2.45	400	2.44
500	2.45	600	2.81	700	3.93	800	3.94	900	5.21
1000	8.37	1050	14.10	1100	21.63	1110	32.23	1120	47.12
1130	51.83	1131	51.53	1132	51.38	1133	51.08	1134	50.93
1135	50.78	1136	50.48	1137	50.33	1138	50.03	1139	49.92
1140	49.67	1141	49.86	1142	50.06	1143	50.25	1144	50.45
1145	52.30	1146	53.99	1147	55.69	1148	57.54	1149	66.38
1150	74.92	1151	83.83	1152	92.68	1153	101.53	1154	103.52
1155	103.82	1156	103.98	1157	103.82	1158	103.98	1159	103.82
1160	103.67	1161	103.52	1162	103.36	1163	101.53	1164	99.85
1165	96.49	1166	92.98	1167	82.76	1168	72.67	1169	62.48
1170	52.43	1171	42.14	1172	38.78	1173	37.10	1174	35.57
1175	34.16	1176	32.58	1177	30.52	1178	28.46	1179	26.24
1180	24.18	1181	22.15	1182	19.99	1183	19.68	1184	19.38
1185	18.76	1186	18.45	1187	18.15	1188	17.53	1189	16.76

1190	16.15	1191	15.22	1192	14.45	1193	13.68	1194	12.92
1195	12.61	1196	12.15	1197	11.84	1198	11.38	1199	10.92
1200	10.61	1201	10.30	1202	9.84	1203	9.53	1204	9.07
1205	8.61	1206	8.45	1207	8.45	1208	8.30	1209	8.30
1210	8.30	1211	8.45	1212	8.45	1213	8.30	1214	8.30
1215	8.30	1216	8.30	1217	8.45	1218	8.45	1219	8.30
1220	8.30	1221	8.30	1222	8.45	1223	8.45	1224	8.30
1225	7.84	1226	7.38	1227	6.86	1228	6.69	1229	6.45
1230	6.28	1231	6.11	1232	5.88	1233	5.71	1234	5.53
1235	5.30	1236	5.13	1237	4.90	1238	4.73	1239	4.55
1240	4.32	1241	4.15	1242	3.92	1243	3.92	1244	3.92
1245	3.98	1246	3.98	1247	3.92	1248	3.92	1249	3.92
1250	3.98	1251	3.98	1252	3.92	1253	3.92	1254	3.92
1255	3.98	1256	3.98	1257	3.92	1258	3.92	1259	3.92
1260	3.98	1261	3.92	1262	3.92	1263	3.92	1264	3.92
1265	3.98	1266	3.92	1267	3.92	1268	3.92	1269	3.92
1270	3.98	1271	3.92	1272	3.92	1273	3.92	1274	3.92
1275	3.98	1276	3.92	1277	3.92	1278	3.92	1279	3.98
1280	3.98	1281	3.92	1282	3.92	1283	3.92	1284	3.98
1285	3.98	1286	3.92	1287	3.92	1288	3.92	1289	3.98
1290	3.98	1291	3.92	1292	3.92	1293	3.92	1294	3.98
1295	3.98	1296	3.92	1297	3.86	1298	3.75	1299	3.69
1300	3.63	1310	2.77	1320	2.44	1330	2.49	1340	2.43
1350	2.44	1360	2.43	1370	2.44	1380	2.49	1390	2.43
1400	2.44	1420	2.44	1440	2.44	1460	0.00	1500	0.00

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 92C

DESCRIPTION: 67C from PACE
TOTAL AREA TO HYDROGRAPH: 171 acres
HYDROGRAPH PEAK: 351 cfs
TIME OF PEAK: 1158 minutes
HYDROGRAPH VOLUME: 59.12 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	13.51	200	13.51	300	13.51	400	13.50
500	13.51	600	15.31	700	21.23	800	21.96	900	27.99
1000	40.64	1050	51.50	1100	68.36	1110	99.94	1120	140.29
1130	155.39	1131	155.50	1132	155.82	1133	155.63	1134	155.40
1135	155.03	1136	154.40	1137	153.89	1138	153.09	1139	152.44
1140	151.57	1141	151.62	1142	151.53	1143	151.85	1144	152.23
1145	155.05	1146	158.55	1147	162.88	1148	168.46	1149	183.07
1150	200.55	1151	222.56	1152	248.42	1153	277.27	1154	299.86
1155	318.03	1156	332.57	1157	343.32	1158	351.12	1159	347.60
1160	341.51	1161	333.03	1162	321.15	1163	303.29	1164	288.54

1165	269.36	1166	246.36	1167	222.33	1168	200.23	1169	180.73
1170	163.64	1171	148.61	1172	135.86	1173	124.88	1174	115.05
1175	108.17	1176	101.77	1177	95.14	1178	89.45	1179	84.56
1180	80.27	1181	76.55	1182	73.19	1183	70.45	1184	68.15
1185	66.04	1186	64.36	1187	63.02	1188	61.68	1189	60.35
1190	59.05	1191	57.64	1192	56.39	1193	55.09	1194	53.78
1195	52.66	1196	51.36	1197	50.11	1198	48.99	1199	48.07
1200	47.02	1201	46.16	1202	45.23	1203	44.49	1204	43.87
1205	43.18	1206	42.79	1207	42.39	1208	42.11	1209	41.87
1210	41.64	1211	41.49	1212	41.38	1213	41.36	1214	41.35
1215	41.30	1216	41.12	1217	41.19	1218	41.18	1219	41.21
1220	41.21	1221	41.06	1222	41.14	1223	41.13	1224	41.17
1225	40.86	1226	40.49	1227	39.78	1228	39.11	1229	38.30
1230	37.38	1231	36.36	1232	35.02	1233	33.84	1234	32.55
1235	31.50	1236	30.40	1237	29.25	1238	28.11	1239	27.04
1240	26.14	1241	25.40	1242	24.79	1243	24.23	1244	23.70
1245	23.22	1246	22.87	1247	22.64	1248	22.47	1249	22.28
1250	22.10	1251	22.00	1252	21.97	1253	21.95	1254	21.89
1255	21.81	1256	21.78	1257	21.81	1258	21.83	1259	21.80
1260	21.74	1261	21.62	1262	21.77	1263	21.77	1264	21.72
1265	21.68	1266	21.58	1267	21.73	1268	21.74	1269	21.69
1270	21.65	1271	21.66	1272	21.71	1273	21.72	1274	21.68
1275	21.67	1276	21.71	1277	21.75	1278	21.74	1279	21.69
1280	21.69	1281	21.74	1282	21.78	1283	21.76	1284	21.71
1285	21.71	1286	21.75	1287	21.79	1288	21.77	1289	21.72
1290	21.71	1291	21.75	1292	21.79	1293	21.77	1294	21.72
1295	21.71	1296	21.76	1297	21.68	1298	21.46	1299	21.17
1300	20.93	1310	17.09	1320	14.46	1330	13.81	1340	13.46
1350	13.55	1360	13.45	1370	13.55	1380	13.64	1390	13.47
1400	13.55	1420	13.50	1440	13.50	1460	11.03	1500	11.03

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 93AC

DESCRIPTION: LA Avenue - COMBINED WCC + INCOMING MP 72" RCP ***TARGET LOCATION -> WE WANT Q100 < 830CFS)***
TOTAL AREA TO HYDROGRAPH: 1805 acres
HYDROGRAPH PEAK: 793 cfs
TIME OF PEAK: 1159 minutes
HYDROGRAPH VOLUME: 367.43 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	18.12	200	40.72	300	59.74	400	62.73
500	70.81	600	73.61	700	96.16	800	105.62	900	128.77
1000	172.98	1050	220.68	1100	287.23	1110	340.64	1120	417.52
1130	462.33	1131	464.64	1132	467.23	1133	469.15	1134	470.76
1135	472.04	1136	472.92	1137	473.85	1138	474.44	1139	475.14

1140	475.60	1141	476.97	1142	478.25	1143	480.06	1144	482.11
1145	486.69	1146	492.06	1147	498.87	1148	507.74	1149	526.11
1150	548.15	1151	577.50	1152	614.16	1153	656.05	1154	693.39
1155	727.09	1156	755.05	1157	775.75	1158	791.00	1159	793.26
1160	791.34	1161	785.07	1162	773.74	1163	755.49	1164	739.66
1165	718.84	1166	694.13	1167	668.51	1168	644.89	1169	623.31
1170	603.28	1171	584.95	1172	569.00	1173	554.88	1174	543.19
1175	536.84	1176	533.09	1177	531.43	1178	532.61	1179	535.39
1180	539.38	1181	544.76	1182	550.95	1183	557.95	1184	565.34
1185	573.02	1186	581.28	1187	589.91	1188	598.29	1189	606.46
1190	614.43	1191	621.87	1192	628.84	1193	635.32	1194	641.36
1195	647.06	1196	652.07	1197	656.61	1198	660.77	1199	664.66
1200	667.97	1201	670.99	1202	673.52	1203	675.84	1204	677.87
1205	679.40	1206	680.84	1207	682.00	1208	683.04	1209	683.88
1210	684.52	1211	685.05	1212	685.41	1213	685.58	1214	685.50
1215	685.16	1216	684.55	1217	684.02	1218	683.25	1219	682.36
1220	681.29	1221	680.01	1222	678.91	1223	677.64	1224	676.29
1225	674.44	1226	672.36	1227	669.78	1228	667.11	1229	664.13
1230	660.83	1231	657.15	1232	652.96	1233	648.81	1234	644.44
1235	640.18	1236	635.76	1237	631.28	1238	626.83	1239	622.44
1240	618.18	1241	614.09	1242	610.09	1243	606.06	1244	601.98
1245	597.89	1246	593.88	1247	590.02	1248	586.25	1249	582.55
1250	578.89	1251	575.29	1252	571.82	1253	568.42	1254	564.99
1255	561.51	1256	558.09	1257	554.83	1258	551.72	1259	548.59
1260	545.39	1261	542.07	1262	538.97	1263	535.70	1264	532.38
1265	529.13	1266	525.84	1267	522.78	1268	519.56	1269	516.38
1270	513.34	1271	510.48	1272	507.70	1273	504.83	1274	501.90
1275	499.03	1276	496.23	1277	493.41	1278	490.53	1279	487.65
1280	484.91	1281	482.30	1282	479.72	1283	477.14	1284	474.55
1285	472.00	1286	469.48	1287	466.98	1288	464.46	1289	461.88
1290	459.34	1291	456.87	1292	454.39	1293	451.84	1294	449.24
1295	446.71	1296	444.26	1297	441.67	1298	438.91	1299	436.10
1300	433.37	1310	405.68	1320	382.08	1330	361.79	1340	343.66
1350	328.56	1360	314.85	1370	303.15	1380	295.53	1390	290.77
1400	285.89	1420	276.83	1440	268.50	1460	256.04	1500	199.38

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 147AB

TOTAL AREA TO HYDROGRAPH: 4415 acres
HYDROGRAPH PEAK: 2128 cfs
TIME OF PEAK: 1204 minutes
HYDROGRAPH VOLUME: 682.25 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	55.89	200	76.29	300	97.22	400	100.03

500	108.30	600	112.57	700	140.32	800	159.57	900	191.11
1000	259.01	1050	333.19	1100	482.92	1110	581.49	1120	725.69
1130	860.06	1131	871.99	1132	884.63	1133	896.44	1134	908.54
1135	920.52	1136	931.81	1137	943.69	1138	955.11	1139	967.00
1140	978.43	1141	991.63	1142	1005.21	1143	1019.27	1144	1033.66
1145	1053.66	1146	1073.86	1147	1095.09	1148	1118.23	1149	1162.64
1150	1209.55	1151	1262.35	1152	1322.00	1153	1389.33	1154	1444.98
1155	1500.62	1156	1555.32	1157	1607.37	1158	1656.52	1159	1695.37
1160	1720.36	1161	1734.48	1162	1742.64	1163	1745.67	1164	1750.56
1165	1757.68	1166	1771.37	1167	1786.36	1168	1799.42	1169	1810.79
1170	1821.08	1171	1828.81	1172	1834.68	1173	1839.68	1174	1844.95
1175	1850.04	1176	1857.66	1177	1866.35	1178	1875.41	1179	1884.31
1180	1893.44	1181	1901.92	1182	1909.50	1183	1917.31	1184	1924.78
1185	1931.65	1186	1938.73	1187	1946.14	1188	1954.25	1189	1963.25
1190	1973.53	1191	1984.92	1192	1997.43	1193	2010.96	1194	2025.27
1195	2040.16	1196	2055.06	1197	2069.51	1198	2083.04	1199	2095.31
1200	2105.97	1201	2114.86	1202	2121.55	1203	2126.04	1204	2128.26
1205	2128.22	1206	2126.06	1207	2121.66	1208	2115.26	1209	2106.97
1210	2096.91	1211	2085.24	1212	2071.95	1213	2057.26	1214	2041.28
1215	2024.07	1216	2005.68	1217	1986.31	1218	1965.99	1219	1944.95
1220	1923.26	1221	1900.98	1222	1878.30	1223	1855.20	1224	1831.95
1225	1808.21	1226	1784.34	1227	1760.08	1228	1735.69	1229	1711.14
1230	1686.48	1231	1661.80	1232	1636.84	1233	1611.96	1234	1586.99
1235	1562.22	1236	1537.77	1237	1513.53	1238	1489.66	1239	1466.06
1240	1442.74	1241	1419.91	1242	1397.42	1243	1375.52	1244	1354.09
1245	1333.01	1246	1312.33	1247	1292.04	1248	1272.22	1249	1252.89
1250	1234.03	1251	1215.62	1252	1197.61	1253	1180.16	1254	1163.18
1255	1146.64	1256	1130.55	1257	1114.82	1258	1099.57	1259	1084.74
1260	1070.33	1261	1056.20	1262	1042.49	1263	1029.06	1264	1015.89
1265	1003.00	1266	990.17	1267	977.66	1268	965.38	1269	953.32
1270	941.42	1271	929.69	1272	918.31	1273	907.31	1274	896.68
1275	886.16	1276	875.73	1277	865.66	1278	855.81	1279	846.10
1280	836.52	1281	827.03	1282	817.83	1283	808.87	1284	800.13
1285	791.58	1286	783.14	1287	774.94	1288	766.89	1289	758.97
1290	751.20	1291	743.78	1292	736.62	1293	729.54	1294	722.54
1295	715.61	1296	708.70	1297	701.91	1298	695.14	1299	688.43
1300	681.82	1310	620.55	1320	569.05	1330	523.82	1340	484.24
1350	452.03	1360	425.83	1370	402.96	1380	384.94	1390	371.95
1400	360.87	1420	341.47	1440	326.40	1460	307.10	1500	245.23

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 149A

TOTAL AREA TO HYDROGRAPH: 4616 acres
HYDROGRAPH PEAK: 2137 cfs
TIME OF PEAK: 1205 minutes
HYDROGRAPH VOLUME: 698.98 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	58.78	200	78.56	300	99.89	400	102.86
500	111.00	600	115.89	700	144.22	800	164.28	900	196.41
1000	267.08	1050	342.00	1100	493.91	1110	591.36	1120	776.78
1130	921.34	1131	933.50	1132	945.88	1133	957.69	1134	969.44
1135	981.16	1136	992.46	1137	1003.74	1138	1014.84	1139	1026.18
1140	1037.37	1141	1049.76	1142	1063.24	1143	1077.46	1144	1092.07
1145	1111.29	1146	1133.87	1147	1158.07	1148	1183.54	1149	1227.20
1150	1285.36	1151	1352.83	1152	1425.81	1153	1505.58	1154	1574.67
1155	1633.33	1156	1687.81	1157	1740.36	1158	1789.06	1159	1830.07
1160	1859.95	1161	1876.50	1162	1883.38	1163	1885.79	1164	1888.42
1165	1888.67	1166	1892.56	1167	1900.66	1168	1909.16	1169	1906.93
1170	1903.38	1171	1898.12	1172	1890.66	1173	1879.79	1174	1877.97
1175	1879.42	1176	1880.79	1177	1881.70	1178	1884.93	1179	1893.32
1180	1901.75	1181	1910.11	1182	1917.78	1183	1924.98	1184	1932.12
1185	1939.16	1186	1945.99	1187	1953.05	1188	1960.60	1189	1968.73
1190	1977.79	1191	1988.03	1192	1999.39	1193	2011.77	1194	2025.14
1195	2039.32	1196	2053.84	1197	2068.31	1198	2082.30	1199	2095.39
1200	2107.11	1201	2117.28	1202	2125.55	1203	2131.62	1204	2135.42
1205	2136.98	1206	2136.38	1207	2133.60	1208	2128.68	1209	2121.80
1210	2113.02	1211	2102.58	1212	2090.54	1213	2076.94	1214	2061.94
1215	2045.62	1216	2028.09	1217	2009.54	1218	1989.99	1219	1969.54
1220	1948.34	1221	1926.47	1222	1904.18	1223	1881.47	1224	1858.40
1225	1834.86	1226	1810.82	1227	1786.44	1228	1761.86	1229	1737.13
1230	1712.39	1231	1687.50	1232	1662.63	1233	1637.41	1234	1612.35
1235	1587.39	1236	1562.69	1237	1538.19	1238	1513.98	1239	1490.10
1240	1466.53	1241	1443.32	1242	1420.46	1243	1398.06	1244	1376.17
1245	1354.83	1246	1333.90	1247	1313.34	1248	1293.16	1249	1273.58
1250	1254.45	1251	1235.71	1252	1217.63	1253	1199.89	1254	1182.50
1255	1165.64	1256	1149.24	1257	1133.22	1258	1117.57	1259	1102.38
1260	1087.63	1261	1073.22	1262	1059.22	1263	1045.54	1264	1032.16
1265	1019.05	1266	1006.12	1267	993.42	1268	980.95	1269	968.71
1270	956.70	1271	944.83	1272	933.20	1273	921.86	1274	910.92
1275	900.29	1276	889.79	1277	879.60	1278	869.66	1279	859.90
1280	850.24	1281	840.68	1282	831.25	1283	822.05	1284	813.11
1285	804.41	1286	795.87	1287	787.46	1288	779.24	1289	771.20
1290	763.33	1291	755.65	1292	748.21	1293	741.00	1294	734.10
1295	727.14	1296	720.23	1297	713.29	1298	706.33	1299	699.39
1300	692.56	1310	629.64	1320	577.01	1330	531.42	1340	491.10
1350	458.80	1360	431.43	1370	408.68	1380	389.74	1390	376.37
1400	365.01	1420	345.55	1440	330.11	1460	308.70	1500	247.31

Hydrograph Printouts

HYDROGRAPH PRINTOUT AT: 150A

DESCRIPTION: DUMMY

TOTAL AREA TO HYDROGRAPH: 4616 acres
HYDROGRAPH PEAK: 2135 cfs
TIME OF PEAK: 1208 minutes
HYDROGRAPH VOLUME: 697.94 acre-ft

TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)	TIME (min)	FLOW (cfs)
0	0.00	100	58.78	200	76.58	300	98.90	400	102.81
500	110.26	600	115.90	700	141.72	800	164.25	900	193.76
1000	264.18	1050	333.95	1100	480.78	1110	554.65	1120	710.72
1130	878.73	1131	891.66	1132	905.13	1133	918.48	1134	931.50
1135	944.17	1136	956.44	1137	968.43	1138	980.16	1139	991.68
1140	1003.08	1141	1014.43	1142	1025.91	1143	1037.89	1144	1050.61
1145	1064.06	1146	1078.73	1147	1095.68	1148	1115.31	1149	1137.25
1150	1163.64	1151	1199.21	1152	1247.50	1153	1307.38	1154	1375.93
1155	1448.48	1156	1518.59	1157	1583.19	1158	1642.89	1159	1699.31
1160	1751.76	1161	1796.79	1162	1831.77	1163	1855.78	1164	1870.39
1165	1878.88	1166	1883.80	1167	1887.16	1168	1891.50	1169	1897.69
1170	1902.80	1171	1904.32	1172	1902.89	1173	1899.08	1174	1892.76
1175	1886.14	1176	1882.26	1177	1880.99	1178	1881.01	1179	1882.00
1180	1885.14	1181	1890.78	1182	1897.87	1183	1905.49	1184	1913.08
1185	1920.48	1186	1927.72	1187	1934.83	1188	1941.85	1189	1948.99
1190	1956.45	1191	1964.44	1192	1973.21	1193	1982.95	1194	1993.71
1195	2005.50	1196	2018.26	1197	2031.82	1198	2045.88	1199	2060.06
1200	2073.98	1201	2087.21	1202	2099.38	1203	2110.16	1204	2119.22
1205	2126.30	1206	2131.26	1207	2134.06	1208	2134.68	1209	2133.14
1210	2129.49	1211	2123.81	1212	2116.23	1213	2106.88	1214	2095.85
1215	2083.26	1216	2069.19	1217	2053.76	1218	2037.09	1219	2019.29
1220	2000.46	1221	1980.70	1222	1960.12	1223	1938.85	1224	1917.02
1225	1894.73	1226	1872.00	1227	1848.82	1228	1825.20	1229	1801.22
1230	1776.98	1231	1752.55	1232	1728.01	1233	1703.61	1234	1678.96
1235	1654.72	1236	1630.25	1237	1605.64	1238	1581.08	1239	1556.65
1240	1532.45	1241	1508.51	1242	1484.87	1243	1461.55	1244	1438.59
1245	1416.04	1246	1393.94	1247	1372.32	1248	1351.15	1249	1330.39
1250	1310.12	1251	1290.28	1252	1270.89	1253	1252.24	1254	1234.03
1255	1216.12	1256	1198.99	1257	1182.21	1258	1165.66	1259	1149.43
1260	1133.55	1261	1118.06	1262	1102.96	1263	1088.26	1264	1073.93
1265	1059.95	1266	1046.31	1267	1032.95	1268	1019.84	1269	1006.96
1270	994.32	1271	981.91	1272	969.72	1273	957.72	1274	945.95
1275	934.43	1276	923.27	1277	912.50	1278	902.02	1279	891.80
1280	881.76	1281	871.86	1282	862.09	1283	852.45	1284	842.94
1285	833.59	1286	824.45	1287	815.51	1288	806.77	1289	798.20
1290	789.80	1291	781.57	1292	773.52	1293	765.65	1294	757.99
1295	750.54	1296	743.53	1297	736.72	1298	729.87	1299	723.00
1300	716.11	1310	651.12	1320	595.20	1330	547.58	1340	505.61
1350	471.23	1360	442.48	1370	417.76	1380	397.42	1390	381.72
1400	369.69	1420	349.42	1440	333.30	1460	313.76	1500	254.66

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Model Lines
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005     1  045A Header place holder
005     1  053B Header place holder
005     1  055B Header place holder
005     1  056BDHeader place holder
005     1  057ABHeader place holder
005     1  058B Header place holder
005     1  065B Header place holder
005     1  073BCHeader place holder
005     1  076C Header place holder
005     1  077D Header place holder
005     1  079B Header place holder
005     1  080BCHeader place holder
005     1  081C Header place holder
005     1  082C Header place holder
005     1  084CDHeader place holder
005     1  085BCHeader place holder
005     1  086B Header place holder
005     1  088B Header place holder
005     1  092C Header place holder
005     1  093ACHeader place holder
005     1  147ABHeader place holder
005     1  149A Header place holder
005     1  150A Header place holder
999
007     1   46A     896 461160     129200  4
008  5    0       0  100       0  200      23  300      30  400      32
008 10  500      34  600      37  700      47  800      51  900      56
008 15 1000      65 1050      74 1100      86 1110      93 1120     100
008 20 1130     105 1131     105 1132     105 1133     106 1134     106
008 25 1135     106 1136     107 1137     107 1138     107 1139     108
008 30 1140     108 1141     108 1142     108 1143     109 1144     109
008 35 1145     109 1146     110 1147     111 1148     111 1149     112
008 40 1150     113 1151     116 1152     118 1153     121 1154     124
008 45 1155     125 1156     126 1157     126 1158     127 1159     128
008 50 1160     129 1161     128 1162     127 1163     126 1164     125
008 55 1165     124 1166     123 1167     122 1168     121 1169     120
008 60 1170     119 1171     119 1172     118 1173     118 1174     117
008 65 1175     117 1176     116 1177     116 1178     115 1179     115
008 70 1180     114 1181     114 1182     114 1183     113 1184     113
008 75 1185     113 1186     113 1187     113 1188     112 1189     112
008 80 1190     112 1191     112 1192     112 1193     112 1194     112
008 85 1195     112 1196     111 1197     111 1198     111 1199     111
008 90 1200     111 1201     110 1202     110 1203     110 1204     110
008 95 1205     110 1206     110 1207     110 1208     110 1209     110
008100 1210     109 1211     109 1212     109 1213     109 1214     109
008105 1215     108 1216     108 1217     108 1218     108 1219     108
008110 1220     108 1221     108 1222     107 1223     107 1224     107
008115 1225     107 1226     107 1227     106 1228     106 1229     106
008120 1230     106 1231     105 1232     105 1233     105 1234     105
008125 1235     104 1236     104 1237     104 1238     104 1239     103
008130 1240     103 1241     103 1242     102 1243     102 1244     102
008135 1245     102 1246     101 1247     101 1248     101 1249     101
008140 1250     101 1251     100 1252     100 1253     100 1254     100
008145 1255     100 1256      99 1257      99 1258      99 1259      98
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008150 1260      98 1261      98 1262      98 1263      97 1264      97
008155 1265      97 1266      97 1267      97 1268      97 1269      96
008160 1270      96 1271      96 1272      96 1273      95 1274      95
008165 1275      95 1276      95 1277      94 1278      94 1279      94
008170 1280      94 1281      93 1282      93 1283      93 1284      93
008175 1285      92 1286      92 1287      92 1288      92 1289      91
008180 1290      91 1291      91 1292      91 1293      90 1294      90
008185 1295      90 1296      90 1297      89 1298      89 1299      89
008190 1300      89 1310      86 1320      83 1330      81 1340      78
008195 1350      75 1360      73 1370      70 1380      68 1390      66
008200 1400      64 1420      61 1440      59 1460      55 1500       0
007     1   47D      10 461160     628200  4
008  5    0       0  100       0  200       0  300       0  400       0
008 10  500       0  600       0  700       0  800       4  900      14
008 15 1000      37 1050      69 1100     132 1110     179 1120     240
008 20 1130     289 1131     292 1132     296 1133     299 1134     303
008 25 1135     306 1136     310 1137     314 1138     317 1139     321
008 30 1140     324 1141     326 1142     329 1143     332 1144     335
008 35 1145     337 1146     347 1147     356 1148     365 1149     375
008 40 1150     384 1151     421 1152     459 1153     496 1154     534
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VCRat Model Input

Model Lines

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008 45 1155     549 1156     565 1157     581 1158     597 1159     612
008 50 1160     628 1161     610 1162     592 1163     574 1164     556
008 55 1165     538 1166     523 1167     509 1168     494 1169     480
008 60 1170     472 1171     464 1172     456 1173     448 1174     439
008 65 1175     431 1176     425 1177     418 1178     412 1179     406
008 70 1180     399 1181     395 1182     392 1183     388 1184     384
008 75 1185     382 1186     381 1187     379 1188     378 1189     376
008 80 1190     374 1191     373 1192     371 1193     370 1194     368
008 85 1195     366 1196     364 1197     361 1198     359 1199     356
008 90 1200     355 1201     354 1202     352 1203     351 1204     350
008 95 1205     348 1206     347 1207     345 1208     344 1209     342
008100 1210     341 1211     338 1212     336 1213     334 1214     332
008105 1215     330 1216     329 1217     327 1218     326 1219     324
008110 1220     323 1221     321 1222     319 1223     317 1224     315
008115 1225     313 1226     310 1227     307 1228     304 1229     301
008120 1230     298 1231     296 1232     293 1233     290 1234     288
008125 1235     285 1236     282 1237     279 1238     277 1239     274
008130 1240     271 1241     268 1242     265 1243     262 1244     259
008135 1245     257 1246     255 1247     253 1248     251 1249     249
008140 1250     247 1251     245 1252     243 1253     241 1254     239
008145 1255     237 1256     234 1257     231 1258     229 1259     226
008150 1260     224 1261     222 1262     220 1263     218 1264     216
008155 1265     214 1266     213 1267     211 1268     210 1269     208
008160 1270     206 1271     204 1272     202 1273     199 1274     197
008165 1275     195 1276     193 1277     191 1278     188 1279     186
008170 1280     185 1281     183 1282     181 1283     180 1284     178
008175 1285     176 1286     174 1287     172 1288     169 1289     167
008180 1290     165 1291     164 1292     162 1293     160 1294     158
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008185 1295     157 1296     155 1297     153 1298     152 1299     150
008190 1300     149 1310     128 1320     112 1330      99 1340      85
008195 1350      73 1360      63 1370      54 1380      47 1390      41
008200 1400      35 1420      28 1440      21 1460      13 1500       0
999
006     1  045A 010      099A97                                 G1
006     1  046A 010         A97501411007000                      A
006     1  047D 010         A97                                  A
006     1  048B 060001002906A97400816006200
006     1  049B 040051002106A97
006     1  050C 040011001306A97400700005000
006     1  051BC010         A97400775005000
006     1  052B 020057003905A97401200004500
006     1  053B 030059003307A97                              1
110
111           1.00000
110
006     1  054B 010      099A97400500001000
006     1  055B 040035004206A97                              1
110
111           1.00000    3.51
110
006     1  056BD010         A97                              1
110
111  491.00    1.00000
112  480.00  480.40  480.80  481.20  481.60  482.00  482.40  482.80  483.20  483.60
112  484.00  484.40  484.80  485.20  485.60  486.00  486.40  486.80  487.20  487.60
112  488.00  488.40  488.80  489.20  489.60  490.00  490.40  490.80  491.20  491.60
112  492.00  492.40  492.80  493.20  493.60  494.00  494.40  494.80  495.20  495.60
112  496.00
113   0.000   0.126   0.504   1.142   2.081   3.330   4.842   6.574   8.529  10.738
113  13.206  15.909  18.826  21.934  25.094  28.282  31.499  34.744  38.017  41.320
113  44.651  48.010  51.399  54.816  58.262  61.737  65.241  68.774  72.337  75.929
113  79.550  83.200  86.880  90.589  94.329  98.097 101.880 105.663 109.447 113.230
113 117.013
114    0.00    0.52    1.39    3.73   11.68   22.77   36.26   51.76   67.25   78.61
114   88.23   96.81  104.64  111.89  118.69  125.10  131.20  137.02  142.59  147.96
114  153.62  184.98  234.97  297.55  370.38  452.07  541.69  638.54  776.41 1030.22
114 1313.70 1339.36 1364.54 1389.26 1413.55 1437.43 1460.92 1484.04 1506.80 1529.23
114 1551.33
110
006     1  057AB010         A97501875007000                  11
006     1  058B 040017002110A97                              1
006     1  059AB010         A97500500007000
006     1  060B 040000005411A97
006     1  061B 040000005311A97101865003700
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VCRat Model Input

Model Lines

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006     1  062C 050000002012A97
006     1  063BC010         A97100707005600
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006     1  064B 040006002709A97101427003800
006     1  065B 040001003109A97                              1
006     1  066C 030004002109A97
006     1  067BC010         A97201482000330
006     1  068B 040024002810A97
006     1  069C 030004003709A97
006     1  070D 040010003106A97
006     1  071CD010         A97301100003200
006     1  072C 050020001407A97
006     1  073BC010         A97                              11
006     1  074C 050000002306A97401366003000
006     1  075C 020038002105A97400321024000
006     1  076C 030012002010A97                              1
110
111  517.34    1.00000    2.44
112  513.00  513.20  513.40  513.60  513.80  514.00  514.20  514.40  514.60  514.80
112  515.00  515.20  515.40  515.60  515.80  516.00  516.20  516.40  516.60  516.80
112  517.00  517.20  517.40  517.60  517.80  518.00  518.20  518.40  518.60  518.80
112  519.00  519.20  519.40  519.60  519.80  520.00  520.20  520.40  520.60  520.80
112  521.00  521.20  521.40  521.60  521.80  522.00
113   0.000   0.029   0.067   0.113   0.168   0.231   0.305   0.388   0.482   0.587
113   0.703   0.830   0.969   1.122   1.287   1.465   1.655   1.855   2.064   2.284
113   2.513   2.751   2.994   3.244   3.501   3.763   4.031   4.300   4.573   4.847
113   5.125   5.405   5.686   5.970   6.255   6.542   6.831   7.122   7.415   7.710
113   8.006   8.305   8.606   8.909   9.214   9.520
114    0.00    9.29   12.24   15.44   18.82   22.28   25.72   29.01   31.91   34.14
114   36.46   38.63   40.70   42.66   44.54   46.34   48.07   49.74   51.36   52.93
114   54.45   55.93   58.36   67.69   81.13   97.54  116.41  137.45  160.42  181.73
114  185.21  188.63  191.98  195.28  198.52  201.71  204.85  207.94  210.99  213.99
114  216.95  219.87  222.76  225.60  228.42  231.19
115
116     1  076D 010      099D96400287005000
110
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006     1  079B 040017003006A97                               1
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111           1.00000    1.80
110
006     1  080BC010         A97                              11
110
111  508.90    1.00000
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112  502.00  502.40  502.80  503.20  503.60  504.00  504.40  504.80  505.20  505.60
112  506.00  506.40  506.80  507.20  507.60  508.00  508.40  508.80  509.20  509.60
112  510.00  510.40  510.80  511.20  511.60  512.00  512.40  512.80  513.20  513.60
112  514.00
113   0.000   0.061   0.203   0.433   0.785   1.265   1.841   2.481   3.183   3.933
113   4.730   5.569   6.447   7.363   8.323   9.325  10.373  11.469  12.611  13.785
113  14.990  16.227  17.497  18.801  20.139  21.510  22.916  24.356  25.832  27.341
113  28.883  30.458  32.064  33.705  35.385  37.106  38.848  40.589  42.331  44.072
113  45.814
114    0.00    1.63    5.84   11.30   15.69   19.03   21.86   24.37   26.64   28.73
114   30.68   32.51   34.25   35.90   37.48   38.99   40.45   41.86   43.22   44.54
114   45.82   59.49   92.56  136.69  189.51  249.75  316.57  389.35  510.43  570.39
114  582.80  594.94  606.84  618.51  629.96  641.21  652.27  663.14  673.84  684.37
```

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006     1  082C 050014001805A97                              1
110
111           1.00000
110
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006     1  085BC010         A97                              11
006     1  086B 010      099A97400175005000                  1
110
111  480.34    1.00000
112  471.00  471.30  471.60  471.90  472.20  472.50  472.80  473.10  473.40  473.70
112  474.00  474.30  474.60  474.90  475.20  475.50  475.80  476.10  476.40  476.70
112  477.00  477.30  477.60  477.90  478.20  478.50  478.80  479.10  479.40  479.70
```

Ventura County Watershed Protection District
Modified Rational Method Hydrology Program (VCRat v2.64)

Job: 1 Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)

VCRat Model Input

Model Lines

```
112  480.00  480.30  480.60  480.90  481.20  481.50  481.80  482.10  482.40  482.70
112  483.00  483.30  483.60  483.90  484.20  484.50  484.80  485.10
113   0.000   0.099   0.227   0.383   0.568   0.778   1.012   1.270   1.554   1.861
113   2.193   2.545   2.914   3.299   3.702   4.123   4.563   5.023   5.512   6.034
113   6.587   7.174   7.794   8.447   9.130   9.838  10.569  11.322  12.090  12.868
113  13.657  14.458  15.270  16.093  16.927  17.772  18.628  19.496  20.375  21.265
113  22.166  23.079  24.003  24.939  25.883  26.827  27.772  28.402
114    0.00    0.31    1.00    1.54    1.93    2.26    2.54    3.10    5.46    8.88
114   13.08   17.91   23.31   29.21   34.72   38.98   42.70   46.08   49.19   52.10
114   54.85   57.45   59.94   63.17   80.28  106.45  138.98  176.70  218.95  265.25
114  315.26  368.71  467.69  618.84  802.24 1011.81 1244.10 1496.81 1768.24 1998.21
114 2028.88 2059.08 2088.86 2118.21 2147.16 2175.73 2203.92 2231.76
110
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006     1  088B 020026007018A97501275000470                  1
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006     1  090C 050061006212A97401480000490
006     1  091C 050070006312A97401350000840
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006     1  100B 030010011321A97102225004000
006     1  101B 040010009519A97101948004000
006     1  102C 020005006815A97
006     1  103C 030005007020A97102600004000
006     1  104C 030005005621A97102485004000
006     1  105D 030010009620A97101700004000
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006     1  106D 030005006918A97102200004000
006     1  107D 030015004619A97102112004000
006     1  108CD010         A97101600003000
006     1  109C 030015004815A97
006     1  110D 050015008522A97
006     1  111CD010         A97101782003000
006     1  112C 030010007520A97
006     1  113D 010015004520A97101700003000
006     1  114CD010         A97
006     1  115E 040005005318A97
006     1  116F 010010006921A97100400004000
006     1  117EF010         A97
006     1  118E 030015007520A97101300004000
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006     1  120F 010015005922A97101600002000
006     1  121F 010025006818A97101400002000
006     1  122EF010         A97
006     1  123E 020005010417A97101350003000
006     1  124E 020010005712A97101393003000
006     1  125CE010         A97101800003000
006     1  126C 030005004009A97
006     1  127BC010         A97101930003000
006     1  128B 040010008711A97101950003000
006     1  129D 040020006512A97 00250003000
006     1  130D 040015005912A97501390003000
006     1  131D 040005005111A97402000002000
006     1  132BD010         A97101750003000
006     1  133B 040030008912A97
006     1  134C 030005004911A97
006     1  135BC010         A97
006     1  136B 030005006911A97101900001500
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006     1  138BC010         A97
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006     1  142B 030005003010A97202500001500
006     1  143C 040010006211A97
006     1  144BC010         A97
006     1  145D 030010003912A97
006     1  146BD010         A97                                1
006     1  147AB010         A97                               11
↟                              Ventura County Watershed Protection District
                            Modified Rational Method Hydrology Program (VCRat v2.64)

                Job:      1  Project: WALNUT CANYON HYDROLOGY-INTERIM CONDITION 100YR (2017)
Page:    48
                                             VCRat Model Input
Model Lines
-------------------------------------------------------------------------------------------------
006     1  148A 060050002509A97500900001500
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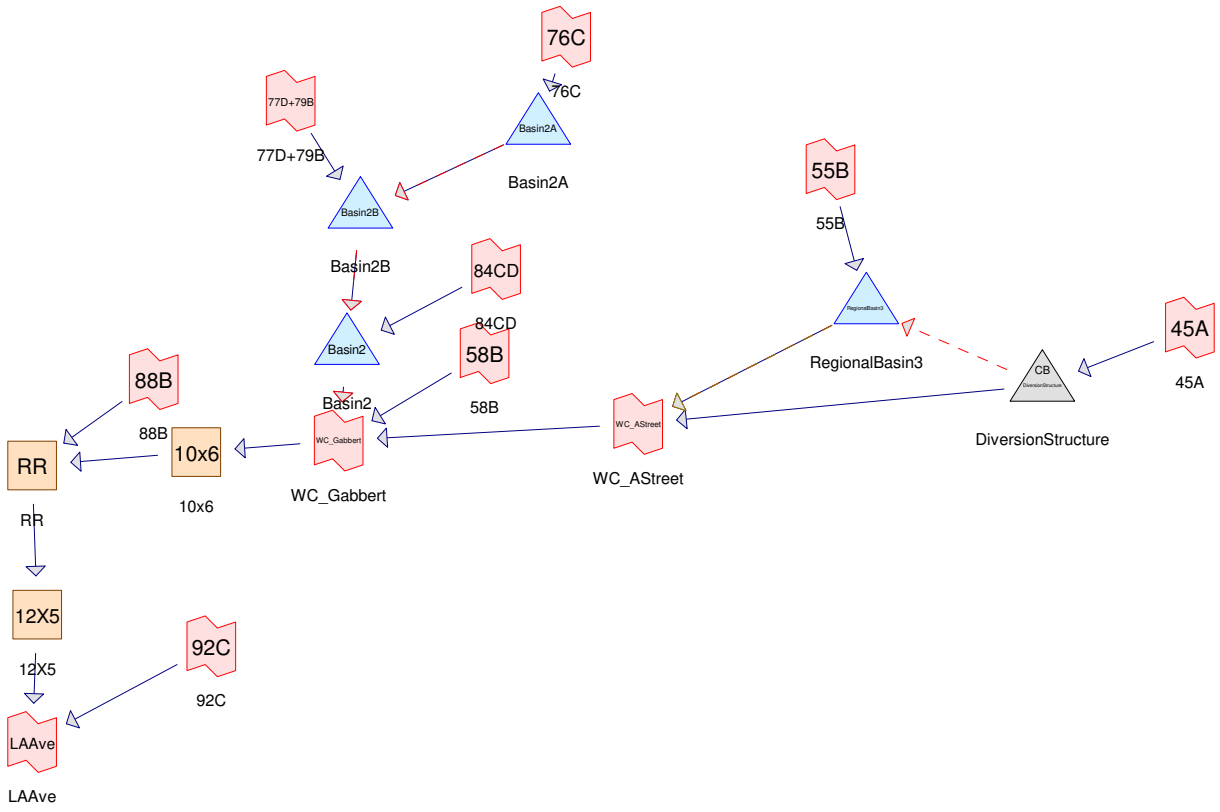
APPENDIX 6-a

Hitch Ranch HydroCAD Summary Report

July 2019 100-yr, Interim Conditions



Subcat Reach Pond Link

Routing Diagram for 20190729HRInt_RegionalBasin3_4_ComboOutlet
Prepared by HP, Printed 8/7/2019
HydroCAD® 10.00-21 s/n 10355 © 2018 HydroCAD Software Solutions LLC

Summary for Reach 10x6: 10x6

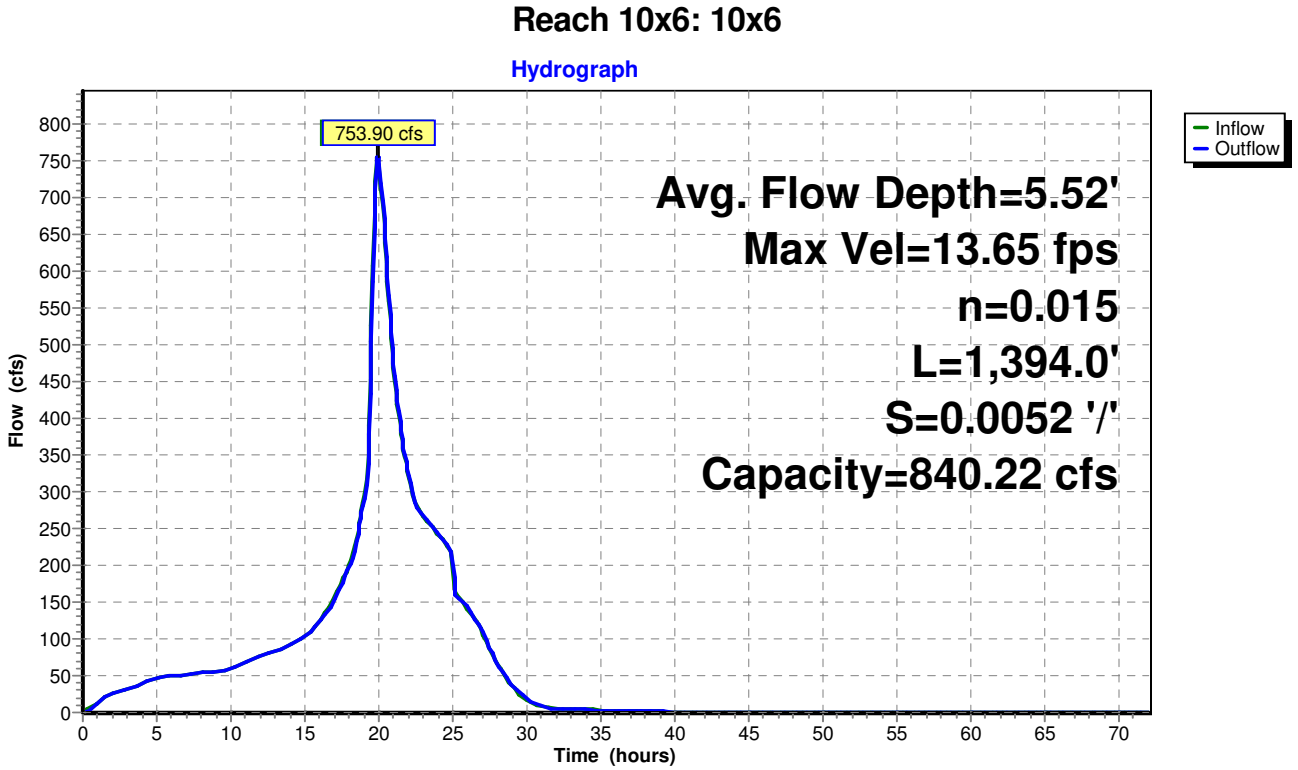
Inflow = 754.13 cfs @ 19.91 hrs, Volume= 350.954 af
Outflow = 753.90 cfs @ 19.93 hrs, Volume= 350.954 af, Atten= 0%, Lag= 1.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Max. Velocity= 13.65 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 3.87 fps, Avg. Travel Time= 6.0 min

Peak Storage= 76,997 cf @ 19.93 hrs
Average Depth at Peak Storage= 5.52'
Bank-Full Depth= 6.00' Flow Area= 60.0 sf, Capacity= 840.22 cfs

10.00' x 6.00' deep channel, n= 0.015
Length= 1,394.0' Slope= 0.0052 '/'
Inlet Invert= 468.25', Outlet Invert= 460.94'





Stage-Discharge for Reach 10x6: 10x6

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
468.25	0.00	0.00
468.29	0.73	0.44
468.33	1.30	1.12
468.37	1.72	2.06
468.41	2.06	3.37
468.45	2.38	4.83
468.49	2.69	6.44
468.53	2.96	8.33
468.57	3.22	10.34
468.61	3.47	12.48
468.65	3.70	14.83
468.69	3.92	17.30
468.73	4.14	19.86
468.77	4.34	22.61
468.81	4.54	25.46
468.85	4.73	28.39
468.89	4.92	31.49
468.93	5.09	34.67
468.97	5.27	37.93
469.01	5.44	41.34
469.05	5.60	44.82
469.09	5.76	48.37
469.13	5.91	52.06
469.17	6.06	55.80
469.21	6.21	59.62
469.25	6.35	63.55
469.29	6.49	67.54
469.33	6.63	71.59
469.37	6.76	75.75
469.41	6.89	79.96
469.45	7.02	84.23
469.49	7.14	88.59
469.53	7.26	93.01
469.57	7.38	97.47
469.61	7.50	102.03
469.65	7.61	106.63
469.69	7.73	111.28
469.73	7.84	116.01
469.77	7.95	120.79
469.81	8.05	125.60
469.85	8.16	130.50
469.89	8.26	135.44
469.93	8.36	140.41
469.97	8.46	145.46
470.01	8.55	150.54
470.05	8.65	155.66
470.09	8.74	160.85
470.13	8.83	166.07
470.17	8.92	171.33
470.21	9.01	176.65
470.25	9.10	182.00
470.29	9.19	187.39
470.33	9.27	192.83
470.37	9.35	198.30
470.41	9.44	203.81
470.45	9.52	209.36
470.49	9.60	214.95
470.53	9.67	220.57
470.57	9.75	226.23
470.61	9.83	231.93
470.65	9.90	237.65
470.69	9.98	243.42
470.73	10.05	249.21
470.77	10.12	255.03
470.81	10.19	260.90
470.85	10.26	266.78
470.89	10.33	272.70
470.93	10.40	278.65
470.97	10.46	284.63
471.01	10.53	290.63
471.05	10.60	296.67
471.09	10.66	302.74
471.13	10.72	308.82
471.17	10.79	314.94
471.21	10.85	321.09
471.25	10.91	327.25
471.29	10.97	333.45
471.33	11.03	339.67
471.37	11.09	345.90
471.41	11.14	352.18
471.45	11.20	358.47
471.49	11.26	364.77
471.53	11.31	371.12
471.57	11.37	377.48
471.61	11.42	383.85
471.65	11.48	390.26
471.69	11.53	396.68
471.73	11.58	403.12
471.77	11.64	409.59
471.81	11.69	416.08
471.85	11.74	422.58
471.89	11.79	429.11
471.93	11.84	435.65
471.97	11.89	442.21
472.01	11.94	448.80
472.05	11.98	455.40
472.09	12.03	462.01
472.13	12.08	468.65
472.17	12.12	475.30
472.21	12.17	481.97
472.25	12.22	488.66
472.29	12.26	495.37
472.33	12.31	502.09
472.37	12.35	508.83
472.41	12.39	515.58
472.45	12.44	522.35
472.49	12.48	529.13
472.53	12.52	535.94
472.57	12.56	542.75
472.61	12.60	549.58
472.65	12.65	556.43
472.69	12.69	563.28
472.73	12.73	570.16
472.77	12.77	577.05
472.81	12.81	583.94
472.85	12.84	590.86
472.89	12.88	597.79
472.93	12.92	604.73
472.97	12.96	611.69
473.01	13.00	618.66
473.05	13.03	625.63
473.09	13.07	632.63
473.13	13.11	639.63
473.17	13.14	646.65
473.21	13.18	653.68
473.25	13.21	660.72
473.29	13.25	667.77
473.33	13.28	674.84
473.37	13.32	681.92
473.41	13.35	689.00
473.45	13.39	696.11
473.49	13.42	703.22
473.53	13.45	710.33
473.57	13.49	717.47
473.61	13.52	724.61
473.65	13.55	731.76
473.69	13.58	738.93
473.73	13.61	746.10
473.77	13.65	753.28
473.81	13.68	760.48
473.85	13.71	767.68
473.89	13.74	774.89
473.93	13.77	782.11
473.97	13.80	789.34
474.01	13.83	796.58
474.05	13.86	803.83
474.09	13.89	811.09
474.13	13.92	818.36
474.17	13.95	825.64
474.21	13.98	832.93
474.25	**14.00**	**840.22**

Stage-Area-Storage for Reach 10x6: 10x6

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
468.25	0.0	0
468.35	1.0	1,394
468.45	2.0	2,788
468.55	3.0	4,182
468.65	4.0	5,576
468.75	5.0	6,970
468.85	6.0	8,364
468.95	7.0	9,758
469.05	8.0	11,152
469.15	9.0	12,546
469.25	10.0	13,940
469.35	11.0	15,334
469.45	12.0	16,728
469.55	13.0	18,122
469.65	14.0	19,516
469.75	15.0	20,910
469.85	16.0	22,304
469.95	17.0	23,698
470.05	18.0	25,092
470.15	19.0	26,486
470.25	20.0	27,880
470.35	21.0	29,274
470.45	22.0	30,668
470.55	23.0	32,062
470.65	24.0	33,456
470.75	25.0	34,850
470.85	26.0	36,244
470.95	27.0	37,638
471.05	28.0	39,032
471.15	29.0	40,426
471.25	30.0	41,820
471.35	31.0	43,214
471.45	32.0	44,608
471.55	33.0	46,002
471.65	34.0	47,396
471.75	35.0	48,790
471.85	36.0	50,184
471.95	37.0	51,578
472.05	38.0	52,972
472.15	39.0	54,366
472.25	40.0	55,760
472.35	41.0	57,154
472.45	42.0	58,548
472.55	43.0	59,942
472.65	44.0	61,336
472.75	45.0	62,730
472.85	46.0	64,124
472.95	47.0	65,518
473.05	48.0	66,912
473.15	49.0	68,306
473.25	50.0	69,700
473.35	51.0	71,094
473.45	52.0	72,488
473.55	53.0	73,882
473.65	54.0	75,276
473.75	55.0	76,670
473.85	56.0	78,064
473.95	57.0	79,458
474.05	58.0	80,852
474.15	59.0	82,246
474.25	**60.0**	**83,640**

Summary for Reach 12X5: 12X5

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[61] Hint: Exceeded Reach RR outlet invert by 4.59' @ 19.91 hrs

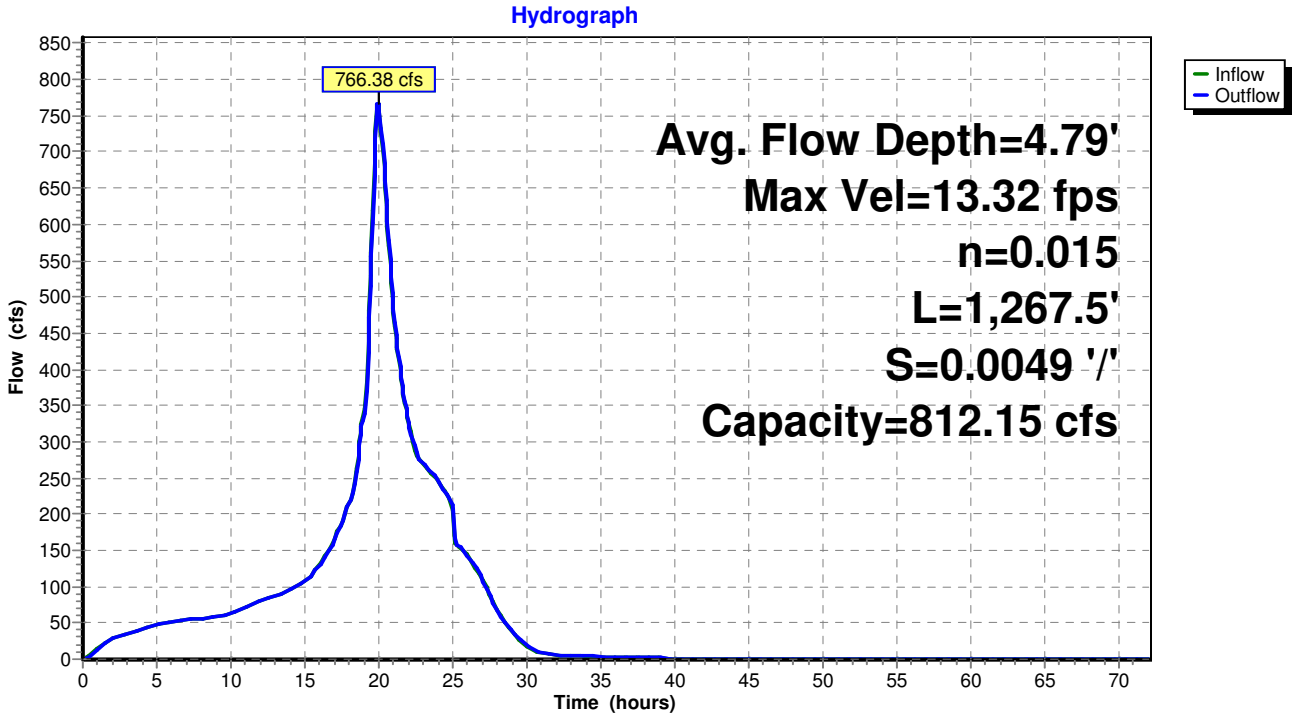
Inflow = 765.63 cfs @ 19.92 hrs, Volume= 365.237 af
Outflow = 766.38 cfs @ 19.94 hrs, Volume= 365.237 af, Atten= 0%, Lag= 0.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Max. Velocity= 13.32 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 3.63 fps, Avg. Travel Time= 5.8 min

Peak Storage= 72,890 cf @ 19.94 hrs
Average Depth at Peak Storage= 4.79'
Bank-Full Depth= 5.00' Flow Area= 60.0 sf, Capacity= 812.15 cfs

12.00' x 5.00' deep channel, n= 0.015
Length= 1,267.5' Slope= 0.0049 '/'
Inlet Invert= 460.10', Outlet Invert= 453.89'





Stage-Discharge for Reach 12X5: 12X5

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
460.10	0.00	0.00
460.15	0.94	0.56
460.20	1.48	1.77
460.25	1.93	3.47
460.30	2.32	5.57
460.35	2.68	8.03
460.40	3.01	10.83
460.45	3.32	13.93
460.50	3.61	17.31
460.55	3.88	20.95
460.60	4.14	24.85
460.65	4.39	28.98
460.70	4.63	33.33
460.75	4.86	37.90
460.80	5.08	42.66
460.85	5.29	47.63
460.90	5.50	52.77
460.95	5.70	58.10
461.00	5.89	63.60
461.05	6.08	69.26
461.10	6.26	75.08
461.15	6.43	81.06
461.20	6.60	87.18
461.25	6.77	93.45
461.30	6.93	99.85
461.35	7.09	106.39
461.40	7.25	113.06
461.45	7.40	119.85
461.50	7.55	126.77
461.55	7.69	133.80
461.60	7.83	140.95
461.65	7.97	148.21
461.70	8.10	155.57
461.75	8.23	163.05
461.80	8.36	170.62
461.85	8.49	178.30
461.90	8.61	186.07
461.95	8.74	193.93
462.00	8.85	201.89
462.05	8.97	209.94
462.10	9.09	218.07
462.15	9.20	226.29
462.20	9.31	234.60
462.25	9.42	242.98
462.30	9.52	251.45
462.35	9.63	259.99
462.40	9.73	268.60
462.45	9.83	277.29
462.50	9.93	286.05
462.55	10.03	294.89
462.60	10.13	303.79
462.65	10.22	312.76
462.70	10.31	321.79
462.75	10.41	330.89
462.80	10.50	340.05
462.85	10.58	349.27
462.90	10.67	358.56
462.95	10.76	367.90
463.00	10.84	377.30
463.05	10.93	386.76
463.10	11.01	396.27
463.15	11.09	405.83
463.20	11.17	415.45
463.25	11.25	425.13
463.30	11.32	434.85
463.35	11.40	444.62
463.40	11.48	454.45
463.45	11.55	464.32
463.50	11.62	474.24
463.55	11.70	484.20
463.60	11.77	494.21
463.65	11.84	504.27
463.70	11.91	514.37
463.75	11.98	524.51
463.80	12.04	534.69
463.85	12.11	544.92
463.90	12.18	555.18
463.95	12.24	565.49
464.00	12.30	575.84
464.05	12.37	586.22
464.10	12.43	596.64
464.15	12.49	607.10
464.20	12.55	617.60
464.25	12.61	628.13
464.30	12.67	638.70
464.35	12.73	649.30
464.40	12.79	659.94
464.45	12.85	670.61
464.50	12.90	681.31
464.55	12.96	692.05
464.60	13.02	702.82
464.65	13.07	713.62
464.70	13.12	724.45
464.75	13.18	735.31
464.80	13.23	746.20
464.85	13.28	757.12
464.90	13.33	768.07
464.95	13.39	779.05
465.00	13.44	790.05
465.05	13.49	801.09
465.10	**13.54**	**812.15**

Stage-Area-Storage for Reach 12X5: 12X5

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
460.10	0.0	0
460.15	0.6	761
460.20	1.2	1,521
460.25	1.8	2,282
460.30	2.4	3,042
460.35	3.0	3,803
460.40	3.6	4,563
460.45	4.2	5,324
460.50	4.8	6,084
460.55	5.4	6,845
460.60	6.0	7,605
460.65	6.6	8,366
460.70	7.2	9,126
460.75	7.8	9,887
460.80	8.4	10,647
460.85	9.0	11,408
460.90	9.6	12,168
460.95	10.2	12,929
461.00	10.8	13,689
461.05	11.4	14,450
461.10	12.0	15,210
461.15	12.6	15,971
461.20	13.2	16,731
461.25	13.8	17,492
461.30	14.4	18,252
461.35	15.0	19,013
461.40	15.6	19,773
461.45	16.2	20,534
461.50	16.8	21,294
461.55	17.4	22,055
461.60	18.0	22,815
461.65	18.6	23,576
461.70	19.2	24,336
461.75	19.8	25,097
461.80	20.4	25,857
461.85	21.0	26,618
461.90	21.6	27,378
461.95	22.2	28,139
462.00	22.8	28,899
462.05	23.4	29,660
462.10	24.0	30,420
462.15	24.6	31,180
462.20	25.2	31,941
462.25	25.8	32,701
462.30	26.4	33,462
462.35	27.0	34,223
462.40	27.6	34,983
462.45	28.2	35,744
462.50	28.8	36,504
462.55	29.4	37,265
462.60	30.0	38,025
462.65	30.6	38,786
462.70	31.2	39,546
462.75	31.8	40,307
462.80	32.4	41,067
462.85	33.0	41,828
462.90	33.6	42,588
462.95	34.2	43,349
463.00	34.8	44,109
463.05	35.4	44,870
463.10	36.0	45,630
463.15	36.6	46,391
463.20	37.2	47,151
463.25	37.8	47,912
463.30	38.4	48,672
463.35	39.0	49,433
463.40	39.6	50,193
463.45	40.2	50,954
463.50	40.8	51,714
463.55	41.4	52,475
463.60	42.0	53,235
463.65	42.6	53,996
463.70	43.2	54,756
463.75	43.8	55,517
463.80	44.4	56,277
463.85	45.0	57,038
463.90	45.6	57,798
463.95	46.2	58,559
464.00	46.8	59,319
464.05	47.4	60,080
464.10	48.0	60,840
464.15	48.6	61,600
464.20	49.2	62,361
464.25	49.8	63,122
464.30	50.4	63,882
464.35	51.0	64,643
464.40	51.6	65,403
464.45	52.2	66,164
464.50	52.8	66,924
464.55	53.4	67,685
464.60	54.0	68,445
464.65	54.6	69,206
464.70	55.2	69,966
464.75	55.8	70,727
464.80	56.4	71,487
464.85	57.0	72,248
464.90	57.6	73,008
464.95	58.2	73,769
465.00	58.8	74,529
465.05	59.4	75,290
465.10	**60.0**	**76,050**

Summary for Reach RR: RR

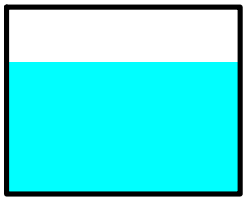
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach 10x6 OUTLET depth by 0.63' @ 19.33 hrs

Inflow = 766.27 cfs @ 19.92 hrs, Volume= 365.237 af
Outflow = 765.63 cfs @ 19.92 hrs, Volume= 365.237 af, Atten= 0%, Lag= 0.3 min

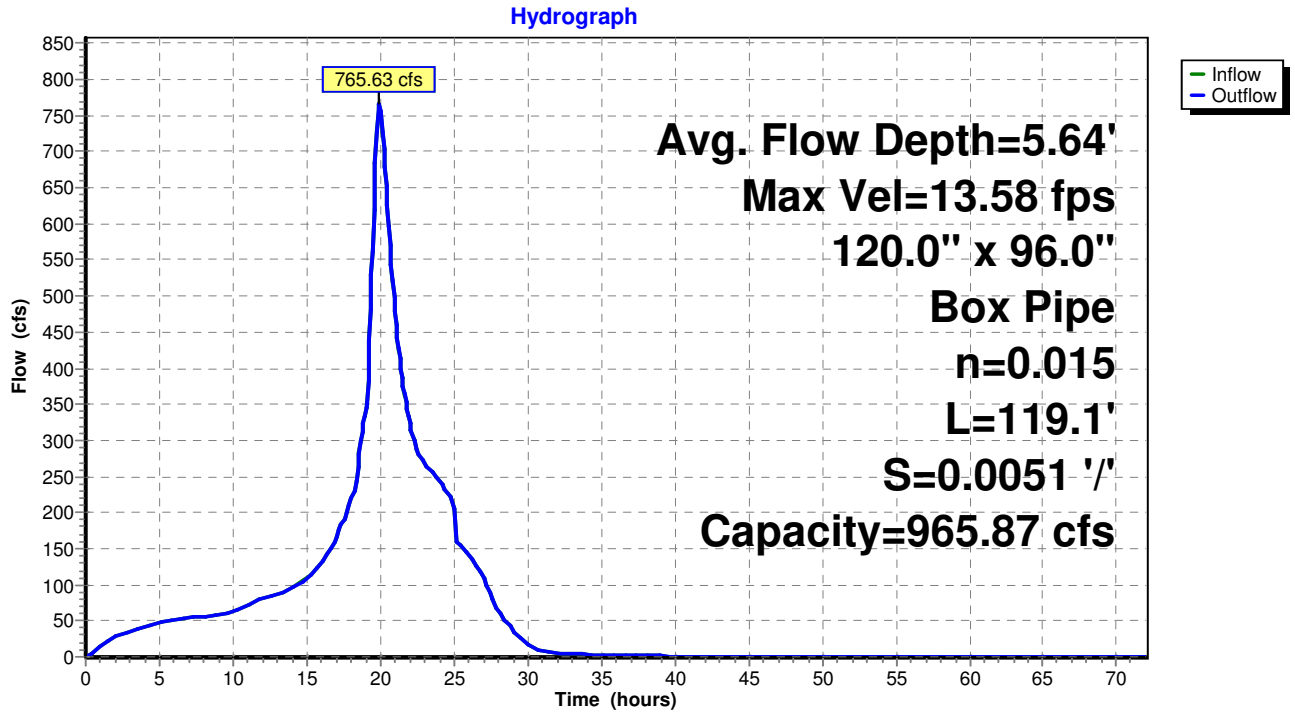
Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Max. Velocity= 13.58 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.99 fps, Avg. Travel Time= 0.5 min

Peak Storage= 6,716 cf @ 19.92 hrs
Average Depth at Peak Storage= 5.64'
Bank-Full Depth= 8.00' Flow Area= 80.0 sf, Capacity= 965.87 cfs

120.0" W x 96.0" H Box Pipe
n= 0.015
Length= 119.1' Slope= 0.0051 '/'
Inlet Invert= 460.91', Outlet Invert= 460.30'



Reach RR: RR



Stage-Discharge for Reach RR: RR

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
460.91	0.00	0.00
461.01	1.49	1.60
461.11	2.35	4.82
461.21	3.05	9.23
461.31	3.66	14.63
461.41	4.19	21.00
461.51	4.67	28.11
461.61	5.12	35.89
461.71	5.53	44.27
461.81	5.92	53.30
461.91	6.28	62.82
462.01	6.62	72.81
462.11	6.94	83.24
462.21	7.24	94.13
462.31	7.53	105.40
462.41	7.80	117.01
462.51	8.06	128.96
462.61	8.31	141.27
462.71	8.55	153.86
462.81	8.77	166.73
462.91	8.99	179.86
463.01	9.20	193.27
463.11	9.40	206.92
463.21	9.60	220.79
463.31	9.79	234.86
463.41	9.97	249.17
463.51	10.14	263.67
463.61	10.31	278.34
463.71	10.47	293.19
463.81	10.63	308.23
463.91	10.78	323.43
464.01	10.93	338.77
464.11	11.07	354.26
464.21	11.21	369.91
464.31	11.34	385.69
464.41	11.47	401.60
464.51	11.60	417.63
464.61	11.72	433.79
464.71	11.84	450.07
464.81	11.96	466.45
464.91	12.07	482.93
465.01	12.18	499.54
465.11	12.29	516.23
465.21	12.40	533.02
465.31	12.50	549.90
465.41	12.60	566.88
465.51	12.69	583.94
465.61	12.79	601.08
465.71	12.88	618.30
465.81	12.97	635.61
465.91	13.06	652.99
466.01	13.15	670.43
466.11	13.23	687.95
466.21	13.31	705.54
466.31	13.39	723.19
466.41	13.47	740.91
466.51	13.55	758.68
466.61	13.62	776.52
466.71	13.70	794.42
466.81	13.77	812.37
466.91	13.84	830.37
467.01	13.91	848.44
467.11	13.98	866.55
467.21	14.04	884.71
467.31	14.11	902.91
467.41	14.17	921.17
467.51	14.23	939.48
467.61	14.30	957.82
467.71	14.36	976.21
467.81	14.42	994.65
467.91	14.47	1,013.12
468.01	14.53	1,031.63
468.11	14.59	1,050.18
468.21	14.64	1,068.77
468.31	14.69	1,087.40
468.41	14.75	1,106.06
468.51	14.80	1,124.76
468.61	14.85	1,143.49
468.71	14.90	1,162.26
468.81	**14.95**	**1,181.05**
468.91	**12.07**	**965.87**

Stage-Area-Storage for Reach RR: RR

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
460.91	0.0	0
461.01	1.0	119
461.11	2.0	238
461.21	3.0	357
461.31	4.0	476
461.41	5.0	596
461.51	6.0	715
461.61	7.0	834
461.71	8.0	953
461.81	9.0	1,072
461.91	10.0	1,191
462.01	11.0	1,310
462.11	12.0	1,429
462.21	13.0	1,548
462.31	14.0	1,667
462.41	15.0	1,787
462.51	16.0	1,906
462.61	17.0	2,025
462.71	18.0	2,144
462.81	19.0	2,263
462.91	20.0	2,382
463.01	21.0	2,501
463.11	22.0	2,620
463.21	23.0	2,739
463.31	24.0	2,858
463.41	25.0	2,978
463.51	26.0	3,097
463.61	27.0	3,216
463.71	28.0	3,335
463.81	29.0	3,454
463.91	30.0	3,573
464.01	31.0	3,692
464.11	32.0	3,811
464.21	33.0	3,930
464.31	34.0	4,049
464.41	35.0	4,169
464.51	36.0	4,288
464.61	37.0	4,407
464.71	38.0	4,526
464.81	39.0	4,645
464.91	40.0	4,764
465.01	41.0	4,883
465.11	42.0	5,002
465.21	43.0	5,121
465.31	44.0	5,240
465.41	45.0	5,360
465.51	46.0	5,479
465.61	47.0	5,598
465.71	48.0	5,717
465.81	49.0	5,836
465.91	50.0	5,955
466.01	51.0	6,074
466.11	52.0	6,193
466.21	53.0	6,312
466.31	54.0	6,431
466.41	55.0	6,550
466.51	56.0	6,670
466.61	57.0	6,789
466.71	58.0	6,908
466.81	59.0	7,027
466.91	60.0	7,146
467.01	61.0	7,265
467.11	62.0	7,384
467.21	63.0	7,503
467.31	64.0	7,622
467.41	65.0	7,742
467.51	66.0	7,861
467.61	67.0	7,980
467.71	68.0	8,099
467.81	69.0	8,218
467.91	70.0	8,337
468.01	71.0	8,456
468.11	72.0	8,575
468.21	73.0	8,694
468.31	74.0	8,813
468.41	75.0	8,933
468.51	76.0	9,052
468.61	77.0	9,171
468.71	78.0	9,290
468.81	79.0	9,409
468.91	**80.0**	**9,528**

Summary for Pond Basin2: Basin2

Inflow	=	240.87 cfs @	19.71 hrs,	Volume=	75.423 af
Outflow	=	206.03 cfs @	20.01 hrs,	Volume=	75.415 af, Atten= 14%, Lag= 17.9 min
Primary	=	206.03 cfs @	20.01 hrs,	Volume=	75.415 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Peak Elev= 479.34' @ 20.00 hrs Surf.Area= 2.568 ac Storage= 11.925 af

Plug-Flow detention time= 87.9 min calculated for 75.328 af (100% of inflow)
Center-of-Mass det. time= 88.8 min (1,238.0 - 1,149.2)

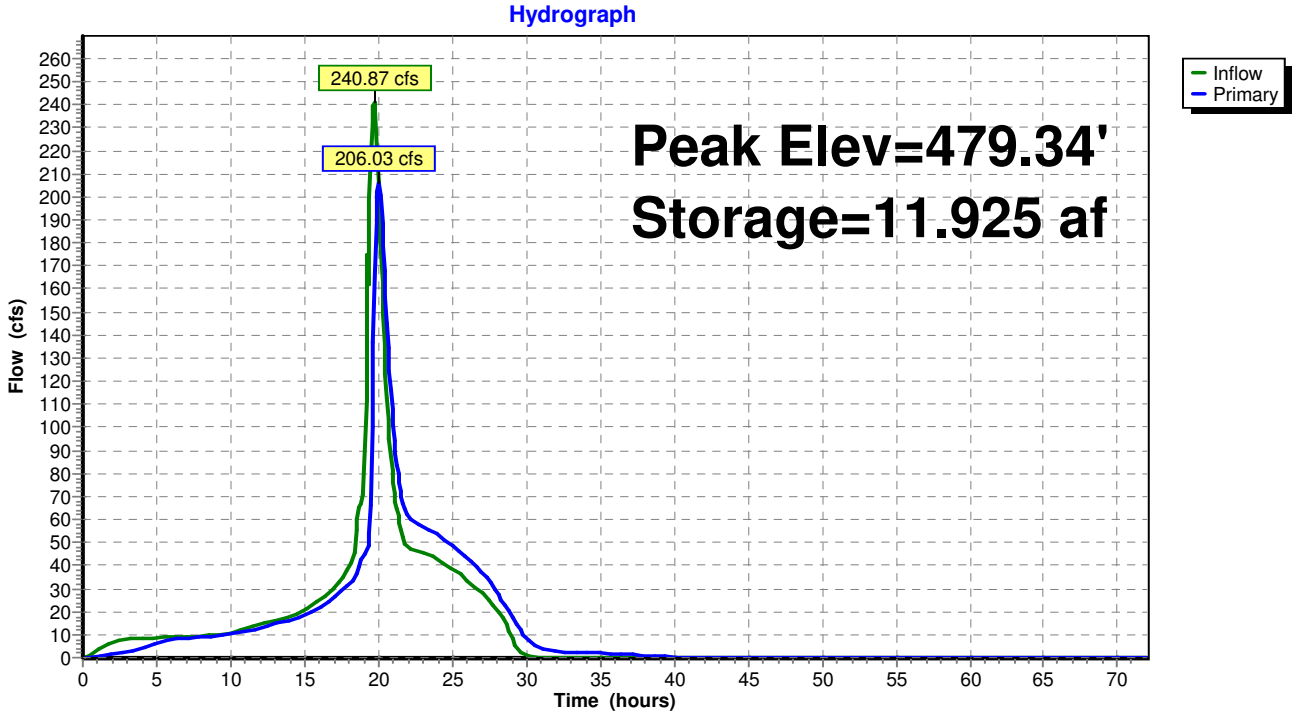
Volume	Invert	Avail.Storage	Storage Description
#1	471.00'	28.402 af	**07/06/19 ECG CTRS EXTENDED FROM 484 VERTICALLY (Prismatic)** Listed b

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
471.00	0.281	0.000	0.000
472.00	0.603	0.442	0.442
473.00	0.876	0.739	1.181
474.00	1.147	1.012	2.193
475.00	1.330	1.238	3.432
476.00	1.541	1.436	4.867
477.00	1.900	1.721	6.587
478.00	2.268	2.084	8.672
479.00	2.527	2.398	11.069
480.00	2.650	2.588	13.657
481.00	2.774	2.712	16.369
482.00	2.898	2.836	19.205
483.00	3.024	2.961	22.166
484.00	3.149	3.086	25.253
485.00	3.149	3.149	28.402

Device	Routing	Invert	Outlet Devices
#1	Primary	471.00'	**87.0" W x 48.0" H Box Primary + Secondary Pipes X 2.00** L= 328.0' Box, headwall w/3 square edges, Ke= 0.500 Inlet / Outlet Invert= 471.00' / 469.00' S= 0.0061 '/' Cc= 0.900 n= 0.015, Flow Area= 29.00 sf
#2	Device 1	477.85'	**Secondary Outlet, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 1.00 1.00 8.00 Width (feet) 27.00 27.00 27.00 27.00
#3	Device 1	473.00'	**36.0" W x 24.0" H Vert. Primary** C= 0.600
#4	Device 1	471.00'	**9.0" Vert. Low Flow Outlet** C= 0.600
#5	Device 1	480.34'	**Emergency Spillway, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 4.50 Width (feet) 114.00 114.00

Primary OutFlow Max=205.60 cfs @ 20.01 hrs HW=479.33' TW=474.24' (Dynamic Tailwater)
└─**1=Primary + Secondary Pipes** (Passes 205.60 cfs of 602.53 cfs potential flow)
  ├─**2=Secondary Outlet** (Weir Controls 136.54 cfs @ 3.41 fps)
  ├─**3=Primary** (Orifice Controls 64.26 cfs @ 10.71 fps)
  ├─**4=Low Flow Outlet** (Orifice Controls 4.80 cfs @ 10.87 fps)
  └─**5=Emergency Spillway** (Controls 0.00 cfs)

Pond Basin2: Basin2



Stage-Discharge for Pond Basin2: Basin2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
471.00	0.00	478.80	138.98
471.15	0.08	478.95	157.24
471.30	0.31	479.10	176.70
471.45	0.63	479.25	197.30
471.60	1.00	479.40	218.95
471.75	1.30	479.55	241.62
471.90	1.54	479.70	265.25
472.05	1.75	479.85	289.81
472.20	1.93	480.00	315.26
472.35	2.10	480.15	341.57
472.50	2.26	480.30	368.71
472.65	2.40	480.45	408.29
472.80	2.54	480.60	467.69
472.95	2.67	480.75	538.65
473.10	3.10	480.90	618.84
473.25	4.12	481.05	706.98
473.40	5.46	481.20	764.40
473.55	7.07	481.35	771.36
473.70	8.88	481.50	778.26
473.85	10.89	481.65	785.09
474.00	13.08	481.80	791.87
474.15	15.42	481.95	798.59
474.30	17.91	482.10	805.26
474.45	20.54	482.25	811.87
474.60	23.31	482.40	818.42
474.75	26.20	482.55	824.93
474.90	29.21	482.70	831.38
475.05	32.24	482.85	837.78
475.20	34.72	483.00	844.14
475.35	36.94	483.15	850.45
475.50	38.98	483.30	856.71
475.65	40.89	483.45	862.92
475.80	42.70	483.60	869.09
475.95	44.43	483.75	875.22
476.10	46.08	483.90	881.31
476.25	47.66	484.05	887.35
476.40	49.19	484.20	893.35
476.55	50.67	484.35	899.31
476.70	52.10	484.50	905.24
476.85	53.49	484.65	911.12
477.00	54.85	484.80	916.97
477.15	56.17	484.95	922.78
477.30	57.45	485.10	928.55
477.45	58.71	485.25	934.29
477.60	59.94	485.40	939.99
477.75	61.15	485.55	945.66
477.90	63.17	485.70	951.30
478.05	70.25	485.85	**956.90**
478.20	80.28		
478.35	92.47		
478.50	106.45		
478.65	122.01		

Stage-Area-Storage for Pond Basin2: Basin2

Elevation (feet)	Surface (acres)	Storage (acre-feet)
471.00	0.281	0.000
471.15	0.329	0.046
471.30	0.378	0.099
471.45	0.426	0.159
471.60	0.474	0.227
471.75	0.522	0.301
471.90	0.571	0.383
472.05	0.617	0.472
472.20	0.658	0.568
472.35	0.699	0.670
472.50	0.739	0.778
472.65	0.780	0.892
472.80	0.821	1.012
472.95	0.862	1.138
473.10	0.903	1.270
473.25	0.944	1.409
473.40	0.984	1.554
473.55	1.025	1.704
473.70	1.066	1.861
473.85	1.106	2.024
474.00	1.147	2.193
474.15	1.174	2.367
474.30	1.202	2.545
474.45	1.229	2.728
474.60	1.257	2.914
474.75	1.284	3.105
474.90	1.312	3.299
475.05	1.341	3.498
475.20	1.372	3.702
475.35	1.404	3.910
475.50	1.436	4.123
475.65	1.467	4.341
475.80	1.499	4.563
475.95	1.530	4.790
476.10	1.577	5.023
476.25	1.631	5.263
476.40	1.685	5.512
476.55	1.738	5.769
476.70	1.792	6.034
476.85	1.846	6.307
477.00	1.900	6.587
477.15	1.955	6.877
477.30	2.010	7.174
477.45	2.066	7.480
477.60	2.121	7.794
477.75	2.176	8.116
477.90	2.231	8.447
478.05	2.281	8.785
478.20	2.320	9.130
478.35	2.359	9.481
478.50	2.398	9.838
478.65	2.436	10.200
478.80	2.475	10.569
478.95	2.514	10.943
479.10	2.539	11.322
479.25	2.558	11.705
479.40	2.576	12.090
479.55	2.595	12.477
479.70	2.613	12.868
479.85	2.632	13.261
480.00	2.650	13.657
480.15	2.669	14.056
480.30	2.687	14.458
480.45	2.706	14.863
480.60	2.724	15.270
480.75	2.743	15.680
480.90	2.762	16.093
481.05	2.780	16.508
481.20	2.799	16.927
481.35	2.817	17.348
481.50	2.836	17.772
481.65	2.855	18.199
481.80	2.873	18.628
481.95	2.892	19.061
482.10	2.911	19.496
482.25	2.929	19.934
482.40	2.948	20.375
482.55	2.967	20.818
482.70	2.986	21.265
482.85	3.005	21.714
483.00	3.024	22.166
483.15	3.043	22.622
483.30	3.062	23.079
483.45	3.080	23.540
483.60	3.099	24.003
483.75	3.118	24.470
483.90	**3.136**	24.939
484.05	**3.149**	25.410
484.20	3.149	25.883
484.35	3.149	26.355
484.50	3.149	26.827
484.65	3.149	27.300
484.80	3.149	27.772
484.95	3.149	**28.245**
485.10	3.149	**28.402**
485.25	3.149	28.402
485.40	3.149	28.402
485.55	3.149	28.402
485.70	3.149	28.402
485.85	3.149	28.402

Summary for Pond Basin2A: Basin2A

Inflow	=	125.42 cfs @	19.24 hrs,	Volume=	13.065 af
Outflow	=	49.23 cfs @	19.42 hrs,	Volume=	13.065 af, Atten= 61%, Lag= 10.5 min
Primary	=	49.23 cfs @	19.42 hrs,	Volume=	13.065 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Peak Elev= 516.34' @ 19.42 hrs Surf.Area= 1.007 ac Storage= 1.792 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 8.2 min (1,021.9 - 1,013.7)

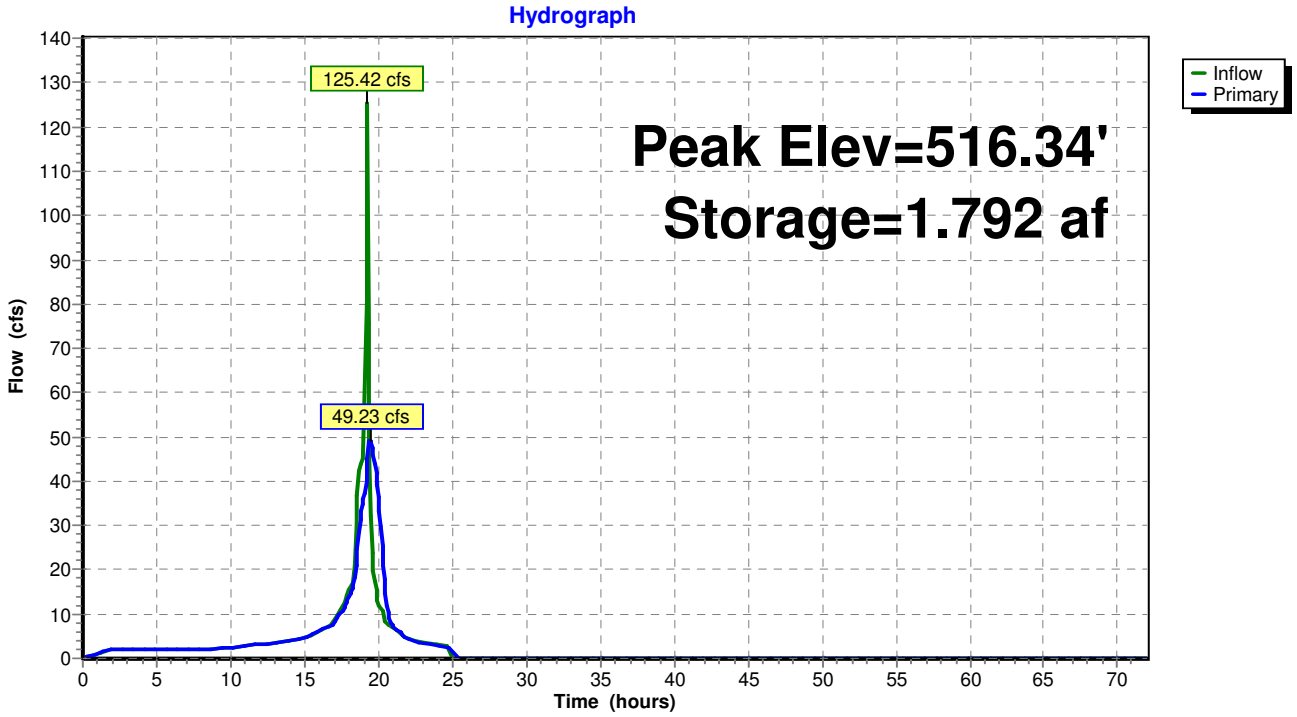
Volume	Invert	Avail.Storage	Storage Description
#1	513.00'	9.520 af	**07/06/19 ECG CTRS (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
513.00	0.124	0.000	0.000
514.00	0.339	0.231	0.231
515.00	0.603	0.471	0.703
516.00	0.923	0.763	1.465
517.00	1.172	1.047	2.513
518.00	1.329	1.250	3.763
519.00	1.394	1.362	5.125
520.00	1.440	1.417	6.542
521.00	1.489	1.464	8.006
522.00	1.539	1.514	9.520

Device	Routing	Invert	Outlet Devices
#1	Primary	512.00'	**39.0" Round Primary + Emergency Spillway X 2.00** L= 294.3' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 512.00' / 505.43' S= 0.0223 '/' Cc= 0.900 n= 0.012, Flow Area= 8.30 sf
#2	Device 1	512.00'	**33.0" Vert. Primary Outlet** C= 0.600
#3	Device 1	517.34'	**Emergency Spillway/Top of Riser Box, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 4.50 Width (feet) 24.00 24.00

Primary OutFlow Max=49.18 cfs @ 19.42 hrs HW=516.33' TW=507.50' (Dynamic Tailwater)
└**1=Primary + Emergency Spillway** (Passes 49.18 cfs of 131.45 cfs potential flow)
  ├**2=Primary Outlet** (Orifice Controls 49.18 cfs @ 8.28 fps)
  └**3=Emergency Spillway/Top of Riser Box** (Controls 0.00 cfs)

Pond Basin2A: Basin2A



Stage-Discharge for Pond Basin2A: Basin2A

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
513.00	0.00	518.20	116.41
513.10	7.92	518.30	126.68
513.20	9.29	518.40	137.45
513.30	10.73	518.50	148.70
513.40	12.24	518.60	160.42
513.50	13.82	518.70	172.58
513.60	15.44	518.80	181.73
513.70	17.11	518.90	183.48
513.80	18.82	519.00	185.21
513.90	20.54	519.10	186.93
514.00	22.28	519.20	188.63
514.10	24.01	519.30	190.31
514.20	25.72	519.40	191.98
514.30	27.40	519.50	193.64
514.40	29.01	519.60	195.28
514.50	30.53	519.70	196.90
514.60	31.91	519.80	198.52
514.70	33.09	519.90	200.12
514.80	34.14	520.00	201.71
514.90	35.32	520.10	203.28
515.00	36.46	520.20	204.85
515.10	37.56	520.30	206.40
515.20	38.63	520.40	207.94
515.30	39.68	520.50	209.47
515.40	40.70	520.60	210.99
515.50	41.69	520.70	212.49
515.60	42.66	520.80	213.99
515.70	43.61	520.90	215.48
515.80	44.54	521.00	216.95
515.90	45.44	521.10	218.42
516.00	46.34	521.20	219.87
516.10	47.21	521.30	221.32
516.20	48.07	521.40	222.76
516.30	48.91	521.50	224.18
516.40	49.74	521.60	225.60
516.50	50.56	521.70	227.01
516.60	51.36	521.80	228.42
516.70	52.15	521.90	229.81
516.80	52.93	522.00	**231.19**
516.90	53.69		
517.00	54.45		
517.10	55.20		
517.20	55.93		
517.30	56.66		
517.40	58.36		
517.50	62.39		
517.60	67.69		
517.70	73.99		
517.80	81.13		
517.90	89.00		
518.00	97.54		
518.10	106.69		

Stage-Area-Storage for Pond Basin2A: Basin2A

Elevation (feet)	Surface (acres)	Storage (acre-feet)
513.00	0.124	0.000
513.10	0.146	0.013
513.20	0.167	0.029
513.30	0.188	0.047
513.40	0.210	0.067
513.50	0.231	0.089
513.60	0.253	0.113
513.70	0.275	0.139
513.80	0.296	0.168
513.90	0.317	0.199
514.00	0.339	0.231
514.10	0.365	0.267
514.20	0.392	0.305
514.30	0.418	0.345
514.40	0.445	0.388
514.50	0.471	0.434
514.60	0.497	0.482
514.70	0.524	0.533
514.80	0.550	0.587
514.90	0.577	0.644
515.00	0.603	0.703
515.10	0.635	0.764
515.20	0.667	0.830
515.30	0.699	0.898
515.40	0.731	0.969
515.50	0.763	1.044
515.60	0.795	1.122
515.70	0.827	1.203
515.80	0.859	1.287
515.90	0.891	1.375
516.00	0.923	1.465
516.10	0.948	1.559
516.20	0.973	1.655
516.30	0.998	1.754
516.40	1.023	1.855
516.50	1.047	1.958
516.60	1.072	2.064
516.70	1.097	2.173
516.80	1.122	2.284
516.90	1.147	2.397
517.00	1.172	2.513
517.10	1.188	2.631
517.20	1.203	2.751
517.30	1.219	2.872
517.40	1.235	2.994
517.50	1.250	3.119
517.60	1.266	3.244
517.70	1.282	3.372
517.80	1.298	3.501
517.90	1.313	3.631
518.00	1.329	3.763
518.10	1.336	3.897
518.20	1.342	4.031
518.30	1.348	4.165
518.40	1.355	4.300
518.50	1.362	4.436
518.60	1.368	4.573
518.70	1.375	4.710
518.80	1.381	4.847
518.90	1.387	4.986
519.00	1.394	5.125
519.10	1.399	5.265
519.20	1.403	5.405
519.30	1.408	5.545
519.40	1.412	5.686
519.50	1.417	5.828
519.60	1.422	5.970
519.70	1.426	6.112
519.80	1.431	6.255
519.90	1.435	6.398
520.00	1.440	6.542
520.10	1.445	6.686
520.20	1.450	6.831
520.30	1.455	6.976
520.40	1.460	7.122
520.50	1.464	7.268
520.60	1.469	7.415
520.70	1.474	7.562
520.80	1.479	7.710
520.90	1.484	7.858
521.00	1.489	8.006
521.10	1.494	8.156
521.20	1.499	8.305
521.30	1.504	8.455
521.40	1.509	8.606
521.50	1.514	8.757
521.60	1.519	8.909
521.70	1.524	9.061
521.80	1.529	9.214
521.90	1.534	9.367
522.00	**1.539**	**9.520**

Summary for Pond Basin2B: Basin2B

Inflow = 379.32 cfs @ 19.26 hrs, Volume= 67.114 af
Outflow = 233.34 cfs @ 19.72 hrs, Volume= 67.114 af, Atten= 38%, Lag= 27.2 min
Primary = 233.34 cfs @ 19.72 hrs, Volume= 67.114 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Peak Elev= 507.90' @ 19.72 hrs Surf.Area= 3.448 ac Storage= 21.148 af

Plug-Flow detention time= 111.9 min calculated for 67.037 af (100% of inflow)
Center-of-Mass det. time= 112.2 min (1,172.8 - 1,060.7)

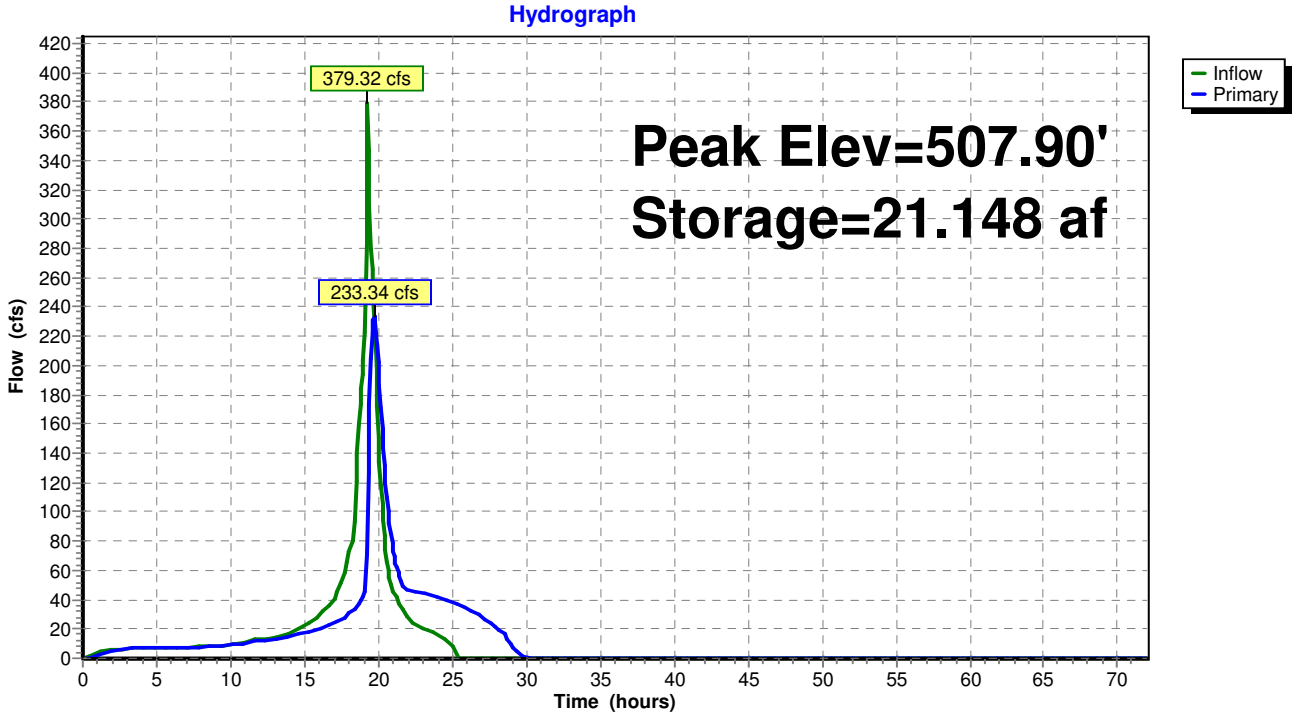
Volume	Invert	Avail.Storage	Storage Description
#1	498.00'	45.814 af	**07/06/19 ECG CTRS/EXTENDED VERT AT 512 (Prismatic)** Listed below (Reca

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
498.00	0.050	0.000	0.000
499.00	0.560	0.305	0.305
500.00	1.360	0.960	1.265
501.00	1.760	1.560	2.825
502.00	2.050	1.905	4.730
503.00	2.290	2.170	6.900
504.00	2.560	2.425	9.325
505.00	2.860	2.710	12.035
506.00	3.050	2.955	14.990
507.00	3.260	3.155	18.145
508.00	3.470	3.365	21.510
509.00	3.690	3.580	25.090
510.00	3.896	3.793	28.883
511.00	4.098	3.997	32.880
512.00	4.354	4.226	37.106
513.00	4.354	4.354	41.460
514.00	4.354	4.354	45.814

Device	Routing	Invert	Outlet Devices
#1	Primary	498.00'	**60.0" Round Primary + Secondary Pipes X 2.00** L= 224.3' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 498.00' / 484.56' S= 0.0599 '/' Cc= 0.900 n= 0.012, Flow Area= 19.63 sf
#2	Device 1	506.10'	**Secondary Weir, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 1.09 1.10 6.59 Width (feet) 27.00 27.00 27.00 27.00
#3	Device 1	498.00'	**18.0" Vert. Primary (above debris volume) X 2.00** C= 0.600
#4	Device 1	508.90'	**Emergency Spillway, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 4.50 Width (feet) 93.00 93.00

Primary OutFlow Max=232.57 cfs @ 19.72 hrs HW=507.89' TW=478.99' (Dynamic Tailwater)
└─**1=Primary + Secondary Pipes** (Passes 232.57 cfs of 514.03 cfs potential flow)
  ├─**2=Secondary Weir** (Weir Controls 181.12 cfs @ 3.75 fps)
  ├─**3=Primary (above debris volume)** (Orifice Controls 51.45 cfs @ 14.56 fps)
  └─**4=Emergency Spillway** (Controls 0.00 cfs)

Pond Basin2B: Basin2B



Stage-Discharge for Pond Basin2B: Basin2B

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
498.00	0.00	502.16	31.42	506.32	54.62	510.48	597.34
498.08	0.07	502.24	31.79	506.40	59.49	510.56	599.73
498.16	0.28	502.32	32.15	506.48	65.02	510.64	602.11
498.24	0.61	502.40	32.51	506.56	71.14	510.72	604.48
498.32	1.06	502.48	32.87	506.64	77.80	510.80	606.84
498.40	1.63	502.56	33.22	506.72	84.95	510.88	609.19
498.48	2.30	502.64	33.56	506.80	92.56	510.96	611.53
498.56	3.07	502.72	33.91	506.88	100.60	511.04	613.87
498.64	3.92	502.80	34.25	506.96	109.05	511.12	616.19
498.72	4.85	502.88	34.58	507.04	117.90	511.20	618.51
498.80	5.84	502.96	34.92	507.12	127.11	511.28	620.82
498.88	6.88	503.04	35.25	507.20	136.69	511.36	623.12
498.96	7.97	503.12	35.57	507.28	146.61	511.44	625.41
499.04	9.08	503.20	35.90	507.36	156.86	511.52	627.69
499.12	10.20	503.28	36.22	507.44	167.43	511.60	629.96
499.20	11.30	503.36	36.54	507.52	178.32	511.68	632.23
499.28	12.37	503.44	36.85	507.60	189.51	511.76	634.49
499.36	13.37	503.52	37.17	507.68	201.00	511.84	636.74
499.44	14.25	503.60	37.48	507.76	212.77	511.92	638.98
499.52	14.93	503.68	37.79	507.84	224.83	512.00	641.21
499.60	15.69	503.76	38.09	507.92	237.15	512.08	643.44
499.68	16.41	503.84	38.39	508.00	249.75	512.16	645.66
499.76	17.10	503.92	38.69	508.08	262.61	512.24	647.87
499.84	17.77	504.00	38.99	508.16	275.73	512.32	650.07
499.92	18.41	504.08	39.29	508.24	289.09	512.40	652.27
500.00	19.03	504.16	39.58	508.32	302.71	512.48	654.46
500.08	19.63	504.24	39.87	508.40	316.57	512.56	656.64
500.16	20.21	504.32	40.16	508.48	330.66	512.64	658.81
500.24	20.77	504.40	40.45	508.56	344.99	512.72	660.98
500.32	21.32	504.48	40.74	508.64	359.55	512.80	663.14
500.40	21.86	504.56	41.02	508.72	374.34	512.88	665.30
500.48	22.38	504.64	41.30	508.80	389.35	512.96	667.44
500.56	22.89	504.72	41.58	508.88	404.58	513.04	669.58
500.64	23.40	504.80	41.86	508.96	423.86	513.12	671.71
500.72	23.89	504.88	42.13	509.04	449.33	513.20	673.84
500.80	24.37	504.96	42.41	509.12	478.44	513.28	675.96
500.88	24.84	505.04	42.68	509.20	510.43	513.36	678.07
500.96	25.30	505.12	42.95	509.28	544.93	513.44	680.18
501.04	25.75	505.20	43.22	509.36	562.82	513.52	682.28
501.12	26.20	505.28	43.49	509.44	565.36	513.60	684.37
501.20	26.64	505.36	43.75	509.52	567.88	513.68	686.45
501.28	27.07	505.44	44.02	509.60	570.39	513.76	688.53
501.36	27.49	505.52	44.28	509.68	572.90	513.84	690.61
501.44	27.91	505.60	44.54	509.76	575.39	513.92	692.68
501.52	28.32	505.68	44.80	509.84	577.87	514.00	**694.74**
501.60	28.73	505.76	45.06	509.92	580.34		
501.68	29.13	505.84	45.31	510.00	582.80		
501.76	29.52	505.92	45.57	510.08	585.24		
501.84	29.91	506.00	45.82	510.16	587.68		
501.92	30.30	506.08	46.07	510.24	590.11		
502.00	30.68	506.16	47.44	510.32	592.53		
502.08	31.05	506.24	50.53	510.40	594.94		

Stage-Area-Storage for Pond Basin2B: Basin2B

Elevation (feet)	Surface (acres)	Storage (acre-feet)
498.00	0.050	0.000
498.20	0.152	0.020
498.40	0.254	0.061
498.60	0.356	0.122
498.80	0.458	0.203
499.00	0.560	0.305
499.20	0.720	0.433
499.40	0.880	0.593
499.60	1.040	0.785
499.80	1.200	1.009
500.00	1.360	1.265
500.20	1.440	1.545
500.40	1.520	1.841
500.60	1.600	2.153
500.80	1.680	2.481
501.00	1.760	2.825
501.20	1.818	3.183
501.40	1.876	3.552
501.60	1.934	3.933
501.80	1.992	4.326
502.00	2.050	4.730
502.20	2.098	5.145
502.40	2.146	5.569
502.60	2.194	6.003
502.80	2.242	6.447
503.00	2.290	6.900
503.20	2.344	7.363
503.40	2.398	7.838
503.60	2.452	8.323
503.80	2.506	8.818
504.00	2.560	9.325
504.20	2.620	9.843
504.40	2.680	10.373
504.60	2.740	10.915
504.80	2.800	11.469
505.00	2.860	12.035
505.20	2.898	12.611
505.40	2.936	13.194
505.60	2.974	13.785
505.80	3.012	14.384
506.00	3.050	14.990
506.20	3.092	15.604
506.40	3.134	16.227
506.60	3.176	16.858
506.80	3.218	17.497
507.00	3.260	18.145
507.20	3.302	18.801
507.40	3.344	19.466
507.60	3.386	20.139
507.80	3.428	20.820
508.00	3.470	21.510
508.20	3.514	22.208
508.40	3.558	22.916
508.60	3.602	23.632
508.80	3.646	24.356
509.00	3.690	25.090
509.20	3.731	25.832
509.40	3.772	26.582
509.60	3.814	27.341
509.80	3.855	28.108
510.00	3.896	28.883
510.20	3.936	29.666
510.40	3.977	30.458
510.60	4.017	31.257
510.80	4.058	32.064
511.00	4.098	32.880
511.20	4.149	33.705
511.40	4.200	34.540
511.60	4.252	35.385
511.80	4.303	36.240
512.00	**4.354**	37.106
512.20	4.354	37.977
512.40	4.354	38.848
512.60	4.354	39.718
512.80	4.354	40.589
513.00	4.354	41.460
513.20	4.354	42.331
513.40	4.354	43.202
513.60	4.354	44.072
513.80	4.354	44.943
514.00	4.354	**45.814**

Summary for Pond DiversionStructure: DiversionStructure

[57] Hint: Peaked at 497.87' (Flood elevation advised)

Inflow	=	863.55 cfs @	19.33 hrs,	Volume=	220.901 af
Outflow	=	863.55 cfs @	19.33 hrs,	Volume=	220.901 af, Atten= 0%, Lag= 0.0 min
Primary	=	135.28 cfs @	19.33 hrs,	Volume=	108.106 af
Secondary	=	728.27 cfs @	19.33 hrs,	Volume=	112.794 af

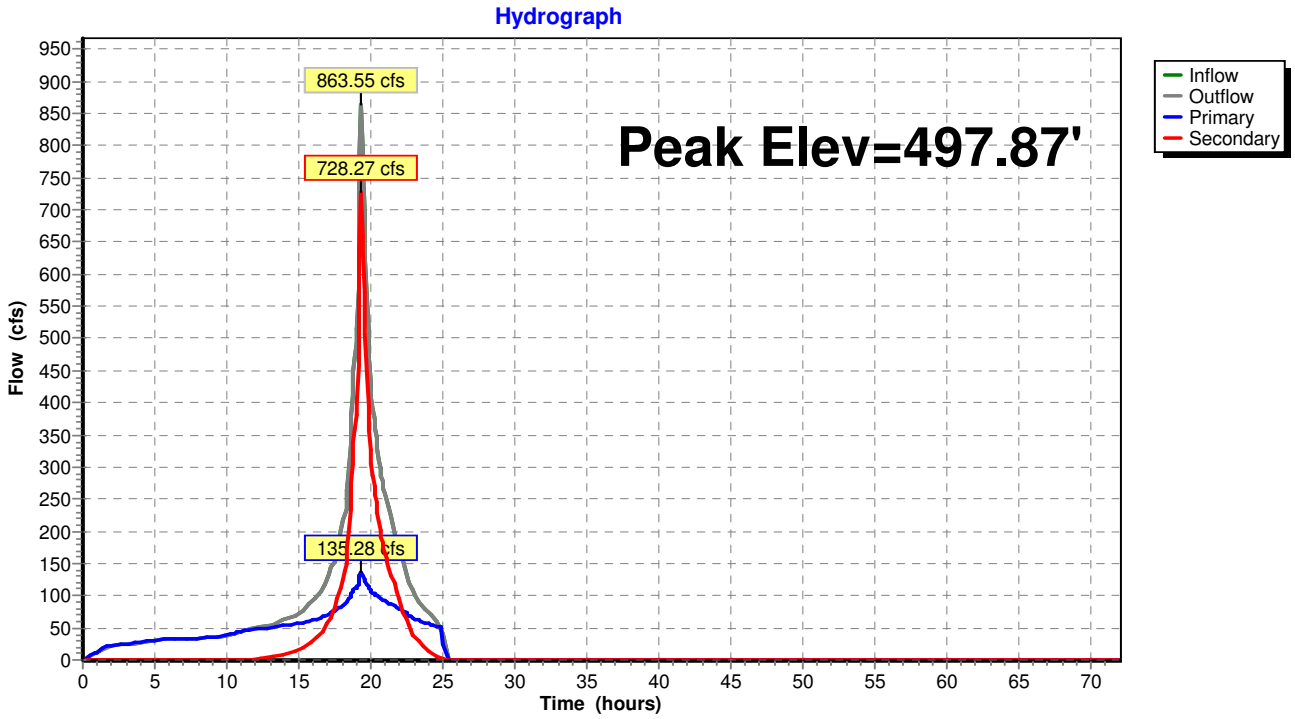
Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Peak Elev= 497.87' @ 19.33 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	493.76'	**96.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#2	Secondary	495.25'	**108.0" W x 30.0" H Vert. Orifice/Grate X 6.00** C= 0.600

Primary OutFlow Max=134.95 cfs @ 19.33 hrs HW=497.86' TW=483.07' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 134.95 cfs @ 8.43 fps)

Secondary OutFlow Max=723.01 cfs @ 19.33 hrs HW=497.86' TW=488.52' (Dynamic Tailwater)
└**2=Orifice/Grate** (Orifice Controls 723.01 cfs @ 5.36 fps)

Pond DiversionStructure: DiversionStructure



Stage-Discharge for Pond DiversionStructure: DiversionStructure

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
493.76	0.00	0.00	0.00
493.81	0.29	0.29	0.00
493.86	0.81	0.81	0.00
493.91	1.49	1.49	0.00
493.96	2.30	2.30	0.00
494.01	3.21	3.21	0.00
494.06	4.22	4.22	0.00
494.11	5.32	5.32	0.00
494.16	6.50	6.50	0.00
494.21	7.75	7.75	0.00
494.26	9.08	9.08	0.00
494.31	10.47	10.47	0.00
494.36	11.93	11.93	0.00
494.41	13.46	13.46	0.00
494.46	15.04	15.04	0.00
494.51	16.68	16.68	0.00
494.56	18.38	18.38	0.00
494.61	20.12	20.12	0.00
494.66	21.93	21.93	0.00
494.71	23.78	23.78	0.00
494.76	25.68	25.68	0.00
494.81	27.63	27.63	0.00
494.86	29.63	29.63	0.00
494.91	31.67	31.67	0.00
494.96	33.76	33.76	0.00
495.01	35.89	35.89	0.00
495.06	38.06	38.06	0.00
495.11	40.28	40.28	0.00
495.16	42.54	42.54	0.00
495.21	44.84	44.84	0.00
495.26	47.35	47.18	0.17
495.31	52.10	49.56	2.55
495.36	58.30	51.97	6.32
495.41	65.52	54.43	11.09
495.46	73.60	56.92	16.68
495.51	82.43	59.45	22.98
495.56	91.93	62.02	29.92
495.61	102.06	64.62	37.44
495.66	112.76	67.25	45.51
495.71	124.01	69.93	54.08
495.76	135.77	72.63	63.13
495.81	147.73	75.09	72.64
495.86	159.92	77.34	82.58
495.91	172.41	79.46	92.94
495.96	185.20	81.50	103.70
496.01	198.31	83.46	114.85
496.06	211.72	85.35	126.36
496.11	225.44	87.19	138.24
496.16	239.46	88.98	150.47
496.21	253.77	90.73	163.04
496.26	268.38	92.43	175.95
496.31	283.27	94.09	189.17
496.36	298.44	95.72	202.71
496.41	313.89	97.32	216.56
496.46	329.60	98.89	230.71
496.51	345.59	100.43	245.16
496.56	361.84	101.94	259.90
496.61	378.35	103.43	274.92
496.66	395.11	104.89	290.22
496.71	412.13	106.34	305.79
496.76	429.39	107.76	321.63
496.81	446.90	109.16	337.74
496.86	464.64	110.54	354.11
496.91	482.63	111.90	370.73
496.96	500.85	113.24	387.61
497.01	519.30	114.57	404.73
497.06	537.98	115.88	422.10
497.11	556.89	117.18	439.71
497.16	576.01	118.46	457.56
497.21	595.36	119.72	475.64
497.26	614.93	120.97	493.96
497.31	634.71	122.21	512.50
497.36	654.71	123.43	531.28
497.41	674.92	124.65	550.27
497.46	695.33	125.85	569.49
497.51	715.96	127.03	588.92
497.56	736.79	128.21	608.58
497.61	757.82	129.37	628.44
497.66	779.05	130.53	648.52
497.71	800.48	131.67	668.80
497.76	821.93	132.81	689.13
497.81	841.38	133.93	707.45
497.86	**859.62**	**135.04**	**724.58**

Stage-Area-Storage for Pond DiversionStructure: DiversionStructure

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
493.76	**0**	496.36	0
493.81	0	496.41	0
493.86	0	496.46	0
493.91	0	496.51	0
493.96	0	496.56	0
494.01	0	496.61	0
494.06	0	496.66	0
494.11	0	496.71	0
494.16	0	496.76	0
494.21	0	496.81	0
494.26	0	496.86	0
494.31	0	496.91	0
494.36	0	496.96	0
494.41	0	497.01	0
494.46	0	497.06	0
494.51	0	497.11	0
494.56	0	497.16	0
494.61	0	497.21	0
494.66	0	497.26	0
494.71	0	497.31	0
494.76	0	497.36	0
494.81	0	497.41	0
494.86	0	497.46	0
494.91	0	497.51	0
494.96	0	497.56	0
495.01	0	497.61	0
495.06	0	497.66	0
495.11	0	497.71	0
495.16	0	497.76	0
495.21	0	497.81	0
495.26	0	497.86	0
495.31	0		
495.36	0		
495.41	0		
495.46	0		
495.51	0		
495.56	0		
495.61	0		
495.66	0		
495.71	0		
495.76	0		
495.81	0		
495.86	0		
495.91	0		
495.96	0		
496.01	0		
496.06	0		
496.11	0		
496.16	0		
496.21	0		
496.26	0		
496.31	0		

Summary for Pond RegionalBasin3: RegionalBasin3

Inflow = 1,068.87 cfs @ 19.27 hrs, Volume= 164.565 af
Outflow = 441.83 cfs @ 19.85 hrs, Volume= 164.565 af, Atten= 59%, Lag= 35.0 min
Primary = 441.83 cfs @ 19.85 hrs, Volume= 164.565 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Peak Elev= 490.00' @ 19.85 hrs Surf.Area= 8.724 ac Storage= 61.744 af

Plug-Flow detention time= 142.0 min calculated for 164.374 af (100% of inflow)
Center-of-Mass det. time= 143.0 min (1,252.5 - 1,109.5)

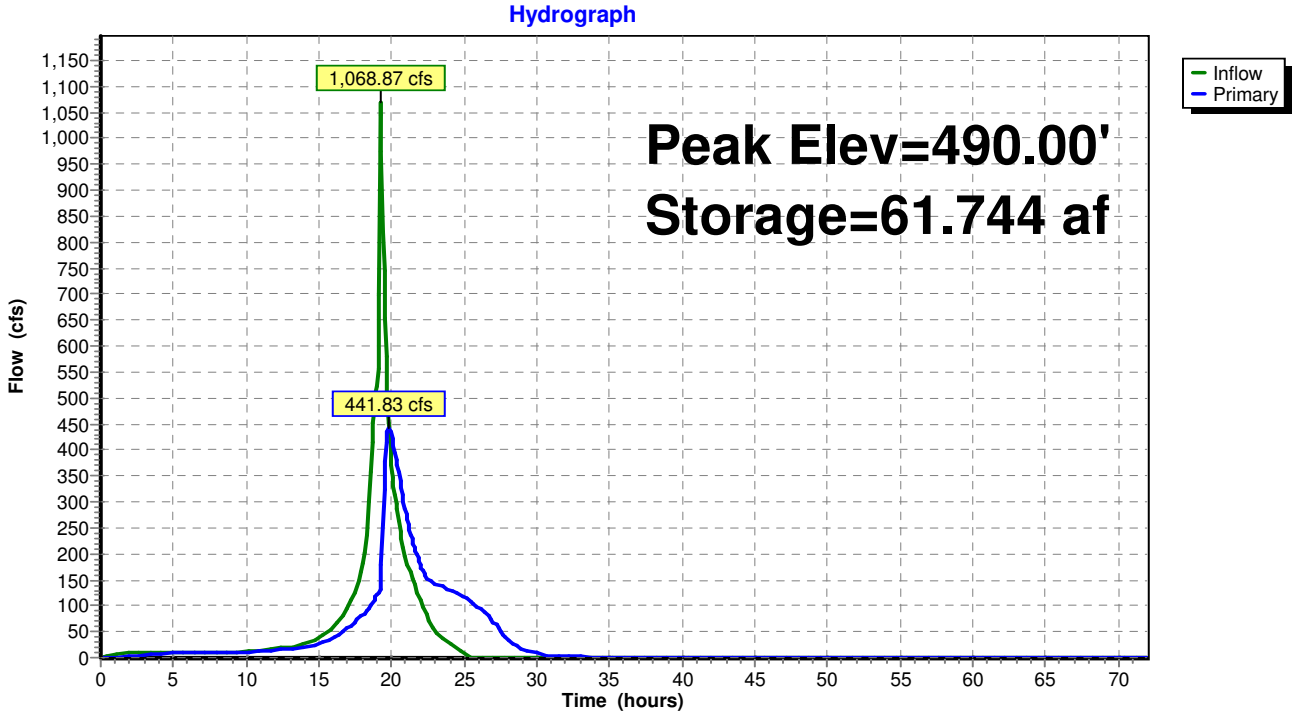
Volume	Invert	Avail.Storage	Storage Description
#1	480.00'	117.013 af	**07/06/19 ECG CTRS/EXTENDED VERT AT 493 (Prismatic)** Listed below (Reca

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
480.00	0.000	0.000	0.000
481.00	1.576	0.788	0.788
482.00	3.507	2.542	3.330
483.00	4.877	4.192	7.522
484.00	6.491	5.684	13.206
485.00	7.828	7.159	20.365
486.00	8.006	7.917	28.282
487.00	8.184	8.095	36.377
488.00	8.363	8.274	44.651
489.00	8.543	8.453	53.104
490.00	8.724	8.633	61.737
491.00	8.906	8.815	70.552
492.00	9.089	8.997	79.550
493.00	9.274	9.181	88.731
494.00	9.458	9.366	98.097
495.00	9.458	9.458	107.555
496.00	9.458	9.458	117.013

Device	Routing	Invert	Outlet Devices
#1	Primary	480.00'	**96.0" W x 48.0" H Box Primary + Secondary Pipes X 3.00** L= 572.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 480.00' / 479.86' S= 0.0002 '/' Cc= 0.900 n= 0.012, Flow Area= 32.00 sf
#2	Device 1	481.00'	**75.0" W x 24.0" H Vert. Primary Inlet** C= 0.600
#3	Device 1	480.00'	**9.0" Vert. Low Flow Inlet** C= 0.600
#4	Device 1	487.97'	**Secondary Outlet, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 2.69 2.70 4.70 Width (feet) 34.00 34.00 34.00 34.00
#5	Device 1	491.00'	**Emergency Spillway, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 5.00 Width (feet) 137.00 137.00

Primary OutFlow Max=440.84 cfs @ 19.85 hrs HW=490.00' TW=482.87' (Dynamic Tailwater)
└─**1=Primary + Secondary Pipes** (Passes 440.84 cfs of 1,076.42 cfs potential flow)
  ├─**2=Primary Inlet** (Orifice Controls 160.59 cfs @ 12.85 fps)
  ├─**3=Low Flow Inlet** (Orifice Controls 5.68 cfs @ 12.85 fps)
  ├─**4=Secondary Outlet** (Weir Controls 274.57 cfs @ 3.99 fps)
  └─**5=Emergency Spillway** (Controls 0.00 cfs)

Pond RegionalBasin3: RegionalBasin3



Stage-Discharge for Pond RegionalBasin3: RegionalBasin3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
480.00	0.00	484.16	91.77	488.32	176.86	492.48	1,275.81
480.08	0.02	484.24	93.48	488.40	184.98	492.56	1,281.71
480.16	0.09	484.32	95.16	488.48	193.79	492.64	1,287.59
480.24	0.20	484.40	96.81	488.56	203.23	492.72	1,293.45
480.32	0.35	484.48	98.43	488.64	213.27	492.80	1,299.27
480.40	0.52	484.56	100.02	488.72	223.86	492.88	1,305.07
480.48	0.70	484.64	101.58	488.80	234.97	492.96	1,310.85
480.56	0.90	484.72	103.12	488.88	246.58	493.04	1,316.60
480.64	1.09	484.80	104.64	488.96	258.66	493.12	1,322.32
480.72	1.26	484.88	106.13	489.04	271.19	493.20	1,328.02
480.80	1.39	484.96	107.60	489.12	284.16	493.28	1,333.70
480.88	1.51	485.04	109.05	489.20	297.55	493.36	1,339.35
480.96	1.63	485.12	110.48	489.28	311.35	493.44	1,344.97
481.04	1.90	485.20	111.89	489.36	325.55	493.52	1,350.58
481.12	2.67	485.28	113.29	489.44	340.12	493.60	1,356.16
481.20	3.73	485.36	114.66	489.52	355.07	493.68	1,361.72
481.28	5.00	485.44	116.02	489.60	370.38	493.76	1,367.25
481.36	6.44	485.52	117.36	489.68	386.04	493.84	1,372.77
481.44	8.05	485.60	118.69	489.76	402.05	493.92	1,378.26
481.52	9.80	485.68	120.00	489.84	418.40	494.00	1,383.73
481.60	11.68	485.76	121.29	489.92	435.07	494.08	1,389.17
481.68	13.68	485.84	122.58	490.00	452.07	494.16	1,394.60
481.76	15.80	485.92	123.85	490.08	469.38	494.24	1,400.01
481.84	18.02	486.00	125.10	490.16	487.01	494.32	1,405.39
481.92	20.35	486.08	126.35	490.24	504.94	494.40	1,410.76
482.00	22.77	486.16	127.58	490.32	523.17	494.48	1,416.10
482.08	25.30	486.24	128.79	490.40	541.69	494.56	1,421.42
482.16	27.91	486.32	130.00	490.48	560.50	494.64	1,426.73
482.24	30.61	486.40	131.20	490.56	579.59	494.72	1,432.01
482.32	33.39	486.48	132.38	490.64	598.97	494.80	1,437.28
482.40	36.26	486.56	133.56	490.72	618.62	494.88	1,442.52
482.48	39.21	486.64	134.72	490.80	638.54	494.96	1,447.75
482.56	42.23	486.72	135.87	490.88	658.73	495.04	1,452.96
482.64	45.34	486.80	137.02	490.96	679.19	495.12	1,458.14
482.72	48.51	486.88	138.15	491.04	702.97	495.20	1,463.32
482.80	51.76	486.96	139.27	491.12	736.82	495.28	1,468.47
482.88	55.08	487.04	140.39	491.20	776.41	495.36	1,473.60
482.96	58.47	487.12	141.49	491.28	820.42	495.44	1,478.72
483.04	61.77	487.20	142.59	491.36	868.16	495.52	1,483.82
483.12	64.62	487.28	143.68	491.44	919.23	495.60	1,488.90
483.20	67.25	487.36	144.76	491.52	973.33	495.68	1,493.96
483.28	69.72	487.44	145.83	491.60	1,030.22	495.76	1,499.01
483.36	72.08	487.52	146.90	491.68	1,089.72	495.84	1,504.04
483.44	74.33	487.60	147.96	491.76	1,151.70	495.92	1,509.05
483.52	76.51	487.68	149.01	491.84	1,216.02	496.00	**1,514.05**
483.60	78.61	487.76	150.05	491.92	1,233.67		
483.68	80.64	487.84	151.08	492.00	1,239.78		
483.76	82.61	487.92	152.11	492.08	1,245.85		
483.84	84.53	488.00	153.62	492.16	1,251.90		
483.92	86.41	488.08	157.62	492.24	1,257.92		
484.00	88.23	488.16	163.04	492.32	1,263.91		
484.08	90.02	488.24	169.51	492.40	1,269.87		

Stage-Area-Storage for Pond RegionalBasin3: RegionalBasin3

Elevation (feet)	Surface (acres)	Storage (acre-feet)
480.00	0.000	0.000
480.20	0.315	0.032
480.40	0.630	0.126
480.60	0.946	0.284
480.80	1.261	0.504
481.00	1.576	0.788
481.20	1.962	1.142
481.40	2.348	1.573
481.60	2.735	2.081
481.80	3.121	2.667
482.00	3.507	3.330
482.20	3.781	4.058
482.40	4.055	4.842
482.60	4.329	5.680
482.80	4.603	6.574
483.00	4.877	7.522
483.20	5.200	8.529
483.40	5.523	9.601
483.60	5.845	10.738
483.80	6.168	11.940
484.00	6.491	13.206
484.20	6.758	14.530
484.40	7.026	15.909
484.60	7.293	17.341
484.80	7.561	18.826
485.00	7.828	20.365
485.20	7.864	21.934
485.40	7.899	23.510
485.60	7.935	25.094
485.80	7.970	26.684
486.00	8.006	28.282
486.20	8.042	29.887
486.40	8.077	31.499
486.60	8.113	33.118
486.80	8.148	34.744
487.00	8.184	36.377
487.20	8.220	38.017
487.40	8.256	39.665
487.60	8.291	41.320
487.80	8.327	42.981
488.00	8.363	44.651
488.20	8.399	46.327
488.40	8.435	48.010
488.60	8.471	49.701
488.80	8.507	51.399
489.00	8.543	53.104
489.20	8.579	54.816
489.40	8.615	56.535
489.60	8.652	58.262
489.80	8.688	59.996
490.00	8.724	61.737
490.20	8.760	63.485
490.40	8.797	65.241
490.60	8.833	67.004
490.80	8.870	68.774
491.00	8.906	70.552
491.20	8.943	72.337
491.40	8.979	74.129
491.60	9.016	75.929
491.80	9.052	77.735
492.00	9.089	79.550
492.20	9.126	81.371
492.40	9.163	83.200
492.60	9.200	85.036
492.80	9.237	86.880
493.00	9.274	88.731
493.20	9.311	90.589
493.40	9.348	92.455
493.60	9.384	94.329
493.80	9.421	96.209
494.00	**9.458**	98.097
494.20	9.458	99.989
494.40	9.458	101.880
494.60	9.458	103.772
494.80	9.458	105.663
495.00	9.458	107.555
495.20	9.458	109.447
495.40	9.458	111.338
495.60	9.458	113.230
495.80	9.458	115.121
496.00	9.458	**117.013**

Summary for Link 45A: 45A

Inflow = 863.55 cfs @ 19.33 hrs, Volume= 220.901 af
Primary = 863.55 cfs @ 19.33 hrs, Volume= 220.901 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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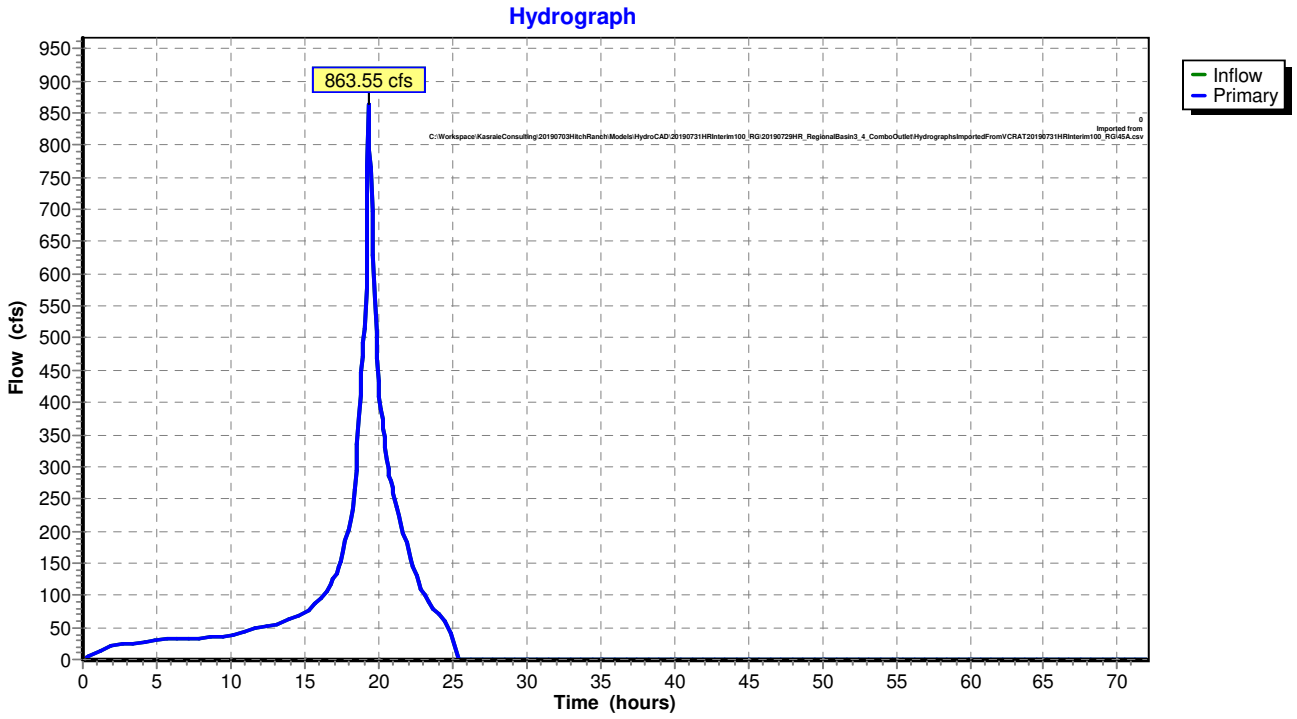
Link 45A: 45A



Summary for Link 55B: 55B

Inflow = 411.20 cfs @ 19.24 hrs, Volume= 51.770 af
Primary = 411.20 cfs @ 19.24 hrs, Volume= 51.770 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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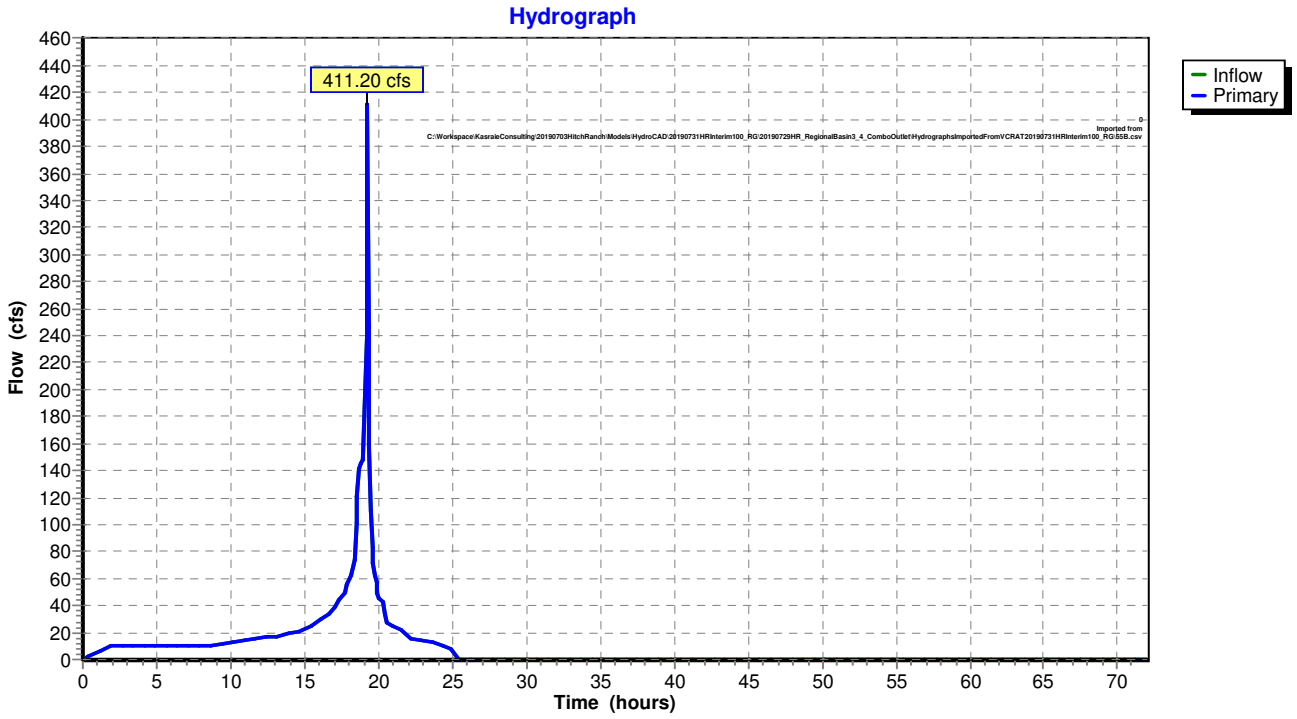
Link 55B: 55B



Summary for Link 58B: 58B

Inflow = 36.25 cfs @ 19.25 hrs, Volume= 2.868 af
Primary = 36.25 cfs @ 19.25 hrs, Volume= 2.868 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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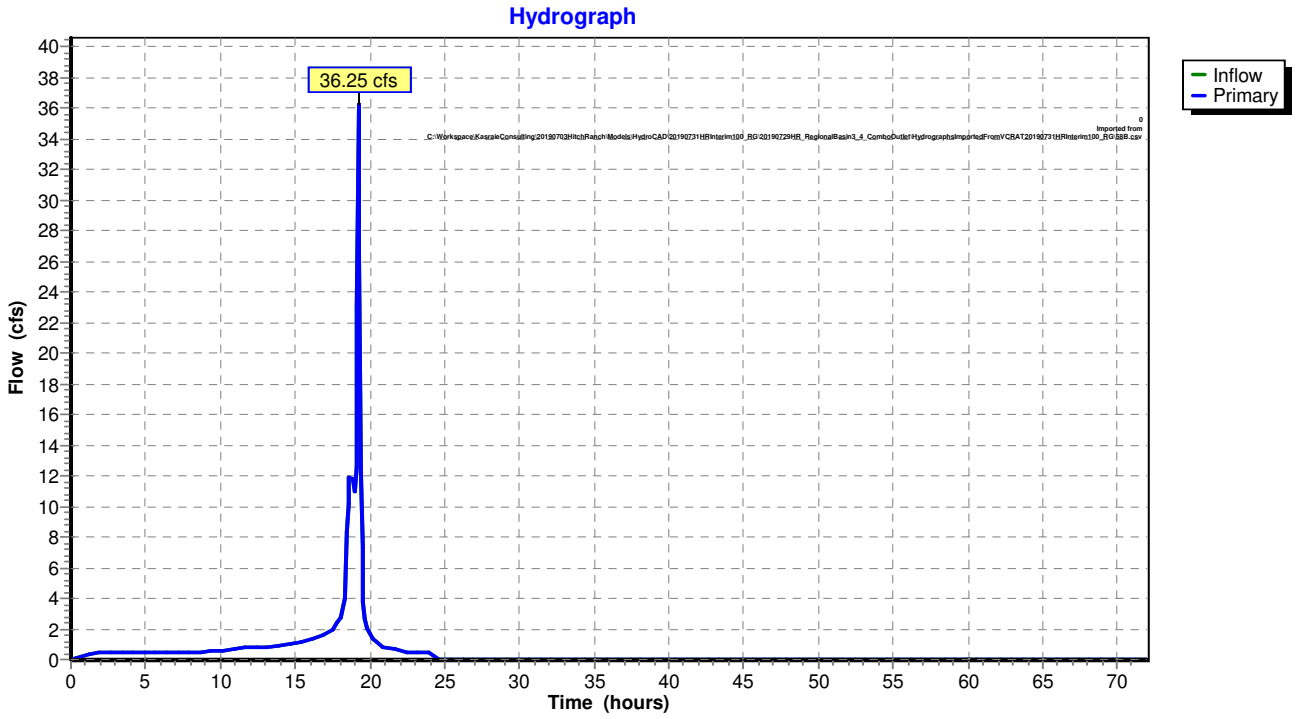
Link 58B: 58B



Summary for Link 76C: 76C

Inflow = 125.42 cfs @ 19.24 hrs, Volume= 13.065 af
Primary = 125.42 cfs @ 19.24 hrs, Volume= 13.065 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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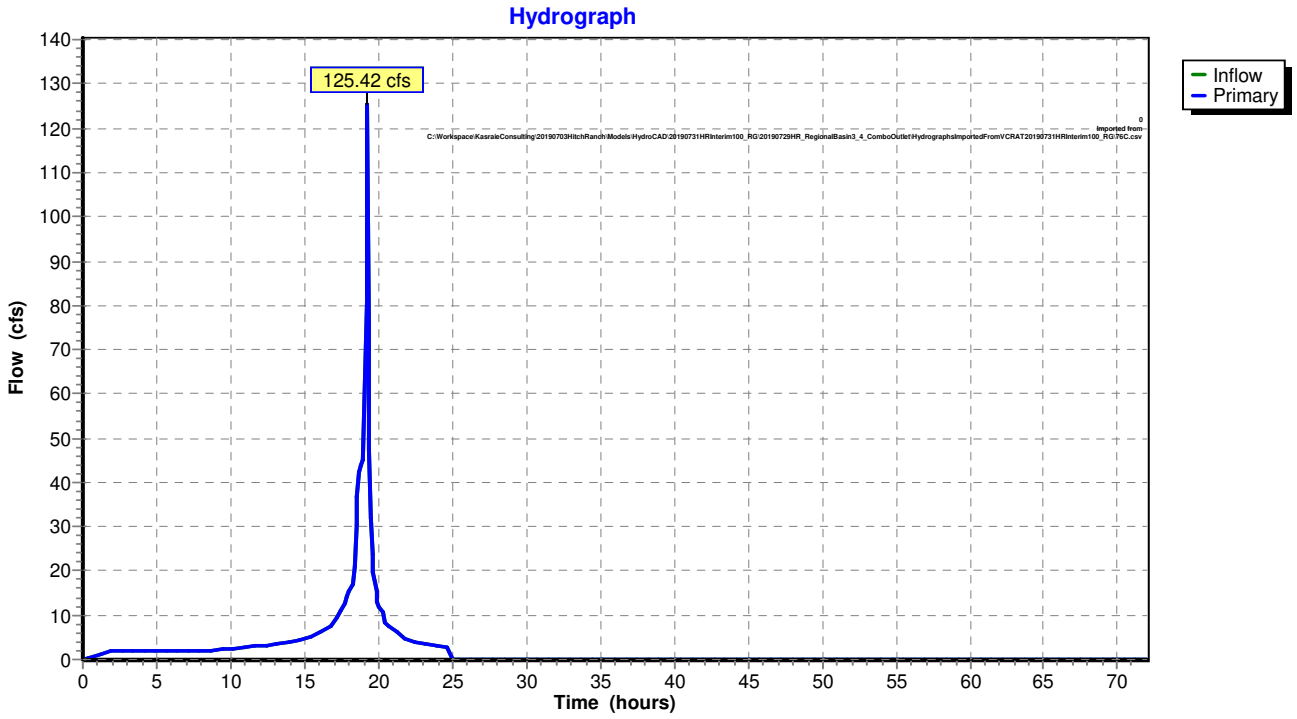
Link 76C: 76C



Summary for Link 77D+79B: 77D+79B

Inflow = 333.30 cfs @ 19.26 hrs, Volume= 54.049 af
Primary = 333.30 cfs @ 19.26 hrs, Volume= 54.049 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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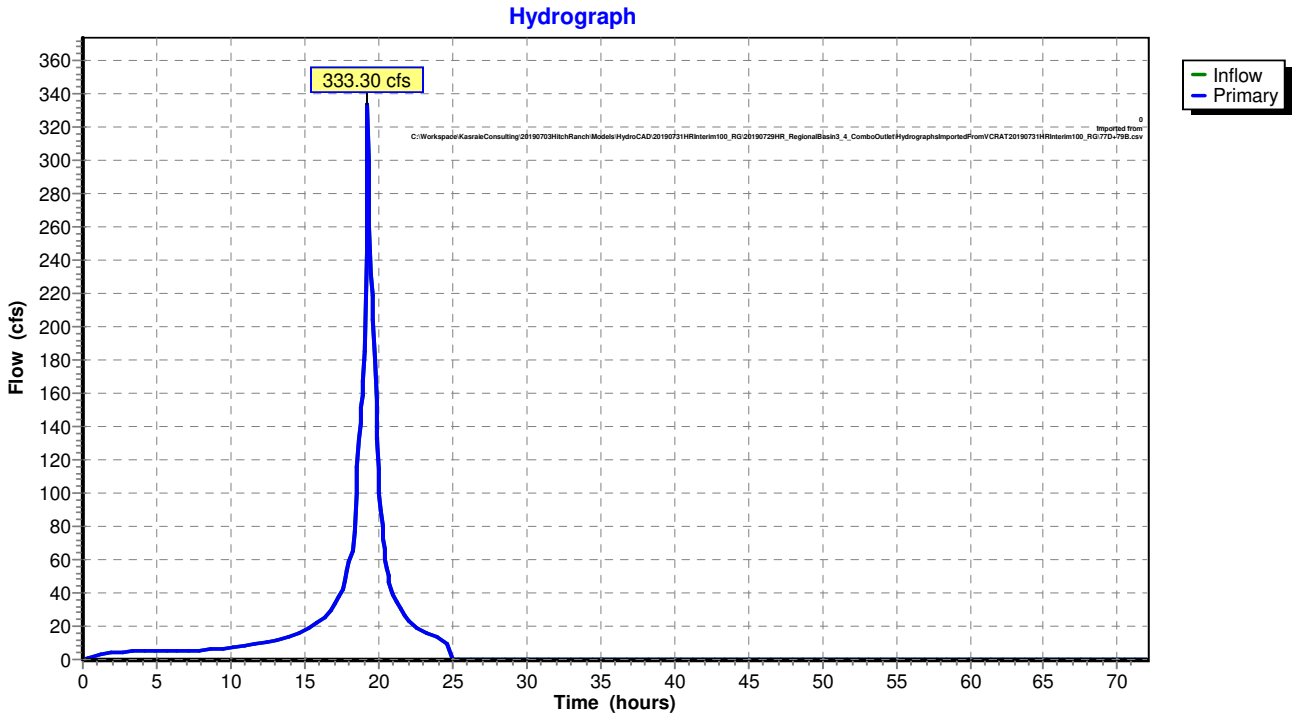
Link 77D+79B: 77D+79B



Summary for Link 84CD: 84CD

Inflow = 104.72 cfs @ 19.23 hrs, Volume= 8.309 af
Primary = 104.72 cfs @ 19.23 hrs, Volume= 8.309 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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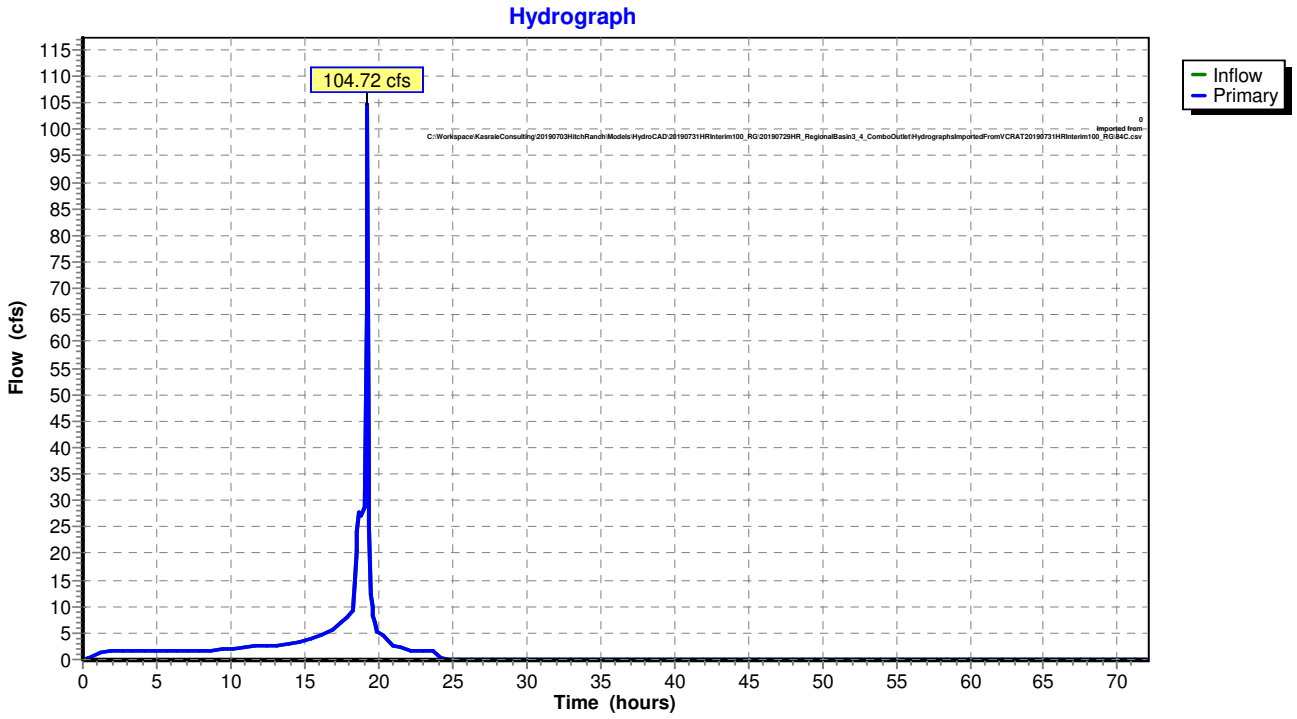
Link 84CD: 84CD



Summary for Link 88B: 88B

Inflow = 103.90 cfs @ 19.31 hrs, Volume= 14.283 af
Primary = 103.90 cfs @ 19.31 hrs, Volume= 14.283 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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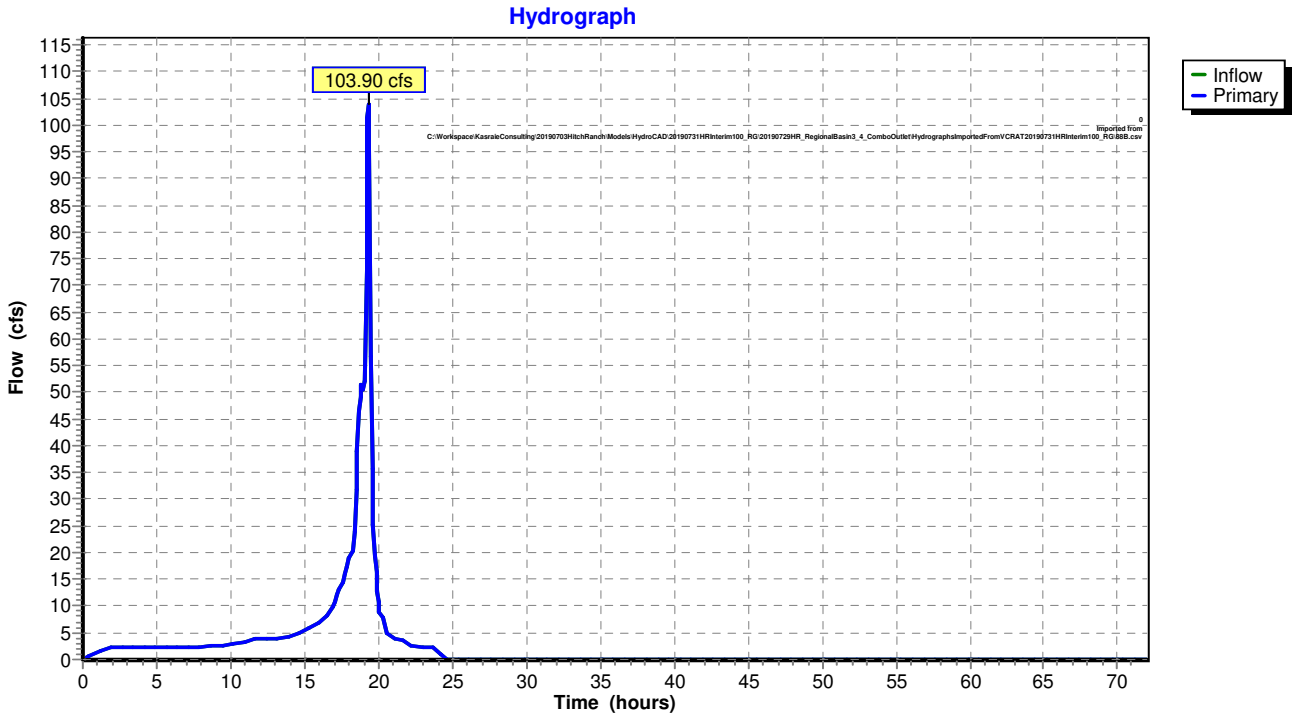
Link 88B: 88B



Summary for Link 92C: 92C

Inflow = 349.07 cfs @ 19.31 hrs, Volume= 59.209 af
Primary = 349.07 cfs @ 19.31 hrs, Volume= 59.209 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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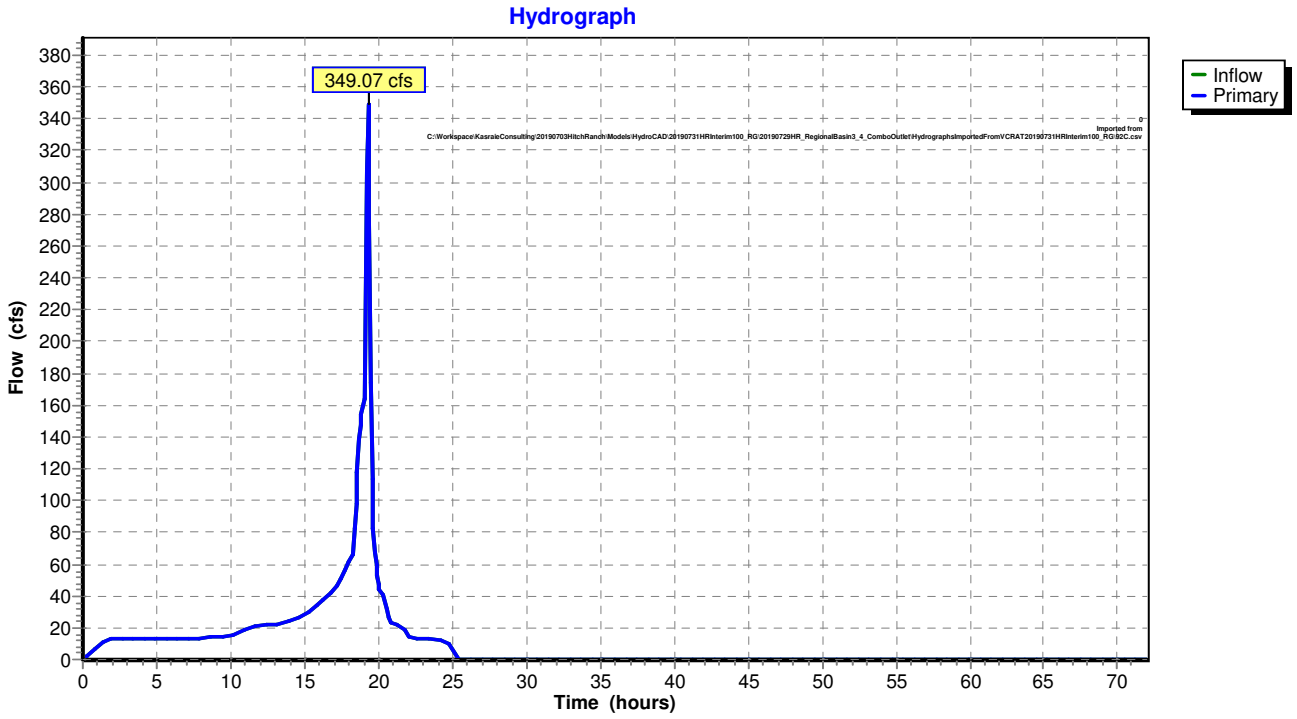
Link 92C: 92C

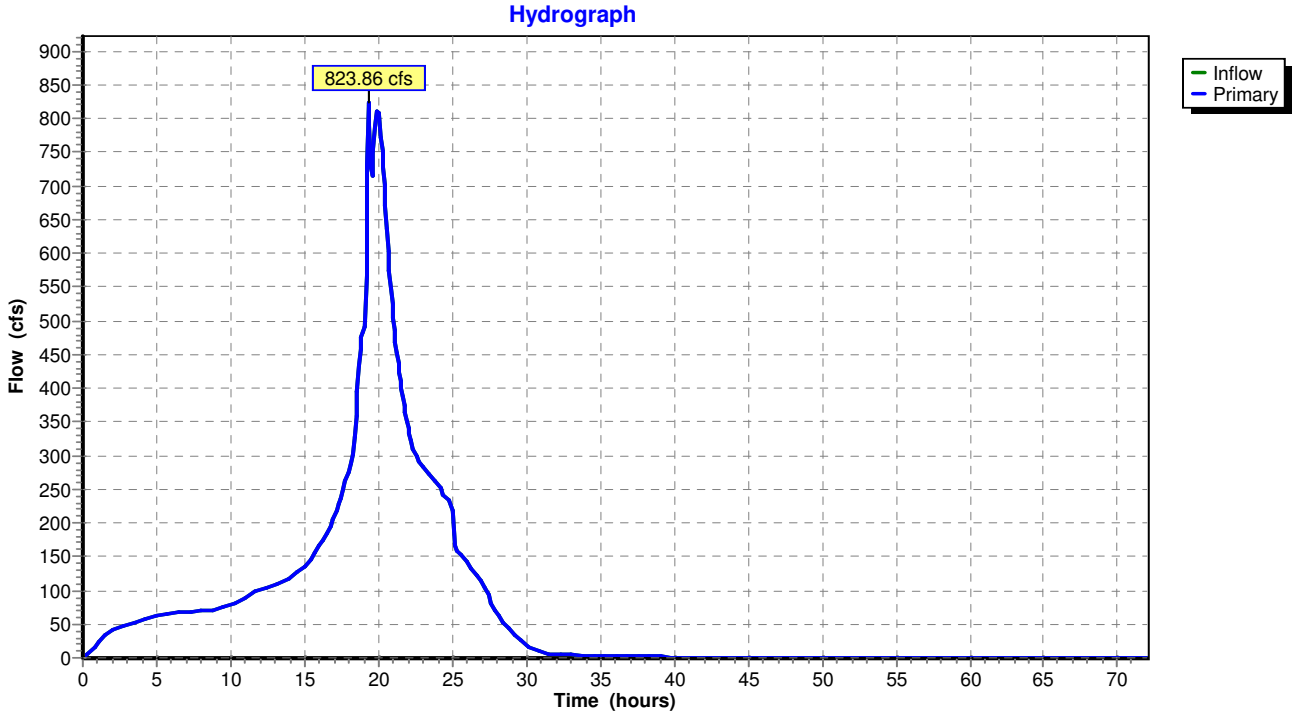


Summary for Link LAAve: LAAve

Inflow = 823.86 cfs @ 19.35 hrs, Volume= 424.446 af
Primary = 823.86 cfs @ 19.35 hrs, Volume= 424.446 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

Link LAAve: LAAve



Summary for Link WC_AStreet: WC_AStreet

Assumed Peak Tailwater Elevation from RAS2D Model

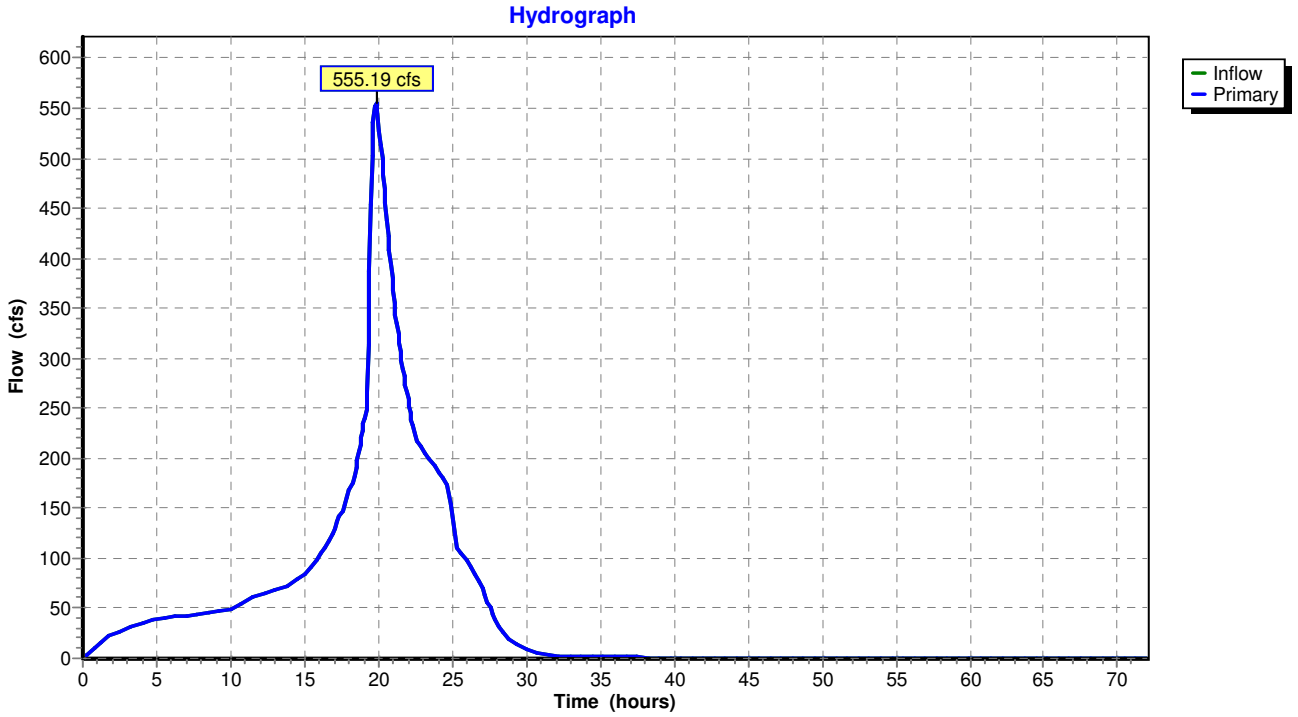
Inflow = 555.19 cfs @ 19.82 hrs, Volume= 272.671 af
Primary = 555.19 cfs @ 19.82 hrs, Volume= 272.671 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

342 Point manual elevation table, To= 0.00 hrs, dt= 0.08 hrs, feet =

479.87	479.87	479.87	479.87	479.92	480.04	480.07	480.10	480.12
480.15	480.19	480.21	480.23	480.25	480.27	480.29	480.30	480.32
480.34	480.36	480.39	480.40	480.41	480.46	480.46	480.47	480.47
480.48	480.48	480.49	480.49	480.50	480.53	480.52	480.50	480.49
480.49	480.51	480.51	480.51	480.53	480.54	480.54	480.52	480.52
480.53	480.53	480.53	480.56	480.57	480.57	480.57	480.58	480.58
480.58	480.58	480.59	480.59	480.59	480.59	480.60	480.60	480.60
480.60	480.60	480.60	480.60	480.60	480.60	480.61	480.61	480.61
480.61	480.61	480.62	480.62	480.62	480.62	480.62	480.62	480.62
480.62	480.62	480.62	480.62	480.62	480.62	480.62	480.62	480.62
480.62	480.63	480.63	480.63	480.63	480.63	480.63	480.63	480.63
480.63	480.63	480.63	480.64	480.64	480.64	480.64	480.64	480.65
480.65	480.65	480.65	480.65	480.65	480.66	480.66	480.66	480.66
480.66	480.67	480.67	480.67	480.68	480.68	480.69	480.69	480.70
480.70	480.70	480.71	480.71	480.72	480.72	480.73	480.73	480.74
480.74	480.75	480.76	480.77	480.77	480.78	480.79	480.79	480.79
480.80	480.81	480.81	480.82	480.82	480.83	480.83	480.83	480.84
480.84	480.85	480.85	480.85	480.86	480.86	480.87	480.87	480.88
480.88	480.89	480.89	480.90	480.90	480.91	480.92	480.92	480.93
480.94	480.94	480.95	480.96	480.97	480.97	480.98	480.99	481.00
481.00	481.02	481.03	481.04	481.05	481.06	481.07	481.08	481.10
481.11	481.12	481.14	481.15	481.17	481.18	481.19	481.21	481.22
481.24	481.25	481.27	481.29	481.31	481.33	481.36	481.38	481.40
481.43	481.46	481.49	481.52	481.55	481.58	481.62	481.66	481.70
481.74	481.77	481.82	481.86	481.91	481.98	482.06	482.15	482.24
482.33	482.40	482.47	482.53	482.62	482.82	483.03	483.07	483.06
483.04	483.00	482.95	482.91	482.88	482.85	482.82	482.81	482.79
482.78	482.76	482.75	482.73	482.71	482.69	482.67	482.66	482.64
482.63	482.61	482.60	482.58	482.56	482.55	482.53	482.52	482.50
482.48	482.45	482.44	482.42	482.40	482.38	482.36	482.34	482.31
482.29	482.27	482.25	482.23	482.21	482.19	482.17	482.14	482.12
482.10	482.08	482.06	482.04	482.02	482.00	481.98	481.96	481.95
481.93	481.91	481.89	481.86	481.84	481.82	481.80	481.78	481.76
481.74	481.71	481.69	481.66	481.63	481.60	481.57	481.54	481.50
481.47	481.44	481.41	481.39	481.36	481.32	481.29	481.26	481.24
481.21	481.18	481.16	481.14	481.11	481.09	481.07	481.05	481.03
481.02	481.00	480.98	480.97	480.95	480.93	480.92	480.91	480.89
480.88	480.87	480.86	480.84	480.83	480.82	480.81	480.81	480.80

Link WC_AStreet: WC_AStreet



Summary for Link WC_Gabbert: WC_Gabbert

Assumed Peak Tailwater Elevation from RAS2D Model

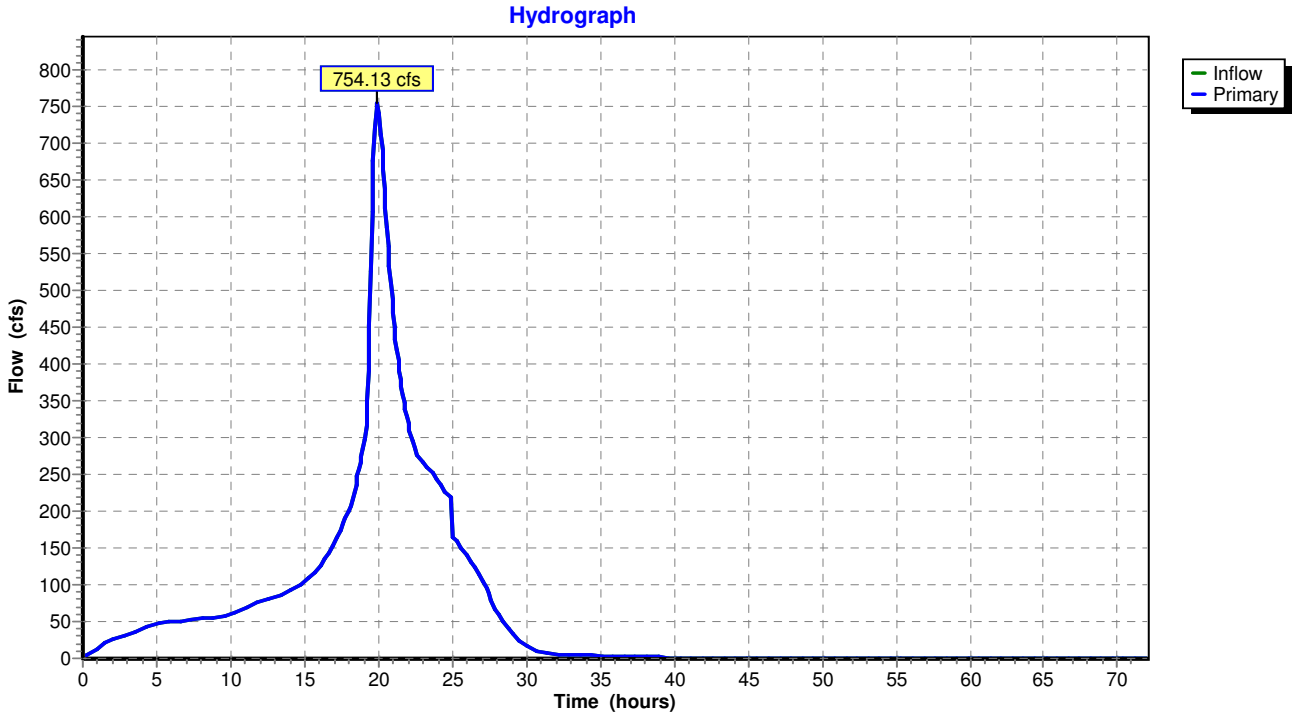
Inflow = 754.13 cfs @ 19.91 hrs, Volume= 350.954 af
Primary = 754.13 cfs @ 19.91 hrs, Volume= 350.954 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

342 Point manual elevation table, To= 0.00 hrs, dt= 0.08 hrs, feet =

468.22	468.22	468.22	468.22	468.22	468.22	468.22	468.47	468.51
468.55	468.60	468.67	468.70	468.73	468.77	468.80	468.83	468.87
468.90	468.93	468.97	469.01	469.03	469.06	469.13	469.14	469.14
469.15	469.18	469.19	469.20	469.22	469.27	469.31	469.30	469.27
469.28	469.29	469.32	469.33	469.34	469.39	469.40	469.40	469.37
469.37	469.40	469.40	469.41	469.46	469.48	469.48	469.48	469.49
469.50	469.50	469.50	469.52	469.52	469.52	469.52	469.53	469.54
469.54	469.54	469.54	469.54	469.54	469.54	469.54	469.56	469.56
469.56	469.56	469.56	469.56	469.56	469.56	469.56	469.57	469.58
469.58	469.58	469.58	469.58	469.58	469.58	469.58	469.58	469.58
469.58	469.58	469.59	469.59	469.59	469.59	469.59	469.60	469.60
469.60	469.60	469.60	469.61	469.62	469.62	469.63	469.63	469.63
469.64	469.65	469.65	469.65	469.65	469.66	469.67	469.67	469.67
469.68	469.68	469.69	469.69	469.70	469.71	469.72	469.73	469.74
469.75	469.76	469.77	469.79	469.80	469.81	469.82	469.84	469.85
469.86	469.88	469.89	469.91	469.92	469.93	469.95	469.96	469.97
469.98	469.99	470.01	470.02	470.03	470.04	470.04	470.05	470.06
470.07	470.08	470.09	470.10	470.11	470.12	470.12	470.13	470.14
470.15	470.16	470.18	470.19	470.20	470.21	470.22	470.24	470.25
470.27	470.29	470.30	470.32	470.33	470.35	470.37	470.39	470.40
470.42	470.44	470.46	470.49	470.51	470.53	470.55	470.58	470.61
470.63	470.66	470.69	470.72	470.75	470.78	470.82	470.85	470.88
470.91	470.94	470.98	471.03	471.07	471.11	471.16	471.21	471.26
471.31	471.39	471.45	471.51	471.57	471.65	471.72	471.79	471.88
471.96	472.04	472.12	472.21	472.31	472.42	472.56	472.72	472.90
473.06	473.22	473.35	473.48	473.63	473.91	474.36	474.57	474.55
474.57	474.51	474.45	474.38	474.33	474.28	474.24	474.21	474.18
474.16	474.14	474.12	474.09	474.05	474.03	474.00	473.97	473.95
473.93	473.90	473.87	473.85	473.82	473.80	473.77	473.75	473.72
473.69	473.65	473.62	473.59	473.55	473.52	473.49	473.45	473.42
473.38	473.35	473.31	473.28	473.24	473.20	473.17	473.13	473.09
473.05	473.02	472.98	472.95	472.91	472.87	472.84	472.80	472.77
472.73	472.69	472.65	472.61	472.57	472.53	472.49	472.44	472.40
472.36	472.31	472.27	472.22	472.16	472.11	472.05	472.00	471.93
471.87	471.82	471.76	471.70	471.65	471.59	471.53	471.47	471.42
471.36	471.31	471.26	471.19	471.15	471.10	471.06	471.01	470.97
470.92	470.87	470.81	470.76	470.70	470.65	470.59	470.52	470.46
470.40	470.34	470.29	470.23	470.18	470.14	470.09	470.05	470.01

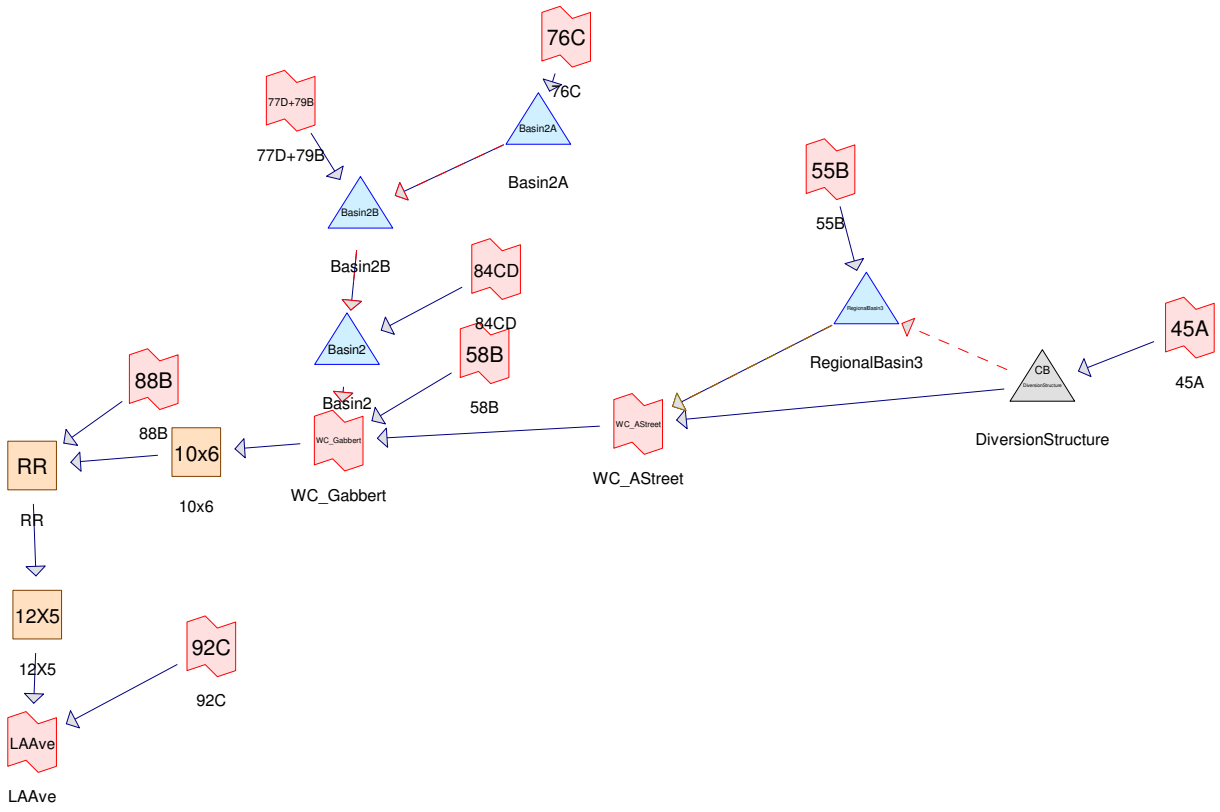
Link WC_Gabbert: WC_Gabbert



APPENDIX 6-b

Hitch Ranch HydroCAD Summary Report

July 2019 100-yr, Ultimate Conditions



Subcat Reach Pond Link

Routing Diagram for 20190729HRUlt_RegionalBasin3_4_ComboOutlet
Prepared by HP, Printed 8/7/2019
HydroCAD® 10.00-21 s/n 10355 © 2018 HydroCAD Software Solutions LLC

Summary for Reach 10x6: 10x6

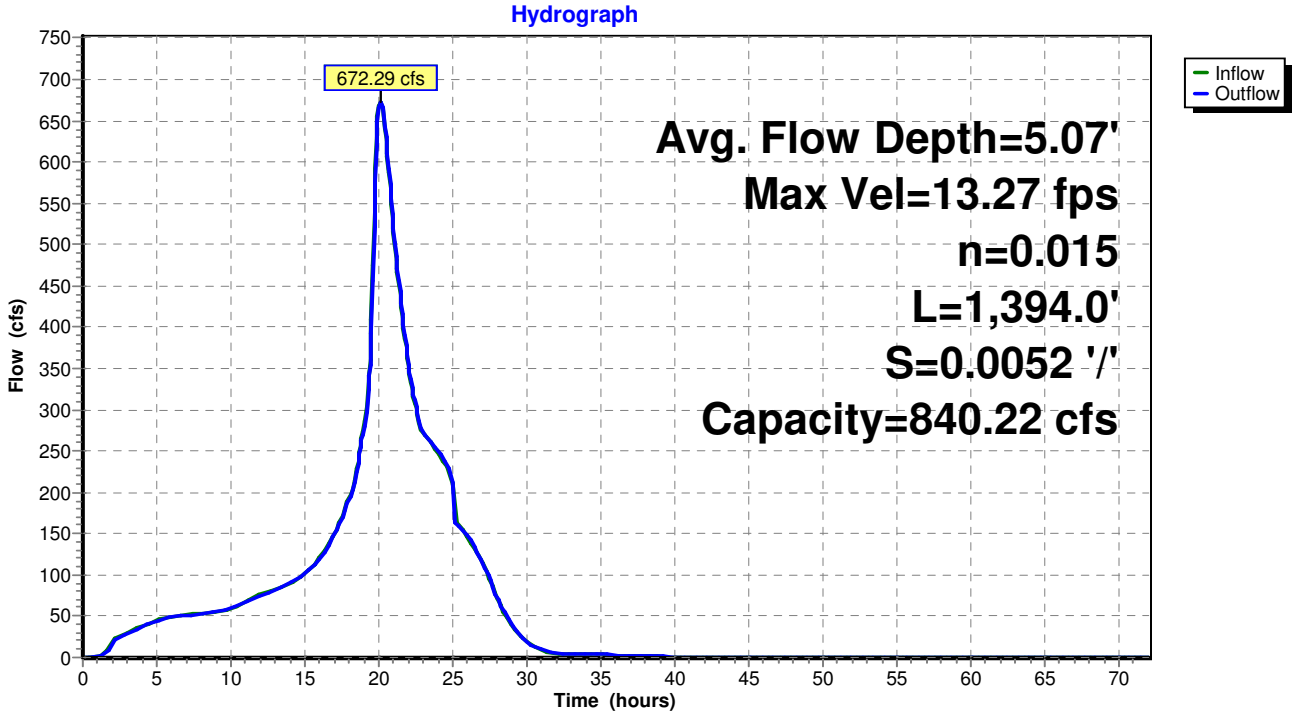
Inflow = 672.37 cfs @ 20.09 hrs, Volume= 348.036 af
Outflow = 672.29 cfs @ 20.11 hrs, Volume= 348.036 af, Atten= 0%, Lag= 1.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Max. Velocity= 13.27 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 3.83 fps, Avg. Travel Time= 6.1 min

Peak Storage= 70,614 cf @ 20.11 hrs
Average Depth at Peak Storage= 5.07'
Bank-Full Depth= 6.00' Flow Area= 60.0 sf, Capacity= 840.22 cfs

10.00' x 6.00' deep channel, n= 0.015
Length= 1,394.0' Slope= 0.0052 '/'
Inlet Invert= 468.25', Outlet Invert= 460.94'





Stage-Discharge for Reach 10x6: 10x6

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
468.25	0.00	0.00
468.29	0.73	0.44
468.33	1.30	1.12
468.37	1.72	2.06
468.41	2.06	3.37
468.45	2.38	4.83
468.49	2.69	6.44
468.53	2.96	8.33
468.57	3.22	10.34
468.61	3.47	12.48
468.65	3.70	14.83
468.69	3.92	17.30
468.73	4.14	19.86
468.77	4.34	22.61
468.81	4.54	25.46
468.85	4.73	28.39
468.89	4.92	31.49
468.93	5.09	34.67
468.97	5.27	37.93
469.01	5.44	41.34
469.05	5.60	44.82
469.09	5.76	48.37
469.13	5.91	52.06
469.17	6.06	55.80
469.21	6.21	59.62
469.25	6.35	63.55
469.29	6.49	67.54
469.33	6.63	71.59
469.37	6.76	75.75
469.41	6.89	79.96
469.45	7.02	84.23
469.49	7.14	88.59
469.53	7.26	93.01
469.57	7.38	97.47
469.61	7.50	102.03
469.65	7.61	106.63
469.69	7.73	111.28
469.73	7.84	116.01
469.77	7.95	120.79
469.81	8.05	125.60
469.85	8.16	130.50
469.89	8.26	135.44
469.93	8.36	140.41
469.97	8.46	145.46
470.01	8.55	150.54
470.05	8.65	155.66
470.09	8.74	160.85
470.13	8.83	166.07
470.17	8.92	171.33
470.21	9.01	176.65
470.25	9.10	182.00
470.29	9.19	187.39
470.33	9.27	192.83
470.37	9.35	198.30
470.41	9.44	203.81
470.45	9.52	209.36
470.49	9.60	214.95
470.53	9.67	220.57
470.57	9.75	226.23
470.61	9.83	231.93
470.65	9.90	237.65
470.69	9.98	243.42
470.73	10.05	249.21
470.77	10.12	255.03
470.81	10.19	260.90
470.85	10.26	266.78
470.89	10.33	272.70
470.93	10.40	278.65
470.97	10.46	284.63
471.01	10.53	290.63
471.05	10.60	296.67
471.09	10.66	302.74
471.13	10.72	308.82
471.17	10.79	314.94
471.21	10.85	321.09
471.25	10.91	327.25
471.29	10.97	333.45
471.33	11.03	339.67
471.37	11.09	345.90
471.41	11.14	352.18
471.45	11.20	358.47
471.49	11.26	364.77
471.53	11.31	371.12
471.57	11.37	377.48
471.61	11.42	383.85
471.65	11.48	390.26
471.69	11.53	396.68
471.73	11.58	403.12
471.77	11.64	409.59
471.81	11.69	416.08
471.85	11.74	422.58
471.89	11.79	429.11
471.93	11.84	435.65
471.97	11.89	442.21
472.01	11.94	448.80
472.05	11.98	455.40
472.09	12.03	462.01
472.13	12.08	468.65
472.17	12.12	475.30
472.21	12.17	481.97
472.25	12.22	488.66
472.29	12.26	495.37
472.33	12.31	502.09
472.37	12.35	508.83
472.41	12.39	515.58
472.45	12.44	522.35
472.49	12.48	529.13
472.53	12.52	535.94
472.57	12.56	542.75
472.61	12.60	549.58
472.65	12.65	556.43
472.69	12.69	563.28
472.73	12.73	570.16
472.77	12.77	577.05
472.81	12.81	583.94
472.85	12.84	590.86
472.89	12.88	597.79
472.93	12.92	604.73
472.97	12.96	611.69
473.01	13.00	618.66
473.05	13.03	625.63
473.09	13.07	632.63
473.13	13.11	639.63
473.17	13.14	646.65
473.21	13.18	653.68
473.25	13.21	660.72
473.29	13.25	667.77
473.33	13.28	674.84
473.37	13.32	681.92
473.41	13.35	689.00
473.45	13.39	696.11
473.49	13.42	703.22
473.53	13.45	710.33
473.57	13.49	717.47
473.61	13.52	724.61
473.65	13.55	731.76
473.69	13.58	738.93
473.73	13.61	746.10
473.77	13.65	753.28
473.81	13.68	760.48
473.85	13.71	767.68
473.89	13.74	774.89
473.93	13.77	782.11
473.97	13.80	789.34
474.01	13.83	796.58
474.05	13.86	803.83
474.09	13.89	811.09
474.13	13.92	818.36
474.17	13.95	825.64
474.21	13.98	832.93
474.25	**14.00**	**840.22**

Stage-Area-Storage for Reach 10x6: 10x6

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
468.25	0.0	0
468.35	1.0	1,394
468.45	2.0	2,788
468.55	3.0	4,182
468.65	4.0	5,576
468.75	5.0	6,970
468.85	6.0	8,364
468.95	7.0	9,758
469.05	8.0	11,152
469.15	9.0	12,546
469.25	10.0	13,940
469.35	11.0	15,334
469.45	12.0	16,728
469.55	13.0	18,122
469.65	14.0	19,516
469.75	15.0	20,910
469.85	16.0	22,304
469.95	17.0	23,698
470.05	18.0	25,092
470.15	19.0	26,486
470.25	20.0	27,880
470.35	21.0	29,274
470.45	22.0	30,668
470.55	23.0	32,062
470.65	24.0	33,456
470.75	25.0	34,850
470.85	26.0	36,244
470.95	27.0	37,638
471.05	28.0	39,032
471.15	29.0	40,426
471.25	30.0	41,820
471.35	31.0	43,214
471.45	32.0	44,608
471.55	33.0	46,002
471.65	34.0	47,396
471.75	35.0	48,790
471.85	36.0	50,184
471.95	37.0	51,578
472.05	38.0	52,972
472.15	39.0	54,366
472.25	40.0	55,760
472.35	41.0	57,154
472.45	42.0	58,548
472.55	43.0	59,942
472.65	44.0	61,336
472.75	45.0	62,730
472.85	46.0	64,124
472.95	47.0	65,518
473.05	48.0	66,912
473.15	49.0	68,306
473.25	50.0	69,700
473.35	51.0	71,094
473.45	52.0	72,488
473.55	53.0	73,882
473.65	54.0	75,276
473.75	55.0	76,670
473.85	56.0	78,064
473.95	57.0	79,458
474.05	58.0	80,852
474.15	59.0	82,246
474.25	**60.0**	**83,640**

Summary for Reach 12X5: 12X5

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[61] Hint: Exceeded Reach RR outlet invert by 4.19' @ 20.08 hrs

Inflow = 680.36 cfs @ 20.12 hrs, Volume= 362.319 af
Outflow = 680.94 cfs @ 20.11 hrs, Volume= 362.318 af, Atten= 0%, Lag= 0.0 min

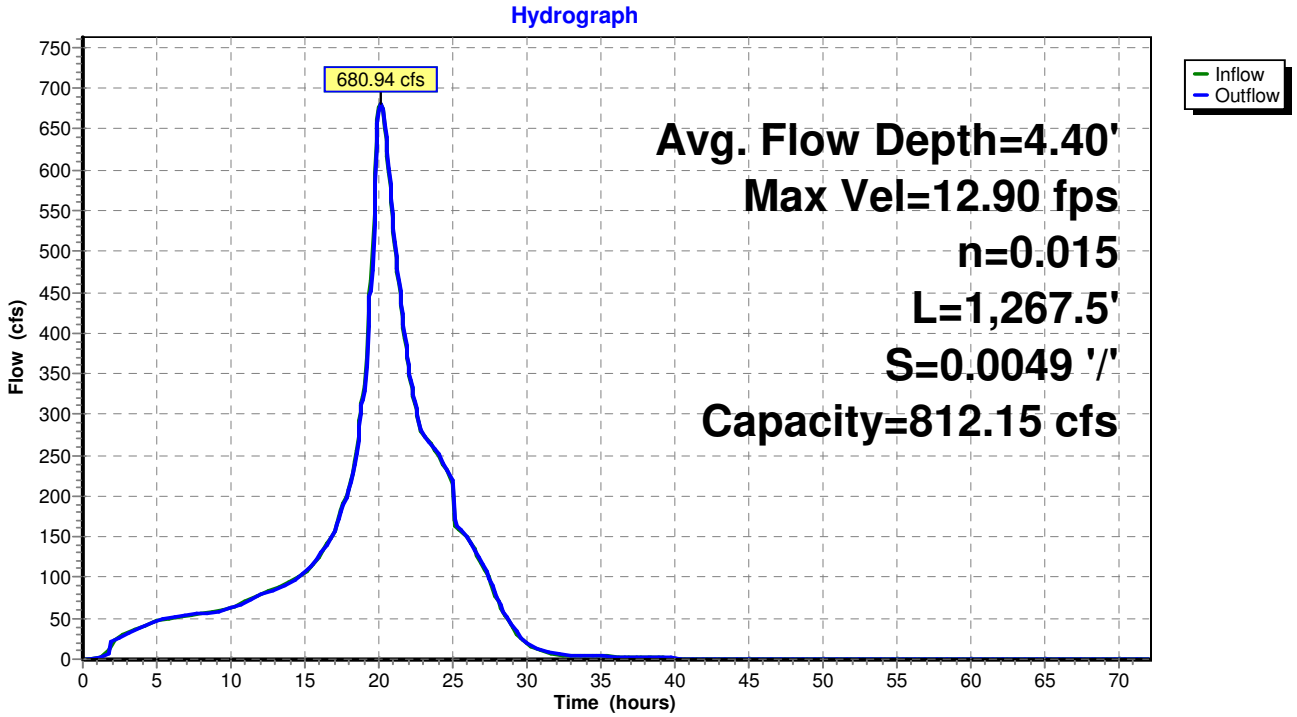
Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Max. Velocity= 12.90 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 3.60 fps, Avg. Travel Time= 5.9 min

Peak Storage= 66,897 cf @ 20.11 hrs
Average Depth at Peak Storage= 4.40'
Bank-Full Depth= 5.00' Flow Area= 60.0 sf, Capacity= 812.15 cfs

12.00' x 5.00' deep channel, n= 0.015
Length= 1,267.5' Slope= 0.0049 '/'
Inlet Invert= 460.10', Outlet Invert= 453.89'



Reach 12X5: 12X5



Stage-Discharge for Reach 12X5: 12X5

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
460.10	0.00	0.00
460.15	0.94	0.56
460.20	1.48	1.77
460.25	1.93	3.47
460.30	2.32	5.57
460.35	2.68	8.03
460.40	3.01	10.83
460.45	3.32	13.93
460.50	3.61	17.31
460.55	3.88	20.95
460.60	4.14	24.85
460.65	4.39	28.98
460.70	4.63	33.33
460.75	4.86	37.90
460.80	5.08	42.66
460.85	5.29	47.63
460.90	5.50	52.77
460.95	5.70	58.10
461.00	5.89	63.60
461.05	6.08	69.26
461.10	6.26	75.08
461.15	6.43	81.06
461.20	6.60	87.18
461.25	6.77	93.45
461.30	6.93	99.85
461.35	7.09	106.39
461.40	7.25	113.06
461.45	7.40	119.85
461.50	7.55	126.77
461.55	7.69	133.80
461.60	7.83	140.95
461.65	7.97	148.21
461.70	8.10	155.57
461.75	8.23	163.05
461.80	8.36	170.62
461.85	8.49	178.30
461.90	8.61	186.07
461.95	8.74	193.93
462.00	8.85	201.89
462.05	8.97	209.94
462.10	9.09	218.07
462.15	9.20	226.29
462.20	9.31	234.60
462.25	9.42	242.98
462.30	9.52	251.45
462.35	9.63	259.99
462.40	9.73	268.60
462.45	9.83	277.29
462.50	9.93	286.05
462.55	10.03	294.89
462.60	10.13	303.79
462.65	10.22	312.76
462.70	10.31	321.79
462.75	10.41	330.89
462.80	10.50	340.05
462.85	10.58	349.27
462.90	10.67	358.56
462.95	10.76	367.90
463.00	10.84	377.30
463.05	10.93	386.76
463.10	11.01	396.27
463.15	11.09	405.83
463.20	11.17	415.45
463.25	11.25	425.13
463.30	11.32	434.85
463.35	11.40	444.62
463.40	11.48	454.45
463.45	11.55	464.32
463.50	11.62	474.24
463.55	11.70	484.20
463.60	11.77	494.21
463.65	11.84	504.27
463.70	11.91	514.37
463.75	11.98	524.51
463.80	12.04	534.69
463.85	12.11	544.92
463.90	12.18	555.18
463.95	12.24	565.49
464.00	12.30	575.84
464.05	12.37	586.22
464.10	12.43	596.64
464.15	12.49	607.10
464.20	12.55	617.60
464.25	12.61	628.13
464.30	12.67	638.70
464.35	12.73	649.30
464.40	12.79	659.94
464.45	12.85	670.61
464.50	12.90	681.31
464.55	12.96	692.05
464.60	13.02	702.82
464.65	13.07	713.62
464.70	13.12	724.45
464.75	13.18	735.31
464.80	13.23	746.20
464.85	13.28	757.12
464.90	13.33	768.07
464.95	13.39	779.05
465.00	13.44	790.05
465.05	13.49	801.09
465.10	**13.54**	**812.15**

Stage-Area-Storage for Reach 12X5: 12X5

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
460.10	0.0	0
460.15	0.6	761
460.20	1.2	1,521
460.25	1.8	2,282
460.30	2.4	3,042
460.35	3.0	3,803
460.40	3.6	4,563
460.45	4.2	5,324
460.50	4.8	6,084
460.55	5.4	6,845
460.60	6.0	7,605
460.65	6.6	8,366
460.70	7.2	9,126
460.75	7.8	9,887
460.80	8.4	10,647
460.85	9.0	11,408
460.90	9.6	12,168
460.95	10.2	12,929
461.00	10.8	13,689
461.05	11.4	14,450
461.10	12.0	15,210
461.15	12.6	15,971
461.20	13.2	16,731
461.25	13.8	17,492
461.30	14.4	18,252
461.35	15.0	19,013
461.40	15.6	19,773
461.45	16.2	20,534
461.50	16.8	21,294
461.55	17.4	22,055
461.60	18.0	22,815
461.65	18.6	23,576
461.70	19.2	24,336
461.75	19.8	25,097
461.80	20.4	25,857
461.85	21.0	26,618
461.90	21.6	27,378
461.95	22.2	28,139
462.00	22.8	28,899
462.05	23.4	29,660
462.10	24.0	30,420
462.15	24.6	31,180
462.20	25.2	31,941
462.25	25.8	32,701
462.30	26.4	33,462
462.35	27.0	34,223
462.40	27.6	34,983
462.45	28.2	35,744
462.50	28.8	36,504
462.55	29.4	37,265
462.60	30.0	38,025
462.65	30.6	38,786
462.70	31.2	39,546
462.75	31.8	40,307
462.80	32.4	41,067
462.85	33.0	41,828
462.90	33.6	42,588
462.95	34.2	43,349
463.00	34.8	44,109
463.05	35.4	44,870
463.10	36.0	45,630
463.15	36.6	46,391
463.20	37.2	47,151
463.25	37.8	47,912
463.30	38.4	48,672
463.35	39.0	49,433
463.40	39.6	50,193
463.45	40.2	50,954
463.50	40.8	51,714
463.55	41.4	52,475
463.60	42.0	53,235
463.65	42.6	53,996
463.70	43.2	54,756
463.75	43.8	55,517
463.80	44.4	56,277
463.85	45.0	57,038
463.90	45.6	57,798
463.95	46.2	58,559
464.00	46.8	59,319
464.05	47.4	60,080
464.10	48.0	60,840
464.15	48.6	61,600
464.20	49.2	62,361
464.25	49.8	63,122
464.30	50.4	63,882
464.35	51.0	64,643
464.40	51.6	65,403
464.45	52.2	66,164
464.50	52.8	66,924
464.55	53.4	67,685
464.60	54.0	68,445
464.65	54.6	69,206
464.70	55.2	69,966
464.75	55.8	70,727
464.80	56.4	71,487
464.85	57.0	72,248
464.90	57.6	73,008
464.95	58.2	73,769
465.00	58.8	74,529
465.05	59.4	75,290
465.10	**60.0**	**76,050**

Summary for Reach RR: RR

[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach 10x6 OUTLET depth by 0.65' @ 19.33 hrs

Inflow = 680.76 cfs @ 20.10 hrs, Volume= 362.319 af
Outflow = 680.36 cfs @ 20.12 hrs, Volume= 362.319 af, Atten= 0%, Lag= 1.0 min

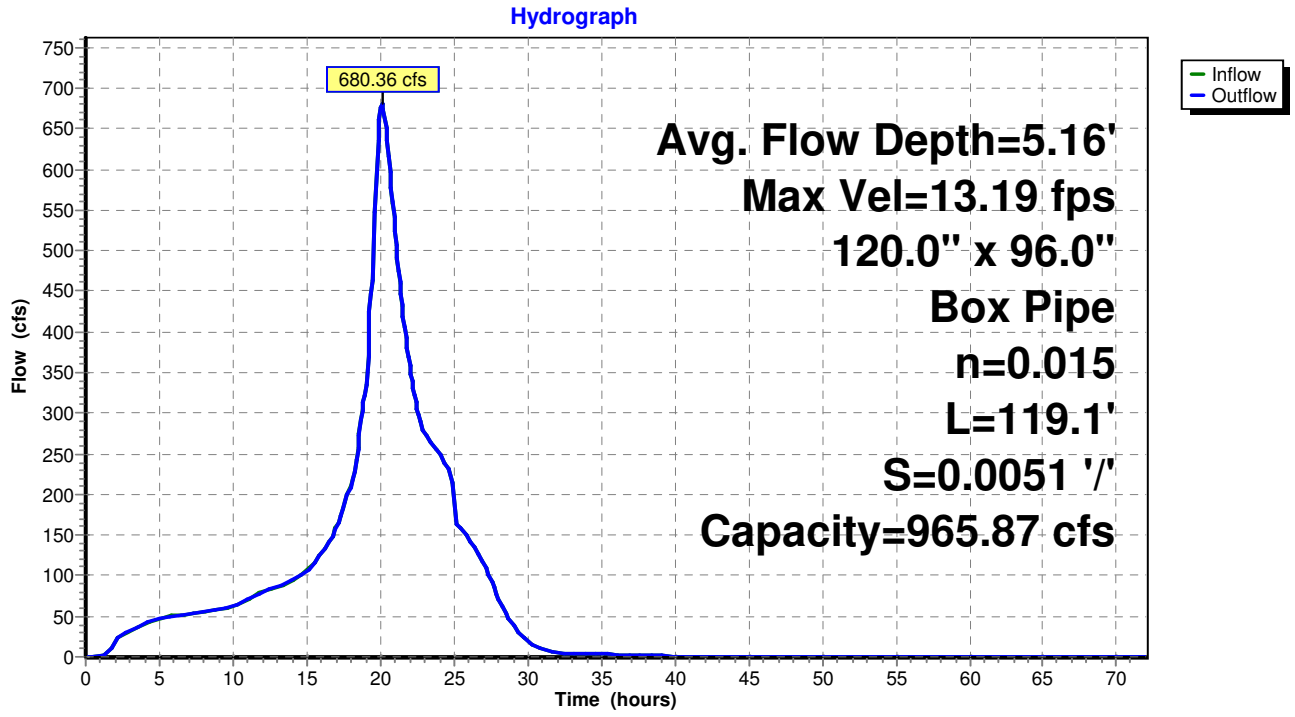
Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Max. Velocity= 13.19 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.95 fps, Avg. Travel Time= 0.5 min

Peak Storage= 6,142 cf @ 20.12 hrs
Average Depth at Peak Storage= 5.16'
Bank-Full Depth= 8.00' Flow Area= 80.0 sf, Capacity= 965.87 cfs

120.0" W x 96.0" H Box Pipe
n= 0.015
Length= 119.1' Slope= 0.0051 '/'
Inlet Invert= 460.91', Outlet Invert= 460.30'



Reach RR: RR



Stage-Discharge for Reach RR: RR

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
460.91	0.00	0.00
461.01	1.49	1.60
461.11	2.35	4.82
461.21	3.05	9.23
461.31	3.66	14.63
461.41	4.19	21.00
461.51	4.67	28.11
461.61	5.12	35.89
461.71	5.53	44.27
461.81	5.92	53.30
461.91	6.28	62.82
462.01	6.62	72.81
462.11	6.94	83.24
462.21	7.24	94.13
462.31	7.53	105.40
462.41	7.80	117.01
462.51	8.06	128.96
462.61	8.31	141.27
462.71	8.55	153.86
462.81	8.77	166.73
462.91	8.99	179.86
463.01	9.20	193.27
463.11	9.40	206.92
463.21	9.60	220.79
463.31	9.79	234.86
463.41	9.97	249.17
463.51	10.14	263.67
463.61	10.31	278.34
463.71	10.47	293.19
463.81	10.63	308.23
463.91	10.78	323.43
464.01	10.93	338.77
464.11	11.07	354.26
464.21	11.21	369.91
464.31	11.34	385.69
464.41	11.47	401.60
464.51	11.60	417.63
464.61	11.72	433.79
464.71	11.84	450.07
464.81	11.96	466.45
464.91	12.07	482.93
465.01	12.18	499.54
465.11	12.29	516.23
465.21	12.40	533.02
465.31	12.50	549.90
465.41	12.60	566.88
465.51	12.69	583.94
465.61	12.79	601.08
465.71	12.88	618.30
465.81	12.97	635.61
465.91	13.06	652.99
466.01	13.15	670.43
466.11	13.23	687.95
466.21	13.31	705.54
466.31	13.39	723.19
466.41	13.47	740.91
466.51	13.55	758.68
466.61	13.62	776.52
466.71	13.70	794.42
466.81	13.77	812.37
466.91	13.84	830.37
467.01	13.91	848.44
467.11	13.98	866.55
467.21	14.04	884.71
467.31	14.11	902.91
467.41	14.17	921.17
467.51	14.23	939.48
467.61	14.30	957.82
467.71	14.36	976.21
467.81	14.42	994.65
467.91	14.47	1,013.12
468.01	14.53	1,031.63
468.11	14.59	1,050.18
468.21	14.64	1,068.77
468.31	14.69	1,087.40
468.41	14.75	1,106.06
468.51	14.80	1,124.76
468.61	14.85	1,143.49
468.71	14.90	1,162.26
468.81	**14.95**	**1,181.05**
468.91	**12.07**	**965.87**

Stage-Area-Storage for Reach RR: RR

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
460.91	0.0	0
461.01	1.0	119
461.11	2.0	238
461.21	3.0	357
461.31	4.0	476
461.41	5.0	596
461.51	6.0	715
461.61	7.0	834
461.71	8.0	953
461.81	9.0	1,072
461.91	10.0	1,191
462.01	11.0	1,310
462.11	12.0	1,429
462.21	13.0	1,548
462.31	14.0	1,667
462.41	15.0	1,787
462.51	16.0	1,906
462.61	17.0	2,025
462.71	18.0	2,144
462.81	19.0	2,263
462.91	20.0	2,382
463.01	21.0	2,501
463.11	22.0	2,620
463.21	23.0	2,739
463.31	24.0	2,858
463.41	25.0	2,978
463.51	26.0	3,097
463.61	27.0	3,216
463.71	28.0	3,335
463.81	29.0	3,454
463.91	30.0	3,573
464.01	31.0	3,692
464.11	32.0	3,811
464.21	33.0	3,930
464.31	34.0	4,049
464.41	35.0	4,169
464.51	36.0	4,288
464.61	37.0	4,407
464.71	38.0	4,526
464.81	39.0	4,645
464.91	40.0	4,764
465.01	41.0	4,883
465.11	42.0	5,002
465.21	43.0	5,121
465.31	44.0	5,240
465.41	45.0	5,360
465.51	46.0	5,479
465.61	47.0	5,598
465.71	48.0	5,717
465.81	49.0	5,836
465.91	50.0	5,955
466.01	51.0	6,074
466.11	52.0	6,193
466.21	53.0	6,312
466.31	54.0	6,431
466.41	55.0	6,550
466.51	56.0	6,670
466.61	57.0	6,789
466.71	58.0	6,908
466.81	59.0	7,027
466.91	60.0	7,146
467.01	61.0	7,265
467.11	62.0	7,384
467.21	63.0	7,503
467.31	64.0	7,622
467.41	65.0	7,742
467.51	66.0	7,861
467.61	67.0	7,980
467.71	68.0	8,099
467.81	69.0	8,218
467.91	70.0	8,337
468.01	71.0	8,456
468.11	72.0	8,575
468.21	73.0	8,694
468.31	74.0	8,813
468.41	75.0	8,933
468.51	76.0	9,052
468.61	77.0	9,171
468.71	78.0	9,290
468.81	79.0	9,409
468.91	**80.0**	**9,528**

Summary for Pond Basin2: Basin2

Inflow	=	240.87 cfs @	19.71 hrs,	Volume=	75.423 af
Outflow	=	206.03 cfs @	20.01 hrs,	Volume=	75.415 af, Atten= 14%, Lag= 17.9 min
Primary	=	206.03 cfs @	20.01 hrs,	Volume=	75.415 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Peak Elev= 479.34' @ 20.00 hrs Surf.Area= 2.568 ac Storage= 11.925 af

Plug-Flow detention time= 87.9 min calculated for 75.328 af (100% of inflow)
Center-of-Mass det. time= 88.8 min (1,238.0 - 1,149.2)

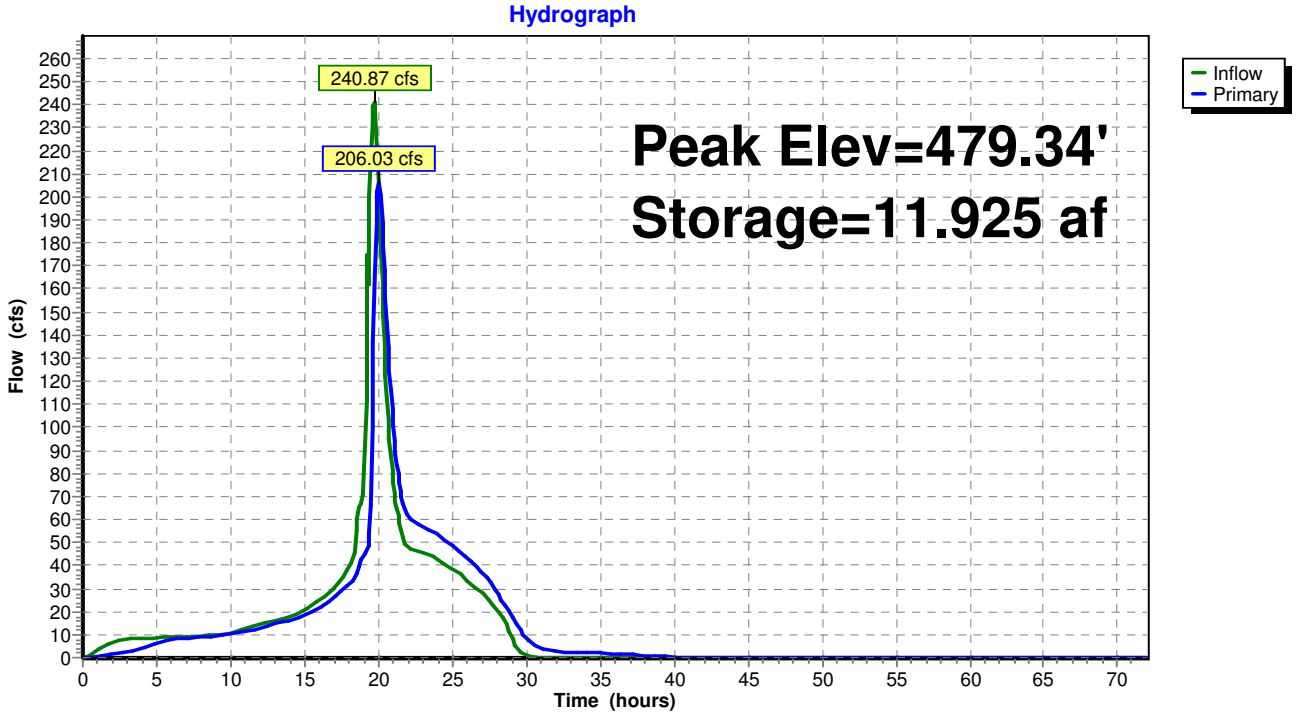
Volume	Invert	Avail.Storage	Storage Description
#1	471.00'	28.402 af	**07/06/19 ECG CTRS EXTENDED FROM 484 VERTICALLY (Prismatic)** Listed b

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
471.00	0.281	0.000	0.000
472.00	0.603	0.442	0.442
473.00	0.876	0.739	1.181
474.00	1.147	1.012	2.193
475.00	1.330	1.238	3.432
476.00	1.541	1.436	4.867
477.00	1.900	1.721	6.587
478.00	2.268	2.084	8.672
479.00	2.527	2.398	11.069
480.00	2.650	2.588	13.657
481.00	2.774	2.712	16.369
482.00	2.898	2.836	19.205
483.00	3.024	2.961	22.166
484.00	3.149	3.086	25.253
485.00	3.149	3.149	28.402

Device	Routing	Invert	Outlet Devices
#1	Primary	471.00'	**87.0" W x 48.0" H Box Primary + Secondary Pipes X 2.00** L= 328.0' Box, headwall w/3 square edges, Ke= 0.500 Inlet / Outlet Invert= 471.00' / 469.00' S= 0.0061 '/' Cc= 0.900 n= 0.015, Flow Area= 29.00 sf
#2	Device 1	477.85'	**Secondary Outlet, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 1.00 1.00 8.00 Width (feet) 27.00 27.00 27.00 27.00
#3	Device 1	473.00'	**36.0" W x 24.0" H Vert. Primary** C= 0.600
#4	Device 1	471.00'	**9.0" Vert. Low Flow Outlet** C= 0.600
#5	Device 1	480.34'	**Emergency Spillway, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 4.50 Width (feet) 114.00 114.00

Primary OutFlow Max=205.60 cfs @ 20.01 hrs HW=479.33' TW=474.24' (Dynamic Tailwater)
└─**1=Primary + Secondary Pipes** (Passes 205.60 cfs of 602.53 cfs potential flow)
  ├─**2=Secondary Outlet** (Weir Controls 136.54 cfs @ 3.41 fps)
  ├─**3=Primary** (Orifice Controls 64.26 cfs @ 10.71 fps)
  ├─**4=Low Flow Outlet** (Orifice Controls 4.80 cfs @ 10.87 fps)
  └─**5=Emergency Spillway** (Controls 0.00 cfs)

Pond Basin2: Basin2



Stage-Discharge for Pond Basin2: Basin2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
471.00	0.00	478.80	138.98
471.15	0.08	478.95	157.24
471.30	0.31	479.10	176.70
471.45	0.63	479.25	197.30
471.60	1.00	479.40	218.95
471.75	1.30	479.55	241.62
471.90	1.54	479.70	265.25
472.05	1.75	479.85	289.81
472.20	1.93	480.00	315.26
472.35	2.10	480.15	341.57
472.50	2.26	480.30	368.71
472.65	2.40	480.45	408.29
472.80	2.54	480.60	467.69
472.95	2.67	480.75	538.65
473.10	3.10	480.90	618.84
473.25	4.12	481.05	706.98
473.40	5.46	481.20	764.40
473.55	7.07	481.35	771.36
473.70	8.88	481.50	778.26
473.85	10.89	481.65	785.09
474.00	13.08	481.80	791.87
474.15	15.42	481.95	798.59
474.30	17.91	482.10	805.26
474.45	20.54	482.25	811.87
474.60	23.31	482.40	818.42
474.75	26.20	482.55	824.93
474.90	29.21	482.70	831.38
475.05	32.24	482.85	837.78
475.20	34.72	483.00	844.14
475.35	36.94	483.15	850.45
475.50	38.98	483.30	856.71
475.65	40.89	483.45	862.92
475.80	42.70	483.60	869.09
475.95	44.43	483.75	875.22
476.10	46.08	483.90	881.31
476.25	47.66	484.05	887.35
476.40	49.19	484.20	893.35
476.55	50.67	484.35	899.31
476.70	52.10	484.50	905.24
476.85	53.49	484.65	911.12
477.00	54.85	484.80	916.97
477.15	56.17	484.95	922.78
477.30	57.45	485.10	928.55
477.45	58.71	485.25	934.29
477.60	59.94	485.40	939.99
477.75	61.15	485.55	945.66
477.90	63.17	485.70	951.30
478.05	70.25	485.85	**956.90**
478.20	80.28		
478.35	92.47		
478.50	106.45		
478.65	122.01		

Stage-Area-Storage for Pond Basin2: Basin2

Elevation (feet)	Surface (acres)	Storage (acre-feet)
471.00	0.281	0.000
471.15	0.329	0.046
471.30	0.378	0.099
471.45	0.426	0.159
471.60	0.474	0.227
471.75	0.522	0.301
471.90	0.571	0.383
472.05	0.617	0.472
472.20	0.658	0.568
472.35	0.699	0.670
472.50	0.739	0.778
472.65	0.780	0.892
472.80	0.821	1.012
472.95	0.862	1.138
473.10	0.903	1.270
473.25	0.944	1.409
473.40	0.984	1.554
473.55	1.025	1.704
473.70	1.066	1.861
473.85	1.106	2.024
474.00	1.147	2.193
474.15	1.174	2.367
474.30	1.202	2.545
474.45	1.229	2.728
474.60	1.257	2.914
474.75	1.284	3.105
474.90	1.312	3.299
475.05	1.341	3.498
475.20	1.372	3.702
475.35	1.404	3.910
475.50	1.436	4.123
475.65	1.467	4.341
475.80	1.499	4.563
475.95	1.530	4.790
476.10	1.577	5.023
476.25	1.631	5.263
476.40	1.685	5.512
476.55	1.738	5.769
476.70	1.792	6.034
476.85	1.846	6.307
477.00	1.900	6.587
477.15	1.955	6.877
477.30	2.010	7.174
477.45	2.066	7.480
477.60	2.121	7.794
477.75	2.176	8.116
477.90	2.231	8.447
478.05	2.281	8.785
478.20	2.320	9.130
478.35	2.359	9.481
478.50	2.398	9.838
478.65	2.436	10.200
478.80	2.475	10.569
478.95	2.514	10.943
479.10	2.539	11.322
479.25	2.558	11.705
479.40	2.576	12.090
479.55	2.595	12.477
479.70	2.613	12.868
479.85	2.632	13.261
480.00	2.650	13.657
480.15	2.669	14.056
480.30	2.687	14.458
480.45	2.706	14.863
480.60	2.724	15.270
480.75	2.743	15.680
480.90	2.762	16.093
481.05	2.780	16.508
481.20	2.799	16.927
481.35	2.817	17.348
481.50	2.836	17.772
481.65	2.855	18.199
481.80	2.873	18.628
481.95	2.892	19.061
482.10	2.911	19.496
482.25	2.929	19.934
482.40	2.948	20.375
482.55	2.967	20.818
482.70	2.986	21.265
482.85	3.005	21.714
483.00	3.024	22.166
483.15	3.043	22.622
483.30	3.062	23.079
483.45	3.080	23.540
483.60	3.099	24.003
483.75	3.118	24.470
483.90	**3.136**	24.939
484.05	**3.149**	25.410
484.20	3.149	25.883
484.35	3.149	26.355
484.50	3.149	26.827
484.65	3.149	27.300
484.80	3.149	27.772
484.95	3.149	**28.245**
485.10	3.149	**28.402**
485.25	3.149	28.402
485.40	3.149	28.402
485.55	3.149	28.402
485.70	3.149	28.402
485.85	3.149	28.402

Summary for Pond Basin2A: Basin2A

Inflow	=	125.42 cfs @	19.24 hrs,	Volume=	13.065 af
Outflow	=	49.23 cfs @	19.42 hrs,	Volume=	13.065 af, Atten= 61%, Lag= 10.5 min
Primary	=	49.23 cfs @	19.42 hrs,	Volume=	13.065 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Peak Elev= 516.34' @ 19.42 hrs Surf.Area= 1.007 ac Storage= 1.792 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 8.2 min (1,021.9 - 1,013.7)

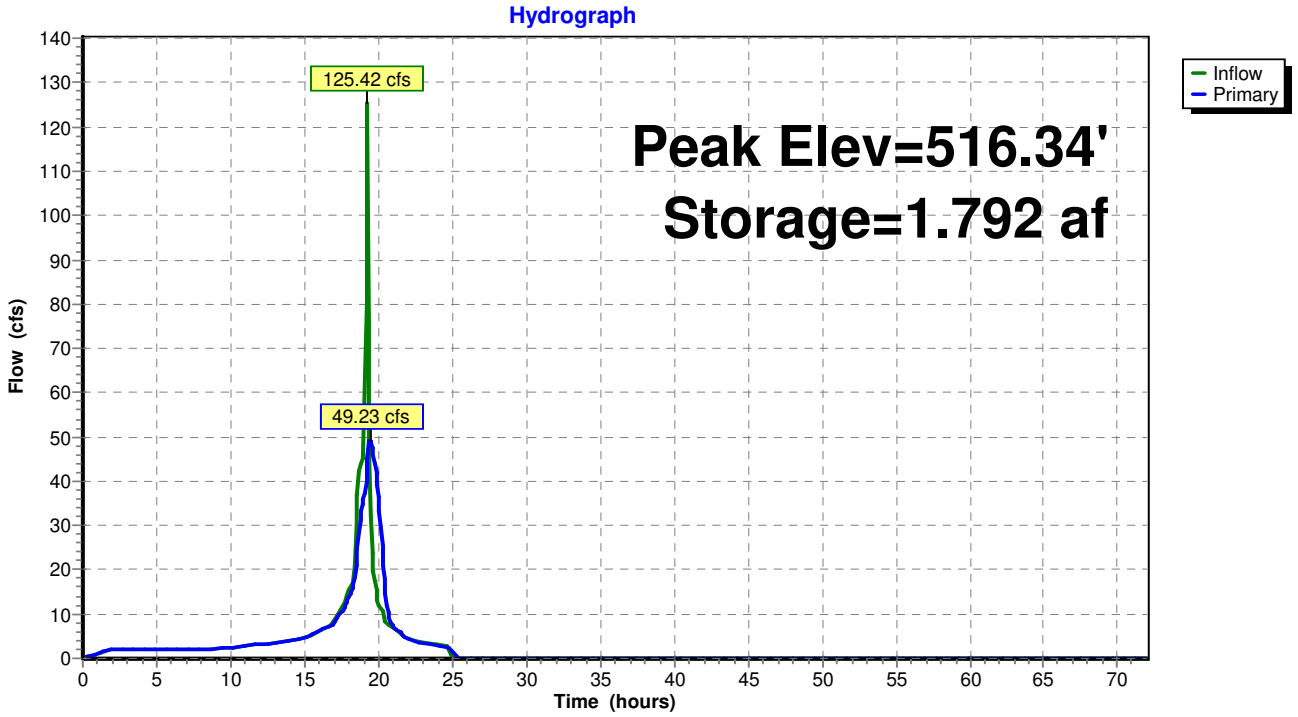
Volume	Invert	Avail.Storage	Storage Description
#1	513.00'	9.520 af	**07/06/19 ECG CTRS (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
513.00	0.124	0.000	0.000
514.00	0.339	0.231	0.231
515.00	0.603	0.471	0.703
516.00	0.923	0.763	1.465
517.00	1.172	1.047	2.513
518.00	1.329	1.250	3.763
519.00	1.394	1.362	5.125
520.00	1.440	1.417	6.542
521.00	1.489	1.464	8.006
522.00	1.539	1.514	9.520

Device	Routing	Invert	Outlet Devices
#1	Primary	512.00'	**39.0" Round Primary + Emergency Spillway X 2.00** L= 294.3' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 512.00' / 505.43' S= 0.0223 '/' Cc= 0.900 n= 0.012, Flow Area= 8.30 sf
#2	Device 1	512.00'	**33.0" Vert. Primary Outlet** C= 0.600
#3	Device 1	517.34'	**Emergency Spillway/Top of Riser Box, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 4.50 Width (feet) 24.00 24.00

Primary OutFlow Max=49.18 cfs @ 19.42 hrs HW=516.33' TW=507.50' (Dynamic Tailwater)
└─**1=Primary + Emergency Spillway** (Passes 49.18 cfs of 131.45 cfs potential flow)
  ├─**2=Primary Outlet** (Orifice Controls 49.18 cfs @ 8.28 fps)
  └─**3=Emergency Spillway/Top of Riser Box** (Controls 0.00 cfs)

Pond Basin2A: Basin2A



Stage-Discharge for Pond Basin2A: Basin2A

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
513.00	0.00	518.20	116.41
513.10	7.92	518.30	126.68
513.20	9.29	518.40	137.45
513.30	10.73	518.50	148.70
513.40	12.24	518.60	160.42
513.50	13.82	518.70	172.58
513.60	15.44	518.80	181.73
513.70	17.11	518.90	183.48
513.80	18.82	519.00	185.21
513.90	20.54	519.10	186.93
514.00	22.28	519.20	188.63
514.10	24.01	519.30	190.31
514.20	25.72	519.40	191.98
514.30	27.40	519.50	193.64
514.40	29.01	519.60	195.28
514.50	30.53	519.70	196.90
514.60	31.91	519.80	198.52
514.70	33.09	519.90	200.12
514.80	34.14	520.00	201.71
514.90	35.32	520.10	203.28
515.00	36.46	520.20	204.85
515.10	37.56	520.30	206.40
515.20	38.63	520.40	207.94
515.30	39.68	520.50	209.47
515.40	40.70	520.60	210.99
515.50	41.69	520.70	212.49
515.60	42.66	520.80	213.99
515.70	43.61	520.90	215.48
515.80	44.54	521.00	216.95
515.90	45.44	521.10	218.42
516.00	46.34	521.20	219.87
516.10	47.21	521.30	221.32
516.20	48.07	521.40	222.76
516.30	48.91	521.50	224.18
516.40	49.74	521.60	225.60
516.50	50.56	521.70	227.01
516.60	51.36	521.80	228.42
516.70	52.15	521.90	229.81
516.80	52.93	522.00	**231.19**
516.90	53.69		
517.00	54.45		
517.10	55.20		
517.20	55.93		
517.30	56.66		
517.40	58.36		
517.50	62.39		
517.60	67.69		
517.70	73.99		
517.80	81.13		
517.90	89.00		
518.00	97.54		
518.10	106.69		

Stage-Area-Storage for Pond Basin2A: Basin2A

Elevation (feet)	Surface (acres)	Storage (acre-feet)
513.00	0.124	0.000
513.10	0.146	0.013
513.20	0.167	0.029
513.30	0.188	0.047
513.40	0.210	0.067
513.50	0.231	0.089
513.60	0.253	0.113
513.70	0.275	0.139
513.80	0.296	0.168
513.90	0.317	0.199
514.00	0.339	0.231
514.10	0.365	0.267
514.20	0.392	0.305
514.30	0.418	0.345
514.40	0.445	0.388
514.50	0.471	0.434
514.60	0.497	0.482
514.70	0.524	0.533
514.80	0.550	0.587
514.90	0.577	0.644
515.00	0.603	0.703
515.10	0.635	0.764
515.20	0.667	0.830
515.30	0.699	0.898
515.40	0.731	0.969
515.50	0.763	1.044
515.60	0.795	1.122
515.70	0.827	1.203
515.80	0.859	1.287
515.90	0.891	1.375
516.00	0.923	1.465
516.10	0.948	1.559
516.20	0.973	1.655
516.30	0.998	1.754
516.40	1.023	1.855
516.50	1.047	1.958
516.60	1.072	2.064
516.70	1.097	2.173
516.80	1.122	2.284
516.90	1.147	2.397
517.00	1.172	2.513
517.10	1.188	2.631
517.20	1.203	2.751
517.30	1.219	2.872
517.40	1.235	2.994
517.50	1.250	3.119
517.60	1.266	3.244
517.70	1.282	3.372
517.80	1.298	3.501
517.90	1.313	3.631
518.00	1.329	3.763
518.10	1.336	3.897
518.20	1.342	4.031
518.30	1.348	4.165
518.40	1.355	4.300
518.50	1.362	4.436
518.60	1.368	4.573
518.70	1.375	4.710
518.80	1.381	4.847
518.90	1.387	4.986
519.00	1.394	5.125
519.10	1.399	5.265
519.20	1.403	5.405
519.30	1.408	5.545
519.40	1.412	5.686
519.50	1.417	5.828
519.60	1.422	5.970
519.70	1.426	6.112
519.80	1.431	6.255
519.90	1.435	6.398
520.00	1.440	6.542
520.10	1.445	6.686
520.20	1.450	6.831
520.30	1.455	6.976
520.40	1.460	7.122
520.50	1.464	7.268
520.60	1.469	7.415
520.70	1.474	7.562
520.80	1.479	7.710
520.90	1.484	7.858
521.00	1.489	8.006
521.10	1.494	8.156
521.20	1.499	8.305
521.30	1.504	8.455
521.40	1.509	8.606
521.50	1.514	8.757
521.60	1.519	8.909
521.70	1.524	9.061
521.80	1.529	9.214
521.90	1.534	9.367
522.00	**1.539**	**9.520**

Summary for Pond Basin2B: Basin2B

Inflow = 379.32 cfs @ 19.26 hrs, Volume= 67.114 af
Outflow = 233.34 cfs @ 19.72 hrs, Volume= 67.114 af, Atten= 38%, Lag= 27.2 min
Primary = 233.34 cfs @ 19.72 hrs, Volume= 67.114 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Peak Elev= 507.90' @ 19.72 hrs Surf.Area= 3.448 ac Storage= 21.148 af

Plug-Flow detention time= 111.9 min calculated for 67.037 af (100% of inflow)
Center-of-Mass det. time= 112.2 min (1,172.8 - 1,060.7)

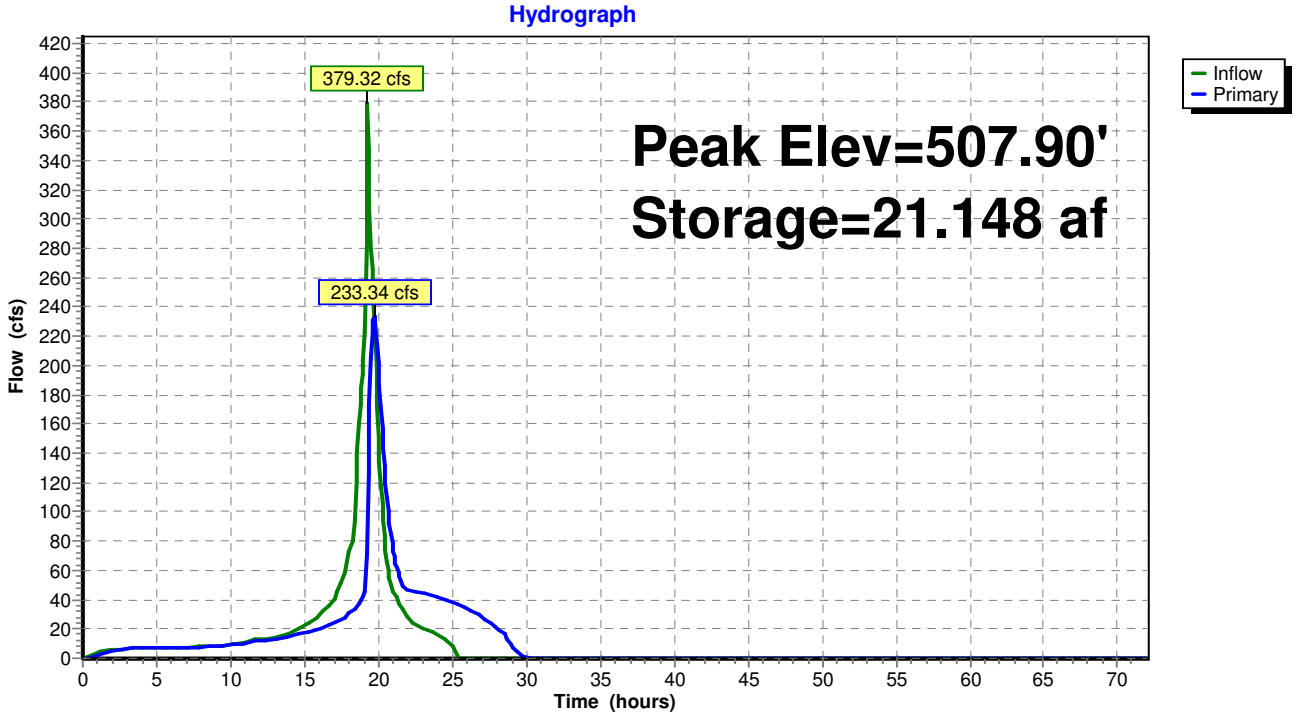
Volume	Invert	Avail.Storage	Storage Description
#1	498.00'	45.814 af	**07/06/19 ECG CTRS/EXTENDED VERT AT 512 (Prismatic)** Listed below (Reca

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
498.00	0.050	0.000	0.000
499.00	0.560	0.305	0.305
500.00	1.360	0.960	1.265
501.00	1.760	1.560	2.825
502.00	2.050	1.905	4.730
503.00	2.290	2.170	6.900
504.00	2.560	2.425	9.325
505.00	2.860	2.710	12.035
506.00	3.050	2.955	14.990
507.00	3.260	3.155	18.145
508.00	3.470	3.365	21.510
509.00	3.690	3.580	25.090
510.00	3.896	3.793	28.883
511.00	4.098	3.997	32.880
512.00	4.354	4.226	37.106
513.00	4.354	4.354	41.460
514.00	4.354	4.354	45.814

Device	Routing	Invert	Outlet Devices
#1	Primary	498.00'	**60.0" Round Primary + Secondary Pipes X 2.00** L= 224.3' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 498.00' / 484.56' S= 0.0599 '/' Cc= 0.900 n= 0.012, Flow Area= 19.63 sf
#2	Device 1	506.10'	**Secondary Weir, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 1.09 1.10 6.59 Width (feet) 27.00 27.00 27.00 27.00
#3	Device 1	498.00'	**18.0" Vert. Primary (above debris volume) X 2.00** C= 0.600
#4	Device 1	508.90'	**Emergency Spillway, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 4.50 Width (feet) 93.00 93.00

Primary OutFlow Max=232.57 cfs @ 19.72 hrs HW=507.89' TW=478.99' (Dynamic Tailwater)
└─**1=Primary + Secondary Pipes** (Passes 232.57 cfs of 514.03 cfs potential flow)
  ├─**2=Secondary Weir** (Weir Controls 181.12 cfs @ 3.75 fps)
  ├─**3=Primary (above debris volume)** (Orifice Controls 51.45 cfs @ 14.56 fps)
  └─**4=Emergency Spillway** (Controls 0.00 cfs)

Pond Basin2B: Basin2B



Stage-Discharge for Pond Basin2B: Basin2B

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
498.00	0.00	502.16	31.42	506.32	54.62	510.48	597.34
498.08	0.07	502.24	31.79	506.40	59.49	510.56	599.73
498.16	0.28	502.32	32.15	506.48	65.02	510.64	602.11
498.24	0.61	502.40	32.51	506.56	71.14	510.72	604.48
498.32	1.06	502.48	32.87	506.64	77.80	510.80	606.84
498.40	1.63	502.56	33.22	506.72	84.95	510.88	609.19
498.48	2.30	502.64	33.56	506.80	92.56	510.96	611.53
498.56	3.07	502.72	33.91	506.88	100.60	511.04	613.87
498.64	3.92	502.80	34.25	506.96	109.05	511.12	616.19
498.72	4.85	502.88	34.58	507.04	117.90	511.20	618.51
498.80	5.84	502.96	34.92	507.12	127.11	511.28	620.82
498.88	6.88	503.04	35.25	507.20	136.69	511.36	623.12
498.96	7.97	503.12	35.57	507.28	146.61	511.44	625.41
499.04	9.08	503.20	35.90	507.36	156.86	511.52	627.69
499.12	10.20	503.28	36.22	507.44	167.43	511.60	629.96
499.20	11.30	503.36	36.54	507.52	178.32	511.68	632.23
499.28	12.37	503.44	36.85	507.60	189.51	511.76	634.49
499.36	13.37	503.52	37.17	507.68	201.00	511.84	636.74
499.44	14.25	503.60	37.48	507.76	212.77	511.92	638.98
499.52	14.93	503.68	37.79	507.84	224.83	512.00	641.21
499.60	15.69	503.76	38.09	507.92	237.15	512.08	643.44
499.68	16.41	503.84	38.39	508.00	249.75	512.16	645.66
499.76	17.10	503.92	38.69	508.08	262.61	512.24	647.87
499.84	17.77	504.00	38.99	508.16	275.73	512.32	650.07
499.92	18.41	504.08	39.29	508.24	289.09	512.40	652.27
500.00	19.03	504.16	39.58	508.32	302.71	512.48	654.46
500.08	19.63	504.24	39.87	508.40	316.57	512.56	656.64
500.16	20.21	504.32	40.16	508.48	330.66	512.64	658.81
500.24	20.77	504.40	40.45	508.56	344.99	512.72	660.98
500.32	21.32	504.48	40.74	508.64	359.55	512.80	663.14
500.40	21.86	504.56	41.02	508.72	374.34	512.88	665.30
500.48	22.38	504.64	41.30	508.80	389.35	512.96	667.44
500.56	22.89	504.72	41.58	508.88	404.58	513.04	669.58
500.64	23.40	504.80	41.86	508.96	423.86	513.12	671.71
500.72	23.89	504.88	42.13	509.04	449.33	513.20	673.84
500.80	24.37	504.96	42.41	509.12	478.44	513.28	675.96
500.88	24.84	505.04	42.68	509.20	510.43	513.36	678.07
500.96	25.30	505.12	42.95	509.28	544.93	513.44	680.18
501.04	25.75	505.20	43.22	509.36	562.82	513.52	682.28
501.12	26.20	505.28	43.49	509.44	565.36	513.60	684.37
501.20	26.64	505.36	43.75	509.52	567.88	513.68	686.45
501.28	27.07	505.44	44.02	509.60	570.39	513.76	688.53
501.36	27.49	505.52	44.28	509.68	572.90	513.84	690.61
501.44	27.91	505.60	44.54	509.76	575.39	513.92	692.68
501.52	28.32	505.68	44.80	509.84	577.87	514.00	**694.74**
501.60	28.73	505.76	45.06	509.92	580.34		
501.68	29.13	505.84	45.31	510.00	582.80		
501.76	29.52	505.92	45.57	510.08	585.24		
501.84	29.91	506.00	45.82	510.16	587.68		
501.92	30.30	506.08	46.07	510.24	590.11		
502.00	30.68	506.16	47.44	510.32	592.53		
502.08	31.05	506.24	50.53	510.40	594.94		

Stage-Area-Storage for Pond Basin2B: Basin2B

Elevation (feet)	Surface (acres)	Storage (acre-feet)
498.00	0.050	0.000
498.20	0.152	0.020
498.40	0.254	0.061
498.60	0.356	0.122
498.80	0.458	0.203
499.00	0.560	0.305
499.20	0.720	0.433
499.40	0.880	0.593
499.60	1.040	0.785
499.80	1.200	1.009
500.00	1.360	1.265
500.20	1.440	1.545
500.40	1.520	1.841
500.60	1.600	2.153
500.80	1.680	2.481
501.00	1.760	2.825
501.20	1.818	3.183
501.40	1.876	3.552
501.60	1.934	3.933
501.80	1.992	4.326
502.00	2.050	4.730
502.20	2.098	5.145
502.40	2.146	5.569
502.60	2.194	6.003
502.80	2.242	6.447
503.00	2.290	6.900
503.20	2.344	7.363
503.40	2.398	7.838
503.60	2.452	8.323
503.80	2.506	8.818
504.00	2.560	9.325
504.20	2.620	9.843
504.40	2.680	10.373
504.60	2.740	10.915
504.80	2.800	11.469
505.00	2.860	12.035
505.20	2.898	12.611
505.40	2.936	13.194
505.60	2.974	13.785
505.80	3.012	14.384
506.00	3.050	14.990
506.20	3.092	15.604
506.40	3.134	16.227
506.60	3.176	16.858
506.80	3.218	17.497
507.00	3.260	18.145
507.20	3.302	18.801
507.40	3.344	19.466
507.60	3.386	20.139
507.80	3.428	20.820
508.00	3.470	21.510
508.20	3.514	22.208
508.40	3.558	22.916
508.60	3.602	23.632
508.80	3.646	24.356
509.00	3.690	25.090
509.20	3.731	25.832
509.40	3.772	26.582
509.60	3.814	27.341
509.80	3.855	28.108
510.00	3.896	28.883
510.20	3.936	29.666
510.40	3.977	30.458
510.60	4.017	31.257
510.80	4.058	32.064
511.00	4.098	32.880
511.20	4.149	33.705
511.40	4.200	34.540
511.60	4.252	35.385
511.80	4.303	36.240
512.00	**4.354**	37.106
512.20	4.354	37.977
512.40	4.354	38.848
512.60	4.354	39.718
512.80	4.354	40.589
513.00	4.354	41.460
513.20	4.354	42.331
513.40	4.354	43.202
513.60	4.354	44.072
513.80	4.354	44.943
514.00	4.354	**45.814**

Summary for Pond DiversionStructure: DiversionStructure

[57] Hint: Peaked at 497.61' (Flood elevation advised)

Inflow	=	757.64 cfs @	19.33 hrs,	Volume=	217.982 af
Outflow	=	757.64 cfs @	19.33 hrs,	Volume=	217.982 af, Atten= 0%, Lag= 0.0 min
Primary	=	129.37 cfs @	19.33 hrs,	Volume=	105.771 af
Secondary	=	628.28 cfs @	19.33 hrs,	Volume=	112.211 af

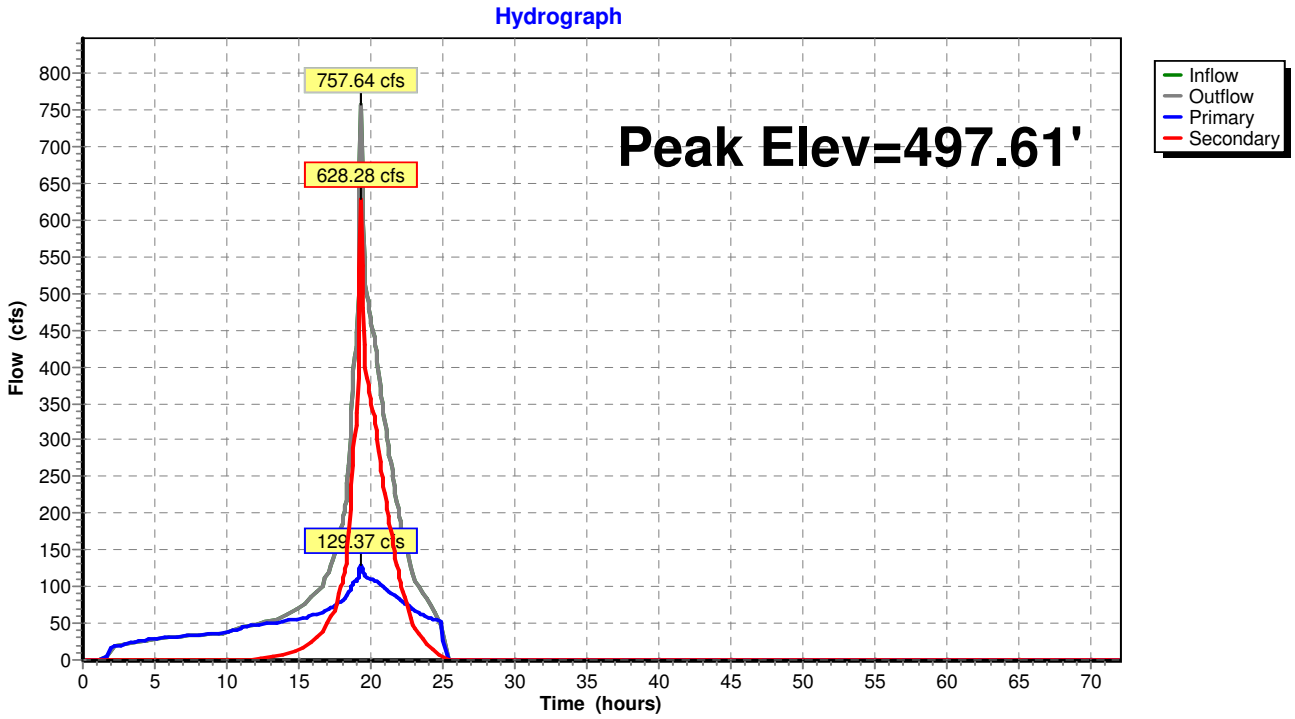
Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Peak Elev= 497.61' @ 19.33 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	493.76'	**96.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#2	Secondary	495.25'	**108.0" W x 30.0" H Vert. Orifice/Grate X 6.00** C= 0.600

Primary OutFlow Max=129.30 cfs @ 19.33 hrs HW=497.61' TW=483.07' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 129.30 cfs @ 8.08 fps)

Secondary OutFlow Max=627.21 cfs @ 19.33 hrs HW=497.61' TW=487.89' (Dynamic Tailwater)
└**2=Orifice/Grate** (Orifice Controls 627.21 cfs @ 4.93 fps)

Pond DiversionStructure: DiversionStructure



Stage-Discharge for Pond DiversionStructure: DiversionStructure

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
493.76	0.00	0.00	0.00
493.81	0.29	0.29	0.00
493.86	0.81	0.81	0.00
493.91	1.49	1.49	0.00
493.96	2.30	2.30	0.00
494.01	3.21	3.21	0.00
494.06	4.22	4.22	0.00
494.11	5.32	5.32	0.00
494.16	6.50	6.50	0.00
494.21	7.75	7.75	0.00
494.26	9.08	9.08	0.00
494.31	10.47	10.47	0.00
494.36	11.93	11.93	0.00
494.41	13.46	13.46	0.00
494.46	15.04	15.04	0.00
494.51	16.68	16.68	0.00
494.56	18.38	18.38	0.00
494.61	20.12	20.12	0.00
494.66	21.93	21.93	0.00
494.71	23.78	23.78	0.00
494.76	25.68	25.68	0.00
494.81	27.63	27.63	0.00
494.86	29.63	29.63	0.00
494.91	31.67	31.67	0.00
494.96	33.76	33.76	0.00
495.01	35.89	35.89	0.00
495.06	38.06	38.06	0.00
495.11	40.28	40.28	0.00
495.16	42.54	42.54	0.00
495.21	44.84	44.84	0.00
495.26	47.35	47.18	0.17
495.31	52.10	49.56	2.55
495.36	58.30	51.97	6.32
495.41	65.52	54.43	11.09
495.46	73.60	56.92	16.68
495.51	82.43	59.45	22.98
495.56	91.93	62.02	29.92
495.61	102.06	64.62	37.44
495.66	112.76	67.25	45.51
495.71	124.01	69.93	54.08
495.76	135.77	72.63	63.13
495.81	147.73	75.09	72.64
495.86	159.92	77.34	82.58
495.91	172.41	79.46	92.94
495.96	185.20	81.50	103.70
496.01	198.31	83.46	114.85
496.06	211.72	85.35	126.36
496.11	225.44	87.19	138.24
496.16	239.46	88.98	150.47
496.21	253.77	90.73	163.04
496.26	268.38	92.43	175.95
496.31	283.27	94.09	189.17
496.36	298.44	95.72	202.71
496.41	313.89	97.32	216.56
496.46	329.60	98.89	230.71
496.51	345.59	100.43	245.16
496.56	361.84	101.94	259.90
496.61	378.35	103.43	274.92
496.66	395.11	104.89	290.22
496.71	412.13	106.34	305.79
496.76	429.39	107.76	321.63
496.81	446.90	109.16	337.74
496.86	464.64	110.54	354.11
496.91	482.63	111.90	370.73
496.96	500.85	113.24	387.61
497.01	519.30	114.57	404.73
497.06	537.98	115.88	422.10
497.11	556.89	117.18	439.71
497.16	576.01	118.46	457.56
497.21	595.36	119.72	475.64
497.26	614.93	120.97	493.96
497.31	634.71	122.21	512.50
497.36	654.71	123.43	531.28
497.41	674.92	124.65	550.27
497.46	695.33	125.85	569.49
497.51	715.96	127.03	588.92
497.56	736.79	128.21	608.58
497.61	757.82	129.37	628.44
497.66	779.05	130.53	648.52
497.71	**800.48**	**131.67**	**668.80**

Stage-Area-Storage for Pond DiversionStructure: DiversionStructure

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
493.76	**0**	496.36	0
493.81	0	496.41	0
493.86	0	496.46	0
493.91	0	496.51	0
493.96	0	496.56	0
494.01	0	496.61	0
494.06	0	496.66	0
494.11	0	496.71	0
494.16	0	496.76	0
494.21	0	496.81	0
494.26	0	496.86	0
494.31	0	496.91	0
494.36	0	496.96	0
494.41	0	497.01	0
494.46	0	497.06	0
494.51	0	497.11	0
494.56	0	497.16	0
494.61	0	497.21	0
494.66	0	497.26	0
494.71	0	497.31	0
494.76	0	497.36	0
494.81	0	497.41	0
494.86	0	497.46	0
494.91	0	497.51	0
494.96	0	497.56	0
495.01	0	497.61	0
495.06	0	497.66	0
495.11	0	497.71	0
495.16	0		
495.21	0		
495.26	0		
495.31	0		
495.36	0		
495.41	0		
495.46	0		
495.51	0		
495.56	0		
495.61	0		
495.66	0		
495.71	0		
495.76	0		
495.81	0		
495.86	0		
495.91	0		
495.96	0		
496.01	0		
496.06	0		
496.11	0		
496.16	0		
496.21	0		
496.26	0		
496.31	0		

Summary for Pond RegionalBasin3: RegionalBasin3

Inflow = 964.83 cfs @ 19.27 hrs, Volume= 163.981 af
Outflow = 365.06 cfs @ 20.33 hrs, Volume= 163.981 af, Atten= 62%, Lag= 63.5 min
Primary = 365.06 cfs @ 20.33 hrs, Volume= 163.981 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs / 3
Peak Elev= 489.62' @ 20.32 hrs Surf.Area= 8.655 ac Storage= 58.447 af

Plug-Flow detention time= 144.6 min calculated for 163.792 af (100% of inflow)
Center-of-Mass det. time= 145.6 min (1,264.8 - 1,119.2)

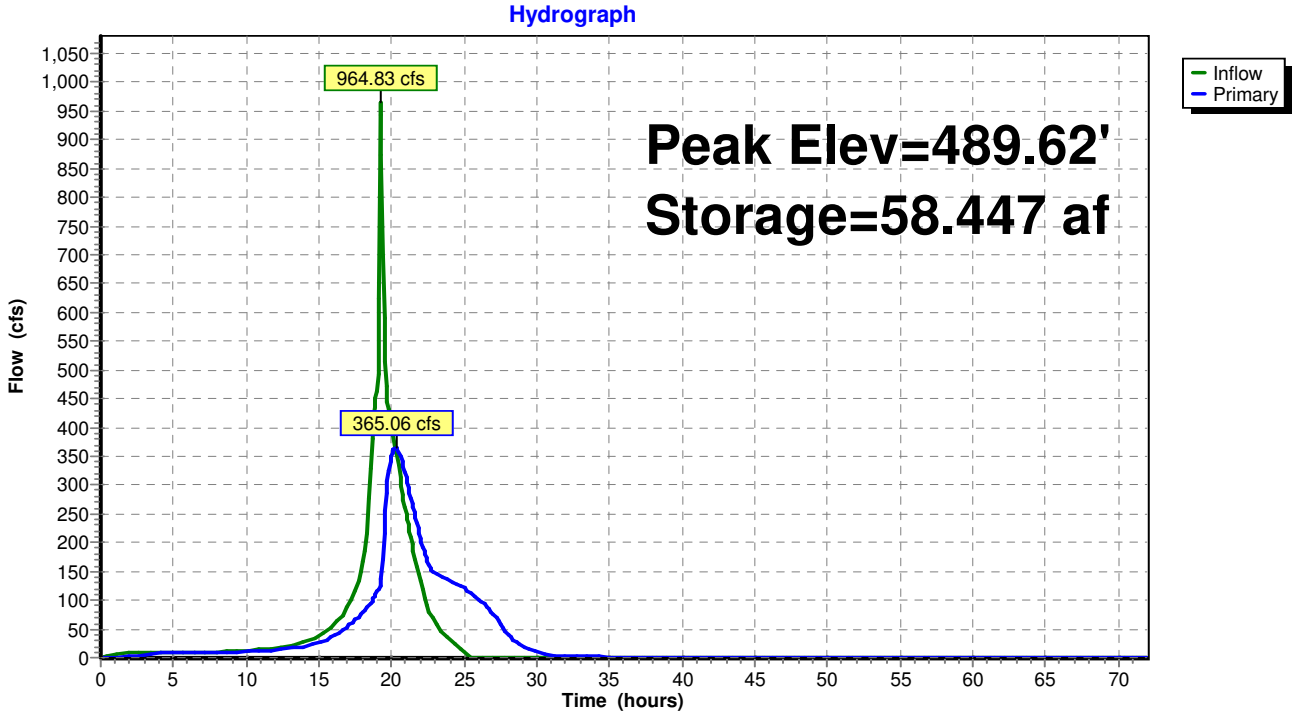
Volume	Invert	Avail.Storage	Storage Description
#1	480.00'	117.013 af	**07/06/19 ECG CTRS/EXTENDED VERT AT 493 (Prismatic)** Listed below (Reca

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
480.00	0.000	0.000	0.000
481.00	1.576	0.788	0.788
482.00	3.507	2.542	3.330
483.00	4.877	4.192	7.522
484.00	6.491	5.684	13.206
485.00	7.828	7.159	20.365
486.00	8.006	7.917	28.282
487.00	8.184	8.095	36.377
488.00	8.363	8.274	44.651
489.00	8.543	8.453	53.104
490.00	8.724	8.633	61.737
491.00	8.906	8.815	70.552
492.00	9.089	8.997	79.550
493.00	9.274	9.181	88.731
494.00	9.458	9.366	98.097
495.00	9.458	9.458	107.555
496.00	9.458	9.458	117.013

Device	Routing	Invert	Outlet Devices
#1	Primary	480.00'	**96.0" W x 48.0" H Box Primary + Secondary Pipes X 3.00** L= 572.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 480.00' / 479.86' S= 0.0002 '/' Cc= 0.900 n= 0.012, Flow Area= 32.00 sf
#2	Device 1	481.00'	**75.0" W x 24.0" H Vert. Primary Inlet** C= 0.600
#3	Device 1	480.00'	**9.0" Vert. Low Flow Inlet** C= 0.600
#4	Device 1	487.97'	**Secondary Outlet, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 2.69 2.70 4.70 Width (feet) 34.00 34.00 34.00 34.00
#5	Device 1	491.00'	**Emergency Spillway, Cv= 2.24 (C= 2.80)** Head (feet) 0.00 5.00 Width (feet) 137.00 137.00

Primary OutFlow Max=365.03 cfs @ 20.33 hrs HW=489.62' TW=482.76' (Dynamic Tailwater)
└─**1=Primary + Secondary Pipes** (Passes 365.03 cfs of 1,043.01 cfs potential flow)
  ├─**2=Primary Inlet** (Orifice Controls 157.47 cfs @ 12.60 fps)
  ├─**3=Low Flow Inlet** (Orifice Controls 5.57 cfs @ 12.61 fps)
  ├─**4=Secondary Outlet** (Weir Controls 201.99 cfs @ 3.60 fps)
  └─**5=Emergency Spillway** (Controls 0.00 cfs)

Pond RegionalBasin3: RegionalBasin3



Stage-Discharge for Pond RegionalBasin3: RegionalBasin3

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
480.00	0.00	484.16	91.77	488.32	176.86	492.48	1,275.81
480.08	0.02	484.24	93.48	488.40	184.98	492.56	1,281.71
480.16	0.09	484.32	95.16	488.48	193.79	492.64	1,287.59
480.24	0.20	484.40	96.81	488.56	203.23	492.72	1,293.45
480.32	0.35	484.48	98.43	488.64	213.27	492.80	1,299.27
480.40	0.52	484.56	100.02	488.72	223.86	492.88	1,305.07
480.48	0.70	484.64	101.58	488.80	234.97	492.96	1,310.85
480.56	0.90	484.72	103.12	488.88	246.58	493.04	1,316.60
480.64	1.09	484.80	104.64	488.96	258.66	493.12	1,322.32
480.72	1.26	484.88	106.13	489.04	271.19	493.20	1,328.02
480.80	1.39	484.96	107.60	489.12	284.16	493.28	1,333.70
480.88	1.51	485.04	109.05	489.20	297.55	493.36	1,339.35
480.96	1.63	485.12	110.48	489.28	311.35	493.44	1,344.97
481.04	1.90	485.20	111.89	489.36	325.55	493.52	1,350.58
481.12	2.67	485.28	113.29	489.44	340.12	493.60	1,356.16
481.20	3.73	485.36	114.66	489.52	355.07	493.68	1,361.72
481.28	5.00	485.44	116.02	489.60	370.38	493.76	1,367.25
481.36	6.44	485.52	117.36	489.68	386.04	493.84	1,372.77
481.44	8.05	485.60	118.69	489.76	402.05	493.92	1,378.26
481.52	9.80	485.68	120.00	489.84	418.40	494.00	1,383.73
481.60	11.68	485.76	121.29	489.92	435.07	494.08	1,389.17
481.68	13.68	485.84	122.58	490.00	452.07	494.16	1,394.60
481.76	15.80	485.92	123.85	490.08	469.38	494.24	1,400.01
481.84	18.02	486.00	125.10	490.16	487.01	494.32	1,405.39
481.92	20.35	486.08	126.35	490.24	504.94	494.40	1,410.76
482.00	22.77	486.16	127.58	490.32	523.17	494.48	1,416.10
482.08	25.30	486.24	128.79	490.40	541.69	494.56	1,421.42
482.16	27.91	486.32	130.00	490.48	560.50	494.64	1,426.73
482.24	30.61	486.40	131.20	490.56	579.59	494.72	1,432.01
482.32	33.39	486.48	132.38	490.64	598.97	494.80	1,437.28
482.40	36.26	486.56	133.56	490.72	618.62	494.88	1,442.52
482.48	39.21	486.64	134.72	490.80	638.54	494.96	1,447.75
482.56	42.23	486.72	135.87	490.88	658.73	495.04	1,452.96
482.64	45.34	486.80	137.02	490.96	679.19	495.12	1,458.14
482.72	48.51	486.88	138.15	491.04	702.97	495.20	1,463.32
482.80	51.76	486.96	139.27	491.12	736.82	495.28	1,468.47
482.88	55.08	487.04	140.39	491.20	776.41	495.36	1,473.60
482.96	58.47	487.12	141.49	491.28	820.42	495.44	1,478.72
483.04	61.77	487.20	142.59	491.36	868.16	495.52	1,483.82
483.12	64.62	487.28	143.68	491.44	919.23	495.60	1,488.90
483.20	67.25	487.36	144.76	491.52	973.33	495.68	1,493.96
483.28	69.72	487.44	145.83	491.60	1,030.22	495.76	1,499.01
483.36	72.08	487.52	146.90	491.68	1,089.72	495.84	1,504.04
483.44	74.33	487.60	147.96	491.76	1,151.70	495.92	1,509.05
483.52	76.51	487.68	149.01	491.84	1,216.02	496.00	**1,514.05**
483.60	78.61	487.76	150.05	491.92	1,233.67		
483.68	80.64	487.84	151.08	492.00	1,239.78		
483.76	82.61	487.92	152.11	492.08	1,245.85		
483.84	84.53	488.00	153.62	492.16	1,251.90		
483.92	86.41	488.08	157.62	492.24	1,257.92		
484.00	88.23	488.16	163.04	492.32	1,263.91		
484.08	90.02	488.24	169.51	492.40	1,269.87		

Stage-Area-Storage for Pond RegionalBasin3: RegionalBasin3

Elevation (feet)	Surface (acres)	Storage (acre-feet)
480.00	0.000	0.000
480.20	0.315	0.032
480.40	0.630	0.126
480.60	0.946	0.284
480.80	1.261	0.504
481.00	1.576	0.788
481.20	1.962	1.142
481.40	2.348	1.573
481.60	2.735	2.081
481.80	3.121	2.667
482.00	3.507	3.330
482.20	3.781	4.058
482.40	4.055	4.842
482.60	4.329	5.680
482.80	4.603	6.574
483.00	4.877	7.522
483.20	5.200	8.529
483.40	5.523	9.601
483.60	5.845	10.738
483.80	6.168	11.940
484.00	6.491	13.206
484.20	6.758	14.530
484.40	7.026	15.909
484.60	7.293	17.341
484.80	7.561	18.826
485.00	7.828	20.365
485.20	7.864	21.934
485.40	7.899	23.510
485.60	7.935	25.094
485.80	7.970	26.684
486.00	8.006	28.282
486.20	8.042	29.887
486.40	8.077	31.499
486.60	8.113	33.118
486.80	8.148	34.744
487.00	8.184	36.377
487.20	8.220	38.017
487.40	8.256	39.665
487.60	8.291	41.320
487.80	8.327	42.981
488.00	8.363	44.651
488.20	8.399	46.327
488.40	8.435	48.010
488.60	8.471	49.701
488.80	8.507	51.399
489.00	8.543	53.104
489.20	8.579	54.816
489.40	8.615	56.535
489.60	8.652	58.262
489.80	8.688	59.996
490.00	8.724	61.737
490.20	8.760	63.485
490.40	8.797	65.241
490.60	8.833	67.004
490.80	8.870	68.774
491.00	8.906	70.552
491.20	8.943	72.337
491.40	8.979	74.129
491.60	9.016	75.929
491.80	9.052	77.735
492.00	9.089	79.550
492.20	9.126	81.371
492.40	9.163	83.200
492.60	9.200	85.036
492.80	9.237	86.880
493.00	9.274	88.731
493.20	9.311	90.589
493.40	9.348	92.455
493.60	9.384	94.329
493.80	9.421	96.209
494.00	**9.458**	98.097
494.20	9.458	99.989
494.40	9.458	101.880
494.60	9.458	103.772
494.80	9.458	105.663
495.00	9.458	107.555
495.20	9.458	109.447
495.40	9.458	111.338
495.60	9.458	113.230
495.80	9.458	115.121
496.00	9.458	**117.013**

Summary for Link 45A: 45A

Inflow = 757.64 cfs @ 19.33 hrs, Volume= 217.982 af
Primary = 757.64 cfs @ 19.33 hrs, Volume= 217.982 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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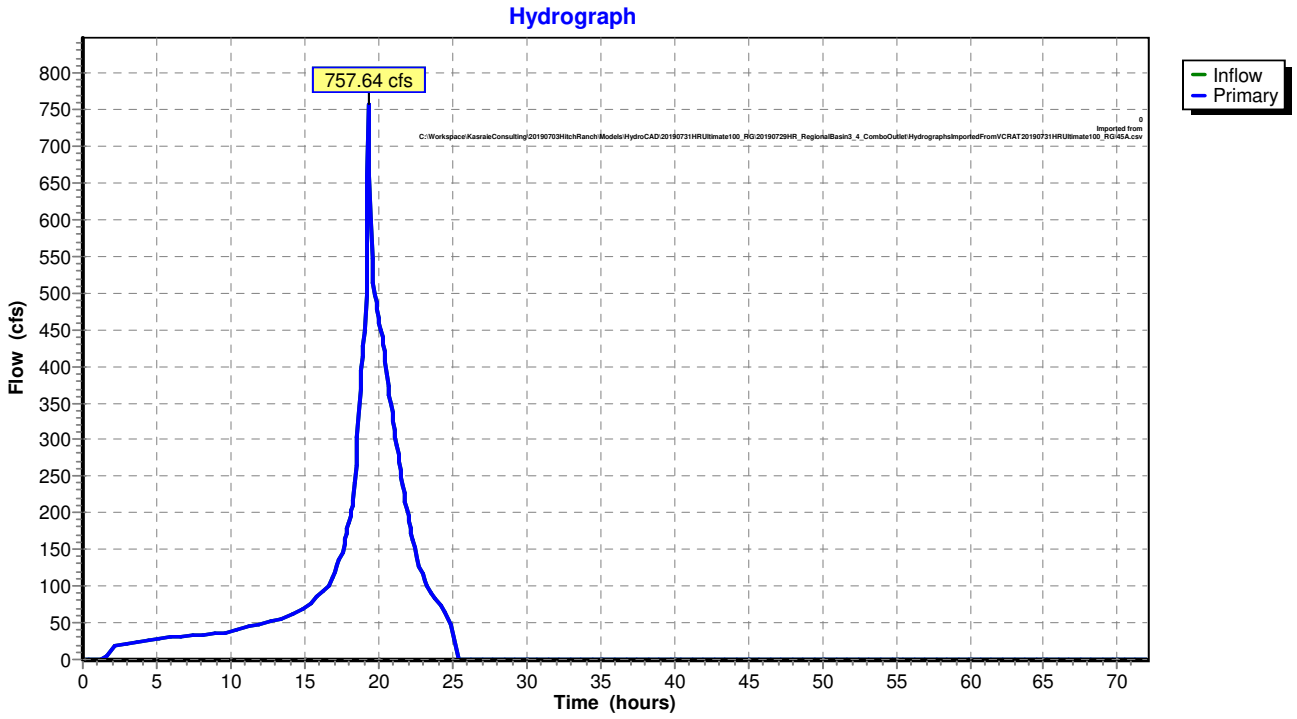
Link 45A: 45A



Summary for Link 55B: 55B

Inflow = 411.20 cfs @ 19.24 hrs, Volume= 51.770 af
Primary = 411.20 cfs @ 19.24 hrs, Volume= 51.770 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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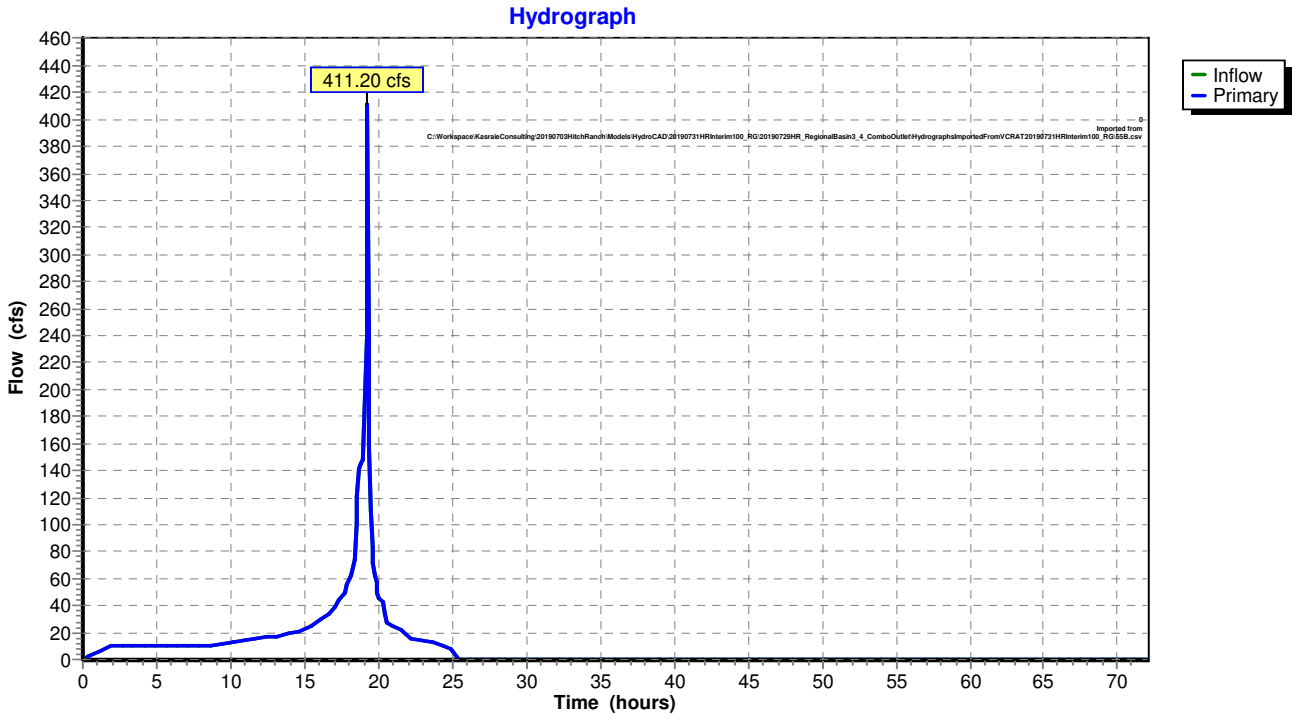
Link 55B: 55B



Summary for Link 58B: 58B

Inflow = 36.25 cfs @ 19.25 hrs, Volume= 2.868 af
Primary = 36.25 cfs @ 19.25 hrs, Volume= 2.868 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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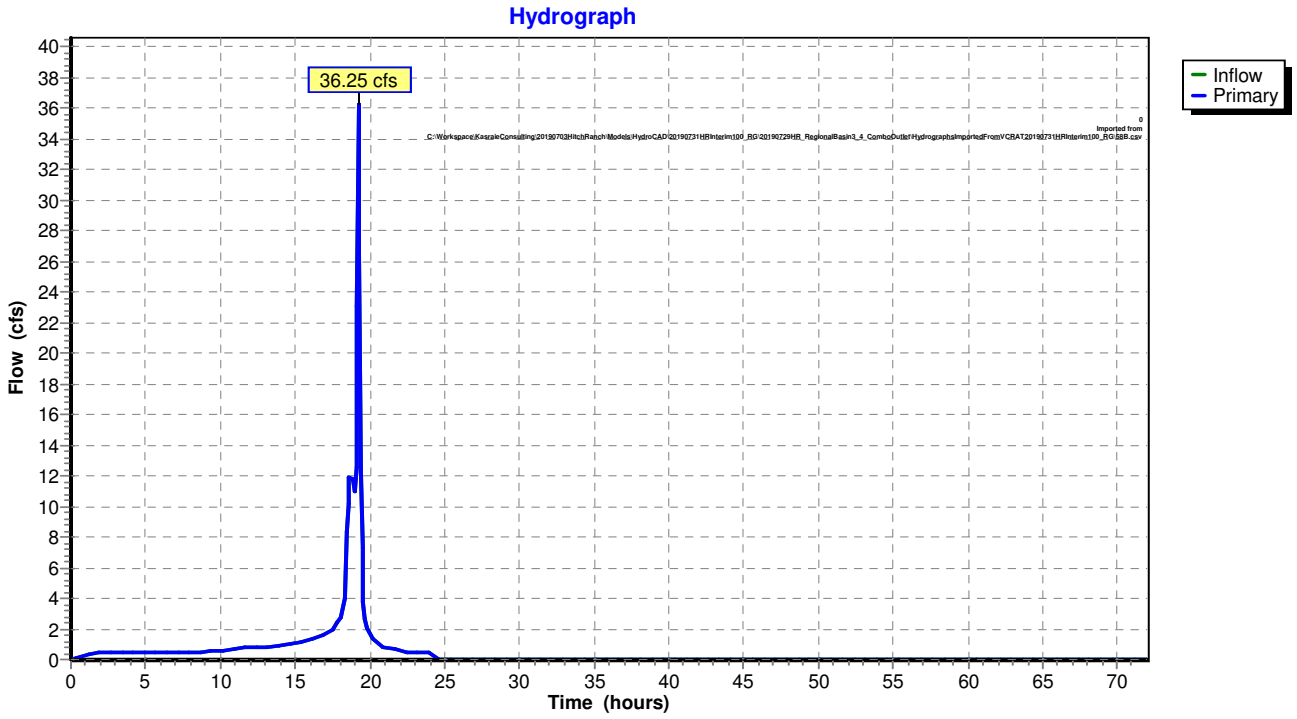
Link 58B: 58B



Summary for Link 76C: 76C

Inflow = 125.42 cfs @ 19.24 hrs, Volume= 13.065 af
Primary = 125.42 cfs @ 19.24 hrs, Volume= 13.065 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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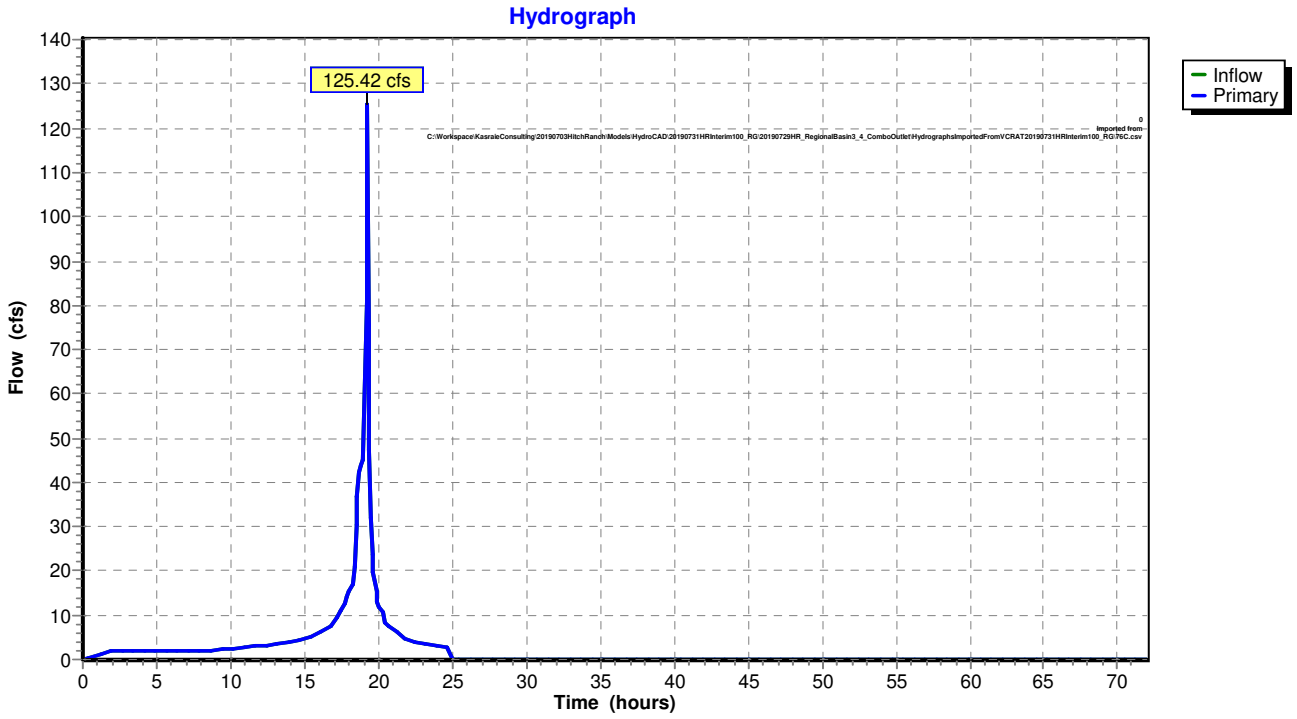
Link 76C: 76C



Summary for Link 77D+79B: 77D+79B

Inflow = 333.30 cfs @ 19.26 hrs, Volume= 54.049 af
Primary = 333.30 cfs @ 19.26 hrs, Volume= 54.049 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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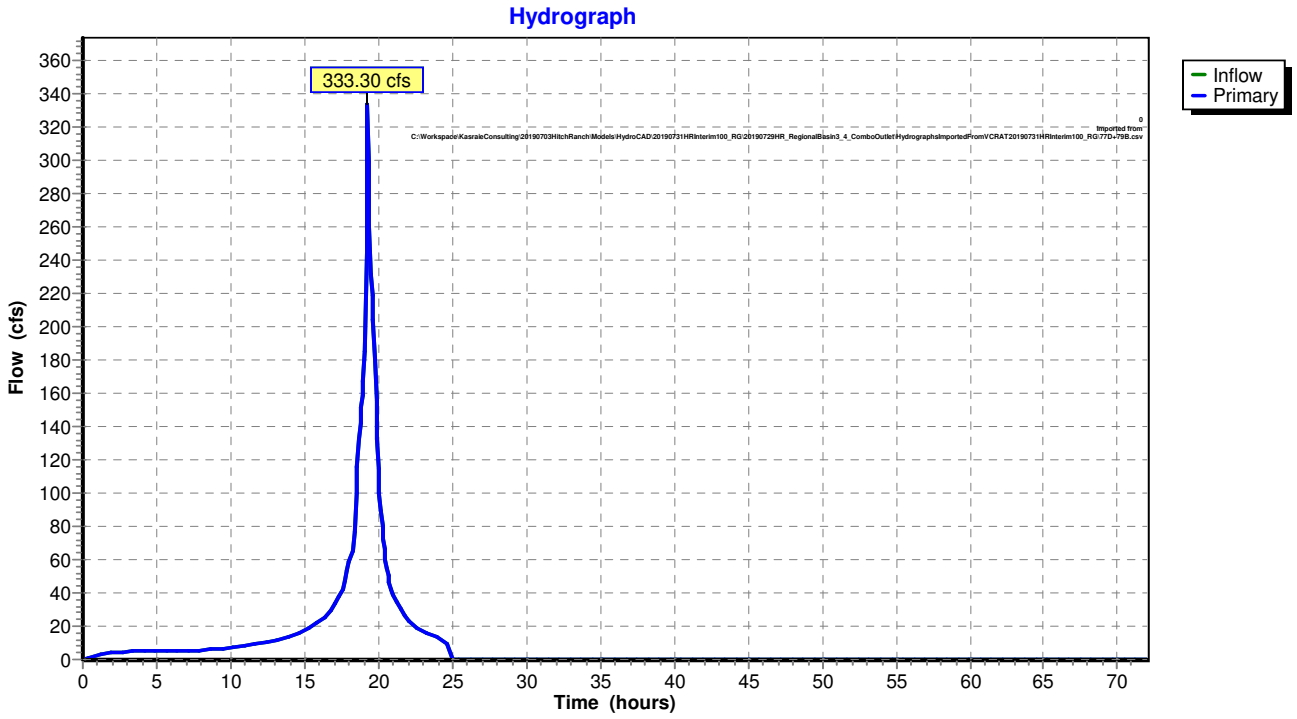
Link 77D+79B: 77D+79B



Summary for Link 84CD: 84CD

Inflow = 104.72 cfs @ 19.23 hrs, Volume= 8.309 af
Primary = 104.72 cfs @ 19.23 hrs, Volume= 8.309 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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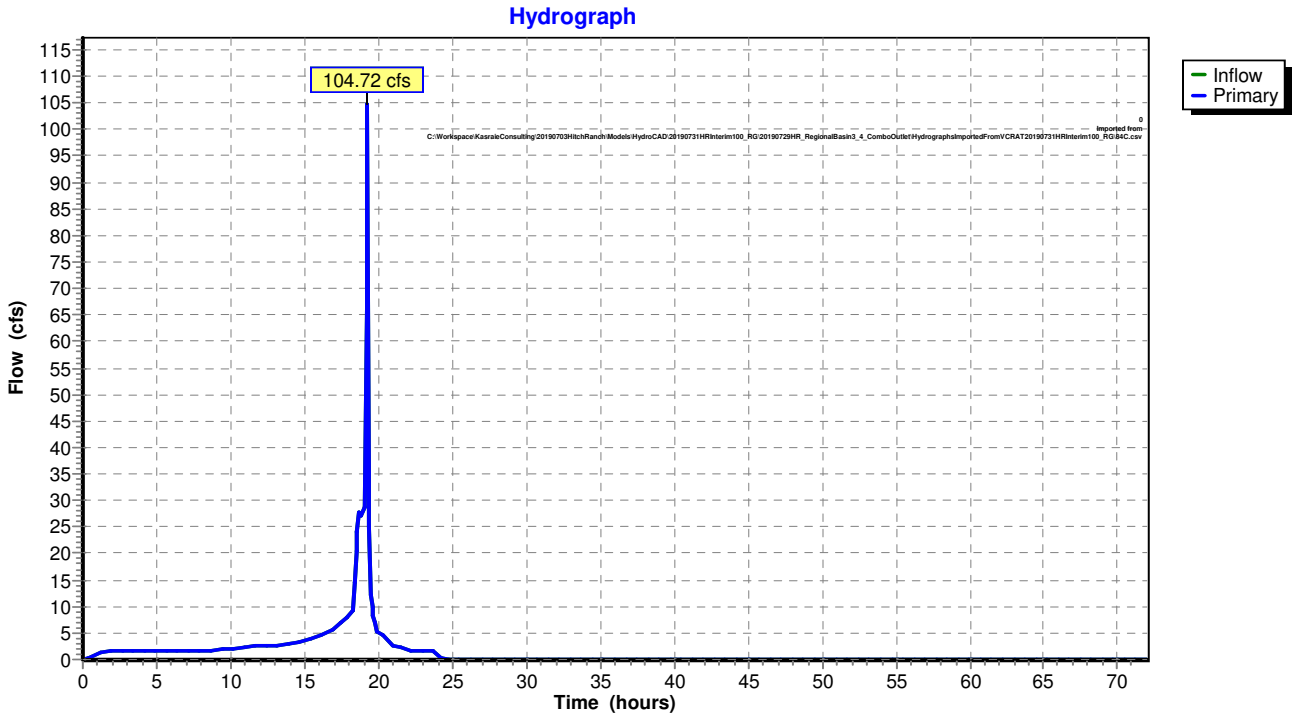
Link 84CD: 84CD



Summary for Link 88B: 88B

Inflow = 103.90 cfs @ 19.31 hrs, Volume= 14.283 af
Primary = 103.90 cfs @ 19.31 hrs, Volume= 14.283 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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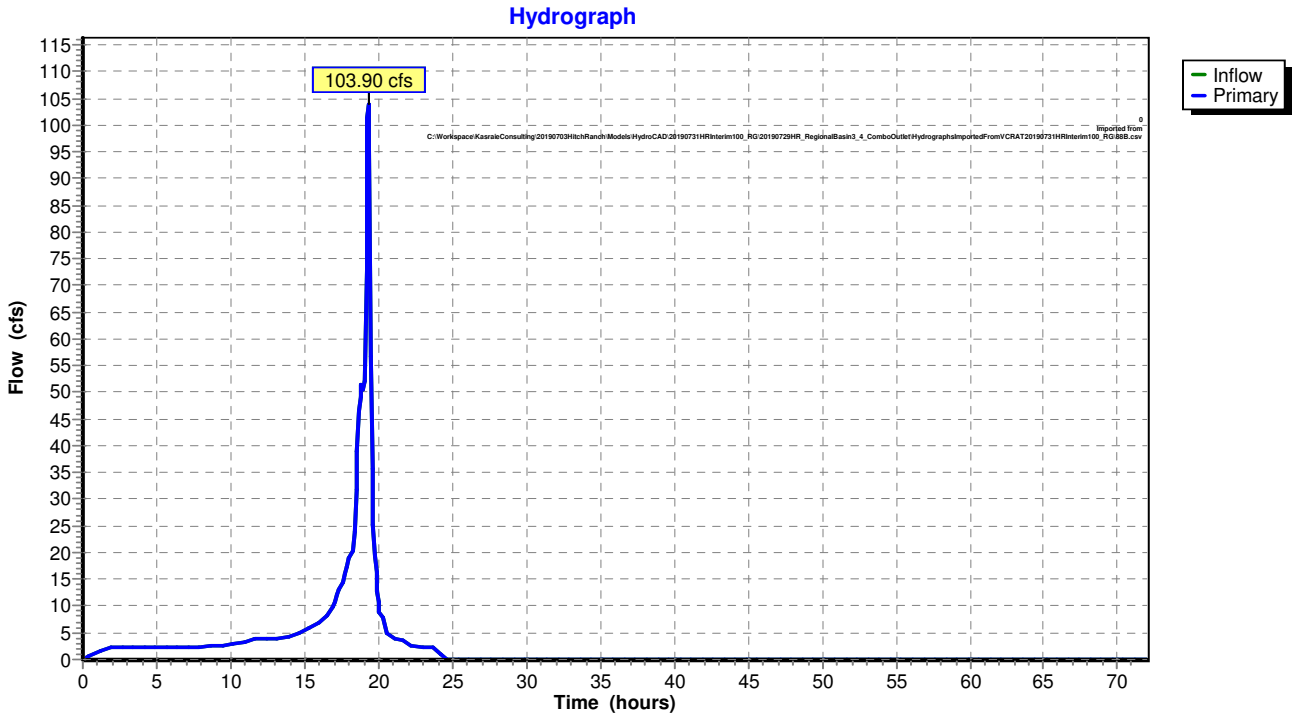
Link 88B: 88B



Summary for Link 92C: 92C

Inflow = 349.07 cfs @ 19.31 hrs, Volume= 59.209 af
Primary = 349.07 cfs @ 19.31 hrs, Volume= 59.209 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

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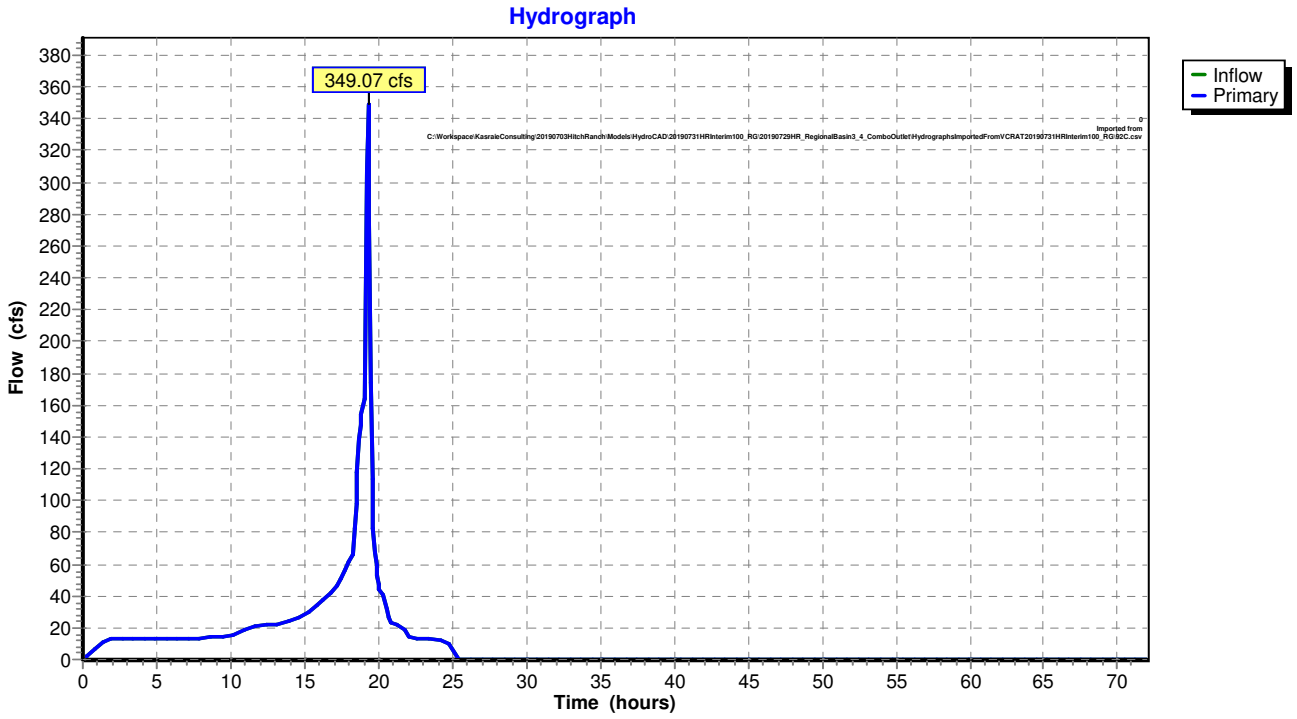
Link 92C: 92C

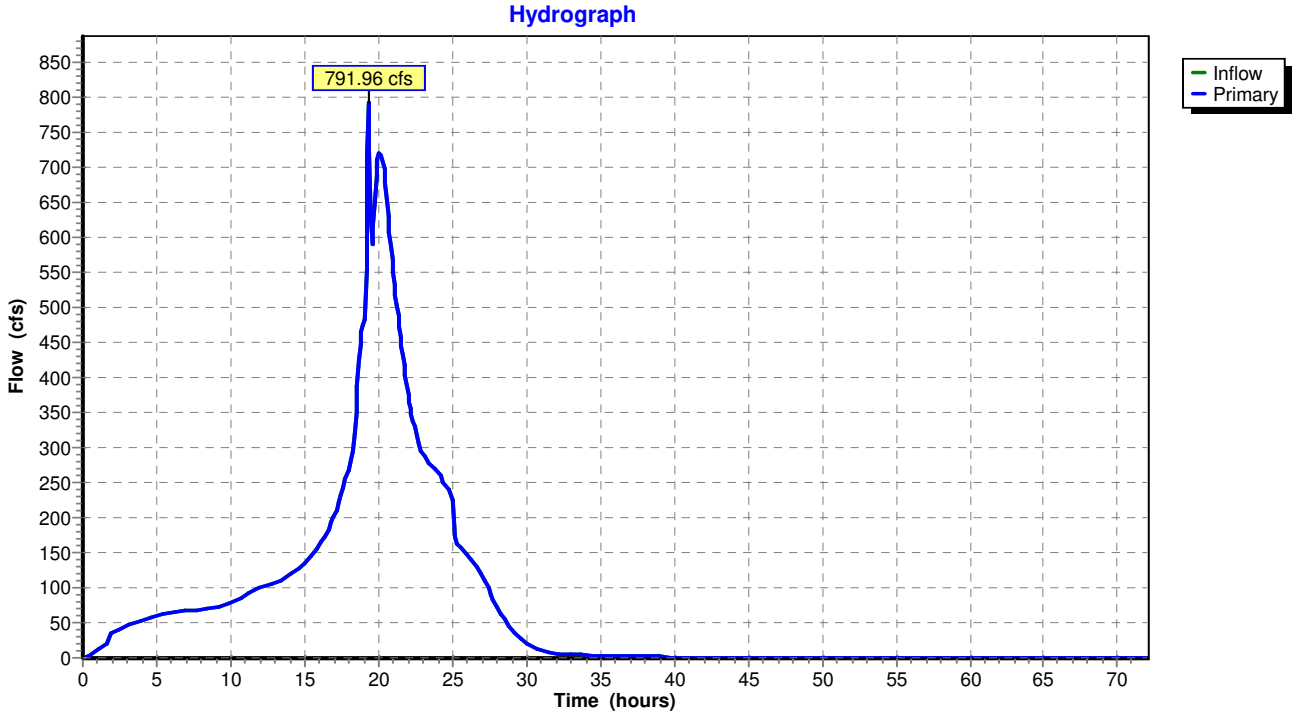


Summary for Link LAAve: LAAve

Inflow = 791.96 cfs @ 19.33 hrs, Volume= 421.528 af
Primary = 791.96 cfs @ 19.33 hrs, Volume= 421.528 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

Link LAAve: LAAve



Summary for Link WC_AStreet: WC_AStreet

Assumed Peak Tailwater Elevation from RAS2D Model

Inflow = 473.07 cfs @ 20.29 hrs, Volume= 269.753 af
Primary = 473.07 cfs @ 20.29 hrs, Volume= 269.753 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

342 Point manual elevation table, To= 0.00 hrs, dt= 0.08 hrs, feet =

479.87	479.87	479.87	479.87	479.92	480.04	480.07	480.10	480.12
480.15	480.19	480.21	480.23	480.25	480.27	480.29	480.30	480.32
480.34	480.36	480.39	480.40	480.41	480.46	480.46	480.47	480.47
480.48	480.48	480.49	480.49	480.50	480.53	480.52	480.50	480.49
480.49	480.51	480.51	480.51	480.53	480.54	480.54	480.52	480.52
480.53	480.53	480.53	480.56	480.57	480.57	480.57	480.58	480.58
480.58	480.58	480.59	480.59	480.59	480.59	480.60	480.60	480.60
480.60	480.60	480.60	480.60	480.60	480.60	480.61	480.61	480.61
480.61	480.61	480.62	480.62	480.62	480.62	480.62	480.62	480.62
480.62	480.62	480.62	480.62	480.62	480.62	480.62	480.62	480.62
480.62	480.63	480.63	480.63	480.63	480.63	480.63	480.63	480.63
480.63	480.63	480.63	480.64	480.64	480.64	480.64	480.64	480.65
480.65	480.65	480.65	480.65	480.65	480.66	480.66	480.66	480.66
480.66	480.67	480.67	480.67	480.68	480.68	480.69	480.69	480.70
480.70	480.70	480.71	480.71	480.72	480.72	480.73	480.73	480.74
480.74	480.75	480.76	480.77	480.77	480.78	480.79	480.79	480.79
480.80	480.81	480.81	480.82	480.82	480.83	480.83	480.83	480.84
480.84	480.85	480.85	480.85	480.86	480.86	480.87	480.87	480.88
480.88	480.89	480.89	480.90	480.90	480.91	480.92	480.92	480.93
480.94	480.94	480.95	480.96	480.97	480.97	480.98	480.99	481.00
481.00	481.02	481.03	481.04	481.05	481.06	481.07	481.08	481.10
481.11	481.12	481.14	481.15	481.17	481.18	481.19	481.21	481.22
481.24	481.25	481.27	481.29	481.31	481.33	481.36	481.38	481.40
481.43	481.46	481.49	481.52	481.55	481.58	481.62	481.66	481.70
481.74	481.77	481.82	481.86	481.91	481.98	482.06	482.15	482.24
482.33	482.40	482.47	482.53	482.62	482.82	483.03	483.07	483.06
483.04	483.00	482.95	482.91	482.88	482.85	482.82	482.81	482.79
482.78	482.76	482.75	482.73	482.71	482.69	482.67	482.66	482.64
482.63	482.61	482.60	482.58	482.56	482.55	482.53	482.52	482.50
482.48	482.45	482.44	482.42	482.40	482.38	482.36	482.34	482.31
482.29	482.27	482.25	482.23	482.21	482.19	482.17	482.14	482.12
482.10	482.08	482.06	482.04	482.02	482.00	481.98	481.96	481.95
481.93	481.91	481.89	481.86	481.84	481.82	481.80	481.78	481.76
481.74	481.71	481.69	481.66	481.63	481.60	481.57	481.54	481.50
481.47	481.44	481.41	481.39	481.36	481.32	481.29	481.26	481.24
481.21	481.18	481.16	481.14	481.11	481.09	481.07	481.05	481.03
481.02	481.00	480.98	480.97	480.95	480.93	480.92	480.91	480.89
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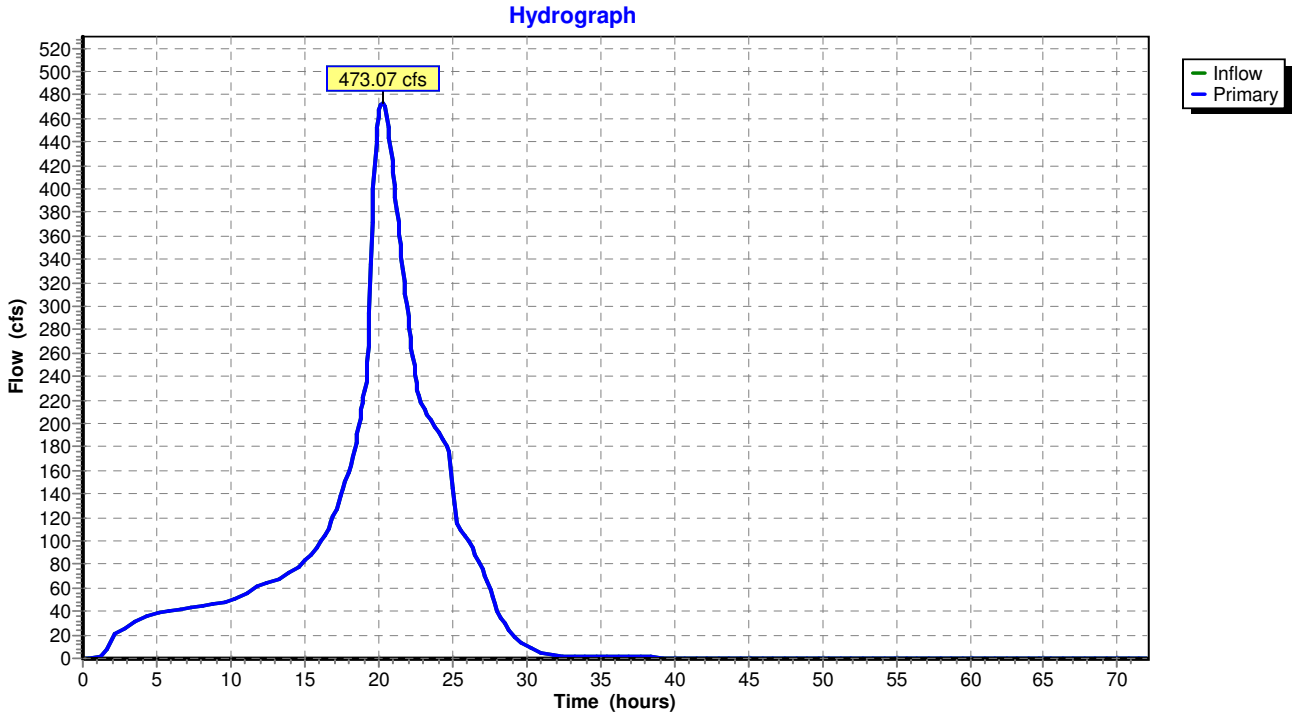
Link WC_AStreet: WC_AStreet



Summary for Link WC_Gabbert: WC_Gabbert

Assumed Peak Tailwater Elevation from RAS2D Model

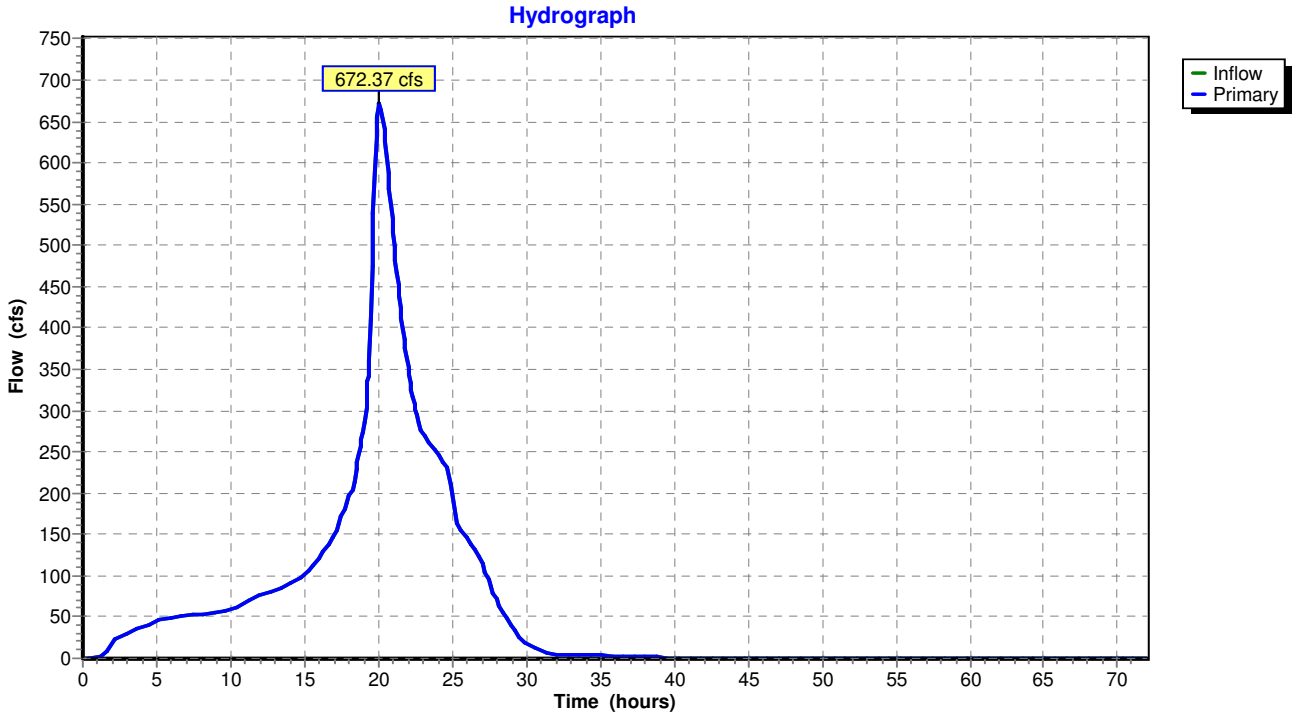
Inflow = 672.37 cfs @ 20.09 hrs, Volume= 348.036 af
Primary = 672.37 cfs @ 20.09 hrs, Volume= 348.036 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-71.97 hrs, dt= 0.08330 hrs

342 Point manual elevation table, To= 0.00 hrs, dt= 0.08 hrs, feet =

468.22	468.22	468.22	468.22	468.22	468.22	468.22	468.47	468.51
468.55	468.60	468.67	468.70	468.73	468.77	468.80	468.83	468.87
468.90	468.93	468.97	469.01	469.03	469.06	469.13	469.14	469.14
469.15	469.18	469.19	469.20	469.22	469.27	469.31	469.30	469.27
469.28	469.29	469.32	469.33	469.34	469.39	469.40	469.40	469.37
469.37	469.40	469.40	469.41	469.46	469.48	469.48	469.48	469.49
469.50	469.50	469.50	469.52	469.52	469.52	469.52	469.53	469.54
469.54	469.54	469.54	469.54	469.54	469.54	469.54	469.56	469.56
469.56	469.56	469.56	469.56	469.56	469.56	469.56	469.57	469.58
469.58	469.58	469.58	469.58	469.58	469.58	469.58	469.58	469.58
469.58	469.58	469.59	469.59	469.59	469.59	469.59	469.60	469.60
469.60	469.60	469.60	469.61	469.62	469.62	469.63	469.63	469.63
469.64	469.65	469.65	469.65	469.65	469.66	469.67	469.67	469.67
469.68	469.68	469.69	469.69	469.70	469.71	469.72	469.73	469.74
469.75	469.76	469.77	469.79	469.80	469.81	469.82	469.84	469.85
469.86	469.88	469.89	469.91	469.92	469.93	469.95	469.96	469.97
469.98	469.99	470.01	470.02	470.03	470.04	470.04	470.05	470.06
470.07	470.08	470.09	470.10	470.11	470.12	470.12	470.13	470.14
470.15	470.16	470.18	470.19	470.20	470.21	470.22	470.24	470.25
470.27	470.29	470.30	470.32	470.33	470.35	470.37	470.39	470.40
470.42	470.44	470.46	470.49	470.51	470.53	470.55	470.58	470.61
470.63	470.66	470.69	470.72	470.75	470.78	470.82	470.85	470.88
470.91	470.94	470.98	471.03	471.07	471.11	471.16	471.21	471.26
471.31	471.39	471.45	471.51	471.57	471.65	471.72	471.79	471.88
471.96	472.04	472.12	472.21	472.31	472.42	472.56	472.72	472.90
473.06	473.22	473.35	473.48	473.63	473.91	474.36	474.57	474.55
474.57	474.51	474.45	474.38	474.33	474.28	474.24	474.21	474.18
474.16	474.14	474.12	474.09	474.05	474.03	474.00	473.97	473.95
473.93	473.90	473.87	473.85	473.82	473.80	473.77	473.75	473.72
473.69	473.65	473.62	473.59	473.55	473.52	473.49	473.45	473.42
473.38	473.35	473.31	473.28	473.24	473.20	473.17	473.13	473.09
473.05	473.02	472.98	472.95	472.91	472.87	472.84	472.80	472.77
472.73	472.69	472.65	472.61	472.57	472.53	472.49	472.44	472.40
472.36	472.31	472.27	472.22	472.16	472.11	472.05	472.00	471.93
471.87	471.82	471.76	471.70	471.65	471.59	471.53	471.47	471.42
471.36	471.31	471.26	471.19	471.15	471.10	471.06	471.01	470.97
470.92	470.87	470.81	470.76	470.70	470.65	470.59	470.52	470.46
470.40	470.34	470.29	470.23	470.18	470.14	470.09	470.05	470.01

Link WC_Gabbert: WC_Gabbert



APPENDIX 7

ECG May 2019 Tentative Tract Maps

TENTATIVE TRACT NO. 5708
HITCH RANCH

IN THE CITY OF MOORPARK

264 NUMBERED LOTS AND 28 LETTERED LOTS (LOTS A-BB)

PREPARER'S STATEMENT

THIS MAP WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.

DRAFT

GLEN PACE, RCE 61468 DATE: 08/09/2019

REGISTERED PROFESSIONAL ENGINEER — GLEN H. PACE — NO 61468 — CIVIL — STATE OF CALIFORNIA

LAND USE / ZONING INFORMATION

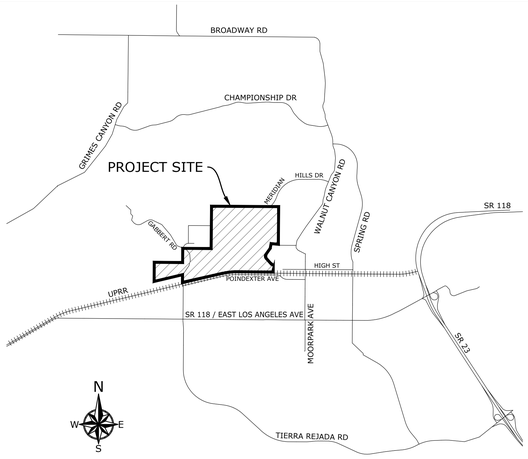
LAND USE	EXISTING:	VACANT	
	PROPOSED:	RESIDENTIAL, PUBLIC	
ZONING	EXISTING:	AE-40	
	PROPOSED:	RPD	
AREA	GROSS AREA:	277.30 ACRES ±	
FLOOD ZONE	NO SCREEN:	AREAS OF MINIMAL FLOOD HAZARD (ZONE X)	
LOTS	292 LOT DEVELOPMENT		277.30 ACRES ±
	- 261 SINGLE FAMILY DWELLING LOTS		59.94 ACRES ±
	- 1 MULTI-FAMILY DWELLING LOT (MED. DENSITY)		31.42 ACRES ±
	- 1 MULTI-FAMILY DWELLING LOT (HIGH DENSITY)		10.87 ACRES ±
	- 21 OPEN SPACE LOTS		103.68 ACRES ±
	- 4 DETENTION BASIN LOTS		24.53 ACRES ±
	- 2 RECREATION SPACE LOT		3.97 ACRES ±
	- 1 PUBLIC PARK LOT		6.00 ACRES ±
	- 1 LOT (NOT A PART - FUTURE)		6.66 ACRES ±
	- PUBLIC STREETS		30.23 ACRES ±
UNITS	755 UNITS		
	- 261 SFD DETACHED (LOW DENSITY)		
	- 253 MFD (MEDIUM DENSITY)		
	- 241 MFD (HIGH DENSITY)		

SITE SUMMARY

	LAND USE	ACRES	DU/AC	DU	%
PLANNING AREA 1 [LOTS 1-72, 255-261, A-H]	SFD UNITS	25.86		84	40
	NATURAL OPEN SPACE	19.69			30
	MANUFACTURED SLOPES	19.41			30
	SUBTOTAL	64.96 ±	1.29	84	100
PLANNING AREA 2 [LOTS 78-254, J-N, T, U, W]	SFD UNITS	34.08		177	56
	NATURAL OPEN SPACE	7.56			13
	MANUFACTURED SLOPES	14.91			25
	RECREATION LOT	2.65			4
	PASSIVE REC LOT	1.32			2
	SUBTOTAL	60.52 ±	2.92	177	100
PLANNING AREA 3 [LOTS 262 & I]	MFD UNITS	23.46		253	71
	MANUFACTURED SLOPES	5.40			16
	RECREATION LOT	4.10			13
	SUBTOTAL	32.96 ±	7.68	253	100
PLANNING AREA 4 [LOTS 263 & Z]	MFD UNITS	10.87		241	67
	MANUFACTURED SLOPES	5.40			33
	SUBTOTAL	16.27 ±	14.81	241	100
PLANNING AREA 5 [LOT V]	OPEN SPACE	3.37 ±			100
PLANNING AREA 6 [LOTS P-R]	OPEN SPACE	29.10 ±			100
PUBLIC FACILITIES	NORTH HILLS PKWY	11.97			19
	"A" STREET	4.36			7
	MERIDIAN HILLS DR.	3.03			5
	CASEY RD.	1.37			2
	HIGH ST.	6.64			10
	GABBERT RD.	2.86			5
	VCWPD EASEMENT [LOT Y]	2.70			4
	DET. BASIN 2 [LOT S]	5.96			9
	DET. BASIN 2B [LOT O]	6.30			10
	DET. BASIN 3 [LOTS X & AA]	12.27			19
	PARK [LOT BB]	6.00			10
	SUBTOTAL	63.46 ±			100
	TOTAL	270.64 ±	2.79	755	
LOT 264	NOT A PART	6.66 ±			100
	GRAND TOTAL	277.30 ±			

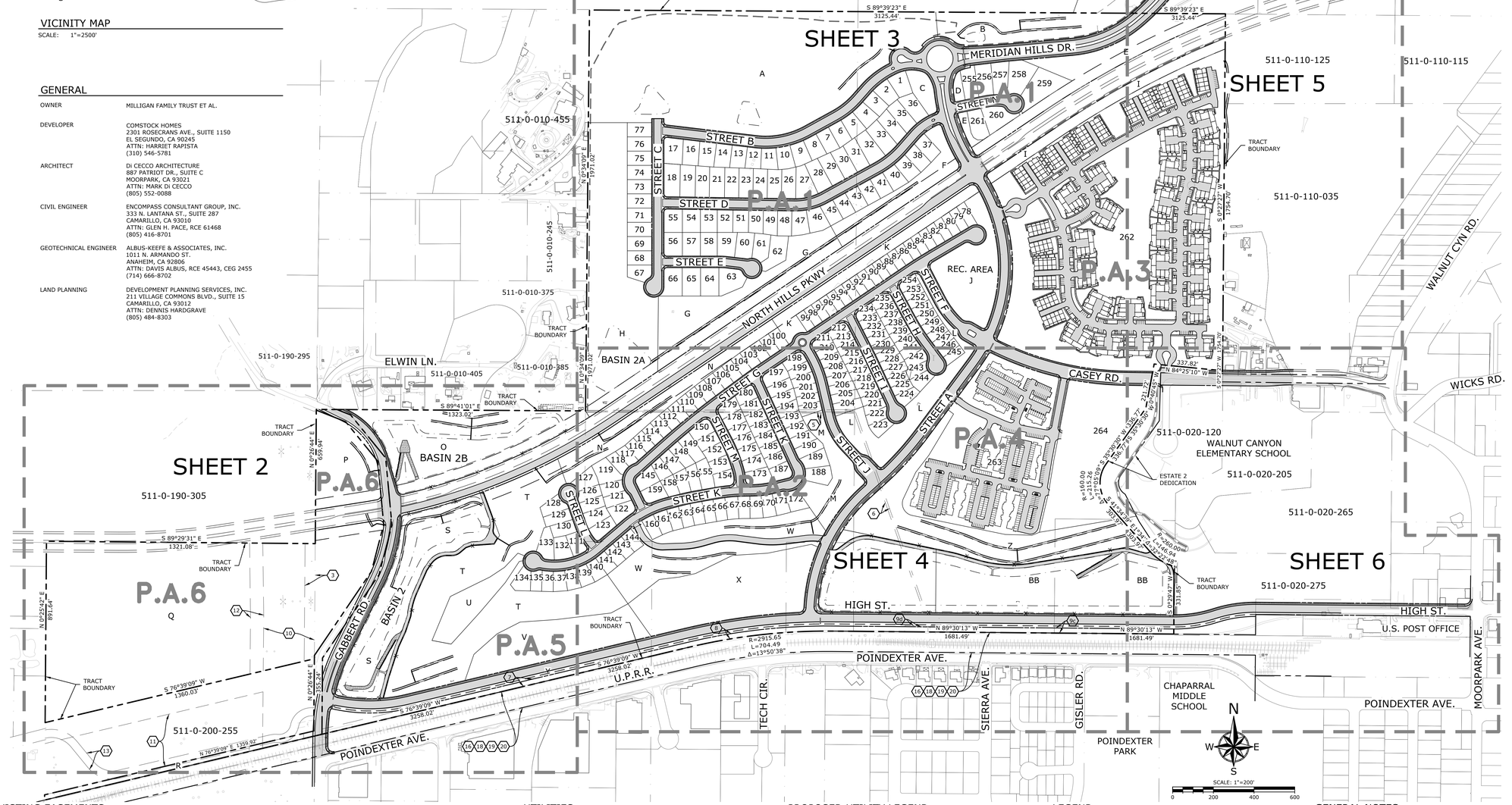
VICINITY MAP

SCALE: 1"=2500'



GENERAL

OWNER	MILLIGAN FAMILY TRUST ET AL.
DEVELOPER	COMSTOCK HOMES 2301 ROSECRANS AVE., SUITE 1150 EL SEGUNDO, CA 90245 ATTN: HARRIET RAPISTA (310) 546-5781
ARCHITECT	Di CECCO ARCHITECTURE 887 PATRIOT DR., SUITE C MOORPARK, CA 93021 ATTN: MARK Di CECCO (805) 552-0088
CIVIL ENGINEER	ENCOMPASS CONSULTANT GROUP, INC. 333 N. LANTANA ST., SUITE 287 CAMARILLO, CA 93010 ATTN: GLEN H. PACE, RCE 61468 (805) 416-8701
GEOTECHNICAL ENGINEER	ALBUS-KEEFE & ASSOCIATES, INC. 1011 N. ARMANDO ST. ANAHEIM, CA 92806 ATTN: DAVIS ALBUS, RCE 45443, CEG 2455 (714) 666-8702
LAND PLANNING	DEVELOPMENT PLANNING SERVICES, INC. 211 VILLAGE COMMONS BLVD., SUITE 15 CAMARILLO, CA 93012 ATTN: DENNIS HARDGRAVE (805) 484-8303



LEGAL DESCRIPTION

ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE COUNTY OF VENTURA, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 1:

LOTS 14 AND 16 AND THAT PORTION OF LOTS 22 AND 23, FREMONT SUBDIVISION OF RANCHO SIMI, IN THE CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 3, PAGE 39 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, LYING NORTHERLY OF THE RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD 100 FEET WIDE, AS DESCRIBED IN DEED RECORDED IN BOOK 58, PAGE 590 OF DEEDS.

ASSESSOR'S PARCEL NO: 511-0-020-170

PARCEL 2:

PART OF TRACT "S" AND "T" OF PART OF TRACT "L" OF RANCHO SIMI, IN THE CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA, AS PER MAP SHOWING THE TOWNSITE OF MOORPARK AND LANDS OF MADELINE R. POINDEXTER, A RE-SUBDIVISION OF FREMONT TRACT, AS PER MAP RECORDED IN BOOK 5, PAGE 5 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT WHICH IS COMMON TO THE NORTHEAST CORNER OF LOT "S" AND THE NORTHWEST CORNER OF LOT "T", THENCE, FROM SAID POINT OF BEGINNING,

1st: SOUTH 89°55' WEST 1320 FEET ALONG THE NORTH LINE OF SAID LOT "S" TO THE NORTHEAST CORNER OF THAT CERTAIN PARCEL OF LAND CONVEYED TO WILLIAM HEDGES, BY DEED DATED MARCH 3, 1909, RECORDED IN BOOK 117, PAGE 217 OF DEEDS; THENCE,

2nd: SOUTH 1964.16 FEET ALONG THE EAST LINE OF SAID LANDS OF WILLIAM HEDGES TO THE NORTHWEST CORNER OF LOT 14, AS SHOWN ON MAP ENTITLED "MAP OF FREMONT" A SUBDIVISION OF LOT "L" OF THE RANCHO SIMI, VENTURA CO., CAL." AND RECORDED IN BOOK 3, PAGE 39 OF MAPS; THENCE AT RIGHT ANGLES,

3rd: EAST 1320 FEET ALONG THE NORTH LINE OF SAID LOT 14, TO A POINT IN THE BOUNDARY LINE BETWEEN SAID LOTS "S" AND "T"; THENCE, AT RIGHT ANGLES,

4th: SOUTH 660 FEET ALONG THE BOUNDARY LINE BETWEEN LOTS 14 AND 16 OF SAID FREMONT TRACT, AND TRACT "T" ABOVE DESCRIBED TO THE SOUTHEAST CORNER OF SAID LOT 16 OF SAID FREMONT TRACT; THENCE AT RIGHT ANGLES,

5th: WEST 330 FEET ALONG THE SOUTH LINE OF SAID LOT 16 TO THE NORTHEAST CORNER OF LOT 23 OF SAID FREMONT TRACT; THENCE, AT RIGHT ANGLES,

6th: SOUTH 429.66 FEET ALONG THE EAST LINE OF LOT 23 TO A POINT IN THE NORTH LINE OF THE RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD; THENCE ALONG SAME,

7th: EASTERLY ALONG A CURVE TO THE RIGHT (THE LONG CHORD OF WHICH BEARS NORTH 88°37' EAST) 330.66 FEET TO A POINT; THENCE,

8th: EAST 990 FEET ALONG THE NORTH LINE OF SAID RAILROAD RIGHT OF WAY TO THE SOUTHWEST CORNER OF THAT CERTAIN PARCEL OF LAND CONVEYED TO ALICE N. GRAHAM, BY DEED DATED OCTOBER 25, 1911 AND RECORDED IN BOOK 130, PAGE 33 OF DEEDS; THENCE, STILL ALONG THE NORTH LINE OF THE RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD,

9th: EAST 588.06 FEET TO THE SOUTHWEST CORNER OF THAT CERTAIN PARCEL OF LAND AS CONVEYED TO LEONARD R. ELVER AND NELLIE B. ELVER, HIS WIFE, BY DEED DATED JANUARY 7, 1931, RECORDED IN BOOK 340, PAGE 198 OF OFFICIAL RECORDS; THENCE ALONG THE WEST AND NORTH LINES OF THE LANDS SO CONVEYED,

10th: NORTH 696.96 FEET TO A 1 ¼" X 6" PIPE; THENCE,

11th: NORTH 61°30' EAST 258.72 FEET TO A 2 X 66" PIPE; THENCE,

12th: NORTH 2230.14 FEET TO A POINT IN THE NORTH LINE OF SAID TRACT "T" IN THE SOUTH LINE OF LOT 32, AS THE SAME IS SHOWN ON MAP ENTITLED "MAP OF THE VALLETTE TRACT, BEING A SUBDIVISION OF LOT 2 OF BLOCK "L" OF RANCHO SIMI, VENTURA CO., CAL." AND RECORDED IN BOOK 3, PAGE 41 OF MAPS, AND AT THE NORTHWEST CORNER OF THE LANDS CONVEYED TO MAXWELL W. WRIGHT, BY DEED DATED SEPTEMBER 10, 1914 RECORDED IN BOOK 144, PAGE 283 OF DEEDS; THENCE,

13th: SOUTH 89°53' WEST 1805.166 FEET ALONG THE SOUTH LINE OF VALLETTE TRACT, AND ALONG THE NORTH LINE OF TRACT "T" TO THE POINT OF BEGINNING.

EXCEPT THOSE PORTIONS OF LAND DESCRIBED AS ESTATES 1, 2 AND 3 IN THE FINAL ORDER OF CONDEMNATION, CASE NO. SC 16973, SUPERIOR COURT OF CALIFORNIA, COUNTY OF VENTURA, A CERTIFIED COPY OF WHICH RECORDED DECEMBER 18, 1997 AS DOCUMENT NO. 97-172929 OF OFFICIAL RECORDS.

ASSESSOR'S PARCEL NO: 511-0-020-110, 130, 160, 180

PARCEL 3:

PORTIONS OF LOT "R" AND "S" AS SHOWN ON MAP OF A PART OF TRACT "L" OF THE RANCHO SIMI, IN THE CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 5, PAGE 5 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY DESCRIBED AS A WHOLE AS FOLLOWS:

BEGINNING AT A POINT ON THE WEST LINE OF SAID LOT "S" DISTANT NORTH THEREON 660 FEET FROM THE SOUTHWEST CORNER OF SAID LOT "S"" THENCE ALONG THE WEST LINE OF LOTS "S" AND "R",

1st: SOUTH 1617 FEET TO THE NORTH LINE OF THE 100-FOOT RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD; THENCE, ALONG SAID NORTH LINE,

2nd: NORTH 79°10' EAST 1703.46 FEET TO THE SOUTHEAST CORNER OF SAID LOT "R"; THENCE ALONG THE EAST LINE OF SAID LOT "R",

3rd: NORTH 551.76 FEET TO THE NORTHEAST CORNER OF SAID LOT "R"; THENCE,

4th: WEST ALONG THE NORTH LINES OF SAID LOT "R", 330 FEET TO THE SOUTHWEST CORNER OF LOT 16 OF FREMONT TRACT, AS PER MAP RECORDED IN BOOK 3, PAGE 39 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY; THENCE,

5th: NORTH ALONG THE WEST LINE OF LOTS 16 AND 14 OF SAID FREMONT TRACT, 660 FEET TO THE NORTHWEST CORNER OF SAID LOT 14; THENCE,

6th: WEST 1320 FEET TO THE POINT OF BEGINNING.

EXCEPT THE INTEREST IN A STRIP OF LAND 40 FEET WIDE, AS GRANTED TO VENTURA COUNTY FOR "ROAD PURPOSES" IN DEED RECORDED IN BOOK 127, PAGE 326 OF DEEDS.

ALSO EXCEPT ONE HALF OF ALL MINERAL, OIL, GAS AN OTHER HYDROCARBON SUBSTANCES IN AND UNDER SAID LAND WITHOUT, HOWEVER, ANY RIGHT OF SURFACE ENTRY OR ANY RIGHT OF ENTRY IN AND TO THE SUBSURFACE THEREOF AT A DEPTH OF LESS THAN 500 FEET BENEATH THE SURFACE OF OFFICIAL RECORDS THE DEVELOPMENT OR REMOVAL OF SAID SUBSTANCES, AS RESERVED BY SENA BAUER, A LIFE ESTATE, WALTER W. BAUER, CHARLES E. BAUER, ELLEN REGINA BAUER, FRANCES D. ARBOGAST MERICLE, WHO ACQUIRED TITLE AS FRANCES B. ARBOGAST AND SERENA H. BAUER COX, WHO ACQUIRED TITLE AS SERENA H. BAUER, IN DEED RECORDED SEPTEMBER 12, 1961 IN BOOK 2045, PAGE 334 OF OFFICIAL RECORDS.

ASSESSOR'S PARCEL NO: 511-0-020-195

PARCEL 4:

THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 6, TOWNSHIP 2 NORTH, RANGE 19 WEST, RANCHO SIMI, IN THE CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA, AS SHOWN ON MAP ENTITLED "MAP OF THE LAND OF RANCHO SIMI, IN VENTURA AND LOS ANGELES COUNTIES, CALIFORNIA", AND RECORDED IN BOOK 3, PAGE 7 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, AND PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE CENTERLINE OF THAT CERTAIN PUBLIC ROAD, 60 FEET WIDE, LOCALLY KNOWN AS AND CALLED "LOS ANGELES AVENUE" AT THE CORNER COMMON TO SECTIONS 5, 6, 7 AND 8 OF TOWNSHIP 2 NORTH, RANGE 19 WEST, RANCHO SIMI, AS SHOWN ON THE ABOVE DESCRIBED MAP, SAID POINT OF BEGINNING BEING THE SOUTHWEST CORNER OF TRACT "Q" AS SHOWN ON MAP ENTITLED "MAP OF PART OF TRACT "L" OF RANCHO SIMI, VENTURA COUNTY, CALIFORNIA, SHOWING THE TOWNSITE OF MOORPARK AND LANDS OF MADELEINE R. POINDEXTER, A RE-SUBDIVISION OF FREMONT TRACT" AND RECORDED IN BOOK 5, PAGE 5 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF VENTURA COUNTY; THENCE, FROM SAID POINT OF BEGINNING,

1st: NORTH 2640 FEET TO THE SOUTHEAST CORNER OF LOT 56 OF VALLETTE TRACT, AS PER MAP RECORDED IN BOOK 3, PAGE 41 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY; THENCE, AT RIGHT ANGLES,

2nd: WEST 1320 FEET TO THE SOUTHWEST CORNER OF SAID LOT 56 OF VALLETTE TRACT, AT THE NORTHEAST CORNER OF THAT CERTAIN PARCEL OF LAND, CONVEYED TO MARY FRANCES ESTATES, BY DEED DATED OCTOBER 22, 1902 AND RECORDED IN BOOK 87, PAGE 120 OF DEEDS; THENCE AT RIGHT ANGLES,

3rd: SOUTH 2640 FEET ALONG THE EAST LINE OF SAID LANDS OF MARY FRANCES ESTATES TO A POINT IN THE CENTERLINE OF SAID LOS ANGELES AVENUE; THENCE, ALONG SAME,

4th: EAST 1320 FEET TO THE POINT OF BEGINNING.

EXCEPT THAT PORTION LYING SOUTHERLY OF THE NORTHERLY LINE OF THAT CERTAIN STRIP 100 FEET WIDE DESCRIBED IN THE DEED TO THE SOUTHERN PACIFIC RAILROAD COMPANY, RECORDED NOVEMBER 13, 1899 IN BOOK 58, PAGE 596 OF DEEDS.

ALSO EXCEPT THAT PORTION LYING WITHIN THAT CERTAIN STRIP 345 FEET WIDE DESCRIBED IN DEED TO SOUTHERN CALIFORNIA EDISON COMPANY, RECORDED OCTOBER 22, 2010 AS INSTRUMENT NO. 20101022-0016306 OF OFFICIAL RECORDS.

ASSESSOR'S PARCEL NO: 511-0-200-245

EXISTING EASEMENTS (SEE TITLE REPORT FOR FULL ITEM SUMMARY)

2. SIMI LAND & WATER COMPANY EASEMENT, OR ITS ASSIGNS, FOR ENTRY AND WATER COLLECTION AND DISTRIBUTION PER BOOK 29, PAGE 500 OF DEEDS.
3. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR PUBLIC UTILITIES PER BOOK 339, PAGE 109 OF OFFICIAL RECORDS.
4. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR PUBLIC UTILITIES PER BOOK 968, PAGE 442 OF OFFICIAL RECORDS.
5. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR PUBLIC UTILITIES PER BOOK 1001, PAGE 544 OF OFFICIAL RECORDS.
6. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR PUBLIC UTILITIES PER BOOK 1001, PAGE 550 OF OFFICIAL RECORDS.
7. VENTURA COUNTY FLOOD CONTROL DISTRICT EASEMENT FOR FLOOD CONTROL PER BOOK 2141, PAGE 551 OF OFFICIAL RECORDS.
8. VENTURA COUNTY FLOOD CONTROL DISTRICT EASEMENT FOR FLOOD CONTROL PER BOOK 2141, PAGE 556 OF OFFICIAL RECORDS.
9. VENTURA COUNTY FLOOD CONTROL DISTRICT EASEMENT FOR FLOOD CONTROL PER BOOK 2141, PAGE 558 OF OFFICIAL RECORDS.
10. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR PUBLIC UTILITIES AND ROADS PER BOOK 2347, PAGE 225 OF OFFICIAL RECORDS.
11. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR ROADS PER BOOK 3243, PAGE 379 OF OFFICIAL RECORDS.
12. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR PUBLIC UTILITIES AND ROADS PER BOOK 3243, PAGE 387 OF OFFICIAL RECORDS.
13. A-B PROPERTIES, A CALIFORNIA GENERAL PARTNERSHIP, EASEMENT FOR ACCESS ROAD, UTILITIES, AND SLOPE PER AS INSTRUMENT NO. 2001-012562 OF OFFICIAL RECORDS.
16. AT&T EASEMENT FOR FIBER OPTIC CABLE ALONG RAILROAD CORRIDOR PER AS INSTRUMENT NO. 2009-106766 OF OFFICIAL RECORDS.
17. VENTURA COUNTY WATERSHED PROTECTION DISTRICT EASEMENT FOR FLOOD CONTROL PURPOSE OF PERIODIC INUNDATION WITH FLOOD AND/OR STORM DRAINAGE WATER PER AS INSTRUMENT NO. 2012-155707 OF OFFICIAL RECORDS.
18. LEVEL3 COMMUNICATION, LLC EASEMENT FOR TELECOMMUNICATIONS AND INCIDENTAL PURPOSES PER AS INSTRUMENT NO. 2013-146419 OF OFFICIAL RECORDS.
19. SPRINT COMMUNICATIONS COMPANY, LP EASEMENT FOR TELECOMMUNICATIONS AND INCIDENTAL PURPOSES PER AS INSTRUMENT NO. 2013-205739 OF OFFICIAL RECORDS.
20. QUEST COMMUNICATIONS INTERNATIONAL INC., ET AL. EASEMENT FOR TELECOMMUNICATIONS AND INCIDENTAL PURPOSES PER AS INSTRUMENT NO. 2014-011258 OF OFFICIAL RECORDS.

PROPOSED EASEMENTS

1. VARIABLE WIDTH UTILITY AND ACCESS EASEMENT TO VENTURA COUNTY WATERWORKS DISTRICT NO. 1. (CURB-TO-CURB ALONG ALL PRIVATE STREETS/ALLEYS/DRIVES AND ALL OTHER LOCATIONS SPECIFIED ON THE PLANS).
2. VARIABLE WIDTH UTILITY AND ACCESS EASEMENT TO HOA.
3. VARIABLE WIDTH ACCESS EASEMENT TO CITY OF MOORPARK.

UTILITIES

WATER	VENTURA COUNTY WATERWORKS DISTRICT NO. 1
SEWER	VENTURA COUNTY WATERWORKS DISTRICT NO. 1
STORM DRAIN	CITY OF MOORPARK VENTURA COUNTY WATERSHED PROTECTION DISTRICT
ELECTRIC	SOUTHERN CALIFORNIA EDISON
GAS	SOUTHERN CALIFORNIA GAS COMPANY
TELEPHONE	FRONTIER COMMUNICATIONS
CABLE TELEVISION	SPECTRUM CABLE
SOLID WASTE	SIMI VALLEY LANDFILL & RECYCLING CENTER c/o WASTE MANAGEMENT / G.I. INDUSTRIES
FIRE PROTECTION	VENTURA COUNTY FIRE DEPARTMENT

EXISTING UTILITY LEGEND

- W — POTABLE WATER LINE
- RW — RECYCLED WATER LINE
- S — SEWER LINE
- E — ELECTRICAL LINE
- G — NATURAL GAS LINE
- COMM — COMMUNICATION LINE
- OHW — OVERHEAD WIRES
- FOC — FIBER OPTIC LINE

PROPOSED UTILITY LEGEND

- W — POTABLE WATER LINE
- RW — RECYCLED WATER LINE
- S — SEWER LINE
- SD — STORM DRAIN LINE
- SEWER MANHOLE
- STORM DRAIN MANHOLE

EARTHWORK

EARTHWORK ESTIMATES:

CUT: 2,730,000 CUBIC YARDS
FILL: 2,730,000 CUBIC YARDS
IMPORT: 0 CUBIC YARDS
EXPORT: 0 CUBIC YARDS (NOTE: EARTHWORK IS INTENDED TO BALANCE ON-SITE)

THE ABOVE QUANTITIES ARE APPROXIMATE IN PLACE VOLUMES CALCULATED FROM THE EXISTING GROUND TO THE PROPOSED FINISH GRADE OR SUBGRADE. EXISTING GROUND IS DEFINED BY THE CONTOURS ON THE PLAN. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF EARTH TO BE CONSTRUCTED. PROPOSED SUBGRADE ELEVATION IS DEFINED AS THE DESIGN SURFACE ELEVATION OF EARTH TO BE CONSTRUCTED BENEATH PAVEMENTS OR STRUCTURES.

THE EARTHWORK QUANTITIES ABOVE ARE FOR PERMIT PURPOSES ONLY. THEY HAVE NOT BEEN FACTORED TO ACCOUNT FOR CHANGES IN VOLUME DUE TO BULKING, SHRINKAGE, CLEARING AND GRUBBING, OVER EXCAVATION AND RE-COMPACTION, AND OTHER REMEDIAL GRADING CONSTRUCTION METHODS.

LEGEND

- TRACT BOUNDARY
- RIGHT-OF-WAY
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED LOT LINE / PROPERTY LINE
- STREET CENTER LINE
- DAYLIGHT LINE
- C / F — CUT/FILL LINE
- RETAINING WALL
- ASPHALT CONCRETE PAVING
- PORTLAND CEMENT CONCRETE PAVING
- 235.50 / FS — SURFACE ELEVATION CALLOUT
- MULTI-PURPOSE TRAIL

SHEET INDEX

1. TITLE SHEET
2. PRELIMINARY GRADING, DRAINAGE, & UTILITIES
3. PRELIMINARY GRADING, DRAINAGE, & UTILITIES
4. PRELIMINARY GRADING, DRAINAGE, & UTILITIES
5. PRELIMINARY GRADING, DRAINAGE, & UTILITIES
6. PRELIMINARY GRADING, DRAINAGE, & UTILITIES

GENERAL NOTES

GENERAL:

1. ALL DIMENSIONS AND AREAS SHOWN ARE APPROXIMATE ONLY.
2. PROJECT SITE IS WITHIN THE MOORPARK UNIFIED SCHOOL DISTRICT.
3. STREETS B-N SHALL BE PRIVATE AND MAINTAINED BY THE HOA.
4. STREETS SHOWN ON THIS TENTATIVE TRACT MAP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF MOORPARK PUBLIC WORKS AND COMMUNITY DEVELOPMENT DEPARTMENTS.
5. MULTIPLE FINAL MAPS MAY BE RECORDED FROM THIS TENTATIVE TRACT MAP IN ACCORDANCE WITH THE STATE OF CALIFORNIA SUBDIVISION MAP ACT.

UTILITIES:

6. ALL NEW UTILITIES WILL BE UNDERGROUND.
7. NEW UTILITY LOCATIONS AND EASEMENTS ARE APPROXIMATE.
8. NEW STORM DRAINAGE IMPROVEMENTS ON PRIVATE STREETS ARE TO BE PRIVATE AND MAINTAINED BY THE HOA. NEW STORM DRAINAGE IMPROVEMENTS WITHIN THE PUBLIC RIGHT-OF-WAY ARE TO BE PUBLIC AND MAINTAINED BY THE CITY OF MOORPARK OR VCWPD.
9. SURFACE STORMWATER QUALITY TREATMENT FACILITIES SHALL BE PRIVATE AND MAINTAINED BY THE HOA.
10. NEW SEWER MAINS ARE TO BE PUBLIC AND TO BE DEDICATED TO VENTURA COUNTY WATERWORKS DISTRICT (VCWWD) NO. 1. NEW SEWER MAINS SHALL BE PER VCWWD NO. 1 STANDARDS.
11. NEW WATER MAINS ARE TO BE PUBLIC AND TO BE DEDICATED TO TO VCWWD NO. 1. NEW WATER MAINS SHALL BE PER VCWWD NO. 1 STANDARDS.
12. FIRE HYDRANT LOCATIONS TO BE DETERMINED BY VENTURA COUNTY FIRE DEPARTMENT.

SURVEY NOTES

BASIS OF BEARINGS: THE BASIS OF BEARINGS FOR THIS MAP IS THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE 5, EPOCH 2017.50 AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS GLOBAL POSITIONING STATIONS (CGPS) AND/OR CONTINUOUS OPERATING REFERENCE STATIONS (CORS) MPWD & TOST BEING SOUTH 35°20'10" EAST AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC).

COORDINATES AND DISTANCES SHOWN HEREON HAVE BEEN SCALED AND TRANSLATED TO A LOCAL GROUND COORDINATE SYSTEM BASED UPON THE FOLLOWING CALCULATED VALUES AT POINT 204:

COMBINED SCALE FACTOR - 0.9999332300
CCS83 GRID COORDINATE - N 1928392.48, E 6290311.15
LOCAL GROUND COORDINATE - N 928392.48, E 290311.15

BENCHMARK: THE VERTICAL DATUM OF THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), PER GEOID MODELING (GEOID12B) AND LEVEL TIES TO POINTS 23 AND 24 FROM VENTURA COUNTY BENCHMARK (VCPD 139), BEING A 3-1/2" BC STAMPED "VENTURA COUNTY SURVEYOR 1965 BM 37-13" IN A HEADWALL ON THE WESTERLY SIDE OF GABBERT ROAD, SOUTHERLY OF THE UNION PACIFIC RAILROAD.

LOT 262 FOR CONDOMINIUM PURPOSES

Encompass Consultant Group
333 N. LANTANA ST. SUITE 287, CAMARILLO, CA 93010
PHONE: 805.322.4441 WEBSITE: WWW.ECGCIVIL.COM

GLEN H. PACE
PROJECT ENGINEER
R.C.E. 61468
DATE: 08/09/2019

HITCH RANCH
TENTATIVE TRACT MAP NO. 5708
TITLE SHEET
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE: HORIZ. AS NOTED VERT. N/A

WORK ORDER 0047
DRAWN BY: GJM
CHECKED BY: GHP

SHEET NO. 1 OF 6

DRAWING: n:\projects\0047\02 hitch ranch - comstock\engineering\acad\tentative map\0047-02_ttm.dwg



LOT 262 FOR CONDOMINIUM PURPOSES

HITCH RANCH
TENTATIVE TRACT MAP NO. 5708
PRELIMINARY GRADING, DRAINAGE, & UTILITIES
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE: HORIZ. AS NOTED VERT. N/A
WORK ORDER: 0047
DRAWN BY: GJM
CHECKED BY: GHP
SHEET NO. 2 OF 6

ECG
Encompass Consultant Group
333 N. LANTANA ST., SUITE 207, CAMARILLO, CA 93010
PHONE: 805.332.4443 WEBSITE: WWW.ECGCTRL.COM

GLEN H. PACE
PROJECT ENGINEER
R.C.E. 61468
DATE: 08/09/2019

Technical Appendix Page 443 of 865

DRAWING: n:\projects\0047\02 hitch ranch - comstock\engineering\acad\tentative map\0047.02_ttm.dwg

502-0-160-085

502-0-160-095

513-0-180-455

511-0-010-455

511-0-010-475

511-0-010-245

511-0-010-375

TRACT BOUNDARY

S 89°39'23" E 3125.44'

N 0°34'09" E 1971.02'

DEBRIS BASIN

DEBRIS BASIN

DEBRIS BASIN

MERIDIAN HILLS DRIVE

FUTURE NORTH HILLS PARKWAY EXTENSION

STREET "A"

STREET "B"

STREET "C"

STREET "D"

STREET "E"

STREET "F"

STREET "G"

STREET "H"

STREET "I"

STREET "N"

NORTH HILLS PARKWAY

FUTURE NORTH HILLS PARKWAY WIDENING

RIGHT OF WAY

REC. AREA

BASIN 2A

LOT 262 FOR CONDOMINIUM PURPOSES

SHEET 4

SHEET 5

SCALE: 1"=60'

0 60 120 180

N

W E

S

ECG Encompass Consultant Group

333 N. LANTANA ST. SUITE 287, CAMARILLO, CA 93010

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GLEN H. PACE

PROJECT ENGINEER

R.C.E. 61468

DATE: 08/09/2019

HITCH RANCH
TENTATIVE TRACT MAP NO. 5708
PRELIMINARY GRADING, DRAINAGE, & UTILITIES
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE: HORIZ. AS NOTED VERT. N/A

WORK ORDER 0047

DRAWN BY: GJM

CHECKED BY: GHP

SHEET NO. 3 OF 6

DRAWING: n:\projects\0047\02 hitch ranch - comstock\engineering\acad\tentative map\0047-02_tm.dwg



LOT 262 FOR CONDOMINIUM PURPOSES

ECG
Encompass Consultant Group
333 N. LANTANA ST, SUITE 287, CAMARILLO, CA 93010
PHONE: 805.322.4443 WEBSITE: WWW.ECGCIVIL.COM

GLEN H. PACE
PROJECT ENGINEER
R.C.E. 61468
DATE: 08/09/2019

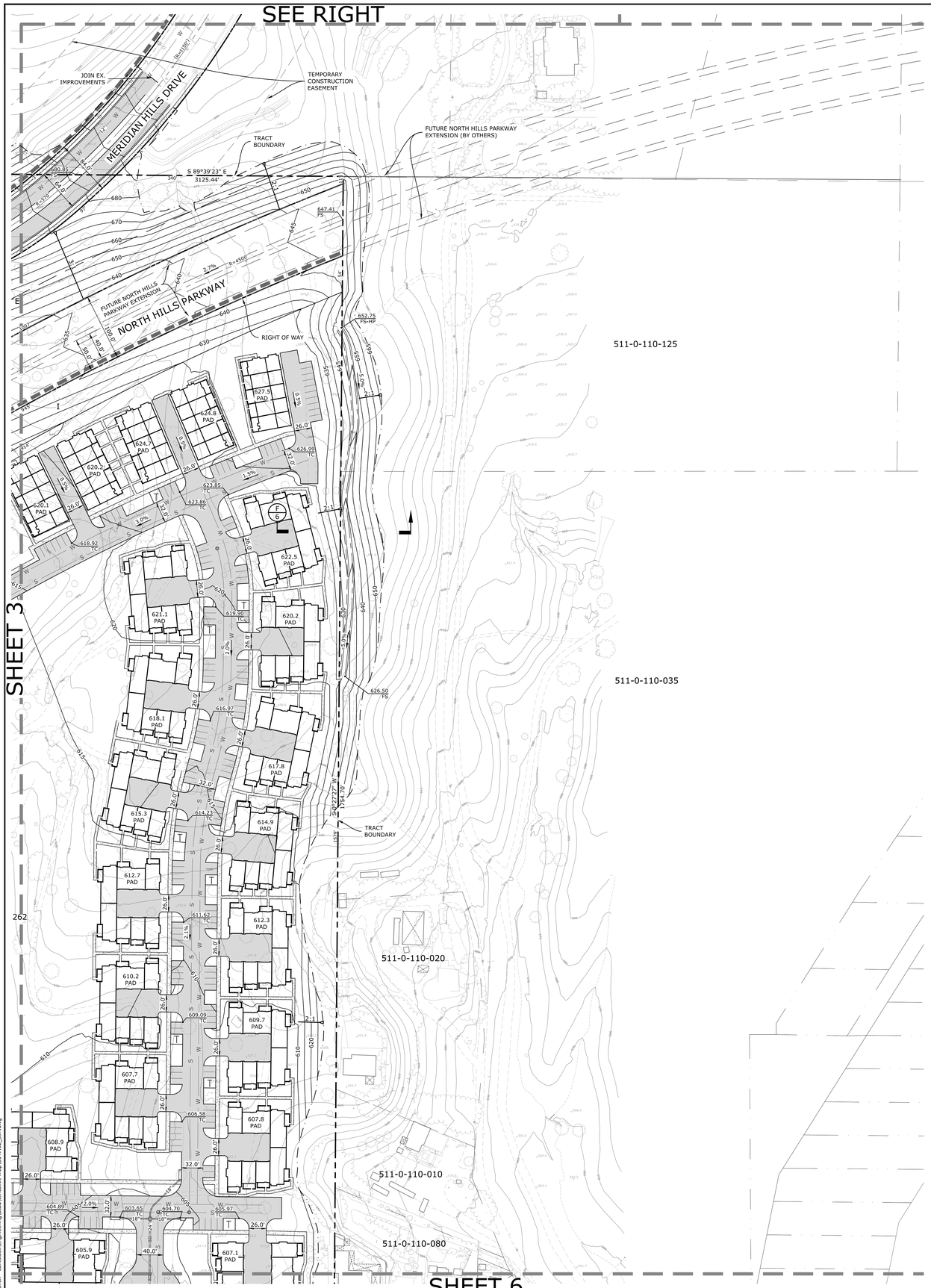
HITCH RANCH
TENTATIVE TRACT MAP NO. 5708
PRELIMINARY GRADING, DRAINAGE, & UTILITIES
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE: HORIZ. AS NOTED VERT. N/A

WORK ORDER 0047
DRAWN BY: GJM
CHECKED BY: GHP

SHEET NO. 4 OF 6

DRAWING: n:\projects\0047\02 hitch ranch - comstock\engineering\acad\tentative map\0047.02_ttm.dwg


SEE RIGHT
SHEET 3
SHEET 6
MERIDIAN HILLS DRIVE
NORTH HILLS PARKWAY
FUTURE NORTH HILLS PARKWAY EXTENSION
JOIN EX. IMPROVEMENTS
TEMPORARY CONSTRUCTION EASEMENT
FUTURE NORTH HILLS PARKWAY EXTENSION (BY OTHERS)
TRACT BOUNDARY
RIGHT OF WAY
S 89°39'23" E 3125.44'
S 0°27'27" W 1754.70'
511-0-110-125
511-0-110-035
511-0-110-020
511-0-110-010
511-0-110-080
620.1 PAD
620.2 PAD
621.1 PAD
622.5 PAD
624.2 PAD
624.8 PAD
627.0 PAD
618.1 PAD
617.8 PAD
614.9 PAD
615.3 PAD
612.7 PAD
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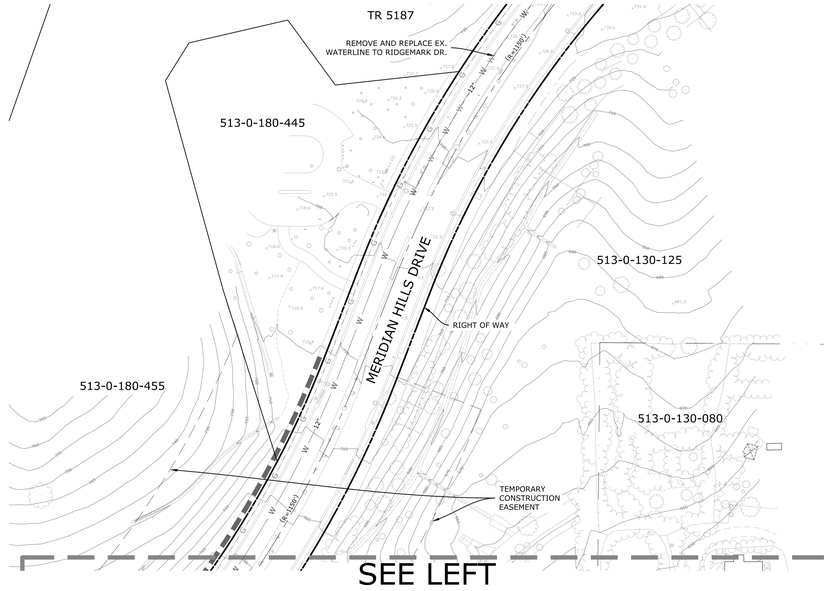
605.9 PAD
607.1 PAD



LOT SUMMARY

LOT TABLE		
LOT	AREA (FT²)	PLANNED USE
1	9,761	SFD
2	8,713	SFD
3	8,037	SFD
4	8,550	SFD
5	8,529	SFD
6	8,138	SFD
7	8,058	SFD
8	8,241	SFD
9	8,686	SFD
10	8,632	SFD
11	8,073	SFD
12	7,605	SFD
13	8,162	SFD
14	8,944	SFD
15	9,525	SFD
16	9,895	SFD
17	11,747	SFD
18	12,811	SFD
19	11,864	SFD
20	10,578	SFD
21	11,156	SFD
22	10,343	SFD
23	10,234	SFD
24	10,107	SFD
25	9,977	SFD
26	10,407	SFD
27	12,560	SFD
28	11,701	SFD
29	10,680	SFD
30	10,344	SFD
31	10,652	SFD
32	12,404	SFD
33	12,448	SFD
34	11,074	SFD
35	10,863	SFD
36	10,979	SFD
37	8,693	SFD
38	8,489	SFD
39	8,478	SFD
40	8,555	SFD
41	7,727	SFD
42	7,560	SFD
43	7,560	SFD
44	7,560	SFD
45	7,597	SFD
46	10,221	SFD
47	9,664	SFD
48	8,655	SFD
49	8,357	SFD
50	8,070	SFD
51	8,443	SFD
52	8,517	SFD
53	9,281	SFD
54	10,061	SFD
55	10,356	SFD
56	10,543	SFD
57	10,366	SFD
58	9,674	SFD
59	10,916	SFD
60	10,823	SFD

LOT TABLE		
LOT	AREA (FT²)	PLANNED USE
61	10,306	SFD
62	14,373	SFD
63	14,098	SFD
64	12,600	SFD
65	12,600	SFD
66	12,897	SFD
67	8,477	SFD
68	8,400	SFD
69	8,400	SFD
70	8,400	SFD
71	8,400	SFD
72	8,400	SFD
73	8,400	SFD
74	8,400	SFD
75	8,400	SFD
76	8,400	SFD
77	8,400	SFD
78	5,475	SFD
79	5,241	SFD
80	5,122	SFD
81	5,004	SFD
82	4,885	SFD
83	4,776	SFD
84	4,711	SFD
85	4,615	SFD
86	4,678	SFD
87	4,500	SFD
88	4,500	SFD
89	4,500	SFD
90	4,500	SFD
91	4,500	SFD
92	4,500	SFD
93	4,500	SFD
94	4,500	SFD
95	4,500	SFD
96	4,500	SFD
97	4,500	SFD
98	4,500	SFD
99	4,500	SFD
100	5,500	SFD
101	5,500	SFD
102	5,500	SFD
103	5,712	SFD
104	5,505	SFD
105	5,500	SFD
106	5,500	SFD
107	5,528	SFD
108	5,568	SFD
109	5,568	SFD
110	5,568	SFD
111	5,568	SFD
112	5,568	SFD
113	5,568	SFD
114	5,542	SFD
115	5,500	SFD
116	5,500	SFD
117	5,543	SFD
118	5,987	SFD
119	11,956	SFD
120	6,734	SFD

LOT TABLE		
LOT	AREA (FT²)	PLANNED USE
121	6,818	SFD
122	9,358	SFD
123	8,422	SFD
124	8,271	SFD
125	6,575	SFD
126	6,344	SFD
127	9,000	SFD
128	8,153	SFD
129	7,367	SFD
130	7,544	SFD
131	7,293	SFD
132	8,765	SFD
133	10,073	SFD
134	8,381	SFD
135	5,541	SFD
136	5,660	SFD
137	6,233	SFD
138	6,236	SFD
139	6,238	SFD
140	6,235	SFD
141	5,918	SFD
142	5,500	SFD
143	5,500	SFD
144	5,979	SFD
145	8,617	SFD
146	6,223	SFD
147	7,334	SFD
148	7,627	SFD
149	9,234	SFD
150	7,818	SFD
151	6,509	SFD
152	6,546	SFD
153	6,862	SFD
154	7,024	SFD
155	9,281	SFD
156	7,017	SFD
157	6,803	SFD
158	6,142	SFD
159	8,765	SFD
160	6,530	SFD
161	6,915	SFD
162	6,283	SFD
163	6,275	SFD
164	6,302	SFD
165	6,050	SFD
166	6,276	SFD
167	6,539	SFD
168	6,313	SFD
169	6,613	SFD
170	6,723	SFD
171	7,321	SFD
172	8,033	SFD
173	9,070	SFD
174	7,061	SFD
175	6,296	SFD
176	5,566	SFD
177	5,520	SFD
178	6,520	SFD
179	6,893	SFD
180	6,345	SFD

LOT TABLE		
LOT	AREA (FT²)	PLANNED USE
181	5,803	SFD
182	5,716	SFD
183	5,716	SFD
184	5,716	SFD
185	5,716	SFD
186	5,716	SFD
187	7,363	SFD
188	10,056	SFD
189	9,166	SFD
190	7,358	SFD
191	6,284	SFD
192	5,628	SFD
193	5,500	SFD
194	5,849	SFD
195	6,456	SFD
196	6,842	SFD
197	8,938	SFD
198	6,014	SFD
199	5,719	SFD
200	5,792	SFD
201	5,187	SFD
202	4,992	SFD
203	5,529	SFD
204	7,606	SFD
205	6,115	SFD
206	5,692	SFD
207	5,582	SFD
208	5,326	SFD
209	5,005	SFD
210	4,919	SFD
211	5,310	SFD
212	5,130	SFD
213	4,500	SFD
214	4,551	SFD
215	4,547	SFD
216	4,704	SFD
217	4,499	SFD
218	4,496	SFD
219	4,497	SFD
220	4,634	SFD
221	4,964	SFD
222	5,493	SFD
223	6,224	SFD
224	6,131	SFD
225	4,573	SFD
226	4,519	SFD
227	5,255	SFD
228	5,192	SFD
229	5,120	SFD
230	4,836	SFD
231	4,664	SFD
232	4,607	SFD
233	4,685	SFD
234	4,796	SFD
235	4,695	SFD
236	4,500	SFD
237	4,500	SFD
238	4,607	SFD
239	4,715	SFD
240	4,753	SFD

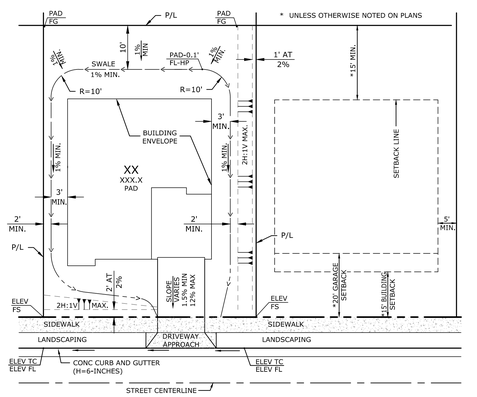
LOT TABLE		
LOT	AREA (FT²)	PLANNED USE
241	5,060	SFD
242	6,040	SFD
243	4,894	SFD
244	6,439	SFD
245	4,645	SFD
246	4,500	SFD
247	4,500	SFD
248	4,666	SFD
249	4,760	SFD
250	4,759	SFD
251	4,560	SFD
252	4,500	SFD
253	4,500	SFD
254	5,100	SFD
255	10,866	SFD
256	12,147	SFD
257	12,673	SFD
258	18,068	SFD
259	24,990	SFD
260	14,507	SFD
261	11,459	SFD

LOT TABLE		
LOT	ACRES	PLANNED USE
262	31.42 ±	MFD
263	10.87 ±	MFD
264	6.66 ±	NOT A PART*

*LOT 264 SHALL BE DEEDED TO THE CITY OF MOORPARK

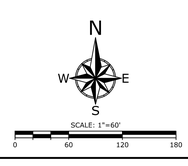
LOT TABLE		
LOT	ACRES	PLANNED USE
A	18.97 ±	OPEN SPACE
B	2.77 ±	OPEN SPACE
C	0.45 ±	OPEN SPACE
D	0.14 ±	OPEN SPACE
E	3.14 ±	OPEN SPACE
F	1.78 ±	OPEN SPACE
G	3.91 ±	OPEN SPACE
H	7.94 ±	O.S. / BASIN
I	1.54 ±	OPEN SPACE
J	2.65 ±	REC. SPACE
K	1.60 ±	OPEN SPACE
L	2.27 ±	OPEN SPACE
M	1.70 ±	OPEN SPACE
N	2.33 ±	OPEN SPACE
O	6.30 ±	DET. BASIN
P	2.70 ±	OPEN SPACE
Q	25.62 ±	OPEN SPACE
R	0.78 ±	OPEN SPACE
S	5.61 ±	DET. BASIN
T	9.20 ±	OPEN SPACE
U	1.32 ±	PASSIVE REC.
V	2.17 ±	OPEN SPACE
W	4.76 ±	OPEN SPACE
X	4.33 ±	DET. BASIN
Y	8.93 ±	OPEN SPACE
Z	5.77 ±	OPEN SPACE

LOT TABLE		
LOT	ACRES	PLANNED USE
AA	3.65 ±	DET. BASIN
BB	6.00 ±	PARK



TYPICAL SFD LOT DRAINAGE

SCALE: N.T.S.



SCALE: 1"=60'

0 60 120 180

LOT 262 FOR CONDOMINIUM PURPOSES

ECG Encompass Consultant Group
310 N. LANTANA ST. SUITE 287, CAMARILLO, CA 93010
PHONE: 805.322.4443 WEBSITE: WWW.ECGCIVIL.COM

GLEN H. PACE
PROJECT ENGINEER
R.C.E. 61468
DATE: 08/09/2019

HITCH RANCH
TENTATIVE TRACT MAP NO. 5708
PRELIMINARY GRADING, DRAINAGE, & UTILITIES
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE: HORIZ. AS NOTED VERT. N/A

WORK ORDER 0047
DRAWN BY: GJM
CHECKED BY: GHP

SHEET NO. 5 OF 6

DRAWING: n:\projects\0047\02 hitch ranch - comstock\engineering\acad\tentative map\0047 02_ttm.dwg

SHEET 5

SHEET 4

WALNUT CANYON ROAD

CASEY ROAD

CASEY ROAD WIDENING (BY OTHERS)

JOIN EX. IMPROVEMENTS

CONNECT TO EX. WATERLINE

RIGHT OF WAY

TRACT BOUNDARY

ESTATE 2 DEDICATION

WALNUT CANYON ELEMENTARY SCHOOL

511-0-110-035

511-0-110-080

511-0-110-060

511-0-110-070

511-0-020-235

511-0-020-265

511-0-020-120

511-0-020-205

511-0-020-275

511-0-050-175

511-0-050-140

511-0-050-270

511-0-050-090

511-0-050-080

511-0-090-420

511-0-090-430

512-0-090-050

HIGH STREET

MOORPARK AVENUE

U.S. POST OFFICE

WALNUT CYN CHANNEL

U.P.R.R.

POINDEXTER AVENUE

POINDEXTER PARK

CHAPARRAL MIDDLE SCHOOL

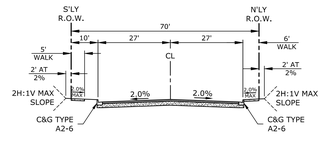
BB

N 89°30'13" W 1681.49

SCALE: 1"=60'

0 60 120 180

CASEY ROAD WEST OF TRACT BOUNDARY



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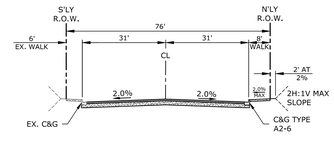
1"=10' VERT.

CASEY ROAD EAST OF TRACT BOUNDARY



SCALE: 1"=20' HORIZ.
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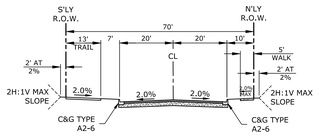
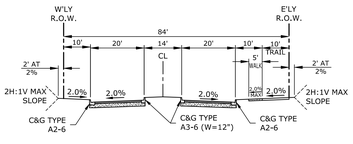
HIGH STREET



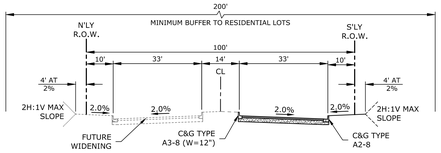
SCALE: 1"=20' HORIZ.
1"=10' VERT.

GABBERT ROAD SOUTH OF NORTH HILLS PKWY



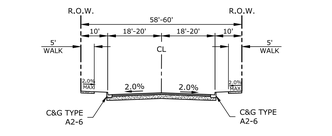
SCALE: 1"=20' HORIZ.
1"=10' VERT.

NORTH HILLS PARKWAY



SCALE: 1"=20' HORIZ.
1"=10' VERT.

LOCAL STREETS - STREETS "B" THROUGH "P"



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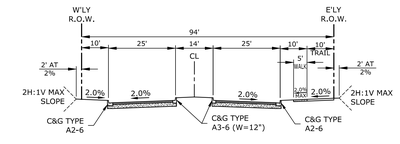
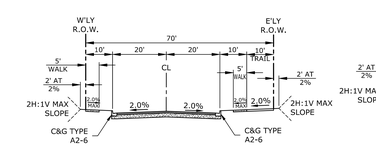
1"=10' VERT.

"A" STREET NORTH OF NORTH HILLS PKWY



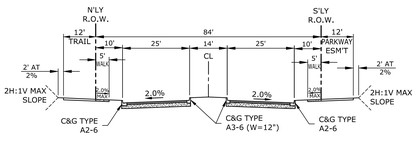
SCALE: 1"=20' HORIZ.
1"=10' VERT.

"A" STREET SOUTH OF NORTH HILLS PKWY



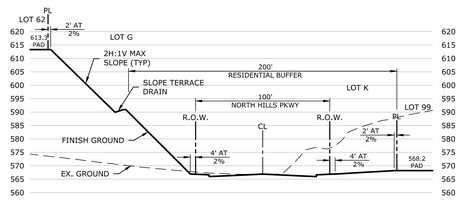
SCALE: 1"=20' HORIZ.
1"=10' VERT.

MERIDIAN HILLS DRIVE



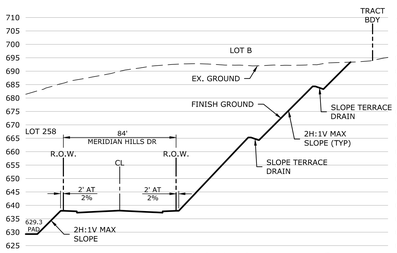
SCALE: 1"=20' HORIZ.
1"=10' VERT.

CROSS SECTION A / 3



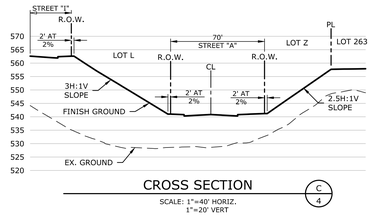
SCALE: 1"=40' HORIZ.
1"=20' VERT

CROSS SECTION B / 3



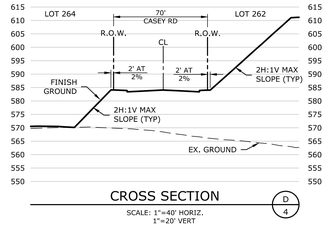
SCALE: 1"=40' HORIZ.
1"=20' VERT

CROSS SECTION C / 4



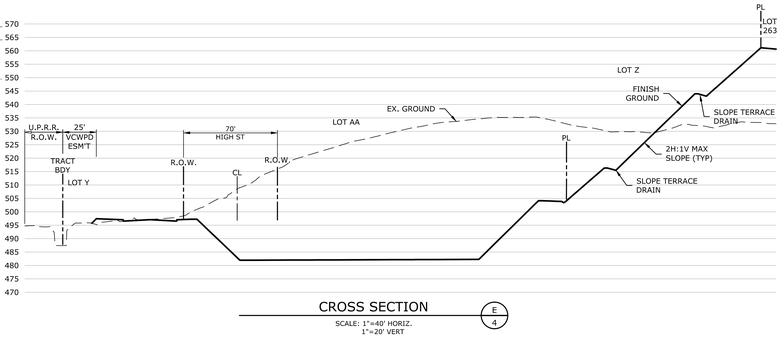
SCALE: 1"=40' HORIZ.
1"=20' VERT

CROSS SECTION D / 4



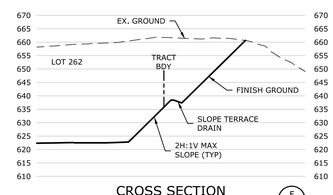
SCALE: 1"=40' HORIZ.
1"=20' VERT

CROSS SECTION E / 4



SCALE: 1"=40' HORIZ.
1"=20' VERT

CROSS SECTION F / 5



SCALE: 1"=40' HORIZ.
1"=20' VERT

LOT 262 FOR CONDOMINIUM PURPOSES

ECG Encompass Consultant Group
333 N. LANTANA ST, SUITE 287, CAMARILLO, CA 93010
PHONE: 805.322.4443 WEBSITE: WWW.ECGCIVIL.COM

GLEN H. PACE
PROJECT ENGINEER
R.C.E. 61468
DATE: 08/09/2019

HITCH RANCH
TENTATIVE TRACT MAP NO. 5708
PRELIMINARY GRADING, DRAINAGE, & UTILITIES
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE: HORIZ. AS NOTED VERT. N/A

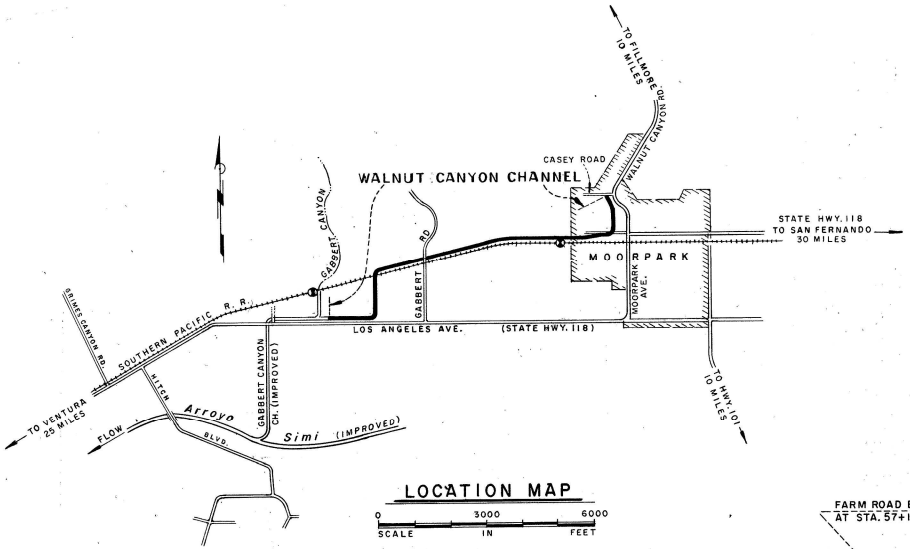
WORK ORDER 0047
DRAWN BY: GJM
CHECKED BY: GHP

SHEET NO. 6 OF 6

DRAWING: n:\projects\0047\02 hitch ranch - comstock\engineering\acad\tentative map\0047-02_tm.dwg

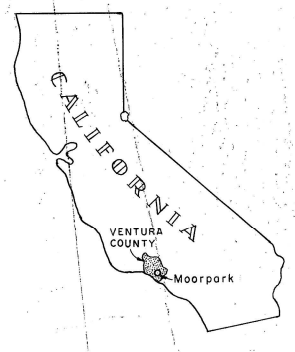
APPENDIX 8

8a-VCWPD Plans Y3-0118 through Y3-0128
8b-VCWPD Plans Y3-3765 through Y3-3768
8c-2008-074_8B875_WalnutCanyonDrain_CityofMoorpark
8d-Exhibit'A'.2008-074.CiofMoorpark.walnutcyn
8e-Exhibit'B'.2008-074.8b875.CityofMoorpark
8f-2008-074a.8b875.Exhibit.C
8g-VCWPD Plan Y3-0914



LOCATION MAP

SCALE 0 3000 6000 IN FEET



GENERAL PLAN

SCALE 0 500 1000 IN FEET

GENERAL NOTES

1- ALL STATIONING REFERS TO CENTERLINE OF CONSTRUCTION.

2- ELEVATIONS SHOWN ARE IN FEET ABOVE U.S.C.&G.S. MEAN SEA LEVEL DATUM, 1929.

3- TOPOGRAPHIC FEATURES, BOTH CONTOURS AND CULTURE, ARE PER SURVEY COMPLETED IN 1961.

4- EXCEPT AS OTHERWISE SHOWN ALL UTILITIES ARE TO BE MAINTAINED IN PLACE.

5- EXISTING PRIVATE IMPROVEMENTS WHICH LIE WITHIN THE RIGHTS-OF-WAY FOR THE CHANNEL IMPROVEMENT, UNLESS OTHERWISE SHOWN, WILL BE REMOVED BY THE OWNERS THEREOF OR ABANDONED IN PLACE.

6- FOR TABLE OF HYDRAULIC ELEMENTS SEE SH. 15

7- FOR SUMMARY OF PRINCIPAL EARTHWORK QUANTITIES SEE SHEET 2

8- INDICATED CHANNEL GRADE ELEVATIONS ARE THE ELEVATION OF THE INVERT AT THE BASE OF THE WALLS.

INDEX TO DRAWINGS

DWG. NO.-SH.	TITLE
7-E-15518-1	LOCATION MAP, GENERAL PLAN AND INDEX
2	PLAN, PROFILE, AND SECTIONS-STA. 3+43 TO STA.12+00
3	PLAN, PROFILE, AND SECTIONS-STA. 12+00 TO STA.20+00
4	PLAN, PROFILE, AND SECTIONS-STA.20+00 TO STA.29+00
5	PLAN, PROFILE, AND SECTIONS-STA.29+00 TO STA.37+00
6	PLAN, PROFILE, AND SECTIONS-STA.37+00 TO STA.45+00
7	PLAN, PROFILE, AND SECTIONS-STA.45+00 TO STA.53+00
8	PLAN, PROFILE, AND SECTIONS-STA.53+00 TO STA.62+00
9	PLAN, PROFILE, AND SECTIONS-STA.62+00 TO STA.70+50
10	PLAN, PROFILE, AND SECTIONS-STA.70+50 TO STA.78+50
11	PLAN, PROFILE, AND SECTIONS-STA.78+50 TO STA.86+00
12	PLAN, PROFILE, AND SECTIONS-STA.86+00 TO STA.93+70
13	PLAN, PROFILE, AND SECTIONS-STA.93+70 TO STA.101+00
14	PLAN, PROFILE, AND SECTIONS-STA.101+00 TO STA.108+88.44
15	TYPICAL CROSS-SECTIONS-HYDRAULIC ELEMENTS
16	OPEN RECTANGULAR CHANNEL SECTIONS
17-E-15518-17	TRANSITIONS-BOTTOM WIDTH AND WALL HEIGHT
18	FARM ROAD BOX CULVERTS, STATIONS 6+26 AND 16+44.23
19	S.P.R.R. CULVERT-STRUCTURAL DETAILS
20	S.P.R.R. CULVERT-STEEL DETAILS.
21	GABBERT ROAD BOX CULVERT.
22	SMALL CANYON SIDE INLET.
23	FARM ROAD BOX CULVERTS, STATIONS 57+10, 67+73, AND 74+97
24	GUARD RAIL DETAILS.
25	HIGH STREET BOX CULVERT
26	HIGH STREET PAVING AND SIDE DRAIN INLET DETAILS
27	HIGH SCHOOL BOX CULVERT AND WALKWAY PAVING DETAILS
28	BOX CULVERT TRANSITION STRUCTURE
29	CHAIN LINK FENCE AND GATE DETAILS
30	PIPE INLET STRUCTURES-LOCATION AND DETAILS
31	LOG OF BORINGS-STA.3+43 TO STA.50+00
32	LOG OF BORINGS-STA.50+00 TO STA.108+88
33	SIDE DRAIN INLET AT STA. 17+25

BENCH MARKS

U.S.C.&G.S. MEAN SEA LEVEL DATUM

U.S.C.&G.S. STD. MARK E31- ON S. CORNER OF W. ABUTMENT OF S.P.R.R. BRIDGE NO. 425.34 ABT. 1.7 MI. W. OF MOORPARK STA., RESET 1920, EL. 470.396.

U.S.C.&G.S. STD. MARK T609- ON W. ABUTMENT OF S.P.R.R. BRIDGE 24 FT. S. OF ℄ MAIN TRACK ABT. 0.4 MI. W. OF MOORPARK STA., 1942, EL. 498.756

AS BUILT

APPROVED: VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White ENGINEER-MANAGER

WALNUT CANYON CHANNEL

LOCATION MAP, GENERAL PLAN AND INDEX

CALLEGUAS CREEK W.P.P.

SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

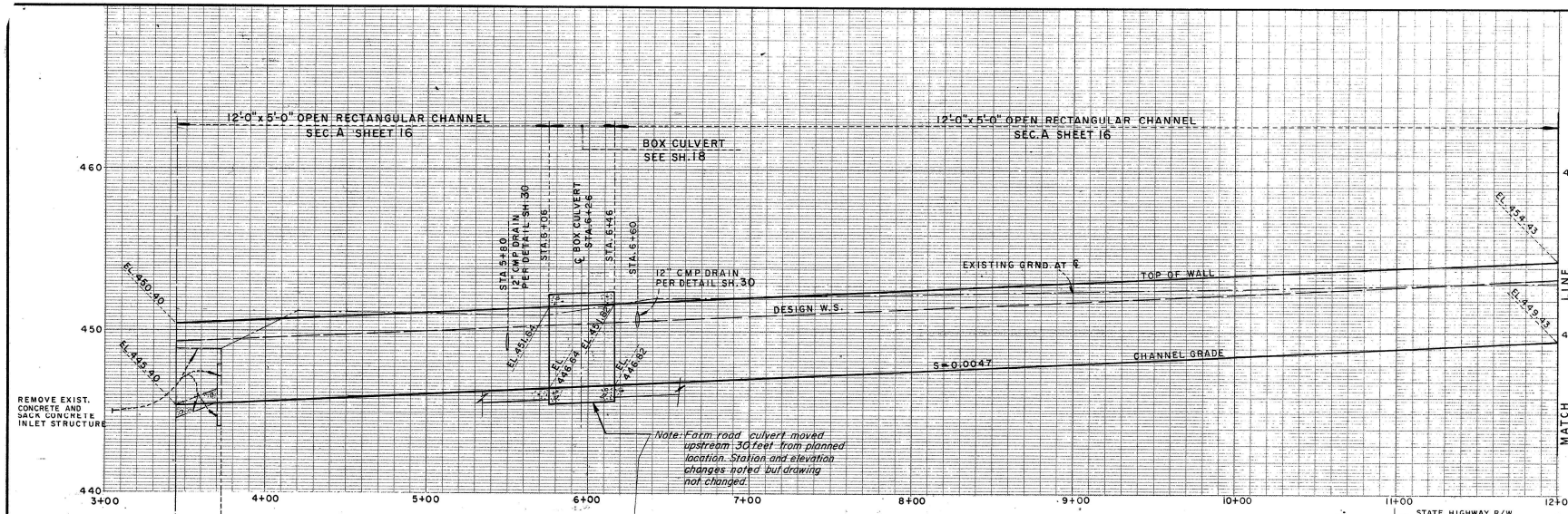
REVISIONS

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

DESIGNED M.A.T.	DATE 10/61	APPROVED BY W. H. Payne	TITLE: FOR STATE CONSERVATION ENGINEER
DRAWN J.R.B.C.E.R.	11/61-3/62	APPROVED BY R.K. Mathews	TITLE: HEAD, E. & W.P. UNIT
TRACED J.R.B.C.E.R.	11/61-3/62	SHEET NO. 1 OF 33	DRAWING NO. 7-E-15518
CHECKED W.H.P.B.C.F.B.	3/62		

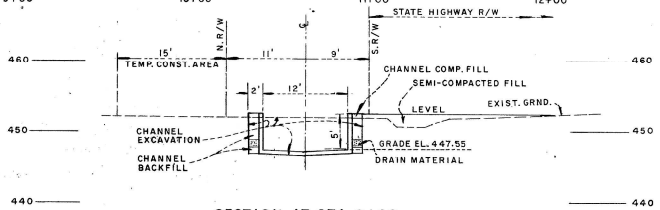
Y-3-114

(USDA-SCS-PORTLAND, OREG. 1962) M-3688

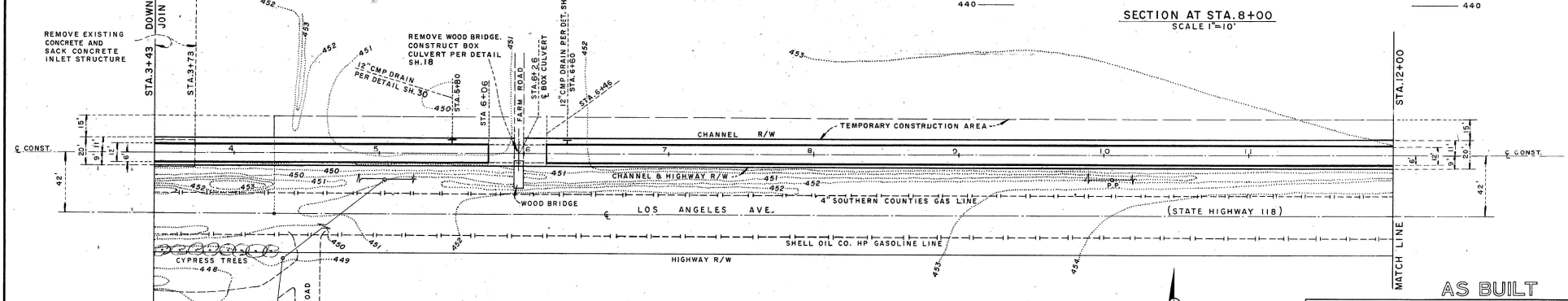


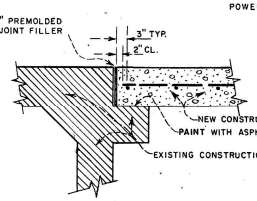
PRINCIPAL EARTHWORK QUANTITIES	
STATION 3+43 TO STATION 12+00	
EXCAVATION, CHANNEL & BOX CULVERTS	2,306 C.Y.
COMP. FILL & BACKFILL, CHANNEL & BOX CULVERTS	422 C.Y.
SEMI-COMPACTED FILL	394 C.Y.

SUMMARY OF PRINCIPAL EARTHWORK QUANTITIES		
ITEM NO.	DESCRIPTION	QUANTITY
2	EXCAVATION, CHANNEL & BOX CULVERTS	48,550 C.Y.
3	EXCAVATION, RAILROAD CULVERT	915 C.Y.
4	COMP. FILL & BACKFILL, CHANNEL & BOX CULVERTS	5,615 C.Y.
5	COMP. FILL & BACKFILL, RAILROAD CULVERT	375 C.Y.
2	SEMI-COMPACTED FILL	7,100 C.Y.

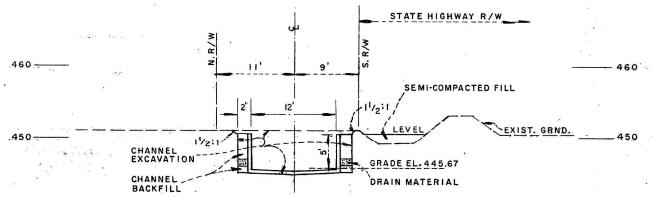


SECTION AT STA. 8+00
SCALE 1"=10'





JOINT DETAIL - STA. 3+43
WALLS & BASE SLAB



SECTION AT STA. 4+00
SCALE 1"=10'
5 0 10 20

PLAN
SCALE 1"= 40'
25 0 50 100 FT.

AS BUILT

APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER-MANAGER

WALNUT CANYON CHANNEL

PLAN, PROFILE & SECTION
STA. 3+43 TO STA. 12+00

CALLEGUAS CREEK W.P.P.

SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

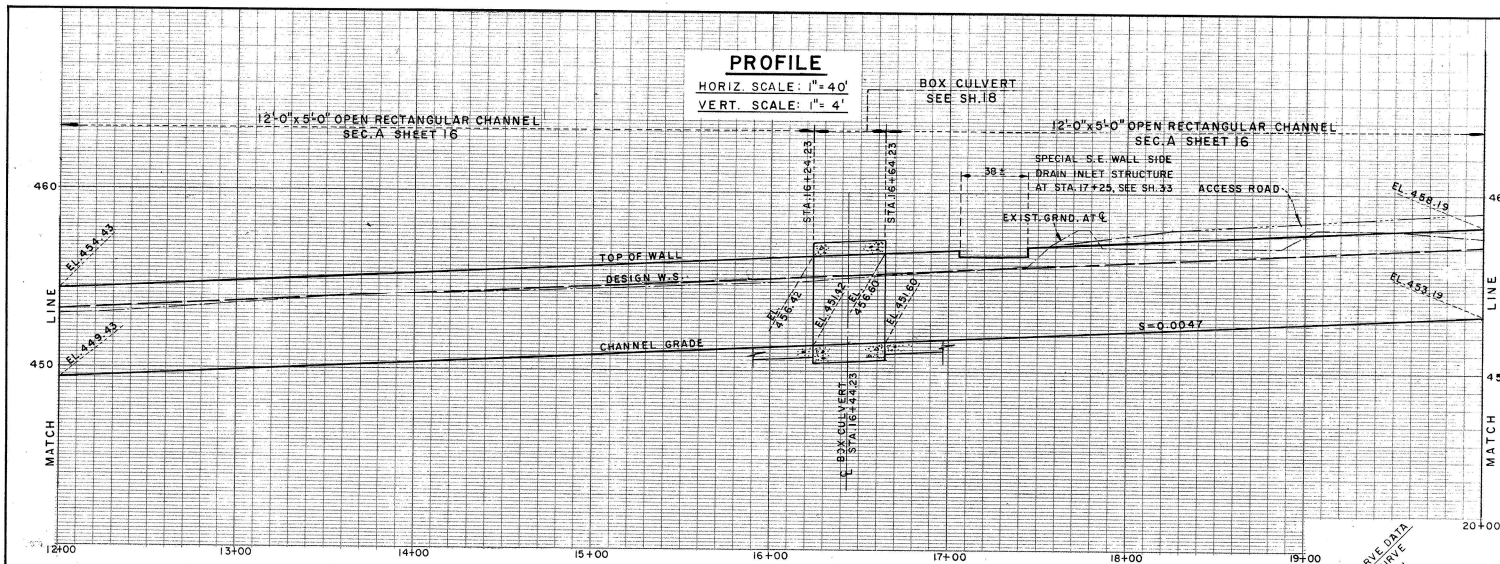
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

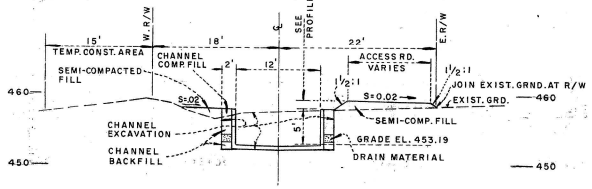
REVISIONS

		DATE	
DESIGNED	M.A.T.	10/61	APPROVED BY W. H. Draper TITLE FOR STATE CONSERVATION ENGINEER
DRAWN	J.R. & C.E.R.	11/61-3/62	APPROVED BY F. K. Mielenz, acting TITLE HEAD E. & W.P. UNIT
TRACED	J.R. & C.E.R.	11/61-3/62	SHEET NO. 2 OF 33
CHECKED	W.H.P. & C.F.B.	3/62	DRAWING NO. 7-E-15518

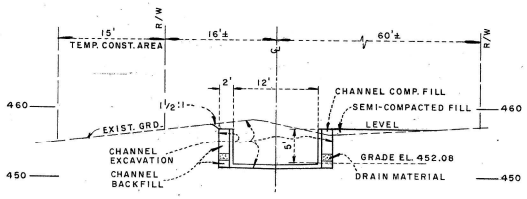
USDA-SCS-PORTLAND ORE. 3882 M-3688

Y-3-115

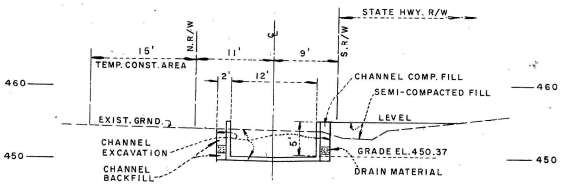




SECTION AT STA. 20+00
SCALE 1"=10'



SECTION AT STA. 17+65
SCALE 1"=10'



SECTION AT STA. 14+00
SCALE 1"=10'

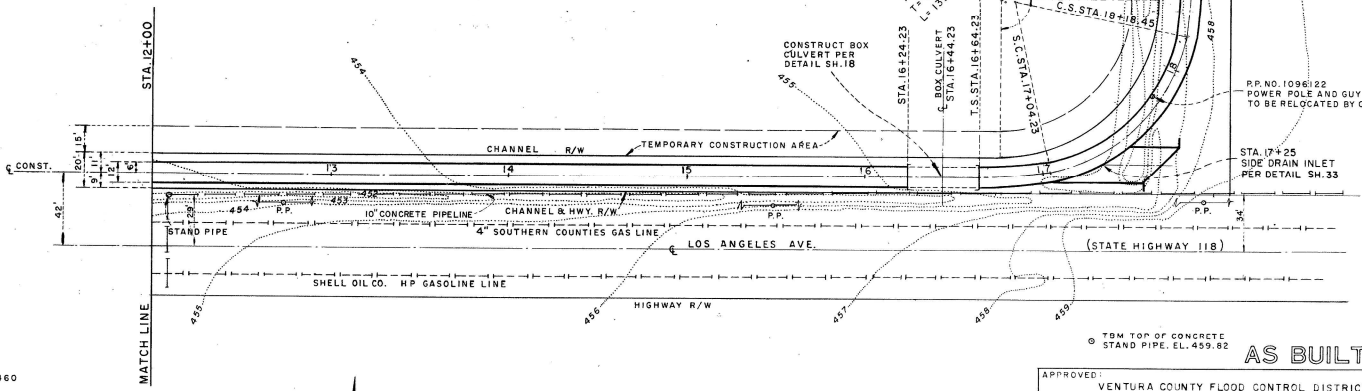
5 0 10 20

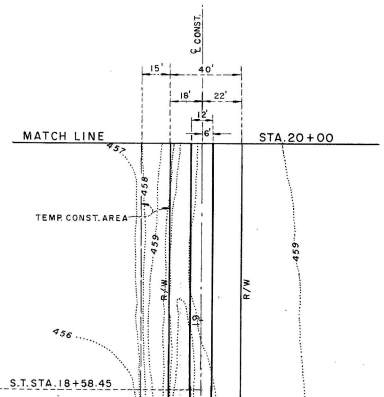
PRINCIPAL EARTHWORK QUANTITIES	
STATION 12+00 TO STATION 20+00.	
EXCAVATION, CHANNEL & BOX CULVERTS	2,268 C.Y.
COMP. FILL & BACKFILL, CHANNEL & BOX CULVERTS	390 C.Y.
SEMI-COMPACTED FILL	462 C.Y.

℄ CONST. CURVE DATA
CIRCULAR CURVE
Δc = 63° 50' 24"
Rc = 59.40'
Tc = 64.35'
Lc = 1142.2'

10 CHORD SPIRAL
Δs = 12° 04' 48"
Ts = 113.05'
Ls = 40.00'

N R/W CURVE DATA
Δ = 90° 00' 20"
R = 89.00'
T = 89.01'
L = 139.81'





⊙ TBM TOP OF CONCRETE STAND PIPE, EL. 459.82

AS BUILT

PLAN
SCALE 1"=40'
25 0 50 100 FT.

APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY _____ ENGINEER-MANAGER

WALNUT CANYON CHANNEL
PLAN, PROFILE & SECTIONS
STA. 12+00 TO STA. 20+00
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

		DATE	
DESIGNED	M.A.T.	10/61	APPROVED BY W. A. Payne
DRAWN	J.R. & C.E.R.	11/61-3/62	TITLE FOR STATE CONSERVATION ENGINEER
TRACED	J.R. & C.E.R.	11/61-3/62	APPROVED BY J. K. Mumus acting
CHECKED	W.H.P. & C.F.B.	3/62	TITLE HEAD E. & W.P. UNIT

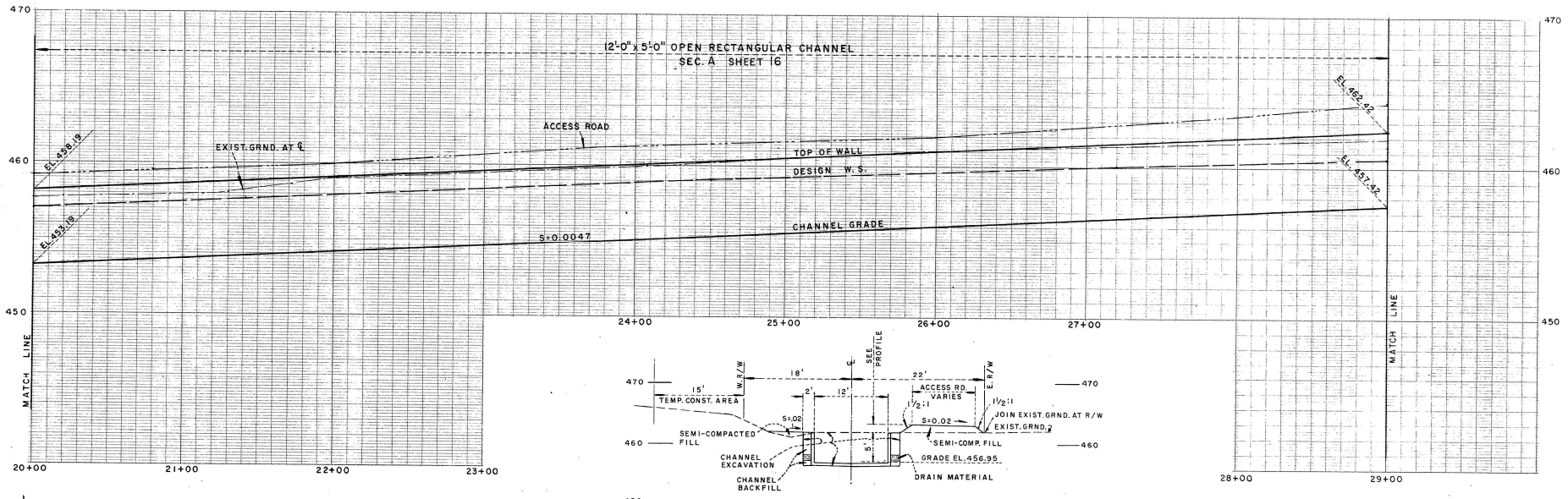
SHEET NO. 3 OF 33
DRAWING NO. 7-E-15518

REVISIONS

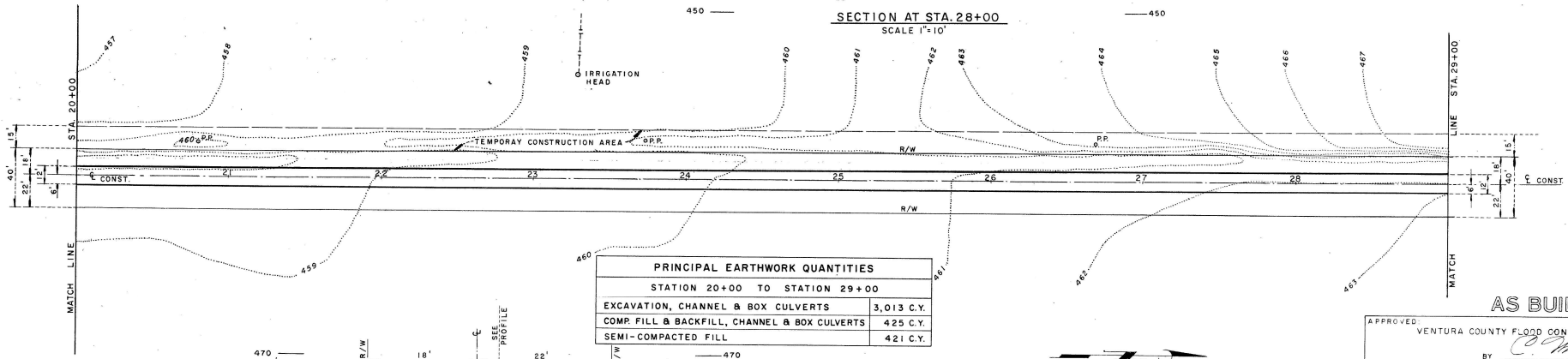
M-3688

PROFILE

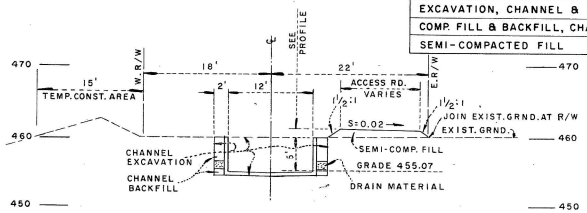
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"= 4'



SECTION AT STA. 28+00
SCALE 1"=10'



PRINCIPAL EARTHWORK QUANTITIES	
STATION 20+00 TO STATION 29+00	
EXCAVATION, CHANNEL & BOX CULVERTS	3,013 C.Y.
COMP. FILL & BACKFILL, CHANNEL & BOX CULVERTS	425 C.Y.
SEMI-COMPACTED FILL	421 C.Y.



SECTION AT STA. 24+00
SCALE 1"=10'
5 0 10 20

PLAN
SCALE 1"= 40'
25 0 50 100 FT.

AS BUILT

APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. O. White
ENGINEER - MANAGER

WALNUT CANYON CHANNEL

PLAN, PROFILE & SECTIONS
STA. 20+00 TO STA. 29+00

CALLEGUAS CREEK W.P.P.

SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

REVISIONS

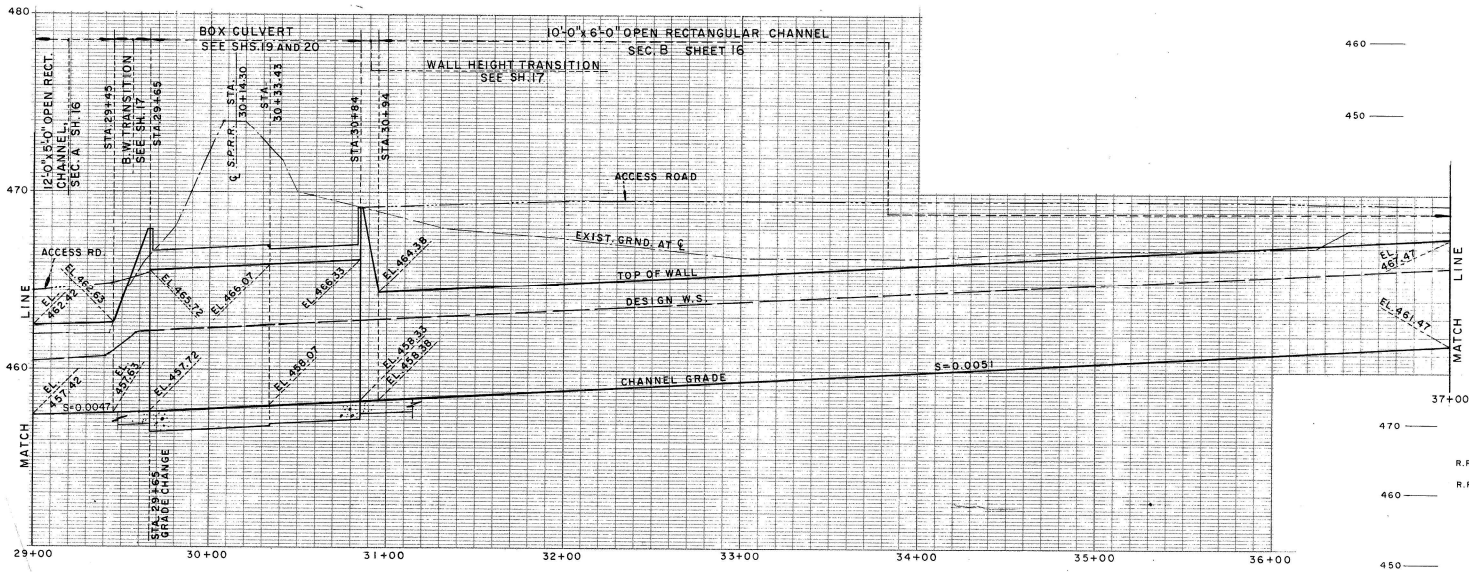
DESIGNED M.A.T.	DATE 10/61	APPROVED BY W. H. Payne	
		TITLE FOR STATE CONSERVATION ENGINEER	
DRAWN J.R. & C.E.R.	11/61-3/62	APPROVED BY F. K. Mueller acting	
		TITLE HEAD E. & W.P. UNIT	
TRACED J.R. & C.E.R.	11/61-3/62	SHEET NO. 4 OF 33	DRAWING NO. 7-E-15518
CHECKED W.H.P. & C.F.S.	3/62		

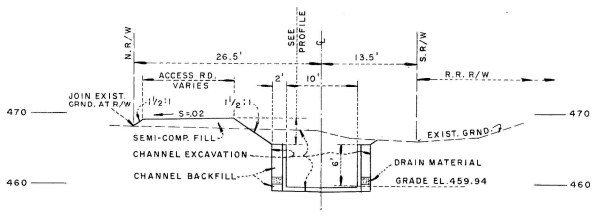
M-3688

Y-3-117

PROFILE

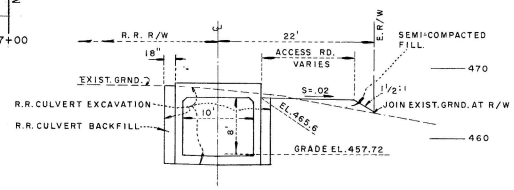
HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"= 4'



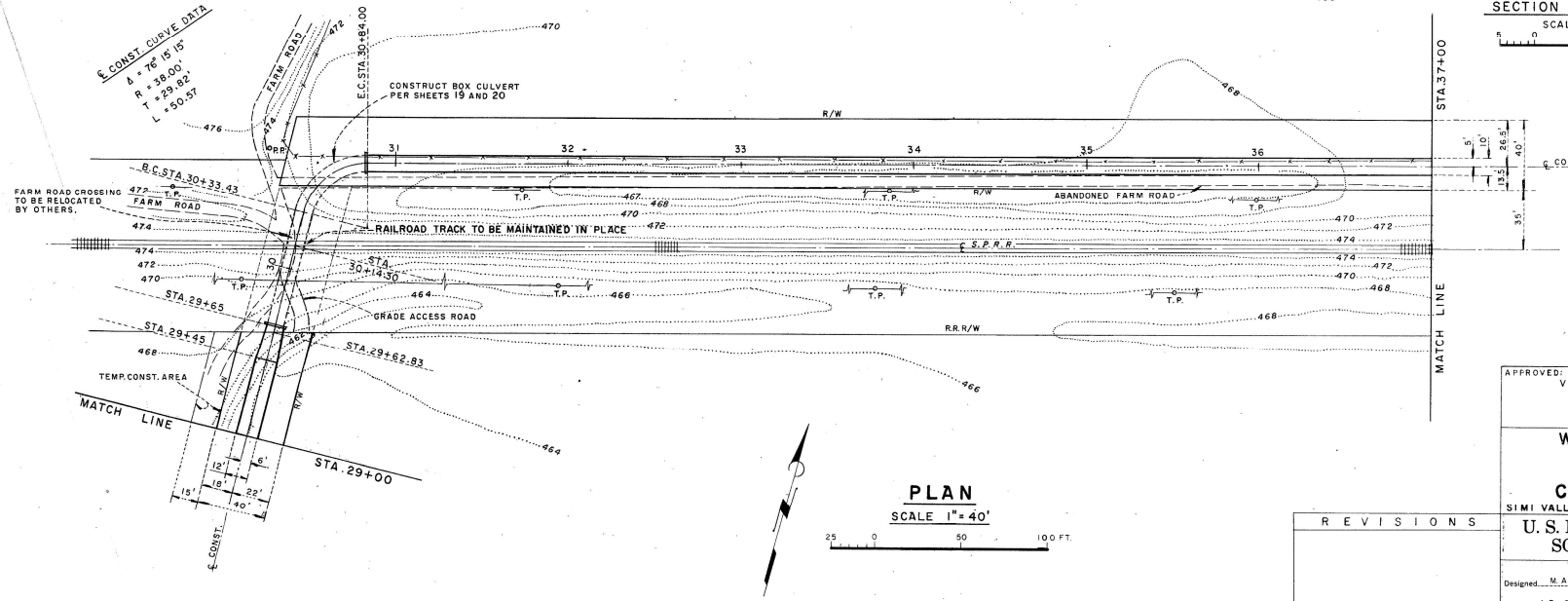


SECTION AT STA. 34+00
SCALE 1"=10'

PRINCIPAL EARTHWORK QUANTITIES	
STATION 29+00 TO STATION 37+00	
EXCAVATION, CHANNEL & BOX CULVERTS	3,265 C.Y.
EXCAVATION, RAILROAD CULVERT	915 C.Y.
COMP. FILL & BACKFILL, CHANNEL & BOX CULVERTS	463 C.Y.
COMP. FILL & BACKFILL, RAILROAD CULVERT	375 C.Y.
SEMI-COMPACTED FILL	472 C.Y.



SECTION AT STA. 29+65
SCALE 1"=10'



PLAN

SCALE 1"=40'

AS BUILT

APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER-MANAGER

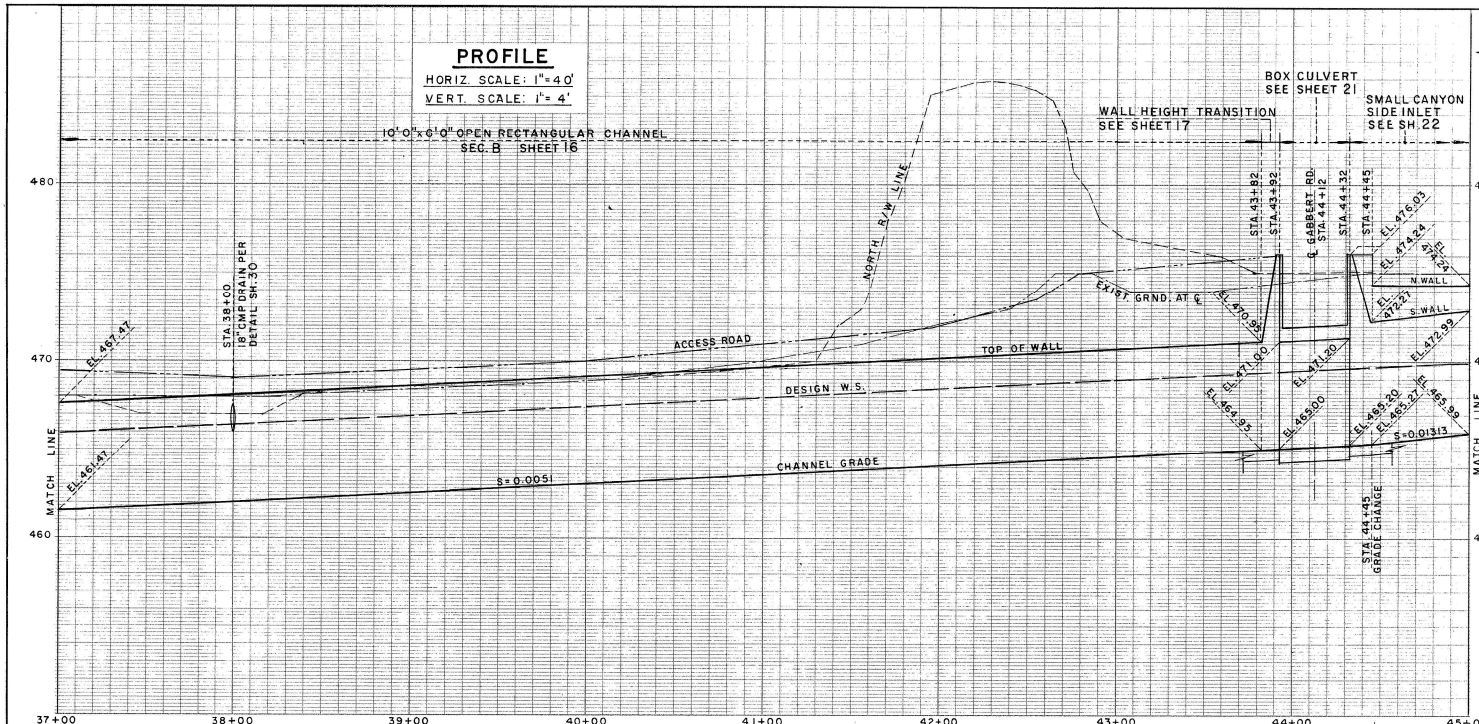
WALNUT CANYON CHANNEL
PLAN, PROFILE & SECTIONS
STA. 29+00 TO STA. 37+00
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

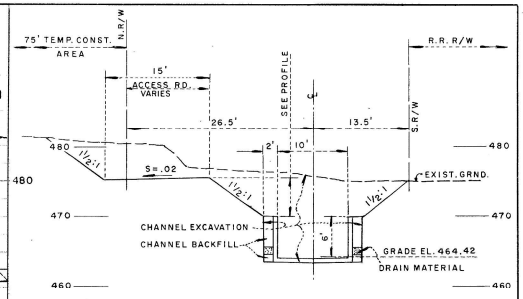
REVISIONS

	Date	Approved by W. H. Payne	
Designed M.A.T.	10/61	Title FOR STATE CONSERVATION ENGINEER	
Drawn J.R. & C.E.R.	12/61-3/62	APPROVED BY [illegible]	
Traced J.R. & C.E.H.	12/61-3/62	Title HEAD E. & W.P. UNIT	
Checked W.H.P. & C.F.B.	3/62	SHEET NO. 5 OF 33	DRAWING NO. 7-E-15518

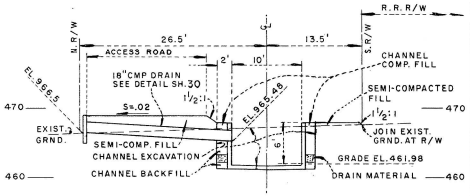
M-3688

Y-3-118



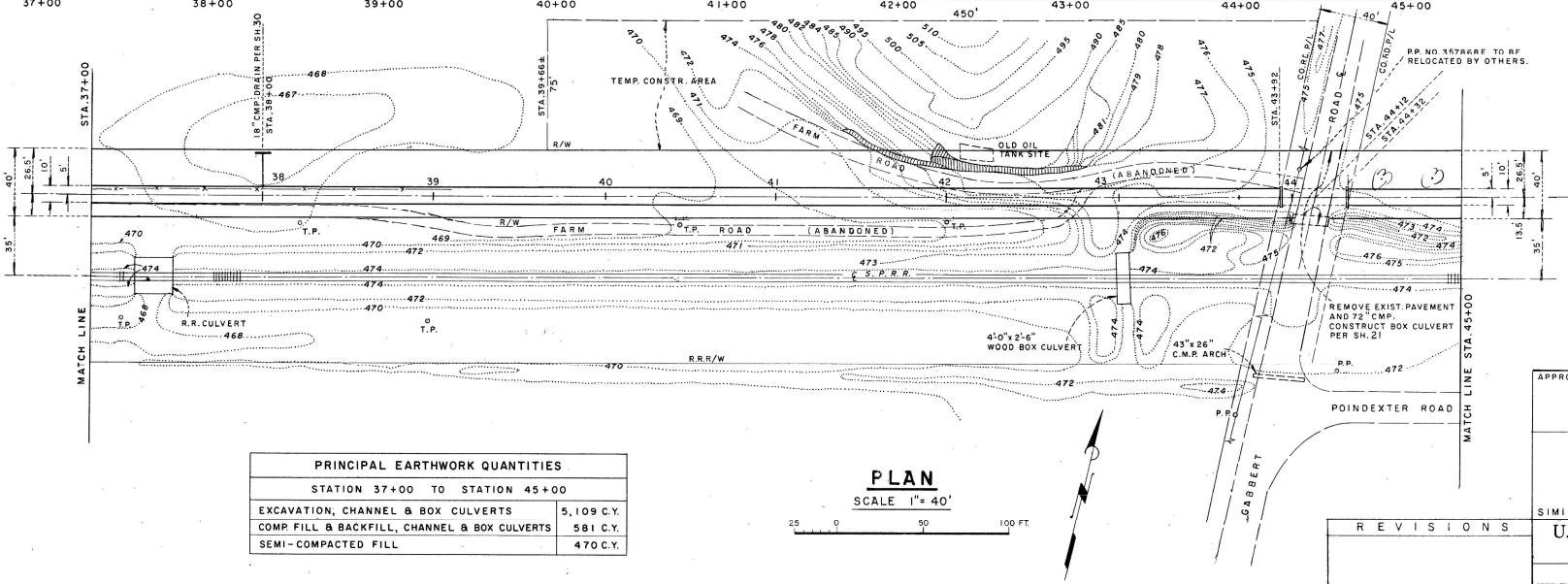


SECTION AT STA. 42+80
SCALE 1"=10'



SECTION AT STA. 38+00
SCALE 1"=10'

5 0 10 20



PLAN
SCALE 1"= 40'

25 0 50 100 FT.

PRINCIPAL EARTHWORK QUANTITIES	
STATION 37+00 TO STATION 45+00	
EXCAVATION, CHANNEL & BOX CULVERTS	5,109 C.Y.
COMP. FILL & BACKFILL, CHANNEL & BOX CULVERTS	581 C.Y.
SEMI-COMPACTED FILL	470 C.Y.

AS BUILT

APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER-MANAGER

WALNUT CANYON CHANNEL

PLAN, PROFILE & SECTIONS
STA. 37+00 TO STA. 45+00

CALLEGUAS CREEK W.P.P.

SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

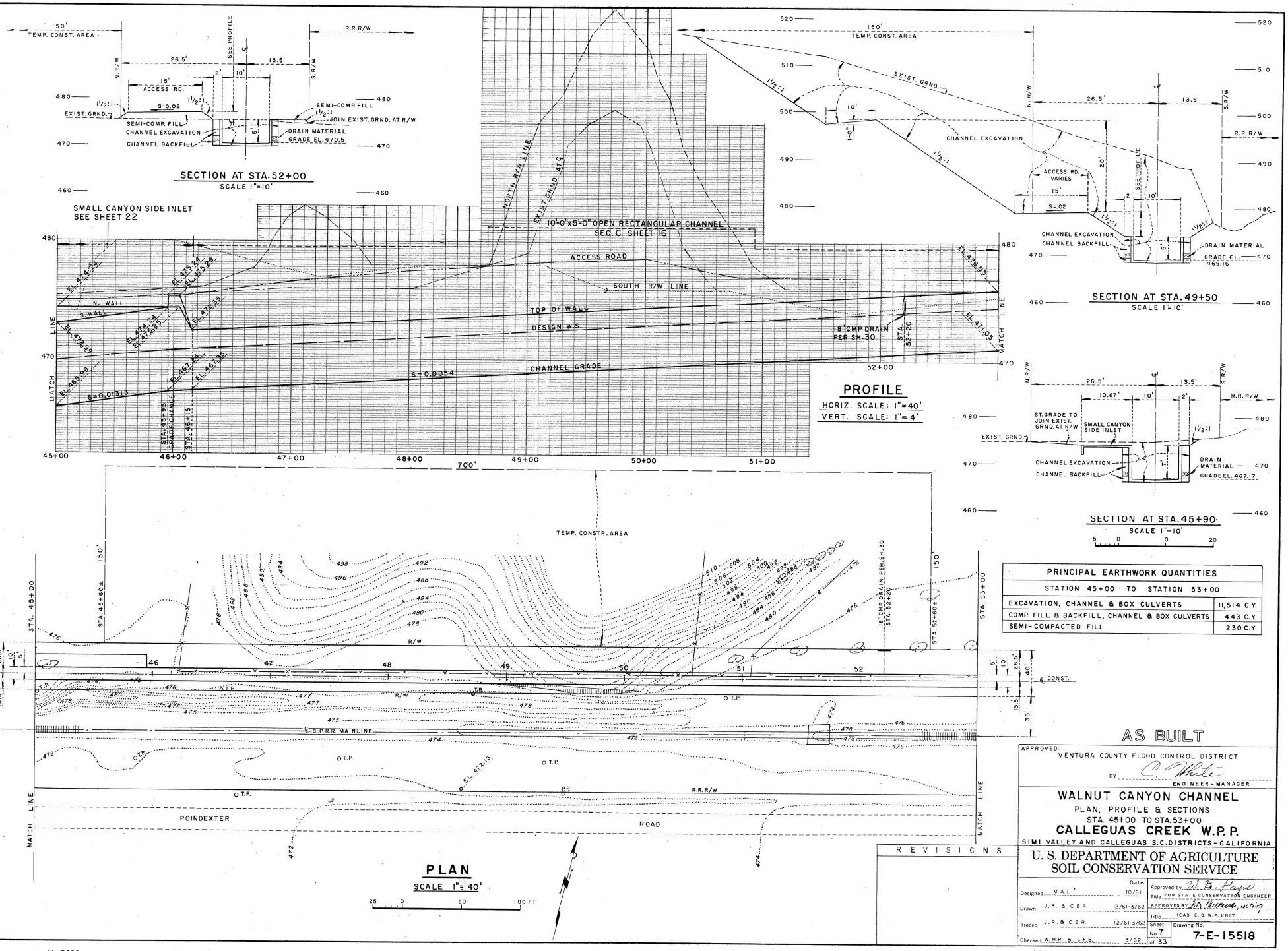
REVISIONS

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

DESIGNED M.A.T.	DATE 10/61	APPROVED BY W. H. Payne	TITLE FOR STATE CONSERVATION ENGINEER
DRAWN J.R. & C.E.R.	12/61-3/62	APPROVED BY F. T. Mitchell acting	TITLE HEAD E. & W.P. UNIT
TRACED J.R. & C.E.R.	12/61-3/62	SHEET NO. 6 OF 33	DRAWING NO. 7-E-15518
CHECKED W.H.P. & C.F.B.	3/62		

M-3688

Y-3-119



PRINCIPAL EARTHWORK QUANTITIES	
STATION 45+00 TO STATION 53+00	
EXCAVATION, CHANNEL & BOX CULVERTS	11,514 C.Y.
COMP. FILL & BACKFILL, CHANNEL & BOX CULVERTS	443 C.Y.
SEMI-COMPACTED FILL	230 C.Y.

AS BUILT

APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY _____
ENGINEER-MANAGER

WALNUT CANYON CHANNEL
PLAN, PROFILE & SECTIONS
STA. 45+00 TO STA. 53+00
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

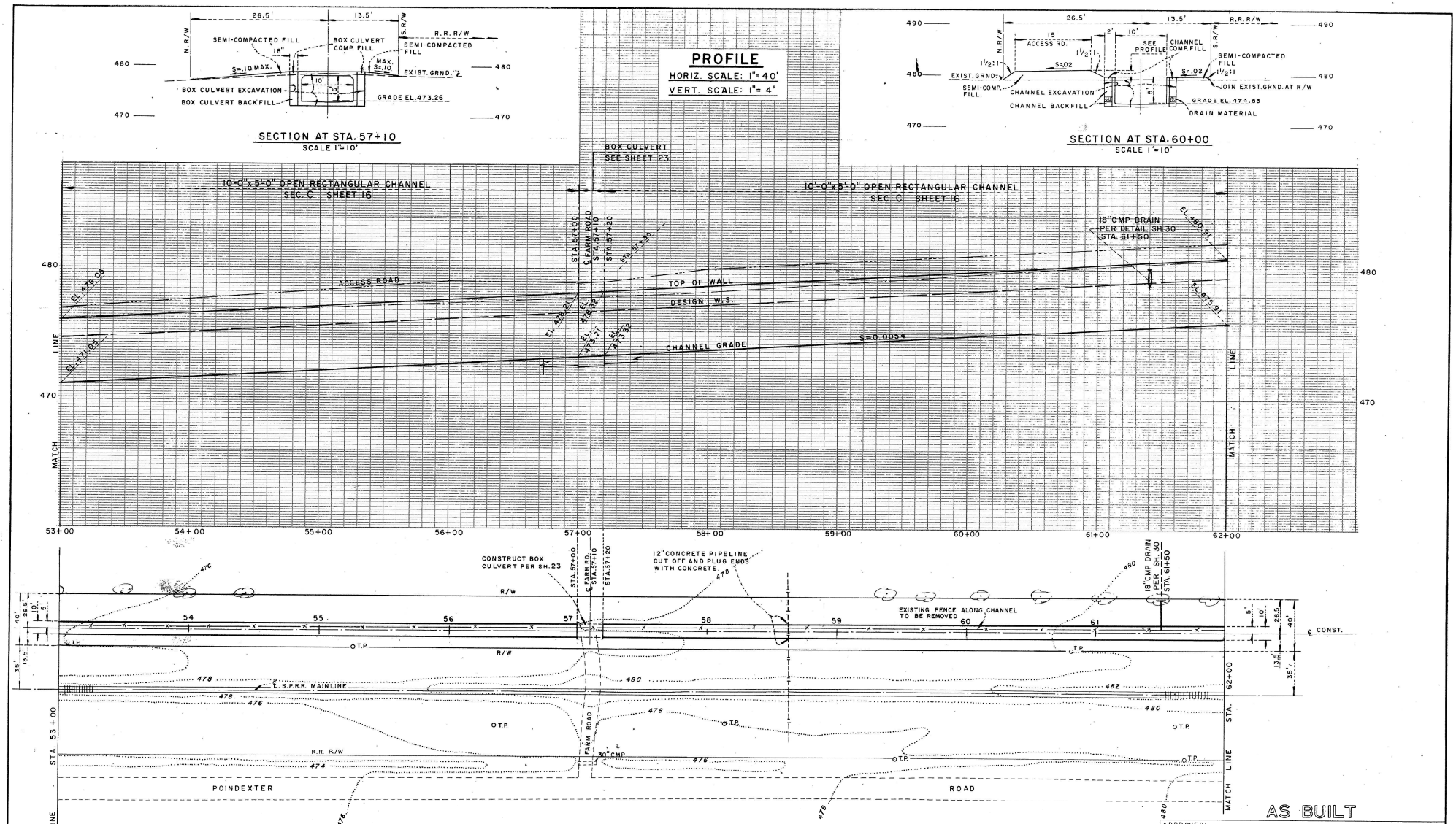
REVISIONS

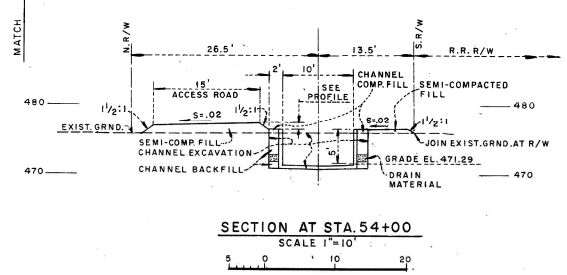
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

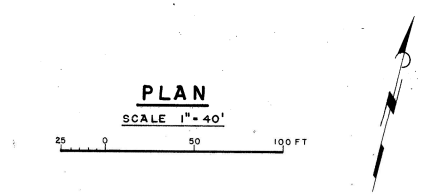
Designed M.A.T.	Date 10/61	Approved by W. F. Hayes	
Drawn J.R. & C.E.R.	12/61-3/62	Title FOR STATE CONSERVATION ENGINEER	
Traced J.R. & C.E.R.	12/61-3/62	APPROVED BY E. D. Nelson, acting	
Checked W.H.P. & C.F.B.	3/62	Title HEAD E. & W.P. UNIT	
		Sheet No. 7 of 33	Drawing No. 7-E-15518

M-3688

Y-3-120







PRINCIPAL EARTHWORK QUANTITIES	
STATION 53+00 TO STATION 62+00	
EXCAVATION, CHANNEL & BOX CULVERTS	2,327 C.Y.
COMP. FILL & BACKFILL, CHANNEL & BOX CULVERTS	422 C.Y.
SEMI-COMPACTED FILL	889 C.Y.

REVISIONS

AS BUILT

APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER-MANAGER

WALNUT CANYON CHANNEL
PLAN, PROFILE & SECTIONS
STA. 53+00 TO STA. 62+00
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

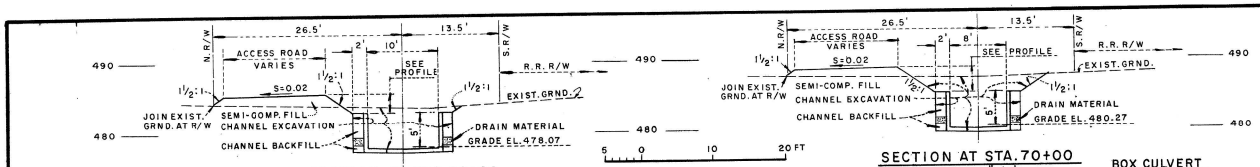
		Date
Designed	M.A.T.	10/61
Drawn	J.R. & C.E.R.	12/61-3/62
Traced	J.R. & C.E.R.	12/61-3/62
Checked	W.H.P. & C.F.B.	3/62

Approved by W. H. Payne
Title FOR STATE CONSERVATION ENGINEER
APPROVED BY F.K. Mercer
Title HEAD E. & W.P. UNIT
Sheet No. 8 of 33
Drawing No. 7-E-15518

M-3688

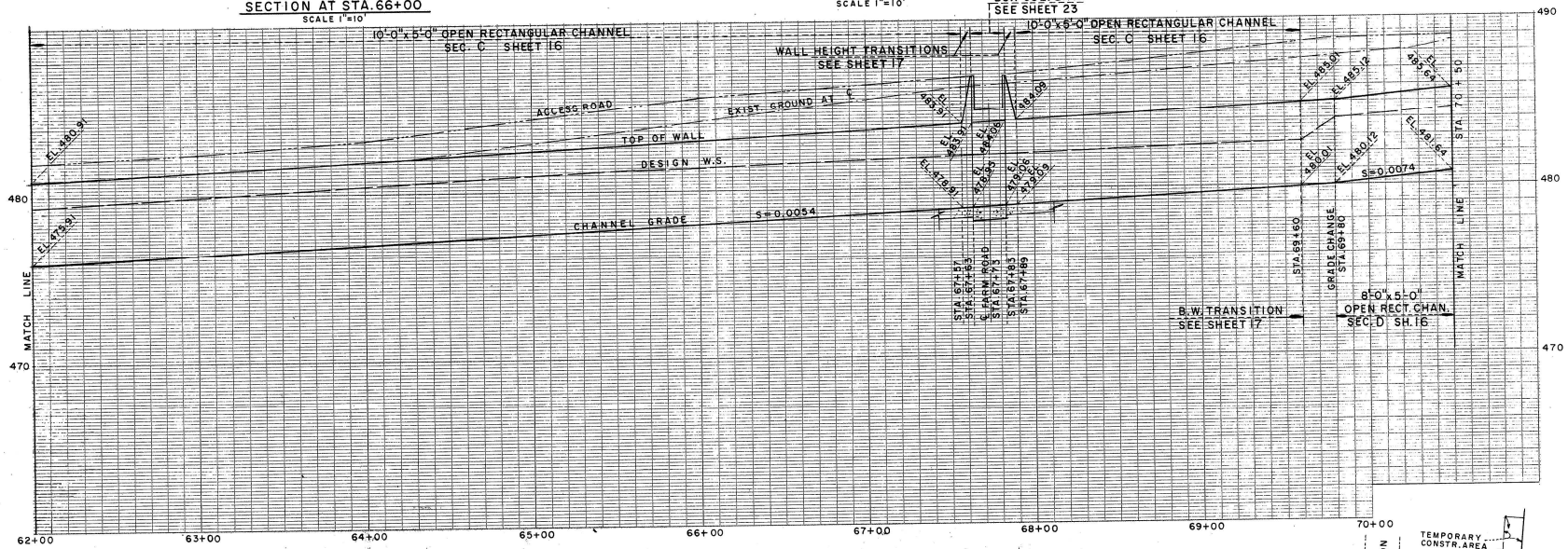
Y-3-121

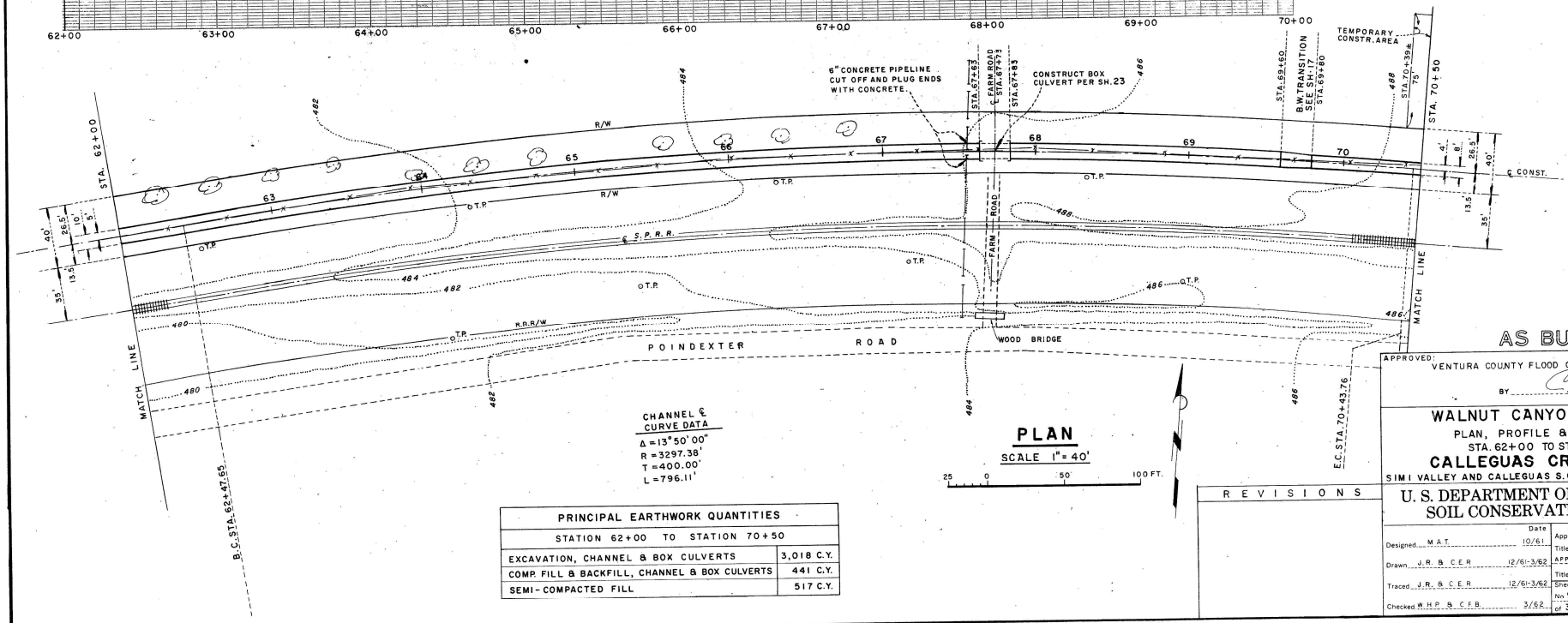
Y-3-121



PROFILE

HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"= 4'





PRINCIPAL EARTHWORK QUANTITIES	
STATION 62+00 TO STATION 70+50	
EXCAVATION, CHANNEL & BOX CULVERTS	3,018 C.Y.
COMP. FILL & BACKFILL, CHANNEL & BOX CULVERTS	441 C.Y.
SEMI-COMPACTED FILL	517 C.Y.

AS BUILT

APPROVED: VENTURA COUNTY FLOOD CONTROL DISTRICT
BY _____ ENGINEER-MANAGER

WALNUT CANYON CHANNEL

PLAN, PROFILE & SECTIONS
STA. 62+00 TO STA. 70+50

CALLEGUAS CREEK W.P.P.

SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

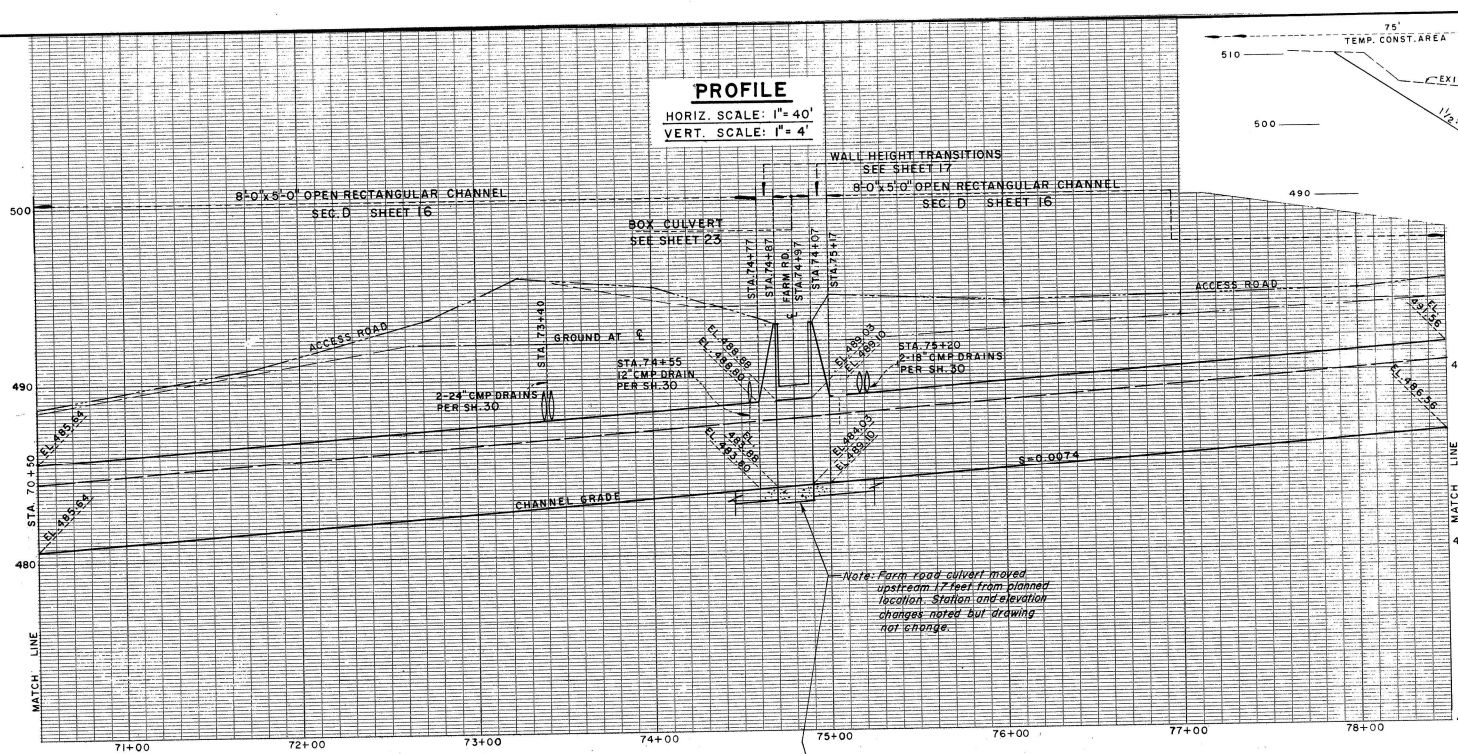
REVISIONS

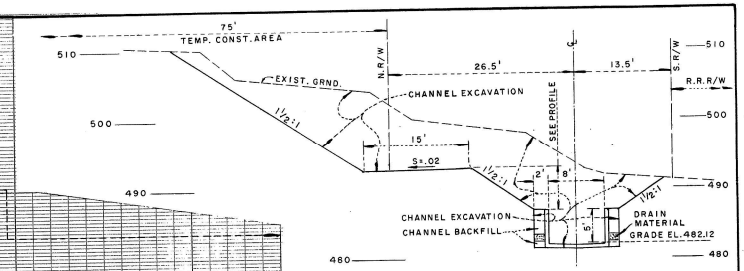
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed M.A.T.	Date 10/61	Approved by W. H. Payne, FOR STATE CONSERVATION ENGINEER	
Drawn J.R. & C.E.R.	12/61-3/62	APPROVED BY H. Mueller, acting HEAD E. & W.P. UNIT	
Traced J.R. & C.E.R.	12/61-3/62	Sheet No. 9 of 33	Drawing No. 7-E-15518
Checked W.H.P. & C.F.B.	3/62		

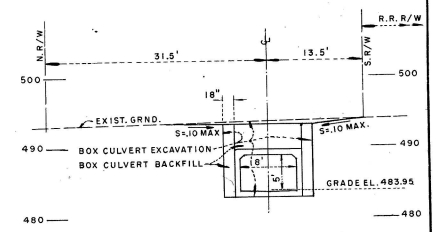
Y-3-122

M-3688



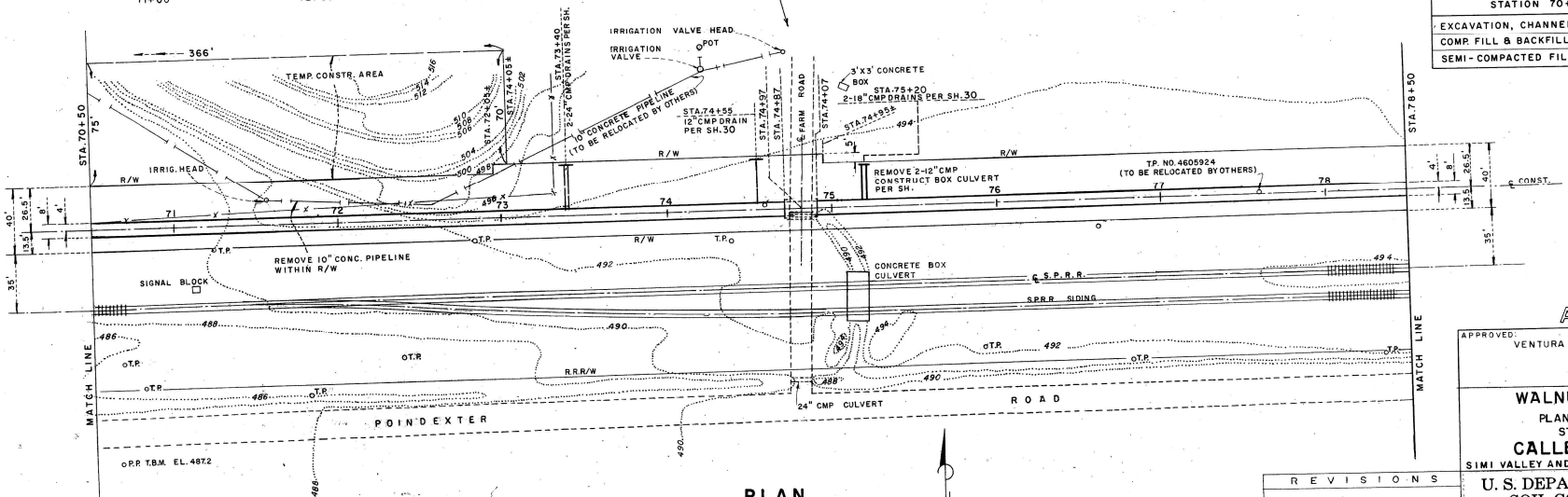


SECTION AT STA. 72+50
SCALE 1"=10'



SECTION AT STA. 74+97
SCALE 1"=10'

PRINCIPAL EARTHWORK QUANTITIES	
STATION 70+50 TO STATION 78+50	
EXCAVATION, CHANNEL & BOX CULVERTS	5,449 C.Y.
COMP. FILL & BACKFILL, CHANNEL & BOX CULVERTS	446 C.Y.
SEMI-COMPACTED FILL	232 C.Y.



PLAN
SCALE 1"= 40'

AS BUILT

APPROVED: VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER - MANAGER

WALNUT CANYON CHANNEL
PLAN, PROFILE & SECTION
STA. 70+50 TO STA. 78+50
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

REVISIONS

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

		Date	
Designed	M.A.T.	10/61	Approved by W. H. Payne
Drawn	J.R. & C.E.R.	12/61-3/62	Title FOR STATE CONSERVATION ENGINEER
Traced	J.R. & C.E.R.	12/61-3/62	APPROVED BY F. D. Mussens, acting
Checked	W.H.P. & C.F.B.	3/62	Title HEAD E. & W.P. UNIT
			Sheet No. 10 of 33 — Drawing No. 7-E-15518

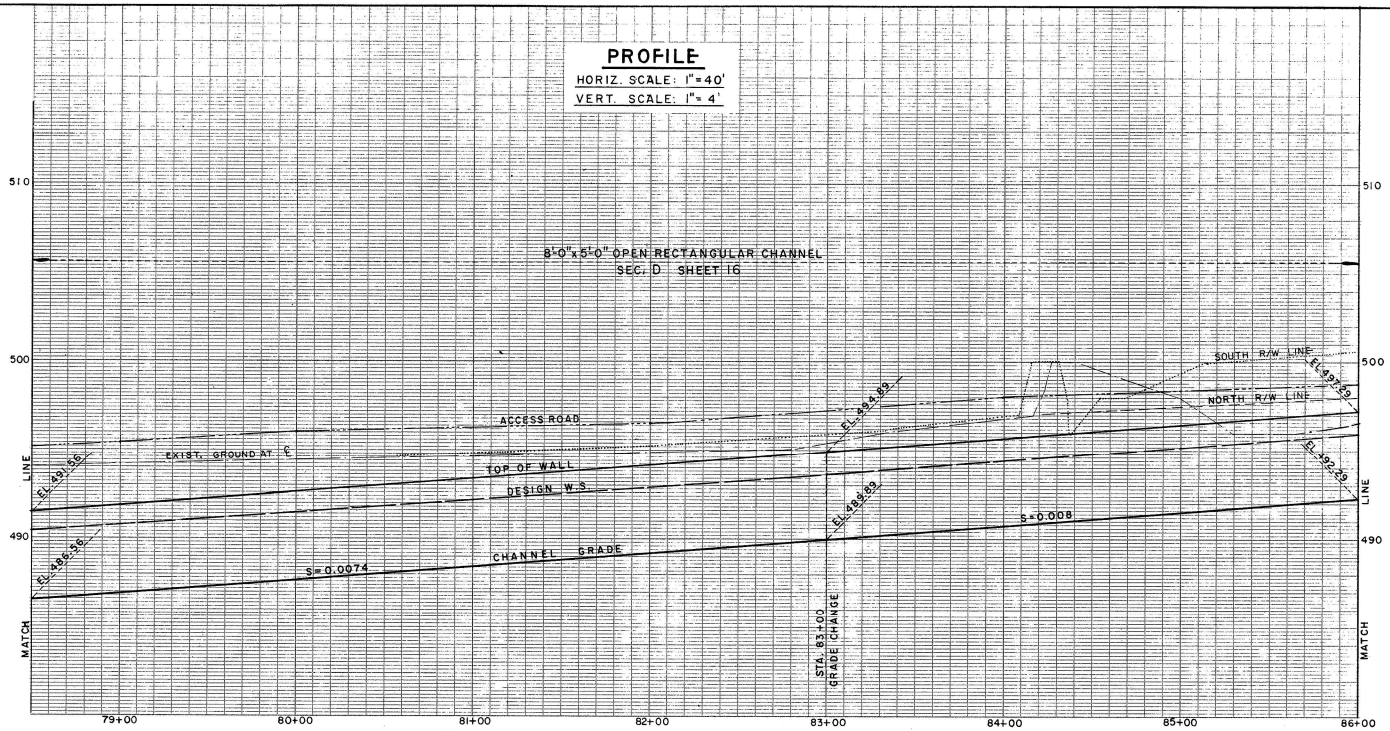
Y-3-123

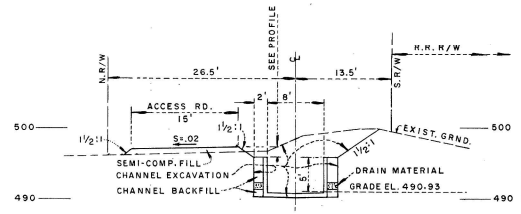
Y-3-123

M-3688

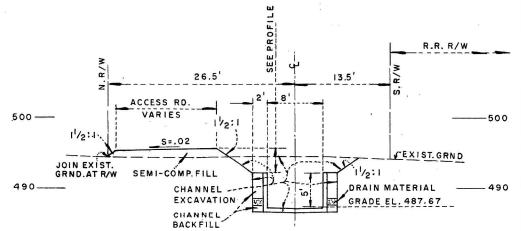
PROFILE

HORIZ. SCALE: 1"=40'
VERT. SCALE: 1"= 4'



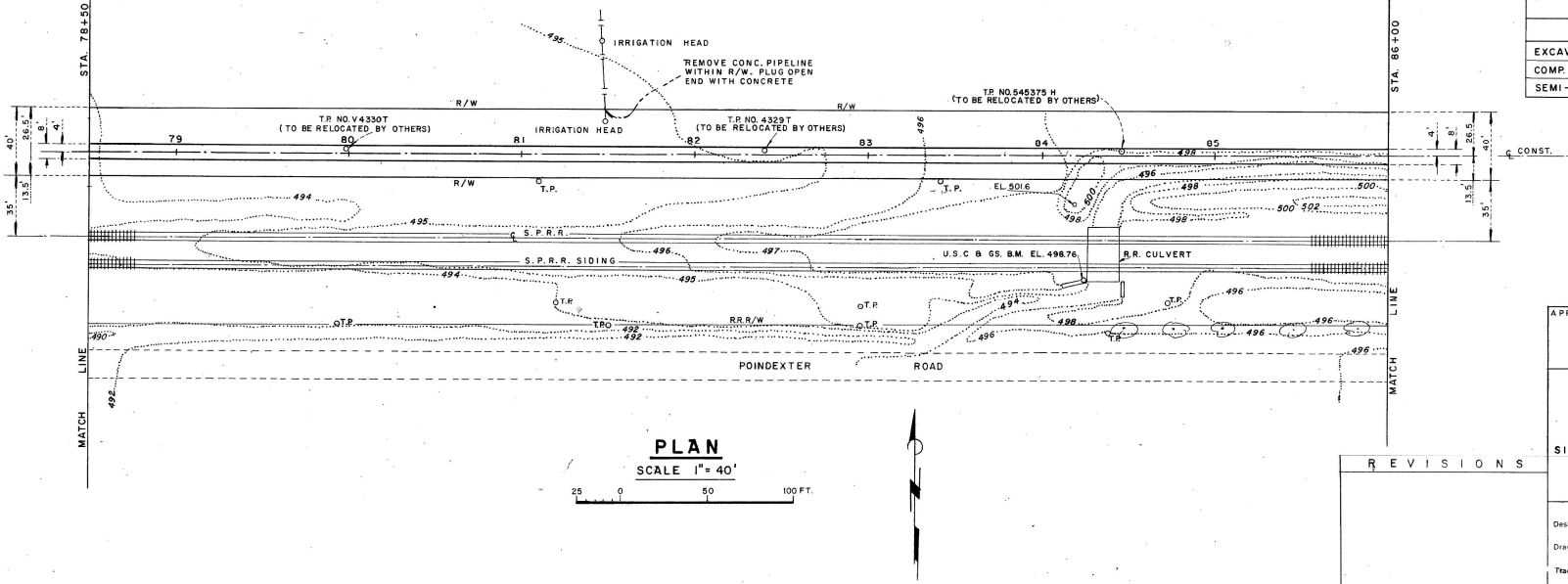


SECTION AT STA. 84+30
SCALE 1"=10'



SECTION AT STA. 80+00
SCALE 1"=10'

5 0 10 20



PLAN
SCALE 1"= 40'

25 0 50 100 FT.

PRINCIPAL EARTHWORK QUANTITIES	
STATION 78+00 TO STATION 86+00	
EXCAVATION, CHANNEL & BOX CULVERTS	2,488 C.Y.
COMP FILL & BACKFILL, CHANNEL & BOX CULVERTS	375 C.Y.
SEMI-COMPACTED FILL	466 C.Y.

REVISIONS

AS BUILT

APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER-MANAGER

WALNUT CANYON CHANNEL

PLAN, PROFILE & SECTIONS
STA. 78+50 TO STA. 86+00

CALLEGUAS CREEK W.P.P.

SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

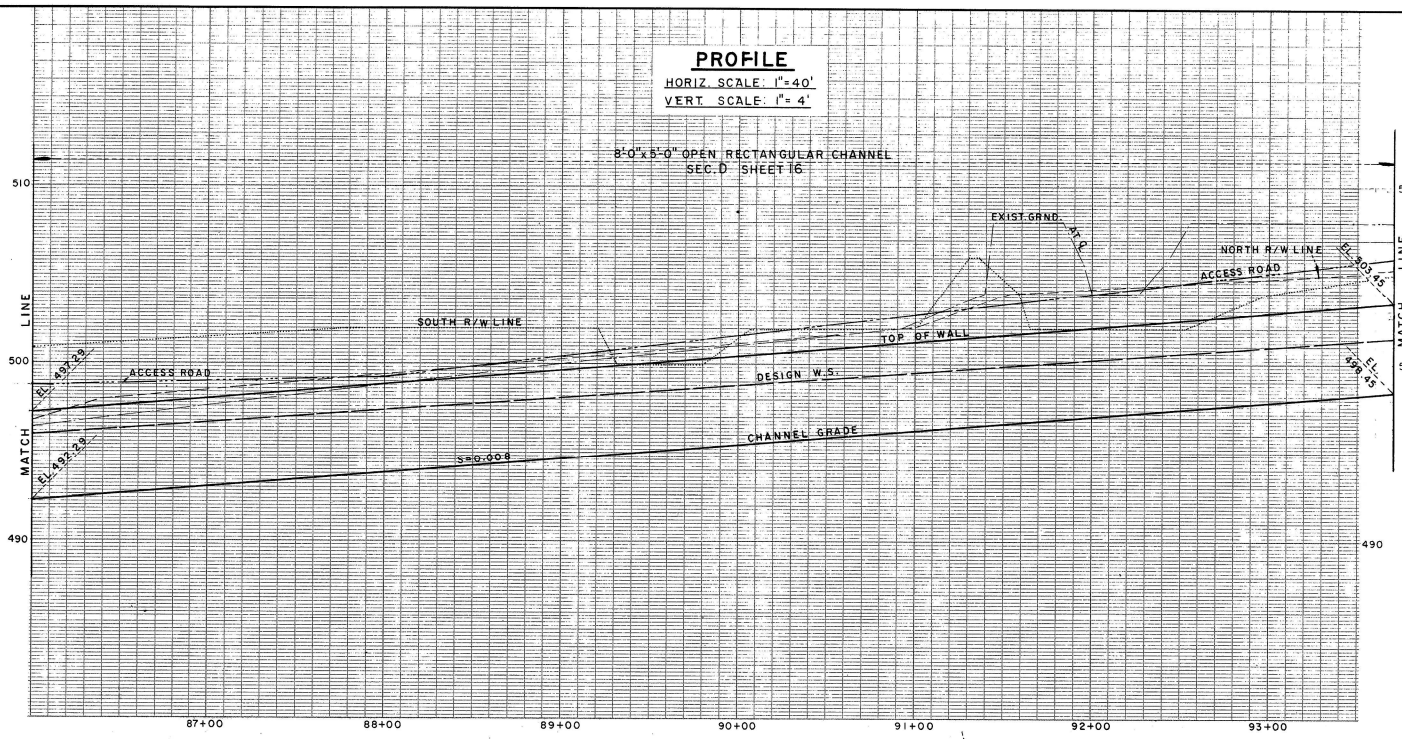
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

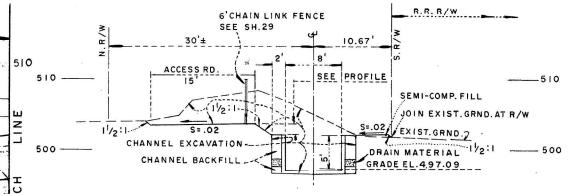
	Date		
Designed M.A.T.	10/61	Approved by W.H. Payne	
Drawn J.R. & C.E.R.	12/61-3/62	Title FOR STATE CONSERVATION ENGINEER	
Traced J.R. & C.E.R.	12/61-3/62	APPROVED BY J.H. Marcus acting	
Checked W.H.P. & C.F.B.	3/62	Title HEAD & W.P. UNIT	
		Sheet No. 11 of 33	Drawing No. 7-E-15518

M-3688

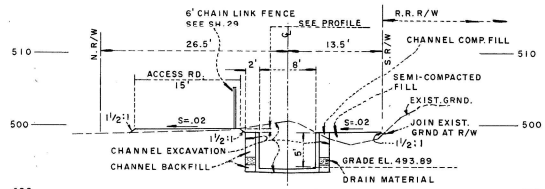
Y-3-124

Y-3-124



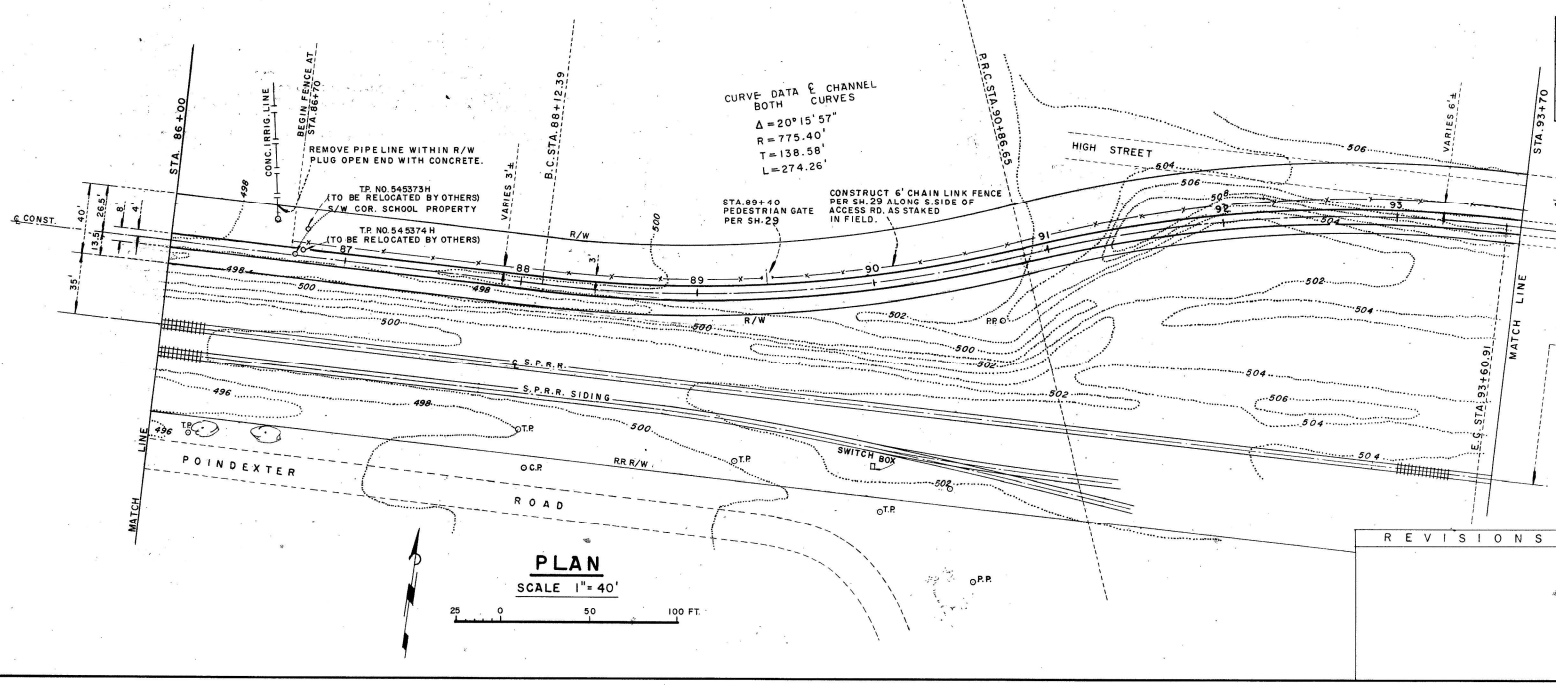


SECTION AT STA. 92+00
SCALE 1"=10'



SECTION AT STA. 88+00
SCALE 1"=10'

PRINCIPAL EARTHWORK QUANTITIES	
STATION 86+00 TO STATION 93+50	
EXCAVATION, CHANNEL & BOX CULVERTS	2,936 C.Y.
COMP. FILL & BACKFILL, CHANNEL & BOX CULVERTS	385 C.Y.
SEMI-COMPACTED FILL	128 C.Y.



AS BUILT

APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER - MANAGER

WALNUT CANYON CHANNEL
PLAN, PROFILE & SECTIONS
STA. 86+00 TO STA. 93+70
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

REVISIONS

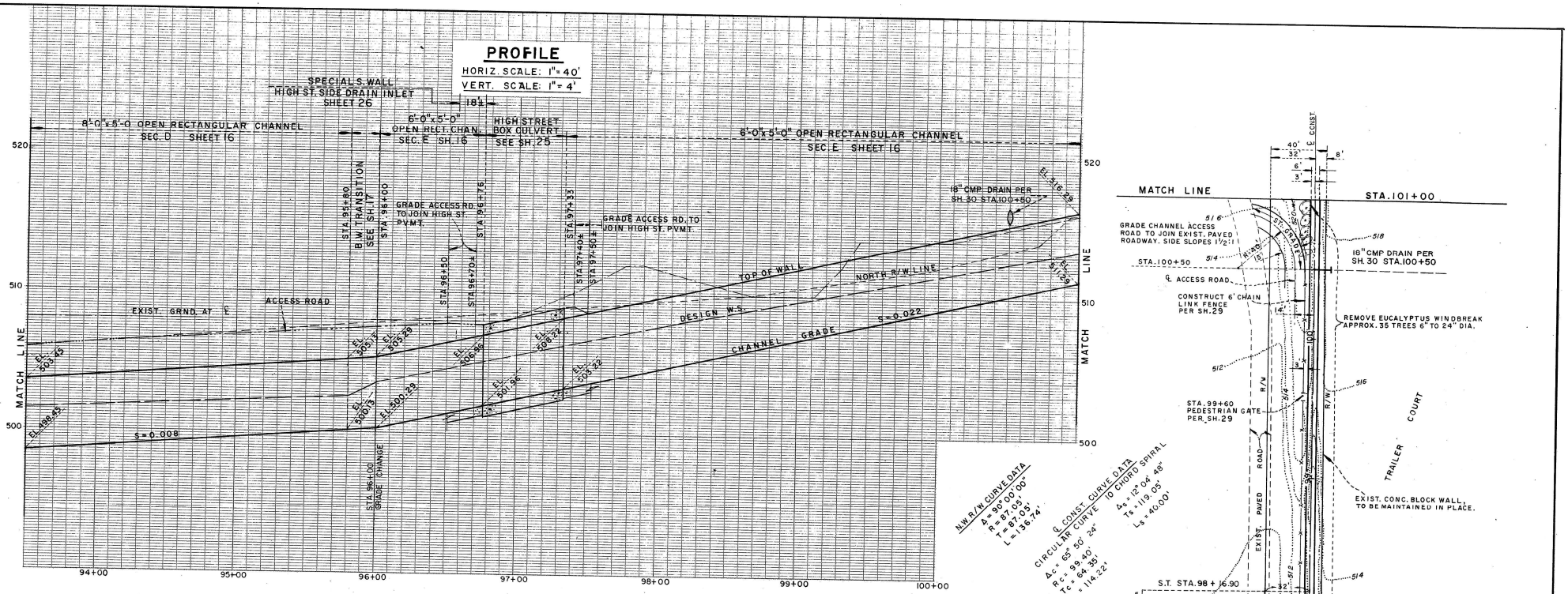
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

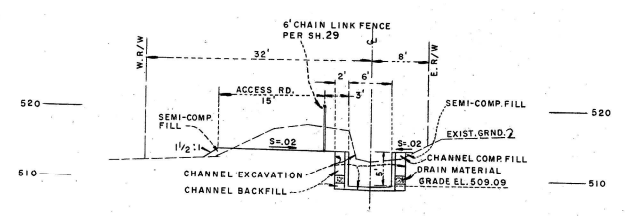
		Date	
Designed	M.A.T.	10/61	Approved by W. H. Payne
Drawn	J.R. & C.E.R.	12/61-3/62	Title FOR STATE CONSERVATION ENGINEER
Traced	J.R. & C.E.R.	12/61-3/62	APPROVED BY [signature]
Checked	W.H.P. & C.F.B.	3/62	Title HEAD E. & W.P. UNIT
			Sheet No. 12 of 33
			Drawing No. 7-E-15518

M-3688

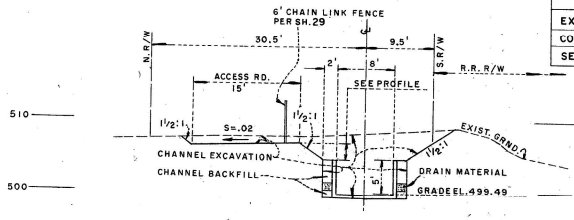
Y-3-125

Y-3-125



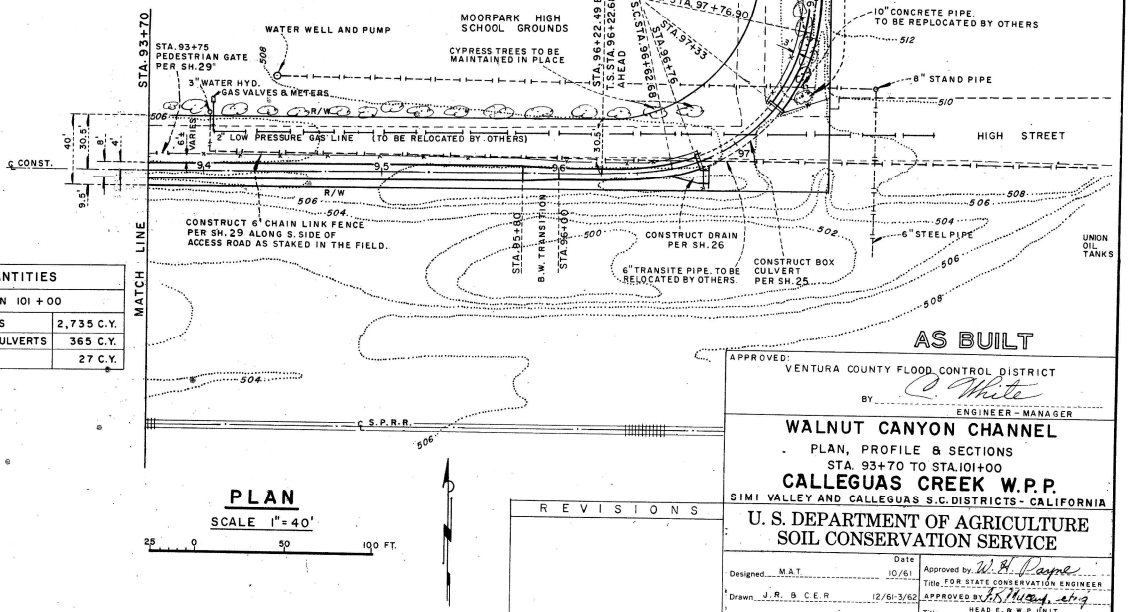


SECTION AT STA. 100+00
SCALE 1"=10'



SECTION AT STA. 95+00
SCALE 1"=10'

PRINCIPAL EARTHWORK QUANTITIES	
STATION 93+50 TO STATION 101+00	
EXCAVATION, CHANNEL & BOX CULVERTS	2,735 C.Y.
COMP. FILL & BACKFILL, CHANNEL & BOX CULVERTS	365 C.Y.
SEMI-COMPACTED FILL	27 C.Y.



PLAN
SCALE 1"= 40'
25 0 50 100 FT.

AS BUILT

APPROVED: VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER - MANAGER

WALNUT CANYON CHANNEL
PLAN, PROFILE & SECTIONS
STA. 93+70 TO STA. 101+00
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

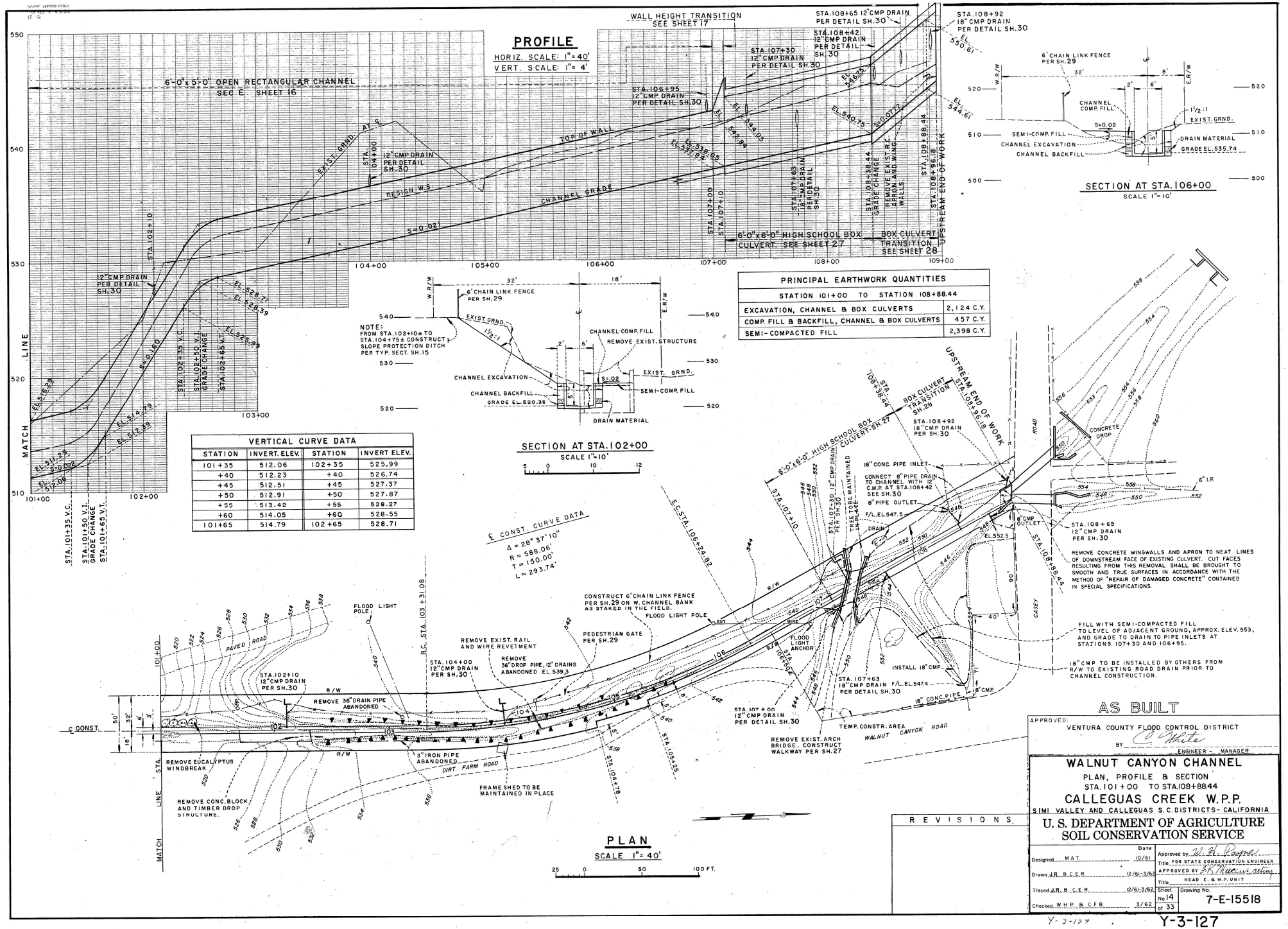
REVISIONS

		Date	
Designed	M.A.T.	10/61	Approved by W. H. Pagan
Drawn	J.R. & C.E.R.	12/61-3/62	Title FOR STATE CONSERVATION ENGINEER
Traced	J.R. & C.E.R.	12/61-3/62	APPROVED BY J.B. Hoag, Jr.
Checked	W.H.P. & C.F.B.	3/62	Title HEAD E. & W.P. UNIT
			Sheet No. 13 of 33
			Drawing No. 7-E-15518

M-3688

Y-3-126

Y-3-126



PRINCIPAL EARTHWORK QUANTITIES	
STATION 101+00 TO STATION 108+88.44	
EXCAVATION, CHANNEL & BOX CULVERTS	2,124 C.Y.
COMP. FILL & BACKFILL, CHANNEL & BOX CULVERTS	457 C.Y.
SEMI-COMPACTED FILL	2,398 C.Y.

VERTICAL CURVE DATA			
STATION	INVERT. ELEV.	STATION	INVERT ELEV.
101+35	512.06	102+35	525.99
+40	512.23	+40	526.74
+45	512.51	+45	527.37
+50	512.91	+50	527.87
+55	513.42	+55	528.27
+60	514.05	+60	528.55
101+65	514.79	102+65	528.71

℄ CONST. CURVE DATA
Δ = 28° 37' 10"
R = 588.06'
T = 150.00'
L = 293.74'

AS BUILT

APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER - MANAGER

WALNUT CANYON CHANNEL
PLAN, PROFILE & SECTION
STA. 101+00 TO STA. 108+88.44
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

	Date
Designed MAT	10/61
Drawn J.R. & C.E.R.	12/61-3/62
Traced J.R. & C.E.B.	12/61-3/62
Checked W.H.P. & C.F.B.	3/62

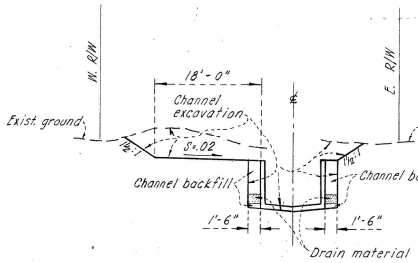
Approved by W. H. Payne
Title FOR STATE CONSERVATION ENGINEER
APPROVED BY J. R. Williams, acting
Title HEAD E. & W.P. UNIT
Sheet No 14 of 33
Drawing No. 7-E-15518

REVISIONS

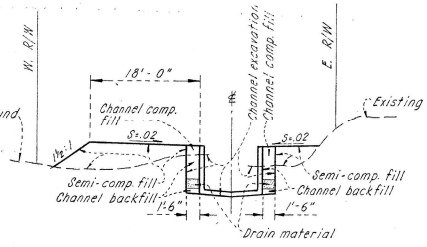
M-3688

Y-3-127

Y-3-127

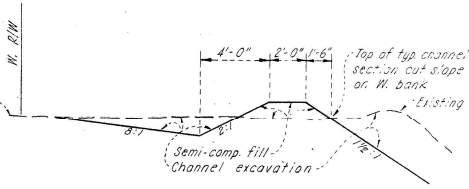


SECTION IN EXCAVATION

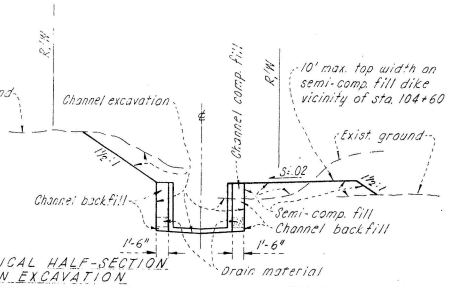


SECTION IN FILL

STATION 97+33 TO STATION 100+50



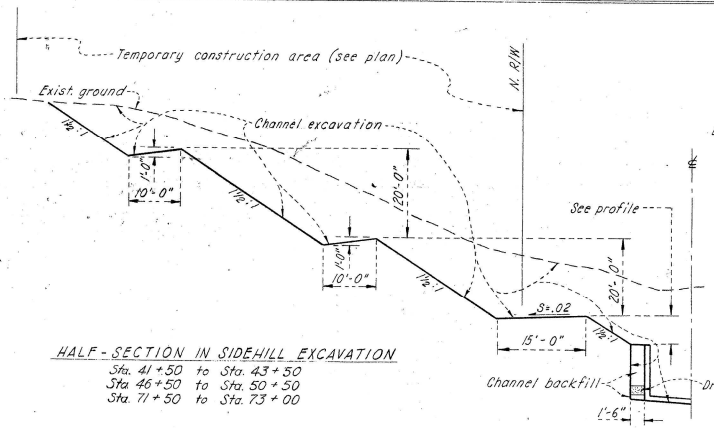
TYPICAL SECTION - SLOPE PROTECTION DITCH
STA. 102+10± TO STA. 104+75±



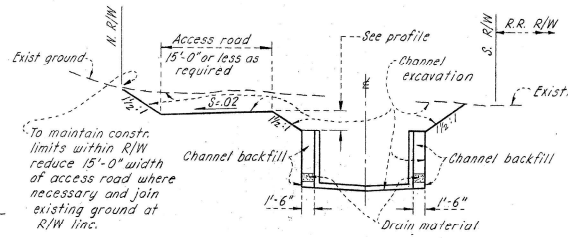
TYPICAL HALF-SECTION IN EXCAVATION
(See also section showing slope protection ditch at left)

TYPICAL HALF-SECTION IN FILL

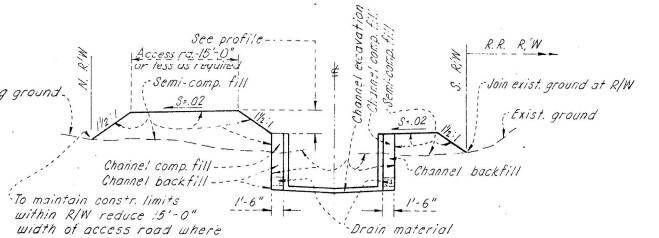
STATION 100+50 TO STATION 107+10



HALF-SECTION IN SIDEHILL EXCAVATION
Sta. 41+50 to Sta. 43+50
Sta. 46+50 to Sta. 50+50
Sta. 71+50 to Sta. 73+00

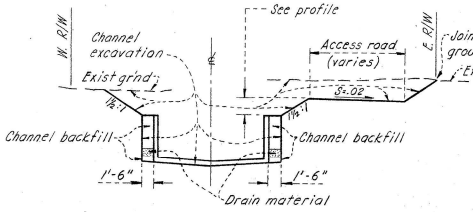


SECTION IN EXCAVATION
(See also half-section at left)

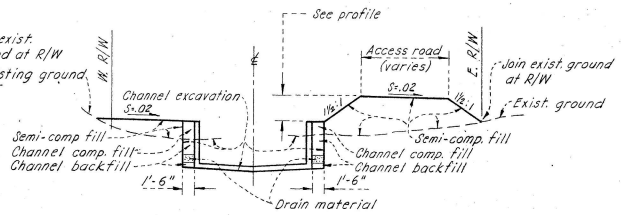


SECTION IN FILL

STATION 30+84 TO STATION 96+76



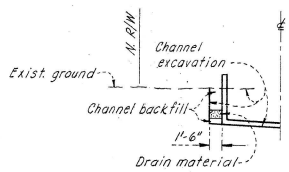
SECTION IN EXCAVATION



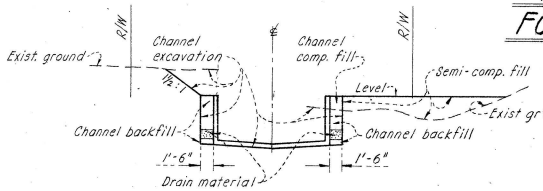
SECTION IN FILL

STATION 18+00± TO STATION 29+65

HYDRAULIC ELEMENTS							
STATIONS	SECTION	SLOPE	Q c.f.s.	D/E f.t.	n	D/2 f.t.	Vn ft/sec.
3+43 to 29+45	12'-0" x 5'-0"	0.0047	590	4.23	.014	3.83	12.84
29+45 to 29+65	Transition	0.0047	590	Varies	.014	Varies	Varies
29+65 to 30+84	10'-0" x 8'-0"	0.0051	590	4.77	.014	4.42	13.35
30+84 to 44+45	10'-0" x 6'-0"	0.0051	590	4.77	.014	4.42	13.35
46+13 to 69+60	10'-0" x 5'-0"	0.0054	440	3.92	.014	3.50	12.37
69+60 to 69+80	Transition	0.0054	440	Varies	.014	Varies	Varies
69+80 to 83+00	8'-0" x 5'-0"	0.0074	440	4.55	.014	3.85	14.29
83+00 to 95+80	8'-0" x 5'-0"	0.0089	440	4.55	.014	3.74	14.71
95+80 to 96+00	Transition	0.0080	440	Varies	.014	Varies	Varies
96+00 to 101+35	6'-0" x 5'-0"	0.022	440	5.52	.014	3.40	21.57
101+65 to 102+35	6'-0" x 5'-0"	0.16	440	5.52	.014	1.65	44.44
102+65 to 107+10	6'-0" x 5'-0"	0.021	440	5.52	.014	3.47	21.13
107+10 to 108+38.44	6'-0" x 6'-0"	0.021	440	5.52	.014	3.47	21.13
108+38.44 to 108+88.44	Var. B.W. x 6'-0"	0.0772	440	Varies	.014	Varies	Varies



HALF-SECTION AT NORTH CHANNEL WALL
STA. 5+00± TO 6+20± & STA. 7+50± TO 17+50±



STATION 3+43 TO STATION 18+00±

(See also half-section at left)

TYPICAL EARTHWORK LINES & LIMITS FOR OPEN RECTANGULAR CHANNEL

NOT TO SCALE

NOTE :
For earthwork lines and limits at box culverts, see earthwork diagrams on the box culvert detail drawings.

REVISIONS

AS BUILT

APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY _____
ENGINEER - MANAGER

WALNUT CANYON CHANNEL
TYPICAL CROSS-SECTIONS
HYDRAULIC ELEMENTS
CALLEGUAS CREEK W. P. P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

		Date
Designed	C.F.B. & M.A.T.	3/62
Drawn	T.C.T.	3/62
Traced	T.C.T.	3/62
Checked	W.H.P. & H.W.H.	3/62

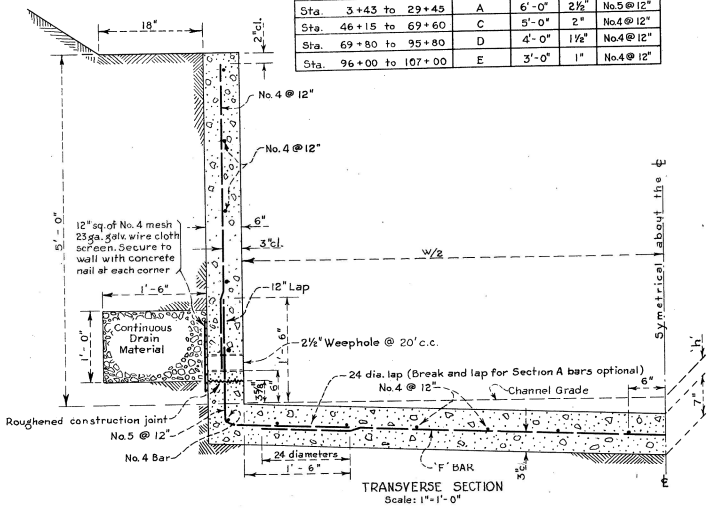
Approved by W. H. Rogers
Title FOR STATE CONSERVATION ENGINEER
APPROVED BY: F. R. Mercer acting
Title HEAD, E. & W. P. UNIT
Sheet No. 15 of 33
Drawing No. 7-E-15518

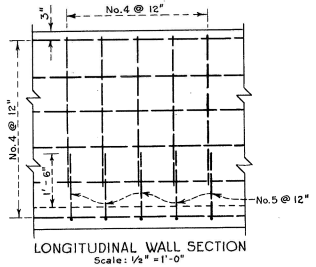
L 501 SCS-PORTLAND OREG 1962 M-3688

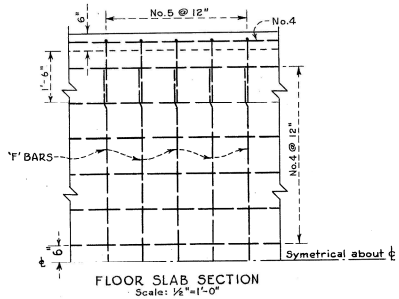
Y-3-128

Y-3-128

REACH	SECTION	w/2	h	'F' BARS
Sta. 3+43 to 29+45	A	6'-0"	2½"	No.5@12"
Sta. 46+15 to 69+60	C	5'-0"	2"	No.4@12"
Sta. 69+80 to 95+80	D	4'-0"	1½"	No.4@12"
Sta. 96+00 to 107+00	E	3'-0"	1"	No.4@12"



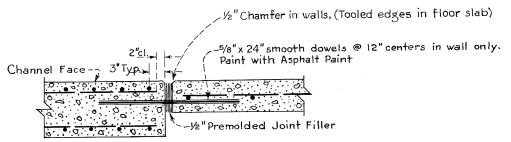




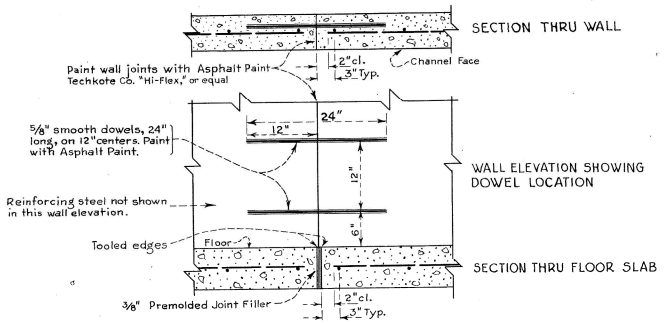
TYPICAL CHANNEL SECTION

STRUCTURAL NOTES

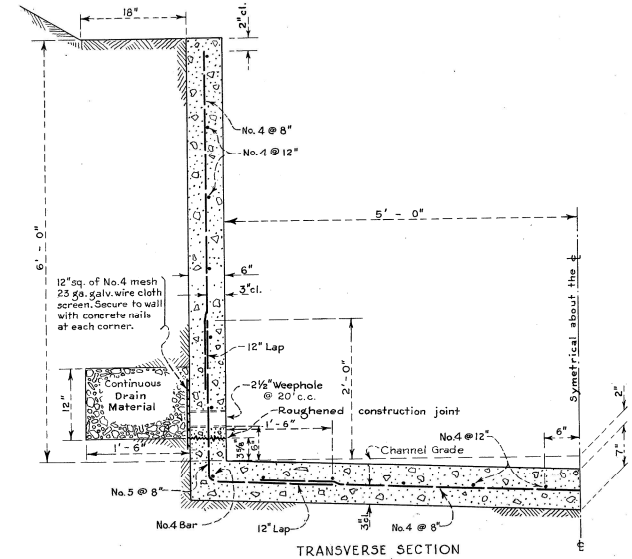
1. All reinforcing bars shall be intermediate grade billet steel, ASTM A15-58T, with deformations conforming to ASTM A305-56T.
2. All bar bends and hooks shall conform to the "Manual of Standard Practice", ACI 315-57.
3. Indicated bar spacing is center to center of bars; bar cover is clear distance between surface of bar and face of concrete.
4. All reinforcing bars shall terminate 2" from the concrete surfaces unless otherwise shown.
5. All splices in bar reinforcement shall be lapped 24 bar diameters unless otherwise shown.
6. No splices in principal reinforcement, other than shown on the drawings, will be permitted without approval of the engineer.
7. Exposed edges of concrete shall be chamfered or rounded.
8. Longitudinal reinforcement in open channel and box sections, unless otherwise shown, shall be placed parallel to the channel ℄ with spacing measured at right angles or radially thereto.
9. Transverse reinforcement, unless otherwise shown, shall be placed at right angles to the channel ℄ in tangent reaches and radially in curved reaches. In curved reaches, bars in both walls and slabs shall be placed with spacing measured at the channel ℄.
10. Transverse joints, unless otherwise shown, shall be placed at right angles or radially to the channel ℄ and joints in walls and slabs shall be in the same transverse plane.
11. Transverse Joint 'A' shall be used in open channel sections and, except as otherwise shown or approved by the engineer, shall be spaced 50' apart. Spacing shall be reduced where necessary to avoid proximity to pipe inlets or to joints specifically designated on the plans. In no case shall joint spacing be less than 10' nor shall any joint be located within 30" of a pipe inlet.
12. Transverse Joint 'B' shall be used between open channel sections and box culvert sections.
13. Longitudinal construction joints at the base and at the tops of walls shall be cleaned by sandblasting and thoroughly washed prior to placing adjacent concrete.

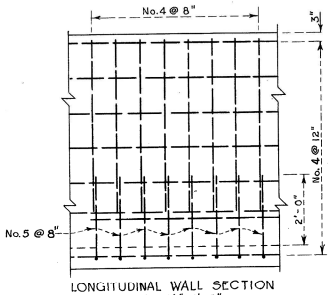


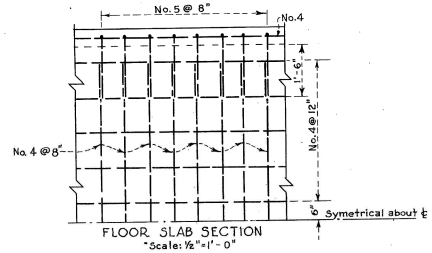
TRANSVERSE CONSTRUCTION JOINT B
IN WALLS AND SLABS



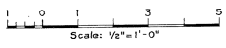
TRANSVERSE CONSTRUCTION JOINT A
Scale: 1" = 1'-0"

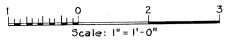






CHANNEL SECTION 'B'
STA. 30 + 94.00 to STA. 43 + 82.00





DESIGN DATA

HORIZONTAL LOADINGS, E.F.P. TO TOP OF WALLS:
Internal - 40#/cu. ft.
Earth Load 58#/cu. ft.

ALLOWABLE STRESSES:
f'_c = 3,000 p.s.i.
f_c = 1,350 p.s.i.
n = 10
f_s = 20,000 p.s.i.

AS BUILT

APPROVED: VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER-MANAGER

WALNUT CANYON CHANNEL
OPEN RECTANGULAR CHANNEL SECTIONS AND STRUCTURAL & STEEL DETAILS
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

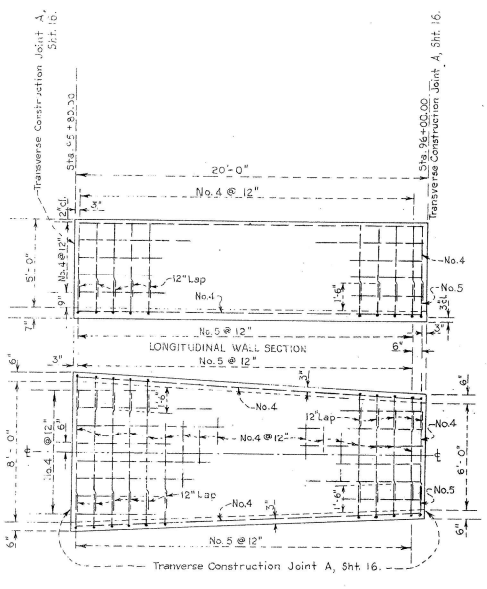
REVISIONS

		DATE	
DESIGNED	M.A.T. & H.W.H.	12/61	APPROVED BY W. H. Hayes, TITLE FOR STATE CONSERVATION ENGINEER
DRAWN	J.R. & W.A.R.	1/62	APPROVED BY T. R. Whitelow, TITLE HEAD E. & W.P. UNIT
TRACED	W.A.R.	3/62	SHEET NO. 16 OF 33
CHECKED	W.H.P. & C.F.B.	3/62	DRAWING NO. 7-E-15518

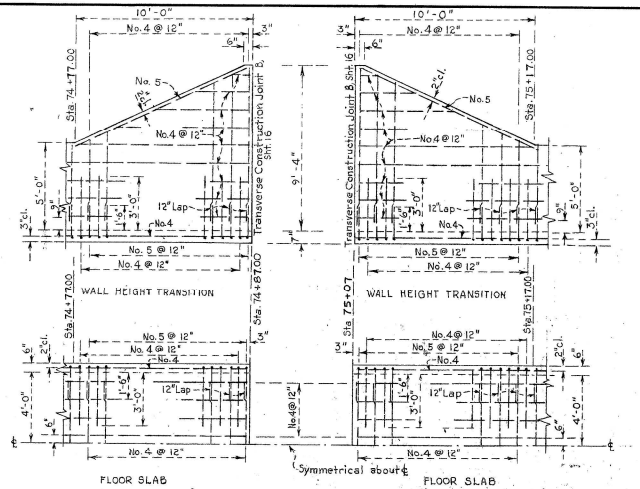
Y-3-129

Y-3-129

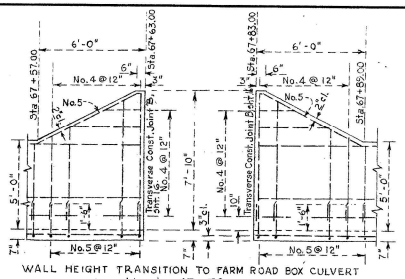
M-3688



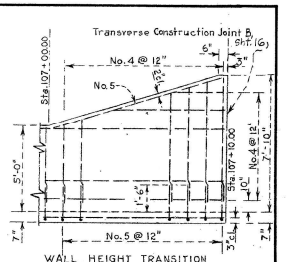
TRANSITION FROM 8' TO 6' WIDTH
Sta. 95+80 to Sta. 96+00



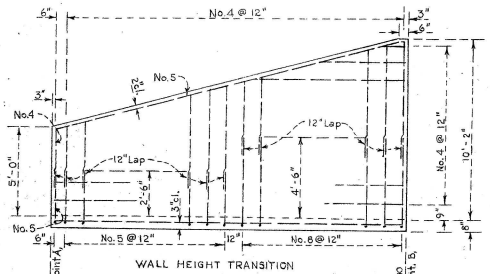
WALL HEIGHT TRANSITION TO FARM ROAD BOX CULVERT
At sta. 74+97



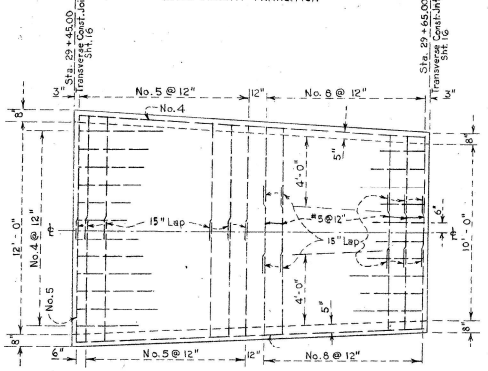
WALL HEIGHT TRANSITION TO FARM ROAD BOX CULVERT
At sta. 67+73
(Typ. open channel sect. C, except as shown)



WALL HEIGHT TRANSITION
TO HIGH SCHOOL BOX CULVERT
(Typ. open channel sect. E, except as shown)

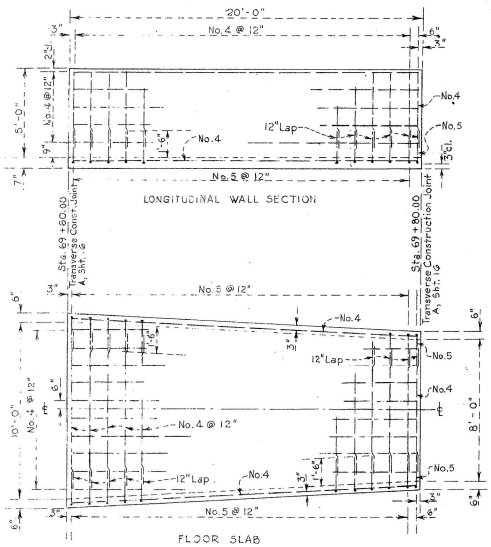


WALL HEIGHT TRANSITION



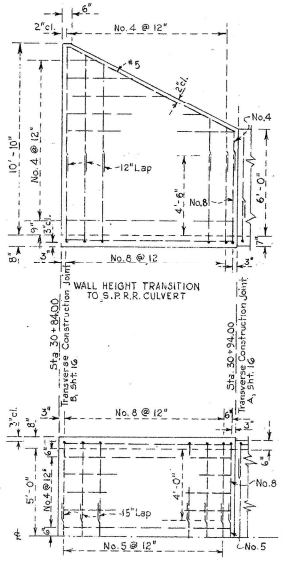
BOTTOM WIDTH TRANSITION

TRANSITION TO S. P. R. R. CULVERT
Sta. 29+45 to Sta. 29+65

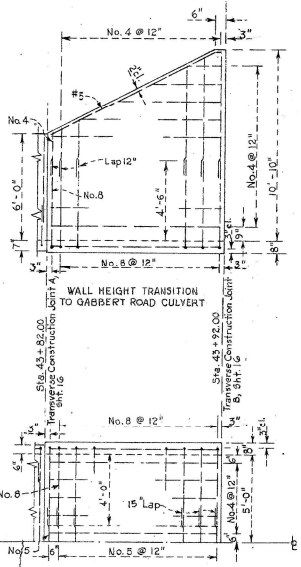


TRANSITION FROM 10' TO 8' WIDTH
Sta. 69+60 to Sta. 69+80

BOTTOM WIDTH TRANSITIONS



Sta. 30+84 to Sta. 30+94



Sta. 43+82 to Sta. 43+92

WALL HEIGHT TRANSITIONS AND FLOOR SLABS

Scale: 1/4" = 1'-0"

AS BUILT

APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER - MANAGER

WALNUT CANYON CHANNEL
TRANSITIONS
BOTTOM WIDTH AND WALL HEIGHT
CALLEGUAS CREEK W. P. P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

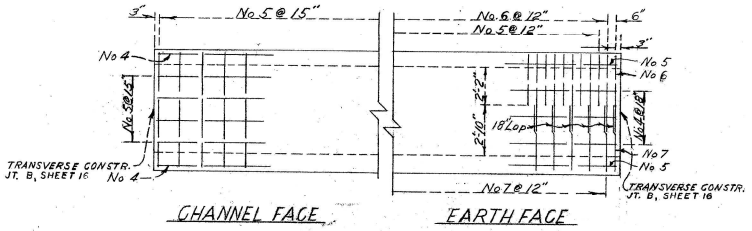
REVISIONS

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

		Date	
Designed	M.A.T.	2/62	Approved by W. A. Harpe
Drawn	J.R. & W.A.R.	3/62	Title FOR STATE CONSERVATION ENGINEER
Traced	W.A.R.	3/62	APPROVED BY A.R. Mucerus
Checked	W.H.P.	3/62	Title HEAD E. & W. P. UNIT
			Sheet No. 17 of 33
			Drawing No. 7-E-15518

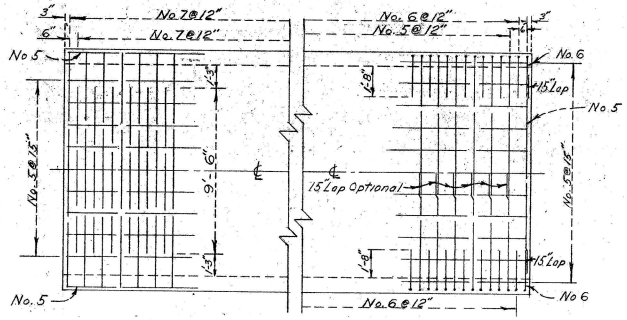
M-3688

Y-3-130



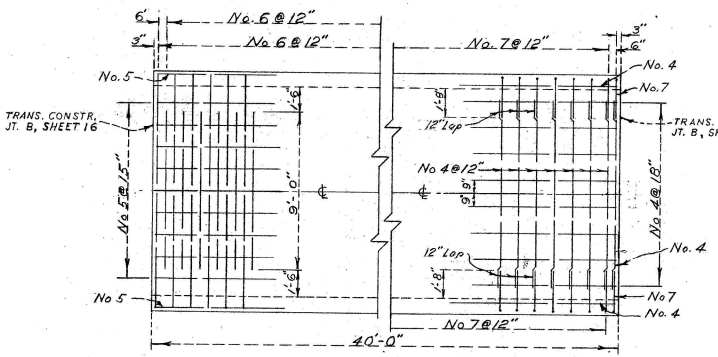
CHANNEL FACE EARTH FACE

WALL ELEVATION



BOTTOM FACE TOP FACE

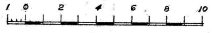
DECK SLAB



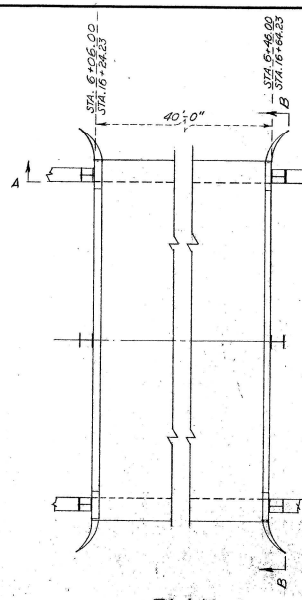
TOP FACE BOTTOM FACE

FLOOR SLAB

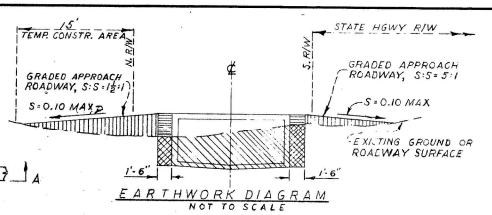
SCALE $\frac{1}{4}$" = 1'



NOTE:
FOR STRUCTURAL NOTES AND DESIGN DATA SEE SHEET 23. FOR GUARD RAIL NOTES SEE SHEET 24.



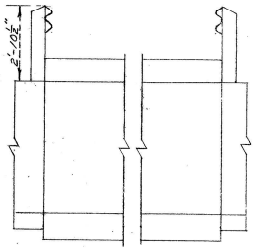
PLAN



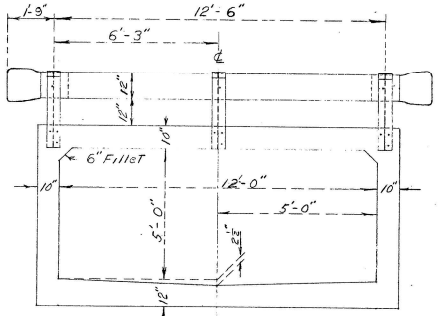
EARTHWORK DIAGRAM

NOT TO SCALE

BOX CULVERT EXCAVATION.
BOX CULVERT BACKFILL.
BOX CULVERT COMPACTED FILL.
SEMI-COMPACTED FILL.

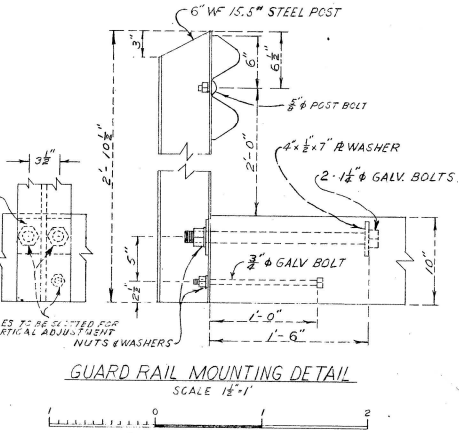


SECTION A-A



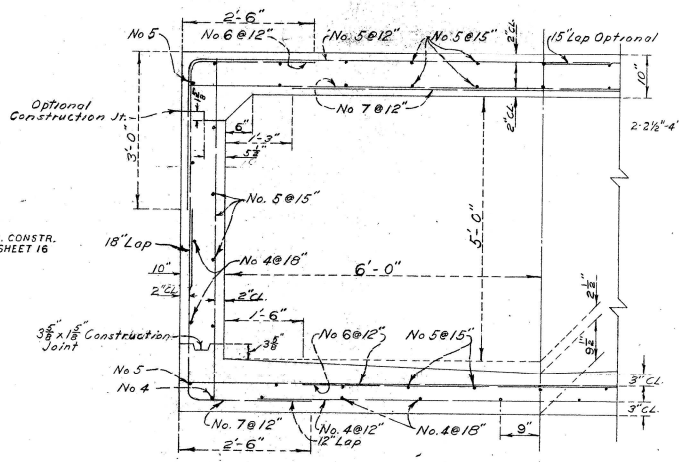
SECTION B-B

SCALE $\frac{3}{8}$" = 1'



GUARD RAIL MOUNTING DETAIL

SCALE 1½" = 1'



HALF-SECTION

SCALE $\frac{3}{8}$" = 1'

AS BUILT

APPROVED
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER - MANAGER

WALNUT CANYON CHANNEL
FARM ROAD BOX CULVERTS
STATIONS 6+26 & 16+44.23
CALLEGUAS CREEK W. P. P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

REVISIONS

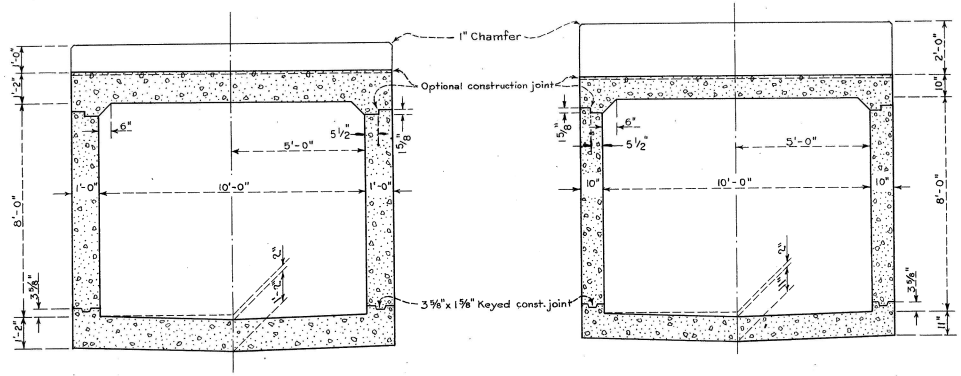
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

		DATE	
DESIGNED	M.A.T. & H.W.H.	12/61	APPROVED BY W. H. Pierce, FOR STATE CONSERVATION ENGINEER
DRAWN	J.R. & J.V.D.	3/62	APPROVED BY R. R. Travis, acting, TITLE HEAD, E. & W.P. UNIT
TRACED	J.V.D.	3/62	SHEET NO. 18 OF 33
CHECKED	W.H.P. & M.A.T.	3/62	DRAWING NO. 7-E-15518

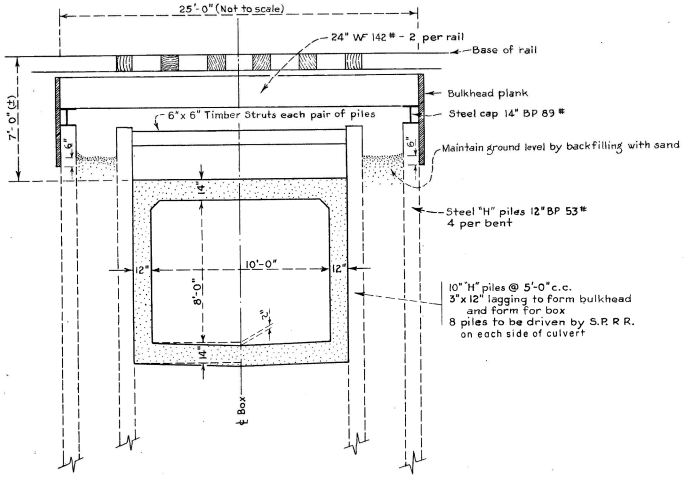
Y-3-131

M33688

Y-3-131

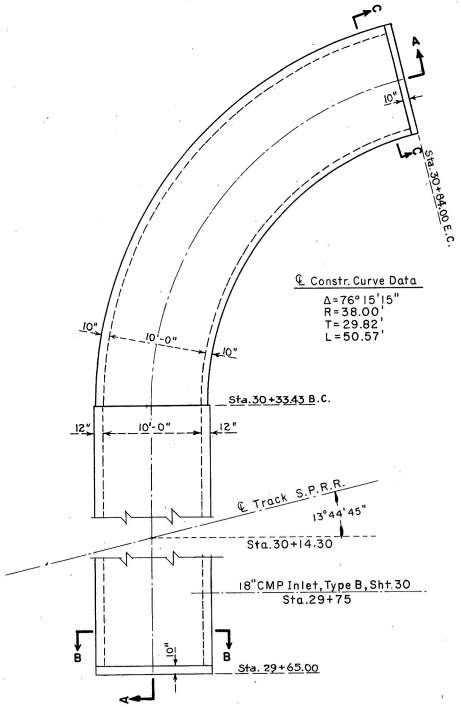


Scale: 3/8" = 1'-0"



TEMPORARY BRIDGE
AND
SHORING FOR CULVERT EXCAVATION

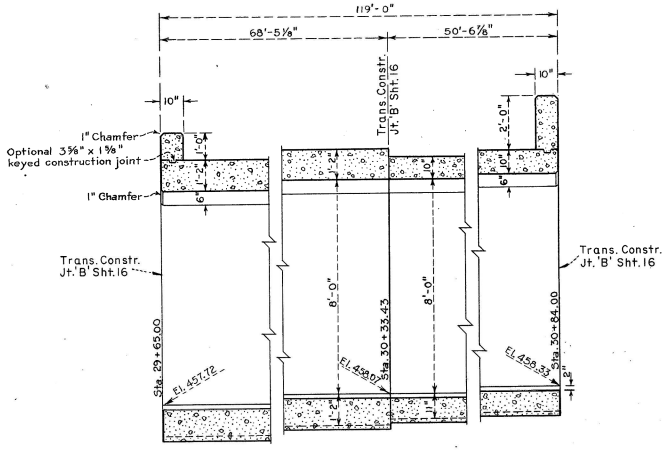
Scale: 1/4" = 1' - 0"



PLAN

Scale: 1/8" = 1'-0"

NOTE: Reinforcing steel not shown on this sheet
See Sheet 20



SECTION A-A

Scale: 3/8" = 1'-0"

GENERAL NOTES

1- The So. Pacific Co. will furnish and drive all piles and will construct and remove the temporary bridge.
2- The track will remain in service at all times.
3- The contractor shall furnish and place struts between each pair of 10" H-piles
4- The contractor shall furnish and place 3" x 12" timber lagging between adjacent 10" H-piles during excavation for the culvert to serve as a bulkhead to retain the earth banks and as an outside form for the culvert.
5- The contractor shall fill outside the 3" x 12" timber lagging with dry sand as required so as to maintain the ground level at least 6" above the bottom of the bridge abutment bulkheads at all times.
6- Upon completion of the culvert the contractor shall remove the struts and lagging above the top of the culvert and place compacted backfill to the bottom of the WF bridge stringers and loose fill to the top of the stringers.
7- For earthwork diagrams and structural notes see Sheet 20.

DESIGN DATA

LIVE LOAD:
Tangent Section – Cooper's E-72
Curved Section – AASHO H20-44
Impact 30%

ALLOWABLE STRESSES:
f'_c = 3000 psi n = 10
f_c = 1350 psi f_s = 20,000 psi

Scale: 1/8" = 1'-0"

Scale: 1/4" = 1'-0"

Scale: 3/8" = 1'-0"

AS BUILT

APPROVED: VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER – MANAGER

WALNUT CANYON CHANNEL
S.P.R.R. CULVERT · STRUCTURAL DETAILS
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

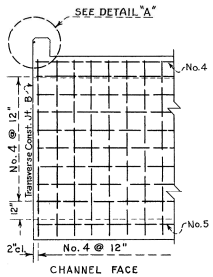
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

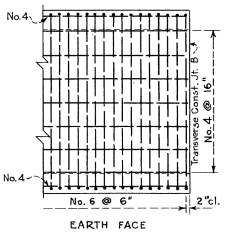
REVISIONS

		DATE	
DESIGNED	M A T	10/61	APPROVED BY W. A. Payne
DRAWN	J R & W A R	3/62	TITLE FOR STATE CONSERVATION ENGINEER
TRACED	W A R	3/62	APPROVED BY H. Wilbur Nelson
CHK'D	W H P & C F B	3/62	TITLE HEAD E & W P UNIT
			SHEET NO. 19 OF 33
			DRAWING NO. 7-E-15518

Y-3-132

Y-3-132

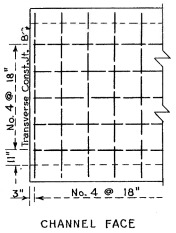


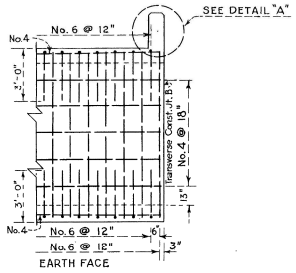


STRAIGHT WALL ELEVATION D - D

Scale: 1/4" = 1' - 0"

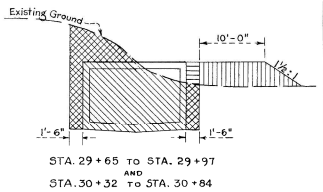
NOTE: 18" C.M.P. Inlet @ Sta. 29+75, East Wall, is not shown. *See Sheet 10*



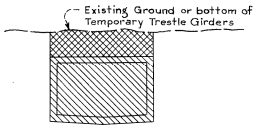


CURVED WALL ELEVATION E-E

Scale: 1/4" = 1'-0"



STA. 29+65 TO STA. 29+97
AND
STA. 30+32 TO STA. 30+84



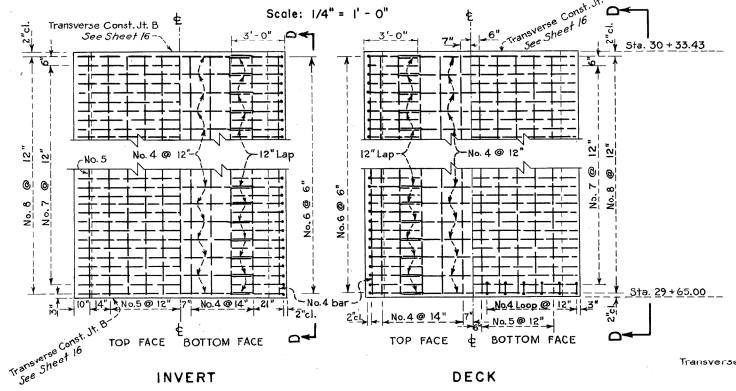
STA. 29+97 TO STA. 30+32

LEGEND

- R.R. Culvert Excavation
- R.R. Culvert Backfill
- R.R. Culvert Compacted Fill
- Semi-compacted Fill

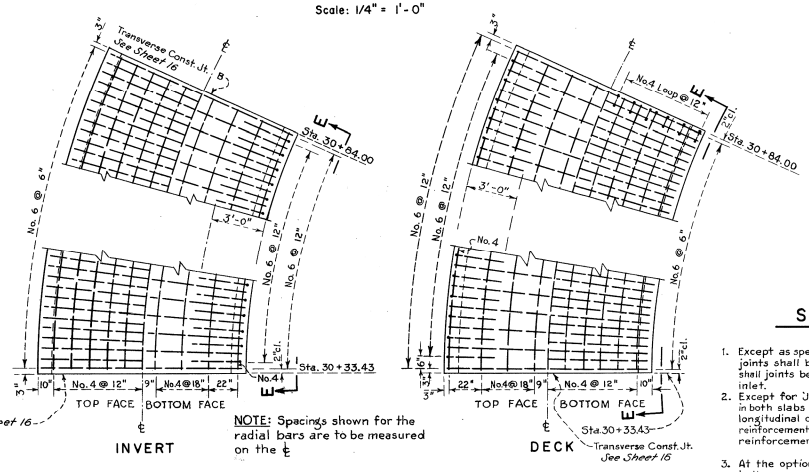
EARTHWORK DIAGRAMS

NOT TO SCALE



PLAN (STA. 29+65.00 to STA. 30+33.43)

Scale: 1/4" = 1' - 0"



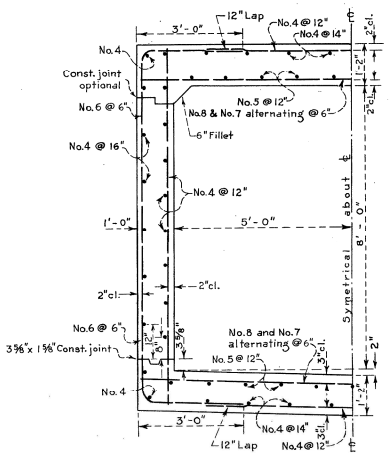
Transverse Const. Jt. B *See Sheet 16*

NOTE: Spacings shown for the radial bars are to be measured on the ℄

PLAN (STA. 30+33.43 to STA. 30+84.00)

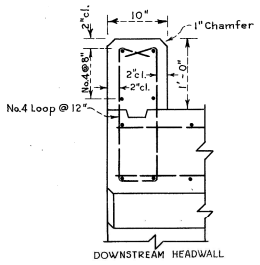
STRUCTURAL NOTES

1. Except as specifically shown, the location of transverse construction joints shall be optional with the contractor. In no case, however, shall joints be placed less than 10' apart, or within 30" of any pipe inlet.
2. Except for Joint B' as shown, all other transverse construction joints in both slabs and walls shall be keyed joints as detailed for longitudinal construction joints at base of walls. Transverse reinforcement shall be placed 3" from the joint, and longitudinal reinforcement shall be continuous through the joint.
3. At the option of the contractor, walls and top slab may be placed in the same pour, after placing wall concrete, a 2 hour time delay will be required before top slab concrete is placed over it.
4. For additional structural notes, *see Sheet 16*



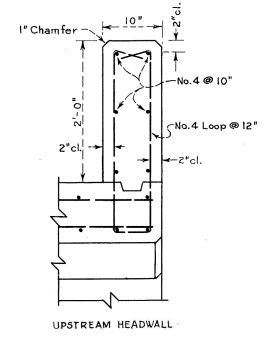
½ SECTION - STEEL DETAILS
(STA. 29+65.00 to STA. 30+33.43)

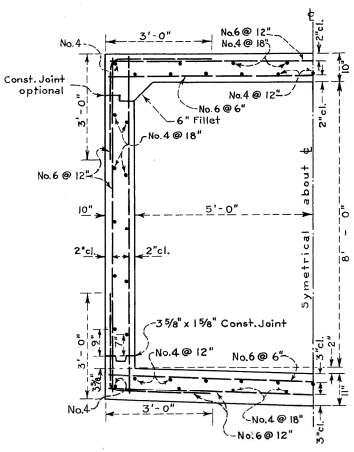
Scale: 1/2" = 1' - 0"



DETAIL "A"

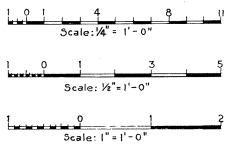
Scale: 1" = 1' - 0"





½ SECTION - STEEL DETAILS
(STA. 30+33.43 to STA. 30+84.00)

Scale: 1/2" = 1' - 0"



AS BUILT

APPROVED: VENTURA COUNTY FLOOD CONTROL DISTRICT

BY C. White ENGINEER-MANAGER

WALNUT CANYON CHANNEL

S. P. R. R. CULVERT · STEEL DETAILS

CALLEGUAS CREEK W.P.P.

SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

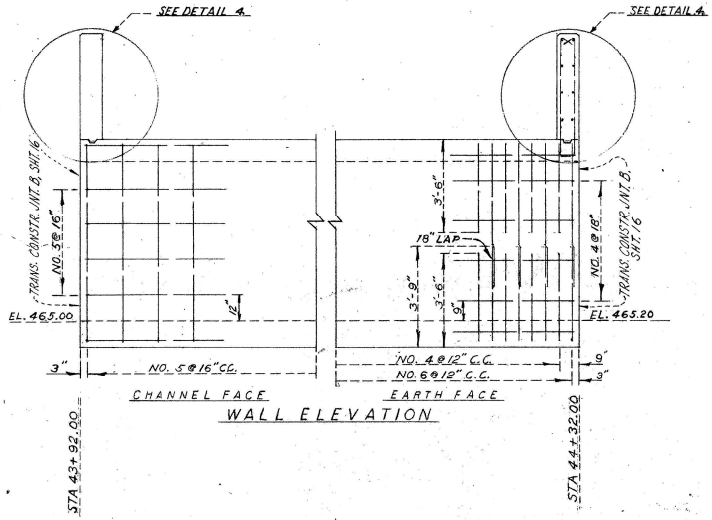
DESIGNED M.A.T.	DATE 10/61	APPROVED BY W. H. Payne	
DRAWN J.R.B. W.A.R.	3/62	TITLE FOR STATE CONSERVATION ENGINEER	
TRACED W.A.R.	3/62	APPROVED H. Wuelle, acting	
CHECKED W.H.P. & C.F.B.	3/62	TITLE HEAD E. & W.P. UNIT	
		SHEET NO. 20 OF 33	DRAWING NO. 7-E-15518

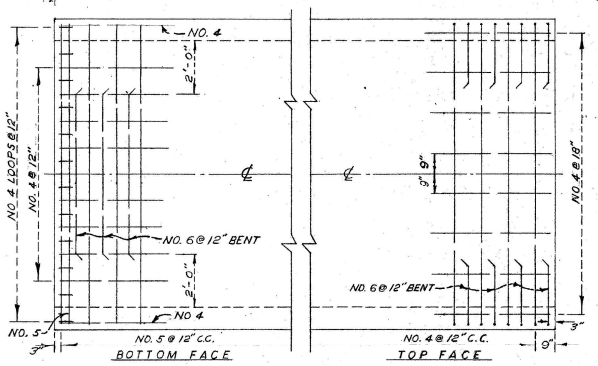
REVISIONS

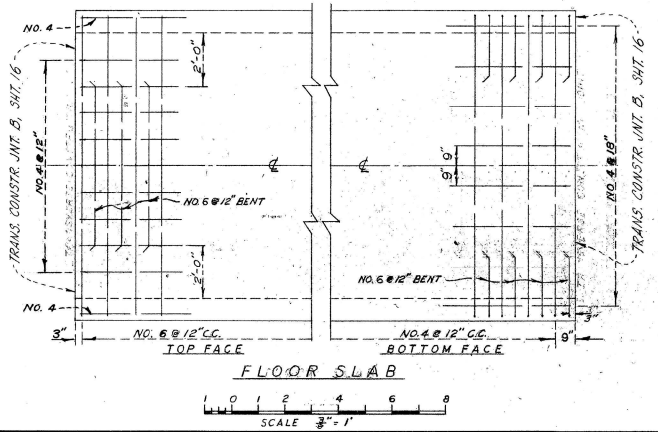
M-3688

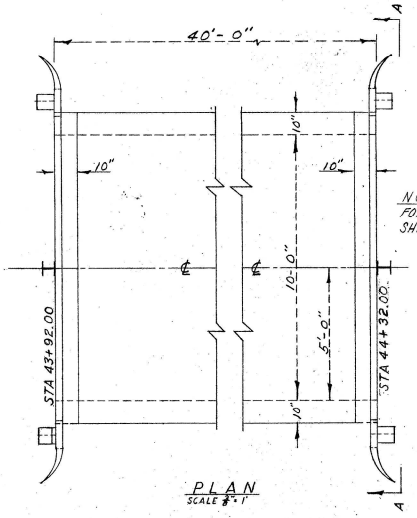
Y-3-133

Y-3-133

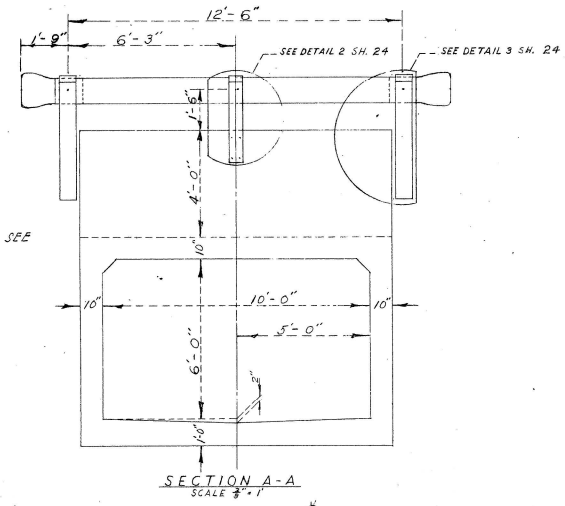


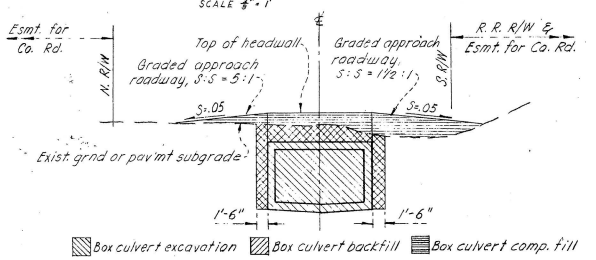






NOTE :
FOR GUARDRAIL NOTES, SEE SHEET 24.



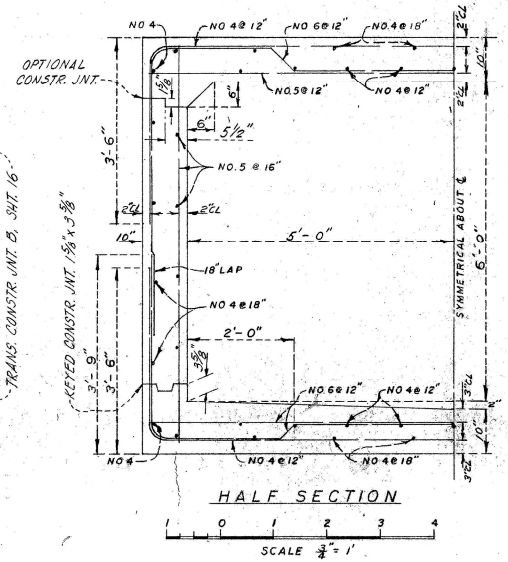


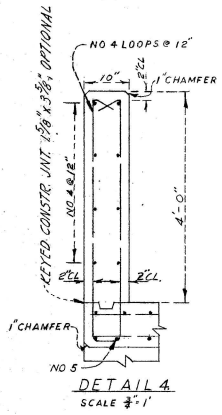
EARTHWORK DIAGRAM
NOT TO SCALE

DESIGN DATA

LIVE LOAD :
AASHO H 20-44
IMPACT 30%

ALLOWABLE STRESSES :
f'_c = 3000 psi n = 10
f_c = 1350 psi f_s = 20,000 psi





STRUCTURAL NOTES

1. Except as specifically shown, the location of transverse construction joints shall be optional with the contractor, but in no case shall joints be placed less than 10' apart.
2. Except for joint "B", all other transverse construction joints in both slabs and walls shall be keyed joints as detailed for longitudinal construction joints at base of walls. Transverse reinforcement shall be placed 3" from the joint & longitudinal reinforcement shall be continuous thru the joint.
3. At the option of the contractor, walls & top slab may be placed in the same pour; after placing wall concrete a 2-hour time delay will be required before top slab concrete is placed over it.
4. For additional structural notes, see sht. 16.

AS BUILT

APPROVED
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER - MANAGER

WALNUT CANYON CHANNEL
GABBERT ROAD BOX CULVERT
CALLEGUAS CREEK W. P. P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

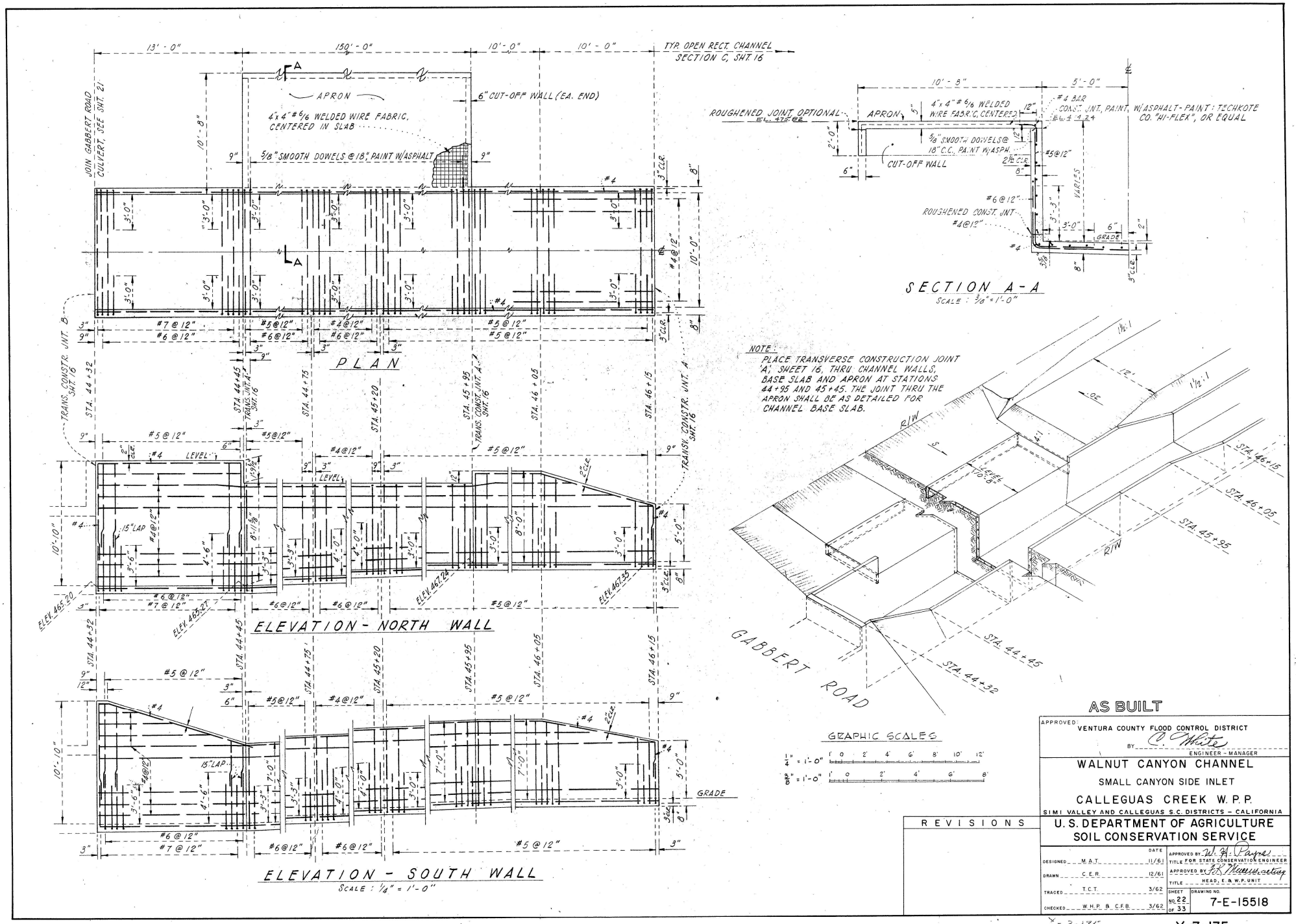
REVISIONS

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

DESIGNED M.A.T. & H.W.H.	DATE 12/61	APPROVED BY W. H. Payne	
DRAWN J.R.B. & J.V.D.	1/62	TITLE FOR STATE CONSERVATIONIST	
TRACED J.V.D.	3/62	APPROVED BY J. K. Sherrill acting	
CHECKED W.H.P. & C.F.B.	3/62	TITLE HEAD, E. & W.P. UNIT	
		SHEET NO. 21 OF 33	DRAWING NO. 7-E-15518

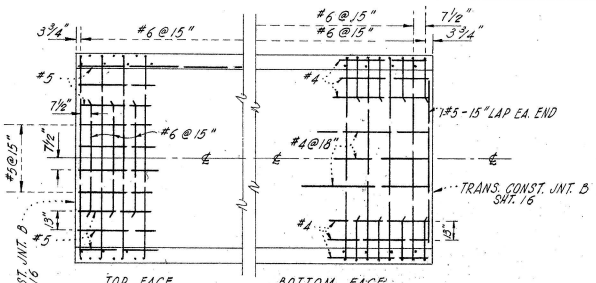
Y-3-134

USDA-SCS PORTLAND, ORE. 1962 M-3688

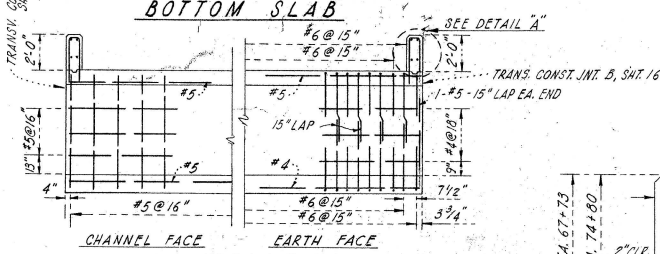


TYP. OPEN RECT. CHANNEL SECTION C, SHT. 16
JOIN GABBERT ROAD CULVERT, SEE SHT. 21
APRON
6" CUT-OFF WALL (EA. END)
4"x4" #6/6 WELDED WIRE FABRIC, CENTERED IN SLAB
5/8" SMOOTH DOWELS @ 18", PAINT W/ASPHALT
PLAN
TRANS. CONSTR. JNT. B SHT. 16
TRANS. JNT. A SHT. 16
TRANS. CONST. JNT. A SHT. 16
TRANSV. CONSTR. JNT. A SHT. 16
STA. 44+32
STA. 44+45
STA. 44+75
STA. 45+20
STA. 45+95
STA. 46+05
STA. 46+15
LEVEL
15" LAP
ELEV. 465.20
ELEV. 465.27
ELEV. 467.24
ELEV. 467.35
ELEVATION - NORTH WALL
GRADE
ELEVATION - SOUTH WALL
SCALE : 1/4" = 1'-0"
ROUGHENED JOINT OPTIONAL
APRON
4"x4" #6/6 WELDED WIRE FABRIC, CENTERED
#4 BAR CONST. JNT., PAINT, W/ASPHALT-PAINT: TECHKOTE CO. "HI-FLEX", OR EQUAL
5/8" SMOOTH DOWELS @ 18" C.C. PAINT W/ASPH.
CUT-OFF WALL
ROUGHENED CONST. JNT.
VARIES
SECTION A-A
SCALE : 3/8" = 1'-0"
NOTE:
PLACE TRANSVERSE CONSTRUCTION JOINT 'A', SHEET 16, THRU CHANNEL WALLS, BASE SLAB AND APRON AT STATIONS 44+95 AND 45+45. THE JOINT THRU THE APRON SHALL BE AS DETAILED FOR CHANNEL BASE SLAB.
GABBERT ROAD
GRAPHIC SCALES
1/4" = 1'-0"
3/8" = 1'-0"
AS BUILT
APPROVED: VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER - MANAGER
WALNUT CANYON CHANNEL
SMALL CANYON SIDE INLET
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA
REVISIONS
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DESIGNED M.A.T. 11/61
DRAWN C.E.R. 12/61
TRACED T.C.T. 3/62
CHECKED W.H.P. & C.F.B. 3/62
APPROVED BY W. H. Payne
TITLE FOR STATE CONSERVATION ENGINEER
APPROVED BY F. K. Meeuwsen
TITLE HEAD, E. & W.P. UNIT
SHEET NO. 22 OF 33
DRAWING NO. 7-E-15518
Y-3-135
M-3688

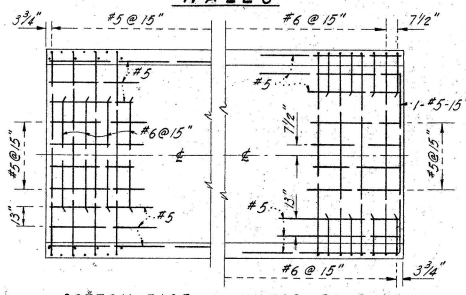
Y-3-135



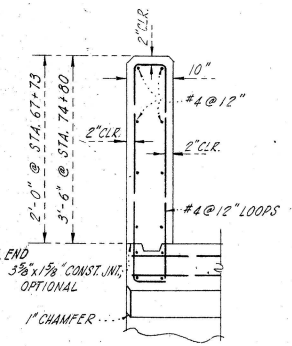
BOTTOM SLAB



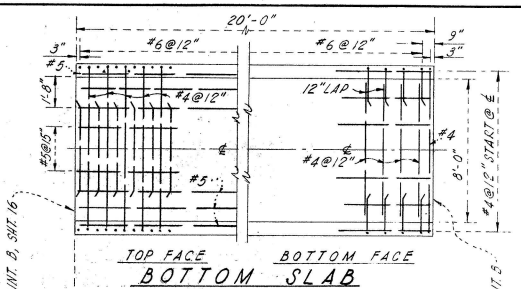
WALLS



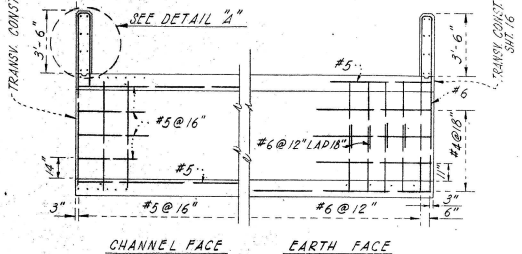
DECK



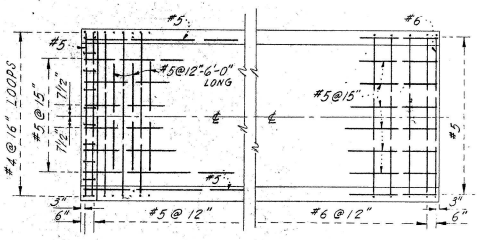
DETAIL "A"
SCALE : 3/4"=1'-0"



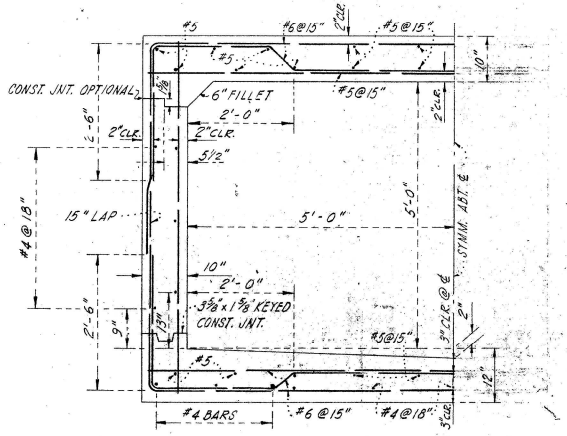
BOTTOM SLAB



WALLS

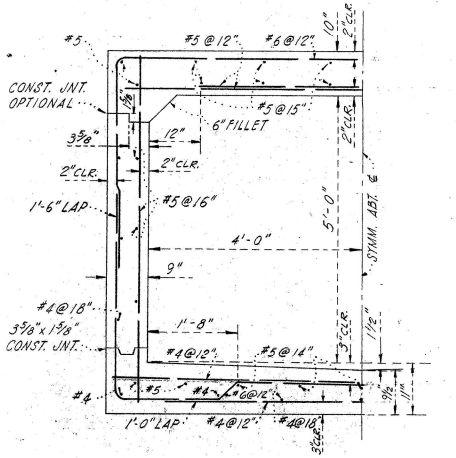


DECK
SCALE : 1/4"=1'-0"



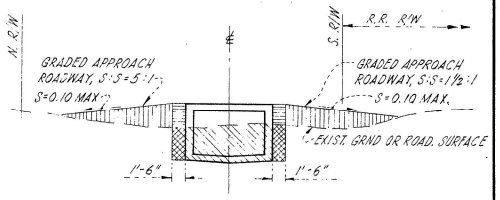
STEEL DETAIL SECTION
STA. 57+10 & 67+73

NOTES:
STA. 57+10 HAS NO HEADWALL.
FOR GUARDRAIL DETAILS SEE SHT. 24.

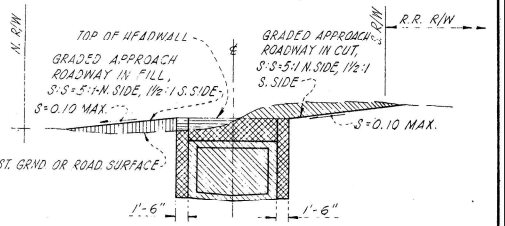


STEEL DETAIL SECTION
STA. 74+97

STEEL DETAILS
SCALE : 3/4" = 1'-0"



FARM BOX CULVERT AT STATION 57+10



FARM BOX CULVERTS AT STATIONS 67+73 & 74+97

EARTHWORK DIAGRAMS

NOT TO SCALE

STRUCTURAL NOTES

1. Except as specifically shown; the location of transverse construction joints shall be optional with the contractor, but in no case shall joints be placed less than 10' apart.
2. Except for joint B, all other transverse construction joints in both walls & slabs shall be keyed joints as detailed for longitudinal construction joints at base of walls. Transverse reinforcement shall be placed 3" from the joint & longitudinal reinforcement shall be continuous thru the joint.
3. At the option of the contractor, walls & top slab may be placed in the same pour; after placing wall concrete a 2-hour time delay will be required before top slab concrete is placed over it.
4. For additional structural notes, see sht. 16.

DESIGN DATA

LIVE LOAD	ALLOWABLE STRESSES
AASHO H 20-44	f'c = 3000psi n = 10
Impact 30%	f'c = 1350psi fs = 20,000psi

GRAPHIC SCALES
3/8"=1'-0"
1/4"=1'-0"

AS BUILT

APPROVED: VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. O. White
ENGINEER - MANAGER

WALNUT CANYON CHANNEL
FARM ROAD BOX CULVERTS
STATIONS 57+10, 67+73 & 74+97
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

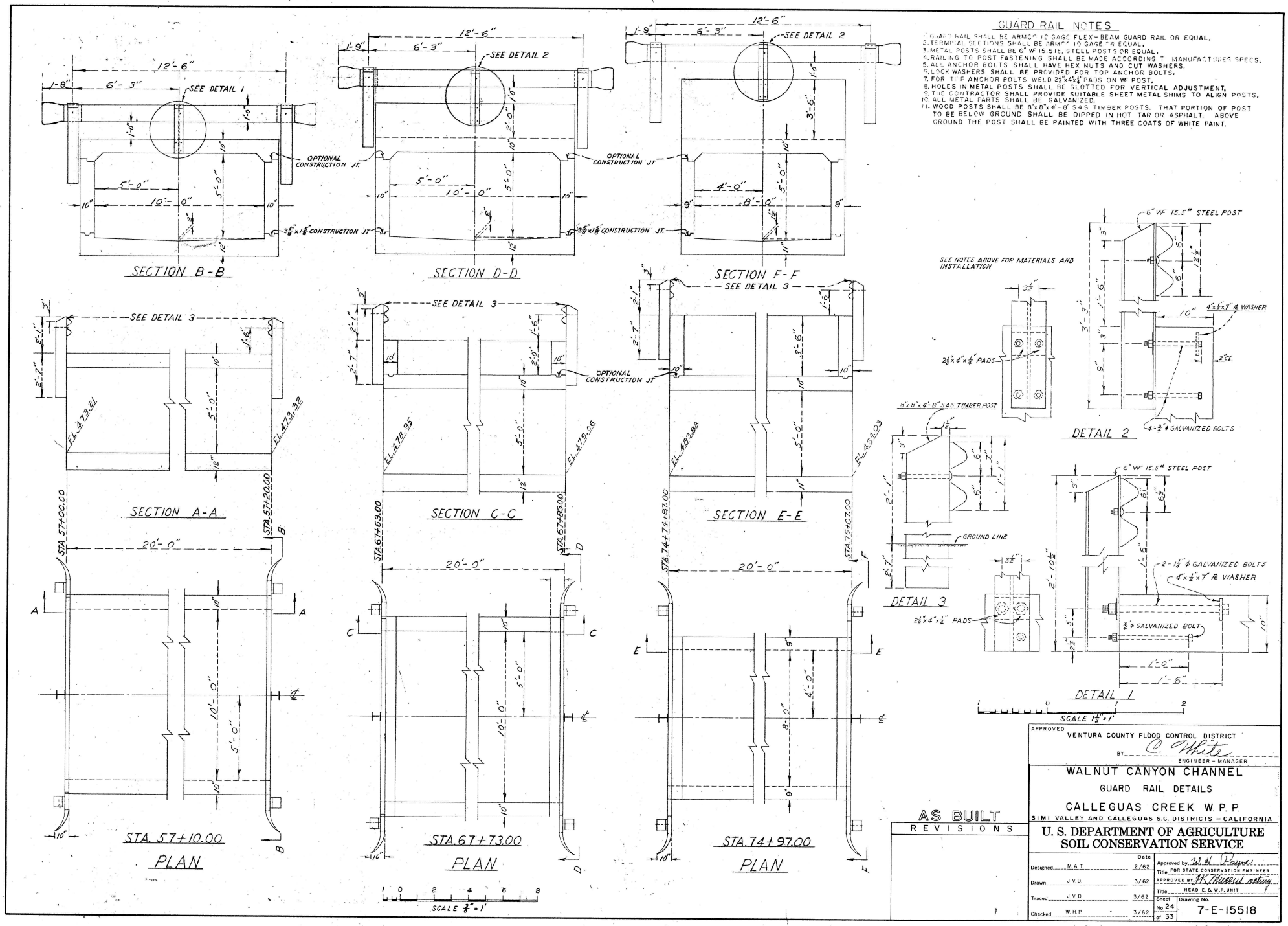
		DATE	
DESIGNED	M.A.T. & H.W.H.	12/61	APPROVED BY W. H. Payne
DRAWN	J.V.D. & T.C.T.	3/62	TITLE FOR STATE CONSERVATION ENGINEER
TRACED	T.C.T.	3/62	APPROVED BY F. R. Warren, acting
CHECKED	W.H.P. & C.F.B.	3/62	TITLE HEAD, E. & W.P. UNIT

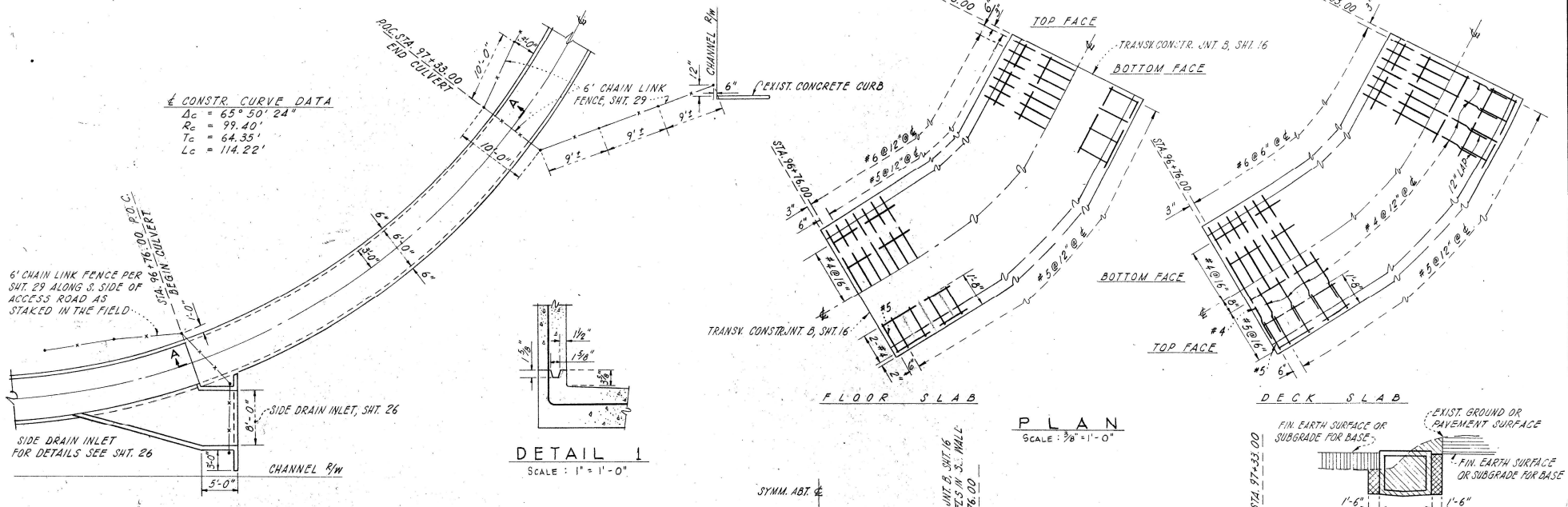
SHEET NO. 23 OF 33
DRAWING NO. 7-E-15518

REVISIONS

USDA-SCS-PORTLAND, OREG. 1962 M-3688

Y-3-136


GUARD RAIL NOTES
1. GUARD RAIL SHALL BE ARMCO 12 GAGE FLEX-BEAM GUARD RAIL OR EQUAL.
2. TERMINAL SECTIONS SHALL BE ARMCO 10 GAGE OR EQUAL.
3. METAL POSTS SHALL BE 6" WF 15.5 lb. STEEL POSTS OR EQUAL.
4. RAILING TO POST FASTENING SHALL BE MADE ACCORDING TO MANUFACTURER SPECS.
5. ALL ANCHOR BOLTS SHALL HAVE HEX NUTS AND CUT WASHERS.
6. LOCK WASHERS SHALL BE PROVIDED FOR TOP ANCHOR BOLTS.
7. FOR TOP ANCHOR BOLTS WELD 2½"x4"x¼" PADS ON WF POST.
8. HOLES IN METAL POSTS SHALL BE SLOTTED FOR VERTICAL ADJUSTMENT.
9. THE CONTRACTOR SHALL PROVIDE SUITABLE SHEET METAL SHIMS TO ALIGN POSTS.
10. ALL METAL PARTS SHALL BE GALVANIZED.
11. WOOD POSTS SHALL BE 8"x8"x4'-8" S4S TIMBER POSTS. THAT PORTION OF POST TO BE BELOW GROUND SHALL BE DIPPED IN HOT TAR OR ASPHALT. ABOVE GROUND THE POST SHALL BE PAINTED WITH THREE COATS OF WHITE PAINT.
SECTION B-B
SECTION D-D
SECTION F-F
SECTION A-A
SECTION C-C
SECTION E-E
STA. 57+10.00
PLAN
STA. 67+73.00
PLAN
STA. 74+97.00
PLAN
SEE DETAIL 1
SEE DETAIL 2
SEE DETAIL 3
OPTIONAL CONSTRUCTION JT.
3⅝"x1⅝" CONSTRUCTION JT.
EL. 473.21
EL. 473.32
EL. 478.95
EL. 479.06
EL. 483.88
EL. 484.03
STA. 57+00.00
STA. 57+20.00
STA. 67+63.00
STA. 67+83.00
STA. 74+74+87.00
STA. 75+07.00
SCALE 3/8" = 1'
SEE NOTES ABOVE FOR MATERIALS AND INSTALLATION
6" WF 15.5# STEEL POST
4"x½"x7" PL WASHER
2½"x4"x¼" PADS
4-¾" ϕ GALVANIZED BOLTS
DETAIL 2
8"x8"x4'-8" S4S TIMBER POST
GROUND LINE
DETAIL 3
2-1¼" ϕ GALVANIZED BOLTS
¾" ϕ GALVANIZED BOLT
DETAIL 1
SCALE 1½" = 1'
AS BUILT
REVISIONS
APPROVED
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER - MANAGER
WALNUT CANYON CHANNEL
GUARD RAIL DETAILS
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Designed M.A.T. 2/62
Drawn J.V.D. 3/62
Traced J.V.D. 3/62
Checked W.H.P. 3/62
Approved by W. H. Payne
Title FOR STATE CONSERVATION ENGINEER
APPROVED BY H. K. Murrell acting
Title HEAD E. & W.P. UNIT
Sheet No 24 of 33
Drawing No. 7-E-15518
USDA-SCS-PORTLAND OREG. 1962 M-3688
Y-3-137



DESIGN DATA

LIVE LOAD : AASHO H 20-44, IMPACT 30%

ALLOWABLE STRESSES : f'_c = 3000 psi, n = 10, f_c = 1350 psi, f_s = 20,000 psi

FOR STRUCTURAL NOTES SEE SHEET 21

AS BUILT

APPROVED: VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White ENGINEER - MANAGER

WALNUT CANYON CHANNEL
HIGH STREET BOX CULVERT
CALLEGUAS CREEK W. P. P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

	DATE
DESIGNED M.A.T.	12/61
DRAWN J.V.D. & T.C.T.	3/62
TRACED T.C.T.	3/62
CHECKED W.H.P. & C.F.B.	3/62

APPROVED BY W. H. Payne TITLE FOR STATE CONSERVATION ENGINEER
APPROVED BY E. K. Mullen acting TITLE HEAD, E. & W.P. UNIT

SHEET NO. 25 OF 33 DRAWING NO. 7-E-15518

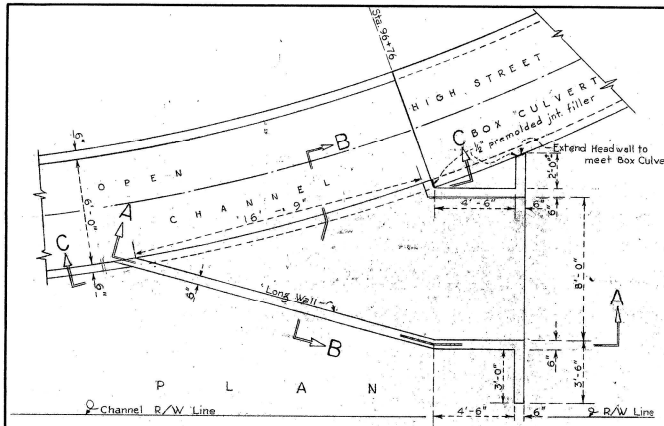
REVISIONS

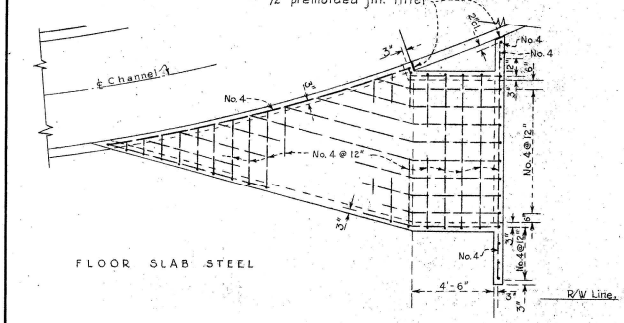
HIGH STREET CULVERT

Y-3-138

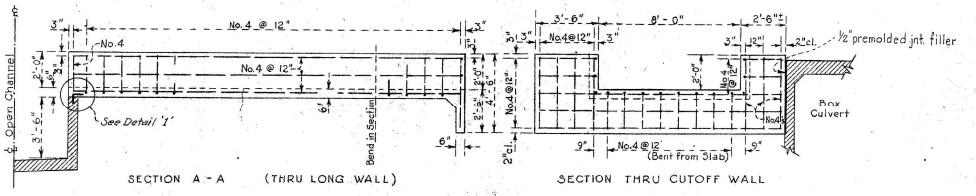
Y-3-138

USDA-SCS PORTLAND OREG 1962 M-3688

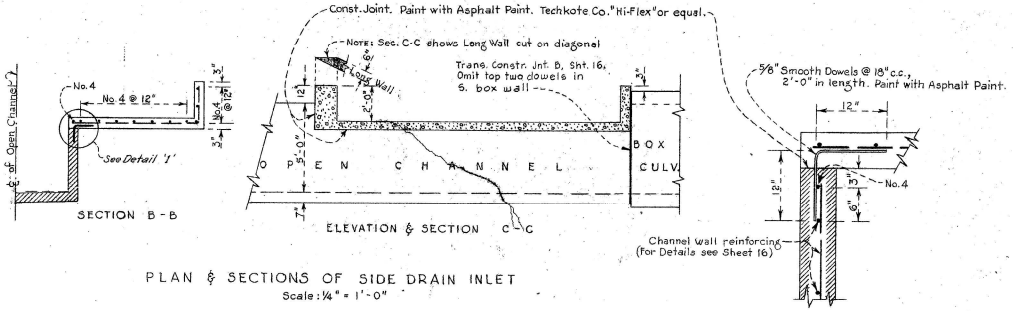




FLOOR SLAB STEEL

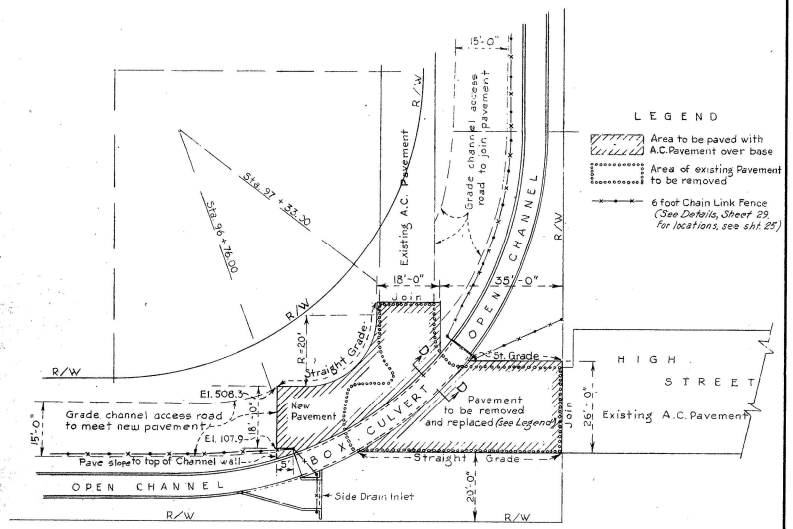


SECTION A - A (THRU LONG WALL) SECTION THRU CUTOFF WALL

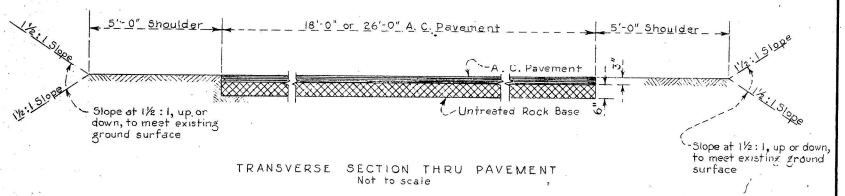


SECTION B-B ELEVATION & SECTION C-C DETAIL '1' Scale: 1" = 1'-0"

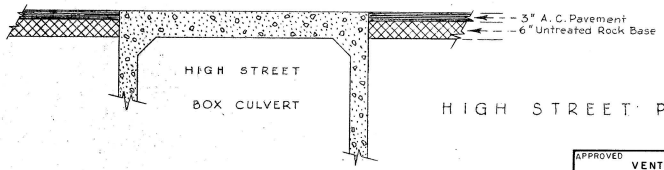
PLAN & SECTIONS OF SIDE DRAIN INLET
Scale: ¼" = 1'-0"



PAVING PLAN
Scale: 1" = 20'



TRANSVERSE SECTION THRU PAVEMENT
Not to scale



SECTION D-D
Scale: ½"=1'-0"

SCALES
½"=1'-0"
¼"=1'-0"
1"=20'-0"

REVISIONS

HIGH STREET PAVING DETAILS
AS BUILT

APPROVED VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White ENGINEER - MANAGER

WALNUT CANYON CHANNEL
HIGH STREET PAVING AND SIDE DRAIN INLET DETAILS
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

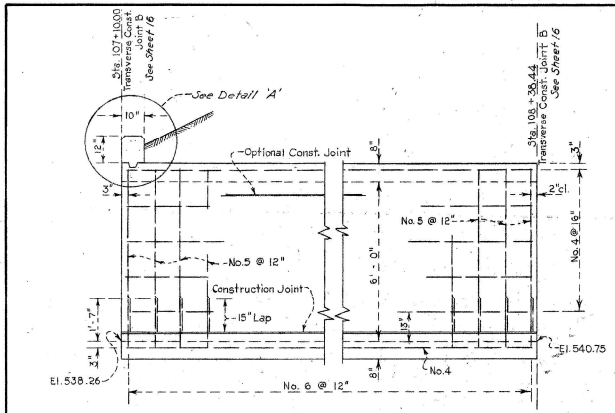
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

		Date	
Designed	M.A.T.	3/62	Approved by W.A. Payne
Drawn	W.A.R.	3/62	Title FOR STATE CONSERVATION ENGINEER
Traced	W.A.R.	3/62	APPROVED BY R.R. Mercer acting
Checked	W.H.P. & C.F.B.	3/62	Title HEAD, E.& W.P. UNIT
			Sheet No. 26 of 33
			Drawing No. 7-E-15518

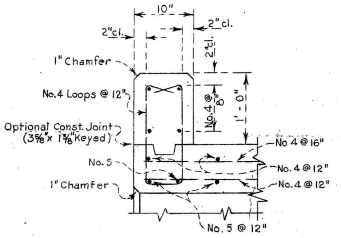
Y-3-139

USDA-SCS PORTLAND, OREG. 1962 M-3688

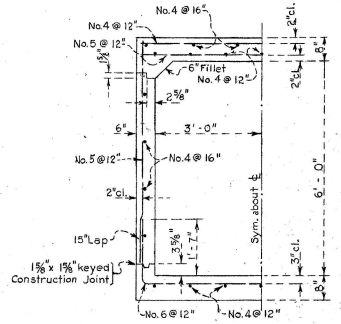
Y-3-139



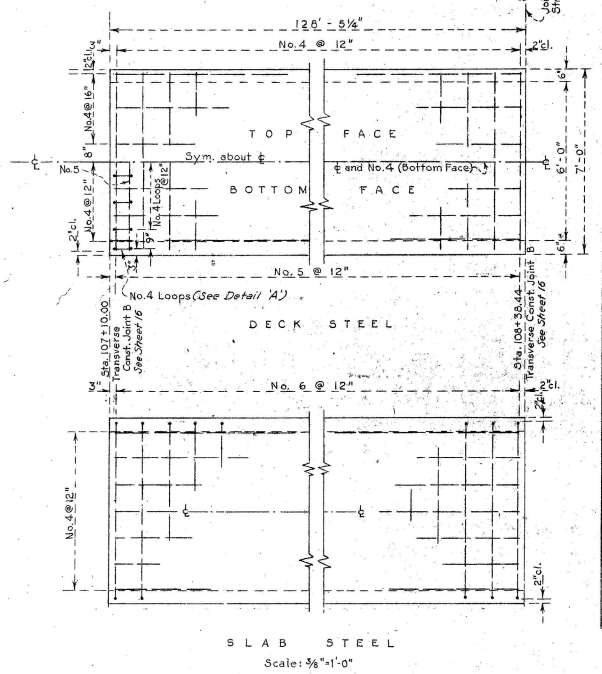
LONGITUDINAL WALL SECTION



DETAIL 'A'
Scale: 1" = 1'-0"



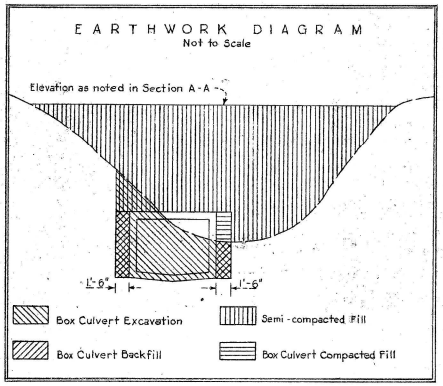
TYPICAL CROSS SECTION
Scale: ½" = 1'-0"



DECK STEEL

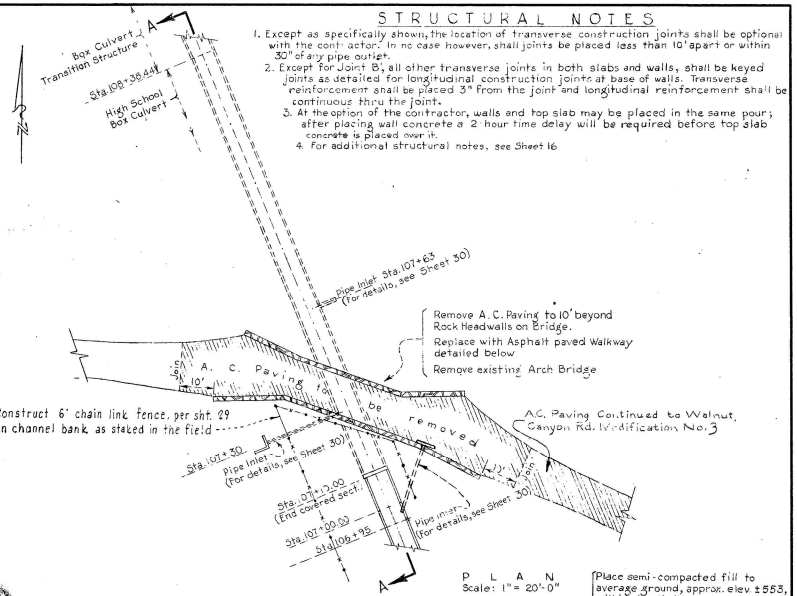
SLAB STEEL
Scale: ⅜"=1'-0"

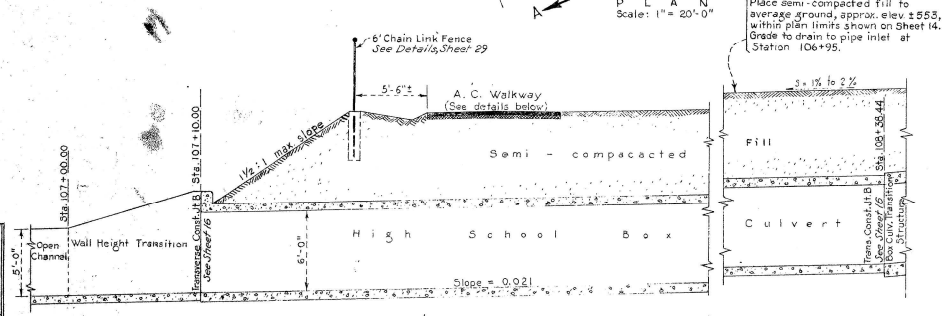
BOX CULVERT STEEL DETAILS



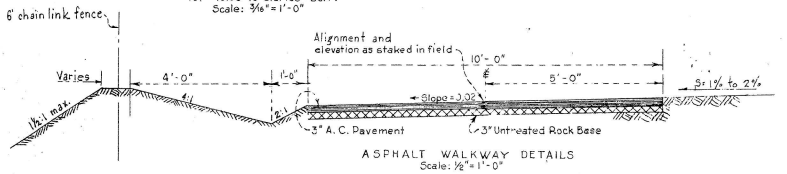
STRUCTURAL NOTES

1. Except as specifically shown, the location of transverse construction joints shall be optional with the contractor. In no case however, shall joints be placed less than 10' apart or within 30" of any pipe outlet.
2. Except for Joint B, all other transverse joints in both slabs and walls, shall be keyed joints as detailed for longitudinal construction joints at base of walls. Transverse reinforcement shall be placed 3" from the joint and longitudinal reinforcement shall be continuous thru the joint.
3. At the option of the contractor, walls and top slab may be placed in the same pour; after placing wall concrete a 2 hour time delay will be required before top slab concrete is placed over it.
4. For additional structural notes, see Sheet 16



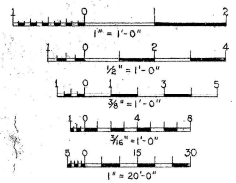


BOX CULVERT ℄ SECTION A-A
107+10.00 to Sta. 108+38.44
Scale: ⅜"=1'-0"



ASPHALT WALKWAY DETAILS
Scale: ½"=1'-0"

GRAPHIC SCALES



DESIGN DATA

LIVE LOAD: AASHO H 20-44

ALLOWABLE STRESSES:
f'_c = 3,000 p.s.i.
f_c = 1,350 p.s.i.
n = 10
f_s = 20,000 p.s.i.
with 50% increase in allowable stresses under H-20 loading

AS BUILT

APPROVED: VENTURA COUNTY FLOOD CONTROL DISTRICT
BY: C. White
ENGINEER-MANAGER

WALNUT CANYON CHANNEL
HIGH SCHOOL BOX CULVERT & WALKWAY PAVING DETAILS
CALLEGUAS CREEK W. P. P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

REVISIONS

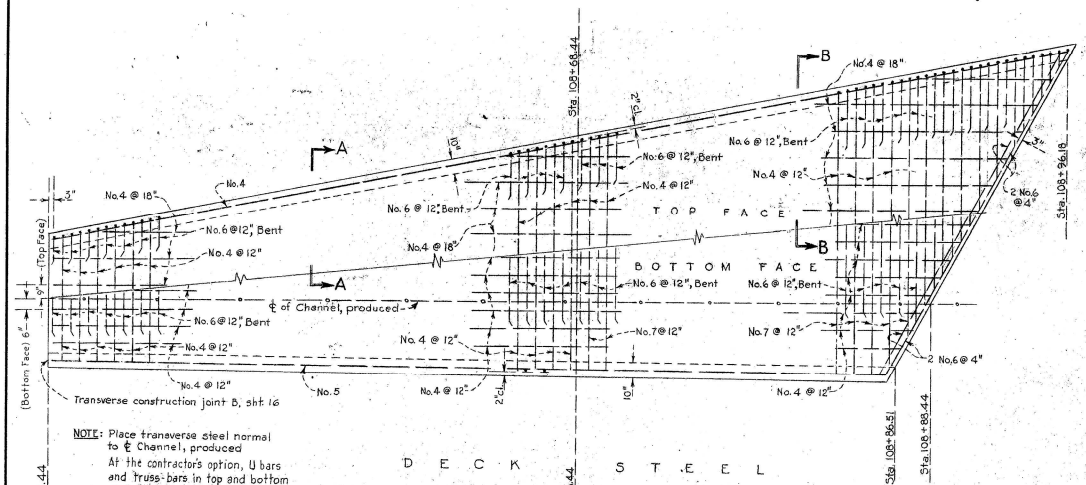
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

	Date	
Designed M.A.T.	11/61	Approved by W. A. Draper
		Title FOR STATE CONSERVATION ENGINEER
Drawn J.R.B. W.A.R.	3/62	APPROVED BY R. Thomas acting
		Title HEAD, E. & W.P. UNIT
Traced W.A.R.	3/62	Sheet No 27 of 33
Checked W.H.P. & C.F.B.	3/62	Drawing No. 7-E-15518

USDA SCS-PORTLAND ORE. 1962 M-3688

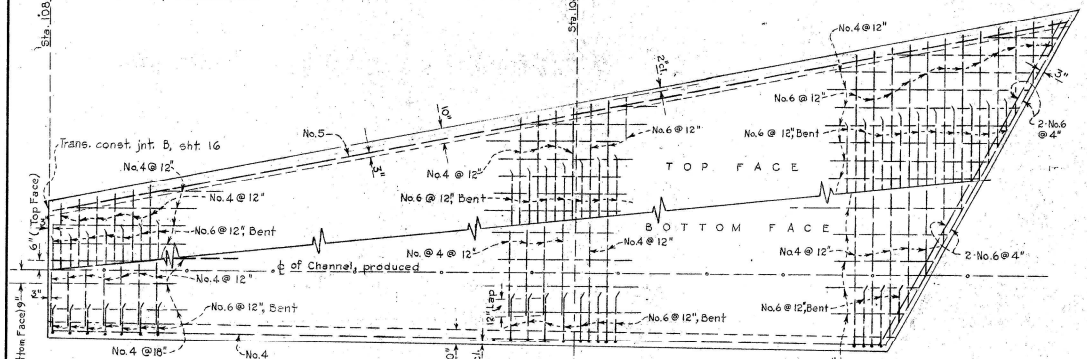
Y-3-140

Y-3-140

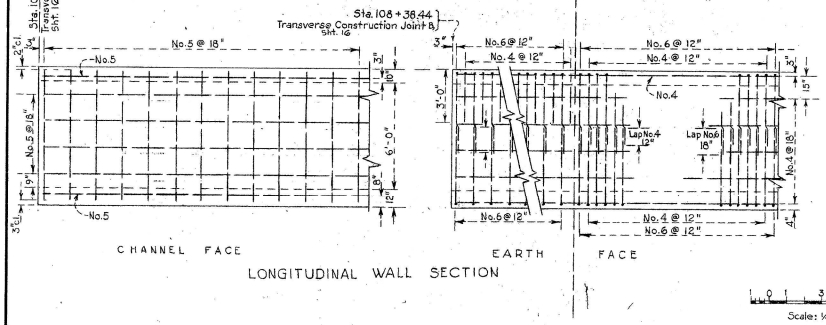


NOTE: Place transverse steel normal to ℄ Channel, produced
At the contractor's option, U bars and truss-bars in top and bottom slab may be spliced at mid-span. Lap 24 diameters.

D E C K S T E E L

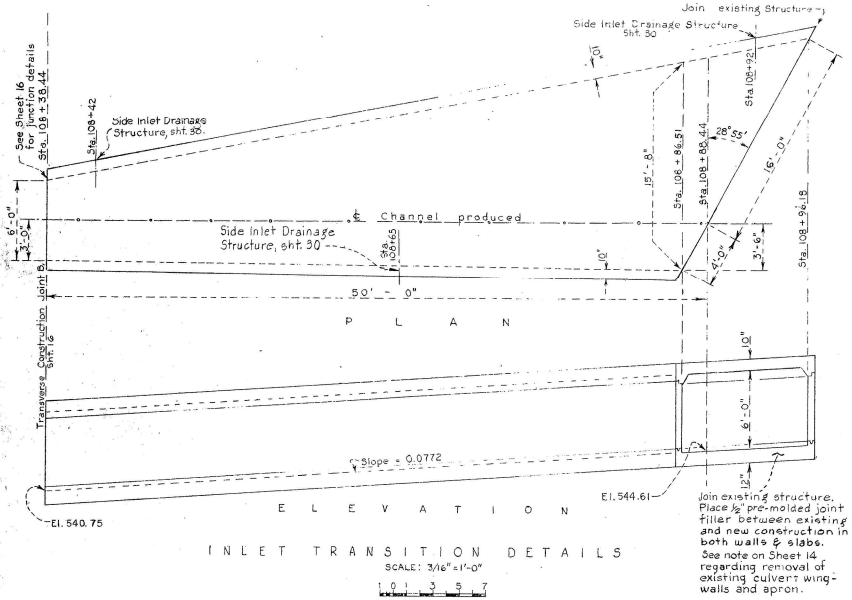


S L A B S T E E L P L A N



LONGITUDINAL WALL SECTION

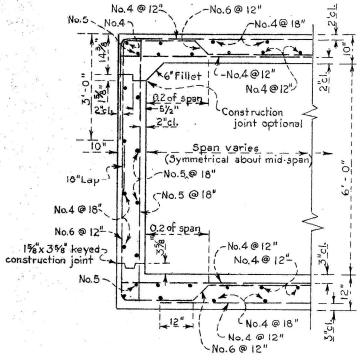
Scale: 1/4"=1'-0"



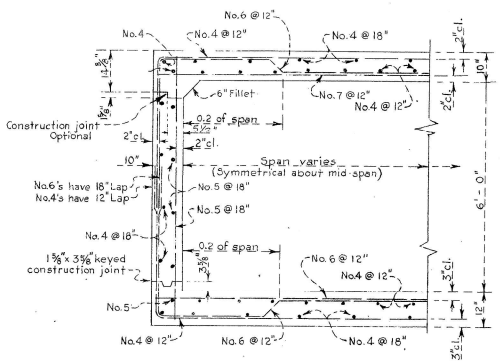
Join existing structure. Place ½" pre-molded joint filler between existing and new construction in both walls & slabs. See note on Sheet 14 regarding removal of existing culvert wing-walls and apron.

INLET TRANSITION DETAILS

SCALE: 3/16"=1'-0"



SECTION A - A
Sta. 108+38.44 to Sta. 108+68.44



SECTION B - B
Sta. 108+68.44 to Sta. 108+86.51

Scale: ½"=1'-0"

NOTE:
For design data, structural notes and earthwork diagram, see sht 27.

AS BUILT

APPROVED VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER - MANAGER

WALNUT CANYON CHANNEL
BOX CULVERT TRANSITION STRUCTURE
CALLEGUAS CREEK W. P. P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

REVISIONS

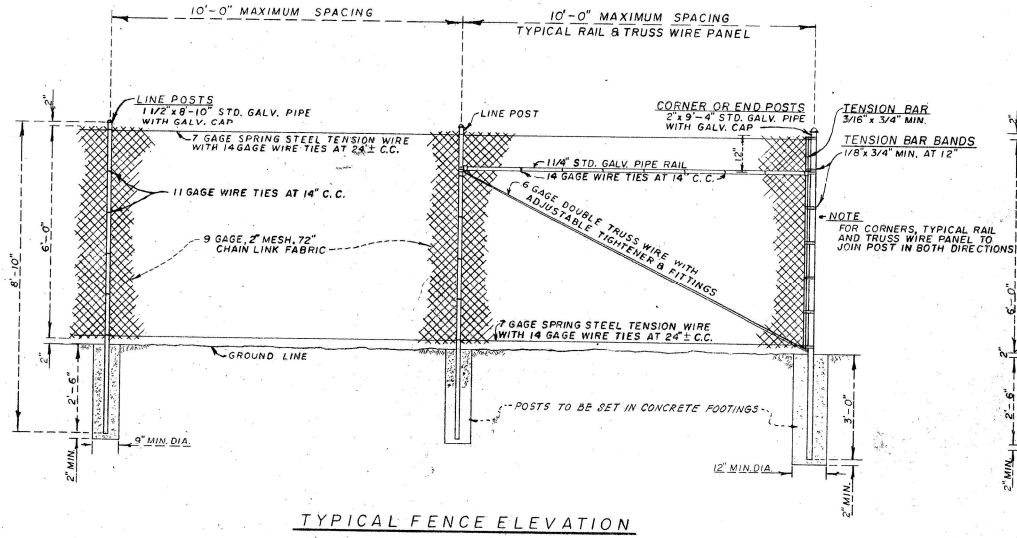
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

	Date	
Designed M.A.T.	11/61	Approved by W. H. Payne
Drawn J.R. & W.A.R.	1/62	Title FOR STATE CONSERVATION ENGINEER
Traced W.A.R.	3/62	APPROVED BY L. Thurmer, acting
Checked W.H.P. & C.F.B.	3/62	Title HEAD E. & W.P. UNIT
		Sheet No 28 of 33
		Drawing No. 7-E-15518

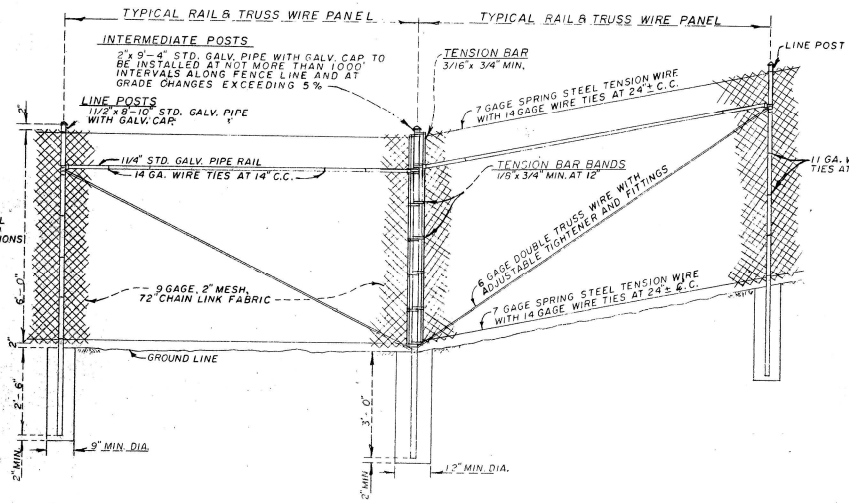
USDA-SCS-PORTLAND, ORE. 1962 M-3688

Y-3-141

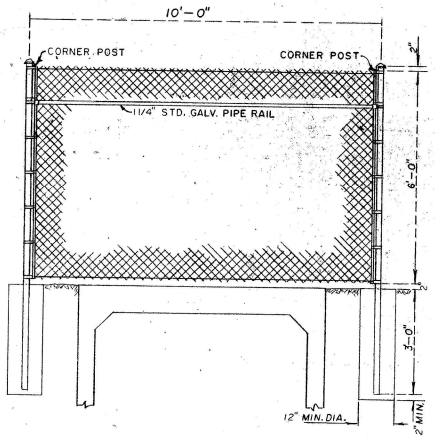
Y-3-141



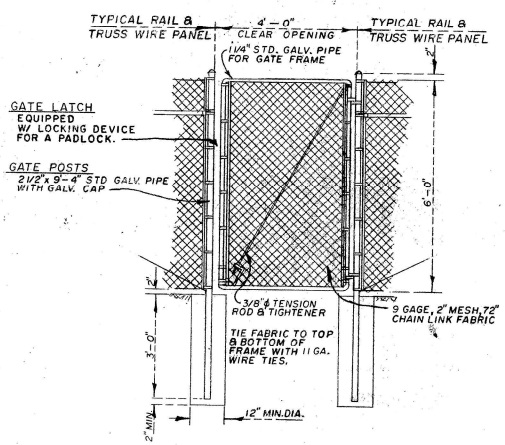
TYPICAL FENCE ELEVATION



INTERMEDIATE POST DETAIL



TYPICAL HEADWALL FENCE AT HIGH STREET CULVERT



TYPICAL PEDESTRIAN GATE

N O T E S

1 – STANDARD GALVANIZED PIPE FOR POSTS AND RAILS SHALL CONFORM TO ASTM A120, SCHEDULE 40.

SIZE:	1"	1 1/4"	1 1/2"	2"	2 1/2"
MIN. WT./FT.:	1.68#	2.27#	2.72#	3.65#	5.79#

2 – TUBULAR FENCE POST OR RAILING MATERIAL HAVING THE FOLLOWING WEIGHTS AND DIMENSIONS MAY BE USED IN LIEU OF STANDARD PIPE. YIELD STRENGTH FOR TUBULAR MATERIALS SHALL BE NOT LESS THAN 35,000 PSI. TUBULAR PRODUCTS SHALL BE GALVANIZED INSIDE AND OUTSIDE AND THE WEIGHT OF THE COATING SHALL BE NOT LESS THAN 2.0 OUNCES PER SQUARE FOOT OF COATED SURFACE.

SIZE	O.D	MIN. WT./FT	MIN. WALL THICKNESS
1"	1.315"	1.43#	0.113"
1 1/4"	1.660"	1.97#	0.120"
1 1/2"	1.900"	2.37#	0.125"
2"	2.375"	3.29#	0.131"
2 1/2"	2.875"	4.99#	0.173"

3 – CHAIN LINK FENCE FABRIC SHALL CONFORM TO ASTM A 392, CLASS I, GALVANIZED AFTER FABRICATION. THE SELVAGE SHALL BE TWISTED AND BARBED FINISH.

4 – TENSION WIRES SHALL BE 7GA. GALVANIZED COIL SPRING STEEL WIRE.

5 – TRUSS WIRE SHALL BE 6 GA. GALVANIZED COLD DRAWN STEEL WIRE CONFORMING TO ASTM A 82.

6 – WIRE TIES SHALL BE ANNEALED STEEL WIRE, GALVANIZED OR PROTECTED BY OTHER NON-CORROSIVE PLATING.

7 – ALL FITTINGS AND HARDWARE SHALL BE GALVANIZED OR MADE FROM A NON-CORROSIVE METAL.

8 – GATE HINGES SHALL BE HEAVY DUTY, MALLEABLE IRON OR STEEL, INDUSTRIAL SERVICE TYPE 270 DEGREE SWING.

9 – ADJUSTABLE TIGHTENERS SHALL BE TURNBUCKLES OR EQUIVALENT HAVING A 6-INCH MIN. TAKE UP.

10 – CORNER POSTS SHALL BE INSTALLED AT CHANGES IN LINE WHERE THE DEFLECTION ANGLE IS 30 DEGREES OR MORE.

11 – CONCRETE FOOTINGS SHALL BE CROWNED AT TOP TO SHED WATER.

12 – FENCING FABRIC SHALL NOT BE STRETCHED FOR AT LEAST 7-DAYS AFTER POSTS ARE SET IN CONCRETE FOOTINGS.

13 – CONCRETE FOR FOOTINGS SHALL BE A 1:2 1/2:4 MIX PROPORTIONED BY VOLUME OR ANY CLASS OF CONCRETE SPECIFIED FOR USE IN CONCRETE STRUCTURES OR PAVEMENT ELSEWHERE ON THE PROJECT.

AS BUILT

APPROVED
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER – MANAGER

WALNUT CANYON CHANNEL
CHAIN LINK FENCE AND GATE DETAILS
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS – CALIFORNIA

REVISIONS

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

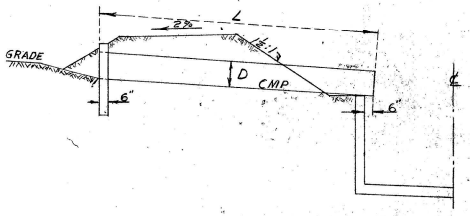
		Date	
Designed	C. F. B.	3/62	Approved by W. A. Payne
Drawn	J. V. D.	3/62	Title FOR STATE CONSERVATION ENGINEER
Traced	J. V. D.	3/62	APPROVED BY P. K. Mucers acting
Checked	W. H. P. & M. A. T.	3/62	Title HEAD, E. & W.P. UNIT

Sheet No. 29 of 33
Drawing No. 7-E-15518

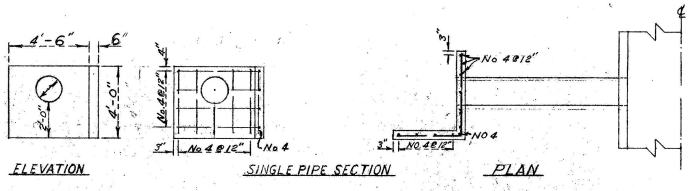
Y-3-142

SCALE 1/2" = 1'

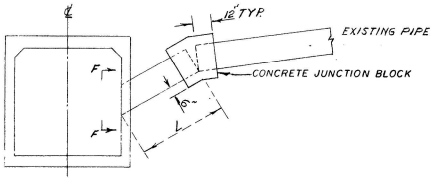
USDA SCS-PORTLAND, OREG. 1962 M-3688



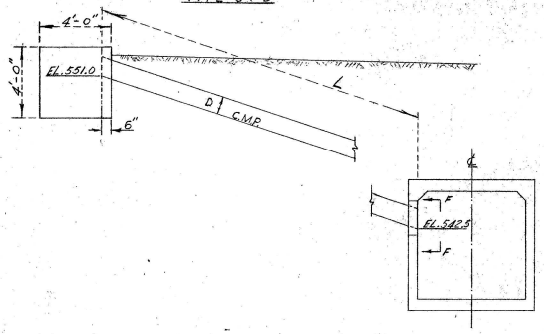
PIPE INLET TYPE A



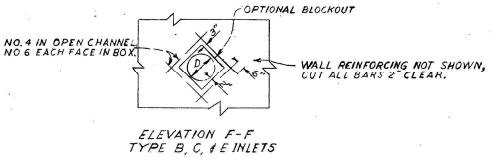
HEADWALL DETAILS
TYPE C & D



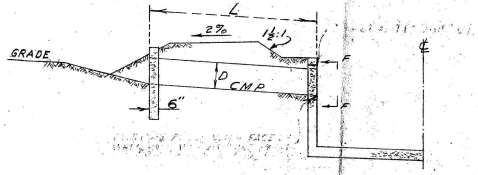
PIPE INLET TYPE E



PIPE INLET TYPE C

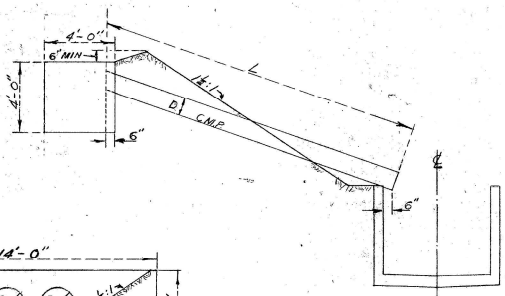


ELEVATION F-F
TYPE B, C, & E INLETS



PIPE INLET TYPE B

NOTE:
INLET AT STA. 29+75 ENTERS BOX SECTION
ALL OTHERS ENTER OPEN CHANNEL AS SHOWN.



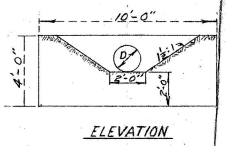
PIPE INLET TYPE D

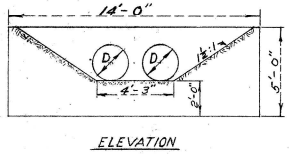
PIPE INLET STRUCTURE SCHEDULE

LOCATION		TYPE	D	L*	GAGE	CONC. VOL.	INVERT ELEVATION	
STATION	BANK					CU. YDS.	INLET	OUTLET
5+80	LEFT	B	12"	3.5'	14	0.71	450.50	449.75
6+60	LEFT	B	12"	3.5	14	0.71	450.50	449.75
38+00	LEFT	B	18"	20'	14	0.68	466.50	465.48
52+20	LEFT	B	18"	20'	14	0.68	475.10	474.12
61+50	LEFT	B	18"	20'	14	0.68	480.10	478.60
73+40	LEFT	A	2-24"	27'	14	1.06	493.00	TOP WALL
74+55	LEFT	A	18"	27'	14	0.68	491.50	TOP WALL
75+20	LEFT	A	2-18"	22'	14	1.17	492.00	TOP WALL
102+10	LEFT	D	12"	30'	14	0.60	538.00	TOP WALL
104+00	LEFT	D	12"	15'	14	0.60	540.00	TOP WALL
107+00	RIGHT	A	12"	21'	14	0.60	548.00	TOP WALL
107+30	LEFT	C	12"	25'	14	0.60	551.00	542.50
107+63	RIGHT	E	18"	5'	14	0.33	JOIN EXIST.	541.40
108+42	LEFT	E	12"	18'	14	0.25	JOIN EXIST.	545.50
108+92	LEFT	E	18"	12'	14	0.33	JOIN EXIST.	548.00
108+65	RIGHT	E	12"	12'	14	0.25	JOIN EXIST.	546.80
100+50	RIGHT	D	18"	12'	14	0.68	517.00	515.20

Contract Modification No. 2

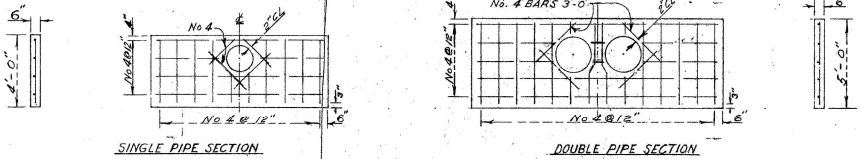
* LENGTH IS APPROXIMATE ONLY. SEE SPECS. SECTION 2.12.





SCALE 1" = 1'





HEADWALL DETAILS
TYPE A & B

NOTE:
ALL PIPES EXTENDING THROUGH CONCRETE WALLS SHALL BE CUT FLUSH WITH WALL FACES.

AS BUILT

APPROVED
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER - MANAGER

WALNUT CANYON CHANNEL
PIPE INLET STRUCTURES
LOCATION & DETAILS
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS – CALIFORNIA

REVISIONS

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

	Date
Designed M.A.T.	10/61
Drawn J.V.D.	3/62
Traced J.V.D.	3/62
Checked W.H.P. & C.F.B.	3/62

Approved by W. H. Payne
Title FOR STATE CONSERVATIONIST ENGINEER
APPROVED BY J. K. Mateus acting
Title HEAD E. & W.P. UNIT

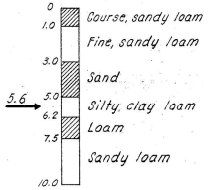
Sheet No. 30 of 33
Drawing No. 7-E-15518

Y-3-143

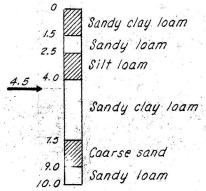
USDA-SCS-PORTLAND, OREG. 1962. M-3688

Y-3-143

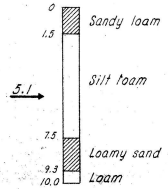
BORING NO. 1
Sta. 5 + 00
on ℄ - Elev. 451.2



BORING NO. 2
Sta. 11 + 00
on ℄ - Elev. 452.9



BORING NO. 3
Sta. 17 + 50
on ℄ - Elev. 456.5



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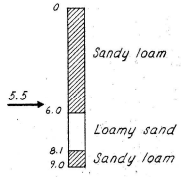
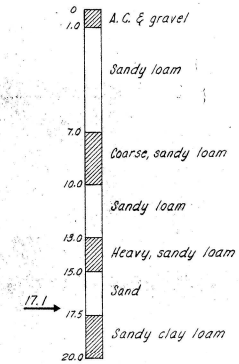
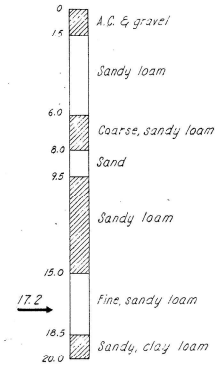
Sta. 23 + 00
on ℄ - Elev. 459.5



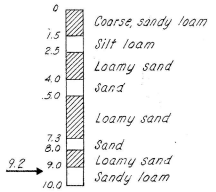
BORING NO. 5A
Sta. 30 + 08
on ℄ - Elev. 473.9.



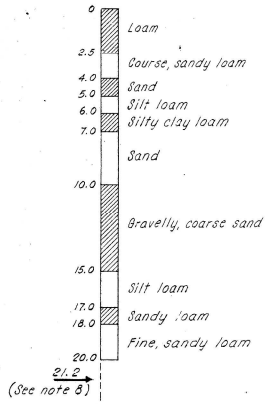
BORING NO. 5B
Sta. 30 + 21
on ℄ - Elev. 474.0



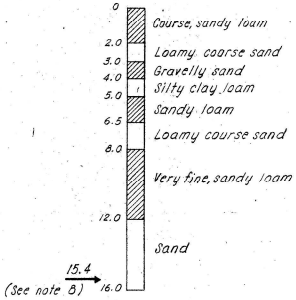
BORING NO. 5
Sta. 32 + 00
4' S. of ℄ - Elev. 467.5



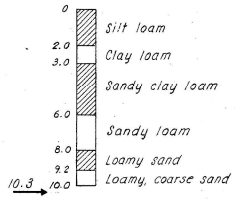
BORING NO. 8B
Sta. 49 + 70
36' N. of ℄ - Elev. 504.0



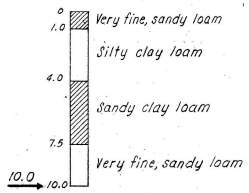
BORING NO. 8A
Sta. 49 + 70
8' No. of ℄ - Elev. 495.1



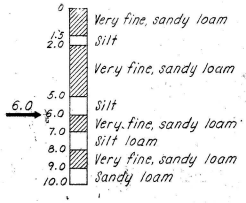
BORING NO 8
Sta. 49 + 00
4' S. of ℄ - Elev. 478.5



BORING NO. 7
Sta. 44 + 00
4' S. of ℄ - Elev. 474.2



BORING NO. 6
Sta. 38 + 00
4' S. of ℄ - Elev. 467.4



NOTES

1. Station locations of borings and off-sets refer to the ℄ of channel construction.
2. Elevations shown represent the ground surface at the site of the test hole. Indicated depths are in feet.
3. Sub-surface data shown hereon is intended to apply only at the location of the test holes, and to the depths indicated.
4. All soil classifications shown are field classifications.
5. No ground water was encountered at the time of exploration.
6. All borings were drilled with a 3" hand auger.
7. Borings no. 1 thru 20 were made in August, 1961, Borings 5A & 5B in Sept. 1961, and Borings 8A & 8B in Oct 1961.
8. On borings 8A & 8B, the indicated conduit sub-grade elevation represents the bottom of excavation in sidehill cut.

SCALE
Horizontal - None
Vertical - 1" = 4'-0"

SYMBOL
→ Conduit subgrade

AS BUILT

APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY _____ ENGINEER-MANAGER

WALNUT CANYON CHANNEL
LOGS OF BORINGS
STA. 3+43 TO STA. 50+00
CALLEGUAS CREEK W.P.P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

REVISIONS

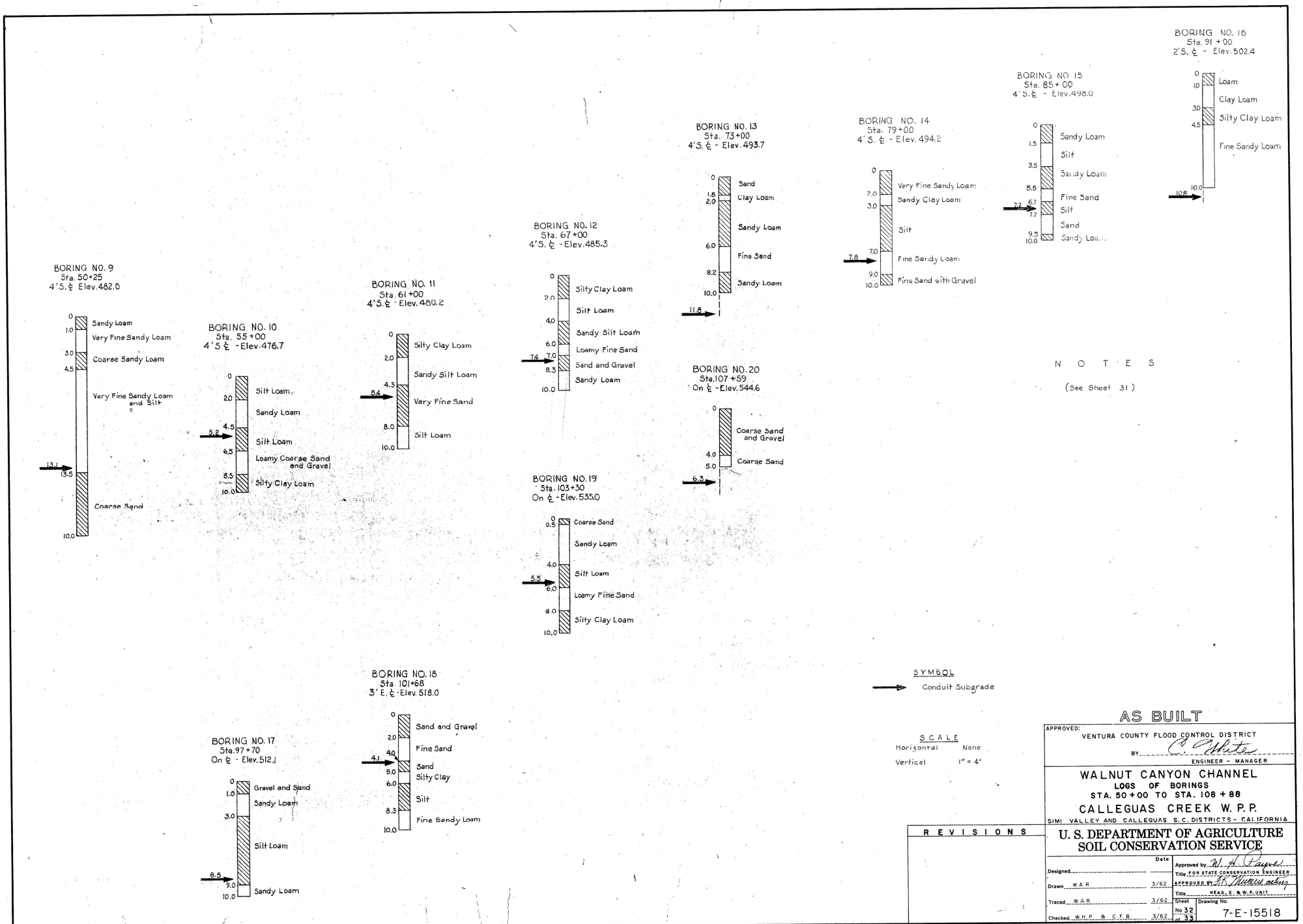
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

	Date	
Designed		Approved by W. A. Payne
Drawn T.C.T.	3/62	Title FOR STATE CONSERVATION ENGINEER
Traced T.C.T.	3/62	APPROVED BY R. Mann acting
Checked W.H.P. & C.F.B.	3/62	Title HEAD, E. & W.P. UNIT
		Sheet No. 31 of 33 — Drawing No. 7-E-15518

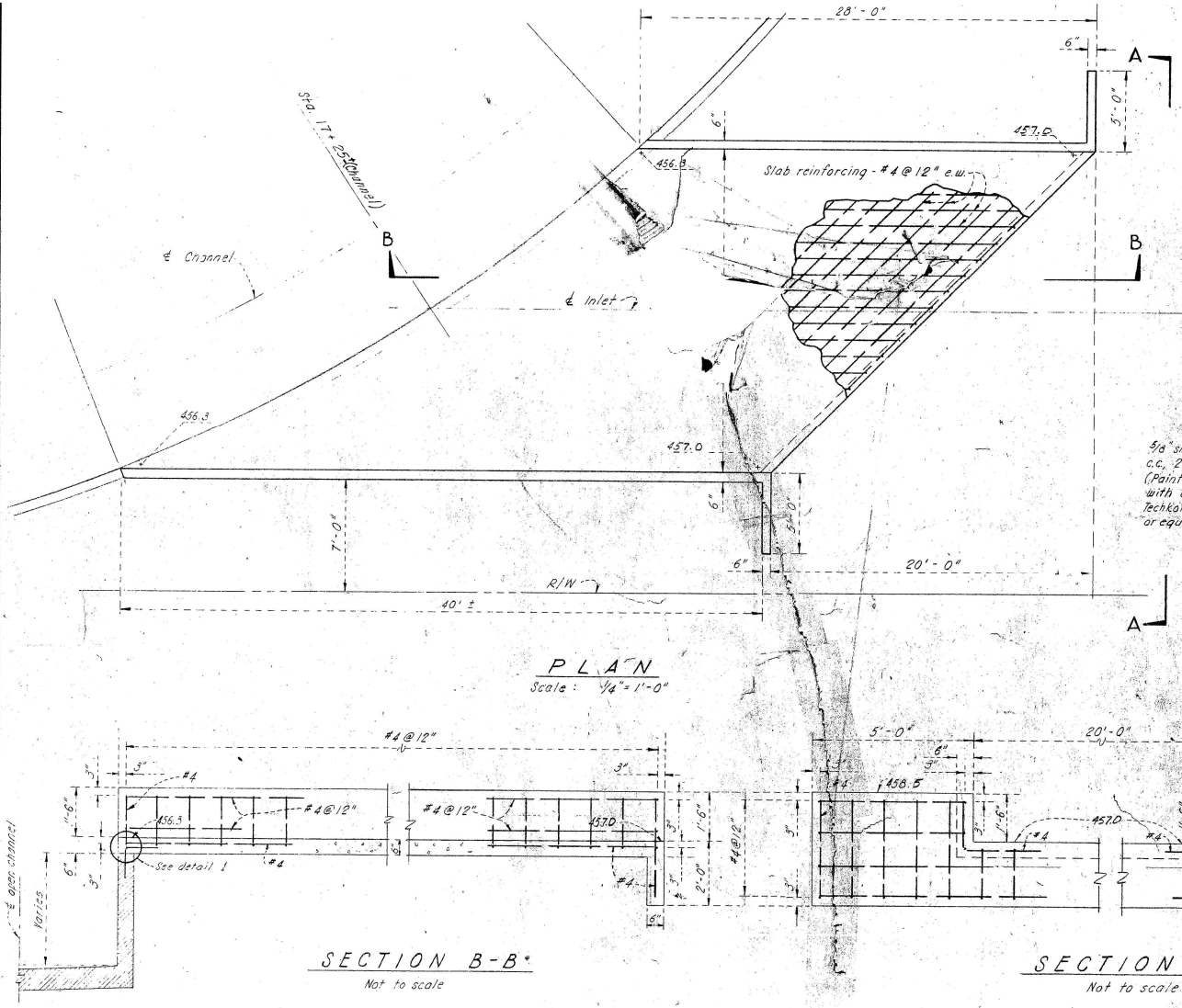
Y-3-144

USDA SCS-PORTLAND, OREG. 1962. M-3688

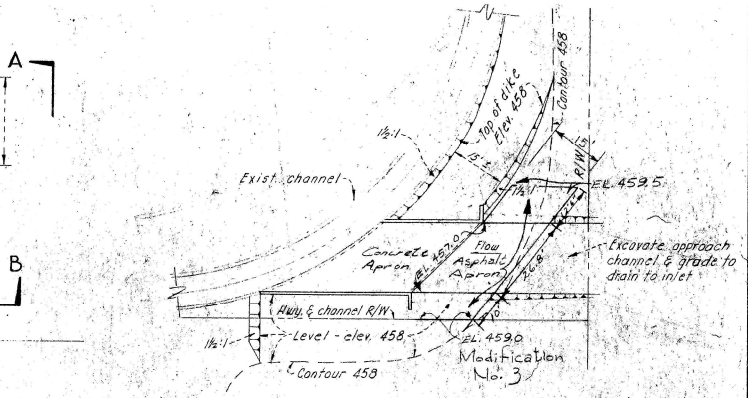
Y-3-144


BORING NO. 9
Sta. 50+25
4'S. ℄ Elev. 482.0
Sandy Loam
Very Fine Sandy Loam
Coarse Sandy Loam
Very Fine Sandy Loam and Silt
Coarse Sand
BORING NO. 10
Sta. 55+00
4'S ℄ - Elev. 476.7
Silt Loam
Sandy Loam
Silt Loam
Loamy Coarse Sand and Gravel
Silty Clay Loam
BORING NO. 11
Sta. 61+00
4'S. ℄ - Elev. 480.2
Silty Clay Loam
Sandy Silt Loam
Very Fine Sand
Silt Loam
BORING NO. 12
Sta. 67+00
4'S. ℄ - Elev. 485.3
Silty Clay Loam
Silt Loam
Sandy Silt Loam
Loamy Fine Sand
Sand and Gravel
Sandy Loam
BORING NO. 13
Sta. 73+00
4'S. ℄ - Elev. 493.7
Sand
Clay Loam
Sandy Loam
Fine Sand
Sandy Loam
BORING NO. 14
Sta. 79+00
4'S. ℄ - Elev. 494.2
Very Fine Sandy Loam
Sandy Clay Loam
Silt
Fine Sandy Loam
Fine Sand with Gravel
BORING NO. 15
Sta. 85+00
4'S. ℄ - Elev. 498.0
Sandy Loam
Silt
Sandy Loam
Fine Sand
Silt
Sand
Sandy Loam
BORING NO. 16
Sta. 91+00
2'S. ℄ - Elev. 502.4
Loam
Clay Loam
Silty Clay Loam
Fine Sandy Loam
BORING NO. 17
Sta. 97+70
On ℄ - Elev. 512.1
Gravel and Sand
Sandy Loam
Silt Loam
Sandy Loam
BORING NO. 18
Sta. 101+68
3'E. ℄ - Elev. 518.0
Sand and Gravel
Fine Sand
Sand
Silty Clay
Silt
Fine Sandy Loam
BORING NO. 19
Sta. 103+30
On ℄ - Elev. 535.0
Coarse Sand
Sandy Loam
Silt Loam
Loamy Fine Sand
Silty Clay Loam
BORING NO. 20
Sta. 107+59
On ℄ - Elev. 544.6
Coarse Sand and Gravel
Coarse Sand
NOTES
(See Sheet 31)
SYMBOL
Conduit Subgrade
SCALE
Horizontal None
Vertical 1" = 4'
AS BUILT
APPROVED:
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER - MANAGER
WALNUT CANYON CHANNEL
LOGS OF BORINGS
STA. 50+00 TO STA. 108+88
CALLEGUAS CREEK W. P. P.
SIMI VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA
REVISIONS
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Designed
Drawn W.A.R. 3/62
Traced W.A.R. 3/62
Checked W.H.P. & C.F.B. 3/62
Approved by W. H. Payne
Title FOR STATE CONSERVATION ENGINEER
APPROVED BY F. K. Mueller acting
Title HEAD, E. & W.P. UNIT
Sheet No. 32 of 33
Drawing No. 7-E-15518
Y-3-145
M-3688

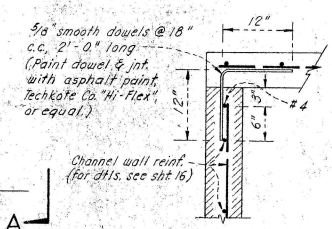
Y-3-145



PLAN
Scale : 1/4" = 1'-0"



GRADING PLAN
Scale : 1" = 20'



DETAIL 1
Scale : 1" = 1'-0"

SECTION B-B
Not to scale

SECTION A-A
Not to scale

AS BUILT

APPROVED
VENTURA COUNTY FLOOD CONTROL DISTRICT
BY _____ ENGINEER - MANAGER

WALNUT CANYON CHANNEL
SIDE DRAIN INLET
STA. 17+25
CALLEGUAS CREEK W. P. P.
SIMI-VALLEY AND CALLEGUAS S.C. DISTRICTS - CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

		Date	
Designed	M.A.T. & C.F.B.	3/62	Approved by W. H. Pieper, Title FOR STATE CONSERVATION ENGINEER
Drawn	T.C.T.	3/62	APPROVED BY F. K. Mumma, acting, Title AREA E & W.P. UNIT
Traced	T.C.T.	3/62	Sheet No 33 of 33
Checked	W.H.P. & C.F.B.	3/62	Drawing No. 7-E-15518

REVISIONS

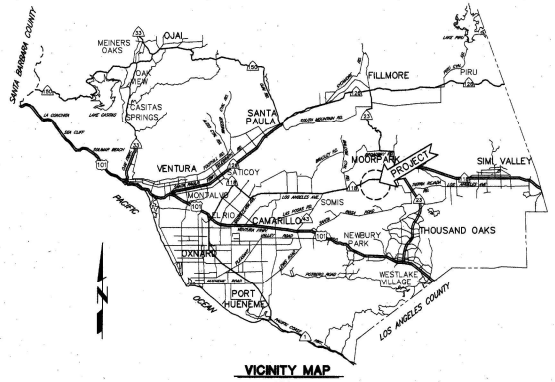
M-3688

Y-3-146

Y-3-146

COUNTY OF VENTURA
PUBLIC WORKS AGENCY
VENTURA COUNTY FLOOD CONTROL DISTRICT
ZONE 3

WALNUT CANYON CHANNEL - 1998 REPAIR



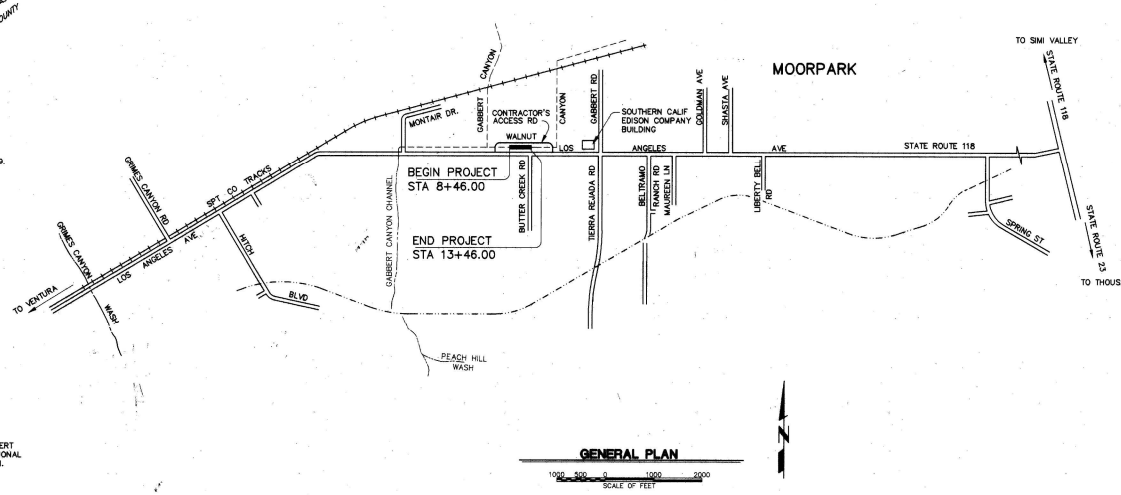
VICINITY MAP
N.T.S.

GENERAL NOTES

1. ELEVATIONS SHOWN ARE IN FEET, NATIONAL GEODETIC SURVEY SEA LEVEL DATUM OF 1929.
2. STATIONS SHOWN ON DRAWINGS ARE ALONG CENTERLINE OF STRUCTURE.
3. E.G.L. AND H.G.L ARE SHOWN FOR FUTURE REFERENCE BY THE DISTRICT ONLY.
4. NUMBERS IN ◯ INDICATE BID ITEMS UNDER WHICH PAYMENT WILL BE MADE.
5. LETTER AND NUMBER IN ⊖ INDICATE THE DETAIL CALL-OUT AND SHEET ON WHICH REFERENCE DETAIL IS SHOWN.
6. NUMBERS IN △ REFER TO NOTES ON SAME SHEET UNLESS OTHERWISE NOTED.
7. TREES DESIGNATED BY ● SHALL BE REMOVED. ALL OTHERS SHALL BE PROTECTED IN PLACE.
8. ELEVATIONS ALONG CENTERLINE OF CONSTRUCTION WERE TAKEN FROM SURVEYS PERFORMED ON MAY 1, 1998
9. EXISTING IMPROVEMENTS WITHIN THE RIGHT OF WAY AND WORK AREAS SHALL REMAIN AND SHALL BE PROTECTED UNLESS OTHERWISE NOTED. DAMAGED IMPROVEMENTS SHALL BE REPLACED IN KIND TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION.
10. UTILITIES ARE SHOWN AS KNOWN TO EXIST AT TIME OF SURVEY. UTILITIES MAY HAVE BEEN OMITTED, MISPLACED, AND/OR RELOCATED. CONTRACTOR SHALL EXERCISE CARE IN EXCAVATION AND SHALL PROTECT ALL UTILITIES.
11. HORIZONTAL CONTROL IS THE CENTERLINE OF EXISTING RC RECTANGULAR CHANNEL AND FOR VERTICAL CONTROL SEE BENCH MARK.
12. AT NORTHWEST CORNER OF LOS ANGELES AVENUE AND GABBERT ROAD, 39 FEET NORTH FROM THE CENTER OF LOS ANGELES AVENUE, 74 FEET WEST FROM THE CENTER OF GABBERT ROAD, 03 FEET WEST FROM THE EAST END OF TOP CONCRETE STEP TO EDISON INTERNATIONAL COMPANY SUBSTATION BUILDING. A BRASS CAPPED MONUMENT, SET IN CONCRETE, FLUSH. BM 37-14,1965 ELEVATION PUB.1970. US SURVEY FEET (470.177)
13. CONTRACTOR SHALL NOTIFY UTILITY OWNERS A MINIMUM OF 48 HOURS PRIOR TO STARTING WORK IN AREAS AFFECTING THEIR FACILITIES:

VENTURA COUNTY WATER WORKS DISTRICT NO.1	TEL. NO. (805) 584-4849.	MR. MITRI MUNA
CALLEGUAS MUNICIPAL WATER DISTRICT	TEL. NO. (805) 526-9323	MR. GEORGE MULLIGAN

UNDERGROUND SERVICE ALERT
1-800-422-4133
CALL USA/SC
FOR UNDERGROUND LOCATION
2 WORKING DAYS BEFORE YOU DIG.
FOR BEST RESPONSE, PROVIDE AS MUCH NOTICE AS POSSIBLE, UP TO TEN (10) WORKING DAYS.



GENERAL PLAN
1000 500 0 1000 2000
SCALE OF FEET

INDEX TO SHEETS

SHEET NO.	TITLE
1	GENERAL PLAN
2	PLAN AND PROFILE STA 8+46.00 TO STA 13+46.00
3	RC OPEN CHANNEL – STRUCTURAL SECTIONS
4	SUBDRAIN SYSTEM AND MISCELLANEOUS DETAILS

INDEX OF STANDARD PLANS USED BY REFERENCE

STATE OF CALIFORNIA CALTRANS STANDARD PLANS

D94A TYPE III METAL FLARED END SECTIONS

RECORD DRAWING
DATE PROJECT COMPLETED April 2, 1999
REVISIONS SUBMITTED BY Eldon Walker
DRAWING REVISED BY Henry D. Quick
APPROVED BY [signature] DATE 7-20-99

USDA NATURAL RESOURCES CONSERVATION SERVICE

CHECKED BY: RM DT WW
RECOMMENDED BY: William A Ward - Acting STATE CONSERVATION ENGINEER
APPROVED BY: 8/14/98 DATE
William A Ward - Acting STATE CONSERVATION ENGINEER

Mori Stuyday 8/4/98 PWP DIVISION ENGINEER
DEPUTY DIRECTOR
Arthur E. Goucher 8/6/98 DIRECTOR OF PUBLIC WORKS

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY FLOOD CONTROL DISTRICT

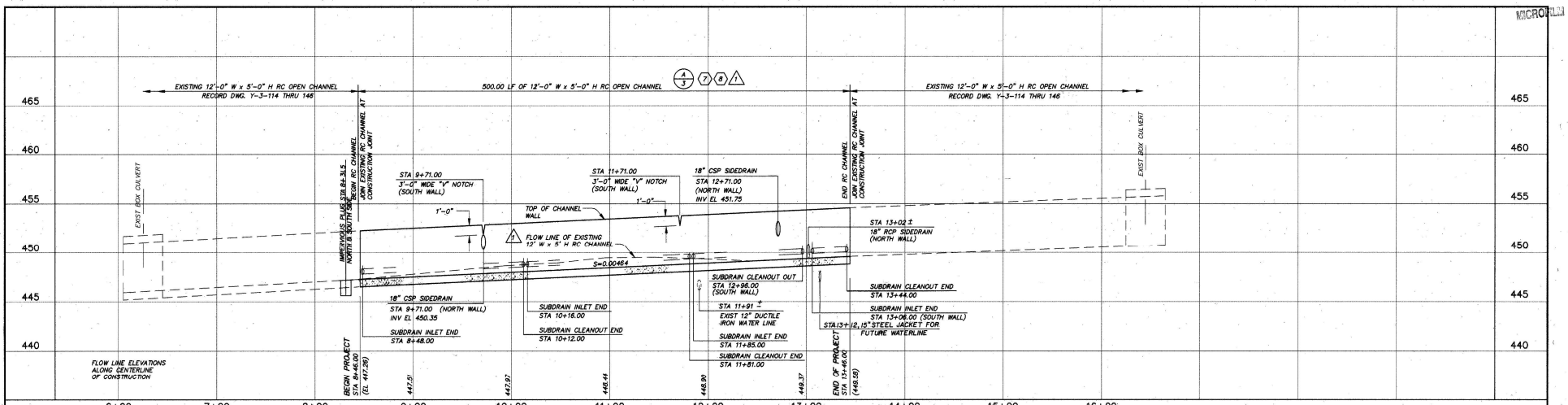
SPEC. NO. F.C. 98-23
PROJ. NO. F7110

WALNUT CANYON CHANNEL - 1998 REPAIR
GENERAL PLAN

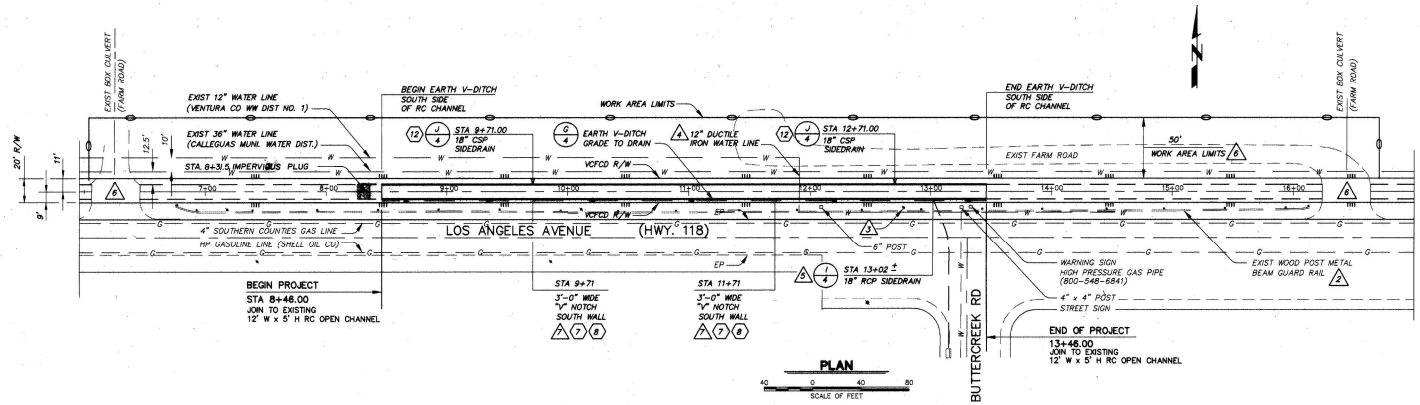
SHEET 1 OF 4
V.C.F.C.D. DRAWING NO. Y-3-3765

ACAD FILE: COVERSHT WALNUT CANYON SHT-1 8/6/98, 4/28/99.dgn

DATE PLOTTED: 8/6/98
Walnut Canyon
Channel - 1998 Repair
Y-3-3765
1 of 4



PROFILE



PLAN

40 0 40 80
SCALE OF FEET

NOTES:

1. REMOVE AND DISPOSE OF EXISTING RC CHANNEL, CONCRETE HEADWALLS AND CSP SIDEDRAINS. (13)
2. PROTECT EXISTING WOOD POST METAL BEAM GUARD RAIL.
3. PROTECT EXISTING POWER POLES. (TYP)
4. PROTECT WATER LINE IN PLACE.
5. EXISTING 18" RCP SIDEDRAIN SHALL BE PROTECTED IN PLACE AND CONNECTED TO RC CHANNEL.
6. CONTRACTOR'S ACCESS
7. CONSTRUCT 3' x 3' x 4" THICK CONCRETE APRON WITH #4 BARS @ 12" EACH WAY CENTERED BEHIND "V" NOTCH.

RECORD DRAWING
DATE PROJECT COMPLETED April 7, 1999
REVISIONS SUBMITTED BY Elaine Walker
DRAWING REVISED BY Jaime D. Olivera
APPROVED BY [illegible] DATE 4-28-99

WALNUT CANYON SHT-2 DWG. 8/18/98 PL=4/28/99DG

REVISION DESCRIPTION	APP.	DATE
D		
C		
B		
A		

DESIGNED M. JILANI DRAWN FCL CHECKED H. CLABAUGH
PROJ. ENG. [illegible] RECOMMENDED [illegible]
REG. NO. 26412 DATE 8/18/98 APPROVED [illegible]

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY FLOOD CONTROL DISTRICT

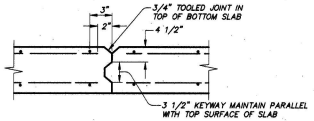
SPEC. NO. F.C. 98-23
PROJ. NO. F7110

WALNUT CANYON CHANNEL - 1998 REPAIR
PLAN AND PROFILE
STA 8+46.00 TO STA 13+46.00

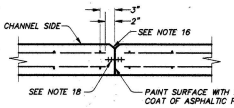
SHEET 2 OF 4
M.R.D.S. DRAWING NO.
V.C.F.C.D. DRAWING NO. Y-3-3766

EXIST BOX CULVERT
WALNUT CANYON
CHANNEL REPAIR
Y-3-3766
2 OF 4

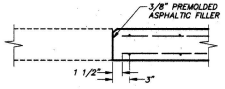
MICROFILM



SLAB CONSTRUCTION JOINT

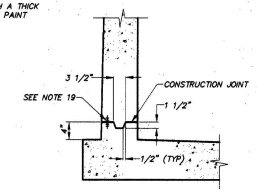


WALL CONSTRUCTION JOINT



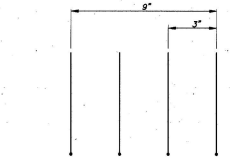
WALLS & SLABS JOINING EXISTING STRUCTURES

TRANSVERSE JOINTS



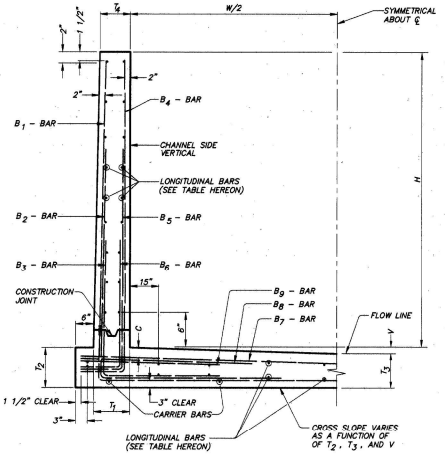
LONGITUDINAL JOINTS

CONSTRUCTION JOINT DETAILS



TYPICAL WALL STEEL SPACING

NOT TO SCALE



TYPICAL RC OPEN CHANNEL DETAIL (A–7/8)

NOT TO SCALE

STRUCTURAL NOTES

GENERAL:

1. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO THE NEAREST EDGE OF BAR AND SHALL BE TWO INCHES UNLESS OTHERWISE SHOWN.
2. CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE, AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIALLY) TO CENTERLINE OF CHANNEL ON THE PLAN EXCEPT AS OTHERWISE SHOWN.
3. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318–95) SECTION 7.3.
4. PLACING OF REINFORCEMENT SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318–95) SECTION 7.3.
5. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30 INCHES OF MANHOLE OR JUNCTION STRUCTURE OPENING, OR SIDE INLETS.
6. TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE SHOWN.
7. THE TRANSVERSE REINFORCING STEEL SHALL TERMINATE ONE AND ONE–HALF INCHES FROM THE CONCRETE SURFACES UNLESS OTHERWISE SHOWN ON THE PLANS.
8. EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED.
9. NO SPLICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN SHOWN IN THE DRAWING WITHOUT APPROVAL OF THE ENGINEER. NO MORE THAN ONE SPLICE SHALL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED.
10. ALL LAP SPLICES SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318–95) SECTION 12.15. LONGITUDINAL STEEL SHALL BE LAPPED 24 BAR DIAMETER AT SPLICES. TRANSVERSE STEEL SHALL BE LAPPED USING THE FOLLOWING TABLE:

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18
LENGTH OF LAP SPLICE	25"	31"	38"	54"	62"	70"	79"	87"	TENSION LAP SPLICING NOT PERMITTED	

ADDITIONAL NOTES FOR R.C. OPEN CHANNEL SECTIONS:

11. LONGITUDINAL STEEL SHALL TERMINATE TWO INCHES FROM TRANSVERSE CONSTRUCTION JOINTS.
12. TRANSVERSE CONSTRUCTION JOINTS SHALL BE SPACED NOT TO EXCEED 50 FEET NOR BE LESS THAN 10 FEET, MEASURED ALONG THE CENTERLINE OF CONSTRUCTION, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
13. TRANSVERSE CONSTRUCTION JOINTS SHALL BE PLACED AT THE JUNCTION OF RECTANGULAR OPEN CHANNEL SECTIONS WITH CLOSED CONDUIT SECTIONS.
14. THE MAXIMUM SPACING OF BARS IN CURVED SECTIONS SHALL NOT EXCEED THAT SHOWN ON THE TYPICAL SECTIONS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS. STEEL SHALL BE PLACED RADIALLY FROM THE MAXIMUM SPACING.
15. AT THE BEGINNING AND ENDING OF ALL POURS, A COMPLETE CURTAIN OF REINFORCEMENT COMPOSED OF B_1, B_4, AND B_7 BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT.
16. ALL TRANSVERSE JOINTS SHALL BE PROVIDED WITH 1 1/2" x 3/4" FORMED GROOVE IN THE INSIDE FACE AND TOP OF WALLS AND WITH 3/4" TOOLED JOINT IN THE BOTTOM SLAB.
17. THE BAR LENGTHS TABULATED FOR TRANSITIONS ARE APPLICABLE TO THE LARGER SECTION ONLY. THE BARS REQUIRING ADJUSTMENT ARE THOSE TABULATED IN THE TABLE HEREON AND SHALL BE ADJUSTED AS NECESSARY WITHIN THE TRANSITION.
18. TRANSVERSE WALL JOINTS SHALL HAVE A 4" POLYVINYL CHLORIDE WATERSTOP (SPLIT RIBBED CENTER BULB TYPE) WHICH SHALL BE CONTECH VINYLSTOP NO. 4315, BURKE VINYLOK WATERSTOP R.S.B. 316–4, OR AN APPROVED EQUAL.
19. THE LONGITUDINAL WALL JOINTS SHALL HAVE A 4" POLYVINYL CHLORIDE WATERSTOP (RIBBED TYPE) WHICH SHALL BE BURKE VINYLOK WATERSTOP R.316–4, WATER SEALS INC. FLEXSTRIP OR AN APPROVED EQUAL. THE WATERSTOP SHALL BE TIED TO THE OUTSIDE OF THE REINFORCING STEEL AT THE TOP AND BOTTOM WITH ONE PIECE OF WIRE AT APPROXIMATELY 1'–0" SPACING, PUNCHING SHALL NOT BE ALLOWED. THE WATERSTOP SHALL BE CONTINUOUS FOR EACH WALL SECTION.
20. B_1 BARS MAY BE SPLICED ABOVE THE LONGITUDINAL CONSTRUCTION JOINT. USE LAP SHOWN IN THE TABLE HEREON.
21. THE LONGITUDINAL CONSTRUCTION JOINTS SHALL BE CONTINUOUS.

DESIGN DATA:

LATERAL LOADS:

EXTERNAL: 62.5 P.S.F. E.F.P.
INTERNAL: 40.0 P.S.F. E.F.P.

ALLOWABLE STRESS:

f'_c = 4000 p.s.i.
f_c = 1600 p.s.i.
f_s = 20000 p.s.i.
n = 8

FOUNDATION MODULUS:

58 #/in.^{3}

TEMPERATURE STEEL:

S.C.S. ENGINEERING HANDBOOK, SECTION 6, PARAGRAPH 4.2.2.1

SHEAR AND BOND STRESS PER A.C.I. 318–95

RC CHANNEL TABLE

CHANNEL SECTION			A
WIDTH		W	12.00
HEIGHT		H	5.00
THICKNESS (MINIMUM)	BASE OF WALL	T_1	10.00
	SLAB AT FACE OF WALL	T_2	10.50
	SLAB AT ℄	T_3	10.50
	TOP OF WALL	T_4	10.00
INVERT DROP		V	2.00
STEEL CLEARANCE INVERT		C	3.00
B_1 BAR	BAR # AND SPACING		#4 @ 16"
	HORIZONTAL LENGTH		7'–9"
	VERTICAL LENGTH		5'–5"
B_2 BAR	BAR # AND SPACING		–
	HORIZONTAL LENGTH		–
	VERTICAL LENGTH		–
B_3 BAR	BAR # AND SPACING		#4 @ 16"
	HORIZONTAL LENGTH		7'–9"
	VERTICAL LENGTH		5'–5"
B_4 BAR	BAR # AND SPACING		#4 @ 18"
	HORIZONTAL LENGTH		1'–0"
	VERTICAL LENGTH		5'–5"
B_5 BAR	BAR # AND SPACING		–
	HORIZONTAL LENGTH		–
	VERTICAL LENGTH		–
B_6 BAR	BAR # AND SPACING		–
	HORIZONTAL LENGTH		–
	VERTICAL LENGTH		–
B_7 BAR	BAR # AND SPACING		#4 @ 12"
	HORIZONTAL LENGTH		14'–5"
B_8 BAR	BAR # AND SPACING		–
	HORIZONTAL LENGTH		–
B_9 BAR	BAR # AND SPACING		–
	HORIZONTAL LENGTH		–

LONGITUDINAL BAR SIZE AND QUANTITY

WALLS	UNEXPOSED FACE	#4
	NUMBER OF BARS (TOTAL)	7
	EXPOSED FACE	#5
	NUMBER OF BARS (TOTAL)	7
INVERT	UNEXPOSED FACE	#4
	NUMBER OF BARS (TOTAL)	20
	EXPOSED FACE	#5
	NUMBER OF BARS (TOTAL)	20
NUMBER OF #4 CARRIER BARS		4
CONCRETE QUANTITY: CY/LF		0.784
STEEL QUANTITY: LB/LF		94.815

R.C. OPEN CHANNEL LOCATION

CHANNEL SECTION NUMBER	STATIONS FROM	STATIONS TO	REMARKS
A	8+46.00	13+46.00	

RECORD DRAWING
DATE PROJECT COMPLETED April 7, 1999
REVISIONS SUBMITTED BY Eldon Walker
DRAWING REVISED BY Gary D. Quick
APPROVED BY [signature] DATE 7-28-99

REVISION	DESCRIPTION	APP.	DATE
D			
C			
B			
A			
△			

WALNUT CANYON SHT-3. ENG. 8/18/98, FL, 4/28/99,DD

DESIGNED M. JILANI | DRAWN FL | CHECKED H. CLABAUGH
PROJ. ENG. [signature] REG. NO. 26412 DATE 8/28/98
RECOMMENDED [signature] APPROVED [signature]

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY FLOOD CONTROL DISTRICT

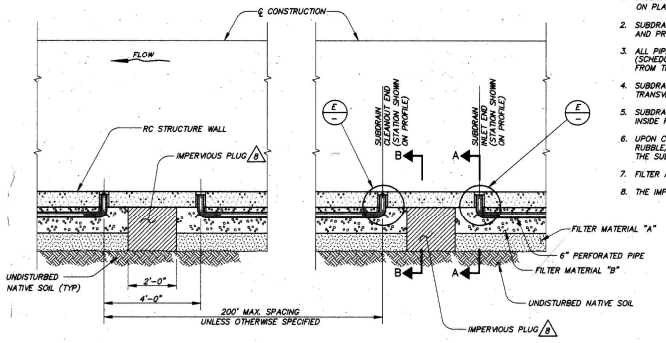
SPEC. NO. FC 98–23
PROJ. NO. F7110

WALNUT CANYON CHANNEL - 1998 REPAIR
R.C. OPEN CHANNEL – STRUCTURAL SECTIONS

SHEET 3 OF 4
M.R.C.S. DRAWING NO.
V.C.F.C.D. DRAWING NO. Y-3-3787

EAGLE FILE COPY 8½ x 11 — WALNUT CANYON — CHANNEL REPAIR — Y-3-3787 — 3 of 4

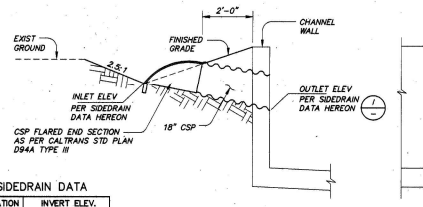
MICROFILM



PLAN VIEW

NOTES FOR SUBDRAIN SYSTEM

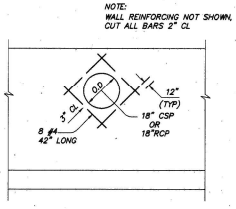
1. SUBDRAINS SHALL BE INSTALLED BEHIND RC OPEN CHANNEL WALLS AS SHOWN ON PLAN AND PROFILE SHEET 2
2. SUBDRAIN CLEANOUT SHALL BE PLACED AT DESIGNATED LOCATIONS AS SHOWN ON PLAN AND PROFILE SHEET 2
3. ALL PIPE SHALL BE PERFORATED AND SHALL BE POLYVINYL CHLORIDE (PVC) PLASTIC (SCHEDULE 40). PIPE PERFORATIONS SHALL BE ON 120 DEGREE ARC AND FACE OUTWARD FROM THE WALL. (SEE DETAIL HEREON)
4. SUBDRAIN INLETS AND CLEANOUT ENDS SHALL BE LOCATED A MINIMUM OF 2 FEET FROM TRANSVERSE CONSTRUCTION JOINTS.
5. SUBDRAIN INLETS SHALL BE SET IN WALL AND NO PART OF IT SHALL PROTRUDE BEYOND THE INSIDE FACE OF CHANNEL WALL, SEE DETAIL HEREON.
6. UPON COMPLETION OF THE PROJECT, CONTRACTOR SHALL CLEAR ALL SUBDRAINS OF DIRT, RUBBLE, OR OTHER RESTRICTIONS THAT WOULD PROHIBIT FREE FLOW OF WATER THROUGH THE SUBDRAIN PIPE.
7. FILTER AND DRAIN MATERIAL SHALL BE PLACED UP TO PIPE INVERT PRIOR TO INSTALLING PIPE.
8. THE IMPERVIOUS PLUG SHALL CONSIST OF CLASS 500-C-2500 CONCRETE.



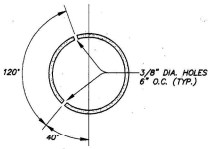
SIDEDRAIN DATA

LOCATION STATION	INVERT ELEV. INLET	OUTLET
9+71	451.35	450.35
12+71	452.75	451.75

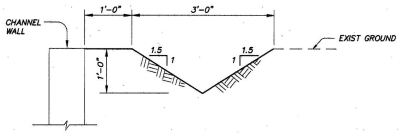
18" CSP SIDEDRAIN J 12
NOT TO SCALE



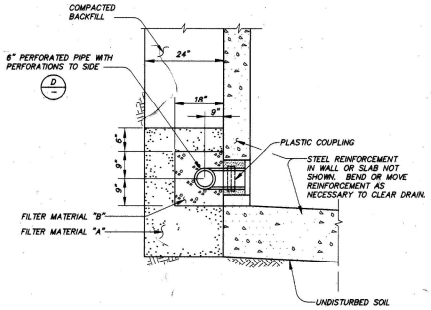
PIPE CONNECTION DETAIL I 7 8
NOT TO SCALE



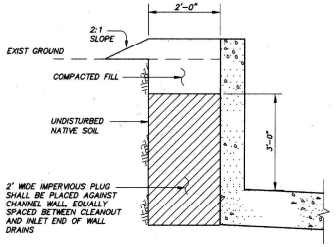
PERFORATED PIPE DETAIL D



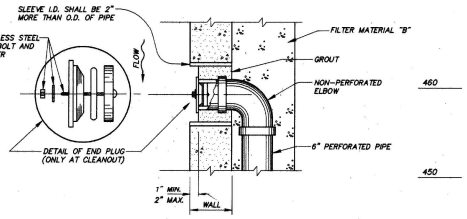
EARTH V-DITCH DETAIL G 6
NOT TO SCALE



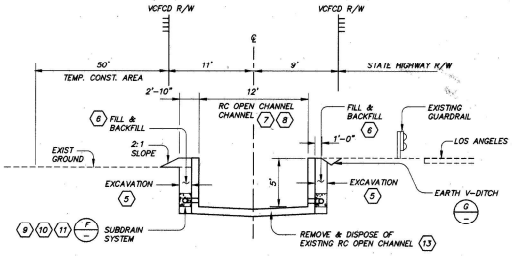
SECTION A-A



SECTION B-B



CLEANOUT AND INLET END DETAIL E



TYPICAL PAY SECTION H
STA 8+46.00 TO STA 13+46.00
NOT TO SCALE

SUBDRAIN SYSTEM F 9 10 11
NOT TO SCALE

RECORD DRAWING
DATE PROJECT COMPLETED April 7, 1999
REVISIONS SUBMITTED BY Elida Walker
DRAWING REVISED BY John P. Quick
APPROVED BY [signature] DATE 7-20-99

WALNUT CANYON SH1-4 8/18/98 FL 4/23/99 JBS

D			
C			
B			
A	REVISION DESCRIPTION	APP.	DATE

DESIGNED M. JILANI | DRAWN FL | CHECKED H. CLABAUGH
PROJ. ENG. [signature] REG. NO. 26912 DATE 8/18/98
RECOMMENDED [signature] APPROVED [signature]

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY FLOOD CONTROL DISTRICT

SPEC. NO. FC 98-23
PROJ. NO. F7110

WALNUT CANYON CHANNEL - 1998 REPAIR
SUBDRAIN SYSTEM AND MISCELLANEOUS DETAILS

SHEET 4 OF 4
V.C.F.C.D. DRAWING NO. Y-3-3768

CONSULCORP, INVINE, CA. | EMI 22 | WALNUT CANYON CHANNEL REPAIR | Y-3-3768 | 4 of 4

PERMIT MODIFICATION
PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT
800 South Victoria Avenue, Ventura, CA 93009
(805) 654-2001

Applicant: CITY OF MOOORPARK REDEVELOP.AGENCY
Address: 799 MOORPARK AVENUE
MOORPARK, CA 93021
Phone #: (805)517-6217
Watercourse: WALNUT CANYON STORM DRAIN
Zone: 3
Purpose:

Permit #: 2008074-A
Project #: 8B875
Mod #:

THIS PERMIT ALLOWS WORK ON THE PORTION OF THE CONSTRUCTION COVERED BY THIS MODIFICATION SHALL BE COMPLETED IN ACCORDANCE WITH THE PLANS & SPECIFICATIONS ATTACHED & IDENTIFIED AS EXHIBIT "C". WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET, REVISED SHEETS 2, 3, 5, AND 6, WHICH ARE WPD DRAWING NOS. Y-3-4650, -4651, -4653, AND -4654 RESPECTIVELY, LAST REVISED ON 07/09/2009, WITH HAND CORRECTIONS IN RED ON SHEETS 2 & 5.

Plan Check Deposit:	$0.00	*Receipt#*		
Inspection Deposit:	$0.00	*Receipt#*		
Application Fee:	$180.00	*Receipt#*	8201	07/14/2009
Plan Check Fee:	$0.00	*Receipt#*		
Inspection Fee:	$0.00	*Receipt#*		
Facility Use Fee:	$0.00	*Receipt#*		
Access Key Deposit:	$0.00	*Receipt#*	8201	
Performance Security:	$0.00			

Work Start Date: 7/14/2009
Issue Date: 7/14/2009
Expiration Date: 9/30/2009

Estimated Completion Date: 9/30/2009
Final Inspection:
File Closing Date:

All permit conditions contained in the original permit remain in full force except as modified by the conditions contained herein.

SEE ATTACHED SPECIAL CONDITIONS FOR PERMIT 2008-074A

In addition to the above special conditions (if any), all conditions, terms and provisions of the original and/or modified permit(s) not modified herein, remain unchanged and in full force and effect.

Permittee's Signature — TUGAN K. LALL — Permittee (print name) — Date 5/15/09

Applicant Signature — CITY OF MOORPARK — Applicant (print name)

Engineer/Manager — Date 14 July 2009

Form 11/2004

SPECIAL CONDITIONS

1. All permit conditions contained in the original permit remain in full force except as clarified or modified by the conditions contained herein.
2. Work on the portion of the construction covered by this modification shall be completed in accordance with the plans and specifications attached and identified as Exhibit "C" (Walnut Canyon Channel Improvements at High Street, revised sheets 2, 3, 5, and 6, which are WPD Drawing Nos. Y-3-4650, -4651, -4653, and -4654 respectively, last revised 7-09-09, with hand corrections in red on sheets 2 and 5).
3. This modification is for the sole purpose of allowing the following changes to the original plans: the addition of 4 feet of 96" RCP at the downstream end of the junction structure, Sta 96+11.18 (Sheet 2, change B); the addition of 8 feet of 96" RCP at the downstream end of the transition structure, Sta 98+30 (Sheet 3, change A); the extension of the transition structure by 2 feet, Sta 93+87.18 (Sheet 2, change C); the extension of the transition structure by 2 feet, Sta 100+04.75 (Sheet 3, change A); the addition of an 18" RCP lateral connection at Sta 99+82.60 (Sheet 3, change B); the removal of an existing 12" PVC lateral connection at Sta 94+69 (Sheet 2, change A) by abandoning in place; the addition of a 20-foot wide double leaf chain-link gate at Sta 100+56.75 (Sheet 3, change D); the change of SE (sand equivalent) in a typical bedding section from SE>75 to SE >= 30 or as approved by the District (Sheet 6, Change A); the change of location of two manholes, one to the junction structure at Sta 96+21.18 (Sheet 2, change B), and the other to the transition structure at Sta 98+40 (Sheet 3, change C); the change of location of the fence along the eastern right-of-way to 12 feet west (Sheet 3, change E); and the change in the height of the parapet wall at Sta 93+45.18 from 18" to 23" (Sheet 2, change G and Sheet 5, change B).
4. The transition structure located at Sta 98+30 to 98+52.75, including the manhole located at Sta 98+40, must be constructed according to the shop drawings that have been submitted to and approved by the District. The steel and other design details based on the approved shop drawings for this transition must be incorporated into the as-built drawings upon completion of construction.
5. There are still discrepancies in the stationing of the downstream transition structure on sheets 2 and 5. These discrepancies have been noted in red by the District on Exhibit "C." All construction and as-built drawings shall be based on the corrected stations as shown on the hand-corrected plans (Exhibit "C") accompanying this modification.

SPECIAL CONDITIONS

1. All permit conditions contained in the original permit remain in full force except as clarified or modified by the conditions contained herein.
2. Work on the portion of the construction covered by this modification shall be completed in accordance with the plans and specifications attached and identified as Exhibit "C" (Walnut Canyon Channel Improvements at High Street, revised sheets 2, 3, 5, and 6, which are WPD Drawing Nos. Y-3-4650, -4651, -4653, and -4654 respectively, last revised 7-09-09, with hand corrections in red on sheets 2 and 5).
3. This modification is for the sole purpose of allowing the following changes to the original plans: the addition of 4 feet of 96" RCP at the downstream end of the junction structure, Sta 96+11.18 (Sheet 2, change B); the addition of 8 feet of 96" RCP at the downstream end of the transition structure, Sta 98+30 (Sheet 3, change A); the extension of the transition structure by 2 feet, Sta 93+87.18 (Sheet 2, change C); the extension of the transition structure by 2 feet, Sta 100+04.75 (Sheet 3, change A); the addition of an 18" RCP lateral connection at Sta 99+82.60 (Sheet 3, change B); the removal of an existing 12" PVC lateral connection at Sta 94+69 (Sheet 2, change A) by abandoning in place; the addition of a 20-foot wide double leaf chain-link gate at Sta 100+56.75 (Sheet 3, change D); the change of SE (sand equivalent) in a typical bedding section from SE>75 to SE >= 30 or as approved by the District (Sheet 6, Change A); the change of location of two manholes, one to the junction structure at Sta 96+21.18 (Sheet 2, change B), and the other to the transition structure at Sta 98+40 (Sheet 3, change C); the change of location of the fence along the eastern right-of-way to 12 feet west (Sheet 3, change E); and the change in the height of the parapet wall at Sta 93+45.18 from 18" to 23" (Sheet 2, change G and Sheet 5, change B).
4. The transition structure located at Sta 98+30 to 98+52.75, including the manhole located at Sta 98+40, must be constructed according to the shop drawings that have been submitted to and approved by the District. The steel and other design details based on the approved shop drawings for this transition must be incorporated into the as-built drawings upon completion of construction.
5. There are still discrepancies in the stationing of the downstream transition structure on sheets 2 and 5. These discrepancies have been noted in red by the District on Exhibit "C." All construction and as-built drawings shall be based on the corrected stations as shown on the hand-corrected plans (Exhibit "C") accompanying this modification.

WATERCOURSE PERMIT ☐ ENCROACHMENT PERMIT ☒

PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

800 South Victoria Avenue, Ventura, CA 93009

Applicant: CITY OF MOORPARK REDEVELOP. AGENCY
Address: 799 MOORPARK AVENUE
MOORPARK, CA 93021
Phone #: (805)517-6217
Watercourse: WALNUT CANYON STORM DRAIN
Zone: 3
Purpose:

Permit #: 2008074
Project #: 8B875
Mod #:

WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE PLANS AND SPECS ATTACHED & IDENTIFIED AS EXHIBIT "A" (VCWPD DRWGS - WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH ST., Y-3-4649 ~ Y-3-4659, 11 SHTS), EXHIBIT "B" (CITY OF MOORPRK DWGS STORM DRAIN IMPROVEMENT PLANS, MOORPARK DRAIN #1 RE-ALIGNMENT- HIGH ST. IMPROVEMENTS, 3 SHEETS, DWG. NO. 08-ML-10909), AND THE STANDARD AND SPECIAL CONDITIONS OF THIS PERMIT.

Plan Check Deposit:	$1,860.00	***Receipt#***	7915	*08/28/2008*
Inspection Deposit:	$0.00	***Receipt#***		
Application Fee:	$140.00	***Receipt#***	7915	08/28/2008
Plan Check Fee:	$0.00	***Receipt#***		
Inspection Fee:	$0.00	***Receipt#***		
Facility Use Fee:	$0.00	***Receipt#***		
Access Key Deposit:	$0.00	***Receipt#***	7915	
Performance Security:	$0.00			

Work Start Date: 3/11/2009
Issue Date: 3/11/2009
Expiration Date: 9/30/2009
Estimated Completion Date: 9/30/2009
Final Inspection:
File Closing Date:

___ I hereby affirm that I have a Certificate of Consent to self-insure, or a certified copy Certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3800 Labor Code), which is hereby furnished.

___ I, as applicant, am a licensed contractor, or I am exclusively contracting with licensed contractors to construct the project who will furnish the District evidence of Worker's Compensation Insurance prior to beginning work.

___ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation laws of California (I acknowledge that, if , after making this certification, I should become subject to the Worker's Compensation provision of the Labor Code, I must forthwith comply with such provisions or this permit shall be deemed revoked.)

I hereby acknowledge that the information above is correct and that all permitted acts shall be in accordance with Ordinance No. FC 18 (for Watercourse Permit) and approved plans, if applicable. In consideration of the Ventura County Watershed Protection District issuing this permit. I agree to comply with all terms of this permit including Standard Conditions and Special Provisions. I also agree that all work specified herein shall be commenced within sixty (60) days after the permit is issued or by the date of commencement as set forth above, whichever is earlier, and that all work will be pursued to its completion with reasonable diligence. All work under this permit shall be completed by the completion date specified above, or within one hundred eighty (180) days after the issuance. I understand that this permit may be revoked by the District at any time.

APPLICANT: ROBERT W. ANDERSON (Print Name) **APPLICANT:** _____ (Signature)

ADDRESS: 1956 PALM DR., #E, VENTURA, CA **TELEPHONE NO.:** 805-650-5125

I, hereby acknowledge that upon completion of work covered by this permit the permittee shall accept the improvement not deemed to be the responsibility of the District and shall own, operate and maintain said improvements in accordance with acceptable practice and the requirements of this permit. I understand that this permit may be revoked by the District at any time.

PERMITTEE TUCKER K. LAU (Print Name) Moorpark (City/District - Print) City Engineer (Title / Position) **Date:** 8/28/08

PERMITTEE SIGNATURE: _____ **TITLE:** Public Works Director

Permit Approved By _____ **Title/Position** Permit Manager **Date Issued:** 11 March 2009

NOTIFY PERMIT ENGINEER AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF WORK

FORM 11/22

STANDARD CONDITIONS
APPLICANT

1. Applicant shall maintain District's right-of -way free from any and all debris resulting from the performance of the work under this permit.
2. Activities and uses authorized under this permit are subject to any instructions of the Engineer-Manager or his representative. All instruction must be strictly observed.
3. Any work performed under this permit prior to notification of the District will be subject to whatever action the District deems necessary, including restoration to condition existing before work was begun.
4. Any damage caused to structures owned and operated by District by reason of exercise of the permit shall be repaired by the applicant at his expense and to the satisfaction of the District.
5. This permit is valid only to the extent of District jurisdiction. Permits required by other interested agencies and consent of other interested agencies and the underlying fee owner of District easement lands shall be the responsibility of the applicant. Nothing contained in this permit shall be construed as a relinquishment of any rights now held by the District.
6. Applicant shall indemnify, defend and hold the District, its officers, agents and employees harmless from any and all claims, costs, expenses, liabilities, defense, legal costs, and judgments for damages arising out of, or in any way connected with, the exercise of this permit by applicant or its contractors, agents employees and invitees.
7. Unless otherwise specified herein, this permit is subject to all prior unexplored encroachment permits for the facilities covered by this permits.
8. If conditions change or new acts are discerned concerning the effects of the activities and uses authorized under this permit, or for other good cause, the District way modify the permit in order to protect life and property.
9. Applicant shall provide the District with record drawings (as built) signed by a registered civil engineer and approved by the permittee, depicting the work authorized by the permit within 30 days after installation. Applicant and/or Applicant's or registered engineer, shall be liable for all costs incurred by the District as result of inaccurate record data.
10. Applicant shall cause any bond, if required by the permit, to remain in effect to guarantee all the work to be performed and all the materials to be furnished under this permit against defects in materials or workmanship for a period of one (1) year from the date of final acceptance of the completed work by the District. Applicant shall, within reasonable time after receipt of written notice thereof, make good (at his own expense or at his surety's expense) and without cost of District, any defects in materials or workmanship, which may develop during said one-year period to other work caused by such defects or repairing of the same.
11. Applicant shall pay District all monies due upon written notification and within 30 days of the final inspection.
12. Applicants shall be responsible for the work covered by this permit until all work is deemed completed by the District and Permittee. Permittee shall have no obligation or liability until the acceptance of the work covered by this permit.
13. This permit shall be deemed complete only when all the requirements of the permits are satisfied, and applicant has provided District with written documentation for permittee of satisfactory acceptance of the work performed by applicant.

STANDARD CONDITIONS
PERMITTEE

1. Permittee shall accept all responsibility for perimeter's facilities constructed by applicant pursuant to this permit, upon completion of all work and approval by District and permittee.
2. Any structure or portions thereof placed upon District rights-of -way, or which affect District structures, shall be removed, revised, and/or relocated by permittee without cost to the District, should future activities of the District so require, unless otherwise specified by the District.
3. If the facility subject to this permit changes ownership, the permittee must advise the new owner to contact the District concerning the need for the issuance of the permit modification.
4. No modification, upgrading or reconstruction of facilities covered by this permit is authorized without a prior approval by District.
5. Permittee shall designate, in writing a person responsible for the activities covered by this permit and shall notify District when changes occur,
6. Permittee shall indemnify, defend and hold the District, its officers, agents and employees harmless from any and all claims, costs, expenses, liabilities, defense and legal costs and judgment for damages arising out of, or in any way connected with, the exercise of this permit by permittee or its contractor, agents, employees and invitees.
7. Permittee shall comply with the requirements of the Ventura Countywide Stormwater Quality Management Program (VCSQMP), as well as other state and federal requirements of the Clean Water Act.

SPECIAL CONDITIONS

1. Work shall be completed in accordance with the plans and specifications attached and identified as Exhibit "A" (VCWPD drawings entitled Walnut Canyon Channel Improvements at High Street, Y-3-4649 through Y-3-4659, 11 Sheets), Exhibit "B" (City of Moorpark drawings entitled Storm Drain Improvement Plans, Moorpark Drain #1 Re-Alignment - High Street Improvements, 3 Sheets, Dwg. No. 08-ML-10909), and the Standard and Special Conditions and Provisions of this permit.

2. This permit is for the purpose of allowing the following changes in Walnut Canyon Drain: the construction of approximately 382 feet of 96" RCP, 113 feet of transition structure, 50 feet of junction structure, and 152 feet of 72" RCP. The new construction will tie into the existing 6'x5' RCC at Sta. 100+46.75 at the upstream end and into the existing 8'x5' RCC at Sta. 93+37.18 at the downstream end. The work will also include the removal of approximately 320 feet of existing 8'x5' RCC and 420 feet of existing 6'x5' RCC.

3. This permit is for the purpose of allowing the following changes in Moorpark Drain No. 1: the construction of approximately 229 feet of 6'W X 3.5'H RCB, 40 feet of transition structure and 48 feet of 60-inch RCP. The new construction will tie into the existing RCB at Sta. 4+77.00 at the upstream end and junction with the new 96-inch RCP for Walnut Canyon Drain at Sta. 1+34.84. The work will also include the removal of approximately 320 feet of the existing 6'W X 3.5'H RCB in High Street.

4. Permits required by other agencies and consent of property owners shall be the sole responsibility of the Permittee.

5. The Permittee is responsible for the operation, maintenance, repair, and reconstruction of all improvements until completion and acceptance of the entire system by the District. It is understood that upon completion of the work and official acceptance of said work by the District, 1) the Permittee (City of Moorpark) shall be responsible for all maintenance, repair and reconstruction of the street and related appurtenances, as well as Moorpark Drain No. 1, in perpetuity and 2) the District shall be responsible for the maintenance, repair and reconstruction of Walnut Canyon Drain. In the future, should the District require that work be accomplished on Walnut Canyon Drain, the Permittee will be obligated to perform that work required to remove, repair and/or reconstruct the street to accommodate the District's work on said storm drain.

6. No work shall be carried out in the vicinity of the 2" gas line (approximately Sta 96+85) until written approval from the Gas Company is obtained and submitted to the District.

7. No work shall be carried out in the vicinity of the 8" water line (approximately Sta 97+02) until written approval from the relevant water company (VCWW) is obtained and submitted to the District.

8. This permit does not authorize future encroachments; however, anyone wishing to perform maintenance, repair, or reconstruction, or construct, install, or place anything in the District's easement can apply to the District for separate encroachment permits.

9. If the removals, repair and/or reconstruction requested by the District are not accomplished within the time frame specified in writing by the District, without further notice to Permittee the District may contract out or perform the removal, relocation, repair or reconstruction of the improvements at the sole expense of the Permittee for the actual cost of the work, including administrative costs.

10. This project shall not be considered complete in the field until all District permit conditions have been complied with to the satisfaction of the District, as determined by the District at its sole discretion.

11. This project shall not be officially accepted by the District until all accounts have been brought up to date and all invoices paid in full.

12. During the course of construction, the Permittee shall pay all invoices in full within 30 days of receiving them. Failure to do so may result in the issuance of a Notice of Non-Compliance or a Stop Work at the District's discretion.

13. This permit shall not be closed and the improvements shall not be accepted by the District until the additional easements required for Walnut Canyon Channel have been conveyed to the District and the easement documents recorded with the County Recorder's office. In addition, in order for the As-Built plans to be deemed complete, the approved easement metes and bounds shall be delineated on the Right of Way Map, Sheet 9 of the plan set.

14. Permittee shall notify the Permit Inspection Coordinator by calling 805-650-4060 and faxing the Pre-Construction Meeting Form attached to 805-654-3350 at least 5 working days prior to the commencement of work to schedule a pre-construction meeting. Any work performed prior to the pre-construction meeting or without the appropriate notification of the Permit Inspection Coordinator may be subject to rejection and may have to be re-done. In addition, upon completion of work the Permittee must arrange for a post-construction meeting. The permit cannot be closed and unexpended funds cannot be returned until a post-construction meeting has been held and all outstanding deficiencies and issues resolved.

15. Prior to or at the pre-construction meeting, the Permittee shall provide the District Representative/Inspector with a schedule of work that includes the timing and location of work.

16. Permittee shall immediately notify the District in writing of any changes that may impact the conditions or uses authorized under this permit.

17. Permittee is responsible for on-going coordination with the District Representative/ Inspector for issues and conditions related to this permit. Activities and uses authorized under this permit are subject to any instructions from the engineer - manager or his representative. All instructions must be strictly observed. Additionally, all work must be performed in the presence of the District's inspector, unless otherwise authorized.

18. Proof of automobile coverage, Worker's Compensation and General Liability Insurance shall be submitted by the Permittee and/or Permittee's contractor prior to or at the Pre-Construction Meeting. The coverage shall have the Ventura County Watershed Protection District named as an additional insured and a copy of the current policy together with the General Liability Endorsement Page and the Workers' Compensation Subrogation Waiver Page shall be kept on file with the District for the duration of this permit.

19. In the event Permittee's and/or Permittee's contractor(s) Worker's Compensation and/or General Liability Insurance Certificates expire prior to the expiration date of the permit, it shall be the Permittee's responsibility to ensure the new certificates are sent to the District prior to the insurance policy expiration date and that the policy remains in full force and effect. Failure to provide the District with current insurance certificates is cause for a Stop Work Notice to be issued by the District on the project.

20. Following completion of construction and prior to official acceptance of the project by the District, the Permittee shall provide to the District mylar As-Built plans accompanied by a scanned digital image uncompressed .TIF file with a minimum standard resolution of 300 DPI or an AutoCAD file on CD or DVD for Walnut Canyon Channel and a scanned digital image uncompressed .TIF file with a minimum standard resolution of 300 DPI or an AutoCAD file on CD or DVD for Moorpark Drain No. 1.

21. Permittee shall take appropriate measures to mitigate potential damage to the existing Ventura County Watershed Protection District facilities. Any damage caused to District's facilities during the exercise of this permit shall be repaired at the Permittee's expense, to the satisfaction of this District. Permittee shall immediately restore to original conditions or better all District facilities that are damaged or disturbed.

22. No modification, upgrading, repair or reconstruction of the facilities covered by this permit is authorized without prior written approval from this District.

23. The project site shall be secured at all times to prevent unauthorized entry into the District's rights-of-way and access roads.

24. The Ventura County Watershed Protection District has not reviewed the structural calculations, geotechnical recommendations, or channel hydraulics associated with the construction of the improvements along Moorpark Drain # 1 as shown on Exhibit "B". The City of Moorpark is acting as the responsible agency for all issues related to the construction of the Moorpark Drain #1 improvements.

25. Permittee shall provide for all surveying and construction staking to ensure compliance with the plans and specifications. Permittee shall provide the District with the basic survey control information, signed and stamped by a licensed surveyor, used to perform the construction survey. Permittee shall additionally provide the District's Representative/Inspector with a copy of current complete survey notes, signed and stamped by a licensed surveyor, for area of the work subject to this permit to ensure compliance with the design grades.

26. The design of the project is presently based on a temporary benchmark; therefore, the Permittee shall establish survey control based on a permanent benchmark in the field prior to the performance of any work, including grading, associated with this permit. This updated survey control information shall be reflected on the As-Built plans.

27. Permittee or Contractor shall send submittals, mix designs, shop drawings and material test results for the fill, backfill, sub-grade materials, concrete, slurry, pipe concrete, and steel to Permittee's Engineer for review and approval. After approving, the Engineer shall provide said submittals to the District Engineer for oversight review and approval. The District shall also have oversight review and concurrence on excavation and shoring plans. For each submittal, no associated work shall commence until the Permittee has received the District's signed approval.

28. The fill and backfill material shall be free of organic material, rubbish, debris, and bituminous type pavement. Permittee shall be responsible for ensuring a certificate of non-contamination has been submitted to the District Engineer/Representative prior to placement of the fill.

29. The minimum relative compaction of all fill and backfill shall be 90 percent. Applicant/ Permittee shall provide the District with written documentation from a licensed soils/ geotechnical engineer that the required compaction has been met prior to proceeding with the next construction component.

30. **Compaction Testing.** The work on this permit is subject to performing compaction tests and obtaining approval by the Permittee's Engineer and District Engineer. Compaction tests shall be performed by a Certified Geotechnical Engineering firm licensed in the State of California. Test results shall be submitted to the Permittee's Engineer and District Engineer concurrently and shall include, but not be limited to, the following: 3 point maximum density-optimum moisture curve, a sketch indicating where compaction tests were performed and at indicated depths, and a tabulation of compaction results in percentage of maximum density.

    In all cases, the 3 point maximum density-optimum moisture curve shall be determined prior to performing field compaction tests. Test results shall be made available on the day compaction tests are performed in the field when requested by the Permittee's Engineer, District Engineer or District Inspector.

    For large compaction requirements, Permittee's Contractor shall coordinate with the District Engineer on the number of tests required, location and pre-determined vertical depths.

31. Permittee shall ensure the existence of an adequate all-weather access road on one side of the channel at all times.

32. The Permittee shall comply with all conditions and requirements of the Ventura Countywide Stormwater Quality Management Program (VCSQMP), the Ventura Countywide Storm Water Permit, NPDES Permit No. CAS004002, as well as other applicable requirements of the Porter-Cologne Act and the Clean Water Act. This shall include, but not be limited to, the following requirements:

    - All non-storm water discharges other than those that are allowable per NPDES Permit CAS004002 are prohibited.
    - Storm water discharges containing pollutants that have not been reduced to the maximum extent practicable are prohibited.
    - Permittee is responsible for the quality of discharges that enter the storm drain system and any degradation of receiving water quality resulting from such discharge.

33. If the project will result in land disturbing activity of greater than 1 acre, the Permittee shall comply with the requirements of NPDES Permit No. CAS000002, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activities (General Construction Permit). This shall include, but not be limited to the following requirements:

    - Permittee is responsible for implementation of a Stormwater Pollution Prevention Plan (SWPPP), and, if necessary, the Permittee shall modify the SWPPP at the request of the District representative during the course of the subject permit term. No further work shall be performed until adequate measures are implemented.
    - All non-storm water discharges are prohibited
    - All storm water discharges from construction sites shall implement Best Management Practices to reduce pollutants to the maximum extent practicable.

34. Permittee shall operate and maintain the site with the proper construction BMP's in a manner to reduce the discharge of pollutants to the maximum extent practicable. Permittee shall have available on-site for review a Stormwater Pollution Prevention Plan (SWPPP). The District reserves the right to require changes to the plans in the event that control measures are inadequate to control water pollution effectively. No further work shall be performed until adequate measures are implemented.

35. Any work performed within or adjacent to the bed and banks of the channel during the rainy season (November 1 to April 30) shall have a five-day clear weather forecast from the District. All debris, forms, etc. shall be removed from the channel and the site stabilized with appropriate BMP's to the satisfaction of the District in the event the District indicates rain in the forecast. No construction, which can obstruct the channel capacity and/or cause the transport of sediment, debris, or construction materials, shall be performed prior to obtaining a five-day clear weather forecast from the District.

36. The Permittee assumes all responsibility for work performed within or adjacent to a basin and/or channel during the rainy season (November 1 through April 30), including the need for water diversion plans, rainy season BMP's and all other additional requirements deemed necessary by the District or other legal authority.

37. Permittee shall submit its Water Control and Diversion Plan to the District for review and concurrence prior to commencement of work. The Plan shall illustrate BMP's implemented for preventing materials, including but not limited to dust, pieces of concrete and rebar from entering the streambed. The Water Diversion and Control Plan shall also detail a system capable of controlling illicit discharges during the rainy season. Permittee shall provide the District with a copy of the SWPPP updated for work within the channel area during the rainy season. The District reserves the right to require changes to the plans in the event it may be detrimental to the channel area.

38. No dumping of material into the channel or District facilities is allowed. Violation will result in the issuance of a Notice of Non-Compliance or Stop Work at the District's discretion.

39. No stockpiling of excavated material will be allowed within the bed and banks of the channel or District's rights-of-way. All excavated material not used during the construction operations shall be properly disposed of off-site in accordance with local, state and federal regulations.

40. No discharge of construction water to the downstream channel will be allowed. Permittee shall employ approved techniques that ensure all construction water is collected and properly disposed of in accordance with local, state, and federal regulations.

41. Spoils storage areas and staging/storage areas for equipment and materials shall be located outside of the channel area.

42. Equipment used in conjunction with the performance of this permit shall be removed at the end of each workday from the channel area. Additionally, refueling and other equipment maintenance shall be performed in a designated area outside the bed and banks of the channel to ensure petroleum products or other pollutants from the equipment will not enter the channel under any flow.

43. Any equipment or vehicles driven and/or operated within or adjacent to the channel shall be checked and maintained daily to prevent leaks of materials that, if introduced into the water environment, could be deleterious to aquatic life.

44. Stationary equipment such as motors, pumps, generators, and welders located within or adjacent to the channel shall be positioned over drip pans.

45. The cleanup of all spills shall begin immediately. The Department shall be notified immediately by the Permittee of any spills and shall be consulted regarding clean-up procedures.

46. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project related activities, shall be disposed of at an approved disposal site in accordance with Local, State and Federal regulations. Any of these materials placed within or where they may enter the channel by the Permittee shall be removed immediately.

47. No debris, soil, silt, sand, bark, trash, cement or concrete or washings thereof, oil or petroleum products, bituminous materials or other organic or earthen material from any construction, or associated activity of whatever nature shall be allowed to enter into or be placed where it can be washed by rainfall or runoff waters into waters under the regulatory jurisdiction of the District.

48. The Permittee shall employ good housekeeping practices by complying with all litter and pollution laws. All construction materials shall be collected and properly disposed of off-site. All contractors, subcontractors and employees shall also obey these laws and it shall be the responsibility of the Permittee to ensure compliance.

PERMIT MODIFICATION
PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT
800 South Victoria Avenue, Ventura, CA 93009
(805) 654-2001

Applicant: CITY OF MOOORPARK REDEVELOP.AGENCY
Address: 799 MOORPARK AVENUE
MOORPARK, CA 93021
Phone #: (805)517-6217
Watercourse: WALNUT CANYON STORM DRAIN
Zone: 3
Purpose:

Permit #: 2008074-A
Project #: 8B875
Mod #:

THIS PERMIT ALLOWS WORK ON THE PORTION OF THE CONSTRUCTION COVERED BY THIS MODIFICATION SHALL BE COMPLETED IN ACCORDANCE WITH THE PLANS & SPECIFICATIONS ATTACHED & IDENTIFIED AS EXHIBIT "C". WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET, REVISED SHEETS 2, 3, 5, AND 6, WHICH ARE WPD DRAWING NOS. Y-3-4650, -4651, -4653, AND -4654 RESPECTIVELY, LAST REVISED ON 07/09/2009, WITH HAND CORRECTIONS IN RED ON SHEETS 2 & 5.

Plan Check Deposit:	$0.00	*Receipt#*		
Inspection Deposit:	$0.00	*Receipt#*		
Application Fee:	$180.00	*Receipt#*	8201	07/14/2009
Plan Check Fee:	$0.00	*Receipt#*		
Inspection Fee:	$0.00	*Receipt#*		
Facility Use Fee:	$0.00	*Receipt#*		
Access Key Deposit:	$0.00	*Receipt#*	8201	
Performance Security:	$0.00			

Work Start Date: 7/14/2009
Issue Date: 7/14/2009
Expiration Date: 9/30/2009

Estimated Completion Date: 9/30/2009
Final Inspection:
File Closing Date:

All permit conditions contained in the original permit remain in full force except as modified by the conditions contained herein.

SEE ATTACHED SPECIAL CONDITIONS FOR PERMIT 2008-074A

In addition to the above special conditions (if any), all conditions, terms and provisions of the original and/or modified permit(s) not modified herein, remain unchanged and in full force and effect.

Permittee's Signature — TUGAN K. LALL — Permittee (print name) — Date 5/15/09

Applicant Signature — CITY OF MOORPARK — Applicant (print name)

Engineer/Manager — Date 14 July 2009

Form 11/2004

SPECIAL CONDITIONS

1. All permit conditions contained in the original permit remain in full force except as clarified or modified by the conditions contained herein.
2. Work on the portion of the construction covered by this modification shall be completed in accordance with the plans and specifications attached and identified as Exhibit "C" (Walnut Canyon Channel Improvements at High Street, revised sheets 2, 3, 5, and 6, which are WPD Drawing Nos. Y-3-4650, -4651, -4653, and -4654 respectively, last revised 7-09-09, with hand corrections in red on sheets 2 and 5).
3. This modification is for the sole purpose of allowing the following changes to the original plans: the addition of 4 feet of 96" RCP at the downstream end of the junction structure, Sta 96+11.18 (Sheet 2, change B); the addition of 8 feet of 96" RCP at the downstream end of the transition structure, Sta 98+30 (Sheet 3, change A); the extension of the transition structure by 2 feet, Sta 93+87.18 (Sheet 2, change C); the extension of the transition structure by 2 feet, Sta 100+04.75 (Sheet 3, change A); the addition of an 18" RCP lateral connection at Sta 99+82.60 (Sheet 3, change B); the removal of an existing 12" PVC lateral connection at Sta 94+69 (Sheet 2, change A) by abandoning in place; the addition of a 20-foot wide double leaf chain-link gate at Sta 100+56.75 (Sheet 3, change D); the change of SE (sand equivalent) in a typical bedding section from SE>75 to SE >= 30 or as approved by the District (Sheet 6, Change A); the change of location of two manholes, one to the junction structure at Sta 96+21.18 (Sheet 2, change B), and the other to the transition structure at Sta 98+40 (Sheet 3, change C); the change of location of the fence along the eastern right-of-way to 12 feet west (Sheet 3, change E); and the change in the height of the parapet wall at Sta 93+45.18 from 18" to 23" (Sheet 2, change G and Sheet 5, change B).
4. The transition structure located at Sta 98+30 to 98+52.75, including the manhole located at Sta 98+40, must be constructed according to the shop drawings that have been submitted to and approved by the District. The steel and other design details based on the approved shop drawings for this transition must be incorporated into the as-built drawings upon completion of construction.
5. There are still discrepancies in the stationing of the downstream transition structure on sheets 2 and 5. These discrepancies have been noted in red by the District on Exhibit "C." All construction and as-built drawings shall be based on the corrected stations as shown on the hand-corrected plans (Exhibit "C") accompanying this modification.

SPECIAL CONDITIONS

1. All permit conditions contained in the original permit remain in full force except as clarified or modified by the conditions contained herein.
2. Work on the portion of the construction covered by this modification shall be completed in accordance with the plans and specifications attached and identified as Exhibit "C" (Walnut Canyon Channel Improvements at High Street, revised sheets 2, 3, 5, and 6, which are WPD Drawing Nos. Y-3-4650, -4651, -4653, and -4654 respectively, last revised 7-09-09, with hand corrections in red on sheets 2 and 5).
3. This modification is for the sole purpose of allowing the following changes to the original plans: the addition of 4 feet of 96" RCP at the downstream end of the junction structure, Sta 96+11.18 (Sheet 2, change B); the addition of 8 feet of 96" RCP at the downstream end of the transition structure, Sta 98+30 (Sheet 3, change A); the extension of the transition structure by 2 feet, Sta 93+87.18 (Sheet 2, change C); the extension of the transition structure by 2 feet, Sta 100+04.75 (Sheet 3, change A); the addition of an 18" RCP lateral connection at Sta 99+82.60 (Sheet 3, change B); the removal of an existing 12" PVC lateral connection at Sta 94+69 (Sheet 2, change A) by abandoning in place; the addition of a 20-foot wide double leaf chain-link gate at Sta 100+56.75 (Sheet 3, change D); the change of SE (sand equivalent) in a typical bedding section from SE>75 to SE >= 30 or as approved by the District (Sheet 6, Change A); the change of location of two manholes, one to the junction structure at Sta 96+21.18 (Sheet 2, change B), and the other to the transition structure at Sta 98+40 (Sheet 3, change C); the change of location of the fence along the eastern right-of-way to 12 feet west (Sheet 3, change E); and the change in the height of the parapet wall at Sta 93+45.18 from 18" to 23" (Sheet 2, change G and Sheet 5, change B).
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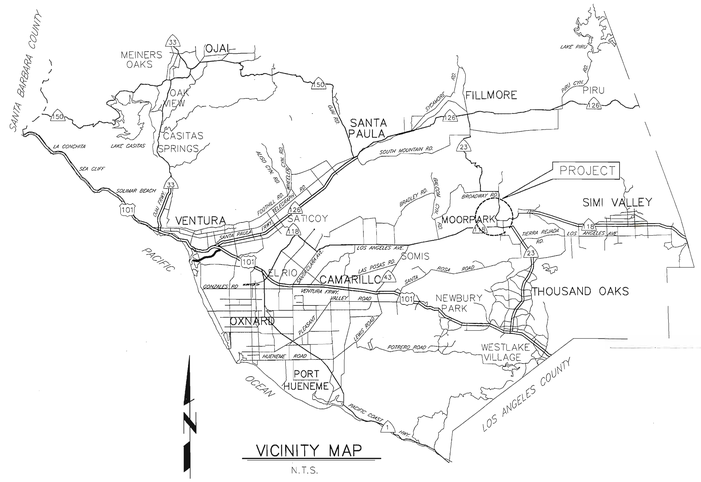
5. There are still discrepancies in the stationing of the downstream transition structure on sheets 2 and 5. These discrepancies have been noted in red by the District on Exhibit "C." All construction and as-built drawings shall be based on the corrected stations as shown on the hand-corrected plans (Exhibit "C") accompanying this modification.

COUNTY OF VENTURA
PUBLIC WORKS AGENCY
WATERSHED PROTECTION DISTRICT
ZONE 3
WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
IN THE CITY OF MOORPARK



VICINITY MAP
N.T.S.

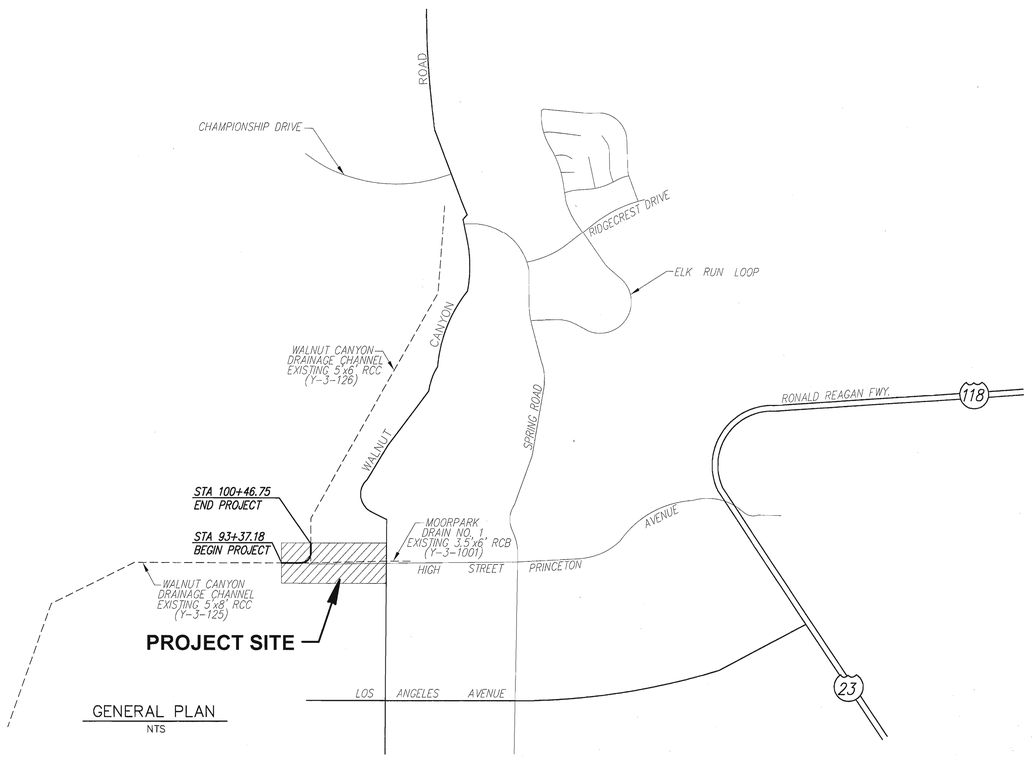
GENERAL NOTES

1. ELEVATIONS SHOWN ARE IN US FEET, NATIONAL GEODETIC VERTICAL DATUM OF 1929.
2. STATIONS SHOWN ON DRAWINGS ARE ALONG CENTERLINE OF STRUCTURE.
3. E.G.L. AND H.G.L. ARE SHOWN FOR FUTURE REFERENCE BY THE DISTRICT ONLY.
4. NUMBERS IN ⬡ INDICATE BID ITEMS UNDER WHICH PAYMENT WILL BE MADE.
5. LETTERS AND NUMBERS IN ⊖ INDICATE THE DETAIL CALL-OUT AND SHEET ON WHICH REFERENCE DETAIL IS SHOWN.
6. NUMBERS IN △ REFER TO NOTES ON THE SAME SHEET UNLESS OTHERWISE NOTED.
7. TREES DESIGNATED BY ▨ SHALL BE REMOVED. ALL OTHERS SHALL BE PROTECTED IN PLACE.
8. TOPOGRAPHY AND CROSS SECTIONS FOR THIS PROJECT WERE TAKEN FROM SURVEYS PERFORMED BY CVE ENGINEERING
9. SOIL TEST BORINGS FOR THE PROJECT WERE MADE IN 2001, 2006, AND 2008 AND THEIR LOCATION IS MARKED BY THE SYMBOL ◓. SUBSURFACE SOIL INVESTIGATION RESULTS ARE FURNISHED FOR INFORMATION ONLY, IN ACCORDANCE WITH SUBSECTION 2-7 OF THE STANDARD SPECIFICATIONS, AND NO WARRANTY IS MADE THEREFOR.
10. EXISTING IMPROVEMENTS WITHIN THE RIGHT OF WAY AND WORK AREAS SHALL REMAIN AND SHALL BE PROTECTED UNLESS OTHERWISE NOTED. DAMAGED IMPROVEMENTS SHALL BE REPLACED IN KIND TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION.
11. UTILITIES ARE SHOWN AS KNOWN TO EXIST AT TIME OF SURVEY. UTILITIES MAY HAVE BEEN OMITTED, MISPLACED, AND/OR RELOCATED. CONTRACTOR SHALL EXERCISE CARE IN EXCAVATION AND SHALL PROTECT ALL UTILITIES.
12. SYMBOL ▲ INDICATES THE LOCATION OF THE HORIZONTAL AND VERTICAL CONTROL POINTS WHICH WILL BE FURNISHED BY THE AGENCY FOR THE CONSTRACTOR'S USE.
    TBM: BCR OF THE SOUTH CURB OF HIGH STREET AND THE INTERSECTION OF MOORPARK ROAD
    ELEV.=(510.31 TC)
    BASIS OF BEARING: THE BEARING OF NORTH 89°54'16" WEST AS SHOWN AS THE CENTERLINE OF HIGH STREET (PER 358 O.R. 9).
13. CONTRACTOR SHALL NOTIFY UTILITY OWNERS A MINIMUM OF 48 HOURS PRIOR TO STARTING WORK IN AREAS AFFECTING THEIR FACILITIES:

SOUTHERN CALIFORNIA EDISON CO.	TEL. NO. (805) 654-7472	CASEY SCHOONOVER
SOUTHERN CALIFORNIA GAS CO.	TEL. NO. (818) 700-3614	MARK WHITE
PACIFIC BELL TELEPHONE CO.	TEL. NO. (805) 677-4114	DAN PFEIFER
VENTURA COUNTY WATER AND SANITATION	TEL. NO. (805) 378-3026	ANDREW MARTINEZ

UNDERGROUND SERVICE ALERT
1-800-422-4133
CALL USA/SC
FOR UNDERGROUND LOCATION
2 WORKING DAYS BEFORE YOU DIG





GENERAL PLAN
NTS

INDEX TO SHEETS

SHEET NO.	TITLE
1.	GENERAL PLAN
2.	PLAN AND PROFILE STA 93+37.18 TO STA 97+50.00
3.	PLAN AND PROFILE STA 97+50.00 TO STA 100+46.75
4.	RC RECTANGULAR CHANNEL TRANSITION STRUCTURAL SECTIONS
5.	RC TRANSITION (RCP TO RCB) STRUCTURAL SECTIONS
6.	MISCELLANEOUS DETAILS AND LATERAL "1"
7.	CROSS SECTION STA 93+42.18 TO STA 100+41.75
8.	SURVEY CONTROL PLAN
9.	RIGHT OF WAY MAP
10.	PROJECT SPECIFICATIONS
11.	PROJECT SPECIFICATIONS

INDEX OF STANDARD PLANS USED BY REFERENCE

SPPWC STANDARD PLANS; 2006 EDITION:

110-1,	DRIVEWAY APPROACHES, TYPE B.
301-2,	CURB OPENING CATCH BASIN WITH GRATING(S) AND DEBRIS SKIMMER
313-2,	LOCAL DEPRESSION AT CATCH BASINS, CASE E
322-1,	MANHOLE-PIPE TO PIPE LARGE SIDE INLET
324-1,	MANHOLE SHAFT WITH ECCENTRIC REDUCER
332-1,	JUNCTION STRUCTURE PIPE TO PIPE
340-1,	TRANSITION STRUCTURE PIPE TO PIPE
342-1,	TRANSITION STRUCTURE RCB TO RCP
600-2,	CHAIN LINK FENCE AND GATES

EXHIBIT "A"
PROJECT # 88875
PERMIT # 2008-074

REFERENCE DRAWINGS

1. WALNUT CANYON CHANNEL IMPROVEMENT PLANS, (1962), DWG NO. Y-3-125 TO Y-3-126
2. MOORPARK DRAIN NO. 1, (1970), DWG NO. Y-3-1001
3. VENTURA COUNTY WATER WORKS DISTRICT NO. 1, HIGH ST. EXTENSION, (1967), DWG NO. 46550
4. COUNTY OF VENTURA PUBLIC WORKS DEPARTMENT, HIGH ST. WATER LINE, (1958), DWG NO. 34793

PLOT DATE: 2/19/09
SAVE DATE: 2/17/09 JEFF
Z:\ACTIVE RJR PROJECTS\ACTIVE_PROJECTS\1487_CITY OF MOORPARK_HIGH ST. DRAIN\CIVIL\IMPROVEMENT\WORKING FOLDER\SHEET 1_2_3_05DWG.DWG

REVISION	DESCRIPTION	APP.	DATE
D			
C			
B			
A			
△			

Prepared by:
RJR ENGINEERING GROUP
Planning Civil Engineering Flood Control Hydrology
Geotechnical Engineering Geology Water Resources Environmental
1952 Palma Drive, Suite J, Ventura, CA 93003
(805) 650-5125 (805) 650-5123 FAX
E-mail: rjr@rjreng.com
ROBERT W. ANDERSON C-56383 12-31-10 R.C.E. NO. EXP. DATE

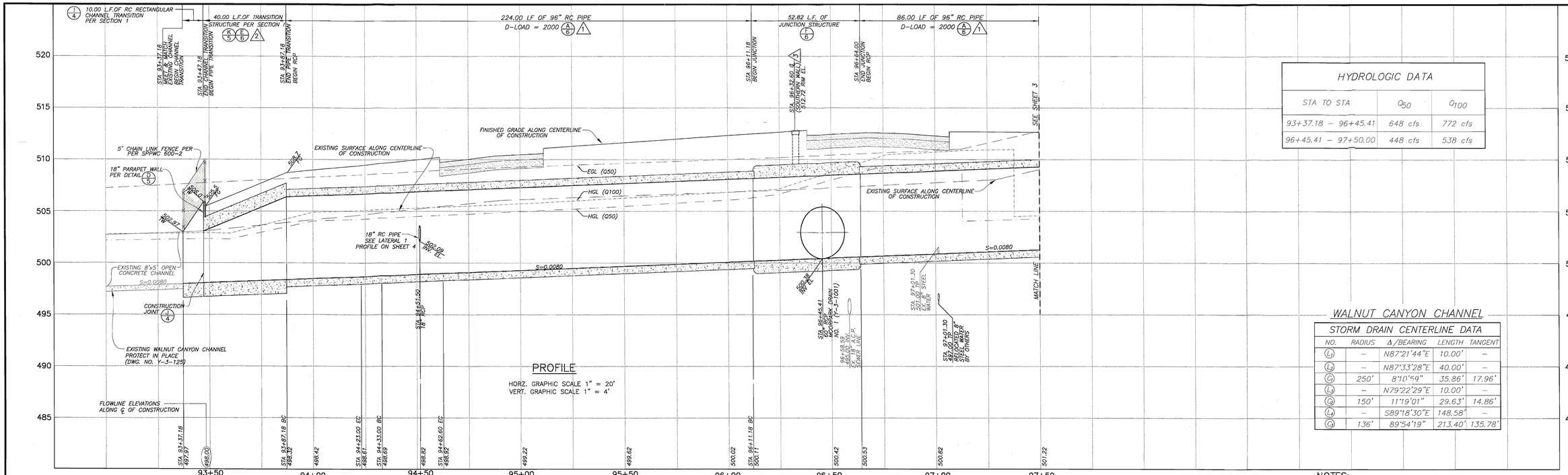
3/10/09
DEPUTY DIRECTOR
3/10/09
AGENCY DIRECTOR

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
GENERAL PLAN

SHEET 1 OF 11
DRAWING NO. Y-3-4649



PROFILE

HORZ. GRAPHIC SCALE 1" = 20'
VERT. GRAPHIC SCALE 1" = 4'

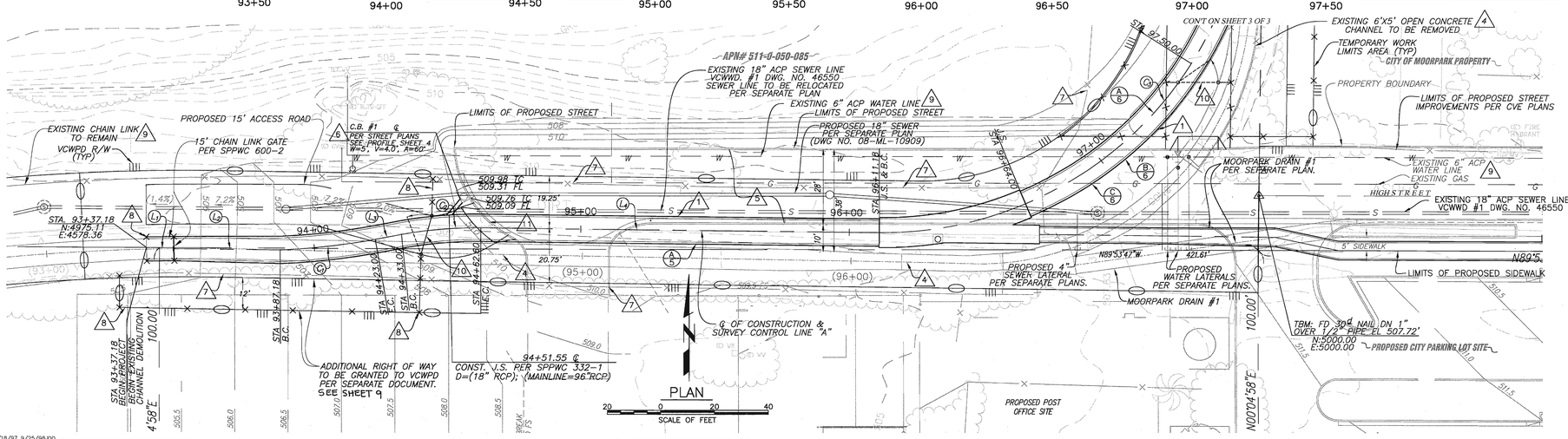
HYDROLOGIC DATA

STA TO STA	Q_{50}	Q_{100}
93+37.18 – 96+45.41	648 cfs	772 cfs
96+45.41 – 97+50.00	448 cfs	538 cfs

WALNUT CANYON CHANNEL

STORM DRAIN CENTERLINE DATA

NO.	RADIUS	Δ/BEARING	LENGTH	TANGENT
L_1	–	N87°21'44"E	10.00'	–
L_2	–	N87°33'28"E	40.00'	–
C_1	250'	8°10'59"	35.86'	17.96'
L_3	–	N79°22'29"E	10.00'	–
C_2	150'	11°19'01"	29.63'	14.86'
L_4	–	S89°18'30"E	148.58'	–
C_3	136'	89°54'19"	213.40'	135.78'



NOTES:

1. INSTALL 96" REINFORCED CONCRETE PIPE WITH 1" OF INTERIOR CONCRETE LINING INSIDE DIAMETER OF PIPE PER VCWPD STANDARDS.
2. CONSTRUCT RCB TO RCP TRANSITION STRUCTURE PER SPPWC, 2006 EDITION, STD. PLAN 342-1 OR (E/6)
3. MANHOLE SHAFT AND APPURTENANCES, AT STA. 96+32.60, AND 98+00.00 SHALL BE CONSTRUCTED PER STANDARD PLANS, SPPWC 324-1, WHERE MANHOLE SHAFT SHALL TAPER FROM DA = 48" TO 30". MANHOLE COVERS SHALL BE CAST WITH THE LETTERS "VCWPD". THE LETTERS SHALL BE 2 1/2" HIGH WITH 1/2" LINE WIDTH. MANHOLE COVERS SHALL ALSO HAVE A LIFTING SLOT IN ADDITION TO THE PICK HOLE. MANHOLE SHAFT CONNECTION TO RC STRUCTURE SHALL BE CONSTRUCTED PER STANDARD PLANS, SPPWC 322-1.
4. SAWCUT, REMOVE, AND DISPOSE OF EXISTING CONCRETE DRAINAGE CHANNEL FROM STA. 93+37.18 TO STA. 100+46.75. REPLACE WITH ENGINEERED FILL TO 90 OR 95 (AT ROAD SECTIONS) PERCENT RELATIVE COMPACTION AT 1 TO 3 PERCENT OVER OPTIMUM SOIL-WATER CONTENT, UNLESS OTHERWISE SPECIFIED AS REQUIRING SPECIAL COMPACTION. (SEE RJR GEOTECHNICAL REPORT FOR ADDITIONAL RECOMMENDATIONS)
5. HIGH STREET IMPROVEMENTS PER SEPARATE PLANS.
6. CONSTRUCT CURB OPENING CATCH BASIN WITH LOCAL DEPRESSION, PER SPPWC, 2006 EDITION, STD PLANS 301-2 AND 313-2, RESPECTIVELY, WHERE WIDTH=5', V-DEPTH=4' A=60'.
7. REMOVE AND DISPOSE OF INTERFERING CHAIN LINK FENCE AND GATES WITHIN THE RIGHT OF WAY.
8. INSTALL 5FT HIGH CHAIN-LINK FENCE PER SPPWC 600-2, 2006 EDITION.
9. EXISTING IMPROVEMENTS WITHIN THE RIGHT OF WAY AND WORK AREA LIMITS SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED. DAMAGED IMPROVEMENTS SHALL BE REPLACED IN KIND TO ITS ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE PROJECT ENGINEER AT CONTRACTOR'S EXPENSE.
10. INSTALL 5FT HIGH X 15FT WIDE SINGLE LEAF CHAIN-LINK GATE PER SPPWC 600-2, 2006 EDITION. CHAIN-LINK GATE SHALL BE 25FT AWAY FROM THE CURB OF THE DRIVEWAY APPROACH.
11. CONSTRUCT DRIVEWAY APPROACH PER SPPWC 110-1 (TYPE B) W=15', X=3', Y=4'

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-10 CIVIL STATE OF CALIFORNIA

2/18/97 9/25/98 10/99

REVISION	DESCRIPTION	APP.	DATE
D			
C			
B			
A			
△			

Prepared by: RJR ENGINEERING GROUP
Planning · Civil Engineering · Flood Control/Hydrology
Geotechnical Engineering · Geology · Water Resources · Environmental
1555 Palma Drive, Suite J, Ventura, CA 93003
(805) 650-5125 (805) 650-5123 FAX
E-mail: rjr@rjreng.com
ROBERT W. ANDERSON R.C.E. NO. C-58383 EXP. DATE 12-31-10 DATE 02-19-09

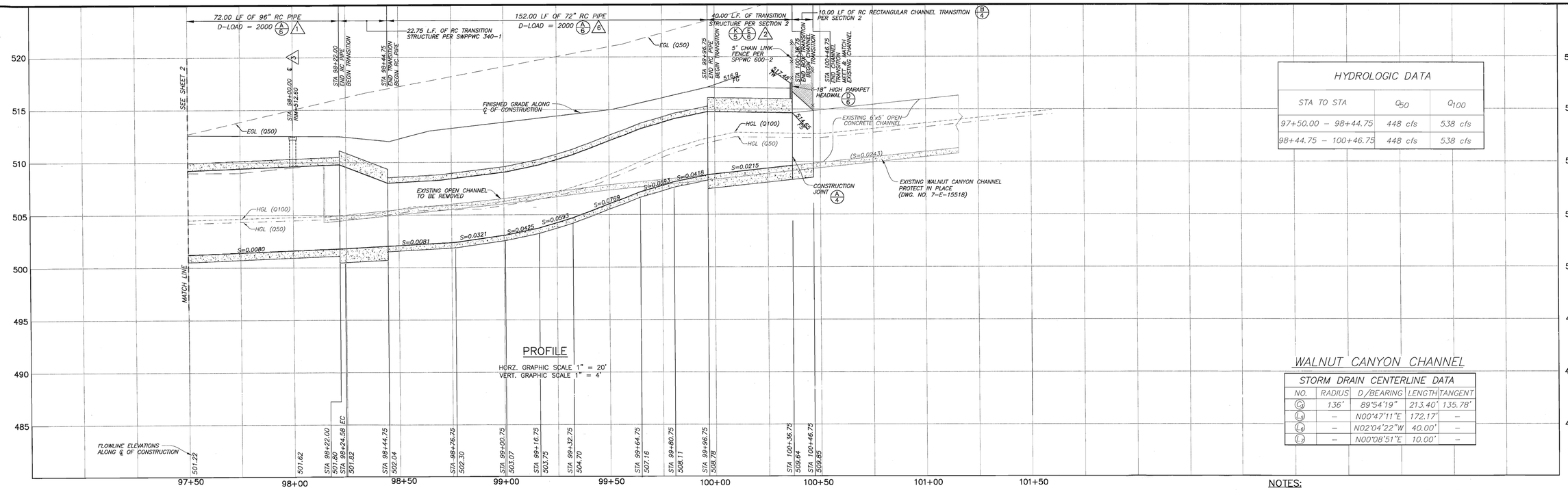
DESIGNED RH | DRAWN RH/JVF | CHECKED RWA
PROJ. ENG. | RECOMMENDED
REG. NO. | DATE | APPROVED

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
PLAN AND PROFILE STA 93+37.18 TO STA 97+50.00

SHEET 2 OF 11
DRAWING NO. Y-3-4650



PROFILE

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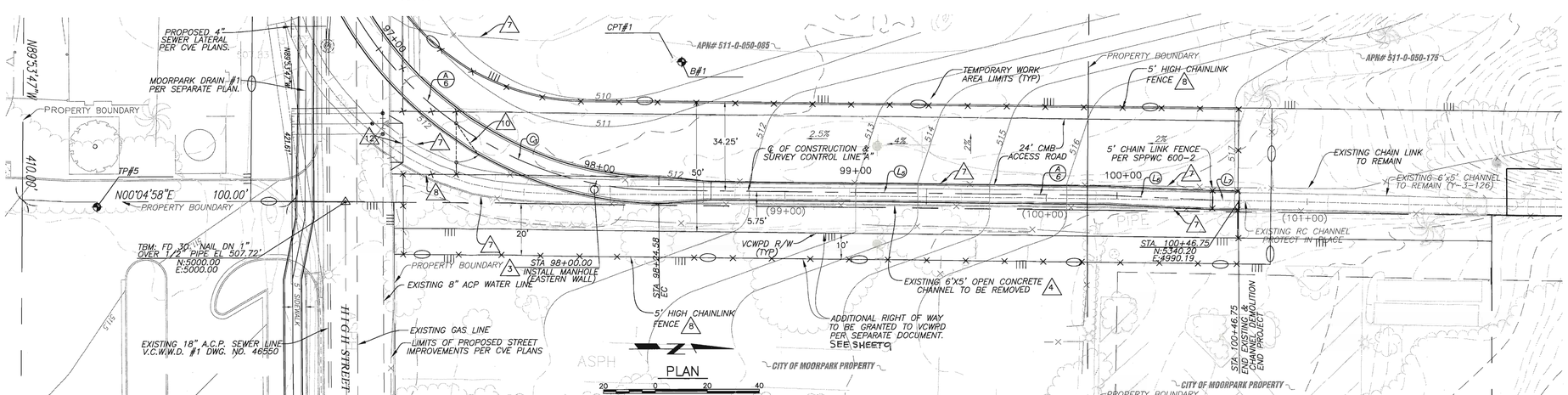
STA TO STA	Q_{50}	Q_{100}
97+50.00 – 98+44.75	448 cfs	538 cfs
98+44.75 – 100+46.75	448 cfs	538 cfs

WALNUT CANYON CHANNEL

STORM DRAIN CENTERLINE DATA				
NO.	RADIUS	D/BEARING	LENGTH	TANGENT
C_9	136'	89°54'19"	213.40'	135.78'
L_8	–	N00°47'11"E	172.17'	–
L_9	–	N02°04'22"W	40.00'	–
L_7	–	N00°08'51"E	10.00'	–



PLAN

SCALE OF FEET

NOTES:

1. INSTALL 96" REINFORCED CONCRETE PIPE WITH 1" OF INTERIOR CONCRETE LINING INSIDE DIAMETER OF PIPE PER VCWPD STANDARDS.
2. CONSTRUCT RCB TO RCP TRANSITION STRUCTURE PER SPPWC, 2006 EDITION, STD. PLAN 342-1.
3. MANHOLE SHAFT AND APPURTENANCES, AT STA. 96+32.60, AND 98+00.00 SHALL BE CONSTRUCTED PER STANDARD PLANS, SPPWC 324-1 WHERE MANHOLE SHAFT SHALL TAPER FROM DA = 48" TO 30". MANHOLE COVERS SHALL BE CAST WITH THE LETTERS "VCWPD". THE LETTERS SHALL BE 2 1/2" HIGH WITH 1/2" LINE WIDTH. MANHOLE COVERS SHALL ALSO HAVE A LIFTING SLOT IN ADDITION TO THE PICK HOLE. MANHOLE SHAFT CONNECTION RC STRUCTURE SHALL BE CONSTRUCTED PER STANDARD PLANS, SPPWC 322-1.
4. SAWCUT, REMOVE, AND DISPOSE OF EXISTING CONCRETE DRAINAGE CHANNEL FROM STA. 93+37.18 TO STA. 100+46.75. REPLACE WITH ENGINEERED FILL TO 90 (OR 95 AT ROAD SECTIONS) PERCENT, RELATIVE COMPACTION AT 1 TO 3 PERCENT OVER OPTIMUM SOIL-WATER CONTENT, UNLESS OTHERWISE SPECIFIED AS REQUIRING SPECIAL COMPACTION. (SEE RJR GEOTECHNICAL REPORT FOR ADDITIONAL RECOMMENDATIONS)
5. HIGH STREET IMPROVEMENTS PER SEPARATE PLANS.
6. INSTALL 72" REINFORCED CONCRETE PIPE WITH 1" OF INTERIOR CONCRETE LINING INSIDE DIAMETER OF PIPE PER VCWPD STANDARDS.
7. REMOVE AND DISPOSE OF INTERFERING CHAIN LINK FENCE AND GATES WITHIN THE RIGHT OF WAY.
8. INSTALL 5FT HIGH CHAIN-LINK FENCE PER SPPWC 600-2, 2006 EDITION.
9. EXISTING IMPROVEMENTS WITHIN THE RIGHT OF WAY AND WORK AREA LIMITS SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED. DAMAGED IMPROVEMENTS SHALL BE REPLACED IN KIND TO ITS ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE PROJECT ENGINEER AT CONTRACTOR'S EXPENSE.
10. INSTALL 5FT HIGH X 15FT WIDE SINGLE LEAF CHAIN-LINK GATE PER SPPWC 600-2, 2006 EDITION. CHAIN-LINK GATE SHALL BE 25FT AWAY FROM THE CURB OF THE DRIVEWAY APPROACH.
11. CONSTRUCT CMB ACCESS ROAD PER (L 6)
12. CONSTRUCT DRIVEWAY APPROACH PER SPPWC 110-1 (TYPE B) W=15', X=3', Y=4'

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-10 CIVIL STATE OF CALIFORNIA

REVISION	DESCRIPTION	APP.	DATE
D			
C			
B			
A			
△			

Prepared by: RJR ENGINEERING GROUP
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ROBERT W. ANDERSON | C-58383 | R.C.E. NO. | 12-31-10 | EXP. DATE | 2-19-09 | DATE

DESIGNED RH | DRAWN RH/JVF | CHECKED RWA
PROJ. ENG. | RECOMMENDED
REG. NO. | DATE | APPROVED

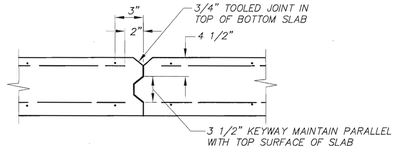
COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

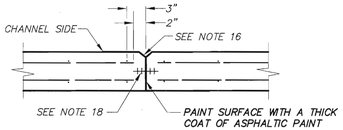
WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET

PLAN AND PROFILE STA 97+50.00 TO STA 100+46.75

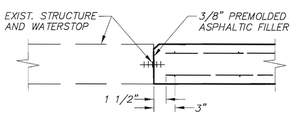
SHEET 3 OF 11
DRAWING NO. Y-3-4651



SLAB CONSTRUCTION JOINT

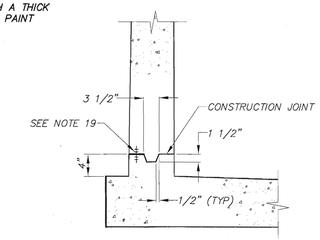


WALL CONSTRUCTION JOINT



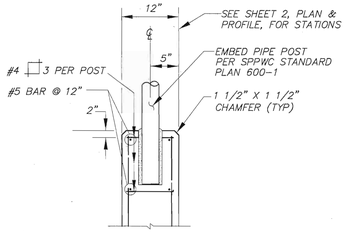
WALLS & SLABS JOINING EXISTING STRUCTURES

TRANSVERSE JOINTS

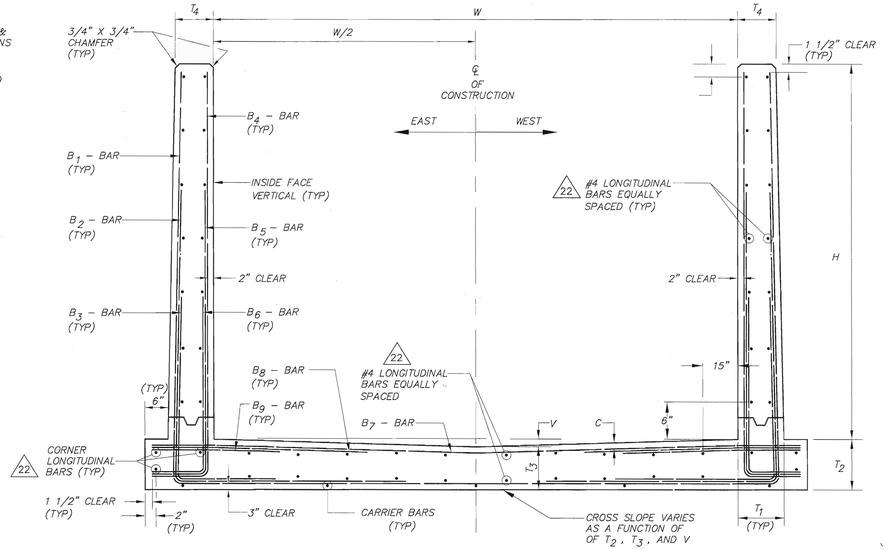


LONGITUDINAL JOINTS (J)

CONSTRUCTION JOINT DETAILS



CHAIN LINK FENCE DETAILS



TYPICAL RC CHANNEL DETAIL (I)

NOT TO SCALE

RC CHANNEL TABLE

SECTION NUMBER			1	2	3	4	5	6
WIDTH		W	8'-0"	6'-0"				
HEIGHT		H	5'-0" to 8'-0"	8'-0" to 5'-0"				
THICKNESS (INCHES)	BASE OF WALL	T_1	9.25	9.25				
	SLAB AT FACE OF WALL	T_2	16.5	16				
	SLAB AT ℄	T_3	15	15				
	TOP OF WALL	T_4	9	9				
INVERT DROP		V	1.5"	1"				
STEEL CLEARANCE INVERT		C	3"	3"				
B_1 BAR	BAR # AND SPACING		#5 @ 9"	#5 @ 9"				
	HORIZONTAL LENGTH		5'-10.5"	4'-10.5"				
	VERTICAL/INCLINED LENGTH		8'-9.5"	8'-9.5"				
B_2 BAR	BAR # AND SPACING		#6 @ 9"	#6 @ 9"				
	HORIZONTAL LENGTH		6'-0.25"	5'-0.25"				
	VERTICAL/INCLINED LENGTH		6'-9.5"	6'-9.5"				
B_3 BAR	BAR # AND SPACING		#5 @ 9"	#5 @ 9"				
	HORIZONTAL LENGTH		1'-10.5"	1'-9.75"				
	VERTICAL/INCLINED LENGTH		2'-12"	2'-12"				
B_4 BAR	BAR # AND SPACING		#4 @ 18"	#4 @ 18"				
	HORIZONTAL LENGTH		0'-11.75"	0'-11.75"				
	VERTICAL/INCLINED LENGTH		8'-9.5"	8'-9.5"				
B_5 BAR	BAR # AND SPACING		#4 @ 18"	#4 @ 18"				
	HORIZONTAL LENGTH		0'-11.75"	0'-11.75"				
	VERTICAL/INCLINED LENGTH		2'-9.5"	2'-9.5"				
B_6 BAR	BAR # AND SPACING		N/A	N/A				
	HORIZONTAL LENGTH		N/A	N/A				
	VERTICAL/INCLINED LENGTH		N/A	N/A				
B_7 BAR	BAR # AND SPACING		#4 @ 18"	#4 @ 18"				
	HORIZONTAL LENGTH		5'-1.75"	4'-1.75"				
B_8 BAR	BAR # AND SPACING		#4 @ 18"	#4 @ 18"				
	HORIZONTAL LENGTH		5'-1.75"	4'-1.75"				
B_9 BAR	BAR # AND SPACING		N/A	N/A				
	HORIZONTAL LENGTH		N/A	N/A				
#4 LONGITUDINAL BAR	BOTTOM SLAB		28	22				
	SIDE WALLS		52	52				
	HEELS		4	4				
TOTAL #4 LONGITUDINAL BARS			84	78				
#4 CARRIER BARS IN BOTTOM SLAB			N/A	N/A				
CONCRETE QUANTITY: CY/LINEAR FT			0.94	0.85				
STEEL QUANTITY: LBS/LINEAR FT			182.96	171.2				

RC CHANNEL LOCATION

CHANNEL SECTION NUMBER	STATIONS		BARS TO BE ADJUSTED	
	FROM	TO	VERTICAL LEG	HORIZONTAL LEG
1	93+37.18	93+47.18	B_1, B_2 & B_4	N/A
2	100+36.75	100+46.75	B_1, B_2 & B_4	N/A
	–	–		
	–	–		
	–	–		
	–	–		
	–	–		

STRUCTURAL NOTES

GENERAL:

1. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO THE NEAREST EDGE OF BAR AND SHALL BE TWO INCHES UNLESS OTHERWISE SHOWN.
2. CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE, AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIALLY) TO CENTERLINE OF CHANNEL ON THE PLAN EXCEPT AS OTHERWISE SHOWN.
3. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE 2008 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318–08), SECTION 7.3.
4. PLACING OF REINFORCEMENT SHALL CONFORM TO THE 2008 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318–08), SECTION 7.5.
5. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30 INCHES OF MANHOLE OR JUNCTION STRUCTURE OPENING, OR SIDE INLETS.
6. TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE SHOWN.
7. THE TRANSVERSE REINFORCING STEEL SHALL TERMINATE ONE AND ONE–HALF INCHES FROM THE CONCRETE SURFACES UNLESS OTHERWISE SHOWN ON THE PLANS.
8. EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED.
9. NO SPLICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN SHOWN IN THE DRAWING WITHOUT APPROVAL OF THE ENGINEER. NO MORE THAN ONE SPLICE SHALL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED.
10. ALL LAP SPLICES SHALL CONFORM TO THE 2005 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318–08), SECTION 12.15. LONGITUDINAL STEEL SHALL BE LAPPED 24 BAR DIAMETER AT SPLICES. TRANSVERSE STEEL SHALL BE LAPPED USING THE FOLLOWING TABLE:

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18
LENGTH OF LAP SPLICE	25"	31"	37"	62"	81"	103"	130"	160"	TENSION LAP SPLICING NOT PERMITTED	

ADDITIONAL NOTES FOR R.C. OPEN CHANNEL SECTIONS:

11. LONGITUDINAL STEEL SHALL TERMINATE TWO INCHES FROM TRANSVERSE CONSTRUCTION JOINTS.
12. TRANSVERSE CONSTRUCTION JOINTS SHALL BE SPACED NOT TO EXCEED 50 FEET NOR BE LESS THAN 10 FEET, MEASURED ALONG THE CENTERLINE OF CONSTRUCTION, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
13. TRANSVERSE CONSTRUCTION JOINTS SHALL BE PLACED AT THE JUNCTION OF RECTANGULAR OPEN CHANNEL SECTIONS WITH CLOSED CONDUIT SECTIONS.
14. THE MAXIMUM SPACING OF BARS IN CURVED SECTIONS SHALL NOT EXCEED THAT SHOWN ON THE TYPICAL SECTIONS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS. STEEL SHALL BE PLACED RADIALLY FROM THE MAXIMUM SPACING.
15. AT THE BEGINNING AND ENDING OF ALL POURS, A COMPLETE CURTAIN OF REINFORCEMENT COMPOSED OF B_1, B_4, AND B_7 BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT.
16. ALL TRANSVERSE JOINTS SHALL BE PROVIDED WITH 1 1/2" x 3/4" FORMED GROOVE IN THE INSIDE FACE AND TOP OF WALLS AND WITH 3/4" TOOLED JOINT IN THE BOTTOM SLAB.
17. THE BAR LENGTHS TABULATED FOR TRANSITIONS ARE APPLICABLE TO THE LARGER SECTION ONLY. THE BARS REQUIRING ADJUSTMENT ARE THOSE TABULATED IN THE TABLE HEREON AND SHALL BE ADJUSTED AS NECESSARY WITHIN THE TRANSITION.
18. TRANSVERSE WALL JOINTS SHALL HAVE A 4" POLYVINYL CHLORIDE WATERSTOP (SPLIT RIBBED CENTER BULB TYPE) WHICH SHALL BE CONTECH VINYLSTOP NO. 431S, BURKE VINYLOK WATERSTOP R.S.B. 316–4, OR AN APPROVED EQUAL.
19. THE LONGITUDINAL WALL JOINTS SHALL HAVE A 4" POLYVINYL CHLORIDE WATERSTOP (RIBBED TYPE) WHICH SHALL BE BURKE VINYLOK WATERSTOP R316–4, WATER SEALS INC. FLEXSTRIP OR AN APPROVED EQUAL. THE WATERSTOP SHALL BE TIED TO THE OUTSIDE OF THE REINFORCING STEEL AT THE TOP AND BOTTOM WITH ONE PIECE OF WIRE AT APPROXIMATELY 1'–0" SPACING, PUNCHING SHALL NOT BE ALLOWED. THE WATERSTOP SHALL BE CONTINUOUS FOR EACH WALL SECTION.
20. B_1 BARS MAY BE SPLICED ABOVE THE LONGITUDINAL CONSTRUCTION JOINT. USE LAP SHOWN IN THE TABLE HEREON.
21. THE LONGITUDINAL CONSTRUCTION JOINTS SHALL BE CONTINUOUS.
22. THE SPACING OF THE LONGITUDINAL BARS IN THE SLAB SHALL BE BASED ON THE DISTANCE BETWEEN THE LONGITUDINAL CORNER BARS NEAREST THE INSIDE FACE OF THE STRUCTURE AND THE NUMBER OF BARS SPECIFIED IN THE TABLE. THE SPACING IN THE WALLS SHALL BE BASED ON THE WALL HEIGHT AND THE NUMBER OF BARS IN THE TABLE.

DESIGN DATA

LIVE LOAD

HS20–44

DEAD LOAD

WEIGHT OF CONCRETE = 150 pcf
SOIL DENSITY = 110 pcf

LATERAL LOADS

EARTHSIDE = 85 psf (EFP)
WATERSIDE = 40 psf (EFP)

ALLOWABLE STRESSES

f'_c = 4,000 psi
f_c = 1,800 psi
f_s = 24,000 psf
n = 8

SHEAR AND BOND STRESSES PER ACI CODE 318–05

REGISTERED PROFESSIONAL ENGINEER — ROBERT W. ANDERSON — C–058383 EXP. 12–31–10 — CIVIL — STATE OF CALIFORNIA

2/19/2009

SAVE DATE: 2/17/09 JEFF Z:\ACTIVE RJR PROJECTS\ACTIVE_PROJECTS\1487_CITY OF MOORPARK_HIGH ST. DRAIN\CIVIL\IMPROVEMENT\WORKING FOLDER\SHEET 4_2-4-09.DWG

	REVISION	DESCRIPTION	APP.	DATE
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C				
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Prepared by: RJR ENGINEERING GROUP
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ROBERT W. ANDERSON C–58383 R.C.E. NO. 12–31–10 EXP. DATE 02–19–09 DATE

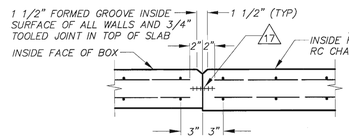
DESIGNED RH | DRAWN RH/JVF | CHECKED RWA
PROJ. ENG. | RECOMMENDED 3/10/09
REG. NO. | DATE | APPROVED

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO. –
PROJ. NO. 88875

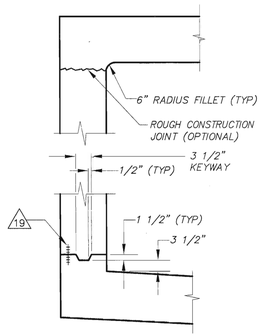
WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
RC RECTANGULAR CHANNEL TRANSITION STRUCTURAL DETAILS

SHEET 4 OF 11
DRAWING NO. Y–3–4652



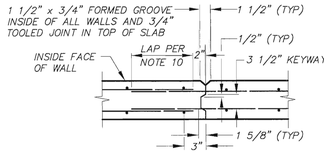
WALLS AND BOTTOM SLAB
JOINING R.C. OPEN CHANNEL

TRANSVERSE



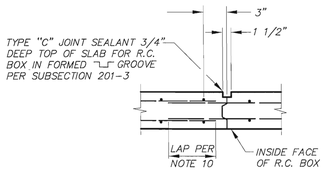
LONGITUDINAL

PARAPET – HEADWALL TABLE				
STATION	P	T_4	BAR NUMBER AND SPACING	
			J – BAR	K – BAR
93+47.18	18"	12"	#6 @ 8"	#6 @ 8"
100+36.75	18"	12"	#6 @ 8"	#6 @ 8"



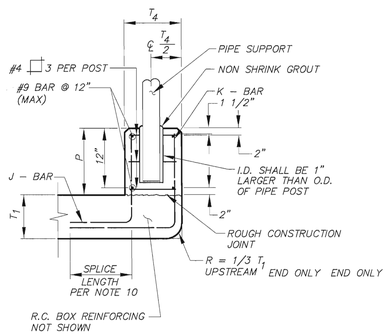
WALLS AND BOTTOM SLAB

TRANSVERSE



TOP SLAB

TRANSVERSE

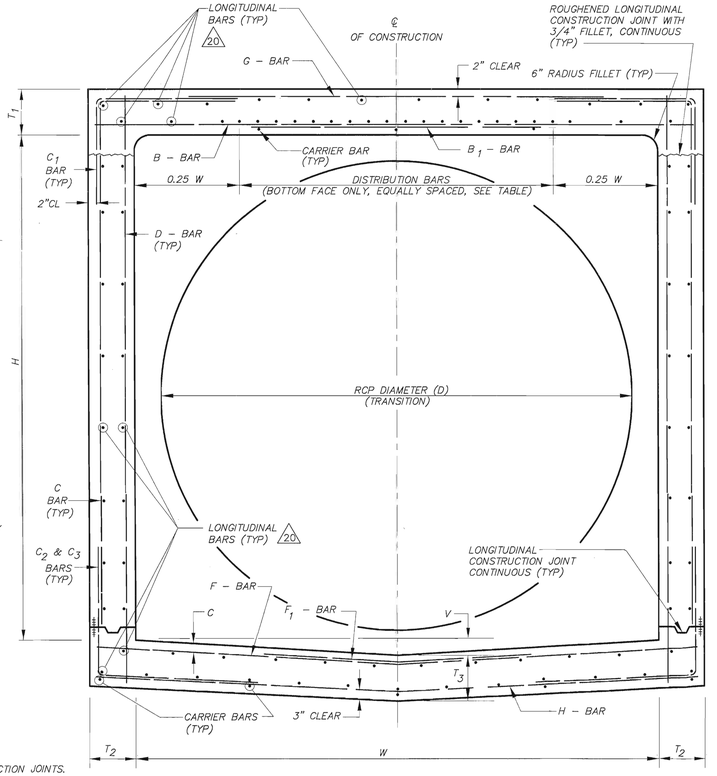


PARAPET – HEADWALL DETAIL (D)

NOT TO SCALE

CONSTRUCTION JOINT DETAILS

NOT TO SCALE



TYPICAL RC BOX CULVERT DETAIL (K)

NOT TO SCALE

RC BOX CONDUIT TABLE								
SECTION NUMBER			1	2	3	4	5	6
LIVE LOAD + IMPACT (KIPS)			42	42				
DESIGN COVER			1'–0"	1'–0"				
WIDTH		W	8'–0"	6'–0"				
HEIGHT		H	5'–0"	5'–0"				
RCP DIAMETER (TRANSITION)		D	96"	72"				
THICKNESS (INCHES)	TOP SLAB	T_1	12.5	10				
	SIDE WALL	T_2	12.5	10				
	BOTTOM SLAB	T_3	12.5	11				
INVERT DROP		V	1.5"	1"				
STEEL CLEARANCE INVERT		C	3"	3"				
B BARS	BAR NO. & SPACING		#7 @ 18"	#5 @ 18"				
	LENGTH		10'–0.5"	7'–5"				
B_1 BARS	BAR NO. & SPACING		#8 @ 18"	#8 @ 18"				
	LENGTH		10'–0.5"	7'–5.5"				
C BARS	BAR NO. & SPACING		#4 @ 12"	#4 @ 12"				
	HORIZONTAL LENGTH		4'–2.2"	3'–4.5"				
	VERTICAL LENGTH		8'–5.5"	6'–3"				
C_1 BARS	BAR NO. & SPACING		#5 @ 12"	#4 @ 12"				
	HORIZONTAL LENGTH		2'–4"	1'–7.5"				
	VERTICAL LENGTH		2'–11"	1'–10"				
C_2 BARS	BAR NO. & SPACING		#5 @ 12"	#4 @ 12"				
	HORIZONTAL LENGTH		4'–0"	2'–11"				
	VERTICAL LENGTH		3'–3"	2'–11.5"				
C_3 BARS	BAR NO. & SPACING		N/A	N/A				
	HORIZONTAL LENGTH		N/A	N/A				
	VERTICAL LENGTH		N/A	N/A				
D BARS	BAR NO. & SPACING		#4 @ 12"	#4 @ 18"				
	LENGTH		9'–8.5"	7'–6.5"				
F BARS	BAR NO. & SPACING		#5 @ 16"	#4 @ 9"				
	LENGTH		9'–9"	7'–5"				
F_1 BARS	BAR NO. & SPACING		#4 @ 16"	#4 @ 12"				
	LENGTH		7'–2.5"	3'–5"				
G BARS	BAR NO. & SPACING		#4 @ 12"	#4 @ 12"				
	LENGTH		4'–7"	3'–0"				
H BARS	BAR NO. & SPACING		#4 @ 12"	#4 @ 12"				
	LENGTH		10'–0.5"	7'–5.5"				
DISTRIBUTION BARS	BAR NO.		4	4				
	NUMBER OF BARS		18	13				
NUMBER OF #4 LONGITUDINAL BARS		TOP SLAB	20	14				
		BOTTOM SLAB	15	12				
		SIDE WALLS	20	16				
TOTAL #4 LONGITUDINAL BARS			55	42				
#4 CARRIER BARS		TOP	4	4				
		BOTTOM	4	4				
CONCRETE QUANTITY: CY./LINEAR FT.			1.40	0.87				
STEEL QUANTITY: LBS./LINEAR FT.			206.66	148.27				

RC BOX CONDUIT LOCATION			
RC BOX SECTION NUMBER	STATION		BARS TO BE ADJUSTED
	FROM	TO	VERTICAL LEG / HORIZONTAL LEG
1	93+47.18	93+87.18	C / B, G, F, H
2	99+96.75	100+36.75	C / B, G, F, H

STRUCTURAL NOTES

GENERAL:

1. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO THE NEAREST EDGE OF BAR AND SHALL BE TWO INCHES UNLESS OTHERWISE SHOWN.
2. CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIALLY) TO CENTERLINE OF CONDUIT ON THE PLAN UNLESS OTHERWISE SHOWN.
3. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE 2008 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318–08), SECTION 7.3.
4. PLACEMENT OF REINFORCING STEEL SHALL CONFORM TO THE 2005 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318–08), SECTION 7.5.
5. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30 INCHES OF MANHOLE OR JUNCTION STRUCTURE OPENINGS, OR SIDE INLETS UNLESS OTHERWISE SHOWN.
6. TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. ALL TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE SHOWN.
7. THE TRANSVERSE REINFORCING STEEL SHALL TERMINATE TWO INCHES FROM THE CONCRETE SURFACE UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DETAILS.
8. EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED.
9. NO SPLICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN AS SHOWN ON THE DRAWINGS WITHOUT APPROVAL FROM THE ENGINEER. NO MORE THAN ONE SPLICE WILL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED.
10. ALL SPLICES SHALL CONFORM TO THE 2005 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318–08), SECTION 12.15. ALL STEEL SHALL BE LAPPED USING THE FOLLOWING TABLE (CLASS B SPLICES):

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18
LENGTH OF LAP SPLICE	25"	31"	37"	62"	81"	103"	130"	160"	TENSION LAP SPLICING NOT PERMITTED	
THE LAP LENGTH SHALL BE BASED ON THE SMALLER SIZE BAR.										

ADDITIONAL NOTES FOR RC TRANSITION SECTION:

11. LONGITUDINAL STEEL SHALL BE CONTINUOUS AND EXTENDED THROUGH ALL CONSTRUCTION JOINTS.
12. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, TRANSVERSE JOINT KEYWAYS (IN BOTH SLABS AND WALLS), SHALL BE PLACED AT THE END OF EACH POUR, BUT THE SPACING THEREOF SHALL NOT EXCEED 50 FEET OR BE LESS THAN 10 FEET.
13. UNLESS OTHERWISE SHOWN ON THE DETAILS, IN CURVED SECTIONS, TRANSVERSE BARS SHALL BE PLACED RADIALLY. STRAIGHT TRANSVERSE BARS IN TOP AND BOTTOM SLABS SHALL BE PLACED AS SHOWN ON THE TYPICAL SECTIONS. SPACING SHALL BE AT THE CENTERLINE OF CONSTRUCTION FOR SINGLE–BARREL BOXES, UNLESS OTHERWISE NOTED. STRAIGHT BARS AND L–BARS IN WALLS SHALL BE SPACED AS SHOWN ON TYPICAL SECTIONS, WITH THE SPACING MEASURED BETWEEN THE VERTICAL LEGS OF BARS.
14. AT THE BEGINNING AND END OF ALL POURS, A CURTAIN OF REINFORCEMENT COMPOSED OF B, C, C_2, D, F, G, AND H BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT.
15. THE VERTICAL WALL STEEL IN THE INTERIOR WALLS AND IN THE INTERIOR FACE OF EXTERIOR WALLS MAY BE SPLICED AT THE CONSTRUCTION JOINT AT THE BASE OF THE WALL. THE LAP SPLICE SHALL BE ACCORDANCE WITH THE TABLE UNDER GENERAL NOTE 10.
16. IN ALL SECTIONS, LAP C AND C_2 BARS. THE VERTICAL LENGTH OF C AND C_2 BARS HAS BEEN CALCULATED FOR A 3 1/2" STARTER WALL. IF THE HEIGHT OF THE STARTER WALL VARIES, THE VERTICAL LENGTH OF THE C AND C BARS SHALL BE VARIED CORRESPONDINGLY, SO AS TO MAINTAIN THE REQUIRED LAP SPLICE BETWEEN THE TWO BARS IN ACCORDANCE WITH THE TABLE UNDER GENERAL NOTE 10. THE LENGTH OF THE LAPS SHALL BE BASED ON THE SMALLER BAR.
17. TRANSVERSE WALL JOINTS SHALL HAVE A 4" POLYVINYL CHLORIDE WATERSTOP (SPLIT RIBBED CENTER BULB TYPE) WHICH SHALL BE CONTECH VINYLSTOP NO. 431S, BURKE VINYLOK WATERSTOP R.S.B. 316–4, OR AN APPROVED EQUAL.
18. DRILL A ONE INCH DIAMETER HOLE AND INJECT AN APPROVED NON–SHRINK GROUT INTO THE HOLE PRIOR TO PLACEMENT OF THE BAR
19. THE LONGITUDINAL WALL JOINTS SHALL HAVE A 4" POLYVINYL CHLORIDE WATERSTOP (RIBBED TYPE) WHICH SHALL BE BURKE VINYLOK WATERSTOP R.316–4, WATER SEALS INC. FLEXSTRIP OR AN APPROVED EQUAL. THE WATERSTOP SHALL BE TIED TO THE OUTSIDE OF THE REINFORCING STEEL AT THE TOP AND BOTTOM WITH ONE PIECE OF WIRE AT APPROXIMATELY 1'–0" SPACING, PUNCHING SHALL NOT BE ALLOWED. THE WATERSTOP SHALL BE CONTINUOUS FOR EACH WALL SECTION.
20. TWO LONGITUDINAL BARS SHALL BE PLACED AT EACH CORNER LOCATION. AS SHOWN ON THE DETAIL. THE REMAINING LONGITUDINAL BARS SHALL BE EQUALLY SPACED BETWEEN THE CORNER BARS WITH A MAXIMUM SPACING OF 18 INCHES IN EACH FACE OF THE SLABS AND WALLS AND NEED NOT CORRESPOND TO THE NUMBER OR LOCATION SHOWN ON THE DETAIL SEE THE TABLE FOR LONGITUDINAL BAR TOTALS.
21. STATIONS ARE MEASURED RADIALLY FROM SURVEY CONTROL LINE TO THE CENTER LINE OF RC BOX.

DESIGN DATA

LIVE LOAD

SEE RC BOX CONDUIT TABLE HEREON
HS20–44 + 30% IMPACT

LATERAL LOAD

EARTHSIDE = 78.0 psf (EFP)
INTERNAL WATER PRESSURE = 62.5 psf

DEAD LOAD

WEIGHT OF EARTH = 125 pcf
WEIGHT OF CONCRETE = 150 pcf

ALLOWABLE STRESSES

f'_c = 4,000 psi
f_c = 1,800 psi
f_s = 24,000 psi
n = 8
SHEAR AND BOND STRESS PER A.C.I. 318–05

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C–058383 EXP. 12–31–10 CIVIL STATE OF CALIFORNIA

PLOT DATE: 2/19/09

SAVE DATE: 2/17/09 Z:\ACTIVE RJR PROJECTS\ACTIVE_PROJECTS\1487_CITY OF MOORPARK_HIGH ST. DRAIN\CIVIL\IMPROVEMENT\WORKING FOLDER\SHEET 5_2-14-09.DWG

REVISION	DESCRIPTION	APP.	DATE
D			
C			
B			
A			
1			

Prepared by: RJR ENGINEERING GROUP
Planning · Civil Engineering · Flood Control/Hydrology
Geotechnical Engineering · Geology · Water Resources · Environmental
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(805) 650–5125 (805) 650–5123 FAX
E–mail: rjr@rjreng.com
ROBERT W. ANDERSON C–58383 12–31–10 02–19–09
R.C.E. NO. EXP. DATE DATE

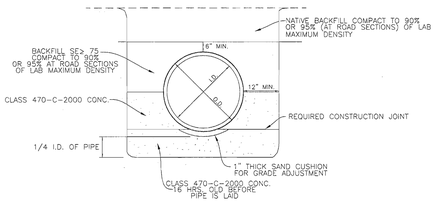
DESIGNED RH DRAWN RH/JVF CHECKED RWA
PROJ. ENG. RECOMMENDED
REG. NO. DATE APPROVED

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO. –
PROJ. NO. 8B875

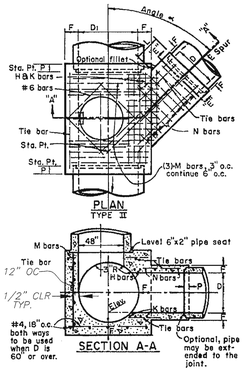
WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
RC TRANSITION (RCP TO RCB) STRUCTURAL DETAILS

SHEET 5 OF 11
DRAWING NO. Y–3–4653



*NOTE: LOAD FACTOR=3.0, LOADING TYPE=3, & CLASS IV (2000 lbs.) PIPE PER ASTM C-76

A — REINFORCED CONCRETE PIPE-TYPE 3 INSTALLATION
NTS

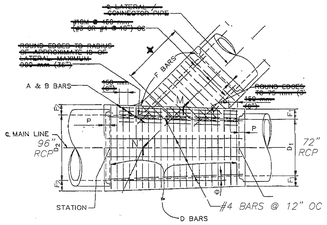


D_1	D	∠	F_{96}	F_{60}	L	H&K	M&N	P
96"	60"	23.24°	14"	10"	12"	#7 3" O.C.	#7 3" O.C.	6"

CONSTRUCTION NOTES:

1. JUNCTION STRUCTURE SHALL BE POURED IN ONE CONTINUOUS OPERATION, EXCEPT THAT THE CONTRACTOR SHALL HAVE THE OPTION OF PLACING AT THE SPRING LINE, A CONSTRUCTION JOINT WITH LONGITUDINAL KEYWAY.
2. FLOOR OF JUNCTION STRUCTURE SHALL BE STEEL TROWELLED TO SPRING LINE.
3. REINFORCING STEEL TO BE 1 1/2" CLEAR FROM INSIDE FACE OF CONCRETE, UNLESS OTHERWISE SPECIFIED.
4. EXTENSION OF CENTERLINE OF INLET PIPE SHALL INTERSECT INSIDE FACE OF CONCRETE AT SPRING LINE, UNLESS OTHERWISE SPECIFIED.
5. TIE BARS SHALL BE #4 BARS, 18" O.C. MINIMUM.
6. ALL CONSTRUCTION IS SUBJECT TO CONDITIONS OF THE STANDARD SPECIFICATION.
7. SEE VCWPD STANDARD DRAWING NO. 5 FOR MANHOLE SHAFT DETAILS.
8. STEPS SHALL BE CONSTRUCTED PER VCWPD STANDARD DRAWING NO. 5 OR APPROVED EQUAL.

F — JUNCTION STRUCTURE – TYPE II VCWPD STANDARD DETAIL #2
NTS



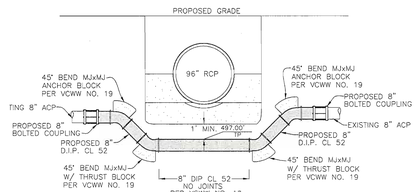
CONSTRUCTION NOTES:

1. THE HORIZONTAL ANGLE OF CONVERGENCE OR DIVERGENCE, θ, SHALL NOT EXCEED 5°45'.
2. FLOOR OF STRUCTURE SHALL BE STEEL TROWELLED TO SPRING LINE.
3. THE TRANSITION STRUCTURE SHALL BE POURED IN ONE CONTINUOUS OPERATION, EXCEPT THAT THE CONTRACTOR SHALL HAVE THE OPTION OF PLACING AT THE SPRING LINE A CONSTRUCTION JOINT LONGITUDINAL KEYWAY.
4. THE LENGTH OF THE STRUCTURE MAY BE INCREASED AT THE OPTION OF THE CONTRACTOR TO MEET RCP ENDS. USING D BARS, LONGITUDINAL AND BOTTOM REINFORCEMENT IN EXTENDED PORTION OF SAME DIAMETER AND SPACING AS SPECIFIED IN THE TABLE, BUT ANY CHANGE IN THE LOCATION OF SPUR MUST BE APPROVED BY THE ENGINEER.
5. NO LATERAL OCCURS, A AND B BARS SHALL BE OMITTED.

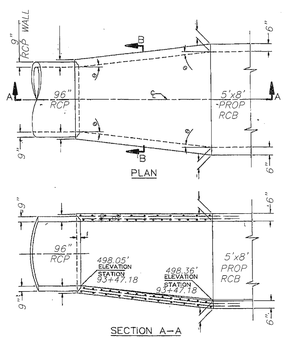
D BAR SCHEDULE
#6 BARS @ 6" OC

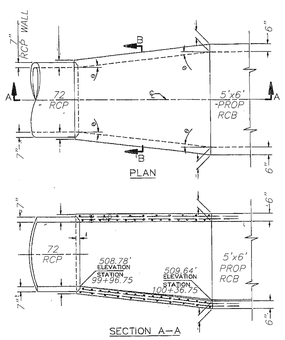
D_1	D_2	F_1	F_2	P
72"	96"	16"	16"	6"

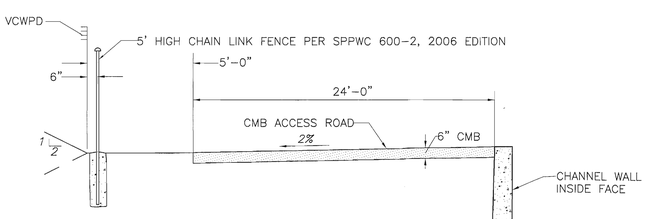
H — TRANSITION STRUCTURE – PIPE TO PIPE (SPPWC STANDARD DETAIL 340-1)
NTS



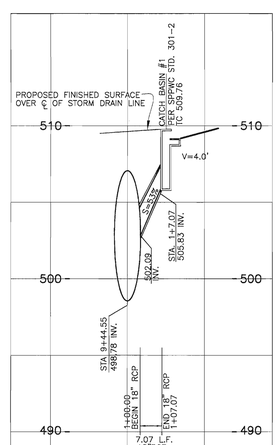
B — WATER LINE CROSSING
NTS



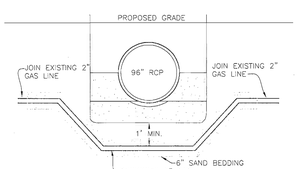




CMB ACCESS ROAD DETAIL — L
NOT TO SCALE



LATERAL "1" – PROFILE



C — GAS LINE CROSSING
NTS

CONSTRUCTION NOTES:

1. THE HORIZONTAL ANGLE OF DIVERGENCE OR CONVERGENCE, θ, SHALL NOT EXCEED 5°45'.
2. THE INTERIOR SURFACE SHALL BE SMOOTH AND VARY UNIFORMLY BETWEEN THE TWO ADJOINING SECTIONS.
3. ALL POURED IN PLACE CONCRETE SHALL BE (4000 PSI) AT 28 DAYS AND THE CONCRETE, SHALL HAVE TYPE II/V PORTLAND CEMENT WITH W/C=0.45, AND SHALL BE THE SAME MIX AS THE ADJACENT RCB.
4. KEYED CONSTRUCTION JOINTS OF THE SAME DIMENSIONS AS THOSE OF THE RCB OR ARCH SECTION MAY BE CARRIED THROUGH THE TRANSITION STRUCTURE AT THE CONTRACTOR'S OPTION. SEE SECTION B-B.
5. REINFORCING STEEL BAR SIZES, SPACING, CONFIGURATION, CLEAR COVER, CONCRETE WALL THICKNESSES SHALL BE PER DETAIL K/5

E — TRANSITION STRUCTURE (SPPWC DETAIL 342-1)
NTS



NO.	REVISION	DESCRIPTION	APP.	DATE
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Prepared by: RJR ENGINEERING GROUP
Planning ·Civil Engineering ·Flood Control/Hydrology
Geotechnical Engineering ·Geology ·Water Resources ·Environmental
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(805) 650-5125 (805) 650-5123 FAX
E-mail: rjr@rjreng.com
ROBERT W. ANDERSON — R.C.E. NO. C-58383 — EXP. DATE 12-31-10 — DATE 02-19-09

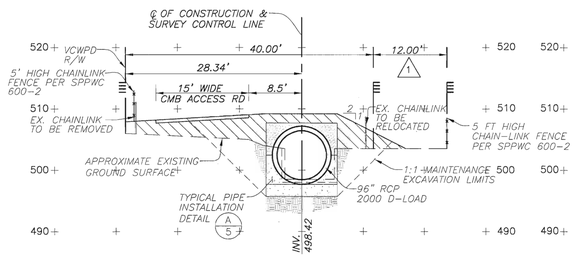
DESIGNED RH | DRAWN RH/JVF | CHECKED RWA
PROJ. ENG. | RECOMMENDED
REG. NO. | DATE | APPROVED

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

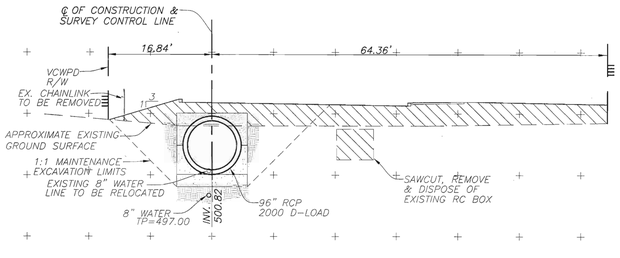
SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
MISCELLANEOUS DETAILS AND LATERAL '1'

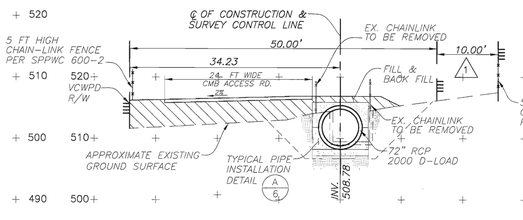
SHEET 6 OF 11
DRAWING NO. Y-3-4654



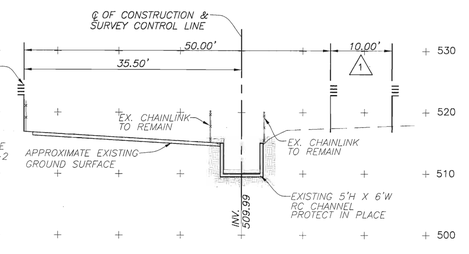
STA. 94+00



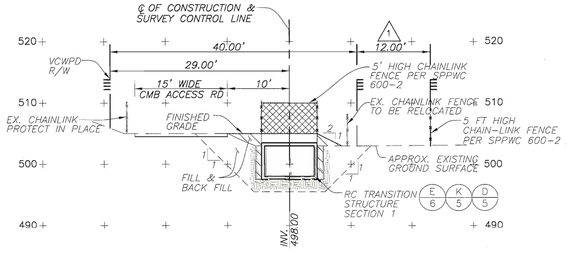
STA. 97+00



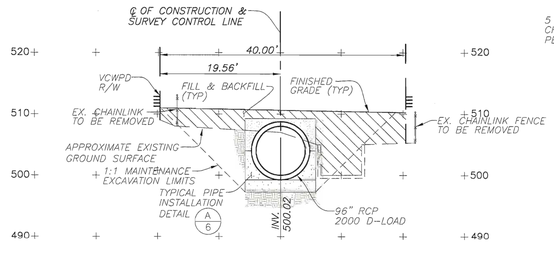
STA. 100+00



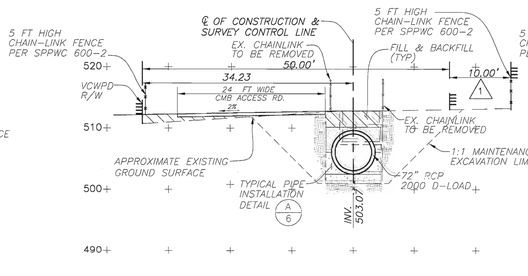
STA. 100+47.75



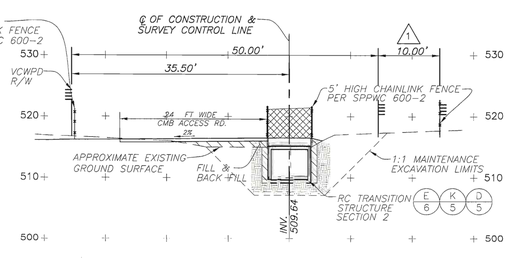
STA. 93+47.18



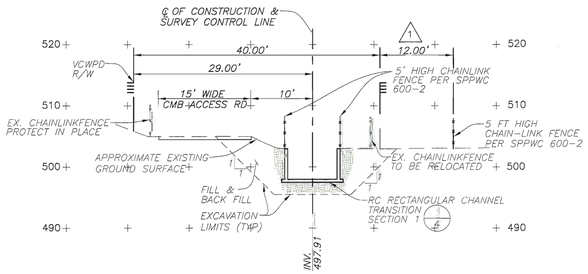
STA. 96+00



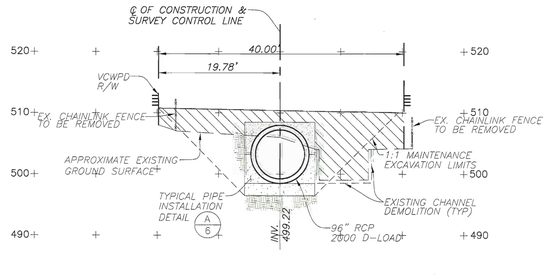
STA. 99+00



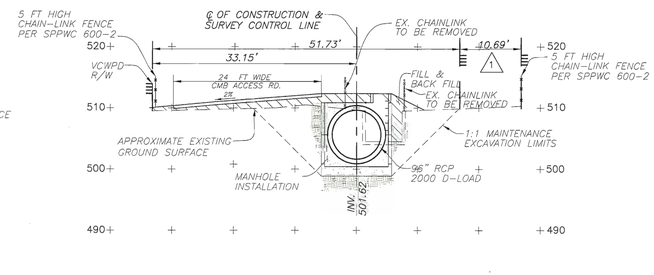
STA. 100+36.75



STA. 93+36.18



STA. 95+00



STA. 98+00

NOTE:

1. VARIABLE WIDTH FLOOD CONTROL EASEMENT TO BE DEDICATED TO VCWPD PER SEPARATE DOCUMENT.

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-10 CIVIL STATE OF CALIFORNIA

REVISION	DESCRIPTION	APP.	DATE
D			
C			
B			
A			
1			

Prepared by:

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ROBERT W. ANDERSON — C-58383 — 12-31-10 — 02-19-09
R.C.E. NO. — EXP. DATE — DATE

DESIGNED	RH	DRAWN	RH/JVF	CHECKED	RWA
PROJ. ENG.				RECOMMENDED	
REG. NO.		DATE		APPROVED	

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 8B875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
CROSS SECTIONS STA 93+42.18 TO STA 100+41.75

SHEET 7 OF 11
DRAWING NO. Y-3-4655

CENTERLINE DATA

CURVE	(L1)	(L2)	(C1)	(L3)	(C2)	(L4)	(C3)	(L5)	(L6)	(L7)
DELTA/BEARING	N87°21'44"E	N87°33'28"E	8°10'59"	N79°22'29"E	11°19'01"	S89°18'30"E	89°54'19"	N00°47'11"E	N02°04'22"W	N00°08'51"E
RADIUS			250'		150'		1.36'			
TANGENT			17.96'		14.86'		135.78'			
LENGTH	10.00'	40.00'	35.86'	10.00'	29.63'	148.58'	213.40'	172.17'	40.00'	10.00'

LEGEND

CFM	CALCULATED FROM MEASURED
D	DEED
LLA	LOT LINE ADJUSTMENT
MR	MISCELLANEOUS RECORDS
R	RECORD OF SURVEYS
P	PROPORTIONED
PM	PARCEL MAPS
AP	ASSESSOR'S PARCEL NUMBER
RS	RECORD OF SURVEYS

LIMIT OF PROPOSED PERMANENT PRIMARY INTEREST

LIMIT OF PROPOSED TEMPORARY EASEMENT

10,014.537 PARCEL NUMBER

SURVEY CONTROL:
T.B.M.–BCR OF THE S. CURB OF HIGH ST. AND THE INTERSECTION OF MOORPARK ROAD. ELEV=510.31 TC

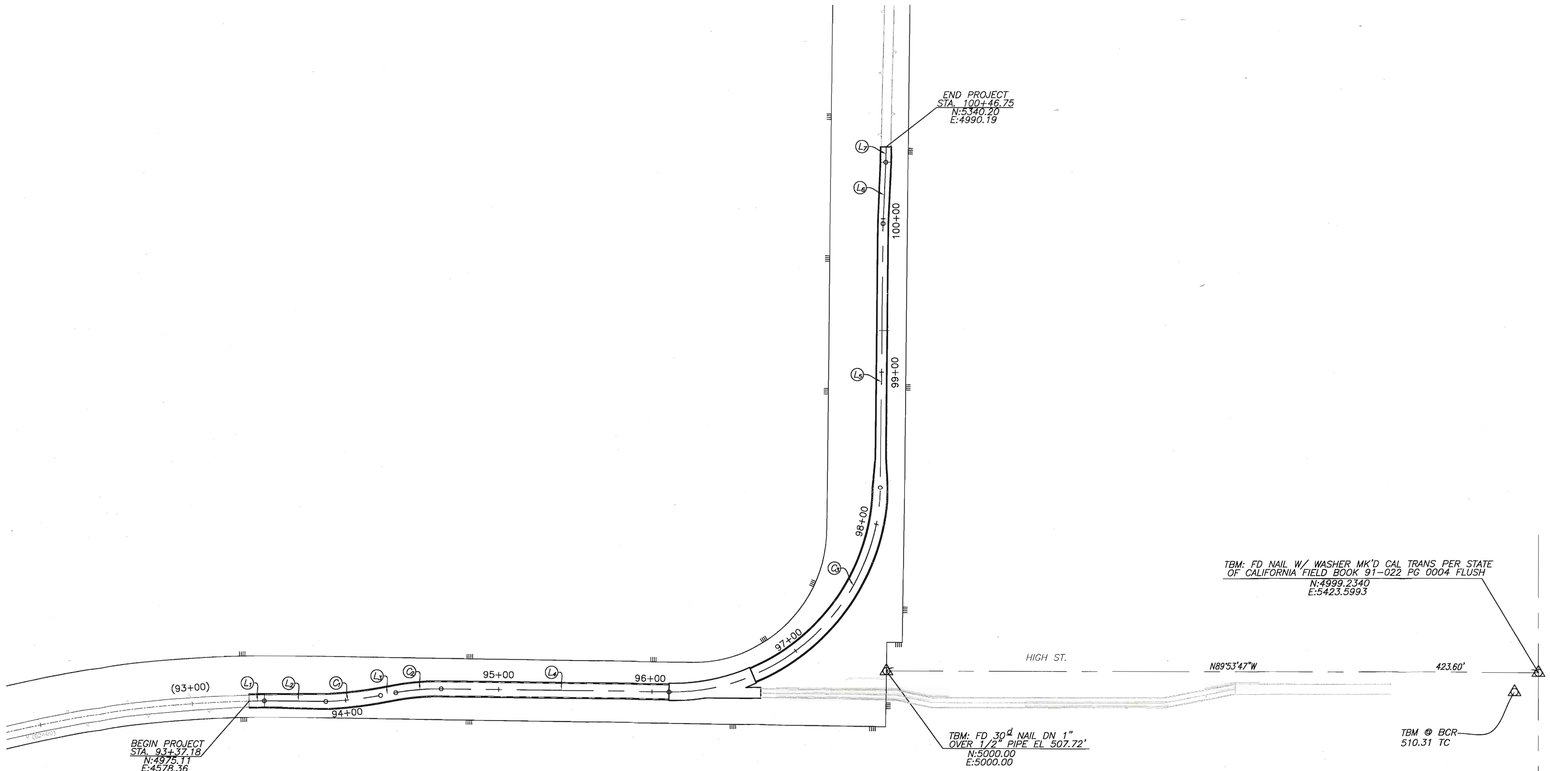
BASIS OF BEARINGS: THE BEARING OF NORTH 89°53'47" WEST ON THE CENTERLINE OF HIGH STREET WAS USED AS THE BASIS OF BEARING

NORTH

SCALE: 1"=40'

0' 40' 80' 120'
FEET

PARCEL NO.	GRANTOR	AREA		INTEREST	RECORDING DATA	
		PARENT PROP.	TAKE		DATE	DOCUMENT NUMBER



REGISTERED PROFESSIONAL ENGINEER JOHN E. TRACY No. 15566 Exp. 6-30-09 CIVIL STATE OF CALIFORNIA

REVISION	DESCRIPTION	APP.	DATE
D			
C			
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PREPARED BY:
CVE ENGINEERING INC.
CIVIL, STRUCTURAL ENGINEERING – SURVEY – PLANNING
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(805) 496-2282 / (805) 496-1653 FAX
e-MAIL: cve@cve.net // W.O. 3181

JOHN E. TRACY RCE 15566 May 9, 2009

CALCULATED ETC DRAWN RHH CHECKED JET

PROJ. ENG.

REG. NO. DATE

RECOMMENDED

APPROVED FOR ACQUISITION DATE

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.

PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
SURVEY CONTROL PLAN

SHEET 8 OF 11

DRAWING NO. Y-3-4656

CURVE DATA	M&R4	M&R2	M&R4											
CURVE	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
DELTA	6°00'27"	0°24'31"	0°44'33"	3°25'23"	21°05'28"								
RADIUS	766.36'	766.36'	766.36'	726.36'	726.36'								
TANGENT	40.21	2.73	4.97	21.70	135.22								
ARC	80.35'	5.36'	9.93'	43.40'	223.98								

LEGEND

CF'M	CALCULATED FROM MEASURED
C/L	CENTER LINE
C.L.A.	CURVE ADJUSTMENT
MR	MISCELLANEOUS RECORDS
O.R.	OFFICIAL RECORDS
P	PROPORTIONED
PM	PARCEL MAPS
AP	ASSESSOR'S PARCEL NUMBER
RS	RECORD OF SURVEYS
	LIMIT OF PROPOSED PERMANENT PRIMARY INTEREST
	LIMIT OF PROPOSED TEMPORARY EASEMENT
(10.014.53')	PARCEL NUMBER

SURVEY CONTROL:
T.B.M.–BCR OF THE S. CURB OF HIGH ST. AND THE INTERSECTION OF MOORPARK ROAD. ELEV=510.31 TC

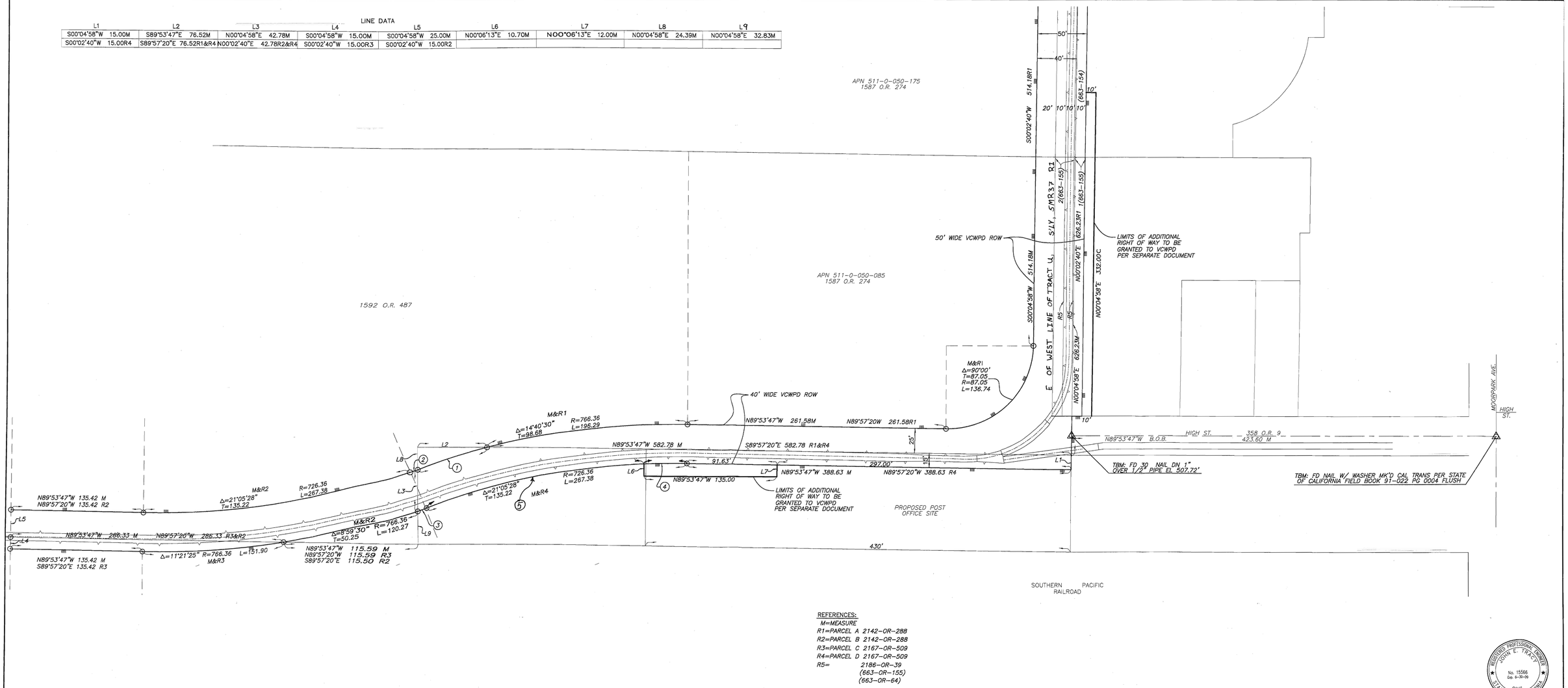
BASIS OF BEARINGS:
THE BEARING OF NORTH 89°53'47" WEST ON THE CENTERLINE OF HIGH STREET WAS USED AS THE BASIS OF BEARING

NORTH

SCALE: 1"=40'
0' 40' 80' 120'
FEET

PARCEL NO.	GRANTOR	AREA		INTEREST	RECORDING DATA	
		PARENT PROP.	TAKE		DATE	DOCUMENT NUMBER

LINE DATA								
L1	L2	L3	L4	L5	L6	L7	L8	L9
S00°04'58"W 15.00M	S89°53'47"E 76.52M	N00°04'58"E 42.78M	S00°04'58"W 15.00M	S00°04'58"W 25.00M	N00°06'13"E 10.70M	N00°06'13"E 12.00M	N00°04'58"E 24.39M	N00°04'58"E 32.83M
S00°02'40"W 15.00R4	S89°57'20"E 76.52R1&R4	N00°02'40"E 42.78R2&R4	S00°02'40"W 15.00R3	S00°02'40"W 15.00R2				



REFERENCES:
M=MEASURE
R1=PARCEL A 2142-OR-288
R2=PARCEL B 2142-OR-288
R3=PARCEL C 2167-OR-509
R4=PARCEL D 2167-OR-509
R5= 2186-OR-39
(663-OR-155)
(663-OR-64)

REGISTERED PROFESSIONAL ENGINEER JOHN E. TRACY No. 15566 Exp. 6-30-09 CIVIL STATE OF CALIFORNIA

REVISION	DESCRIPTION	APP.	DATE
D			
C			
B			
A			
△			

PREPARED BY:
CVE ENGINEERING INC.
CIVIL, STRUCTURAL ENGINEERING – SURVEY – PLANNING
P.O. BOX 7208, THOUSAND OAKS, CA 91360
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JOHN E. TRACY — Mar 9 2009 — RCE 15566

CALCULATED ETC. | DRAWN RHH/JVF | CHECKED JET
PROJ. ENG.
REG. NO. DATE
RECOMMENDED DATE
APPROVED FOR ACQUISITION DATE

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
RIGHT OF WAY MAP

SHEET 9 OF 11
DRAWING NO. Y-3-4657

SECTION 1

APPLICABLE SPECIFICATIONS AND STANDARDS

1–1 All work shall be performed in accordance with the provisions of the latest edition of the Standard Specifications for Public Works Construction (SSPWC)(GREEN BOOK) and the Standard Plans for Public Works Construction (SPPWC), both prepared and promulgated by the Southern California chapters of the American Public Works Association and the Associated General Contractors of California, and these Special Provisions.

SECTION 2

GRADING PERMITS

2–1 Material exported or wasted outside of the project right–of–way shown on the plans are subject to all requirements of the Grading Ordinance. The requirements may include, but are not limited to, submitting of a grading plan prepared by a Civil Engineer, obtaining a grading permit, paying the permit fee, posting a grading bond, hiring professional engineering and testing services for compacting fills, constructing drainage facilities and providing erosion protection. These requirements are the responsibility of the owner of the land on which the material is placed.

SECTION 3

CONSTRUCTION MATERIALS

3–1 The Engineer may require certificates of compliance with the specifications for materials or manufactured items produced outside of the job site. Such certificates will not relieve the Contractor from the requirements of providing material and manufactured items complying with the specifications even though they have been incorporated into the job.

SECTION 4

EXCAVATION SAFETY

4–1 This work shall consist of performing all work required to meet the excavation safety requirements specified in Subsection 7–10.4.

SECTION 5

CONSTRUCTION SURVEYS

5–1 SCOPE

Surveys to be provided by the Contractor and/or the Developer's Engineer shall conform to the general industry standards and the following minimum quality and standards.

5–2 PERFORMANCE AND ACCURACY

The surveys shall be accomplished with sufficient precision to result in the required accuracy and shall be performed under the supervision of a Land Surveyor or Civil Engineer licensed by the State of California. The requirements herein shall apply to the minimum essential control required to accomplish establishment of lines and grades by the Contractor, and to provide the Engineer the necessary references for insuring construction accuracy. The method used to establish working stakes will be at the Contractor's option.

5–3 DETAILS OF STAKING

5–3.1 Alignment

Centerline alignment stakes or offset stakes shall be set at a maximum of 50–foot intervals and at all curve points, angle points, changes in elevation or wall height. On curves, stakes shall be set at 25–foot intervals.

5–3.2 Rough Grade Stake

For rough grading, with cuts or fills, at least one line of stakes shall be set on catch or hinge points, or an offset line. These stakes shall be marked with cut or fill to permit rough finishing of the grading plane. Where slope check points have been set near the elevation of the grading plane, they may be used as rough grade stakes. The longitudinal interval shall be 50 feet.

5–3.3 Final Grade Stakes

For RC spillways 10–foot or less in width, one set of final grade stakes shall be established in the invert to control and to check all elements of the structural section. Two sets, one on each side of the invert shall be established for any facility in excess of the above. These shall be in addition to those set outside the limits of the structure or the excavation. Offset distance from each edge of structure or centerline shall be constant.

Grade shall refer to the plane of the finished invert or slope surface. The mark on the stake shall be on the plane or at a uniform vertical offset from the plane of the finished surface. Longitudinal spacing will be 50 feet for tangent alignment and grade. Spacing will be reduced to 25 feet when radius of curvature is less than 1,000 feet or when rate of change of slope is less than 0.005 ft/ft. Prior to concrete placement, grade stakes and forms shall be checked.

For pipe conduits, stakes shall be set at the ends and at grade and line breaks. If conduit is to be constructed in stages, the ends of the staged lengths shall be staked.

When ends of long, straight runs are not intervisible, intermediate stakes shall be set. The finished pipe grades shall be controlled by optical sighting devices. Use of stringline will not be allowed.

5–3.4 Embankment Stakes

Rough grade stakes shall be placed 25 feet O.C. at toe of embankment and along the dam axis.
Fine grade stakes shall be placed prior to trimming the overbuilt slops.

5–3.5 Minor Drainage Structure Stakes

Beginning and ending points of all side inlets and drains, and any grade or line breaks shall be properly staked and referenced. For long side drains, requirements of Subsection 3.3 shall apply. Horizontal and vertical locations of junctions, drop inlets, risers, manholes shall be staked. A minimum of two stakes should be set in each case. Elevations of all reference points shall be shown on the notes and at the site.

5–3.6 Fence

For fence along a right–of–way line not parallel to the channel centerline, the reference shall be set as follows:

(1) For tangent alignment, set intervisible points at breaks in terrain or at a maximum interval of 200' ±.
(2) Set points for changes in alignment.
(3) Set stakes at regular interval on curves. Use an interval of 50 feet for radii of 1,000 feet and greater; use 25 feet for shorter radii.

5–3.7 Miscellaneous

Survey staking for miscellaneous facilities shall be performed as required by the Engineer.

5–4 SURVEY NOTES

All survey notes shall be kept on 8–1/2" x 11" standard Agency forms. Master copies of forms will be provided to the Contractor at the preconstruction conference. Notes shall indicate the name of the project, the Contractor, the firm performing surveys and party chief, and shall be dated. Two copies of the notes shall be provided to the Engineer or his representative within one day of performance. No construction work shall be initiated on an increment of the project before survey notes for said increment are received by the Engineer or his field representative. The original notes shall be retained by the surveyor and submitted to the Engineer upon completion of work organized in a proper order in a loose–leaf folder.

SECTION 6

DIVERSION AND CONTROL OF WATER

6–1 SCOPE

This work shall consist of the diversion and control of all water entering into the construction area or otherwise affecting construction activities.

6–2 CONSTRUCTIONS METHODS

All permanent construction shall be performed in a site free from water. The Contractor shall construct, maintain, and operate all necessary cofferdams, pumps, channels, flumes, drains and/or other temporary diversion and protective works required for diversion and control of all water, whatever its source, during construction. In order to reduce sediments from being transported downstream, the Contractor shall complete all work on the diversion channel prior to disturbing or altering the flow in the natural channel. Inundation of partially completed work due to lack of control during nonworking periods will not be permitted, and may be cause for requiring removal of work already completed with replacement at the Contractor's expense.

Prior to beginning work involving diversion and control of water, the Contractor shall submit a water control plan to the Engineer. During construction, if circumstances require changes to the original water control plan, a revised water control plan shall be promptly submitted to the Engineer. No responsibility shall accrue to the Engineer or the Agency as a result of the plan or as a result of knowledge of the plan. The Contractor shall hold the Agency and the Engineer harmless from legal action taken by any third party with respect to construction and operation of the diversion and protective work.

Construction and operations of the diversion and control works shall be in accordance with the water control plan submitted, except as deviation therefrom may be specifically approved by the Engineer. All works installed by the Contractor in connection with dewatering, control, and diversion of water but not specified to become permanent part of the project, shall be removed and the site restored, insofar as practical, to its original condition prior to completion of construction or when directed by the Engineer.

SECTION 7

SUBGRADE STABILIZATION

7–1 SCOPE

This work shall consist of subgrade stabilization and shall be performed in accordance with the Standard Specifications, the plans, and these Special Provisions. (See Subsection 300–7.3).

7–2 CONSTRUCTION MATERIALS

Well graded crushed rock material approved by the Engineer and the developer's soil engineer shall be used for stabilization. If float rock or other ungraded rock mixture is used for stabilization, it shall be mixed with the native material to fill all voids before structure construction begins.

7–3 CONSTRUCTION METHODS

7–3.1 Subgrade stabilization shall be performed to insure the suitability of subgrade to withstand the load of the proposed structure and of the formwork, reinforcing steel supports, foot traffic, and similar items.

7–3.2 The need for and extent of subgrade stabilization will be determined by the developer's engineer and approved by Engineer. If and where not needed, subgrade stabilization shall not be performed.

7–3.3 Use of subgrade stabilization material for water control will not be allowed, unless a specifically designed mix is used and properly incorporated into a subdrain system.

SECTION 8

EXCAVATION

8–1 SCOPE

This work shall consist of excavation for the construction of RC spillways and pipes, and appurtenant work and shall be performed in accordance with the Standard Specifications, the Plans, and these Special Provisions.

8–2 CONSTRUCTION METHODS

Excavation shall be performed in accordance with Subsection(s) 300–7.3 and 306–1.1 respectively. Excavated material may be used for fill and backfill subject to Engineer approval. Excess excavation material shall be disposed of outside the project limits.

SECTION 9

FILL AND BACKFILL

9–1 SCOPE

This work shall consist of fill for reinforced concrete major structures, RC spillways, pipes, and related facilities and shall conform to the Standard Specifications, the Plans, and these Special Provisions.

9–2 CONSTRUCTION MATERIALS

Fill materials shall constitute both native and imported materials required to fill and backfill over and around the structures as shown on the plans, excluding filter materials and bedding for RC pipes. Fill materials shall be approved by the Engineer prior to use.

9–3 CONSTRUCTION METHODS

9–3.1 Fill and backfill for RC spillways and pipes shall be performed in accordance with Subsection 300–7.4.

9–3.2 The moisture content of the fill material shall be maintained within 1 percent below and 3 percent above optimum. The optimum moisture content for each site or soil type will be determined by the testing laboratory doing the control.

9–3.3 No material shall be deposited against the outside walls of the reinforced concrete spillways and the end top of cast–in–place RC box spillway until the concrete within the entire cross section of said cast–in–place RC box has developed a strength of not less than 4000 psi in compression, as determined for quality control by the methods specified in ASTM C 31.

SECTION 10

REINFORCING STEEL FOR MAJOR STRUCTURES

10–1 SCOPE

This work shall consist of reinforcing steel furnishing, bending, fabricating and placing for major concrete structures, including reinforced concrete spillways, bubbler, intake structures, head walls, and other structures incorporated therein and shall be performed in accordance with the Standard Specifications, the plans, and these Special Provisions.

10–2 CONSTRUCTION MATERIALS

All reinforcing steel shall be Grade 60 billet steel conforming to Subsection 201–2.

10–3 CONSTRUCTION METHODS

10–3.1 Reinforcing Steel Shop Drawings

Prior to fabricating the reinforcing steel, the Contractor shall submit four copies of the reinforcing steel take–off/placing diagram shop drawings for review. However, furnishing of the shop drawings to the Engineer shall not be construed to imply that the shop drawings will be reviewed for accuracy. The Contractor shall be wholly and completely responsible for the accuracy of the shop drawings and for furnishing and placing the reinforcing steel in accordance with the details shown on the plans and as specified. Comments on the shop drawings by the Engineer shall be addressed by the Contractor immediately upon receipt and revised and/or corrected shop drawings shall be resubmitted prior to steel reinforcing placement on the job site.

SECTION 11

CONCRETE FOR MAJOR STRUCTURES

11–1 SCOPE

This work shall consist of portland cement concrete for reinforced concrete spillways, bubbler, intake structures, parapet walls, transitions, and other structures incorporated therein, and shall be constructed in accordance with the Standard Specifications, the plans, and these Special Provisions.

11–2 CONSTRUCTION MATERIALS

11–2.1 Portland Cement

Cement shall be Type II, low alkali portland cement conforming to ASTM C 150 and the low alkali requirements of Table 2 therein.

11–2.2 Aggregate

Aggregate shall conform to Alternate Rock Material – Type S as specified in Section 400. All aggregate shall meet the requirements of the combined aggregate gradation C. Soundness loss determined by California Test Method 214 shall not exceed 10 percent.

11–2.3 Strength Requirements

All concrete shall attain a minimum 28–day compressive strength of 4000 psi, in accordance with Subsection 201–1.1.3. Use of any mix other than the approved shall be grounds for rejection and removal of concrete already placed.

In the event that concrete test cylinders fail to meet the strength requirements of the specifications, the concrete placed on the job shall be cored. The Engineer shall determine the frequency and location of the cores to provide representative sampling. The Contractor shall pay the Agency the cost of such coring and testing. The cores obtained shall be tested for ultimate compressive strength in accordance with ASTM C 174 and ASTM C 42. No test shall be less than 90 percent of the specified 28–day strength. The Engineer shall determine the volumes of concrete which are deficient in strength. Acceptance or removal shall be in accordance with the applicable specifications.

As an alternate method, the Contractor may determine when the concrete compressive strength has attained 4000 psi. He may, at his own expense, make, cure, and deliver concrete specimens according to ASTM C 31, Field Cure Procedures, in molds supplied by the Agency. The method of curing specimens must be approved by the Engineer. The Agency's Material Laboratory will test the samples for compressive strength at such time during a normal workday as the Contractor deems satisfactory. The Contractor shall arrange for the samples to be delivered.

11–2.4 Joint Sealant

When required on the plans, joint sealant shall comply with Subsection 201–3.6

11–2.5 Curing Compound

Curing compound shall comply with Subsection 201–4.1, Type I–D, with red fugitive dye.

11–3 CONSTRUCTION METHODS

11–3.1 Sequence of Placement of Concrete

A minimum of 16 hours shall elapse between alternate placement of portland cement concrete in adjacent sections both longitudinally and transversely along the construction joints in the invert slabs. Similar minimum elapsed time shall be required for alternate pours in the walls and top slabs.

Continuous pours of sections in excess of 50 feet long will not be allowed unless otherwise indicated on the plans. The Contractor shall maintain a uniform placement pattern approved by the Engineer.

11–3.2 Invert Slabs

Following consolidation of the placed concrete by vibration method, the concrete shall be struck off or screeded to the required grade by means of a straight edge. A small amount of concrete is to be pushed ahead of the straight edge to fill in the low spots. Immediately after strike off, the concrete shall be worked with a "bull float" or "darby" until a smooth surface is obtained. As the sheen begins to leave the surfaces, edging and jointing working shall be done.

When the concrete has set sufficiently for proper finishing, a two–step operation of floating and troweling shall be used on the invert. The first step shall be floating of the concrete surface, with power equipment, until a smooth uniform surface is acquired. When the concrete has hardened so that water and fine material will not be worked to the surface, the second step of the finishing operation shall commence. This step shall be the finishing of the invert surface with a power steel trowel.

All edging and jointing work should be re–marked before the second step or steel troweling operations to insure sharp and clean markings.

If shoring is used for construction, it shall be performed in such a manner as not to interfere with the finishing of the invert slab. No deviation from this requirement will be allowed. Solid sheeting will not be allowed.

11–3.3 Vertical Walls

11–3.3.1 Finishing of Top Walls

In order to provide for accurate and even surface finish, forms for the RC channel spillway, bubbler structure and head walls construction shall not extend above finished wall grade. Chamfer strips shall be provided on both inside and outside forms. Edging of concrete corners will not be allowed.

11–3.3.2 Grouting

Grout mixture shall be provided at all horizontal construction joints as required by Subsection 303–1.8.2. The depth of the grout shall not be less than 2 inches and not more than 4 inches measured vertically. The grout mixture shall be placed as uniformly as possible immediately prior to placement of concrete.

When small amounts of grout mixture are required, the Engineer may allow the use of grout mixed on site. The grout mixed on site shall consist of 1 part cement and 2 parts concrete sand. For on site mix, the aggregate and cement shall conform to Sections 200 and 201, respectively.

11–3.4 Placing Concrete Under Adverse Weather Conditions

The following is in addition to the requirements of Subsection 303–1.8.7.

If quick setting is encountered, the concrete shall not be retempered. Rather than introducing free water at the plant, water may be added to a dry batched mix through a certified water meter near the project site. If this is done, other specification requirements are not waived. The total elapsed time between the addition of cement to the aggregates and discharging the completed mix shall not exceed 90 minutes with concrete temperatures less than 85° F. With higher concrete temperatures, less time will be allowed, as approved by the Engineer.

11–3.5 Curing

Curing shall comply with Subsection 303–1.10.

11–3.6 Corrective Measures

In the event cracks in excess of 0.03 inch in width occur in the structure, the cracks shall be injected with an epoxy approved by the Engineer, to the level of finish concrete.

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C–058383 EXP. 12–31–10 CIVIL STATE OF CALIFORNIA

PLOT DATE: 2/20/09

SAVE DATE: 2/19/09 JEFF Z:\ACTIVE RJR PROJECTS\ACTIVE_PROJECTS\1487_CITY OF MOORPARK_HIGH ST. DRAIN\CIVIL\IMPROVEMENT\WORKING_FOLDER\SHEET 10-11 SPECIFICATIONS_2-4-09.DWG

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ROBERT W. ANDERSON | C–58383 R.C.E. NO. | 12–31–10 EXP. DATE | 02–19–09 DATE

DESIGNED RH | DRAWN RH/JVF | CHECKED RWA
PROJ. ENG. | RECOMMENDED
REG. NO. | DATE | APPROVED

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
PROJECT SPECIFICATIONS

SHEET 10 OF 11
DRAWING NO. Y–3–4658

SECTION 12

LADDERS

12–1 SCOPE

This work shall consist of furnishing and installation of ladders and shall be performed in accordance with the Standard Specifications, the Standard Plans, and these Special Provisions.

12–2 CONSTRUCTION MATERIALS AND METHODS

12–2.1 Ladders

Ladders shall consist of steps and pipe handles and shall be installed at locations shown on the plans.

12–2.1.1 Steps

Steps shall conform to the SPPWC Standard Plan 635–2 and/or 636–1 at the Engineer's option.

12–2.1.2 Pipe Handles

Pipe handles shall meet the requirements of Subsection 206–5.

SECTION 13

ACCESS ROAD

13–1 SCOPE

This work shall consist of access road construction and shall be performed in accordance with the Standard Specifications, the plans, and these Special Provisions.

13–2 CONSTRUCTION MATERIALS

13–2.1 Crushed Miscellaneous Base (CMB) Surfacing

Surfacing shall consist of CMB meeting the requirements of the fine gradation of Subsection 200–2.4, except that percentage passing No. 200 sieve shall range between 7% and 11%.

13–2.2 Asphalt Concrete (AC) Surfacing

13–2.2.1 Processed Miscellaneous Base (PMB) Surfacing

PMB shall conform to the requirements of Subsection 200–2.5 for fine grading.

13–2.2.2 Asphalt Concrete

AC shall conform to the requirements of Subsection 400–4 and shall be Type III–B3–AR–4000 or 8000, Type III–C3–AR–4000 or 8000.

13–3 CONSTRUCTION METHODS

13–3.1 Subgrade

Subgrade shall be prepared in accordance with Subsection 301–1. The relative compaction and tolerances shall be per Subsections 301–1.3 and 301–1.4 respectively for base and sub–base material.

13–3.2 Crushed Miscellaneous Base (CMB) Surfacing

Surfacing shall be a minimum of 6" thick and shall be constructed in accordance with Subsection 301–2, except that the relative compaction shall not be less than 95 percent.

13–3.3 Asphalt Concrete (AC)

13–3.3.1 Processed Miscellaneous Base

Construction of the PMB shall be performed in accordance with Subsection 301–2 and to the dimensions shown on the Plans.

13–3.3.2 Asphalt Concrete

Construction of AC shall be performed in accordance with Subsection 302–5 and to the dimensions shown on the plans. AC construction shall be performed after all other work is completed.

SECTION 14

CHAIN LINK FENCE AND GATE

14–1 SCOPE

This work shall consist of furnishing and installing 5–foot high chain link fence, 5–foot high by 15–foot wide single leaf and walk–in gate(s) and shall be performed in accordance with the Standard Specifications, the Plans, and these Special Provisions.

14–2 CONSTRUCTION MATERIALS

Materials for chain link fence and gate(s) shall conform to Subsection 206–6 and Standard Plan 600–0 of SPPWC, except that Subsection 206–6.3 is revised to provide knuckled selvage on bottom and top edges of chain link fabric.

14–3 CONSTRUCTION METHODS

Chain link fence and gate(s) shall be installed at locations shown on the plans. The construction shall be performed in accordance with Standard Plan 600–0 of SPPWC, except that it shall be provided with a top rail.

REGISTERED PROFESSIONAL ENGINEER
ROBERT W. ANDERSON
C–058383
EXP. 12–31–10
CIVIL
STATE OF CALIFORNIA

PLOT DATE: 2/20/09

SAVE DATE: 2/19/09 JEFF Z:\ACTIVE RJR PROJECTS\ACTIVE_PROJECTS\1487_CITY OF MOORPARK_HIGH ST. DRAIN\CIVIL\IMPROVEMENT\WORKING FOLDER\SHEET 10-11 SPECIFICATIONS_2-4-09.DWG

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ROBERT W. ANDERSON | C–58383 R.C.E. NO. | 12–31–10 EXP. DATE | 02–19–09 DATE

DESIGNED RH | DRAWN RH/JVF | CHECKED RWA
PROJ. ENG. | REG. NO. | DATE
RECOMMENDED | APPROVED

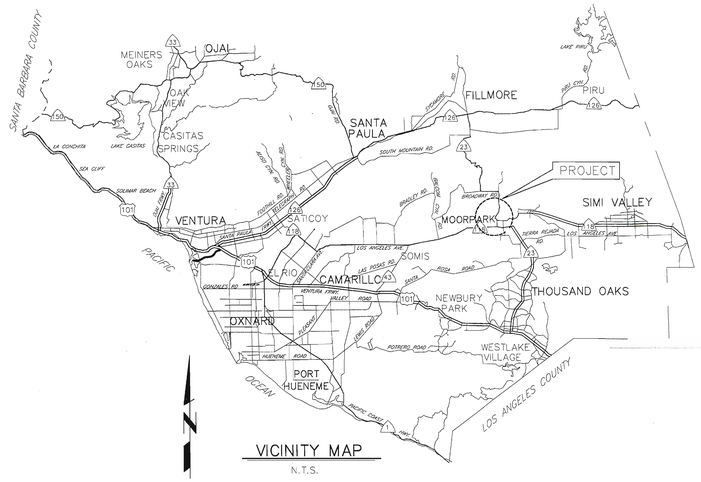
COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
PROJECT SPECIFICATIONS

SHEET 11 OF 11
DRAWING NO. Y–3–4659

COUNTY OF VENTURA
PUBLIC WORKS AGENCY
WATERSHED PROTECTION DISTRICT
ZONE 3
WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
IN THE CITY OF MOORPARK



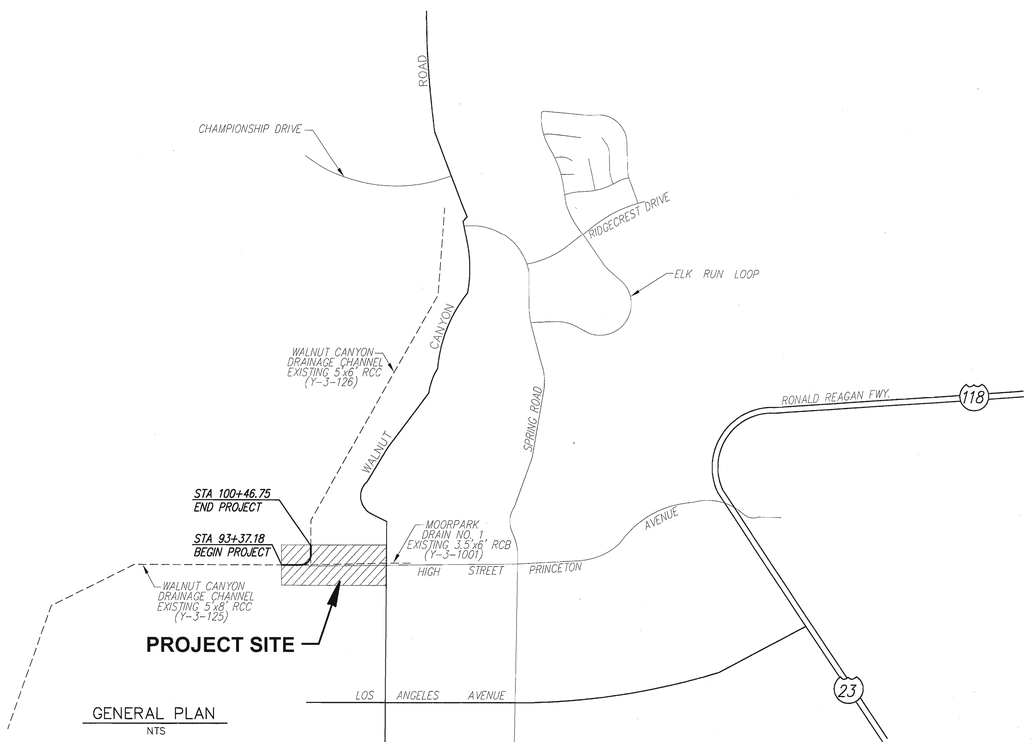
VICINITY MAP
N.T.S.

GENERAL NOTES

1. ELEVATIONS SHOWN ARE IN US FEET, NATIONAL GEODETIC VERTICAL DATUM OF 1929.
2. STATIONS SHOWN ON DRAWINGS ARE ALONG CENTERLINE OF STRUCTURE.
3. E.G.L. AND H.G.L. ARE SHOWN FOR FUTURE REFERENCE BY THE DISTRICT ONLY.
4. NUMBERS IN ⬡ INDICATE BID ITEMS UNDER WHICH PAYMENT WILL BE MADE.
5. LETTERS AND NUMBERS IN ⊖ INDICATE THE DETAIL CALL-OUT AND SHEET ON WHICH REFERENCE DETAIL IS SHOWN.
6. NUMBERS IN △ REFER TO NOTES ON THE SAME SHEET UNLESS OTHERWISE NOTED.
7. TREES DESIGNATED BY ▨ SHALL BE REMOVED. ALL OTHERS SHALL BE PROTECTED IN PLACE.
8. TOPOGRAPHY AND CROSS SECTIONS FOR THIS PROJECT WERE TAKEN FROM SURVEYS PERFORMED BY CVE ENGINEERING
9. SOIL TEST BORINGS FOR THE PROJECT WERE MADE IN 2001, 2006, AND 2008 AND THEIR LOCATION IS MARKED BY THE SYMBOL ◓. SUBSURFACE SOIL INVESTIGATION RESULTS ARE FURNISHED FOR INFORMATION ONLY, IN ACCORDANCE WITH SUBSECTION 2-7 OF THE STANDARD SPECIFICATIONS, AND NO WARRANTY IS MADE THEREFOR.
10. EXISTING IMPROVEMENTS WITHIN THE RIGHT OF WAY AND WORK AREAS SHALL REMAIN AND SHALL BE PROTECTED UNLESS OTHERWISE NOTED. DAMAGED IMPROVEMENTS SHALL BE REPLACED IN KIND TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION.
11. UTILITIES ARE SHOWN AS KNOWN TO EXIST AT TIME OF SURVEY. UTILITIES MAY HAVE BEEN OMITTED, MISPLACED, AND/OR RELOCATED. CONTRACTOR SHALL EXERCISE CARE IN EXCAVATION AND SHALL PROTECT ALL UTILITIES.
12. SYMBOL ▲ INDICATES THE LOCATION OF THE HORIZONTAL AND VERTICAL CONTROL POINTS WHICH WILL BE FURNISHED BY THE AGENCY FOR THE CONSTRACTOR'S USE.
    TBM: BCR OF THE SOUTH CURB OF HIGH STREET AND THE INTERSECTION OF MOORPARK ROAD
    ELEV.=(510.31 TC)
    BASIS OF BEARING: THE BEARING OF NORTH 89°54'16" WEST AS SHOWN AS THE CENTERLINE OF HIGH STREET (PER 358 O.R. 9).
13. CONTRACTOR SHALL NOTIFY UTILITY OWNERS A MINIMUM OF 48 HOURS PRIOR TO STARTING WORK IN AREAS AFFECTING THEIR FACILITIES:

SOUTHERN CALIFORNIA EDISON CO.	TEL. NO. (805) 654-7472	CASEY SCHOONOVER
SOUTHERN CALIFORNIA GAS CO.	TEL. NO. (818) 700-3614	MARK WHITE
PACIFIC BELL TELEPHONE CO.	TEL. NO. (805) 677-4114	DAN PFEIFER
VENTURA COUNTY WATER AND SANITATION	TEL. NO. (805) 378-3026	ANDREW MARTINEZ

UNDERGROUND SERVICE ALERT
1-800-422-4133
CALL USA/SC
FOR UNDERGROUND LOCATION
2 WORKING DAYS BEFORE YOU DIG



GENERAL PLAN
NTS

INDEX TO SHEETS

SHEET NO.	TITLE
1.	GENERAL PLAN
2.	PLAN AND PROFILE STA 93+37.18 TO STA 97+50.00
3.	PLAN AND PROFILE STA 97+50.00 TO STA 100+46.75
4.	RC RECTANGULAR CHANNEL TRANSITION STRUCTURAL SECTIONS
5.	RC TRANSITION (RCP TO RCB) STRUCTURAL SECTIONS
6.	MISCELLANEOUS DETAILS AND LATERAL "1"
7.	CROSS SECTION STA 93+42.18 TO STA 100+41.75
8.	SURVEY CONTROL PLAN
9.	RIGHT OF WAY MAP
10.	PROJECT SPECIFICATIONS
11.	PROJECT SPECIFICATIONS

INDEX OF STANDARD PLANS USED BY REFERENCE

SPPWC STANDARD PLANS; 2006 EDITION:

110-1,	DRIVEWAY APPROACHES, TYPE B.
301-2,	CURB OPENING CATCH BASIN WITH GRATING(S) AND DEBRIS SKIMMER
313-2,	LOCAL DEPRESSION AT CATCH BASINS, CASE E
322-1,	MANHOLE-PIPE TO PIPE LARGE SIDE INLET
324-1,	MANHOLE SHAFT WITH ECCENTRIC REDUCER
332-1,	JUNCTION STRUCTURE PIPE TO PIPE
340-1,	TRANSITION STRUCTURE PIPE TO PIPE
342-1,	TRANSITION STRUCTURE RCB TO RCP
600-2,	CHAIN LINK FENCE AND GATES

EXHIBIT "A"
PROJECT # 88875
PERMIT # 2008-074

REFERENCE DRAWINGS

1. WALNUT CANYON CHANNEL IMPROVEMENT PLANS, (1962), DWG NO. Y-3-125 TO Y-3-126
2. MOORPARK DRAIN NO. 1, (1970), DWG NO. Y-3-1001
3. VENTURA COUNTY WATER WORKS DISTRICT NO. 1, HIGH ST. EXTENSION, (1967), DWG NO. 46550
4. COUNTY OF VENTURA PUBLIC WORKS DEPARTMENT, HIGH ST. WATER LINE, (1958), DWG NO. 34793

PLOT DATE: 2/19/09

SAVE DATE: 2/17/09 JEFF Z:\ACTIVE RJR PROJECTS\ACTIVE_PROJECTS\1487_CITY OF MOORPARK_HIGH ST. DRAIN\CIVIL\IMPROVEMENT\WORKING FOLDER\SHEET 1_2_3_05DWG.DWG

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Prepared by: RJR ENGINEERING GROUP
Planning Civil Engineering Flood Control Hydrology
Geotechnical Engineering Geology Water Resources Environmental
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ROBERT W. ANDERSON | C-58383 | R.C.E. NO. | 12-31-10 | EXP. DATE | 02-19-09 | DATE

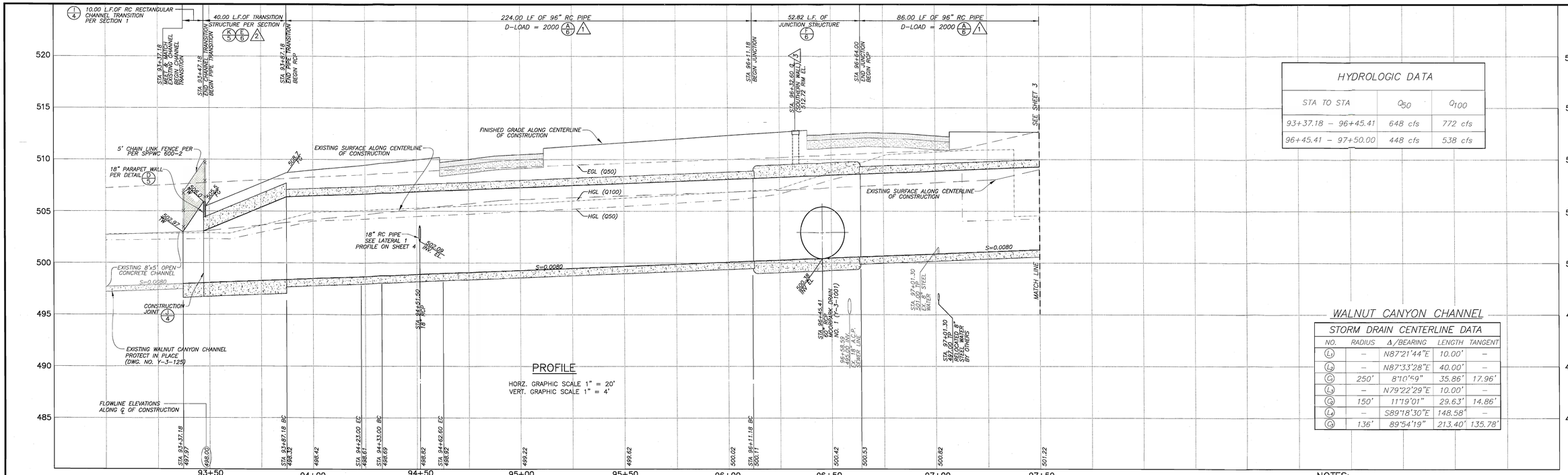
3/10/09
DEPUTY DIRECTOR
3/10/09
AGENCY DIRECTOR

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
GENERAL PLAN

SHEET 1 OF 11
DRAWING NO. Y-3-4649



PROFILE

HORZ. GRAPHIC SCALE 1" = 20'
VERT. GRAPHIC SCALE 1" = 4'

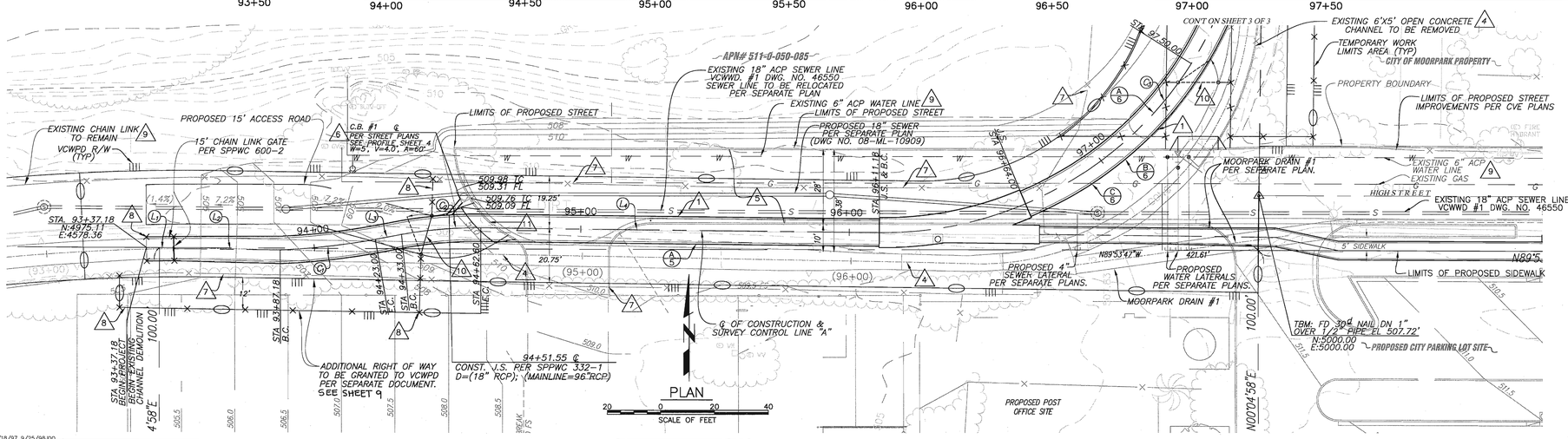
HYDROLOGIC DATA

STA TO STA	Q_{50}	Q_{100}
93+37.18 – 96+45.41	648 cfs	772 cfs
96+45.41 – 97+50.00	448 cfs	538 cfs

WALNUT CANYON CHANNEL

STORM DRAIN CENTERLINE DATA

NO.	RADIUS	Δ/BEARING	LENGTH	TANGENT
L_1	–	N87°21'44"E	10.00'	–
L_2	–	N87°33'28"E	40.00'	–
C_1	250'	8°10'59"	35.86'	17.96'
L_3	–	N79°22'29"E	10.00'	–
C_2	150'	11°19'01"	29.63'	14.86'
L_4	–	S89°18'30"E	148.58'	–
C_3	136'	89°54'19"	213.40'	135.78'



NOTES:

1. INSTALL 96" REINFORCED CONCRETE PIPE WITH 1" OF INTERIOR CONCRETE LINING INSIDE DIAMETER OF PIPE PER VCWPD STANDARDS.
2. CONSTRUCT RCB TO RCP TRANSITION STRUCTURE PER SPPWC, 2006 EDITION, STD. PLAN 342-1 OR E 6
3. MANHOLE SHAFT AND APPURTENANCES, AT STA. 96+32.60, AND 98+00.00 SHALL BE CONSTRUCTED PER STANDARD PLANS, SPPWC 324-1, WHERE MANHOLE SHAFT SHALL TAPER FROM DA = 48" TO 30". MANHOLE COVERS SHALL BE CAST WITH THE LETTERS "VCWPD". THE LETTERS SHALL BE 2 1/2" HIGH WITH 1/2" LINE WIDTH. MANHOLE COVERS SHALL ALSO HAVE A LIFTING SLOT IN ADDITION TO THE PICK HOLE. MANHOLE SHAFT CONNECTION TO RC STRUCTURE SHALL BE CONSTRUCTED PER STANDARD PLANS, SPPWC 322-1.
4. SAWCUT, REMOVE, AND DISPOSE OF EXISTING CONCRETE DRAINAGE CHANNEL FROM STA. 93+37.18 TO STA. 100+46.75. REPLACE WITH ENGINEERED FILL TO 90 OR 95 (AT ROAD SECTIONS) PERCENT RELATIVE COMPACTION AT 1 TO 3 PERCENT OVER OPTIMUM SOIL-WATER CONTENT, UNLESS OTHERWISE SPECIFIED AS REQUIRING SPECIAL COMPACTION. (SEE RJR GEOTECHNICAL REPORT FOR ADDITIONAL RECOMMENDATIONS)
5. HIGH STREET IMPROVEMENTS PER SEPARATE PLANS.
6. CONSTRUCT CURB OPENING CATCH BASIN WITH LOCAL DEPRESSION, PER SPPWC, 2006 EDITION, STD PLANS 301-2 AND 313-2, RESPECTIVELY, WHERE WIDTH=5', V-DEPTH=4' A=60'.
7. REMOVE AND DISPOSE OF INTERFERING CHAIN LINK FENCE AND GATES WITHIN THE RIGHT OF WAY.
8. INSTALL 5FT HIGH CHAIN-LINK FENCE PER SPPWC 600-2, 2006 EDITION.
9. EXISTING IMPROVEMENTS WITHIN THE RIGHT OF WAY AND WORK AREA LIMITS SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED. DAMAGED IMPROVEMENTS SHALL BE REPLACED IN KIND TO ITS ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE PROJECT ENGINEER AT CONTRACTOR'S EXPENSE.
10. INSTALL 5FT HIGH X 15FT WIDE SINGLE LEAF CHAIN-LINK GATE PER SPPWC 600-2, 2006 EDITION. CHAIN-LINK GATE SHALL BE 25FT AWAY FROM THE CURB OF THE DRIVEWAY APPROACH.
11. CONSTRUCT DRIVEWAY APPROACH PER SPPWC 110-1 (TYPE B) W=15', X=3', Y=4'

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-10 CIVIL STATE OF CALIFORNIA

REVISION	DESCRIPTION	APP.	DATE
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2/18/97, 9/25/98,09

Prepared by: RJR ENGINEERING GROUP
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ROBERT W. ANDERSON C-58383 R.C.E. NO. 12-31-10 EXP. DATE 02-19-09 DATE

DESIGNED RH	DRAWN RH/JVF	CHECKED RWA
PROJ. ENG.		RECOMMENDED
REG. NO.	DATE	APPROVED

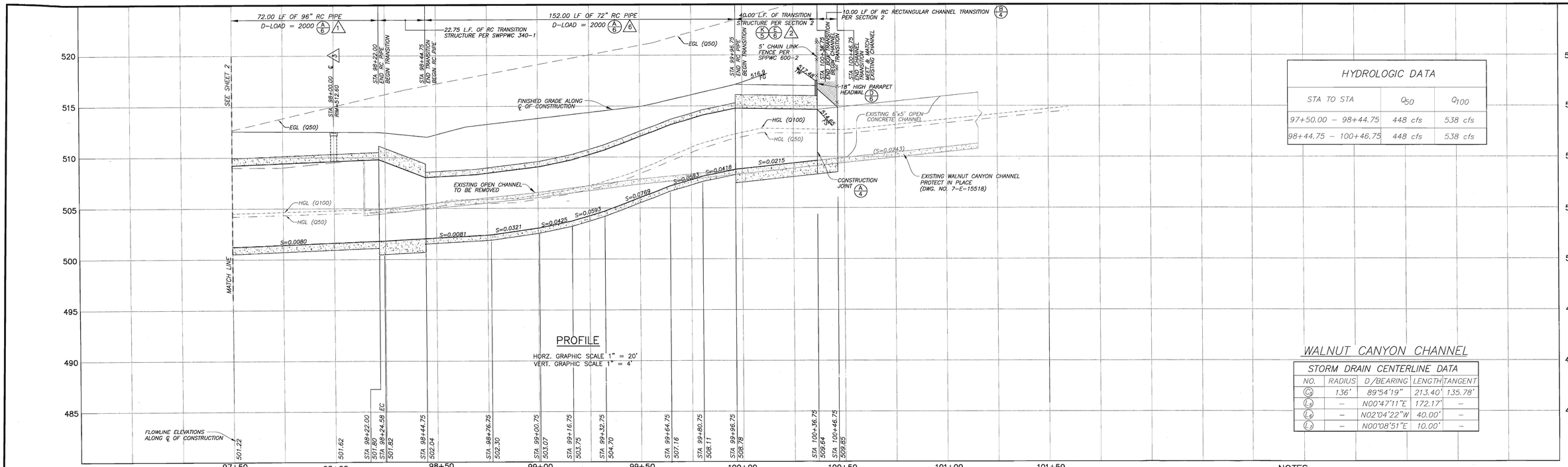
COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET

PLAN AND PROFILE STA 93+37.18 TO STA 97+50.00

SHEET 2 OF 11
DRAWING NO. Y-3-4650



PROFILE

HORZ. GRAPHIC SCALE 1" = 20'
VERT. GRAPHIC SCALE 1" = 4'

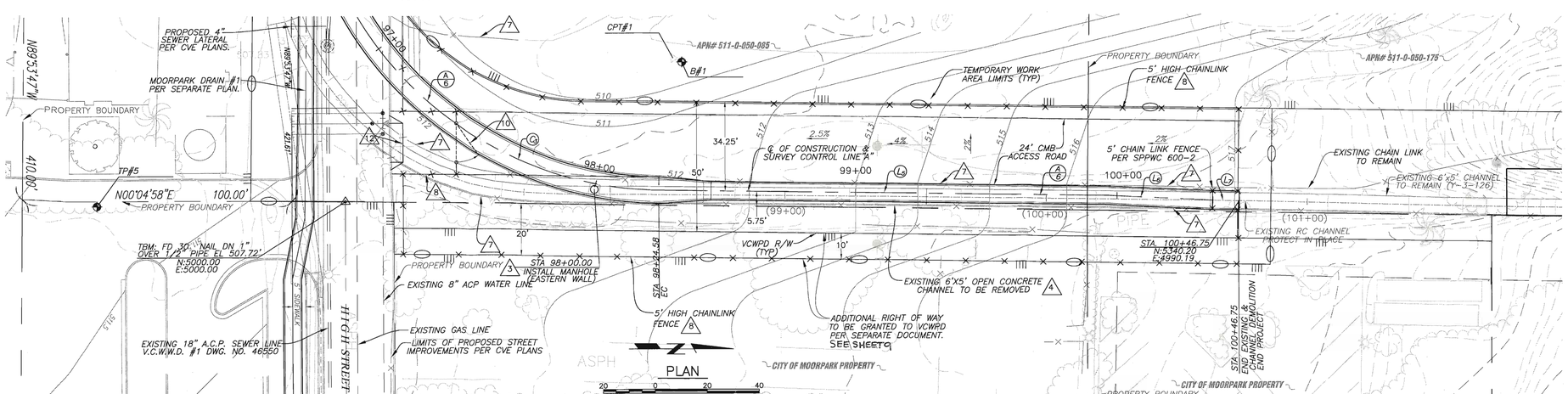
HYDROLOGIC DATA

STA TO STA	Q_{50}	Q_{100}
97+50.00 – 98+44.75	448 cfs	538 cfs
98+44.75 – 100+46.75	448 cfs	538 cfs

WALNUT CANYON CHANNEL

STORM DRAIN CENTERLINE DATA

NO.	RADIUS	D/BEARING	LENGTH	TANGENT
C_9	136'	89°54'19"	213.40'	135.78'
L_8	–	N00°47'11"E	172.17'	–
L_9	–	N02°04'22"W	40.00'	–
L_7	–	N00°08'51"E	10.00'	–



NOTES:

1. INSTALL 96" REINFORCED CONCRETE PIPE WITH 1" OF INTERIOR CONCRETE LINING INSIDE DIAMETER OF PIPE PER VCWPD STANDARDS.
2. CONSTRUCT RCB TO RCP TRANSITION STRUCTURE PER SPPWC, 2006 EDITION, STD. PLAN 342-1.
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5. HIGH STREET IMPROVEMENTS PER SEPARATE PLANS.
6. INSTALL 72" REINFORCED CONCRETE PIPE WITH 1" OF INTERIOR CONCRETE LINING INSIDE DIAMETER OF PIPE PER VCWPD STANDARDS.
7. REMOVE AND DISPOSE OF INTERFERING CHAIN LINK FENCE AND GATES WITHIN THE RIGHT OF WAY.
8. INSTALL 5FT HIGH CHAIN-LINK FENCE PER SPPWC 600-2, 2006 EDITION.
9. EXISTING IMPROVEMENTS WITHIN THE RIGHT OF WAY AND WORK AREA LIMITS SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED. DAMAGED IMPROVEMENTS SHALL BE REPLACED IN KIND TO ITS ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE PROJECT ENGINEER AT CONTRACTOR'S EXPENSE.
10. INSTALL 5FT HIGH X 15FT WIDE SINGLE LEAF CHAIN-LINK GATE PER SPPWC 600-2, 2006 EDITION. CHAIN-LINK GATE SHALL BE 25FT AWAY FROM THE CURB OF THE DRIVEWAY APPROACH.
11. CONSTRUCT CMB ACCESS ROAD PER (L 6)
12. CONSTRUCT DRIVEWAY APPROACH PER SPPWC 110-1 (TYPE B) W=15', X=3', Y=4'

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-10 CIVIL STATE OF CALIFORNIA

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Prepared by: RJR ENGINEERING GROUP
Planning-Civil Engineering-Flood Control/Hydrology
Geotechnical Engineering-Geology-Water Resources-Environmental
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ROBERT W. ANDERSON C-58383 12-31-10 2-19-09
R.C.E. NO. EXP. DATE DATE

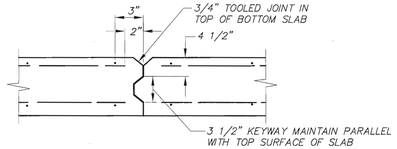
DESIGNED RH | DRAWN RH/JVF | CHECKED RWA
PROJ. ENG. | RECOMMENDED
REG. NO. | DATE | APPROVED

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

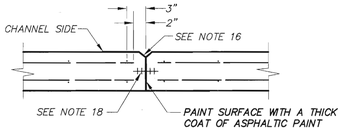
SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
PLAN AND PROFILE STA 97+50.00 TO STA 100+46.75

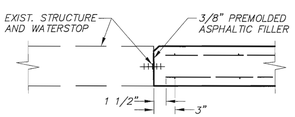
SHEET 3 OF 11
DRAWING NO. Y-3-4651



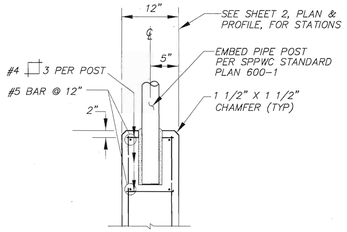
SLAB CONSTRUCTION JOINT



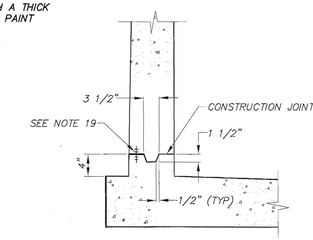
WALL CONSTRUCTION JOINT



WALLS & SLABS JOINING EXISTING STRUCTURES



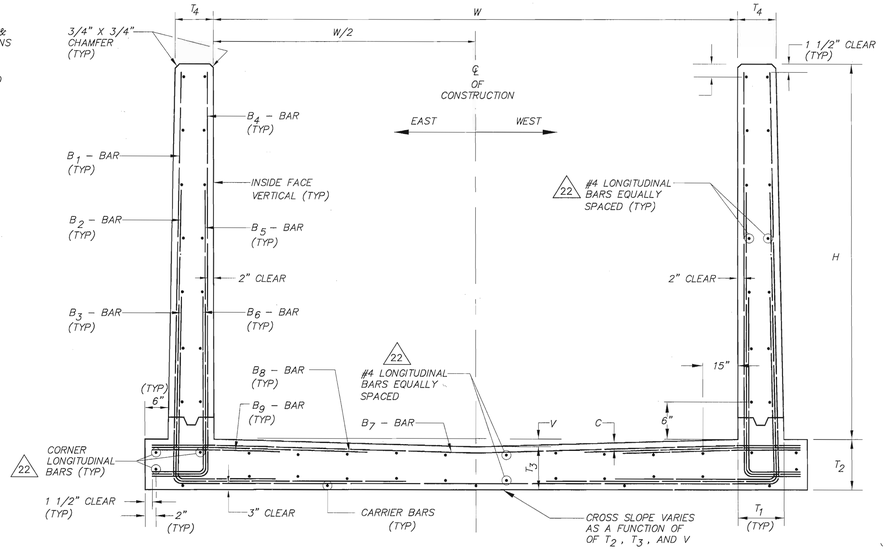
CHAIN LINK FENCE DETAILS



TRANSVERSE JOINTS

LONGITUDINAL JOINTS (J)

CONSTRUCTION JOINT DETAILS



TYPICAL RC CHANNEL DETAIL (I)

NOT TO SCALE

RC CHANNEL TABLE

SECTION NUMBER			1	2	3	4	5	6
WIDTH		W	8'-0"	6'-0"				
HEIGHT		H	5'-0" to 8'-0"	8'-0" to 5'-0"				
THICKNESS (INCHES)	BASE OF WALL	T_1	9.25	9.25				
	SLAB AT FACE OF WALL	T_2	16.5	16				
	SLAB AT ℄	T_3	15	15				
	TOP OF WALL	T_4	9	9				
INVERT DROP		V	1.5"	1"				
STEEL CLEARANCE INVERT		C	3"	3"				
B_1 BAR	BAR # AND SPACING		#5 @ 9"	#5 @ 9"				
	HORIZONTAL LENGTH		5'-10.5"	4'-10.5"				
	VERTICAL/INCLINED LENGTH		8'-9.5"	8'-9.5"				
B_2 BAR	BAR # AND SPACING		#6 @ 9"	#6 @ 9"				
	HORIZONTAL LENGTH		6'-0.25"	5'-0.25"				
	VERTICAL/INCLINED LENGTH		6'-9.5"	6'-9.5"				
B_3 BAR	BAR # AND SPACING		#5 @ 9"	#5 @ 9"				
	HORIZONTAL LENGTH		1'-10.5"	1'-9.75"				
	VERTICAL/INCLINED LENGTH		2'-12"	2'-12"				
B_4 BAR	BAR # AND SPACING		#4 @ 18"	#4 @ 18"				
	HORIZONTAL LENGTH		0'-11.75"	0'-11.75"				
	VERTICAL/INCLINED LENGTH		8'-9.5"	8'-9.5"				
B_5 BAR	BAR # AND SPACING		#4 @ 18"	#4 @ 18"				
	HORIZONTAL LENGTH		0'-11.75"	0'-11.75"				
	VERTICAL/INCLINED LENGTH		2'-9.5"	2'-9.5"				
B_6 BAR	BAR # AND SPACING		N/A	N/A				
	HORIZONTAL LENGTH		N/A	N/A				
	VERTICAL/INCLINED LENGTH		N/A	N/A				
B_7 BAR	BAR # AND SPACING		#4 @ 18"	#4 @ 18"				
	HORIZONTAL LENGTH		5'-1.75"	4'-1.75"				
B_8 BAR	BAR # AND SPACING		#4 @ 18"	#4 @ 18"				
	HORIZONTAL LENGTH		5'-1.75"	4'-1.75"				
B_9 BAR	BAR # AND SPACING		N/A	N/A				
	HORIZONTAL LENGTH		N/A	N/A				
#4 LONGITUDINAL BAR	BOTTOM SLAB		28	22				
	SIDE WALLS		52	52				
	HEELS		4	4				
TOTAL #4 LONGITUDINAL BARS			84	78				
#4 CARRIER BARS IN BOTTOM SLAB			N/A	N/A				
CONCRETE QUANTITY: CY/LINEAR FT			0.94	0.85				
STEEL QUANTITY: LBS/LINEAR FT			182.96	171.2				

RC CHANNEL LOCATION

CHANNEL SECTION NUMBER	STATIONS		BARS TO BE ADJUSTED	
	FROM	TO	VERTICAL LEG	HORIZONTAL LEG
1	93+37.18	93+47.18	B_1, B_2 & B_4	N/A
2	100+36.75	100+46.75	B_1, B_2 & B_4	N/A
	–	–		
	–	–		
	–	–		
	–	–		
	–	–		

STRUCTURAL NOTES

GENERAL:

1. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO THE NEAREST EDGE OF BAR AND SHALL BE TWO INCHES UNLESS OTHERWISE SHOWN.
2. CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE, AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIALLY) TO CENTERLINE OF CHANNEL ON THE PLAN EXCEPT AS OTHERWISE SHOWN.
3. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE 2008 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318–08), SECTION 7.3.
4. PLACING OF REINFORCEMENT SHALL CONFORM TO THE 2008 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318–08), SECTION 7.5.
5. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30 INCHES OF MANHOLE OR JUNCTION STRUCTURE OPENING, OR SIDE INLETS.
6. TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE SHOWN.
7. THE TRANSVERSE REINFORCING STEEL SHALL TERMINATE ONE AND ONE–HALF INCHES FROM THE CONCRETE SURFACES UNLESS OTHERWISE SHOWN ON THE PLANS.
8. EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED.
9. NO SPLICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN SHOWN IN THE DRAWING WITHOUT APPROVAL OF THE ENGINEER. NO MORE THAN ONE SPLICE SHALL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED.
10. ALL LAP SPLICES SHALL CONFORM TO THE 2005 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318–08), SECTION 12.15. LONGITUDINAL STEEL SHALL BE LAPPED 24 BAR DIAMETER AT SPLICES. TRANSVERSE STEEL SHALL BE LAPPED USING THE FOLLOWING TABLE:

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18
LENGTH OF LAP SPLICE	25"	31"	37"	62"	81"	103"	130"	160"	TENSION LAP SPLICING NOT PERMITTED	

ADDITIONAL NOTES FOR R.C. OPEN CHANNEL SECTIONS:

11. LONGITUDINAL STEEL SHALL TERMINATE TWO INCHES FROM TRANSVERSE CONSTRUCTION JOINTS.
12. TRANSVERSE CONSTRUCTION JOINTS SHALL BE SPACED NOT TO EXCEED 50 FEET NOR BE LESS THAN 10 FEET, MEASURED ALONG THE CENTERLINE OF CONSTRUCTION, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
13. TRANSVERSE CONSTRUCTION JOINTS SHALL BE PLACED AT THE JUNCTION OF RECTANGULAR OPEN CHANNEL SECTIONS WITH CLOSED CONDUIT SECTIONS.
14. THE MAXIMUM SPACING OF BARS IN CURVED SECTIONS SHALL NOT EXCEED THAT SHOWN ON THE TYPICAL SECTIONS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS. STEEL SHALL BE PLACED RADIALLY FROM THE MAXIMUM SPACING.
15. AT THE BEGINNING AND ENDING OF ALL POURS, A COMPLETE CURTAIN OF REINFORCEMENT COMPOSED OF B_1, B_4, AND B_7 BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT.
16. ALL TRANSVERSE JOINTS SHALL BE PROVIDED WITH 1 1/2" x 3/4" FORMED GROOVE IN THE INSIDE FACE AND TOP OF WALLS AND WITH 3/4" TOOLED JOINT IN THE BOTTOM SLAB.
17. THE BAR LENGTHS TABULATED FOR TRANSITIONS ARE APPLICABLE TO THE LARGER SECTION ONLY. THE BARS REQUIRING ADJUSTMENT ARE THOSE TABULATED IN THE TABLE HEREON AND SHALL BE ADJUSTED AS NECESSARY WITHIN THE TRANSITION.
18. TRANSVERSE WALL JOINTS SHALL HAVE A 4" POLYVINYL CHLORIDE WATERSTOP (SPLIT RIBBED CENTER BULB TYPE) WHICH SHALL BE CONTECH VINYLSTOP NO. 431S, BURKE VINYLOK WATERSTOP R.S.B. 316–4, OR AN APPROVED EQUAL.
19. THE LONGITUDINAL WALL JOINTS SHALL HAVE A 4" POLYVINYL CHLORIDE WATERSTOP (RIBBED TYPE) WHICH SHALL BE BURKE VINYLOK WATERSTOP R316–4, WATER SEALS INC. FLEXSTRIP OR AN APPROVED EQUAL. THE WATERSTOP SHALL BE TIED TO THE OUTSIDE OF THE REINFORCING STEEL AT THE TOP AND BOTTOM WITH ONE PIECE OF WIRE AT APPROXIMATELY 1'–0" SPACING, PUNCHING SHALL NOT BE ALLOWED. THE WATERSTOP SHALL BE CONTINUOUS FOR EACH WALL SECTION.
20. B_1 BARS MAY BE SPLICED ABOVE THE LONGITUDINAL CONSTRUCTION JOINT. USE LAP SHOWN IN THE TABLE HEREON.
21. THE LONGITUDINAL CONSTRUCTION JOINTS SHALL BE CONTINUOUS.
22. THE SPACING OF THE LONGITUDINAL BARS IN THE SLAB SHALL BE BASED ON THE DISTANCE BETWEEN THE LONGITUDINAL CORNER BARS NEAREST THE INSIDE FACE OF THE STRUCTURE AND THE NUMBER OF BARS SPECIFIED IN THE TABLE. THE SPACING IN THE WALLS SHALL BE BASED ON THE WALL HEIGHT AND THE NUMBER OF BARS IN THE TABLE.

DESIGN DATA

LIVE LOAD

HS20–44

DEAD LOAD

WEIGHT OF CONCRETE = 150 pcf
SOIL DENSITY = 110 pcf

LATERAL LOADS

EARTHSIDE = 85 psf (EFP)
WATERSIDE = 40 psf (EFP)

ALLOWABLE STRESSES

f'_c = 4,000 psi
f_c = 1,800 psi
f_s = 24,000 psf
n = 8

SHEAR AND BOND STRESSES PER ACI CODE 318–05

REGISTERED PROFESSIONAL ENGINEER — ROBERT W. ANDERSON — C–058383 EXP. 12–31–10 — CIVIL — STATE OF CALIFORNIA

2/19/2009

SAVE DATE: 2/17/09 JEFF Z:\ACTIVE RJR PROJECTS\ACTIVE_PROJECTS\1487_CITY OF MOORPARK_HIGH ST. DRAIN\CIVIL\IMPROVEMENT\WORKING FOLDER\SHEET 4_2-4-09.DWG

REVISION	DESCRIPTION	APP.	DATE

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ROBERT W. ANDERSON — C–58383 R.C.E. NO. — 12–31–10 EXP. DATE — 02–19–09 DATE

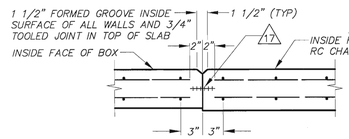
DESIGNED RH | DRAWN RH/JVF | CHECKED RWA
PROJ. ENG. | REG. NO. | DATE
RECOMMENDED 3/10/09
APPROVED

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO. –
PROJ. NO. 88875

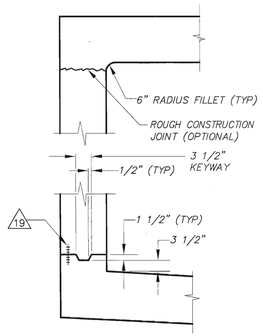
WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
RC RECTANGULAR CHANNEL TRANSITION STRUCTURAL DETAILS

SHEET 4 OF 11
DRAWING NO. Y–3–4652

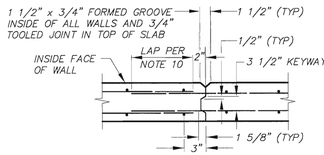


WALLS AND BOTTOM SLAB
JOINING R.C. OPEN CHANNEL

TRANSVERSE

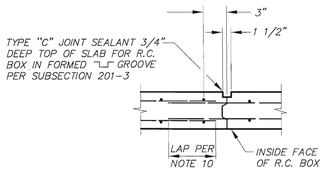


LONGITUDINAL



WALLS AND BOTTOM SLAB

TRANSVERSE



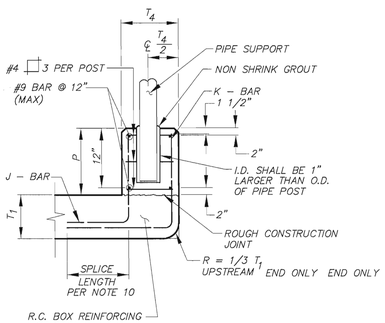
TOP SLAB

TRANSVERSE

CONSTRUCTION JOINT DETAILS

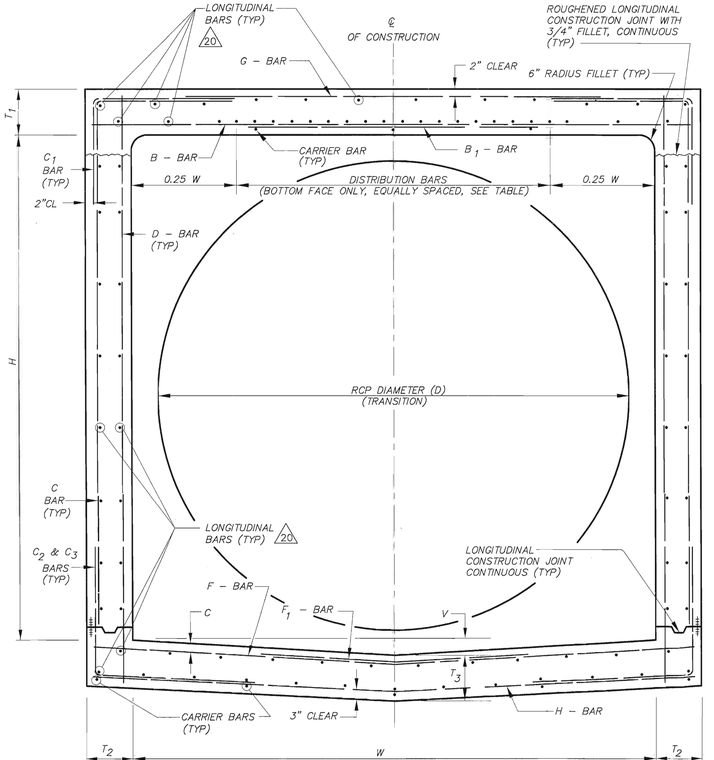
NOT TO SCALE

PARAPET – HEADWALL TABLE				
STATION	P	T_4	BAR NUMBER AND SPACING	
			J – BAR	K – BAR
93+47.18	18"	12"	#6 @ 8"	#6 @ 8"
100+36.75	18"	12"	#6 @ 8"	#6 @ 8"



PARAPET – HEADWALL DETAIL (D)

NOT TO SCALE



TYPICAL RC BOX CULVERT DETAIL (K)

NOT TO SCALE

RC BOX CONDUIT TABLE							
SECTION NUMBER		1	2	3	4	5	6
LIVE LOAD + IMPACT (KIPS)		42	42				
DESIGN COVER		1'–0"	1'–0"				
WIDTH	W	8'–0"	6'–0"				
HEIGHT	H	5'–0"	5'–0"				
RCP DIAMETER (TRANSITION)	D	96"	72"				
THICKNESS (INCHES) TOP SLAB	T_1	12.5	10				
THICKNESS (INCHES) SIDE WALL	T_2	12.5	10				
THICKNESS (INCHES) BOTTOM SLAB	T_3	12.5	11				
INVERT DROP	V	1.5"	1"				
STEEL CLEARANCE INVERT	C	3"	3"				
B BARS	BAR NO. & SPACING	#7 @ 18"	#5 @ 18"				
	LENGTH	10'–0.5"	7'–5"				
B_1 BARS	BAR NO. & SPACING	#8 @ 18"	#8 @ 18"				
	LENGTH	10'–0.5"	7'–5.5"				
C BARS	BAR NO. & SPACING	#4 @ 12"	#4 @ 12"				
	HORIZONTAL LENGTH	4'–2.2"	3'–4.5"				
	VERTICAL LENGTH	8'–5.5"	6'–3"				
C_1 BARS	BAR NO. & SPACING	#5 @ 12"	#4 @ 12"				
	HORIZONTAL LENGTH	2'–4"	1'–7.5"				
	VERTICAL LENGTH	2'–11"	1'–10"				
C_2 BARS	BAR NO. & SPACING	#5 @ 12"	#4 @ 12"				
	HORIZONTAL LENGTH	4'–0"	2'–11"				
	VERTICAL LENGTH	3'–3"	2'–11.5"				
C_3 BARS	BAR NO. & SPACING	N/A	N/A				
	HORIZONTAL LENGTH	N/A	N/A				
	VERTICAL LENGTH	N/A	N/A				
D BARS	BAR NO. & SPACING	#4 @ 12"	#4 @ 18"				
	LENGTH	9'–8.5"	7'–6.5"				
F BARS	BAR NO. & SPACING	#5 @ 16"	#4 @ 9"				
	LENGTH	9'–9"	7'–5"				
F_1 BARS	BAR NO. & SPACING	#4 @ 16"	#4 @ 12"				
	LENGTH	7'–2.5"	3'–5"				
G BARS	BAR NO. & SPACING	#4 @ 12"	#4 @ 12"				
	LENGTH	4'–7"	3'–0"				
H BARS	BAR NO. & SPACING	#4 @ 12"	#4 @ 12"				
	LENGTH	10'–0.5"	7'–5.5"				
DISTRIBUTION BARS	BAR NO.	4	4				
	NUMBER OF BARS	18	13				
NUMBER OF #4 LONGITUDINAL BARS	TOP SLAB	20	14				
	BOTTOM SLAB	15	12				
	SIDE WALLS	20	16				
TOTAL #4 LONGITUDINAL BARS		55	42				
#4 CARRIER BARS	TOP	4	4				
	BOTTOM	4	4				
CONCRETE QUANTITY: CY./LINEAR FT.		1.40	0.87				
STEEL QUANTITY: LBS./LINEAR FT.		206.66	148.27				

RC BOX CONDUIT LOCATION				
RC BOX SECTION NUMBER	STATION		BARS TO BE ADJUSTED	
	FROM	TO	VERTICAL LEG	HORIZONTAL LEG
1	93+47.18	93+87.18	C	B, G, F, H
2	99+96.75	100+36.75	C	B, G, F, H

STRUCTURAL NOTES

GENERAL:

1. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO THE NEAREST EDGE OF BAR AND SHALL BE TWO INCHES UNLESS OTHERWISE SHOWN.
2. CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIALLY) TO CENTERLINE OF CONDUIT ON THE PLAN UNLESS OTHERWISE SHOWN.
3. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE 2008 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318–08), SECTION 7.3.
4. PLACEMENT OF REINFORCING STEEL SHALL CONFORM TO THE 2005 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318–08), SECTION 7.5.
5. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30 INCHES OF MANHOLE OR JUNCTION STRUCTURE OPENINGS, OR SIDE INLETS UNLESS OTHERWISE SHOWN.
6. TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. ALL TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE SHOWN.
7. THE TRANSVERSE REINFORCING STEEL SHALL TERMINATE TWO INCHES FROM THE CONCRETE SURFACE UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DETAILS.
8. EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED.
9. NO SPLICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN AS SHOWN ON THE DRAWINGS WITHOUT APPROVAL FROM THE ENGINEER. NO MORE THAN ONE SPLICE WILL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED.
10. ALL SPLICES SHALL CONFORM TO THE 2005 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318–08), SECTION 12.15. ALL STEEL SHALL BE LAPPED USING THE FOLLOWING TABLE (CLASS B SPLICES):

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18
LENGTH OF LAP SPLICE	25"	31"	37"	62"	81"	103"	130"	160"	TENSION LAP SPLICING NOT PERMITTED	
THE LAP LENGTH SHALL BE BASED ON THE SMALLER SIZE BAR.										

ADDITIONAL NOTES FOR RC TRANSITION SECTION:

11. LONGITUDINAL STEEL SHALL BE CONTINUOUS AND EXTENDED THROUGH ALL CONSTRUCTION JOINTS.
12. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, TRANSVERSE JOINT KEYWAYS (IN BOTH SLABS AND WALLS), SHALL BE PLACED AT THE END OF EACH POUR, BUT THE SPACING THEREOF SHALL NOT EXCEED 50 FEET OR BE LESS THAN 10 FEET.
13. UNLESS OTHERWISE SHOWN ON THE DETAILS, IN CURVED SECTIONS, TRANSVERSE BARS SHALL BE PLACED RADIALLY. STRAIGHT TRANSVERSE BARS IN TOP AND BOTTOM SLABS SHALL BE PLACED AS SHOWN ON THE TYPICAL SECTIONS. SPACING SHALL BE AT THE CENTERLINE OF CONSTRUCTION FOR SINGLE–BARREL BOXES, UNLESS OTHERWISE NOTED. STRAIGHT BARS AND L–BARS IN WALLS SHALL BE SPACED AS SHOWN ON TYPICAL SECTIONS, WITH THE SPACING MEASURED BETWEEN THE VERTICAL LEGS OF BARS.
14. AT THE BEGINNING AND END OF ALL POURS, A CURTAIN OF REINFORCEMENT COMPOSED OF B, C, C_2, D, F, G, AND H BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT.
15. THE VERTICAL WALL STEEL IN THE INTERIOR WALLS AND IN THE INTERIOR FACE OF EXTERIOR WALLS MAY BE SPLICED AT THE CONSTRUCTION JOINT AT THE BASE OF THE WALL. THE LAP SPLICE SHALL BE ACCORDANCE WITH THE TABLE UNDER GENERAL NOTE 10.
16. IN ALL SECTIONS, LAP C AND C_2 BARS. THE VERTICAL LENGTH OF C AND C_2 BARS HAS BEEN CALCULATED FOR A 3 1/2" STARTER WALL. IF THE HEIGHT OF THE STARTER WALL VARIES, THE VERTICAL LENGTH OF THE C AND C BARS SHALL BE VARIED CORRESPONDINGLY, SO AS TO MAINTAIN THE REQUIRED LAP SPLICE BETWEEN THE TWO BARS IN ACCORDANCE WITH THE TABLE UNDER GENERAL NOTE 10. THE LENGTH OF THE LAPS SHALL BE BASED ON THE SMALLER BAR.
17. TRANSVERSE WALL JOINTS SHALL HAVE A 4" POLYVINYL CHLORIDE WATERSTOP (SPLIT RIBBED CENTER BULB TYPE) WHICH SHALL BE CONTECH VINYLSTOP NO. 431S, BURKE VINYLOK WATERSTOP R.S.B. 316–4, OR AN APPROVED EQUAL.
18. DRILL A ONE INCH DIAMETER HOLE AND INJECT AN APPROVED NON–SHRINK GROUT INTO THE HOLE PRIOR TO PLACEMENT OF THE BAR
19. THE LONGITUDINAL WALL JOINTS SHALL HAVE A 4" POLYVINYL CHLORIDE WATERSTOP (RIBBED TYPE) WHICH SHALL BE BURKE VINYLOK WATERSTOP R.316–4, WATER SEALS INC. FLEXSTRIP OR AN APPROVED EQUAL. THE WATERSTOP SHALL BE TIED TO THE OUTSIDE OF THE REINFORCING STEEL AT THE TOP AND BOTTOM WITH ONE PIECE OF WIRE AT APPROXIMATELY 1'–0" SPACING, PUNCHING SHALL NOT BE ALLOWED. THE WATERSTOP SHALL BE CONTINUOUS FOR EACH WALL SECTION.
20. TWO LONGITUDINAL BARS SHALL BE PLACED AT EACH CORNER LOCATION. AS SHOWN ON THE DETAIL. THE REMAINING LONGITUDINAL BARS SHALL BE EQUALLY SPACED BETWEEN THE CORNER BARS WITH A MAXIMUM SPACING OF 18 INCHES IN EACH FACE OF THE SLABS AND WALLS AND NEED NOT CORRESPOND TO THE NUMBER OR LOCATION SHOWN ON THE DETAIL SEE THE TABLE FOR LONGITUDINAL BAR TOTALS.
21. STATIONS ARE MEASURED RADIALLY FROM SURVEY CONTROL LINE TO THE CENTER LINE OF RC BOX.

DESIGN DATA

LIVE LOAD

SEE RC BOX CONDUIT TABLE HEREON
HS20–44 + 30% IMPACT

LATERAL LOAD

EARTHSIDE = 78.0 psf (EFP)
INTERNAL WATER PRESSURE = 62.5 psf

DEAD LOAD

WEIGHT OF EARTH = 125 pcf
WEIGHT OF CONCRETE = 150 pcf

ALLOWABLE STRESSES

f'_c = 4,000 psi
f_c = 1,800 psi
f_s = 24,000 psi
n = 8
SHEAR AND BOND STRESS PER A.C.I. 318–05

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PLOT DATE: 2/19/09

SAVE DATE: 2/17/09 Z:\ACTIVE RJR PROJECTS\ACTIVE_PROJECTS\1487_CITY OF MOORPARK_HIGH ST. DRAIN\CIVIL\IMPROVEMENT\WORKING FOLDER\SHEET 5_2-14-09.DWG

REVISION	DESCRIPTION	APP.	DATE
D			
C			
B			
A			
1			

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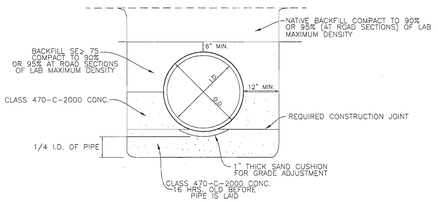
DESIGNED RH DRAWN RH/JVF CHECKED RWA
PROJ. ENG. RECOMMENDED
REG. NO. DATE APPROVED

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO. –
PROJ. NO. 8B875

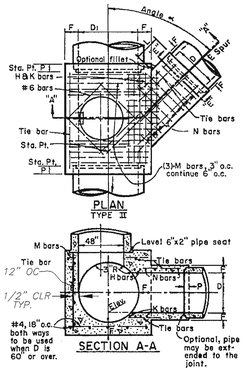
WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
RC TRANSITION (RCP TO RCB) STRUCTURAL DETAILS

SHEET 5 OF 11
DRAWING NO. Y–3–4653



*NOTE: LOAD FACTOR=3.0, LOADING TYPE=3, & CLASS IV (2000 lbs.) PIPE PER ASTM C-76

A — REINFORCED CONCRETE PIPE-TYPE 3 INSTALLATION
NTS

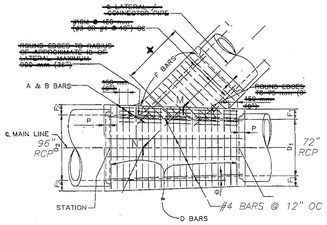


D_1	D	∠	F_{96}	F_{60}	L	H&K	M&N	P
96"	60"	23.24°	14"	10"	12"	#7 3" O.C.	#7 3" O.C.	6"

CONSTRUCTION NOTES:

1. JUNCTION STRUCTURE SHALL BE POURED IN ONE CONTINUOUS OPERATION, EXCEPT THAT THE CONTRACTOR SHALL HAVE THE OPTION OF PLACING AT THE SPRING LINE, A CONSTRUCTION JOINT WITH LONGITUDINAL KEYWAY.
2. FLOOR OF JUNCTION STRUCTURE SHALL BE STEEL TROWELLED TO SPRING LINE.
3. REINFORCING STEEL TO BE 1 1/2" CLEAR FROM INSIDE FACE OF CONCRETE, UNLESS OTHERWISE SPECIFIED.
4. EXTENSION OF CENTERLINE OF INLET PIPE SHALL INTERSECT INSIDE FACE OF CONCRETE AT SPRING LINE, UNLESS OTHERWISE SPECIFIED.
5. TIE BARS SHALL BE #4 BARS, 18" O.C. MINIMUM.
6. ALL CONSTRUCTION IS SUBJECT TO CONDITIONS OF THE STANDARD SPECIFICATION.
7. SEE VCWPD STANDARD DRAWING NO. 5 FOR MANHOLE SHAFT DETAILS.
8. STEPS SHALL BE CONSTRUCTED PER VCWPD STANDARD DRAWING NO. 5 OR APPROVED EQUAL.

F — JUNCTION STRUCTURE – TYPE II VCWPD STANDARD DETAIL #2
NTS



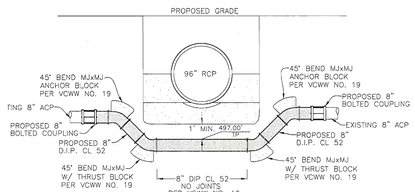
CONSTRUCTION NOTES:

1. THE HORIZONTAL ANGLE OF CONVERGENCE OR DIVERGENCE, θ, SHALL NOT EXCEED 5°45'.
2. FLOOR OF STRUCTURE SHALL BE STEEL TROWELLED TO SPRING LINE.
3. THE TRANSITION STRUCTURE SHALL BE POURED IN ONE CONTINUOUS OPERATION, EXCEPT THAT THE CONTRACTOR SHALL HAVE THE OPTION OF PLACING AT THE SPRING LINE A CONSTRUCTION JOINT LONGITUDINAL KEYWAY.
4. THE LENGTH OF THE STRUCTURE MAY BE INCREASED AT THE OPTION OF THE CONTRACTOR TO MEET RCP ENDS. USING D BARS, LONGITUDINAL AND BOTTOM REINFORCEMENT IN EXTENDED PORTION OF SAME DIAMETER AND SPACING AS SPECIFIED IN THE TABLE, BUT ANY CHANGE IN THE LOCATION OF SPUR MUST BE APPROVED BY THE ENGINEER.
5. NO LATERAL OCCURS, A AND B BARS SHALL BE OMITTED.

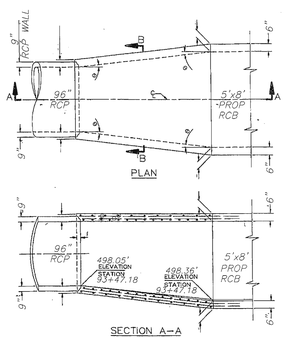
D BAR SCHEDULE
#6 BARS @ 6" OC

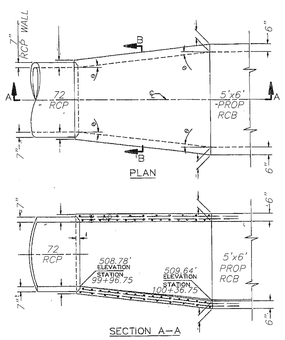
D_1	D_2	F_1	F_2	P
72"	96"	16"	16"	6"

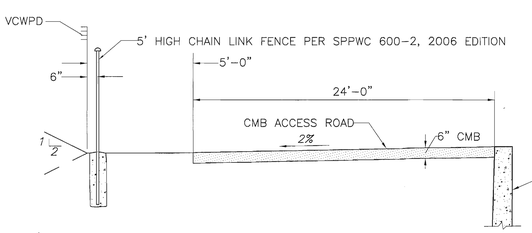
H — TRANSITION STRUCTURE – PIPE TO PIPE (SPPWC STANDARD DETAIL 340-1)
NTS



B — WATER LINE CROSSING
NTS







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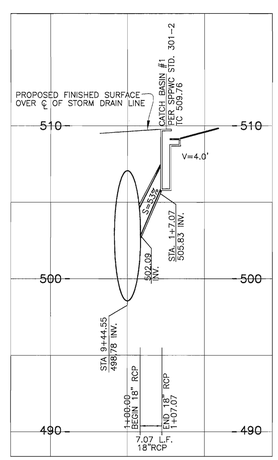
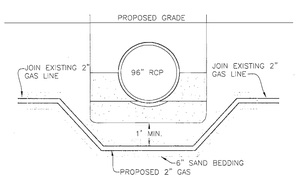


LATERAL "1" – PROFILE



C — GAS LINE CROSSING
NTS

CONSTRUCTION NOTES:

1. THE HORIZONTAL ANGLE OF DIVERGENCE OR CONVERGENCE, θ, SHALL NOT EXCEED 5°45'.
2. THE INTERIOR SURFACE SHALL BE SMOOTH AND VARY UNIFORMLY BETWEEN THE TWO ADJOINING SECTIONS.
3. ALL POURED IN PLACE CONCRETE SHALL BE (4000 PSI) AT 28 DAYS AND THE CONCRETE, SHALL HAVE TYPE II/V PORTLAND CEMENT WITH W/C=0.45, AND SHALL BE THE SAME MIX AS THE ADJACENT RCB.
4. KEYED CONSTRUCTION JOINTS OF THE SAME DIMENSIONS AS THOSE OF THE RCB OR ARCH SECTION MAY BE CARRIED THROUGH THE TRANSITION STRUCTURE AT THE CONTRACTOR'S OPTION. SEE SECTION B-B.
5. REINFORCING STEEL BAR SIZES, SPACING, CONFIGURATION, CLEAR COVER, CONCRETE WALL THICKNESSES SHALL BE PER DETAIL K/5

E — TRANSITION STRUCTURE (SPPWC DETAIL 342-1)
NTS

REGISTERED PROFESSIONAL ENGINEER — ROBERT W. ANDERSON — C-058383 EXP. 12-31-10 — CIVIL — STATE OF CALIFORNIA

D			
C			
B			
A			
△	REVISION DESCRIPTION	APP.	DATE

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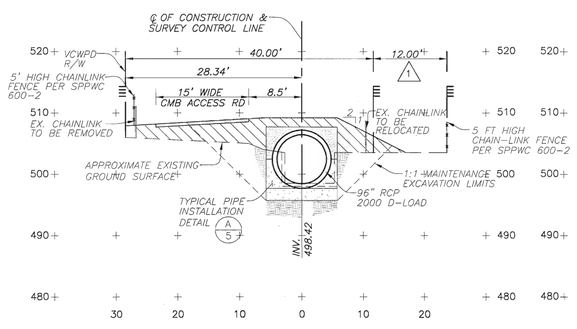
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

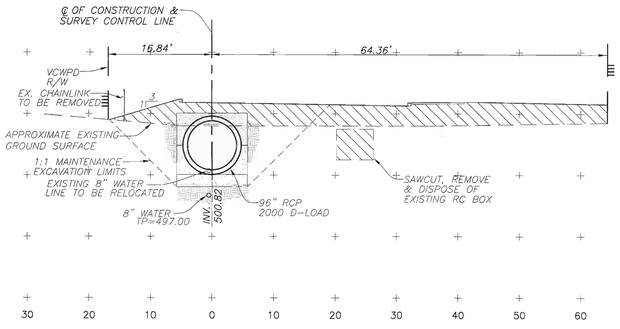
SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
MISCELLANEOUS DETAILS AND LATERAL '1'

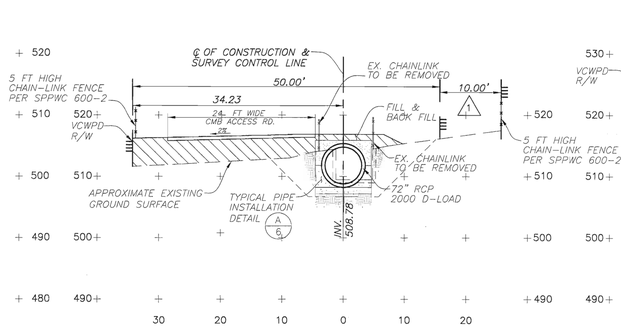
SHEET 6 OF 11
DRAWING NO. Y-3-4654



STA. 94+00



STA. 97+00



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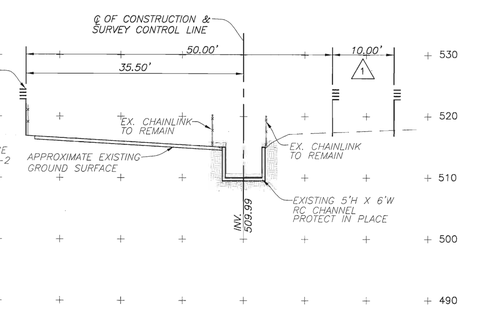

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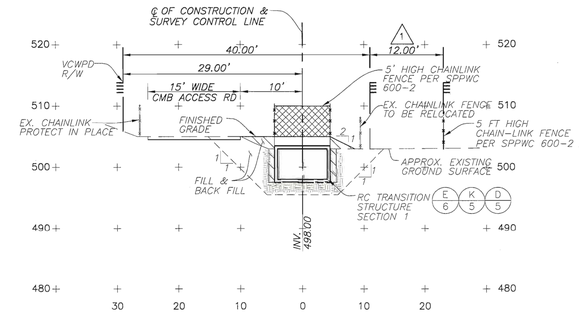

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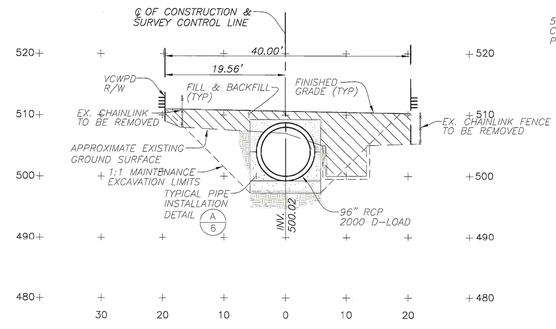
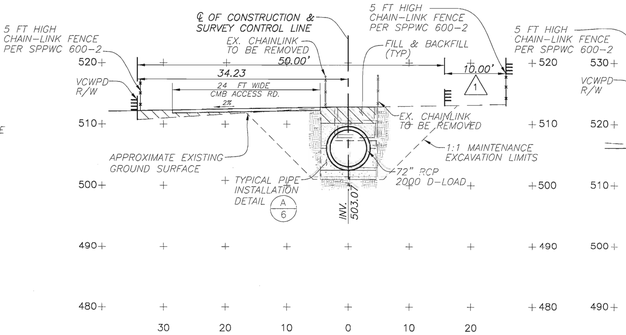


STA. 96+00



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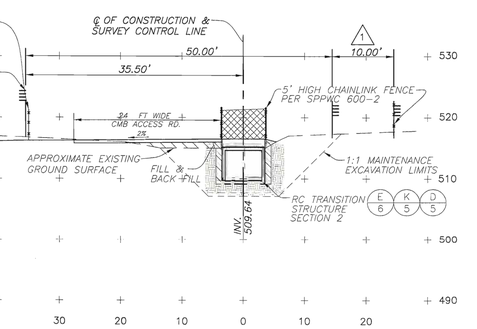

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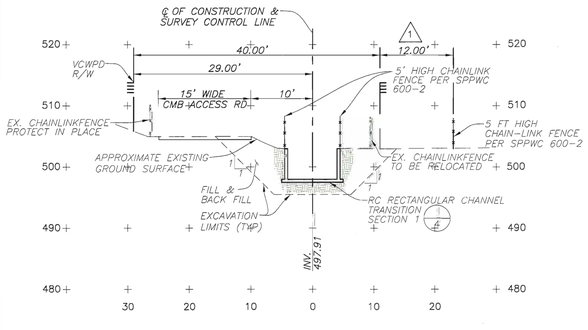

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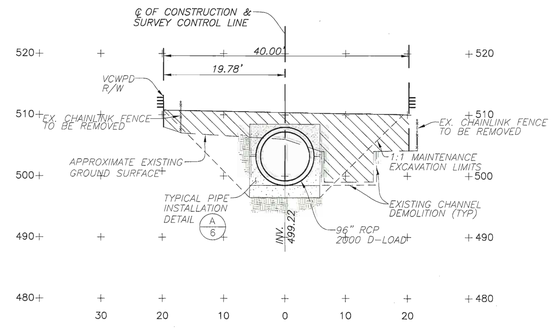

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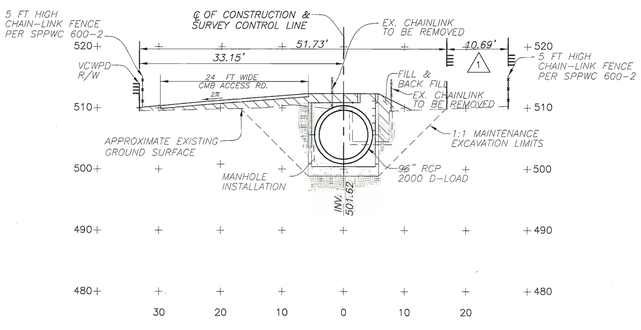

STA. 98+00

NOTE:

1. VARIABLE WIDTH FLOOD CONTROL EASEMENT TO BE DEDICATED TO VCWPD PER SEPARATE DOCUMENT.

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-10 CIVIL STATE OF CALIFORNIA

REVISION	DESCRIPTION	APP.	DATE
D			
C			
B			
A			
1			

Prepared by:

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R.C.E. NO. — EXP. DATE — DATE

DESIGNED RH	DRAWN RH/JVF	CHECKED RWA
PROJ. ENG.	RECOMMENDED	
REG. NO.	DATE	APPROVED

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 8B875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
CROSS SECTIONS STA 93+42.18 TO STA 100+41.75

SHEET 7 OF 11
DRAWING NO. Y-3-4655

CENTERLINE DATA

CURVE	(L1)	(L2)	(C1)	(L3)	(C2)	(L4)	(C3)	(L5)	(L6)	(L7)
DELTA/BEARING	N87°21'44"E	N87°33'28"E	8°10'59"	N79°22'29"E	11°19'01"	S89°18'30"E	89°54'19"	N00°47'11"E	N02°04'22"W	N00°08'51"E
RADIUS			250'		150'		1.36'			
TANGENT			17.96'		14.86'		135.78'			
LENGTH	10.00'	40.00'	35.86'	10.00'	29.63'	148.58'	213.40'	172.17'	40.00'	10.00'

LEGEND

CFM	CALCULATED FROM MEASURED
D	DEED
LLA	LOT LINE ADJUSTMENT
MR	MISCELLANEOUS RECORDS
R	RECORD OF SURVEYS
P	PROPORTIONED
PM	PARCEL MAPS
AP	ASSESSOR'S PARCEL NUMBER
RS	RECORD OF SURVEYS

LIMIT OF PROPOSED PERMANENT PRIMARY INTEREST

LIMIT OF PROPOSED TEMPORARY EASEMENT

10,014.537 PARCEL NUMBER

SURVEY CONTROL:
T.B.M.–BCR OF THE S. CURB OF HIGH ST. AND THE INTERSECTION OF MOORPARK ROAD. ELEV=510.31 TC

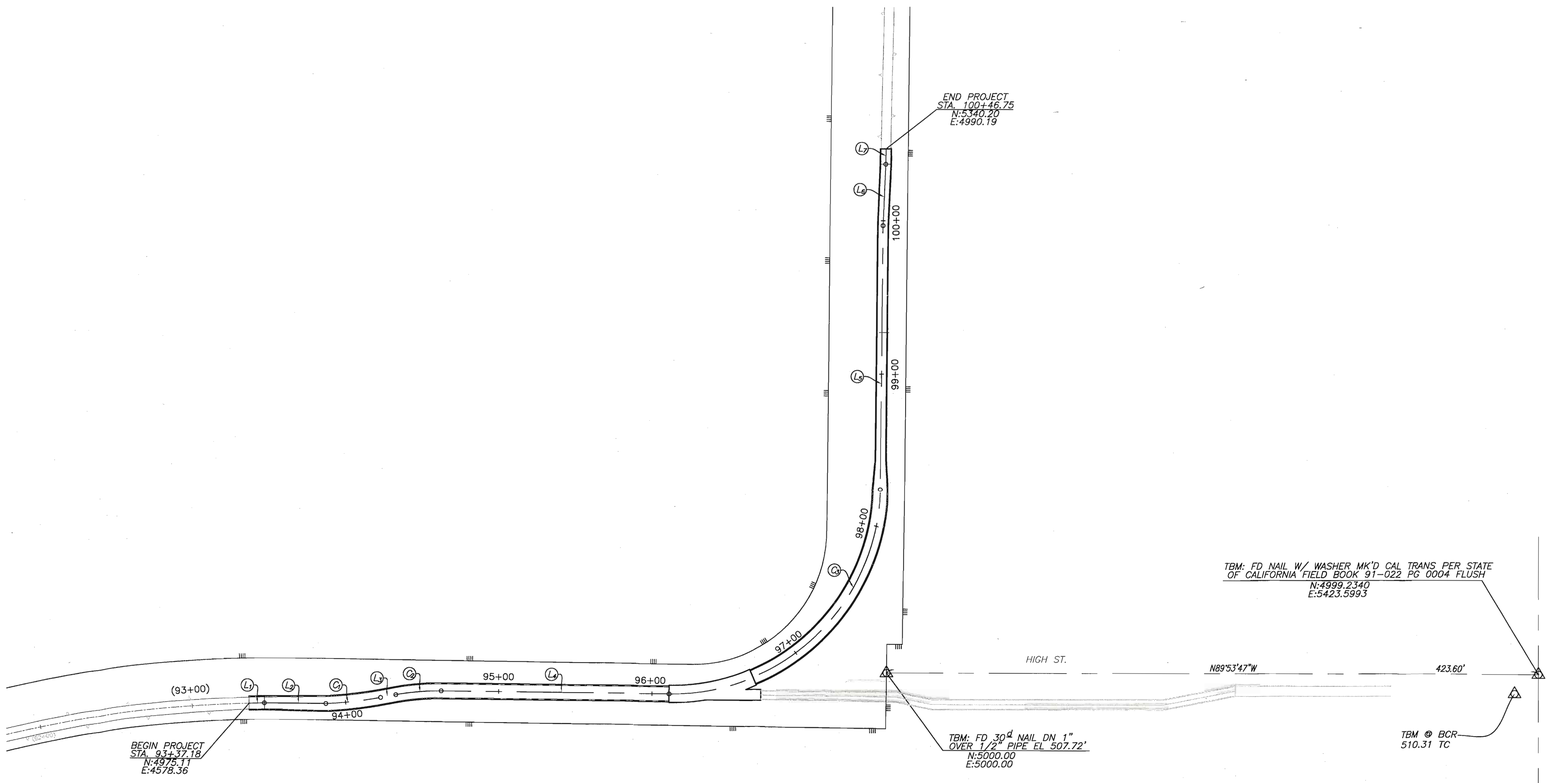
BASIS OF BEARINGS: THE BEARING OF NORTH 89°53'47" WEST ON THE CENTERLINE OF HIGH STREET WAS USED AS THE BASIS OF BEARING

NORTH

SCALE: 1"=40'

0' 40' 80' 120'
FEET

PARCEL NO.	GRANTOR	AREA		INTEREST	RECORDING DATA	
		PARENT PROP.	TAKE		DATE	DOCUMENT NUMBER



REGISTERED PROFESSIONAL ENGINEER JOHN E. TRACY No. 15566 Exp. 6-30-09 CIVIL STATE OF CALIFORNIA

REVISION	DESCRIPTION	APP.	DATE
D			
C			
B			
A			
△			

PREPARED BY:
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John E. Tracy May 9, 2009
JOHN E. TRACY RCE 15566

CALCULATED ETC DRAWN RHH CHECKED JET
PROJ. ENG. RECOMMENDED
REG. NO. DATE APPROVED FOR ACQUISITION DATE

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
SURVEY CONTROL PLAN

SHEET 8 OF 11
DRAWING NO. Y-3-4656

CURVE DATA	M&R4 ①	M&R2 ②	M&R4 ③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
CURVE	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
DELTA	6°00'27"	0°24'31"	0°44'33"	3°25'23"	21°05'28"								
RADIUS	766.36'	766.36'	766.36'	726.36'	726.36'								
TANGENT	40.21	2.73	4.97	21.70	135.22								
ARC	80.35'	5.36'	9.93'	43.40'	223.98								

LEGEND

CF'M	CALCULATED FROM MEASURED
C/L	CENTERLINE
C.L.A.	CHANGE OF ADJUSTMENT
MR	MISCELLANEOUS RECORDS
O.R.	OFFICIAL RECORDS
P	PROPORTIONED
PM	PARCEL MAPS
AP	ASSESSOR'S PARCEL NUMBER
RS	RECORD OF SURVEYS

LIMIT OF PROPOSED PERMANENT PRIMARY INTEREST

LIMIT OF PROPOSED TEMPORARY EASEMENT

(00.014.53) PARCEL NUMBER

SURVEY CONTROL:
T.B.M.–BCR OF THE S. CURB OF HIGH ST. AND THE INTERSECTION OF MOORPARK ROAD. ELEV=510.31 TC

BASIS OF BEARINGS:
THE BEARING OF NORTH 89°53'47" WEST ON THE CENTERLINE OF HIGH STREET WAS USED AS THE BASIS OF BEARING

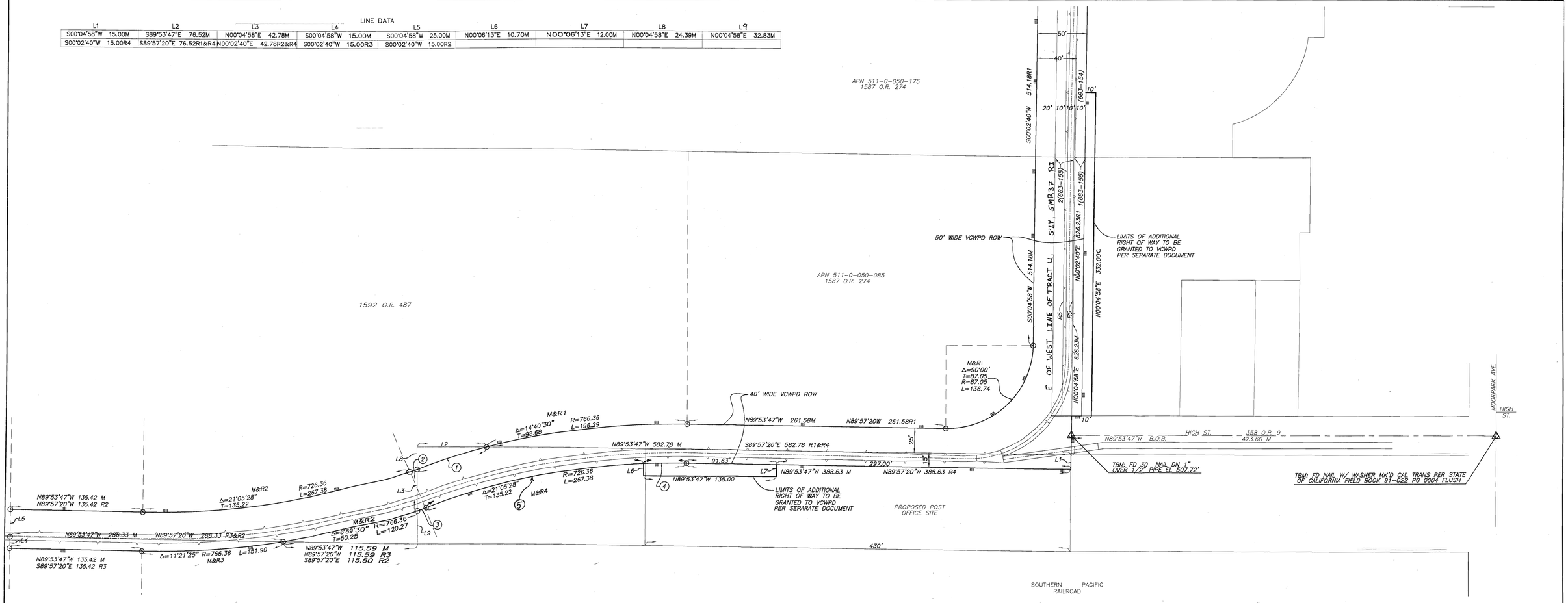
NORTH

SCALE: 1"=40'
0' 40' 80' 120'
FEET

PARCEL NO.	GRANTOR	AREA PARENT PROP.	AREA TAKE	INTEREST	RECORDING DATA DATE	RECORDING DATA DOCUMENT NUMBER

LINE DATA

L1	L2	L3	L4	L5	L6	L7	L8	L9
S00°04'58"W 15.00M	S89°53'47"E 76.52M	N00°04'58"E 42.78M	S00°04'58"W 15.00M	S00°04'58"W 25.00M	N00°06'13"E 10.70M	N00°06'13"E 12.00M	N00°04'58"E 24.39M	N00°04'58"E 32.83M
S00°02'40"W 15.00R4	S89°57'20"E 76.52R1&R4	N00°02'40"E 42.78R2&R4	S00°02'40"W 15.00R3	S00°02'40"W 15.00R2				



REFERENCES:
M=MEASURE
R1=PARCEL A 2142-OR-288
R2=PARCEL B 2142-OR-288
R3=PARCEL C 2167-OR-509
R4=PARCEL D 2167-OR-509
R5= 2186-OR-39
(663-OR-155)
(663-OR-64)

REGISTERED PROFESSIONAL ENGINEER JOHN E. TRACY No. 15566 Exp. 6-30-09 CIVIL STATE OF CALIFORNIA

REVISION	DESCRIPTION	APP.	DATE
D			
C			
B			
A			
△			

PREPARED BY:
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JOHN E. TRACY Mar 9 2009 RCE 15566

CALCULATED ETC. DRAWN RHH/JVF CHECKED JET
PROJ. ENG. RECOMMENDED DATE
REG. NO. DATE APPROVED FOR ACQUISITION DATE

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
RIGHT OF WAY MAP

SHEET 9 OF 11
DRAWING NO. Y-3-4657

SECTION 1

APPLICABLE SPECIFICATIONS AND STANDARDS

1–1 All work shall be performed in accordance with the provisions of the latest edition of the Standard Specifications for Public Works Construction (SSPWC)(GREEN BOOK) and the Standard Plans for Public Works Construction (SPPWC), both prepared and promulgated by the Southern California chapters of the American Public Works Association and the Associated General Contractors of California, and these Special Provisions.

SECTION 2

GRADING PERMITS

2–1 Material exported or wasted outside of the project right–of–way shown on the plans are subject to all requirements of the Grading Ordinance. The requirements may include, but are not limited to, submitting of a grading plan prepared by a Civil Engineer, obtaining a grading permit, paying the permit fee, posting a grading bond, hiring professional engineering and testing services for compacting fills, constructing drainage facilities and providing erosion protection. These requirements are the responsibility of the owner of the land on which the material is placed.

SECTION 3

CONSTRUCTION MATERIALS

3–1 The Engineer may require certificates of compliance with the specifications for materials or manufactured items produced outside of the job site. Such certificates will not relieve the Contractor from the requirements of providing material and manufactured items complying with the specifications even though they have been incorporated into the job.

SECTION 4

EXCAVATION SAFETY

4–1 This work shall consist of performing all work required to meet the excavation safety requirements specified in Subsection 7–10.4.

SECTION 5

CONSTRUCTION SURVEYS

5–1 SCOPE

Surveys to be provided by the Contractor and/or the Developer's Engineer shall conform to the general industry standards and the following minimum quality and standards.

5–2 PERFORMANCE AND ACCURACY

The surveys shall be accomplished with sufficient precision to result in the required accuracy and shall be performed under the supervision of a Land Surveyor or Civil Engineer licensed by the State of California. The requirements herein shall apply to the minimum essential control required to accomplish establishment of lines and grades by the Contractor, and to provide the Engineer the necessary references for insuring construction accuracy. The method used to establish working stakes will be at the Contractor's option.

5–3 DETAILS OF STAKING

5–3.1 Alignment

Centerline alignment stakes or offset stakes shall be set at a maximum of 50–foot intervals and at all curve points, angle points, changes in elevation or wall height. On curves, stakes shall be set at 25–foot intervals.

5–3.2 Rough Grade Stake

For rough grading, with cuts or fills, at least one line of stakes shall be set on catch or hinge points, or an offset line. These stakes shall be marked with cut or fill to permit rough finishing of the grading plane. Where slope check points have been set near the elevation of the grading plane, they may be used as rough grade stakes. The longitudinal interval shall be 50 feet.

5–3.3 Final Grade Stakes

For RC spillways 10–foot or less in width, one set of final grade stakes shall be established in the invert to control and to check all elements of the structural section. Two sets, one on each side of the invert shall be established for any facility in excess of the above. These shall be in addition to those set outside the limits of the structure or the excavation. Offset distance from each edge of structure or centerline shall be constant.

Grade shall refer to the plane of the finished invert or slope surface. The mark on the stake shall be on the plane or at a uniform vertical offset from the plane of the finished surface. Longitudinal spacing will be 50 feet for tangent alignment and grade. Spacing will be reduced to 25 feet when radius of curvature is less than 1,000 feet or when rate of change of slope is less than 0.005 ft/ft. Prior to concrete placement, grade stakes and forms shall be checked.

For pipe conduits, stakes shall be set at the ends and at grade and line breaks. If conduit is to be constructed in stages, the ends of the staged lengths shall be staked.

When ends of long, straight runs are not intervisible, intermediate stakes shall be set. The finished pipe grades shall be controlled by optical sighting devices. Use of stringline will not be allowed.

5–3.4 Embankment Stakes

Rough grade stakes shall be placed 25 feet O.C. at toe of embankment and along the dam axis.
Fine grade stakes shall be placed prior to trimming the overbuilt slops.

5–3.5 Minor Drainage Structure Stakes

Beginning and ending points of all side inlets and drains, and any grade or line breaks shall be properly staked and referenced. For long side drains, requirements of Subsection 3.3 shall apply. Horizontal and vertical locations of junctions, drop inlets, risers, manholes shall be staked. A minimum of two stakes should be set in each case. Elevations of all reference points shall be shown on the notes and at the site.

5–3.6 Fence

For fence along a right–of–way line not parallel to the channel centerline, the reference shall be set as follows:

(1) For tangent alignment, set intervisible points at breaks in terrain or at a maximum interval of 200' ±.
(2) Set points for changes in alignment.
(3) Set stakes at regular interval on curves. Use an interval of 50 feet for radii of 1,000 feet and greater; use 25 feet for shorter radii.

5–3.7 Miscellaneous

Survey staking for miscellaneous facilities shall be performed as required by the Engineer.

5–4 SURVEY NOTES

All survey notes shall be kept on 8–1/2" x 11" standard Agency forms. Master copies of forms will be provided to the Contractor at the preconstruction conference. Notes shall indicate the name of the project, the Contractor, the firm performing surveys and party chief, and shall be dated. Two copies of the notes shall be provided to the Engineer or his representative within one day of performance. No construction work shall be initiated on an increment of the project before survey notes for said increment are received by the Engineer or his field representative. The original notes shall be retained by the surveyor and submitted to the Engineer upon completion of work organized in a proper order in a loose–leaf folder.

SECTION 6

DIVERSION AND CONTROL OF WATER

6–1 SCOPE

This work shall consist of the diversion and control of all water entering into the construction area or otherwise affecting construction activities.

6–2 CONSTRUCTIONS METHODS

All permanent construction shall be performed in a site free from water. The Contractor shall construct, maintain, and operate all necessary cofferdams, pumps, channels, flumes, drains and/or other temporary diversion and protective works required for diversion and control of all water, whatever its source, during construction. In order to reduce sediments from being transported downstream, the Contractor shall complete all work on the diversion channel prior to disturbing or altering the flow in the natural channel. Inundation of partially completed work due to lack of control during nonworking periods will not be permitted, and may be cause for requiring removal of work already completed with replacement at the Contractor's expense.

Prior to beginning work involving diversion and control of water, the Contractor shall submit a water control plan to the Engineer. During construction, if circumstances require changes to the original water control plan, a revised water control plan shall be promptly submitted to the Engineer. No responsibility shall accrue to the Engineer or the Agency as a result of the plan or as a result of knowledge of the plan. The Contractor shall hold the Agency and the Engineer harmless from legal action taken by any third party with respect to construction and operation of the diversion and protective work.

Construction and operations of the diversion and control works shall be in accordance with the water control plan submitted, except as deviation therefrom may be specifically approved by the Engineer. All works installed by the Contractor in connection with dewatering, control, and diversion of water but not specified to become permanent part of the project, shall be removed and the site restored, insofar as practical, to its original condition prior to completion of construction or when directed by the Engineer.

SECTION 7

SUBGRADE STABILIZATION

7–1 SCOPE

This work shall consist of subgrade stabilization and shall be performed in accordance with the Standard Specifications, the plans, and these Special Provisions. (See Subsection 300–7.3).

7–2 CONSTRUCTION MATERIALS

Well graded crushed rock material approved by the Engineer and the developer's soil engineer shall be used for stabilization. If float rock or other ungraded rock mixture is used for stabilization, it shall be mixed with the native material to fill all voids before structure construction begins.

7–3 CONSTRUCTION METHODS

7–3.1 Subgrade stabilization shall be performed to insure the suitability of subgrade to withstand the load of the proposed structure and of the formwork, reinforcing steel supports, foot traffic, and similar items.

7–3.2 The need for and extent of subgrade stabilization will be determined by the developer's engineer and approved by Engineer. If and where not needed, subgrade stabilization shall not be performed.

7–3.3 Use of subgrade stabilization material for water control will not be allowed, unless a specifically designed mix is used and properly incorporated into a subdrain system.

SECTION 8

EXCAVATION

8–1 SCOPE

This work shall consist of excavation for the construction of RC spillways and pipes, and appurtenant work and shall be performed in accordance with the Standard Specifications, the Plans, and these Special Provisions.

8–2 CONSTRUCTION METHODS

Excavation shall be performed in accordance with Subsection(s) 300–7.3 and 306–1.1 respectively. Excavated material may be used for fill and backfill subject to Engineer approval. Excess excavation material shall be disposed of outside the project limits.

SECTION 9

FILL AND BACKFILL

9–1 SCOPE

This work shall consist of fill for reinforced concrete major structures, RC spillways, pipes, and related facilities and shall conform to the Standard Specifications, the Plans, and these Special Provisions.

9–2 CONSTRUCTION MATERIALS

Fill materials shall constitute both native and imported materials required to fill and backfill over and around the structures as shown on the plans, excluding filter materials and bedding for RC pipes. Fill materials shall be approved by the Engineer prior to use.

9–3 CONSTRUCTION METHODS

9–3.1 Fill and backfill for RC spillways and pipes shall be performed in accordance with Subsection 300–7.4.

9–3.2 The moisture content of the fill material shall be maintained within 1 percent below and 3 percent above optimum. The optimum moisture content for each site or soil type will be determined by the testing laboratory doing the control.

9–3.3 No material shall be deposited against the outside walls of the reinforced concrete spillways and the end top of cast–in–place RC box spillway until the concrete within the entire cross section of said cast–in–place RC box has developed a strength of not less than 4000 psi in compression, as determined for quality control by the methods specified in ASTM C 31.

SECTION 10

REINFORCING STEEL FOR MAJOR STRUCTURES

10–1 SCOPE

This work shall consist of reinforcing steel furnishing, bending, fabricating and placing for major concrete structures, including reinforced concrete spillways, bubbler, intake structures, head walls, and other structures incorporated therein and shall be performed in accordance with the Standard Specifications, the plans, and these Special Provisions.

10–2 CONSTRUCTION MATERIALS

All reinforcing steel shall be Grade 60 billet steel conforming to Subsection 201–2.

10–3 CONSTRUCTION METHODS

10–3.1 Reinforcing Steel Shop Drawings

Prior to fabricating the reinforcing steel, the Contractor shall submit four copies of the reinforcing steel take–off/placing diagram shop drawings for review. However, furnishing of the shop drawings to the Engineer shall not be construed to imply that the shop drawings will be reviewed for accuracy. The Contractor shall be wholly and completely responsible for the accuracy of the shop drawings and for furnishing and placing the reinforcing steel in accordance with the details shown on the plans and as specified. Comments on the shop drawings by the Engineer shall be addressed by the Contractor immediately upon receipt and revised and/or corrected shop drawings shall be resubmitted prior to steel reinforcing placement on the job site.

SECTION 11

CONCRETE FOR MAJOR STRUCTURES

11–1 SCOPE

This work shall consist of portland cement concrete for reinforced concrete spillways, bubbler, intake structures, parapet walls, transitions, and other structures incorporated therein, and shall be constructed in accordance with the Standard Specifications, the plans, and these Special Provisions.

11–2 CONSTRUCTION MATERIALS

11–2.1 Portland Cement

Cement shall be Type II, low alkali portland cement conforming to ASTM C 150 and the low alkali requirements of Table 2 therein.

11–2.2 Aggregate

Aggregate shall conform to Alternate Rock Material – Type S as specified in Section 400. All aggregate shall meet the requirements of the combined aggregate gradation C. Soundness loss determined by California Test Method 214 shall not exceed 10 percent.

11–2.3 Strength Requirements

All concrete shall attain a minimum 28–day compressive strength of 4000 psi, in accordance with Subsection 201–1.1.3. Use of any mix other than the approved shall be grounds for rejection and removal of concrete already placed.

In the event that concrete test cylinders fail to meet the strength requirements of the specifications, the concrete placed on the job shall be cored. The Engineer shall determine the frequency and location of the cores to provide representative sampling. The Contractor shall pay the Agency the cost of such coring and testing. The cores obtained shall be tested for ultimate compressive strength in accordance with ASTM C 174 and ASTM C 42. No test shall be less than 90 percent of the specified 28–day strength. The Engineer shall determine the volumes of concrete which are deficient in strength. Acceptance or removal shall be in accordance with the applicable specifications.

As an alternate method, the Contractor may determine when the concrete compressive strength has attained 4000 psi. He may, at his own expense, make, cure, and deliver concrete specimens according to ASTM C 31, Field Cure Procedures, in molds supplied by the Agency. The method of curing specimens must be approved by the Engineer. The Agency's Material Laboratory will test the samples for compressive strength at such time during a normal workday as the Contractor deems satisfactory. The Contractor shall arrange for the samples to be delivered.

11–2.4 Joint Sealant

When required on the plans, joint sealant shall comply with Subsection 201–3.6

11–2.5 Curing Compound

Curing compound shall comply with Subsection 201–4.1, Type I–D, with red fugitive dye.

11–3 CONSTRUCTION METHODS

11–3.1 Sequence of Placement of Concrete

A minimum of 16 hours shall elapse between alternate placement of portland cement concrete in adjacent sections both longitudinally and transversely along the construction joints in the invert slabs. Similar minimum elapsed time shall be required for alternate pours in the walls and top slabs.

Continuous pours of sections in excess of 50 feet long will not be allowed unless otherwise indicated on the plans. The Contractor shall maintain a uniform placement pattern approved by the Engineer.

11–3.2 Invert Slabs

Following consolidation of the placed concrete by vibration method, the concrete shall be struck off or screeded to the required grade by means of a straight edge. A small amount of concrete is to be pushed ahead of the straight edge to fill in the low spots. Immediately after strike off, the concrete shall be worked with a "bull float" or "darby" until a smooth surface is obtained. As the sheen begins to leave the surfaces, edging and jointing working shall be done.

When the concrete has set sufficiently for proper finishing, a two–step operation of floating and troweling shall be used on the invert. The first step shall be floating of the concrete surface, with power equipment, until a smooth uniform surface is acquired. When the concrete has hardened so that water and fine material will not be worked to the surface, the second step of the finishing operation shall commence. This step shall be the finishing of the invert surface with a power steel trowel.

All edging and jointing work should be re–marked before the second step or steel troweling operations to insure sharp and clean markings.

If shoring is used for construction, it shall be performed in such a manner as not to interfere with the finishing of the invert slab. No deviation from this requirement will be allowed. Solid sheeting will not be allowed.

11–3.3 Vertical Walls

11–3.3.1 Finishing of Top Walls

In order to provide for accurate and even surface finish, forms for the RC channel spillway, bubbler structure and head walls construction shall not extend above finished wall grade. Chamfer strips shall be provided on both inside and outside forms. Edging of concrete corners will not be allowed.

11–3.3.2 Grouting

Grout mixture shall be provided at all horizontal construction joints as required by Subsection 303–1.8.2. The depth of the grout shall not be less than 2 inches and not more than 4 inches measured vertically. The grout mixture shall be placed as uniformly as possible immediately prior to placement of concrete.

When small amounts of grout mixture are required, the Engineer may allow the use of grout mixed on site. The grout mixed on site shall consist of 1 part cement and 2 parts concrete sand. For on site mix, the aggregate and cement shall conform to Sections 200 and 201, respectively.

11–3.4 Placing Concrete Under Adverse Weather Conditions

The following is in addition to the requirements of Subsection 303–1.8.7.

If quick setting is encountered, the concrete shall not be retempered. Rather than introducing free water at the plant, water may be added to a dry batched mix through a certified water meter near the project site. If this is done, other specification requirements are not waived. The total elapsed time between the addition of cement to the aggregates and discharging the completed mix shall not exceed 90 minutes with concrete temperatures less than 85° F. With higher concrete temperatures, less time will be allowed, as approved by the Engineer.

11–3.5 Curing

Curing shall comply with Subsection 303–1.10.

11–3.6 Corrective Measures

In the event cracks in excess of 0.03 inch in width occur in the structure, the cracks shall be injected with an epoxy approved by the Engineer, to the level of finish concrete.

ROBERT W. ANDERSON — REGISTERED PROFESSIONAL ENGINEER — C-058383 EXP. 12-31-10 — CIVIL — STATE OF CALIFORNIA

PLOT DATE: 2/20/09

SAVE DATE: 2/19/09 JEFF Z:\ACTIVE RJR PROJECTS\ACTIVE_PROJECTS\1487_CITY OF MOORPARK_HIGH ST. DRAIN\CIVIL\IMPROVEMENT\WORKING_FOLDER\SHEET 10-11 SPECIFICATIONS_2-4-09.DWG

REVISION	DESCRIPTION	APP.	DATE
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C			
B			
A			
1			

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ROBERT W. ANDERSON — C-58383 R.C.E. NO. — 12-31-10 EXP. DATE — 02-19-09 DATE

DESIGNED RH | DRAWN RH/JVF | CHECKED RWA
PROJ. ENG. | RECOMMENDED
REG. NO. | DATE | APPROVED

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
PROJECT SPECIFICATIONS

SHEET 10 OF 11
DRAWING NO. Y–3–4658

SECTION 12

LADDERS

12–1 SCOPE

This work shall consist of furnishing and installation of ladders and shall be performed in accordance with the Standard Specifications, the Standard Plans, and these Special Provisions.

12–2 CONSTRUCTION MATERIALS AND METHODS

12–2.1 Ladders

Ladders shall consist of steps and pipe handles and shall be installed at locations shown on the plans.

12–2.1.1 Steps

Steps shall conform to the SPPWC Standard Plan 635–2 and/or 636–1 at the Engineer's option.

12–2.1.2 Pipe Handles

Pipe handles shall meet the requirements of Subsection 206–5.

SECTION 13

ACCESS ROAD

13–1 SCOPE

This work shall consist of access road construction and shall be performed in accordance with the Standard Specifications, the plans, and these Special Provisions.

13–2 CONSTRUCTION MATERIALS

13–2.1 Crushed Miscellaneous Base (CMB) Surfacing

Surfacing shall consist of CMB meeting the requirements of the fine gradation of Subsection 200–2.4, except that percentage passing No. 200 sieve shall range between 7% and 11%.

13–2.2 Asphalt Concrete (AC) Surfacing

13–2.2.1 Processed Miscellaneous Base (PMB) Surfacing

PMB shall conform to the requirements of Subsection 200–2.5 for fine grading.

13–2.2.2 Asphalt Concrete

AC shall conform to the requirements of Subsection 400–4 and shall be Type III–B3–AR–4000 or 8000, Type III–C3–AR–4000 or 8000.

13–3 CONSTRUCTION METHODS

13–3.1 Subgrade

Subgrade shall be prepared in accordance with Subsection 301–1. The relative compaction and tolerances shall be per Subsections 301–1.3 and 301–1.4 respectively for base and sub–base material.

13–3.2 Crushed Miscellaneous Base (CMB) Surfacing

Surfacing shall be a minimum of 6" thick and shall be constructed in accordance with Subsection 301–2, except that the relative compaction shall not be less than 95 percent.

13–3.3 Asphalt Concrete (AC)

13–3.3.1 Processed Miscellaneous Base

Construction of the PMB shall be performed in accordance with Subsection 301–2 and to the dimensions shown on the Plans.

13–3.3.2 Asphalt Concrete

Construction of AC shall be performed in accordance with Subsection 302–5 and to the dimensions shown on the plans. AC construction shall be performed after all other work is completed.

SECTION 14

CHAIN LINK FENCE AND GATE

14–1 SCOPE

This work shall consist of furnishing and installing 5–foot high chain link fence, 5–foot high by 15–foot wide single leaf and walk–in gate(s) and shall be performed in accordance with the Standard Specifications, the Plans, and these Special Provisions.

14–2 CONSTRUCTION MATERIALS

Materials for chain link fence and gate(s) shall conform to Subsection 206–6 and Standard Plan 600–0 of SPPWC, except that Subsection 206–6.3 is revised to provide knuckled selvage on bottom and top edges of chain link fabric.

14–3 CONSTRUCTION METHODS

Chain link fence and gate(s) shall be installed at locations shown on the plans. The construction shall be performed in accordance with Standard Plan 600–0 of SPPWC, except that it shall be provided with a top rail.

REGISTERED PROFESSIONAL ENGINEER
ROBERT W. ANDERSON
C–058383
EXP. 12–31–10
CIVIL
STATE OF CALIFORNIA

PLOT DATE: 2/20/09

SAVE DATE: 2/19/09 JEFF Z:\ACTIVE RJR PROJECTS\ACTIVE_PROJECTS\1487_CITY OF MOORPARK_HIGH ST. DRAIN\CIVIL\IMPROVEMENT\WORKING FOLDER\SHEET 10-11 SPECIFICATIONS_2-4-09.DWG

	REVISION	DESCRIPTION	APP.	DATE
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C				
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1				

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ROBERT W. ANDERSON — C–58383 R.C.E. NO. — 12–31–10 EXP. DATE — 02–19–09 DATE

DESIGNED RH | DRAWN RH/JVF | CHECKED RWA
PROJ. ENG. | REG. NO. | DATE
RECOMMENDED | APPROVED

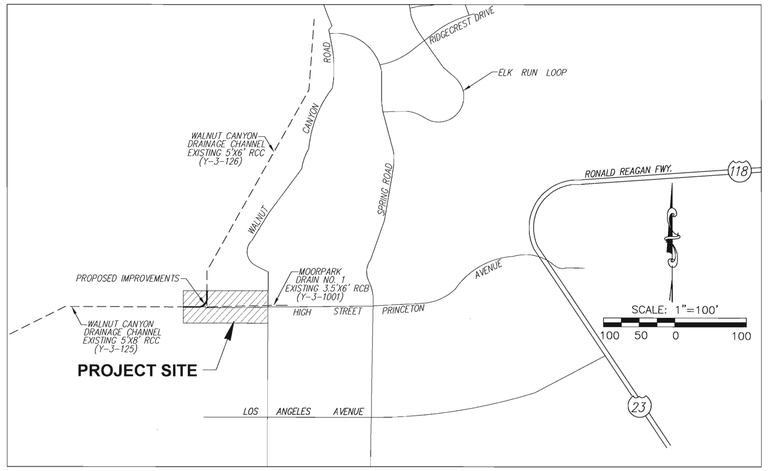
COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
PROJECT SPECIFICATIONS

SHEET 11 OF 11
DRAWING NO. Y–3–4659

CITY OF MOORPARK
PUBLIC WORKS DEPARTMENT



GENERAL STORM DRAIN NOTES

1. STATIONS SHOWN ON STORM DRAIN DRAWINGS ARE ALONG CENTER LINE OF STRUCTURE, UNLESS OTHERWISE SHOWN.
2. STATIONS AND INVERT ELEVATIONS OF PIPE INLETS SHOWN ON THE PROFILES ARE THE INSIDE FACE OF THE STRUCTURE, UNLESS OTHERWISE SHOWN.
3. INLETS IN STREETS SHALL BE PER APWA STANDARD PLANS AS SHOWN. LENGTH IS AS SHOWN ON THE PLANS.
4. CURVED STORM DRAINS SHALL BE CONSTRUCTED WITH 8 FEET LENGTHS OF R.C.P. WITH ONE END BEVELED FOR 90 FEET RADIUS, OR WITH 8 FEET LENGTHS OF R.C.P. WITH BOTH ENDS BEVELED FOR 45 FEET RADIUS, OR WITH 4 FEET LENGTHS OF R.C.P. WITH BOTH ENDS BEVELED FOR 22.5 FEET RADIUS.
5. STORM DRAIN PIPE SHALL BE D-2000 R.C.P., UNLESS OTHERWISE SHOWN.
6. DRAINAGE STRUCTURES SHALL CONFORM TO APWA STANDARD PLANS, EXCEPT AS NOTED ON THE PLANS.
7. ALL MANHOLE FRAMES AND COVERS SHALL HAVE A MINIMUM OF 30" IN DIAMETER CLEAR ACCESS OPENING.
8. TRAFFIC CONTROL PLANS WILL BE PROVIDED FOR ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY. TRAFFIC CONTROL PLANS SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 5 OF THE CALTRANS TRAFFIC MANUAL. TRAFFIC CONTROL PLAN MUST BE SUBMITTED TO THE CITY ENGINEER 20 DAYS PRIOR TO IMPLEMENTATION OF THE TRAFFIC CONTROL. THE CITY ENGINEER'S WRITTEN APPROVAL MUST BE OBTAINED PRIOR TO IMPLEMENTATION OF THE TRAFFIC CONTROL.
9. NO DEVIATIONS FROM THESE PLANS SHALL BE MADE UNLESS A CHANGE ORDER IS APPROVED BY THE CITY ENGINEER.
10. ALL CONTRACTORS AND SUB-CONTRACTORS SHALL POSSESS A VALID CITY OF MOORPARK BUSINESS TAX LICENSE AND A VALID CALIFORNIA STATE CONTRACTOR'S LICENSE PRIOR TO COMMENCING WORK.
11. APPROVAL OF THESE PLANS BY THE CITY OR ITS AGENTS DOES NOT RELIEVE THE DEVELOPER'S ENGINEER AND THE APPLICANT OF THE RESPONSIBILITY FOR THE CORRECTION OF ERRORS OR OMISSIONS DISCOVERED DURING CONSTRUCTION. ALL APPROPRIATE PLAN REVISIONS SHALL BE PROMPTLY SUBMITTED TO THE CITY ENGINEER FOR REVIEW AND APPROVAL, PRIOR TO CONTINUANCE OF CONSTRUCTION OF THE AFFECTED IMPROVEMENTS.
12. ALL WORK SHALL BE PERFORMED DURING CITY WORKING HOURS AND SUBJECT TO INSPECTION BY THE PUBLIC WORKS DEPARTMENT. WHERE OVERTIME INSPECTION IS NEEDED, SUBJECT TO THE AVAILABILITY OF AN INSPECTOR AND APPROVED BY THE CITY ENGINEER, THE CONTRACTOR WILL BE BILLED FOR SAID INSPECTION SERVICES AS PROVIDED IN THE MOST RECENTLY ADOPTED RESOLUTION WHICH ESTABLISHES THE FEES FOR SUCH SERVICES.
13. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER BEFORE THE COMMENCEMENT OR CONTINUANCE OF WORK.
14. UTILITY LOCATIONS AND DEPTHS SHOWN HEREON HAVE BEEN PLOTTED IN ACCORDANCE WITH DATA FURNISHED BY THE UTILITY COMPANIES. NEITHER THE CITY NOR THE ENGINEER ASSUME RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION RECEIVED FOR EACH COMPANY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PUBLIC AND PRIVATE PROPERTY INSOFAR AS IT MAY BE AFFECTED BY THESE OPERATIONS. ALL COSTS FOR PROTECTING, REMOVING, AND RESTORING EXISTING IMPROVEMENTS SHALL BE BORNE BY THE CONTRACTOR.
15. EROSION CONTROL MEASURES SHALL BE PROVIDED FOR IN ALL WORK IN CONFORMANCE WITH NPDES REQUIREMENTS YEAR-ROUND. THE SWPPP AND EROSION CONTROL PLANS MUST BE REVISED ANNUALLY AND SUBMITTED TO THE CITY ENGINEER FOR REVIEW AND APPROVAL NO LATER THAN SEPTEMBER 1 OF EACH YEAR.
16. "AS-BUILT" DRAWING PLANS SHALL BE SUBMITTED PRIOR TO FINAL WALK-THROUGH INSPECTION AND ACCEPTANCE OF THE IMPROVEMENTS BY THE CITY.
17. THESE PLANS SHALL REMAIN VALID FOR A PERIOD OF TWO YEARS FROM THE DATE OF THE CITY ENGINEER'S SIGNATURE. IF WORK HAS NOT BEEN INITIATED AND DILIGENTLY PURSUED WITHIN SUCH PERIOD, THE PLANS SHALL BE SUBJECT TO A NEW REVIEW FOR COMPLIANCE WITH THEN CURRENT STANDARDS AND POLICIES.
18. THE CONTRACTOR SHALL PROTECT ALL EXISTING PROPERTIES FROM DAMAGE. ACCESS TO PROPERTIES ADJACENT TO ALL AREAS OF WORK SHALL BE MAINTAINED AT ALL TIMES
19. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) TOLL FREE AT 1-(800) 227-2600, AT LEAST 48 HOURS PRIOR TO ANY WORK.
20. WRITTEN RIGHTS OF ENTRY FROM ALL PROPERTY OWNERS WHO'S PROPERTY ARE ENCROACHED UPON BY THE DRAINAGE FACILITY, WATER DISCHARGED BY THE DRAINAGE FACILITY, CONSTRUCTION EQUIPMENT, SPOILS OR MATERIALS, WILL BE PROVIDED TO THE CITY ENGINEER PRIOR TO THE START OF CONSTRUCTION.
21. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY CONSTRUCTION SURVEYING TO COMPLETE THE WORK. REFERENCE POINTS SHALL BE LOCATED NO MORE THAN 50 FEET APART AND SHALL BE MARKED WITH ALL INFORMATION PERTINENT TO THE FACILITY BEING CONSTRUCTED. EACH STRUCTURE SHALL BE PROVIDED WITH NO LESS THAN 2 REFERENCE POINTS
22. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" AND SUPPLEMENTS THERETO.
23. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS.
24. NO CONCRETE SHALL BE PLACED UNTIL THE FORMS AND REINFORCING STEEL HAVE BEEN PLACED, INSPECTED AND APPROVED BY THE CITY. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST 24 HOURS IN ADVANCE FOR INSPECTION. FAILURE TO PROCURE INSPECTION WILL REQUIRE REMOVAL OF UN-INSPECTED IMPROVEMENTS.
25. CONCRETE BACKFILL IS REQUIRED WHEN THE PIPE HAS LESS THAN ONE FOOT OF COVER. THE CONCRETE BACKFILL SHALL CONSIST OF 335-E-14P PORTLAND CEMENT CONCRETE POURED FROM WALL TO WALL OF TRENCH AND FROM BOTTOM OF TRENCH TO A MINIMUM OF 4 INCHES OVER THE TOP OF THE PIPE. ADDITIONAL MEASURES WILL BE REQUIRED IF PIPE MAY EXPERIENCE EXCESSIVE LOADS.
26. ALL PIPES SHALL BE PLACED IN TRENCHES PER DETAIL A, SHEET 3.
27. ALL BACKFILL AND FILLS OUTSIDE OF STREET RIGHT-OF-WAY SHALL BE COMPACTED TO THE GEOTECHNICAL ENGINEERS RECOMMENDATIONS, OR AT LEAST 90 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY A.S.T.M. SOIL COMPACTION TEST D 1557 METHOD "D". THIS SHALL BE CERTIFIED BY A GEOTECHNICAL ENGINEER.
28. ALL BACKFILL AND FILLS WITHIN STREET RIGHT-OF- WAY SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 306-1.3 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED. CONTRACTOR SHALL NOTIFY THE INSPECTOR AT LEAST 24 HOURS IN ADVANCE OF SOIL TESTING OR AS REQUIRED.
29. PIPE SHALL BE EMBEDDED A MINIMUM OF 5 INCHES INTO ALL STRUCTURES INCLUDING INLET AND OUTLET HEADWALLS, UNLESS OTHERWISE SPECIFIED.
30. UNLESS OTHERWISE SPECIFIED IN THE PROFILE ON THESE PLANS, THE RCP AND RCB SHALL BE MANUFACTURED WITH A MINIMUM CONCRETE COVER OVER THE STEEL IN THE INVERT OF 1.5 INCHES.
31. THE CONTRACTOR SHALL PROVIDE A DRAINAGE SYSTEM FOR CONTRIBUTORY FLOWS THAT WILL BE OPERABLE AT ALL TIMES UNTIL THE STORM DRAIN SYSTEM IS ACCEPTED FOR MAINTENANCE BY THE CITY OF MOORPARK, OR THE VCWPD.
32. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.
33. ALL OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES OR SIMILAR STRUCTURES SHALL BE SEALED WITH 8 INCHES OF BRICK AND MORTAR OR A MINIMUM OF 6 INCHES OF CONCRETE, UNLESS OTHERWISE SHOWN.
34. CONTRACTOR SHALL OBTAIN A NPDES PERMIT, AND PREPARE A STORM WATER POLLUTION CONTROL PLAN (SWPCP), AND SUBMIT TO THE CITY FOR APPROVAL. YEAR-ROUND ADHERENCE TO THE REQUIREMENTS OF THESE DOCUMENTS MUST BE MAINTAINED. FAILURE TO ADHERE TO THE REQUIREMENTS IS GROUNDS FOR SUSPENSION OR REVOCATION OF PERMITS, SEVERE FINES AND OR IMPRISONMENT.
35. ALL ABOVE GROUND CONCRETE DRAINAGE STRUCTURES SHALL BE OMAHA TAN COLORED CONCRETE, AS APPROVED BY THE CITY ENGINEER AND TO THE EXTENT POSSIBLE, SHALL INCORPORATE NATURAL STRUCTURE AND LANDSCAPE TO REDUCE THEIR VISIBILITY.
36. ALL SUBDRAINS SHALL CONNECT DIRECTLY TO DRAIN INLET STRUCTURES AND SHALL BE LOCATED IN THE DRAIN STRUCTURE FOR CONVENIENT ACCESS AND TESTING.

NPDES GENERAL NOTES

1. CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT AN ANTICIPATED STORM OR CONSTRUCTION ACTIVITY DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE.
2. DISCHARGES OF MATERIAL OTHER THAN STORM WATER ARE ALLOWED ONLY WHEN NECESSARY FOR PERFORMANCE AND COMPLETION OF CONSTRUCTION PRACTICES AND WHERE THEY DO NOT: CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY WATER QUALITY STANDARD; CAUSE OR THREATENED OF CAUSE POLLUTION, CONTAMINATION, OR NUISANCE; OR CONTAIN A HAZARDOUS SUBSTANCE IN A QUANTITY REPORTABLE UNDER FEDERAL REGULATIONS 40 CFR PARTS 117 & 302.
3. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS: WASTES FROM PAINTS, STAINS, SEALANTS, GLUES, LIMES, PESTICIDES, HERBICIDES, WOOD PRESERVATIVES AND SOLVENTS; ASBESTOS, FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS; FERTILIZERS, VEHICLE/EQUIPMENT WASH WATER AND CONCRETE WASH WATER; CONCRETE, DETERGENT OR FLOATABLE WASTES; WASTES FROM ANY ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING; AND SUPERCHLORINATED POTABLE WATER LINE FLUSHINGS.
4. DURING CONSTRUCTION, DISPOSAL OF SUCH POTENTIAL POLLUTANTS SHOULD OCCUR IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ON-SITE, PHYSICALLY SEPARATED FROM POTENTIAL STORM WATER RUN-OFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
5. DEWATERING OF CONTAMINATED GROUNDWATER, OR DISCHARGING CONTAMINATED SOILS VIA SURFACE EROSION, IS PROHIBITED. DEWATERING OF NON-CONTAMINATED GROUNDWATER REQUIRES A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FROM THE RESPECTIVE STATE OF WATER QUALITY CONTROL BOARD.
6. ALL ACTIVITIES WILL CONFORM TO VENTURA COUNTY WIDE STORM WATER QUALITY MANAGEMENT PROGRAM NPDES PERMIT NO. CAS004002 AND CALIFORNIA STORM WATER BEST MANAGEMENT PRACTICES HANDBOOK.

BEST MANAGEMENT PRACTICES

CA001 – DEWATERING OPERATIONS
CA002 – PAVING OPERATIONS
CA010 – MATERIAL DELIVERY AND STORAGE
CA011 – MATERIAL USE
CA012 – SPILL PREVENTION AND CONTROL
CA020 – SOLID WASTE MANAGEMENT
CA021 – HAZARDOUS WASTE MANAGEMENT
CA022 – CONTAMINATED SOIL MANAGEMENT
CA023 – CONCRETE WASTE MANAGEMENT
CA030 – VEHICLE AND EQUIPMENT CLEANING
CA031 – VEHICLE AND EQUIPMENT FUELING
CA032 – VEHICLE AND EQUIPMENT MAINTENANCE
CA040 – EMPLOYEE/SUBCONTRACTOR TRAINING
ESC01 – SCHEDULING
ESC02 – PRESERVATION OF EXISTING VEGETATION
ESC10 – SEEDING AND PLANTING
ESC11 – MULCHING
ESC20 – GEOTEXTILES AND MATS
ESC21 – DUST CONTROLS
ESC22 – TEMPORARY STREAM CROSSING
ESC23 – CONSTRUCTION ROAD STABILIZATION
ESC24 – STABILIZED CONSTRUCTION ENTRANCE
ESC42 – SLOPE ROUGHENING/TERRACING
ESC50 – SILT FENCE
ESC51 – STRAW BALE BARRIERS
ESC52 – SAND BAG BARRIER
ESC53 – BRUSH OR ROCK FILTER
ESC54 – STORM DRAIN INLET PROTECTION

INDEX TO PROJECT DRAWINGS

DESCRIPTION	SHEET NO.
STORM DRAIN COVER SHEET	1
LINE A – STA. 1+00.00 THRU 4+77.00	2
DETAILS	3

QUANTITIES

ITEM #	DESCRIPTION	QUANTITY	UNITS
1	JUNCTION STRUCTURE APWA 333-1	1	EA.
2	6'x3.5' RCB	222	L.F.
3	60" RCP	48	L.F.
4	DEMOLITION OF EXISTING RCB	305	L.F.
5	24" RCP	2.5	L.F.
6			
7			
8			

INDEX TO STANDARD DRAWINGS

AMERICAN PUBLIC WORKS ASSOCIATION

STD. PLAN	TITLE
333-1	JUNCTION STRUCTURE – PIPE TO RCB INLET ID > 600mm (24") OR ID> 1/2 MAIN LINE ID
300-2	CURB OPENING CATCH BASIN
342-1	TRANSITION STRUCTURE (PIPE TO RCB)

BASIS OF BEARING:

THE BEARING OF NORTH 89°53'47" WEST ON THE CENTERLINE OF HIGH STREET WAS USED AS THE BASIS OF BEARING.

BENCHMARK:

T.B.M. – BCR OF THE SOUTH CURB OF HIGH STREET AND THE INTERSECTION OF MOORPARK ROAD. ELEV.=(510.31 TC)

PRIVATE ENGINEERS NOTICE TO CONTRACTORS

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THIS MAP. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR SHOWN ON THIS DRAWING.

ROBERT W. ANDERSON R.C.E. 58583 — DATE 2-19-09

NOTE:
EXISTING UTILITIES AND FACILITIES ABOVE AND BELOW THE GROUND ARE LOCATED FROM THE BEST AVAILABLE RECORD INFORMATION. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR FACILITIES SHOWN ON THE PLANS FROM HARM. ATTENTION IS DIRECTED TO POSSIBLE EXISTENCE OF UNDERGROUND UTILITIES OR FACILITIES NOT SHOWN TO THE CITY OR IN A LOCATION DIFFERENT FROM THAT WHICH IS SHOWN ON THE PLANS. THE CONTRACTOR SHALL TAKE STEPS TO ASCERTAIN THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO DOING WORK IN ORDER TO AVOID DAMAGE OF SUCH UTILITY OR FACILITY OR TO INTERFERE WITH THEIR SERVICE.

NOTE:
THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURE SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS TO THE BEST OF OUR KNOWLEDGE. THE CONTRACTOR IS REQUIRED TO TAKE OUR PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THIS DRAWING. PRIOR TO EXCAVATION THE CONTRACTOR SHALL CALL TOLL FREE (800) 422-4133 TO VERIFY THE UNDERGROUND LOCATION OF GAS AND TELEPHONE LINES. IT SHALL BE THE OWNER AND CONTRACTORS SOLE RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO START OF CONSTRUCTION AND VERIFY THE EXISTENCE OF KNOWN AND UNKNOWN LINES.

UNDERGROUND SERVICE ALERT
Call: Toll FREE 1 – 800 422-4133
TWO WORKING DAYS BEFORE YOU DIG
CAUTION: Remember that the USA Center notifies only those utilities belonging to the center. There could be other utilities present at the work site. The center will inform you of whom they will notify.

REGISTERED PROFESSIONAL ENGINEER — ROBERT W. ANDERSON — C-058383 EXP. 12-31-10 — CIVIL — STATE OF CALIFORNIA

PERMIT # 2008-074
PROJECT # 88675
EXHIBIT "B"

NO.	DESCRIPTION OF REVISION	R.C.E.	APPD.	DATE
6				
5				
4				
3				
2				
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△				

Prepared by: RJR ENGINEERING GROUP
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E-mail: rjreng@earthlink.net
ROBERT W. ANDERSON — C-58383 — 12-31-10 — 2-19-09
R.C.E. NO. — EXP. DATE — DATE

OWNER/DEVELOPER: CITY OF MOORPARK
799 MOORPARK AVENUE
MOORPARK, CALIFORNIA
(805) 529-8270

DESIGNED BY:	RHH
DRAWN BY:	RHH
CHECKED BY:	RWA
APPROVED BY:	

REVIEWED BY:
YUGAL K. LALL PE 44038 EXP. DATE 6-30-09 — DATE 2/19/09

CITY OF MOORPARK
PUBLIC WORKS DEPARTMENT

DISCRETIONARY PERMIT NO.
ENGINEERING PROJECT NO. 1448.80

STORM DRAIN IMPROVEMENT PLANS
MOORPARK DRAIN #1 RE-ALIGNMENT
HIGH STREET IMPROVEMENTS
MOORPARK, CALIFORNIA

SHEET 1 OF 3
DRAWING NO. 08-MI-10909

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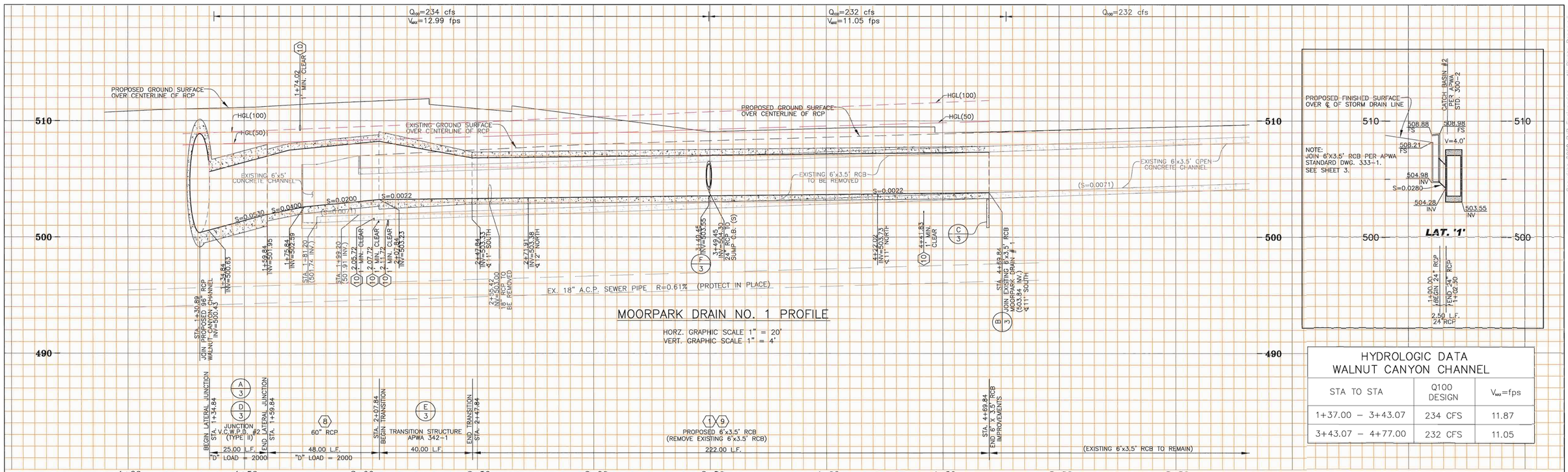
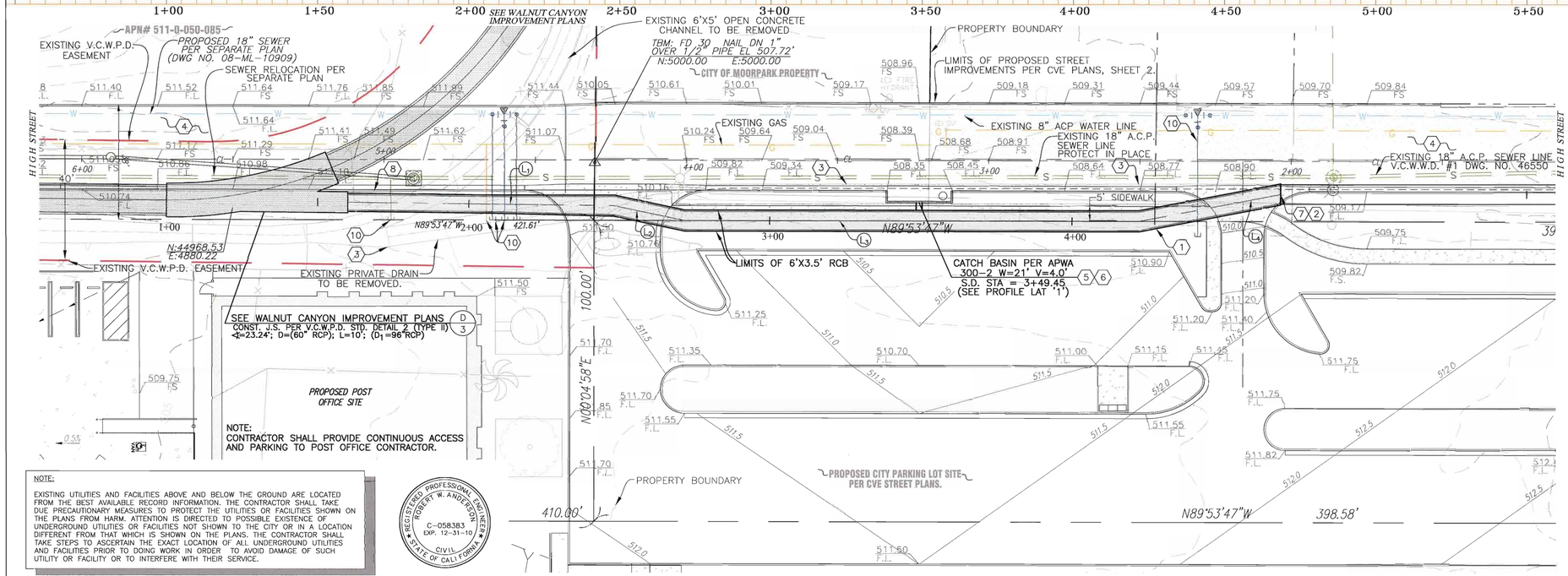


MOORPARK DRAIN NO. 1 PROFILE

HORZ. GRAPHIC SCALE 1" = 20'
VERT. GRAPHIC SCALE 1" = 4'

HYDROLOGIC DATA
WALNUT CANYON CHANNEL

STA TO STA	Q100 DESIGN	V_{MAX}=fps
1+37.00 – 3+43.07	234 CFS	11.87
3+43.07 – 4+77.00	232 CFS	11.05



HIGH STREET STORM DRAIN

STORM DRAIN CENTERLINE DATA				
NO.	RADIUS	Δ/BEARING	LENGTH	TANGENT
L_1	–	S89°18'30"E	87.95'	–
L_2	–	S78°09'23"E	24.07'	–
L_3	–	S89°54'13"E	150.11'	–
L_4	–	N79°14'7"E	47.82'	–

STORM DRAIN CONSTRUCTION NOTES:

1. INSTALL 6'X3.5' REINFORCED CONCRETE BOX WITH TYPE I INSTALLATION PER DETAIL (A/3) PER CONDITION B.
2. JOIN PROPOSED 6'X3.5' RCB TO EXISTING 6'X3.5' RCB PER DETAIL (B/3)
3. REMOVE AND DISPOSE OF EXISTING 6'X3.5' RCB STORM DRAIN AND REPLACE.
4. STREET IMPROVEMENT PER CVE IMPROVEMENT PLANS, SEE SHEET ___.
5. CONSTRUCT CURB OPENING CATCH BASIN PER APWA STD. 300-2. (W= 21' V=4')
6. CONSTRUCT 24" RCP JUNCTION TO 6'X3.5' RCB PER APWA 333-1 OR DETAIL (F/3)
7. INSTALL 5' CUTOFF WALL PER DETAIL (C/3)
8. INSTALL 60" REINFORCED CONCRETE PIPE WITH TYPE I INSTALLATION PER DETAIL (A/3) PER CONDITION A.
9. RCB DESIGN TO BE PER ASTM C1433, LATEST ED. – USE 6'X4' STEEL SCHEDULE (TABLE 1, HS20 LOADING).
10. PROPOSED UTILITY LATERAL PER CVE IMPROVEMENT PLANS, SEE SHEET ___.

GRAPHIC SCALE
0 1" 2" 3"
0 10 20 40 60
1" = 20'

NOTE:

EXISTING UTILITIES AND FACILITIES ABOVE AND BELOW THE GROUND ARE LOCATED FROM THE BEST AVAILABLE RECORD INFORMATION. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR FACILITIES SHOWN ON THE PLANS FROM HARM. ATTENTION IS DIRECTED TO POSSIBLE EXISTENCE OF UNDERGROUND UTILITIES OR FACILITIES NOT SHOWN TO THE CITY OR IN A LOCATION DIFFERENT FROM THAT WHICH IS SHOWN ON THE PLANS. THE CONTRACTOR SHALL TAKE STEPS TO ASCERTAIN THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO DOING WORK IN ORDER TO AVOID DAMAGE OF SUCH UTILITY OR FACILITY OR TO INTERFERE WITH THEIR SERVICE.

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-10 CIVIL STATE OF CALIFORNIA

△	DESCRIPTION OF REVISION	R.C.E.	APP'D.	DATE
6				
5				
4				
3				
2				
1				

Prepared by: RJR ENGINEERING GROUP
Planning Civil Engineering Flood Control/Hydrology Geotechnical Engineering Geology Water Resources Environmental
1905 Palma Drive, Suite J, Ventura, CA 93003
(805) 650-5125 (805) 650-5123 FAX
E-mail: rjr@rjreng.com

ROBERT W. ANDERSON | C-58383 R.C.E. NO. | 12-31-10 EXP. DATE | 2-19-09 DATE

OWNER/DEVELOPER: CITY OF MOORPARK
799 MOORPARK AVENUE
MOORPARK, CALIFORNIA
(805) 529-8270

DESIGNED BY:	RHH
DRAWN BY:	RHH
CHECKED BY:	RWA
APPROVED BY:	

REVIEWED BY:
YUGAL K. LALL PE 44038 EXP. DATE 6-30-09 — 2/19/09 DATE

CITY OF MOORPARK
PUBLIC WORKS DEPARTMENT

DISCRETIONARY PERMIT NO.
ENGINEERING PROJECT NO. 1487.80

STORM DRAIN IMPROVEMENT PLANS
MOORPARK DRAIN #1 RE-ALIGNMENT
HIGH STREET IMPROVEMENTS
LINE A - STA. 1+00.00 THRU STA. 4+77.00

SHEET 2 OF 3
DRAWING NO. 08-ML-10909

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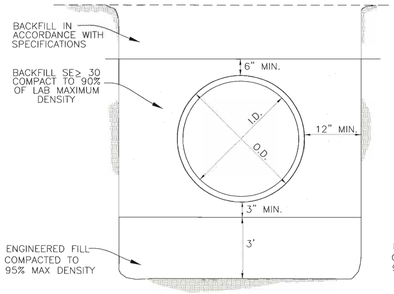
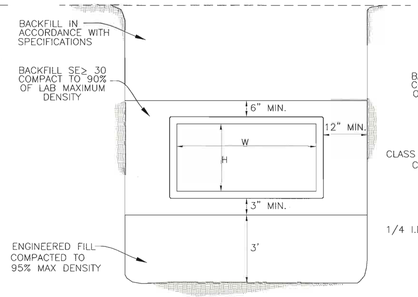
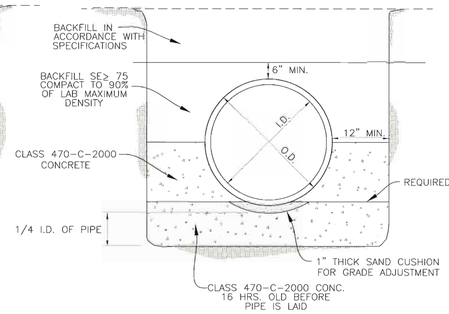


CONDITION A (RCP)

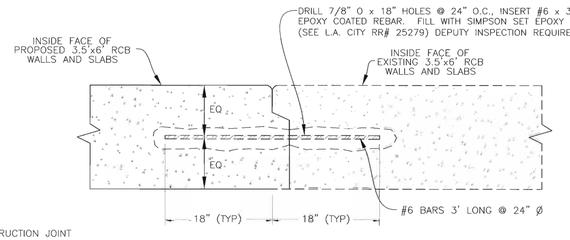


CONDITION B (RCB)



CONDITION C (JUNCTION W/96" RCP)
STA. 1+34.84 TO STA 1+59.84

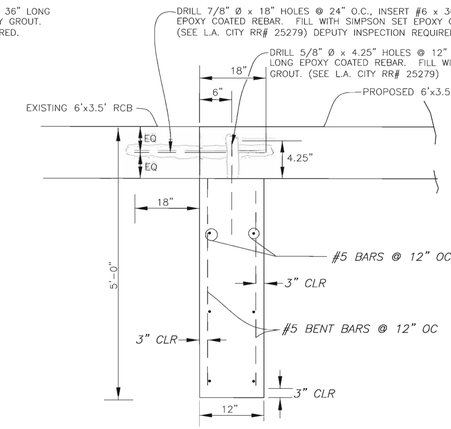
A/3 BEDDING DETAIL
N.T.S.



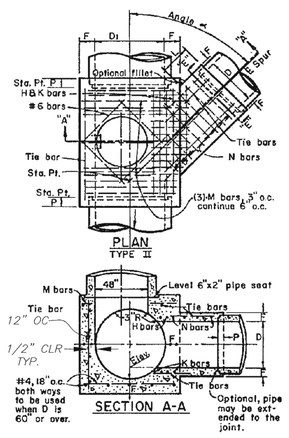
CONSTRUCTION NOTES:

1. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30 INCHES OF OPENINGS FOR MANHOLES, JUNCTION STRUCTURES OR SIDE INLETS,
2. TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION.
3. THE TRANSVERSE REINFORCING STEEL SHALL TERMINATE ONE AND ONE-HALF INCHES FROM THE CONCRETE SURFACE.

B/3 TRANSVERSE CONSTRUCTION JOINT (RCB TO RCB)
N.T.S.



C/3 RC CUTOFF WALL DETAIL
NTS



D_1	D	∢	F_{96}	F_{60}	L	H&K	M&N	P
96"	60"	23.24°	14"	10"	12"	#7 @ 3" O.C.	#7 @ 3" O.C.	6"

CONSTRUCTION NOTES:

1. JUNCTION STRUCTURE SHALL BE POURED IN ONE CONTINUOUS OPERATION, EXCEPT THAT THE CONTRACTOR SHALL HAVE THE OPTION OF PLACING, AT THE SPRING LINE, A CONSTRUCTION JOINT WITH LONGITUDINAL KEYWAY.
2. FLOOR OF JUNCTION STRUCTURE SHALL BE STEEL TROWELLED TO SPRING LINE.
3. REINFORCING STEEL TO BE 1 1/2" CLEAR FROM INSIDE FACE OF CONCRETE, UNLESS OTHERWISE SPECIFIED.
4. EXTENSION OF CENTERLINE OF INLET PIPE SHALL INTERSECT INSIDE FACE OF CONCRETE AT SPRING LINE, UNLESS OTHERWISE SPECIFIED.
5. TIE BARS SHALL BE #4 BARS, 18" O.C. MINIMUM.
7. ALL CONSTRUCTION IS SUBJECT TO CONDITIONS OF THE STANDARD SPECIFICATION.
8. SEE VCWPD STANDARD DRAWING NO. 5 FOR MANHOLE SHAFT DETAILS.
9. STEPS SHALL BE CONSTRUCTED PER VCWPD STANDARD DRAWING NO. 5 OR APPROVED EQUAL.

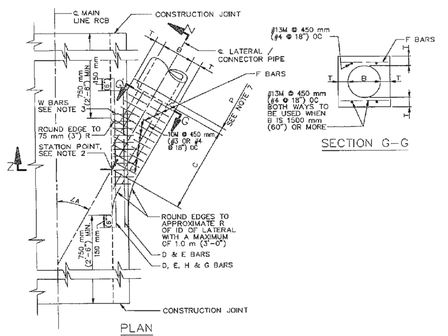
JUNCTION STRUCTURE – TYPE II

D/3 JUNCTION STRUCTURE – TYPE II
V.C.W.P.D. STANDARD DETAIL #2
N.T.S.

CONSTRUCTION NOTES:

1. THE HORIZONTAL ANGLE OF DIVERGENCE OR CONVERGENCE, θ, SHALL NOT EXCEED 5°45'.
2. THE INTERIOR SURFACE SHALL BE SMOOTH AND VARY UNIFORMLY BETWEEN THE TWO ADJOINING SECTIONS.
3. f = 28 MP (4000 PSI) AT 28 DAYS AND THE CONCRETE SHALL BE THE SAME MIX AS THE ADJACENT RCB.
4. ALL STEEL, EXCEPT LONGITUDINAL STEEL SHALL BE GRADE 400(60) BILLET STEEL CONFORMING TO ASTM A 615 M (A 615) AND SHALL TERMINATE 1½" CLEAR OF CONCRETE SURFACE.
5. KEYED CONSTRUCTION JOINTS OF THE SAME DIMENSIONS AS THOSE OF THE RCB OR ARCH SECTION MAY BE CARRIED THROUGH THE TRANSITION STRUCTURE AT THE CONTRACTOR'S OPTION. SEE SECTION B-B.

E/3 TRANSITION STRUCTURE
(APWA DETAIL 342-1)
N.T.S.



B	T	P	C	∢	D,E,H & G	F
24"	5 1/4"	6"	2'	80°	#5	#4 @ 6" O.C.

F/3 JUNCTION STRUCTURE
(APWA DETAIL 333-1)
N.T.S.

REGISTERED PROFESSIONAL ENGINEER — ROBERT W. ANDERSON — C-058383 EXP. 12-31-10 — CIVIL — STATE OF CALIFORNIA

6				
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2				
1				
△	DESCRIPTION OF REVISION	R.C.E.	APP'D.	DATE

Prepared by: RJR ENGINEERING GROUP
Planning Civil Engineering Flood Control/Hydrology Geotechnical Engineering Geology Water Resources Environmental
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E-mail: rjr@rjreng.com
C-58383 12-31-10 2-19-09
ROBERT W. ANDERSON R.C.E. NO. EXP. DATE DATE

OWNER/DEVELOPER: CITY OF MOORPARK
799 MOORPARK AVENUE
MOORPARK, CALIFORNIA
(805) 529-8270

DESIGNED BY:	RHH
DRAWN BY:	RHH
CHECKED BY:	RWA
APPROVED BY:	

REVIEWED BY:
YUGAL K. LALL PE 44038 EXP. DATE 6-30-09 — 3/19/09 DATE

CITY OF MOORPARK
PUBLIC WORKS DEPARTMENT

DISCRETIONARY PERMIT NO.
ENGINEERING PROJECT NO. 1487.80

STORM DRAIN IMPROVEMENT PLANS
MOORPARK DRAIN #1 RE-ALIGNMENT
HIGH STREET IMPROVEMENTS
DETAILS

SHEET 3 OF 3
DRAWING NO. CR-M-1099

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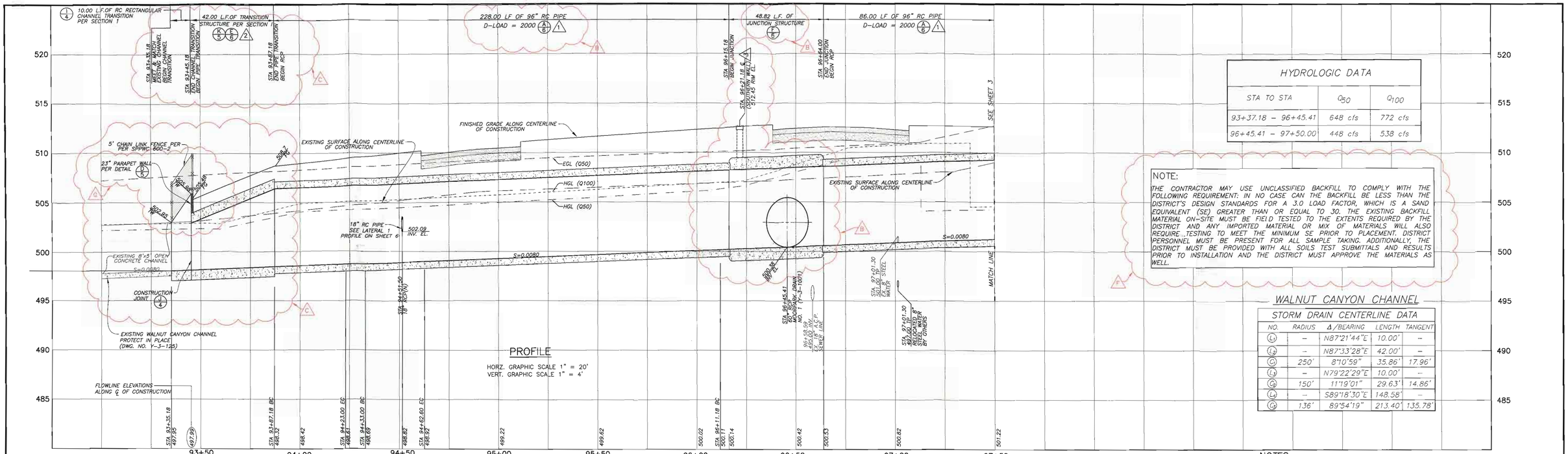


HYDROLOGIC DATA		
STA TO STA	Q_{50}	Q_{100}
93+37.18 – 96+45.41	648 cfs	772 cfs
96+45.41 – 97+50.00	448 cfs	538 cfs

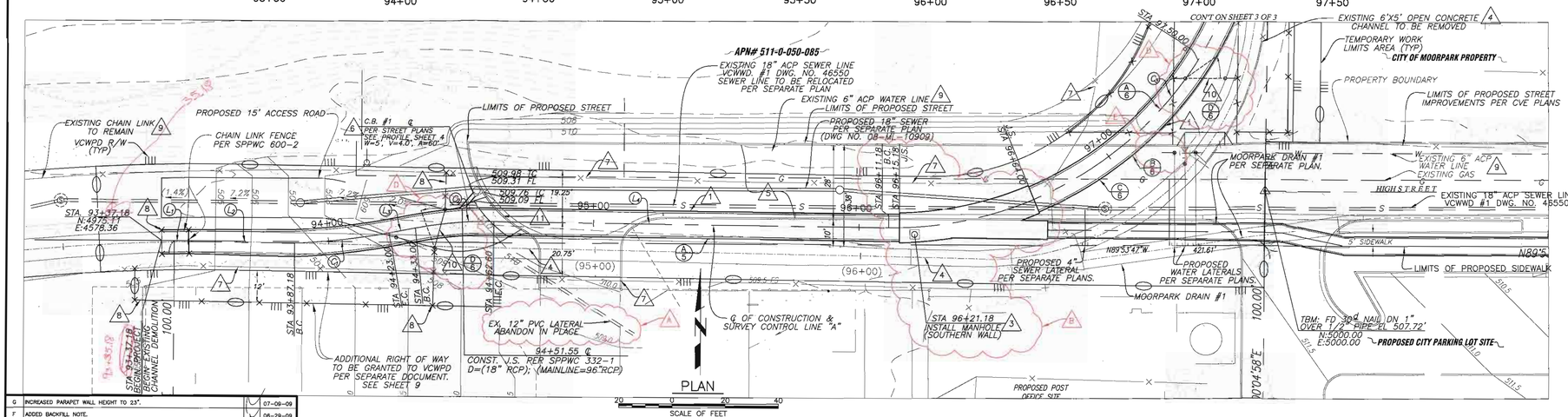
NOTE:

THE CONTRACTOR MAY USE UNCLASSIFIED BACKFILL TO COMPLY WITH THE FOLLOWING REQUIREMENT: IN NO CASE CAN THE BACKFILL BE LESS THAN THE DISTRICT'S DESIGN STANDARDS FOR A 3.0 LOAD FACTOR, WHICH IS A SAND EQUIVALENT (SE) GREATER THAN OR EQUAL TO 30. THE EXISTING BACKFILL MATERIAL ON-SITE MUST BE FIELD TESTED TO THE EXTENTS REQUIRED BY THE DISTRICT AND ANY IMPORTED MATERIAL OR MIX OF MATERIALS WILL ALSO REQUIRE TESTING TO MEET THE MINIMUM SE PRIOR TO PLACEMENT. DISTRICT PERSONNEL MUST BE PRESENT FOR ALL SAMPLE TAKING. ADDITIONALLY, THE DISTRICT MUST BE PROVIDED WITH ALL SOILS TEST SUBMITTALS AND RESULTS PRIOR TO INSTALLATION AND THE DISTRICT MUST APPROVE THE MATERIALS AS WELL.

WALNUT CANYON CHANNEL

STORM DRAIN CENTERLINE DATA

NO.	RADIUS	Δ/BEARING	LENGTH	TANGENT
L_1	–	N87°21'44"E	10.00'	–
L_2	–	N87°33'28"E	42.00'	–
C_1	250'	8°10'59"	35.86'	17.96'
L_3	–	N79°22'29"E	10.00'	–
C_2	150'	11°19'01"	29.63'	14.86'
L_4	–	S89°18'30"E	148.58'	–
C_3	136'	89°54'19"	213.40'	135.78'



NOTES:

1. INSTALL 96" REINFORCED CONCRETE PIPE WITH 1" OF INTERIOR CONCRETE LINING INSIDE DIAMETER OF PIPE PER VCWPD STANDARDS.
2. CONSTRUCT RCB TO RCP TRANSITION STRUCTURE PER SPPWC, 2006 EDITION, STD. PLAN 342-1 OR (E/5)
3. MANHOLE SHAFT AND APPURTENANCES, AT STA. 96+21.18, AND 98+40.00 SHALL BE CONSTRUCTED PER STANDARD PLANS, SPPWC 324-1, WHERE MANHOLE SHAFT SHALL TAPER FROM DA = 48" TO 30". MANHOLE COVERS SHALL BE CAST WITH THE LETTERS "VCWPD". THE LETTERS SHALL BE 2 1/2" HIGH WITH 1/2" LINE WIDTH. MANHOLE COVERS SHALL ALSO HAVE A LIFTING SLOT IN ADDITION TO THE PICK HOLE. MANHOLE SHAFT CONNECTION TO RC STRUCTURE SHALL BE CONSTRUCTED PER STANDARD PLANS, SPPWC 322-1.
4. SAWCUT, REMOVE, AND DISPOSE OF EXISTING CONCRETE DRAINAGE CHANNEL FROM STA. 93+37.18 TO STA. 100+46.75. REPLACE WITH ENGINEERED FILL TO 90 OR 95 (AT ROAD SECTIONS) PERCENT RELATIVE COMPACTION AT 1 TO 3 PERCENT OVER OPTIMUM SOIL-WATER CONTENT, UNLESS OTHERWISE SPECIFIED AS REQUIRING SPECIAL COMPACTION. (SEE RJR GEOTECHNICAL REPORT FOR ADDITIONAL RECOMMENDATIONS)
5. HIGH STREET IMPROVEMENTS PER SEPARATE PLANS.
6. CONSTRUCT CURB OPENING CATCH BASIN WITH LOCAL DEPRESSION, PER SPPWC, 2006 EDITION, STD PLANS 301-2 AND 313-2, RESPECTIVELY, WHERE WIDTH=5', V-DEPTH=4' A=60'.
7. REMOVE AND DISPOSE OF INTERFERING CHAIN LINK FENCE AND GATES WITHIN THE RIGHT OF WAY.
8. INSTALL 5FT HIGH CHAIN-LINK FENCE PER SPPWC 600-2, 2006 EDITION.
9. EXISTING IMPROVEMENTS WITHIN THE RIGHT OF WAY AND WORK AREA LIMITS SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED. DAMAGED IMPROVEMENTS SHALL BE REPLACED IN KIND TO ITS ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE PROJECT ENGINEER AT CONTRACTOR'S EXPENSE.
10. INSTALL 5FT HIGH X 15FT WIDE SINGLE LEAF CHAIN-LINK GATE PER SPPWC 600-2, 2006 EDITION. CHAIN-LINK GATE SHALL BE 25FT AWAY FROM THE CURB OF THE DRIVEWAY APPROACH. INSTALL GATE LATCH PER DETAIL (D/5)
11. CONSTRUCT DRIVEWAY APPROACH PER SPPWC 110-1 (TYPE B) W=15', X=3', Y=4'

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JUL 13 2009
WATERSHED PROTECTION DISTRICT

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-10 CIVIL STATE OF CALIFORNIA

G	INCREASED PARAPET WALL HEIGHT TO 23".		07-09-09
F	ADDED BACKFILL NOTE.		06-29-09
E	TERMINATED WATER LINE PER CVE IMPROVEMENT PLANS.		06-29-09
D	ADDED GATE LATCH DETAIL CALLOUT.		06-29-09
C	TRANSITION STRUCTURE EXTENDED 2' IN ORDER TO MATCH FIELD CONDITIONS.		06-09-09
B	RELOCATED MH TO STATION 96+21.18. ADDED 4' SEGMENT OF 96" RCP AT STA. 96+11.18. JUNCT. STRUCT. MODIFIED TO 48.82'		06-03-09
A	ABANDON IN PLACE NOTE ADDED TO EX. 12" LATERAL @ STA. (94+89)		05-06-09
△	REVISION DESCRIPTION	APP.	DATE

Prepared by:
RJR ENGINEERING GROUP
Planning, Civil Engineering, Flood Control/Hydrology
Geotechnical, Engineering Geology, Water Resources, Environmental
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E-mail: rjr@rjreng.com
ROBERT W. ANDERSON C-58383 12-31-10 07-9-09
R.C.E. NO. EXP. DATE DATE

DESIGNED: RH	DRAWN: RH/JVF	CHECKED: RWA	
PROJ. ENG.		RECOMMENDED	
REG. NO.	DATE	APPROVED	

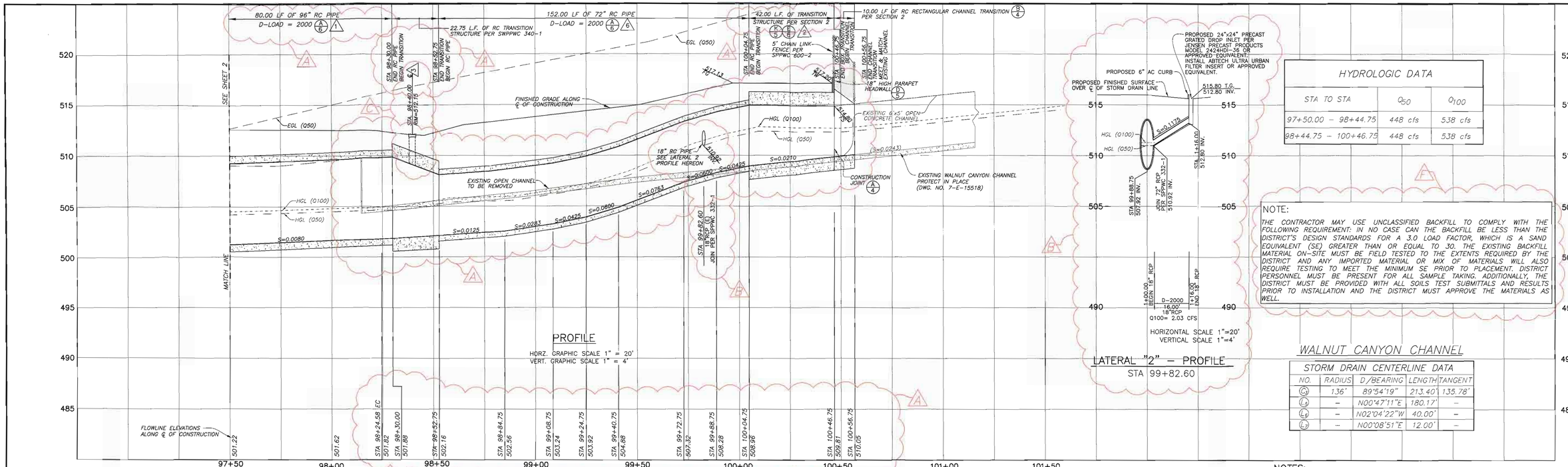
COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
PLAN AND PROFILE STA 93+37.18 TO STA 97+50.00

SHEET 2 OF 11
DRAWING NO. Y-3-4650

2008-0144



HYDROLOGIC DATA		
STA TO STA	Q_{50}	Q_{100}
97+50.00 – 98+44.75	448 cfs	538 cfs
98+44.75 – 100+46.75	448 cfs	538 cfs

NOTE:

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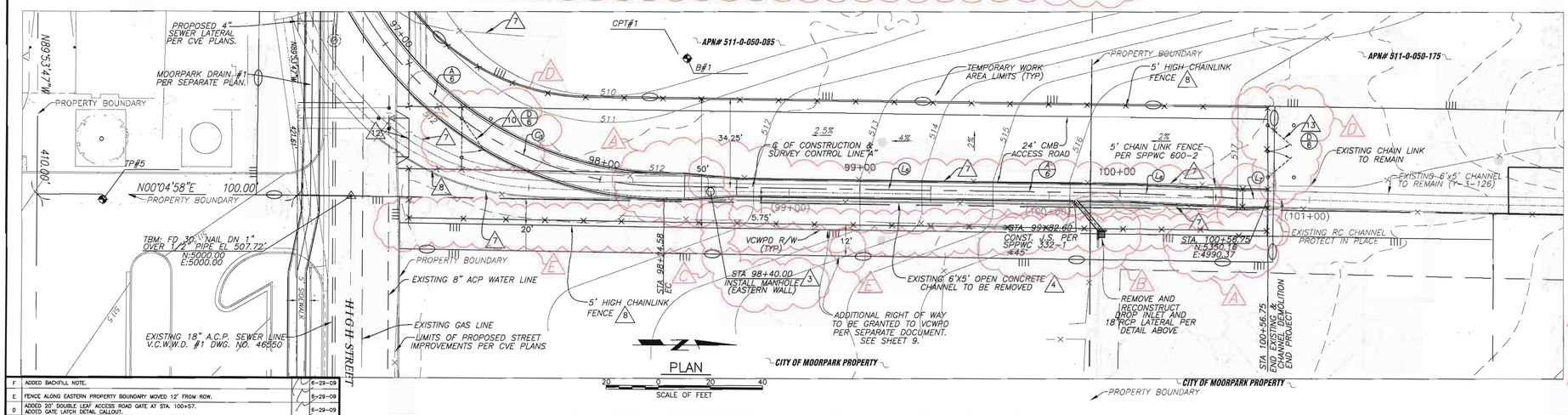
WALNUT CANYON CHANNEL

STORM DRAIN CENTERLINE DATA				
NO.	RADIUS	D/BEARING	LENGTH	TANGENT
(L4)	136'	89°54'19"	213.40'	135.78'
(L5)	–	N00°47'11"E	180.17'	–
(L6)	–	N02°04'22"W	40.00'	–
(L7)	–	N00°08'51"E	12.00'	–



NOTES:

1. INSTALL 96" REINFORCED CONCRETE PIPE WITH 1" OF INTERIOR CONCRETE LINING INSIDE DIAMETER OF PIPE PER VCWPD STANDARDS.
2. CONSTRUCT RCB TO RCP TRANSITION STRUCTURE PER SPPWC, 2006 EDITION, STD. PLAN 342-1.
3. MANHOLE SHAFT AND APPURTENANCES, AT STA. 96+21.18, AND 98+40.00 SHALL BE CONSTRUCTED PER STANDARD PLANS, SPPWC 324-1 WHERE MANHOLE SHAFT SHALL TAPER FROM DA = 48" TO 30". MANHOLE COVERS SHALL BE CAST WITH THE LETTERS "VCWPD". THE LETTERS SHALL BE 2 1/2" HIGH WITH 1/2" LINE WIDTH. MANHOLE COVERS SHALL ALSO HAVE A LIFTING SLOT IN ADDITION TO THE PICK HOLE. MANHOLE SHAFT CONNECTION RC STRUCTURE SHALL BE CONSTRUCTED PER STANDARD PLANS, SPPWC 322-1.
4. SAWCUT, REMOVE, AND DISPOSE OF EXISTING CONCRETE DRAINAGE CHANNEL FROM STA. 93+37.18 TO STA. 100+46.75. REPLACE WITH ENGINEERED FILL TO 90 (OR 95 AT ROAD SECTIONS) PERCENT, RELATIVE COMPACTION AT 1 TO 3 PERCENT OVER OPTIMUM SOIL-WATER CONTENT, UNLESS OTHERWISE SPECIFIED AS REQUIRING SPECIAL COMPACTION. (SEE RJR GEOTECHNICAL REPORT FOR ADDITIONAL RECOMMENDATIONS)
5. HIGH STREET IMPROVEMENTS PER SEPARATE PLANS.
6. INSTALL 72" REINFORCED CONCRETE PIPE WITH 1" OF INTERIOR CONCRETE LINING INSIDE DIAMETER OF PIPE PER VCWPD STANDARDS.
7. REMOVE AND DISPOSE OF INTERFERING CHAIN LINK FENCE AND GATES WITHIN THE RIGHT OF WAY.
8. INSTALL 5FT HIGH CHAIN-LINK FENCE WITH TOP RAIL PER SPPWC 600-2, 2006 EDITION.
9. EXISTING IMPROVEMENTS WITHIN THE RIGHT OF WAY AND WORK AREA LIMITS SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED. DAMAGED IMPROVEMENTS SHALL BE REPLACED IN KIND TO ITS ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE PROJECT ENGINEER AT CONTRACTOR'S EXPENSE.
10. INSTALL 5FT HIGH X 15FT WIDE SINGLE LEAF CHAIN-LINK GATE PER SPPWC 600-2, 2006 EDITION. INSTALL GATE LATCH PER (D/6)
11. CONSTRUCT CMB ACCESS ROAD PER (D/6)
12. CONSTRUCT DRIVEWAY APPROACH PER SPPWC 110-1 (TYPE B) W=18', X=3', Y=4'
13. INSTALL 5FT HIGH X 20FT WIDE DOUBLE LEAF CHAIN-LINK GATE PER SPPWC 600-2, 2006 EDITION. INSTALL GATE LATCH PER DETAIL (L/6)

F	ADDED BACKFILL NOTE.	6-29-09
E	FENCE ALONG EASTERN PROPERTY BOUNDARY MOVED 12' FROM ROW.	5-29-09
D	ADDED 20' DOUBLE LEAF ACCESS ROAD GATE AT STA. 100+57. ADDED GATE LATCH DETAIL CALLOUT.	6-29-09
C	MANHOLE AT 98+00 RELOCATED TO 98+40.	5-19-09
B	LATERAL "2" (18" RCP AND CATCH BASIN) DESIGN ADDED TO PLAN AND PROFILE.	4-21-08
A	ADDED ONE 8" (96" RCP) PIPE SECTION IMMEDIATELY SOUTH OF TRANSITION STRUCTURE (98+30). 72" IMPROVEMENTS ADJUSTED TO NORTH 8'. STATIONING AND ELEVATIONS BETWEEN 98+30 AND 100+56.78 ADJUSTED ACCORDINGLY. TRANSITION AT 100+04.75 WAS LENGTHENED FROM 40' TO 42'. ELEVATIONS AND STATIONS ADJUSTED ACCORDINGLY.	4-21-08
△	REVISION DESCRIPTION	APP. DATE

Prepared by:

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E-mail: rjr@rjreng.com
ROBERT W. ANDERSON C-58383 R.C.E. NO. 12-31-10 EXP. DATE 7-9-09 DATE

DESIGNED	RH	DRAWN	RH/JVF	CHECKED	RWA
PROJ. ENG.		DATE		RECOMMENDED	
REG. NO.				APPROVED	

COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

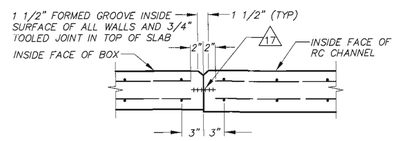
SPEC. NO.
PROJ. NO. 8B875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
PLAN AND PROFILE STA 97+50.00 TO STA 100+46.75

SHEET 3 OF 11
DRAWING NO. Y-3-4651

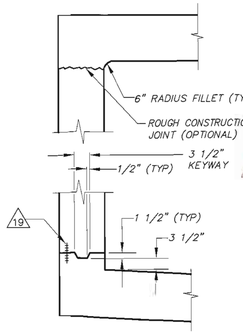
RECEIVED
JUL 13 2009
WATERSHED PROTECTION DISTRICT

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-10 CIVIL STATE OF CALIFORNIA



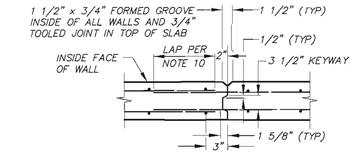
WALLS AND BOTTOM SLAB JOINING R.C. OPEN CHANNEL

TRANSVERSE



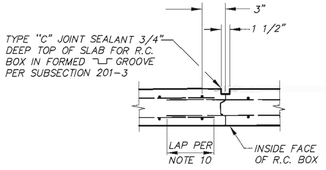
LONGITUDINAL

PARAPET – HEADWALL TABLE				
STATION	P	T_4	BAR NUMBER AND SPACING	
			J – BAR	K – BAR
93+47.18	23"	12"	#6 @ 8"	#6 @ 8"
100+36.75	18"	12"	#6 @ 8"	#6 @ 8"



WALLS AND BOTTOM SLAB

TRANSVERSE

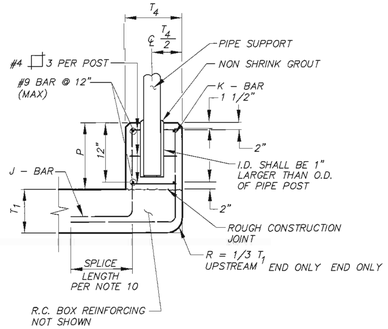


TOP SLAB

TRANSVERSE

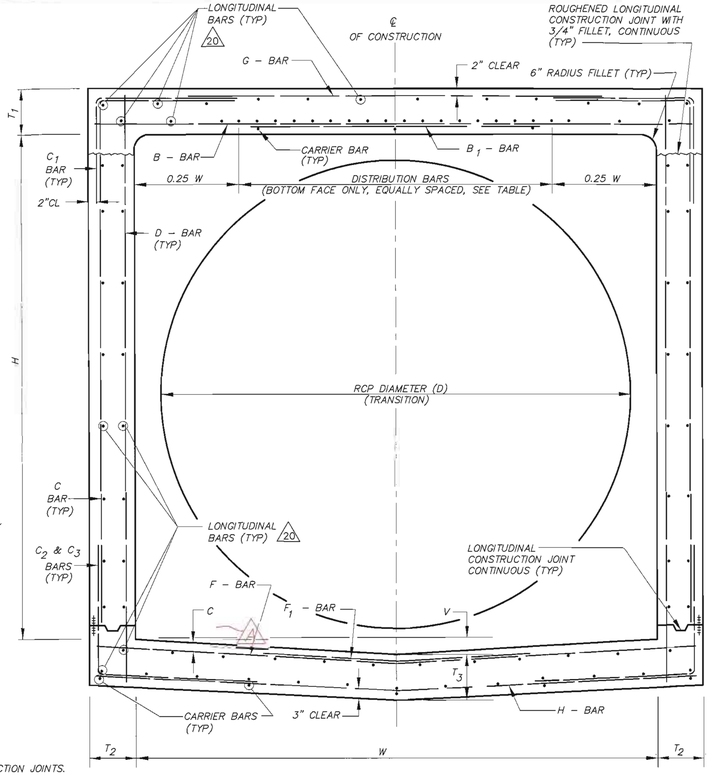
CONSTRUCTION JOINT DETAILS

NOT TO SCALE



PARAPET – HEADWALL DETAIL (D)

NOT TO SCALE



TYPICAL RC BOX CULVERT DETAIL (K)

NOT TO SCALE

RC BOX CONDUIT TABLE							
SECTION NUMBER		1	2	3	4	5	6
LIVE LOAD + IMPACT (KIPS)		42	42				
DESIGN COVER		1'–0"	1'–0"				
WIDTH	W	8'–0"	6'–0"				
HEIGHT	H	5'–0"	5'–0"				
RCP DIAMETER (TRANSITION)	D	96"	72"				
THICKNESS (INCHES) TOP SLAB	T_1	12.5	10				
THICKNESS (INCHES) SIDE WALL	T_2	12.5	10				
THICKNESS (INCHES) BOTTOM SLAB	T_3	12.5	11				
INVERT DROP	V	1.5"	1"				
STEEL CLEARANCE INVERT	C	3"	3"				
B BARS	BAR NO. & SPACING	#7 @ 18"	#5 @ 18"				
	LENGTH	10'–0.5"	7'–5"				
B_1 BARS	BAR NO. & SPACING	#8 @ 18"	#8 @ 18"				
	LENGTH	10'–0.5"	7'–5.5"				
C BARS	BAR NO. & SPACING	#4 @ 12"	#4 @ 12"				
	HORIZONTAL LENGTH	4'–2.2"	3'–4.5"				
	VERTICAL LENGTH	8'–5.5"	6'–3"				
C_1 BARS	BAR NO. & SPACING	#5 @ 12"	#4 @ 12"				
	HORIZONTAL LENGTH	2'–4"	1'–7.5"				
	VERTICAL LENGTH	2'–11"	1'–10"				
C_2 BARS	BAR NO. & SPACING	#5 @ 12"	#4 @ 12"				
	HORIZONTAL LENGTH	4'–0"	2'–11"				
	VERTICAL LENGTH	3'–3"	2'–11.5"				
C_3 BARS	BAR NO. & SPACING	N/A	N/A				
	HORIZONTAL LENGTH	N/A	N/A				
	VERTICAL LENGTH	N/A	N/A				
D BARS	BAR NO. & SPACING	#4 @ 12"	#4 @ 18"				
	LENGTH	9'–8.5"	7'–6.5"				
F BARS	BAR NO. & SPACING	#5 @ 16"	#4 @ 9"				
	LENGTH	9'–9"	7'–5"				
F_1 BARS	BAR NO. & SPACING	#4 @ 16"	#4 @ 12"				
	LENGTH	7'–2.5"	3'–5"				
G BARS	BAR NO. & SPACING	#4 @ 12"	#4 @ 12"				
	LENGTH	4'–7"	3'–0"				
H BARS	BAR NO. & SPACING	#4 @ 12"	#4 @ 12"				
	LENGTH	10'–0.5"	7'–5.5"				
DISTRIBUTION BARS	BAR NO.	4	4				
	NUMBER OF BARS	18	13				
NUMBER OF #4 LONGITUDINAL BARS	TOP SLAB	20	14				
	BOTTOM SLAB	15	12				
	SIDE WALLS	20	16				
TOTAL #4 LONGITUDINAL BARS		55	42				
#4 CARRIER BARS	TOP	4	4				
	BOTTOM	4	4				
CONCRETE QUANTITY: CY./LINEAR FT.		1.40	0.87				
STEEL QUANTITY: LBS./LINEAR FT.		206.66	148.27				

RC BOX CONDUIT LOCATION				
RC BOX SECTION NUMBER	STATION FROM	STATION TO	BARS TO BE ADJUSTED VERTICAL LEG	BARS TO BE ADJUSTED HORIZONTAL LEG
1	93+45.18	93+87.43	C	B, G, F, H
2	100+04.75	100+46.75	C	B, G, F, H

NOTE: ADDITIONAL 2' BAR LENGTH SHALL BE SPLICED AND LAPPED PER STRUCTURAL NOTE #10 HEREON.

STRUCTURAL NOTES

GENERAL:

1. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO THE NEAREST EDGE OF BAR AND SHALL BE TWO INCHES UNLESS OTHERWISE SHOWN.
2. CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIALLY) TO CENTERLINE OF CONDUIT ON THE PLAN UNLESS OTHERWISE SHOWN.
3. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE 2008 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318–08), SECTION 7.3.
4. PLACEMENT OF REINFORCING STEEL SHALL CONFORM TO THE 2005 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318–08), SECTION 7.5.
5. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30 INCHES OF MANHOLE OR JUNCTION STRUCTURE OPENINGS, OR SIDE INLETS UNLESS OTHERWISE SHOWN.
6. TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. ALL TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE SHOWN.
7. THE TRANSVERSE REINFORCING STEEL SHALL TERMINATE TWO INCHES FROM THE CONCRETE SURFACE UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DETAILS.
8. EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED.
9. NO SPLICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN AS SHOWN ON THE DRAWINGS WITHOUT APPROVAL FROM THE ENGINEER. NO MORE THAN ONE SPLICE WILL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED.
10. ALL SPLICES SHALL CONFORM TO THE 2005 EDITION OF THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318–08), SECTION 12.15. ALL STEEL SHALL BE LAPPED USING THE FOLLOWING TABLE (CLASS B SPLICES):

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18
LENGTH OF LAP SPLICE	25"	31"	37"	62"	81"	103"	130"	160"	TENSION LAP SPLICING NOT PERMITTED	

THE LAP LENGTH SHALL BE BASED ON THE SMALLER SIZE BAR.

ADDITIONAL NOTES FOR RC TRANSITION SECTION:

11. LONGITUDINAL STEEL SHALL BE CONTINUOUS AND EXTENDED THROUGH ALL CONSTRUCTION JOINTS.
12. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, TRANSVERSE JOINT KEYWAYS (IN BOTH SLABS AND WALLS), SHALL BE PLACED AT THE END OF EACH POUR, BUT THE SPACING THEREOF SHALL NOT EXCEED 50 FEET OR BE LESS THAN 10 FEET.
13. UNLESS OTHERWISE SHOWN ON THE DETAILS, IN CURVED SECTIONS, TRANSVERSE BARS SHALL BE PLACED RADIALLY. STRAIGHT TRANSVERSE BARS IN TOP AND BOTTOM SLABS SHALL BE PLACED AS SHOWN ON THE TYPICAL SECTIONS, SPACING SHALL BE AT THE CENTERLINE OF CONSTRUCTION FOR SINGLE–BARREL BOXES, UNLESS OTHERWISE NOTED. STRAIGHT BARS AND L–BARS IN WALLS SHALL BE SPACED AS SHOWN ON TYPICAL SECTIONS, WITH THE SPACING MEASURED BETWEEN THE VERTICAL LEGS OF BARS.
14. AT THE BEGINNING AND END OF ALL POURS, A CURTAIN OF REINFORCEMENT COMPOSED OF B, C, C_2, D, F, G, AND H BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT.
15. THE VERTICAL WALL STEEL IN THE INTERIOR WALLS AND IN THE INTERIOR FACE OF EXTERIOR WALLS MAY BE SPLICED AT THE CONSTRUCTION JOINT AT THE BASE OF THE WALL. THE LAP SPLICE SHALL BE ACCORDANCE WITH THE TABLE UNDER GENERAL NOTE 10.
16. IN ALL SECTIONS, LAP C AND C_2 BARS, THE VERTICAL LENGTH OF C AND C_2 BARS HAS BEEN CALCULATED FOR A 3 1/2" STARTER WALL. IF THE HEIGHT OF THE STARTER WALL VARIES, THE VERTICAL LENGTH OF THE C AND C BARS SHALL BE VARIED CORRESPONDINGLY, SO AS TO MAINTAIN THE REQUIRED LAP SPLICE BETWEEN THE TWO BARS IN ACCORDANCE WITH THE TABLE UNDER GENERAL NOTE 10. THE LENGTH OF THE LAPS SHALL BE BASED ON THE SMALLER BAR.
17. TRANSVERSE WALL JOINTS SHALL HAVE A 4" POLYVINYL CHLORIDE WATERSTOP (SPLIT RIBBED CENTER BULB TYPE) WHICH SHALL BE CONTECH VINYLSTOP NO. 431S, BURKE VINYLOK WATERSTOP R.S.B. 316–4, OR AN APPROVED EQUAL.
18. DRILL A ONE INCH DIAMETER HOLE AND INJECT AN APPROVED NON–SHRINK GROUT INTO THE HOLE PRIOR TO PLACEMENT OF THE BAR
19. THE LONGITUDINAL WALL JOINTS SHALL HAVE A 4" POLYVINYL CHLORIDE WATERSTOP (RIBBED TYPE) WHICH SHALL BE BURKE VINYLOK WATERSTOP R.316–4, WATER SEALS INC. FLEXSTRIP OR AN APPROVED EQUAL. THE WATERSTOP SHALL BE TIED TO THE OUTSIDE OF THE REINFORCING STEEL AT THE TOP AND BOTTOM WITH ONE PIECE OF WIRE AT APPROXIMATELY 1'–0" SPACING, PUNCHING SHALL NOT BE ALLOWED. THE WATERSTOP SHALL BE CONTINUOUS FOR EACH WALL SECTION.
20. TWO LONGITUDINAL BARS SHALL BE PLACED AT EACH CORNER LOCATION. AS SHOWN ON THE DETAIL. THE REMAINING LONGITUDINAL BARS SHALL BE EQUALLY SPACED BETWEEN THE CORNER BARS WITH A MAXIMUM SPACING OF 18 INCHES IN EACH FACE OF THE SLABS AND WALLS AND NEED NOT CORRESPOND TO THE NUMBER OR LOCATION SHOWN ON THE DETAIL SEE THE TABLE FOR LONGITUDINAL BAR TOTALS.
21. STATIONS ARE MEASURED RADIALLY FROM SURVEY CONTROL LINE TO THE CENTER LINE OF RC BOX.

DESIGN DATA

LIVE LOAD

SEE RC BOX CONDUIT TABLE HEREON
HS20–44 + 30% IMPACT

LATERAL LOAD

EARTHSIDE = 78.0 psf (EFP)
INTERNAL WATER PRESSURE = 62.5 psf

DEAD LOAD

WEIGHT OF EARTH = 125 pcf
WEIGHT OF CONCRETE = 150 pcf

ALLOWABLE STRESSES

f'_c = 4,000 psi
f_c = 1,800 psi
f_s = 24,000 psi
n = 8
SHEAR AND BOND STRESS PER A.C.I. 318–05

RECEIVED
JUL 13 2009
WATERSHED PROTECTION DISTRICT

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C–058383 EXP. 12–31–10 CIVIL STATE OF CALIFORNIA

PLOT DATE: 7/9/09

SAVE DATE: 7/9/09 Z:\ACTIVE RJR PROJECTS\ACTIVE_PROJECTS\1487_CITY OF MOORPARK_HIGH ST. DRAIN\CIVIL\IMPROVEMENT\WORKING FOLDER\SHEET 5_7-9-09.DWG

NO.	REVISION	DESCRIPTION	APP.	DATE
D				
C				
B	ADJUSTED DOWNSTREAM PARAPET WALL HEIGHT "P" TO 23"			7-9-09
A	ADJUSTED STATIONING TO MATCH TRANSITION STRUCTURE REVISIONS ON SHTS. 2&3. NO TRANSITIONS EXTENDED TO 45°. ADDED SPLICING NOTE.			6-11-09
△				

Prepared by: RJR ENGINEERING GROUP
Planning Civil Engineering Flood Control/Hydrology
Geotechnical Engineering Geology Water Resources Environmental
1906 Palma Drive, Suite J, Ventura, CA 93003
(805) 659-5125 (805) 580-5123 FAX
Email: rjr@rjreng.com
ROBERT W. ANDERSON C–058383 12–31–10 07–9–09
R.C.E. NO. EXP. DATE DATE

DESIGNED RH	DRAWN RH/JVF	CHECKED RWA
PROJ. ENG.		RECOMMENDED
REG. NO.	DATE	APPROVED

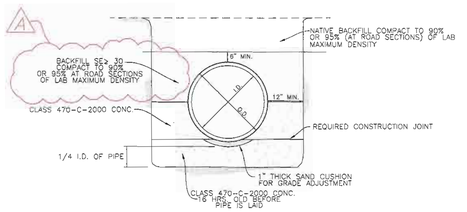
COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO. –
PROJ. NO. 89875

WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET

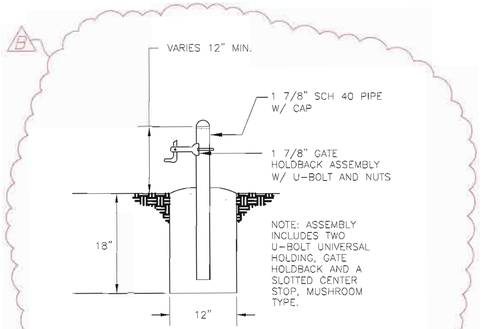
RC TRANSITION (RCP TO RCB) STRUCTURAL DETAILS

SHEET 5 OF 11
DRAWING NO. Y–3–4653

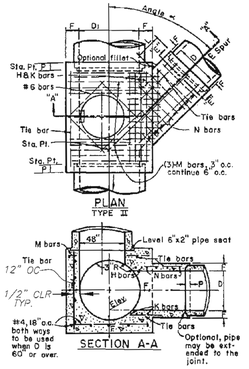


*NOTE: LOAD FACTOR=3.0, LOADING TYPE=3, & CLASS IV (2000 lbs.) PIPE PER ASTM C-76

A — REINFORCED CONCRETE PIPE–TYPE 3 INSTALLATION
NTS



D — GATE LATCH DETAIL
NTS

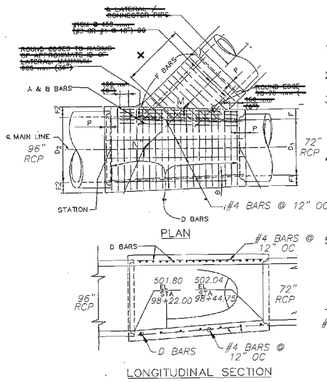


D_1	D	∠I	F_{96}	F_{60}	L	H&K	M&N	P
96"	60"	23.24°	14"	10"	12"	#7 3" O.C.	#7 3" O.C.	6"

CONSTRUCTION NOTES:

1. JUNCTION STRUCTURE SHALL BE POURED IN ONE CONTINUOUS OPERATION, EXCEPT THAT THE CONTRACTOR SHALL HAVE THE OPTION OF PLACING, AT THE SPRING LINE, A CONSTRUCTION JOINT WITH LONGITUDINAL KEYWAY.
2. FLOOR OF JUNCTION STRUCTURE SHALL BE STEEL TROWELLED TO SPRING LINE.
3. REINFORCING STEEL TO BE 1 1/2" CLEAR FROM INSIDE FACE OF CONCRETE, UNLESS OTHERWISE SPECIFIED.
4. EXTENSION OF CENTERLINE OF INLET PIPE SHALL INTERSECT INSIDE FACE OF CONCRETE AT SPRING LINE, UNLESS OTHERWISE SPECIFIED.
5. TIE BARS SHALL BE #4 BARS, 18" O.C. MINIMUM.
6. ALL CONSTRUCTION IS SUBJECT TO CONDITIONS OF THE STANDARD SPECIFICATION.
7. SEE VCWPD STANDARD DRAWING NO. 5 FOR MANHOLE SHAFT DETAILS.
8. STEPS SHALL BE CONSTRUCTED PER VCWPD STANDARD DRAWING NO. 5 OR APPROVED EQUAL.

F — JUNCTION STRUCTURE – TYPE II VCWPD STANDARD DETAIL #2
NTS



CONSTRUCTION NOTES:

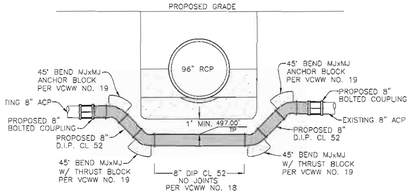
1. THE HORIZONTAL ANGLE OF CONVERGENCE OR DIVERGENCE, θ, SHALL NOT EXCEED 5°45'.
2. FLOOR OF STRUCTURE SHALL BE STEEL TROWELLED TO SPRING LINE.
3. THE TRANSITION STRUCTURE SHALL BE POURED IN ONE CONTINUOUS OPERATION, EXCEPT THAT THE CONTRACTOR SHALL HAVE THE OPTION OF PLACING AT THE SPRING LINE A CONSTRUCTION JOINT LONGITUDINAL KEYWAY.
4. THE LENGTH OF THE STRUCTURE MAY BE INCREASED AT THE OPTION OF THE CONTRACTOR TO MEET RCP ENDS. USING D BARS, LONGITUDINAL AND BOTTOM REINFORCEMENT IN EXTENDED PORTION OF SAME DIAMETER AND SPACING AS SPECIFIED IN THE TABLE, BUT ANY CHANGE IN THE LOCATION OF SPUR MUST BE APPROVED BY THE ENGINEER.
5. NO LATERAL OCCURS, A AND B BARS SHALL BE OMITTED.

D BAR SCHEDULE

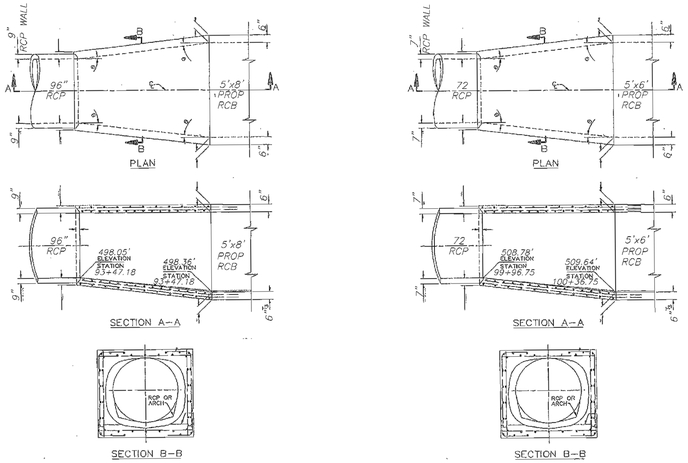
#6 BARS @ 6" OC

D_1	D_2	F_1	F_2	P
72"	96"	16"	16"	6"

H — TRANSITION STRUCTURE – PIPE TO PIPE (SPPWC STANDARD DETAIL 340–1)
NTS



B — WATER LINE CROSSING
NTS



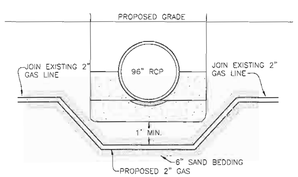
STA 93+47.18
96" RCP TO 5'x8' RCB

STA 100+36.75
72" RCP TO 5'x6' RCB

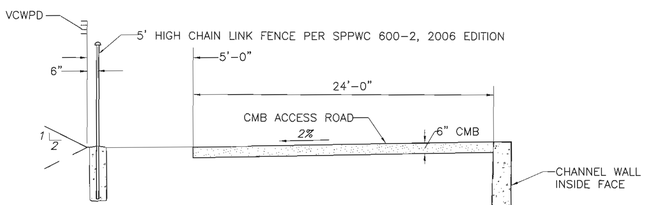
CONSTRUCTION NOTES:

1. THE HORIZONTAL ANGLE OF DIVERGENCE OR CONVERGENCE, θ, SHALL NOT EXCEED 5°45'.
2. THE INTERIOR SURFACE SHALL BE SMOOTH AND VARY UNIFORMLY BETWEEN THE TWO ADJOINING SECTIONS.
3. ALL POURED IN PLACE CONCRETE SHALL BE (4000 PSI) AT 28 DAYS AND THE CONCRETE, SHALL HAVE TYPE II/V PORTLAND CEMENT WITH W/C=0.45, AND SHALL BE THE SAME MIX AS THE ADJACENT RCB.
4. KEYED CONSTRUCTION JOINTS OF THE SAME DIMENSIONS AS THOSE OF THE RCB OR ARCH SECTION MAY BE CARRIED THROUGH THE TRANSITION STRUCTURE AT THE CONTRACTOR'S OPTION. SEE SECTION B–B.
5. REINFORCING STEEL BAR SIZES, SPACING, CONFIGURATION, CLEAR COVER, CONCRETE WALL THICKNESSES SHALL BE PER DETAIL K/5

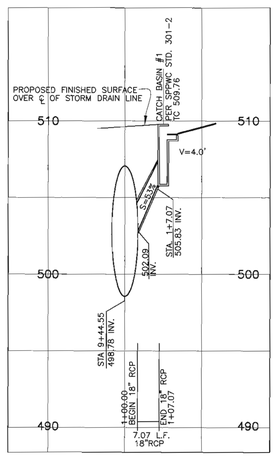
E — TRANSITION STRUCTURE (SPPWC DETAIL 342–1)
NTS



C — GAS LINE CROSSING
NTS



CMB ACCESS ROAD DETAIL
NOT TO SCALE — L



HORIZONTAL SCALE 1"=20'
VERTICAL SCALE 1"=4'

LATERAL "1" – PROFILE

RECEIVED
JUL 1 8 2009
WATERSHED PROTECTION DISTRICT

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-10 CIVIL STATE OF CALIFORNIA

REVISION	DESCRIPTION	APP.	DATE
D			
C			
B	ADDED GATE LATCH DETAIL.		6-29-09
A	REVISED BACKFILL SAND TO SE ≥30.		6-29-09
△			

Prepared by:

RJR ENGINEERING GROUP
Planning/Civil Engineering/Land Control/Hydrology
Geotechnical/Structural Engineering/Geologic/Water Resources/Environmental
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E-mail: rjr@rjreng.com

ROBERT W. ANDERSON — C-58383 — 12-31-10 — 08-29-08
R.C.E. NO. — EXP. DATE — DATE

DESIGNED RH	DRAWN RH/JVF	CHECKED RWA	
PROJ. ENG.		RECOMMENDED	
REG. NO.	DATE	APPROVED	

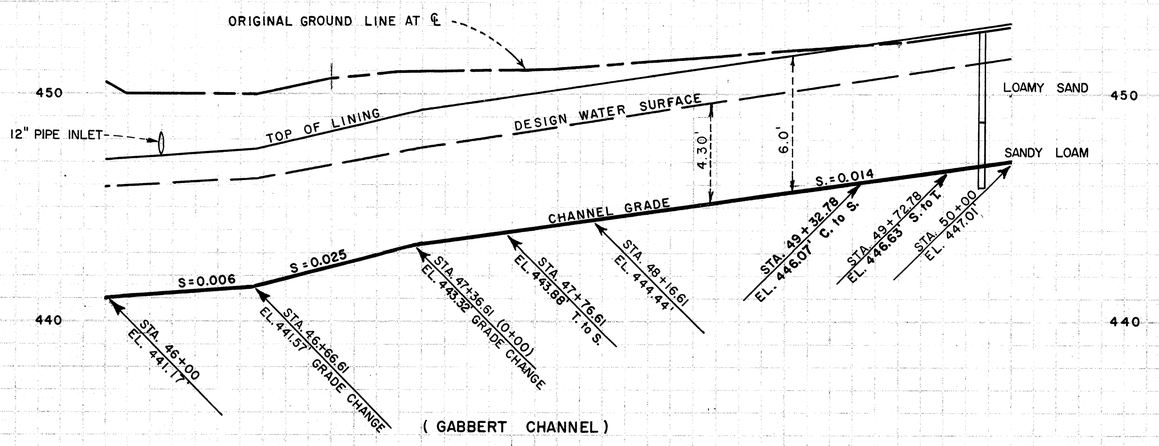
COUNTY OF VENTURA - PUBLIC WORKS AGENCY
VENTURA COUNTY WATERSHED PROTECTION DISTRICT

SPEC. NO.
PROJ. NO. 88875

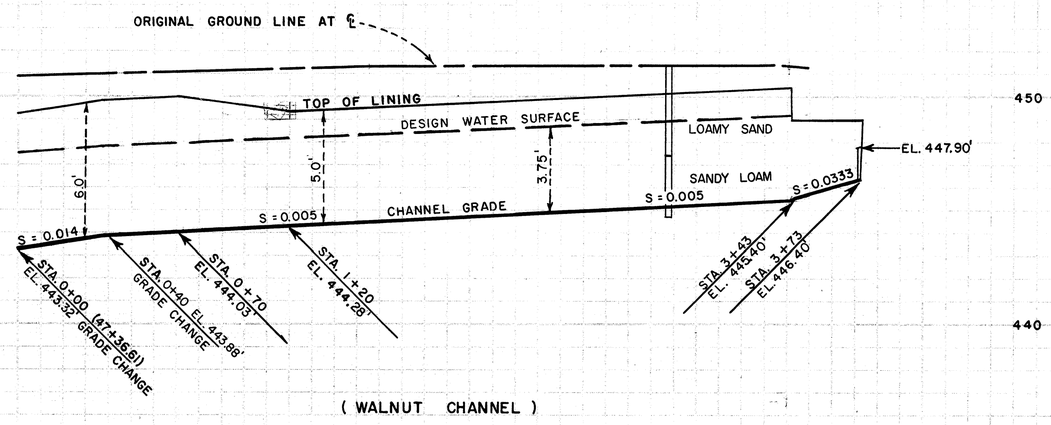
WALNUT CANYON CHANNEL IMPROVEMENTS AT HIGH STREET
MISCELLANEOUS DETAILS AND LATERAL '1'

SHEET 6 OF 11
DRAWING NO. Y-3-4654

21-492

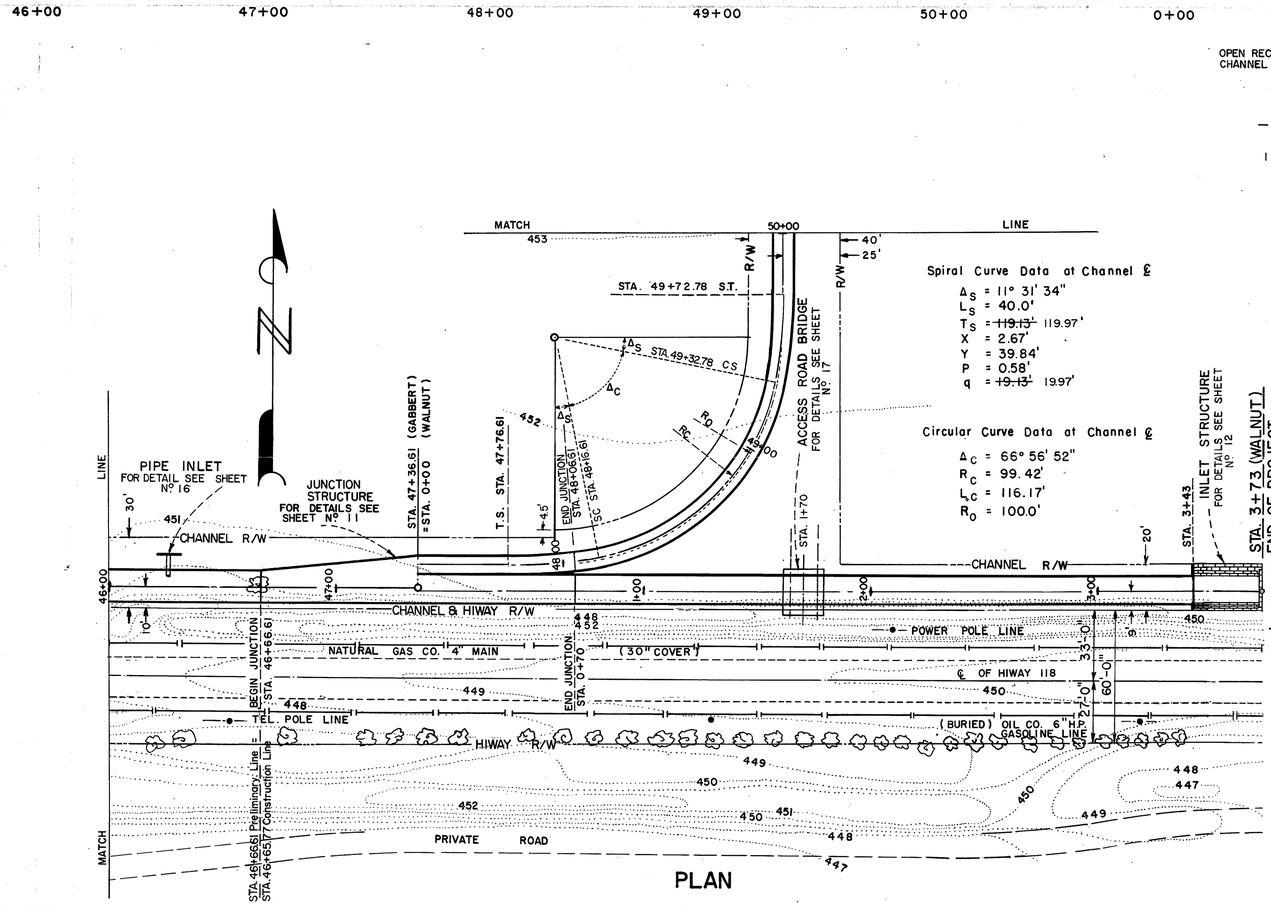


(GABBERT CHANNEL)

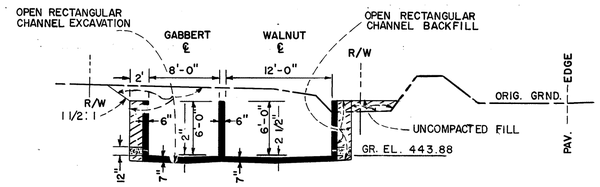


(WALNUT CHANNEL)

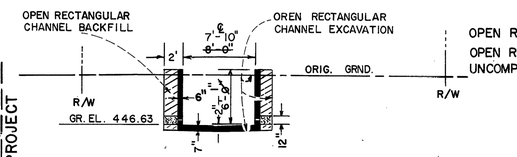
PROFILE



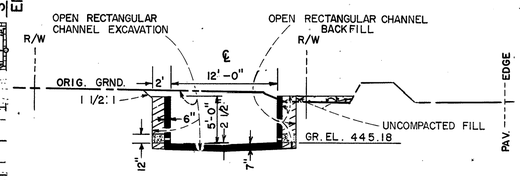
PLAN



SECTION AT STA. 47+76.61 = STA. 0+40



SECTION AT STA. 49+72.78
(GABBERT)



SECTION AT 3+00
(WALNUT)

EARTHWORK QUANTITIES

OPEN RECTANGULAR CHANNEL EXCAVATION	3,035 CU. YDS.
OPEN RECTANGULAR CHANNEL BACKFILL	347 CU. YDS.
UNCOMPACTED FILL	115 CU. YDS.

"AS CONSTRUCTED"

APPROVED: VENTURA COUNTY FLOOD CONTROL DISTRICT
BY C. White
ENGINEER-MANAGER

GABBERT CANYON CHANNEL
PLAN, PROFILE & SECTIONS
STA. 46+00 TO STA. 50+00
CALLEGUAS CREEK W.P.P.
SIMI VALLEY & CALLEGUAS S.C. DISTRICTS, CALIFORNIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

		Date
Designed	MAT	3/58
Drawn	LLC	4/58
Traced	LLC	6/58
Checked	CFB JKM	1/59

Approved by: Frank Tickner
Title for STATE CONSERVATION ENGINEER
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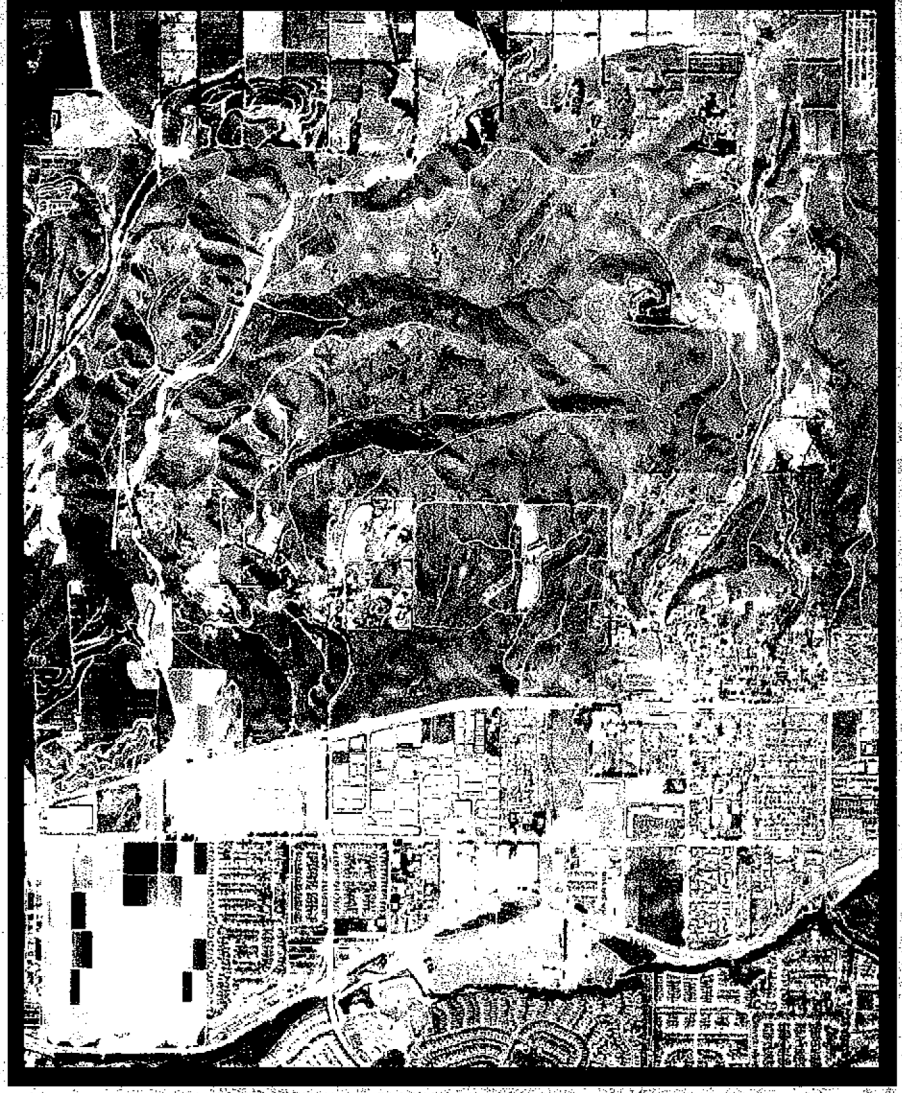
Ventura County Public Works Agency Page 529 of 865

APPENDIX 9

Previous Studies

- Walnut and Gabbert Canyon Channel Flood Deficiency Study [RBF, 1997]
- Technical Addendum to Walnut and Gabbert Canyon Channel Flood Deficiency Study (Regional Master Plan) [2005, PACE]
- Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed [2009, PACE]

Regional Watershed Investigation



GABBERT AND WALNUT CANYON CHANNELS FLOOD CONTROL DEFICIENCY STUDY

March 1997

Prepared For:

Ventura County Flood Control District
800 South Victoria Avenue
Ventura, CA 93009-1600

Prepared By:

ROBERT BEIN, WILLIAM FROST & ASSOCIATES
PROFESSIONAL ENGINEERS, PLANNERS & SURVEYORS

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Regional Watershed Investigation

GABBERT AND WALNUT CANYON CHANNELS • FLOOD CONTROL DEFICIENCY STUDY

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draft

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Ventura County Flood Control District
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Executive Summary

The existing 1.5 miles of Gabbert Canyon Channel and 2.5 miles of Walnut Canyon Channel, located in the City of Moorpark, consist primarily of improved concrete channels which were originally constructed by the Soil Conservation Service (SCS) between 1959 and 1962. These facilities collect and convey storm runoff to the Arroyo Simi from a total tributary watershed drainage of 6.91 square miles. Comparison of the existing hydraulic capacities for the flood control channel sections to the estimated runoff quantities indicates that the channels cannot provide the desired level of flood protection. The limited hydraulic conveyance capacity of the existing channel system results in the flood protection deficiency and is documented on the current Flood Insurance Rate Map (FIRM) for the City of Moorpark. The existing hydraulic capacities can only provide conveyance which correspond to equivalent return periods as low as 5-years, depending upon the location. This report presents a comprehensive engineering investigation of the hydraulic deficiencies associated with this regional flood control channel system. The primary objective of the study is to develop and evaluate alternative drainage improvements and stormwater management measures that provide: (1) the necessary level of flood protection, (2) compatibility with existing and future landuse, (3) provide the maximum public benefit for least costs, (4) minimize impact to existing facilities, (5) elimination of the hydraulic deficiencies, and (6) identify minimum drainage requirements for future development within the watershed. The intent of this document is to develop a conceptual design for a recommended system of comprehensive stormwater management measures which will provide the watershed planning framework to allow implementation of the regional flood control improvements and continued development within the watershed.

What is the difference of (4) & (2) ?

Various combinations of individual storage and conveyance oriented flood control elements were integrated into comprehensive system which would provide the required level of flood protection. The conveyance system improvements included: (1) increasing the hydraulic capacity of the existing channel section through either reconstruction to enlarge the section or extending wall heights, (2) construction of a channel diversion systems to split a portion of the flow, (3) removal of hydraulic restrictions, and (4) channel outlet relocation and reconstruction. The conveyance oriented improvements primarily involved modifications to the existing channel sections in order to minimize acquisition of ~~significant~~ additional right-of-way. The flood control storage alternatives included both on-line and off-line gravity operated stormwater detention basins. The detention basins also incorporated requirements for debris storage ~~facilities~~. Detention basin configurations and locations were developed to maximize available storage volume while minimizing impact to property. Another primary consideration which limited the size of the flood control storage facilities was to ensure that the detention were not ~~within~~ the jurisdiction of the California Division of Safety of Dams (DSOD).

so large as to fall in

maximize the overall drainage system capacity with

The proposed correction of the flood control deficiency must be evaluated on a watershed basis through the application of a systems approach since the various drainage elements have a combined impact on the channel. The feasibility evaluation resulted in screening the available channel "system" alternatives to a maximum of eight for detailed consideration, from a total of ninety-eight which were developed in the plan formulation. The objective was to optimize the effectiveness of the system

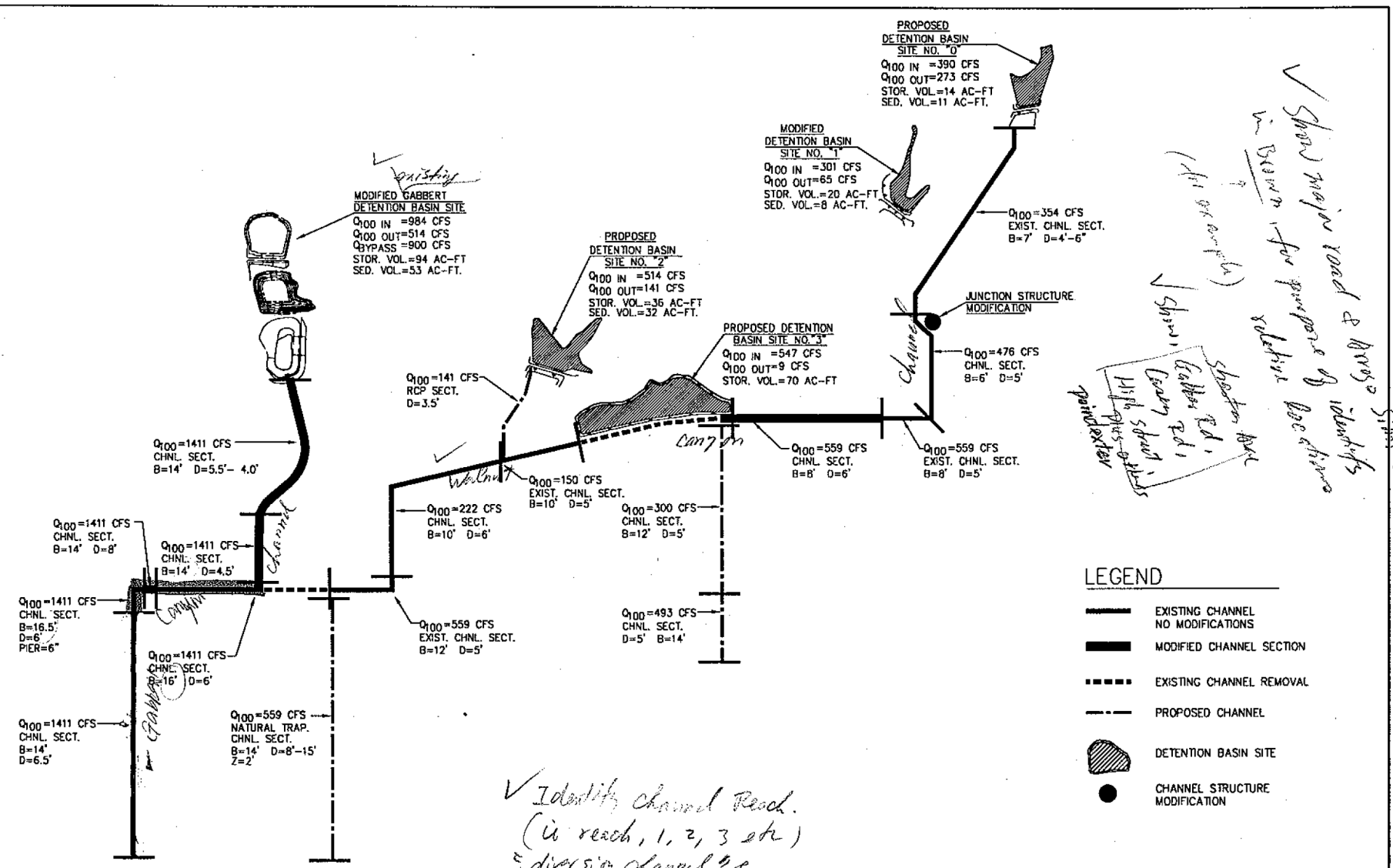
through incorporating the existing facilities into the recommended program to the maximum extent possible. The primary components associated with each of the eight channel "system" alternatives are indicated in the *Table E.1 - Summary Description of Alternative Channel Systems*. All alternatives have some similar required construction elements which include: (1) modification of Gabbert Canyon Debris Basin to provide detention storage, (2) additional detention basins located upstream at the headworks of Walnut Canyon, adjacent to Gabbert Road, and upstream of Casey Road, (3) channel reconstruction for the 1,900 feet portion of Walnut Canyon Channel upstream of High Street, and (4) all systems require improvement of 2,655- feet Gabbert Canyon Channel between the Walnut Channel confluence and the existing Gabbert Debris Basin. In addition to these elements, the alternatives evaluated various combinations of additional detention basins, diversion systems, or relocated channel outlets to the Arroyo Simi.

(See Exhibit 1 Alt B for relative locations)

Table E.1 - Summary Description of Alternative Channel Systems

Alt. No.	Gabbert Basin Modification	Additional Detention Basins	Gabbert Channel Reaches	Walnut Channel Reaches	Diversion Channel System	Channel Outlet Relocation
A	Improved to 94 ~~AF~~ ac-ft Detention Storage	0,1,2,3 (V_{total} = 140 AF)	1,2,3	2	300 cfs	Gabbert & Walnut
B	Improved to 94 ~~AF~~ Detention Storage	0,1,2,3 (V_{total} = 140 AF)	1,2,3	2	300 cfs	Walnut
C	Improved to 94 ~~AF~~ Detention Storage	0,1,2,3 (V_{total} = 140 AF)	Entire Channel	2	300 cfs	None
D	Improved to 94 ~~AF~~ Detention Storage	0,1,2,5 (V_{total} = 380 AF)	1,2,3	2	None	Gabbert & Walnut
E	Improved to 94 ~~AF~~ Detention Storage	0,1,2,5 (V_{total} = 380 AF)	1,2,3	2	None	Walnut
F	Improved to 94 ~~AF~~ Detention Storage	0,1,2,5 (V_{total} = 380 AF)	Entire Channel	2	None	None
G	Improved to 94 ~~AF~~ Detention Storage	0,1,2,4 (V_{total} = 295 AF)	1,2,3	2	100 cfs	Gabbert & Walnut
H	Improved to 94 ~~AF~~ Detention Storage	0,1,2,4 (V_{total} = 295 AF)	1,2,3	2	100 cfs	Walnut

The total construction costs for each of the alternative drainage "systems" was estimated including land acquisition requirements. These costs provide the primary basis for selection of the recommended drainage "system", however there are issues related to land acquisition which should be resolved before finalizing the project design. The summary of the various cost elements with and without right-of-way are indicated in the following *Table E.2 Summary of Alternative System Construction Costs*. It appears that of all the eight alternatives that Alternative "B" is the least-cost



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WALNUT/GABBERT CANYON

ALTERNATIVE NO. B
SCHEMATIC MAP

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alternative, subject to more detailed estimates. If land acquisition costs are not included in the total costs then Alternative "E" becomes the recommended solution since the diversion system is replaced by a diversion detention basin that satisfies the same condition. It is tentatively recommended that **Alternative "B" become the selected solution**. This alternative includes (1) relocating the Walnut Canyon Channel outlet while continuing to utilize the existing Gabbert Canyon Channel outlet, (2) only improving one channel reach on both Gabbert and Walnut Canyon channels, (3) an underground diversion system adjacent to Shasta Avenue, and (4) a "offline" detention basin parallel to Poindexter Avenue. This alternative has one of the minimum land acquisition requirements and it appears to have a high degree of feasibility while compatible with the adjacent property owners.

Table No. E.2 - Summary of Alternative Systems Construction Costs
(Cost in thousand of dollars)

Alt	Detention Basins			Divert Chann	Walnut Chann	Gabbert Chann	Outlet Chann	Capital Cost Subtotal	R/W	**Total Costs**
	0,1,2	3,4,5	Gabbert (Alt. B)							
A	$1,369	$618	$3,276	$2,300	$132	$2,179	$558	**$13,255**	$1,221	**$14,476**
*B	$1,369	$618	$3,276	$2,300	$132	$1,079	$350	**$11,674**	$1,194	**$12,868**
C	$1,369	$618	$3,276	$2,300	$132	$2,752	----------	**$13,358**	$1,033	**$14,391**
D	$1,369	$2,259	$3,276	--------	$132	$2,179	$558	**$12,349**	$2,329	**$14,678**
E	$1,369	$2,259	$3,276	--------	$132	$1,079	$350	**$10,815**	$2,300	**$13,116**
F	$1,369	$2,259	$3,276	$751	$132	$2,752	---------	**$11,881**	$2,140	**$14,021**
G	$1,369	$1,668	$3,276	$751	$132	$2,179	$558	**$12,556**	$1,976	**$14,532**
H	$1,369	$1,668	$3,276	$751	$132	$1,079	$350	**$11,023**	$1,948	**$12,971**

* Recommended alternative

Section 1—Introduction

1.1 Project Description

Gabbert and Walnut Canyon Channels are existing improved concrete flood control channels which provide regional flood protection for the City of Moorpark. The existing 1.5 miles of Gabbert Canyon Channel and 2.5 miles of Walnut Canyon Channel are regional flood control channels or "red line" facilities maintained by the Ventura County Flood Control District which the majority were originally constructed by the Soil Conservation Service (SCS) between 1959 and 1962. These facilities collect and convey storm runoff to the Arroyo Simi from a total tributary watershed drainage of 6.91 square miles which has a significant portion that is not developed. The channel systems provide a significant flood protection benefit through a horizontal alignment which results in intercepting the drainage from the mouth of several large canyons and would have resulted in uncontrolled flooding. Comparison of the existing hydraulic capacities for the flood control channel sections to the estimated runoff quantities indicates that the channels cannot provide the desired level of flood protection. The limited hydraulic conveyance capacity of the existing channel system results in the flood protection deficiency and is documented on the current Flood Insurance Rate Map (FIRM) for the City of Moorpark. The existing hydraulic capacities can only provide conveyance which correspond to equivalent return periods as low as 5-years, depending upon the location.

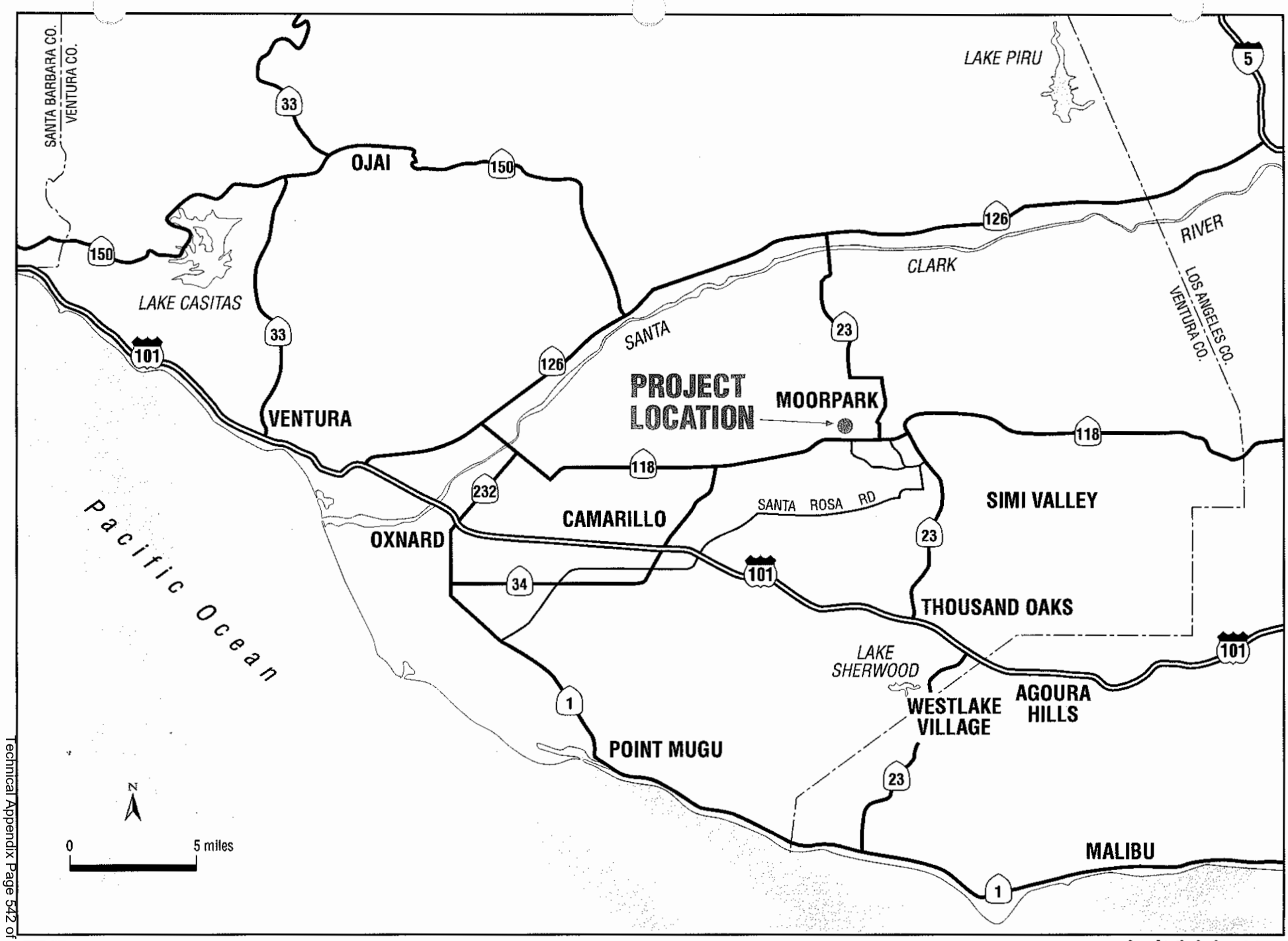
Potential regional drainage improvements to provide the required level of flood protection include combinations of (1) channel reconstruction, (2) detention basins, (3) debris basin, (4) diversion systems, and (5) channel relocation. Future development within the upper watershed and directly adjacent to the channel could limit the possible corrective measures if a comprehensive drainage plan is not provided to assist in the watershed planning.

1.2 Study Objective

The purpose of this investigation is to identify the existing channel hydraulic deficiencies and develop a conceptual recommended "watershed plan" which will provide the desired level of flood protection. This study investigates the feasibility of implementing various combinations of conveyance and storage oriented facilities within the watershed. The recommended drainage "system" improvements must satisfy both the technical and the economic goals of the project. The project has identified the following key objectives in the development of an implementable watershed masterplan:

1. Evaluate the existing hydraulic capacity of the existing channel systems and determine the magnitude of the hydraulic deficiency with respect to the existing watershed peak flowrates.

2. Analyze various "drainage system" alternatives composed of channel improvements or detention storage facilities that will allow the channel to safely convey the project design discharge.



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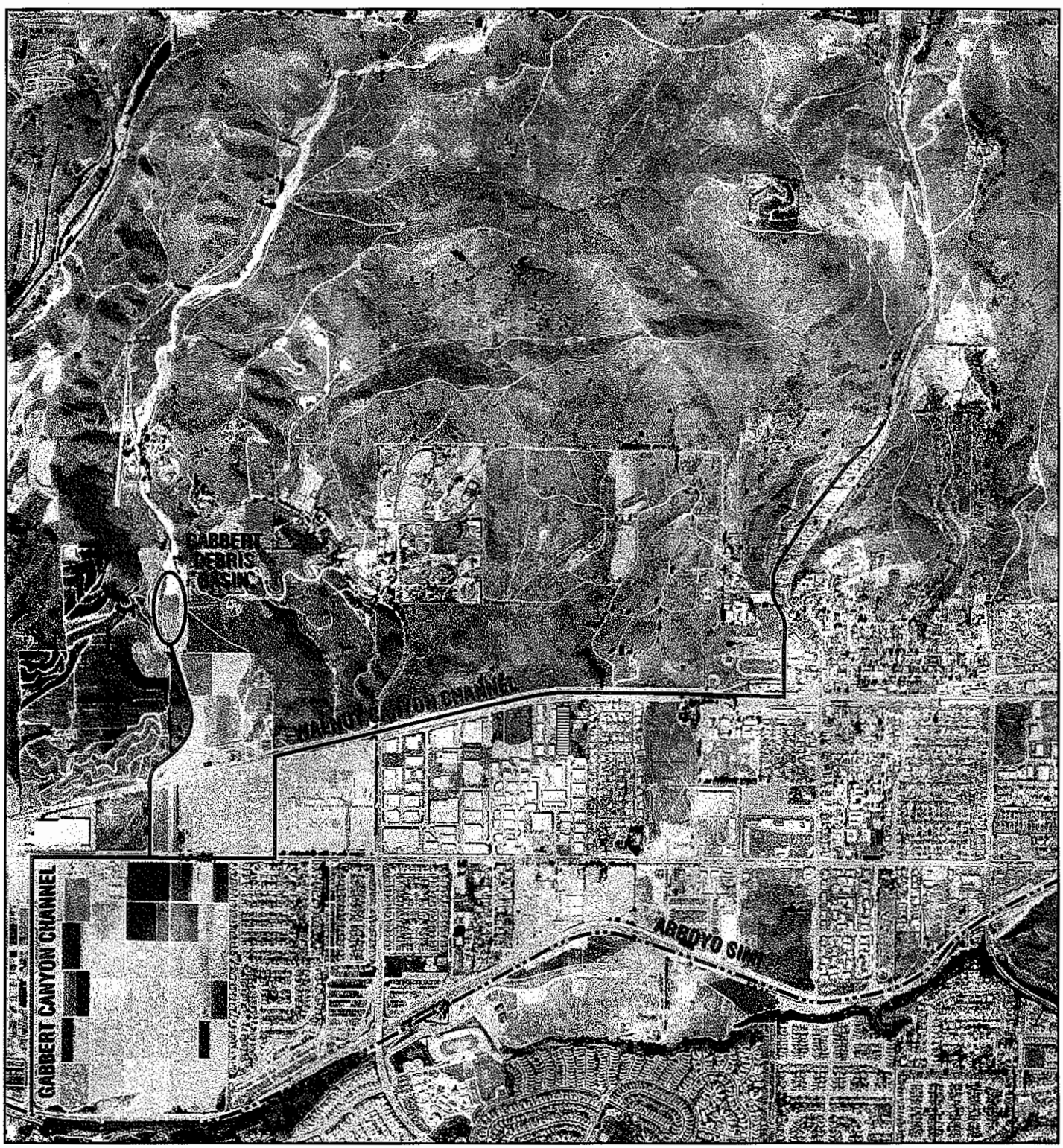
Regoinal Vicinity Map

Gabbert and Walnut Canyon Channels



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Watershed Regional Aerial Photograph

Gabbert and Walnut Canyon Channels

3. Identify major physical constraints such as utilities or roads which are impacted by the recommend improvements

4. Estimate construction costs requirements and land acquisition associated with each alternative.

5. Provide an improvement program which is sensitive to the proposed development projects within the watershed and provide recommendations to ensure that these projects do not have hydrologic impacts.

The information contained in this report is intended to provide preliminary design level information that will facilitate overall planning process within the watershed and provide a foundation for the next level of engineering design. It is intended that this document will facilitate the communication with other agencies and the public during the initial stages of the project development.

1.3 General Design Approach

The plan formulation process for flood control facilities involves a sequential process to identify the magnitude of the problem and then determine the feasibility for the implementing most effective system. A specific work program was developed which outlined the general approach of the analysis. The primary tasks included the following:

Phase I - Collection and Review of Base Data - Conduct inventory of existing facilities and develop a watershed database which will assist in the plan formulation.

Phase II - Definition of Engineering Criteria - Determine the hydraulic and hydrologic criteria which will be applied for both analysis and design, including the level of flood protection

Phase III- Evaluation of Existing Facilities - Analyze the actual hydraulic capacity of the existing channel system and determine critical locations which define the capacity of the channel system

Phase IV - Alternative Drainage System Formulation and Evaluation - Develop and analyze multiple system alternatives composed of a variety of drainage elements in order to establish a feasible and cost effective approach that provides the desired level of flood protection

Section 2—Background

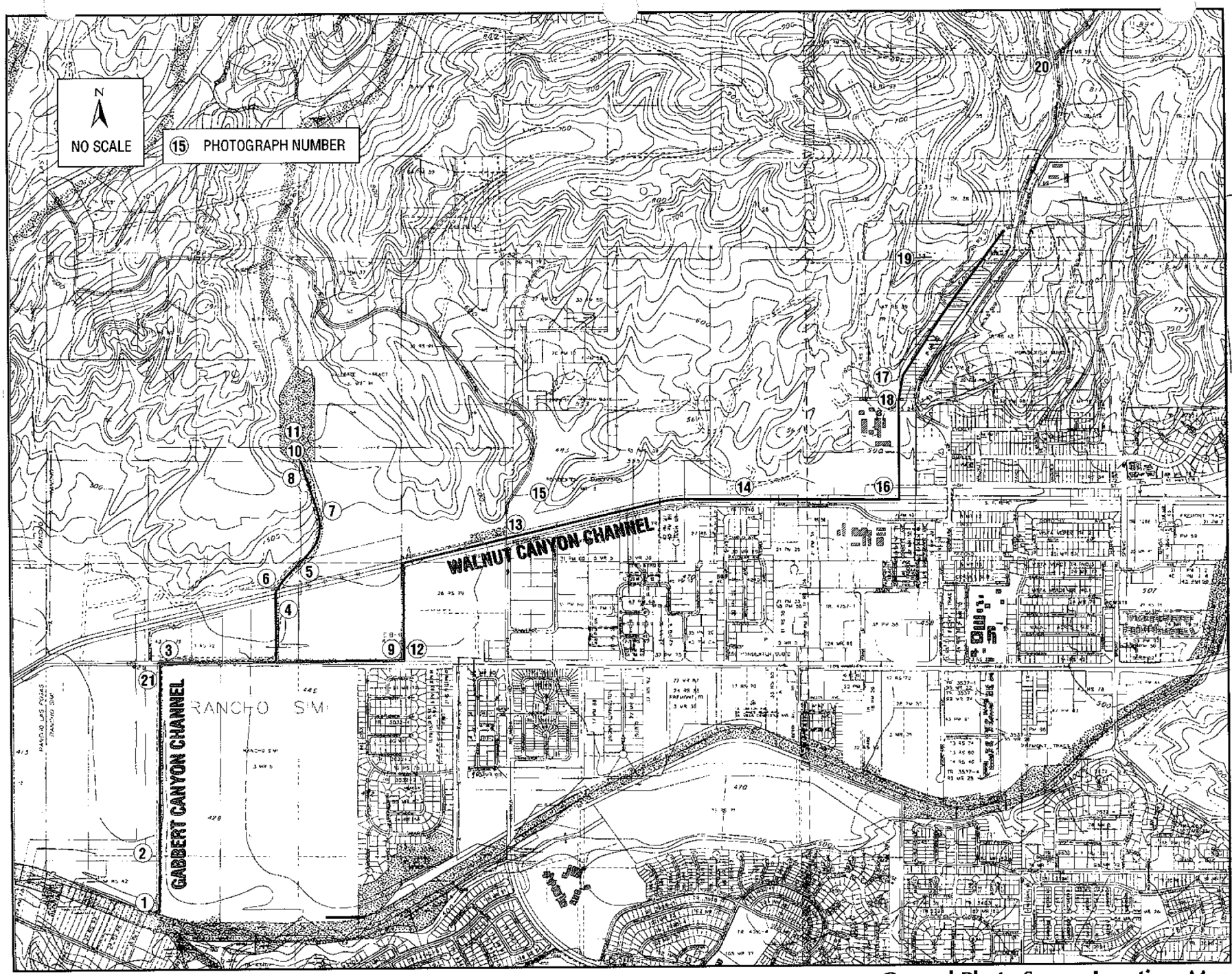
2.1 Project Understanding and Study Area Description

The approximately 4.0 miles of the Gabbert Canyon and Walnut Canyon Channels, located in the City of Moorpark, consist primarily of improved concrete channels which were originally constructed by the Soil Conservation Service (SCS) between 1959 and 1962. These regional drainage facilities are located in Zone 3 of the Ventura County Flood Control District. The flood control channels intercept drainage from the mouths of four canyons with a total tributary drainage area of 6.9 square miles which discharge into the Arroyo Simi floodplain. The channels provide protection for the main urbanized area of the City of Moorpark from flooding which normally would have occurred without this channel system. Approximately 90% of the watershed area which the channel intercepts from the upstream canyon is primarily undeveloped and their are planning efforts for private development on a significant portion of this area. However, the limited hydraulic conveyance capacity of the existing channel system results in a flood protection deficiency and is documented on the current Flood Insurance Rate Map (FIRM) for the City of Moorpark which indicates shallow flooding occurring from channel overtopping. The existing hydraulic capacities can only provide conveyance which correspond to equivalent return periods as low as 5-years, depending upon the location within the watershed. In addition, approximately 50% of the land directly adjacent to the existing channel is also undeveloped and if channel improvements are required to remove the flood hazards then a planning guidelines should be provided to these landowner.

This report functions to identify existing deficiencies within both the Gabbert and Walnut Canyon Channel system, formulate and evaluate alternative solutions, and determine the most cost effect and feasible watershed program.

2.1.1 Field Investigation

A field reconnaissance of the existing channel facilities was performed as part of the technical investigation, which included field review of potential detention basin locations and verification of existing reference documents. The approximate location of each of the following photographs is identified on *Exhibit - Ground Photo Survey Location Map*.



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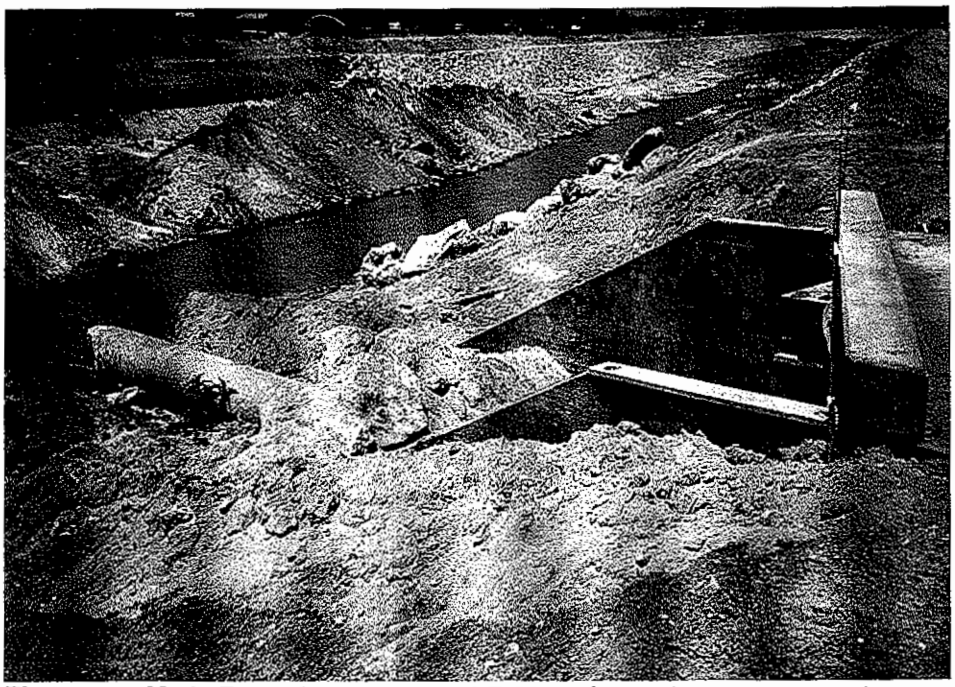
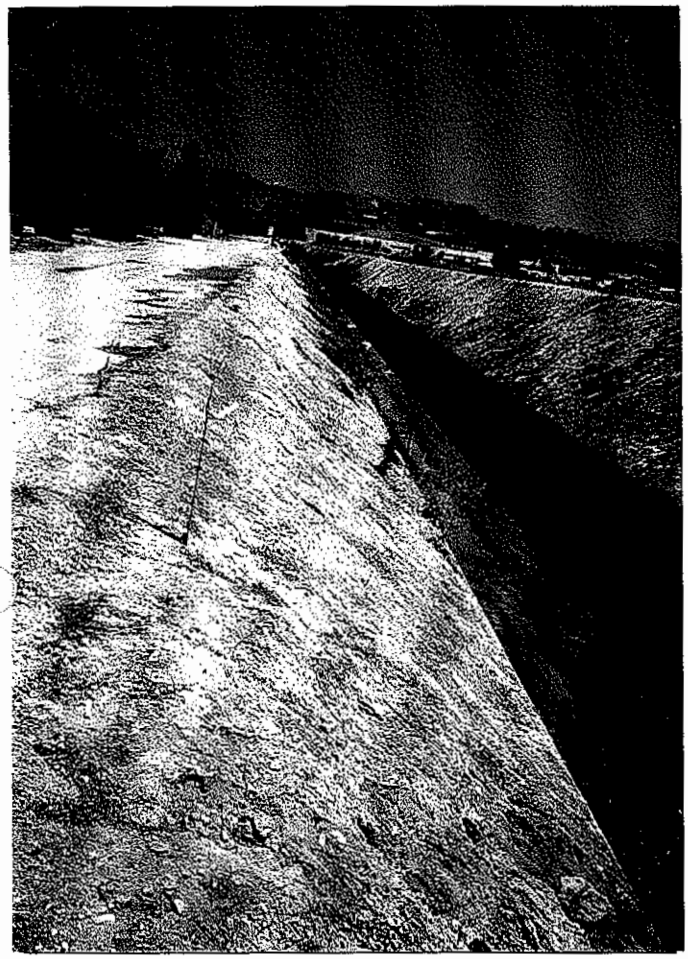
Ground Photo Survey Location Map

Gabbert and Walnut Canyon Channels



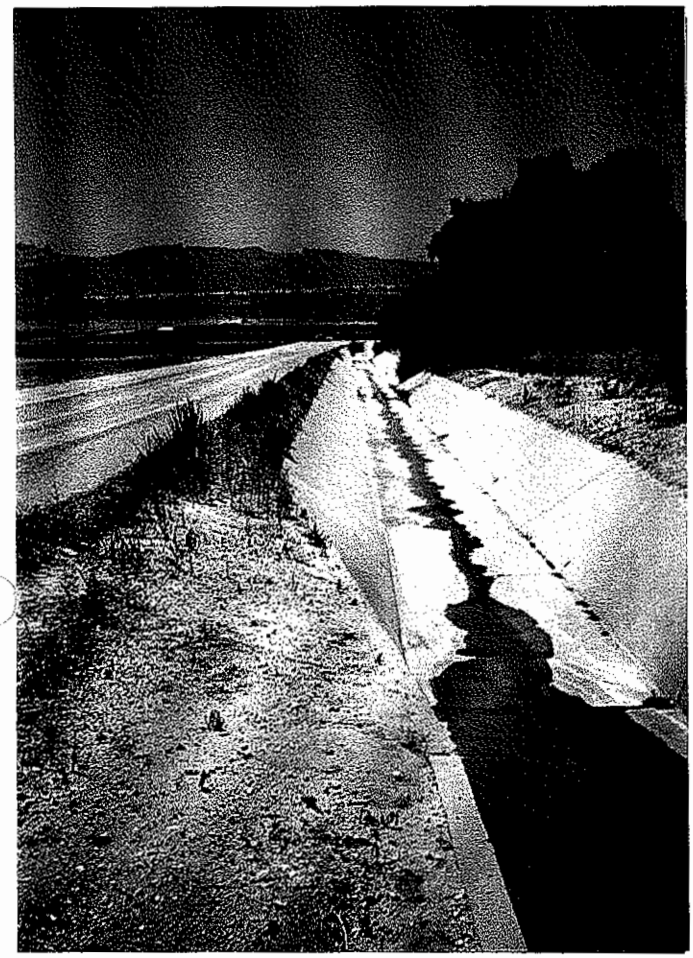
Photograph No.1 - Recently reconstructed Gabbert Channel outlet structure into the Arroyo Simi, looking downstream



Photograph No. 2 - Gabbert Channel adjacent to existing agricultural field downstream of Los Angeles Avenue



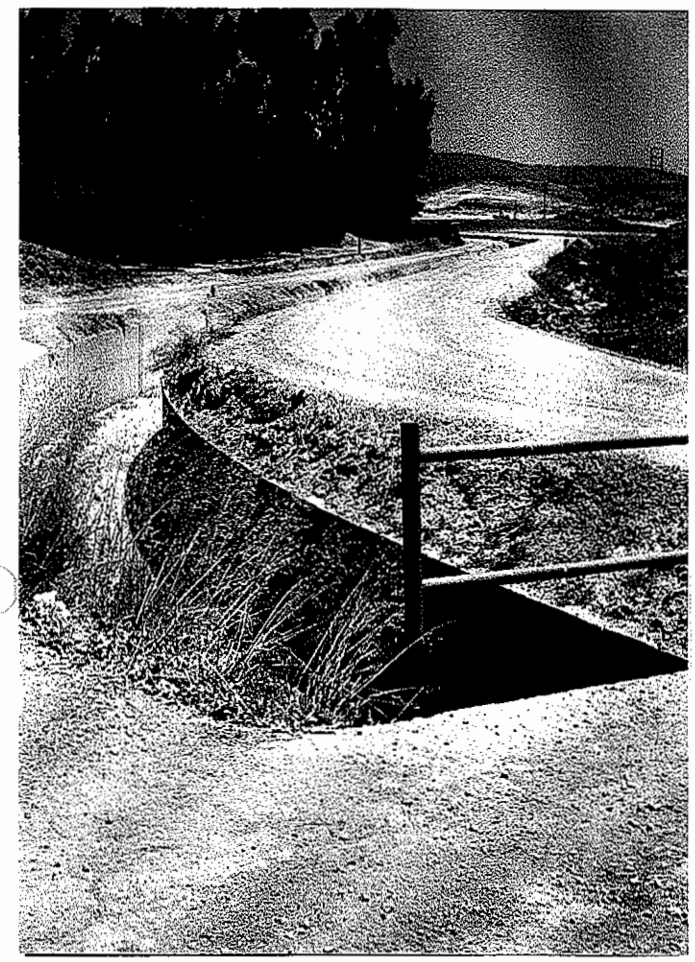
Photograph No.3 - Gabbert Channel just upstream of Los Angeles Avenue crossing, note wall extensions of side walls and the pier nose extension.



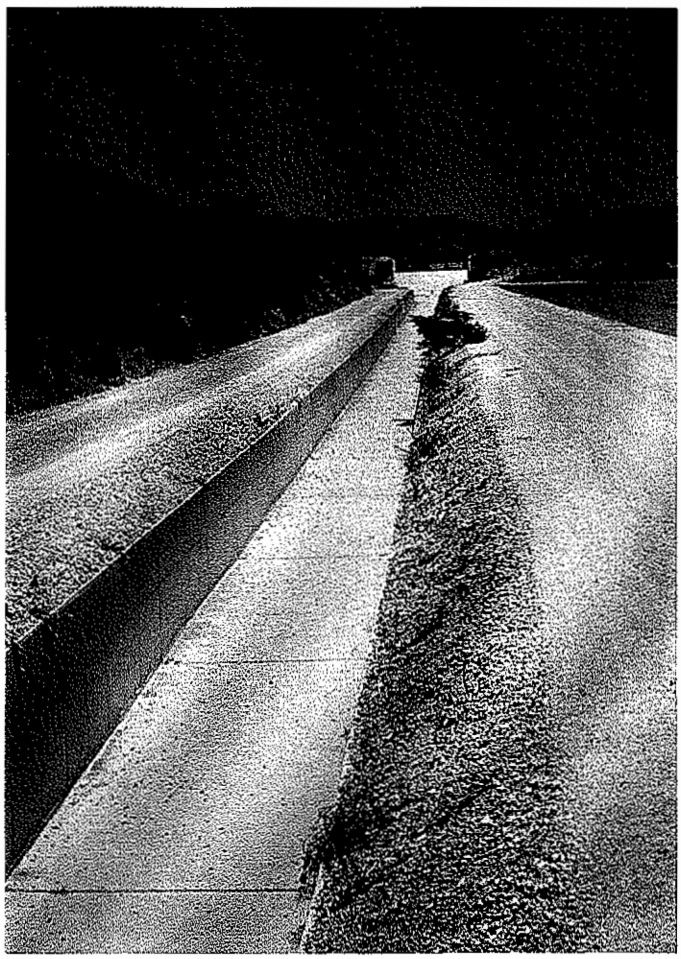
Photograph No. 4 -Gabbert Channel trapezoidal lined section just looking downstream of SPRR crossing, note transition to rectangular



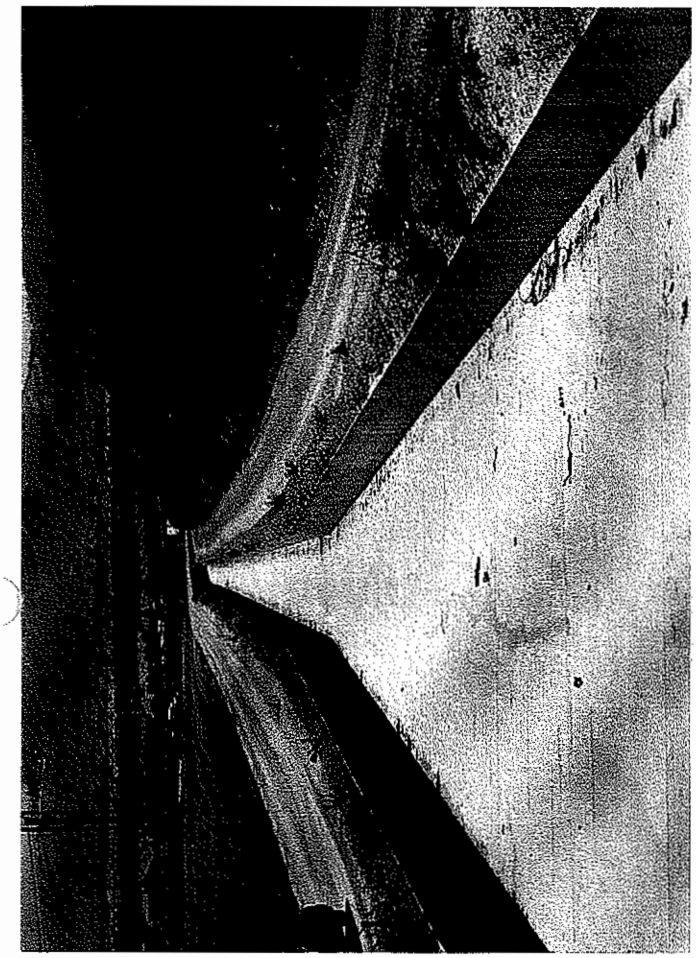
Photograph No. 5 - Upstream of SPRR crossing, existing bridge clear spans rectangular section with available span of 42 feet on skew to channel alignment



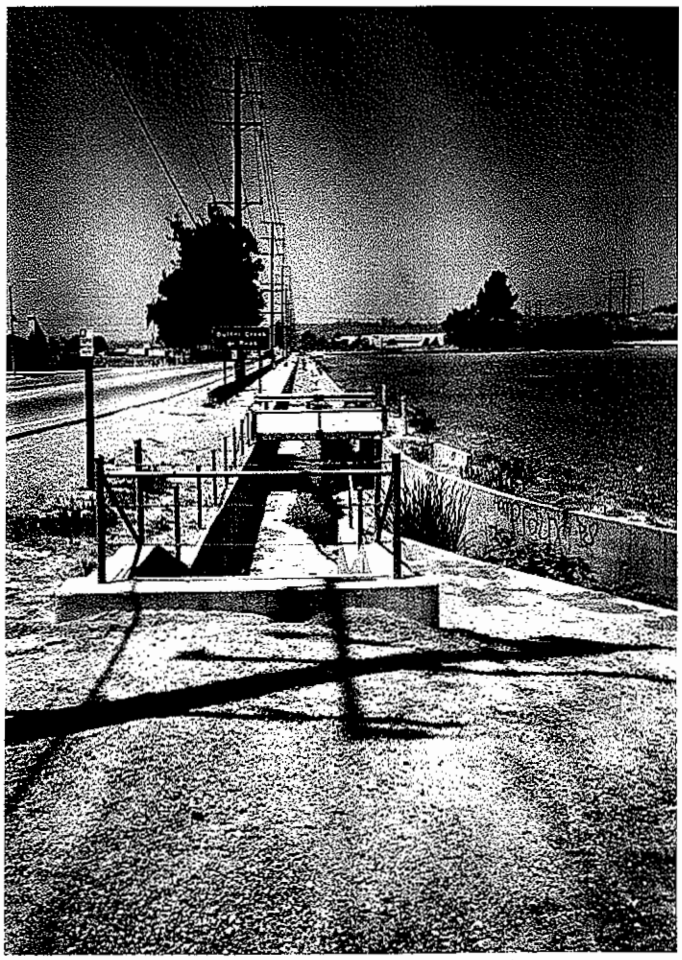
Photograph No. 6 - Upstream of SPRR bridge and channel alignment beginning 160-ft radius curve



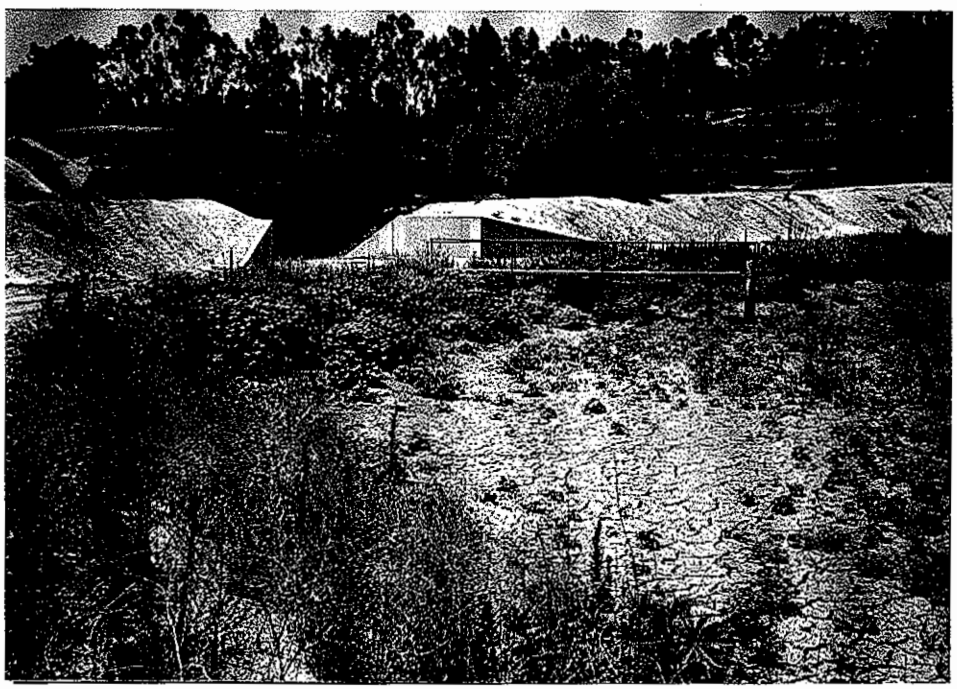
Photograph No. 7 - Gabbert Channel rectangular section continuing to Gabbert Debris Basin with spillway and embankment in the background.



Photograph No. 8 - Gabbert Debris Basin spillway crest looking downstream at spillway chute and connecting rectangular channel



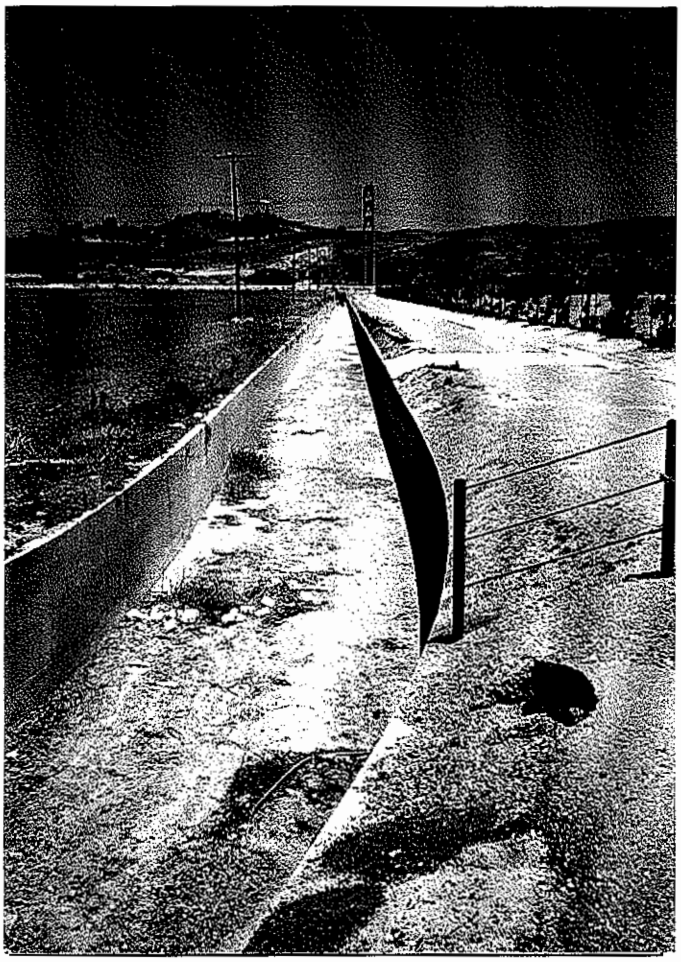
Photograph No. 9 - Confluence of Los Angeles Avenue municipal storm drain and Walnut Channel, notes horizontal curve to change alignment perpendicular to Los Angeles Avenue



Photograph No. 10 - Gabbert debris basin floor with the spillway crest and outlet tower in foreground, not relative height of embankment.



Photograph No. 11 - Gabbert debris basin pool area from spillway looking upstream to natural channel entrance into the basin



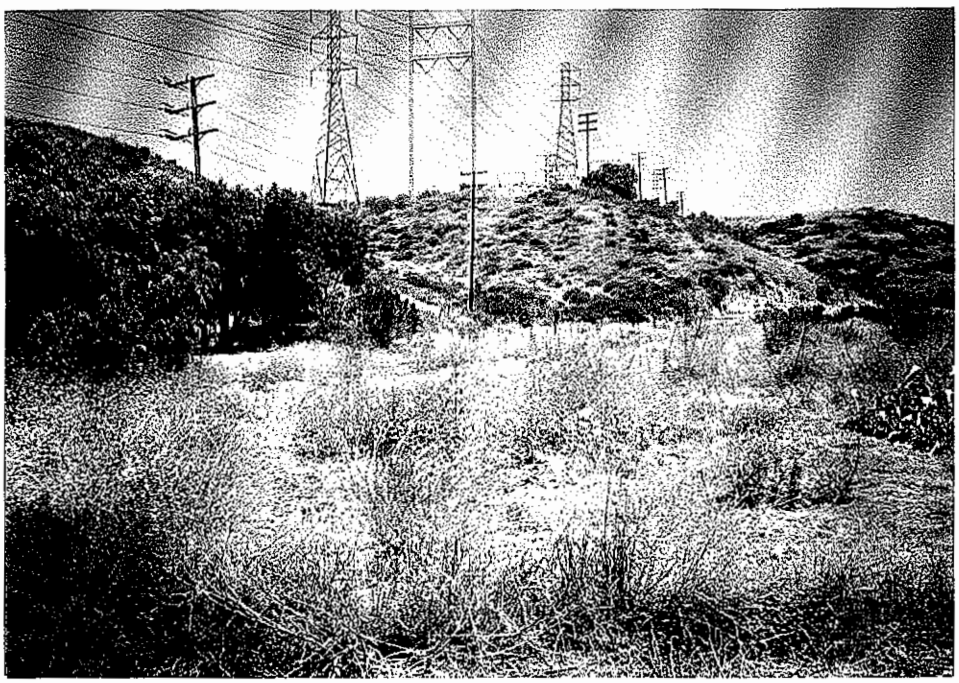
Photograph No. 12 - Walnut Channel parallel to SCE substation, channel reach between Los Angeles Avenue and SPRR.



Photograph No. 13 - Walnut Channel culvert crossing at Gabbert Road. Note SPRR embankment adjacent to channel and concrete spillover section to right for large tributary canyon drainage area.



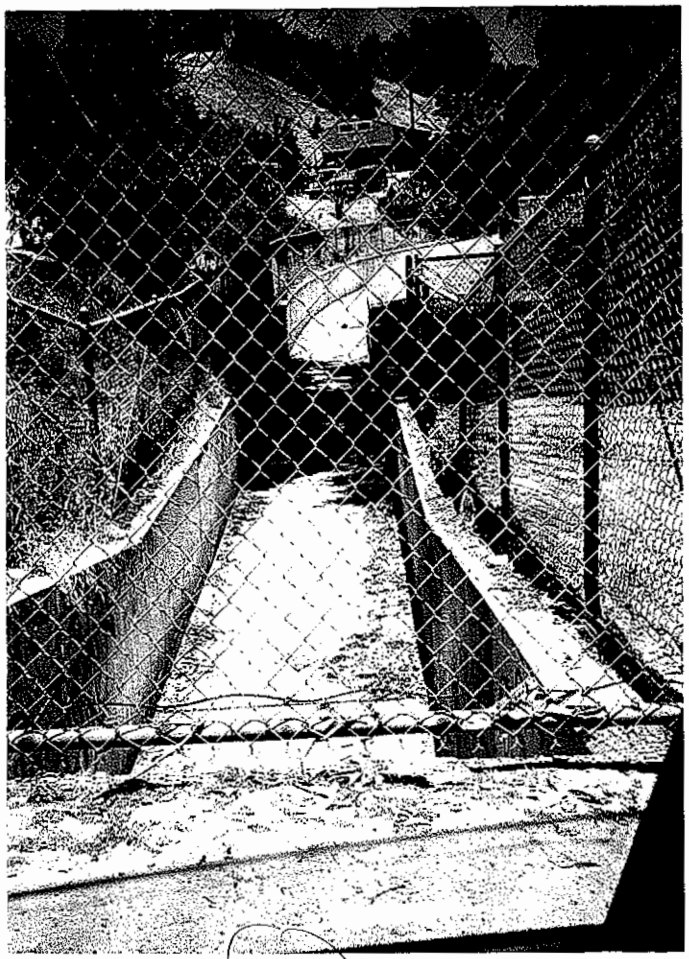
Photograph No. 14 - Poindexter Road culvert crossing looking downstream along Walnut Channel. Note relative vertical and horizontal location of SPRR and minor local drainage facilities tributary to channel



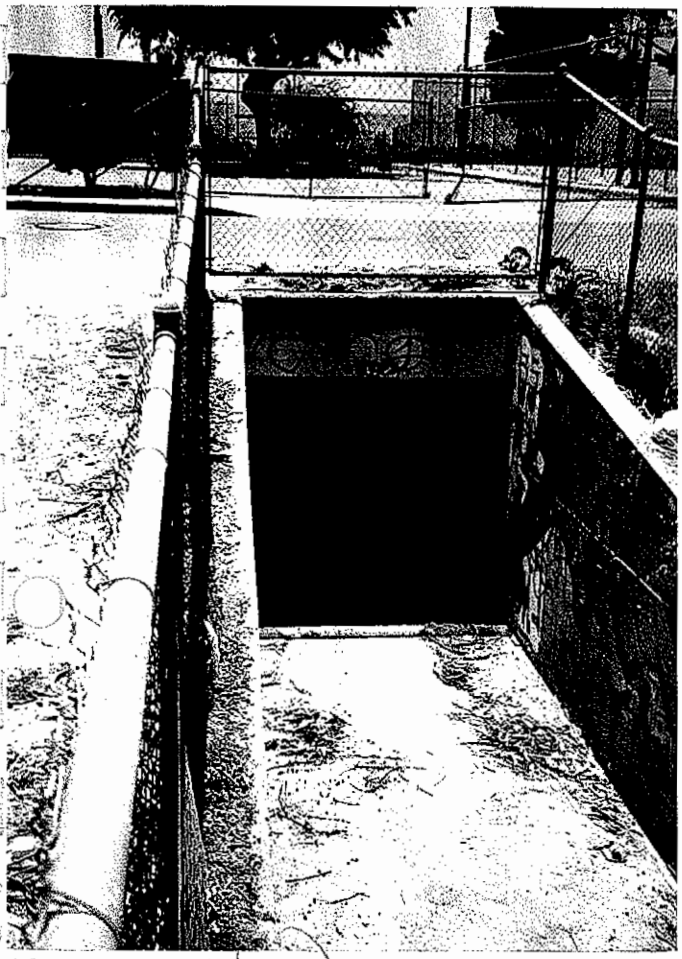
Photograph No. 15 - Potential detention basin location adjacent to Gabbert Road within the canyon floor area, note Gabbert Road located to the left. Designated as detention basin site No. 2.



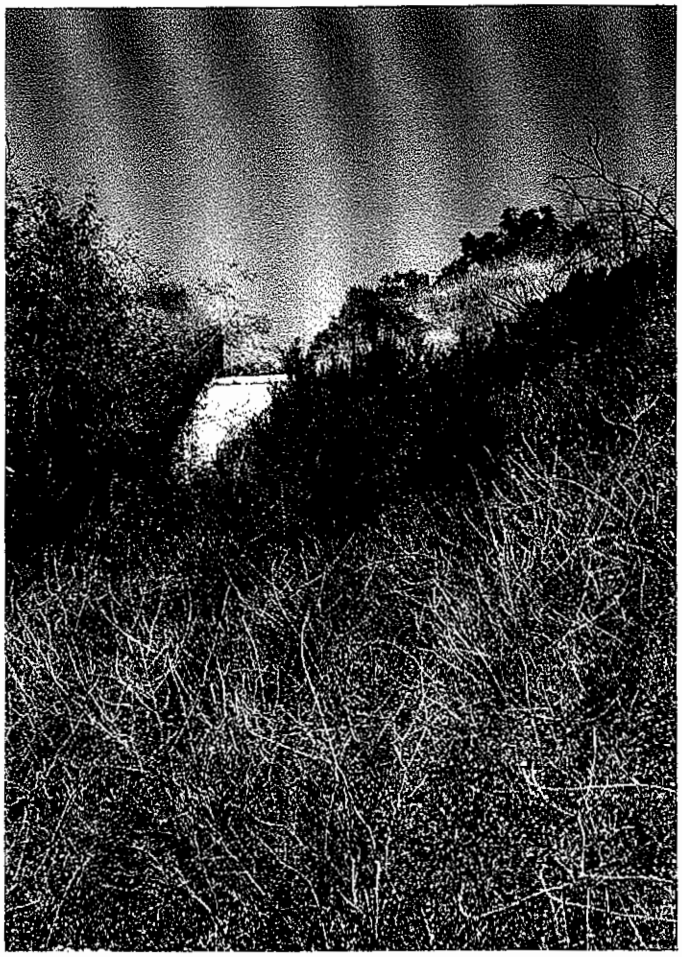
Photograph No. 16 - Confluence of Moorpark Drain Unit No. 2 storm drain at High Street with Gabbert Channel, note beginning horizontal curve of channel alignment.



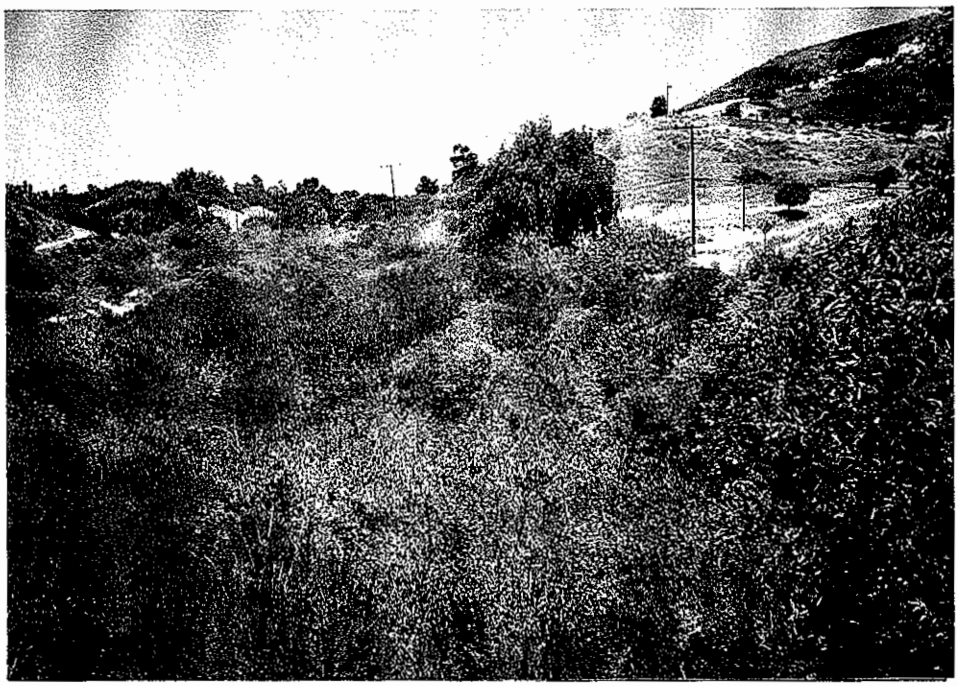
Photograph No. 17 - Gabbert Channel downstream of Casey Road Culvert crossing.



Photograph No. 18 - Gabbert Channel upstream of Casey Road crossing entrance. Confluence with tributary culvert from adjacent tributary canyon area occurs within culvert.



Photograph No. 19 - Existing non-county debris basin located on small tributary canyon which is tributary to Walnut Channel at Casey Road. Looking at spillway from downstream of basin.



Photograph No. 20- Potential detention/debris basin location adjacent to Walnut Canyon Road. Natural Channel is significantly depressed below road and natural floodplain relatively wide at this location. Basin designated as Basin No. 0.



Photograph No. 21 -Gabbert Canyon Channel crossing downstream of maintenance road crossing and Los Angeles Avenue double 8'(w) x 6'(h) box culvert.

2.2 *Description of Existing Channel Facilities*

The channel system consists of approximately 1.5 miles of improved channel in the Gabbert Canyon and 2.86 miles in Walnut Canyon, all maintained by VCFCD. The existing channel system consists almost entirely of a concrete rectangular channel section except for 495-feet of lined concrete trapezoidal channel section along Gabbert Canyon Channel upstream of the SPRR. The depths of the channel primarily range from 5 to 6 feet for the entire length. The average slopes of the channel vary from the upstream reaches where the canyon is steep to the lower sections within the Arroyo Simi floodplain which is much flatter. The upper or steeper portions of the channel are generally located where the channel alignment is within the canyons and parallel to the regional topography. These slopes 1.5% to 3% in these areas and in the flatter areas where the channel alignment is perpendicular to the regional topography the slopes are approximately 0.5%. The channel base widths in the Walnut Channel range from 7-feet to 12-feet while the widths in the Gabbert Channel range from 8-feet to 14-feet. There are two existing debris basins within the watershed, in addition to several smaller agricultural reservoirs of unknown ownership. The largest and most significant debris collection facility is the VCFCD Gabbert Canyon debris basin which is located at the headworks to Gabbert Canyon Channel and has a maximum debris capacity of 30.4 acre-feet. A smaller debris basin is located at the headworks to the Moorpark Drain No.1.

2.3 *City of Moorpark Municipal Masterplan of Drainage*

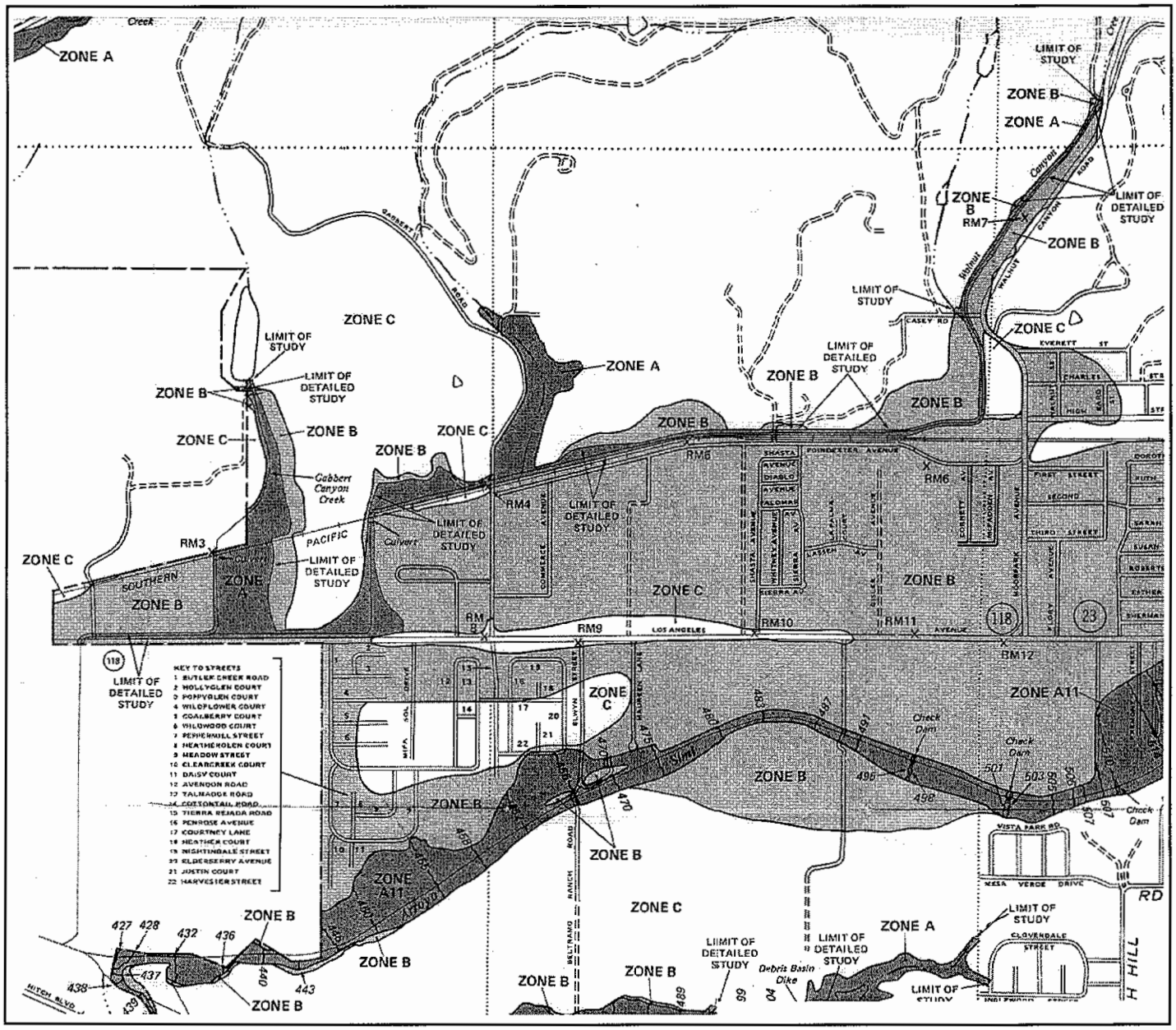
A comprehensive *Masterplan of Drainage for the City of Moorpark* was prepared by Hawks and Associated, April 1995. This planning document outlines the minimum infrastructure requirements associated with the local municipal drainage system to provide a 50-year level of flood protection. The recommendations contained in the masterplan provide a framework which facilitates optimum implementation of improvements for the municipal drainage system. A surface hydrology analysis was developed for the municipal watershed which focused on the local drainage systems and evaluated the hydraulic deficiencies associated with these drainage facilities. The hydraulic analysis incorporated by the masterplan only used soffit-normal depth flow for the storm drain pipe hydraulic and is of limited benefit. The masterplan only briefly discussed regional facilities such as the Gabbert and Walnut Canyon Channels and did not evaluate hydraulic deficiencies other than those identified in the FIRM. The primary focus of the masterplan is the municipal drainage systems which are operated by the City of Moorpark, rather the regional or "redline" flood control facilities which are maintained by the Ventura County Flood Control District. In addition, the masterplan did not consider the impacts of water surface elevation in the channel on the hydraulic grade line for the connecting local drainage system. The masterplan assumed that all local drainage systems would be able to freely discharge into the regional channel systems. The masterplan, however, did identify the potential for a future regional detention basin site adjacent to Walnut Canyon Channel adjacent to the SPRR and downstream of the Gabbert Road culvert crossing. No detailed hydrology analysis was performed to quantify preliminary basin sizing requirements associated with the regional detention recommendation. The recommended basin site is similar to Basin No. 5 identified in this current investigation.

The information outlined in the municipal masterplan of drainage is compatible with this regional watershed investigation. This study deficiency supplements the information and recommendations outlined in the city drainage masterplan. The hydrology analysis for the Gabbert/Walnut Canyon Channel watershed assumed that all the local storm drain could deliver the peak flows to the channel system, except for the Moorpark Drain No.1 which was limited to the hydraulic capacity or original design flow of the storm drain which was approximately 125 cfs.

2.4 *Floodplain Mapping*

The potential for flooding directly associated with the limited hydraulic capacity of the Gabbert and Walnut Canyon Channel systems is reflected in the published floodplain mapping (see *Exhibit No. - City of Moorpark Flood Insurance Rate Map*) for the Moorpark area which indicates the 100-year overflow which causes shallow regional flooding through the urbanized portions of the City. Published Flood Insurance Rate Maps (FIRM) identifying flood hazard zones are available for the City of Moorpark since it is a participant in the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA). Communities participating in the NFIP must adopt and enforce minimum floodplain management standards, including identification of flood hazards and flooding risks. Participation in the NFIP allows the communities to purchase low cost insurance protecting against losses from flooding and it is mandatory for residents located in designed flood hazard Zone A to purchase this insurance. The current FIRM for the City of Moorpark became effective September 29, 1986 and is shown on the FIRM community panel 067120005A which indicates only the mapped flood hazard boundaries within the municipal boundary.

Although the information contained on the FIRM is not intended for design purposes or necessarily correspond to current design hydrology, it can indicate general characteristics of the floodplain and locations of flooding. The hydraulics of the improved channels appear to have been studied in detail but the shallow overflow flooding was evaluated with approximate methods. The locations on the FIRM which have a mapped flood hazard Zone A adjacent to the channel resulting from the limited hydraulic capacity include: (1) the entire length of Gabbert Channel from the debris basin to the confluence with Walnut Canyon Channel, (2) Walnut Canyon Channel from Los Angeles Avenue to the Southern Pacific Railroad, (3) Walnut Canyon Channel from the Southern Pacific Railroad to upstream of Commerce Avenue, and (4) the small tributary canyon adjacent to Gabbert Road. The areas where the flood hazard Zone A occurs is generally adjacent to undeveloped parcels of land. The hydraulic analysis of the existing channel system performed as this study verifies that these portions of the channel are hydraulically deficient and could potentially result in an overflow condition. The mapped floodplain boundaries along Walnut Canyon Channel indicate that the majority of the flooding from the canyons is confined by the Southern Pacific Railroad embankment adjacent to the channel which functions as a transverse levee. Significant portions of the urbanized areas of the City of Moorpark located downstream of the channel system have been designated Zone B which indicates the potential for shallow flooding of less than one-foot resulting from a 100-year flood. The floodplain in these areas appear to be influenced from flooding sources of both the Gabbert/Walnut Canyon Channels and the Arroyo Simi.



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NO SCALE

Reference: Flood Insurance Rate Map (FIRM)
City of Moorpark, California
Ventura County

Community-Panel Number
060712 0005 A

Effective Date: September 29, 1986

2.5 *Proposed Development within Watershed*

A significant portion of the land within the Gabbert and Walnut Canyon watershed which remains undeveloped, especially in the upper portions of the watershed. In addition, over 50% of the land directly adjacent to the existing improved channels is currently undeveloped. Prior to development of these undeveloped parcels it is important that considerations are incorporated into the planning which assist in removing the hydraulic deficiencies directly adjacent to these parcels. This corresponds to removing flood hazard restrictions which currently encumber portions of these parcels adjacent to the channels. The primary undeveloped land parcels within the watershed have been identified on *Exhibit No. - Watershed Undeveloped Land Ownership*. The potential hydrologic impacts associated with urban development of these parcel must also be mitigated in order to prevent increased runoff from additional impervious area. Increases runoff from the development would increase the corresponding observed storm hydrographs in the flood control channels above the existing runoff values which already exceed the hydraulic capacity of channel system.

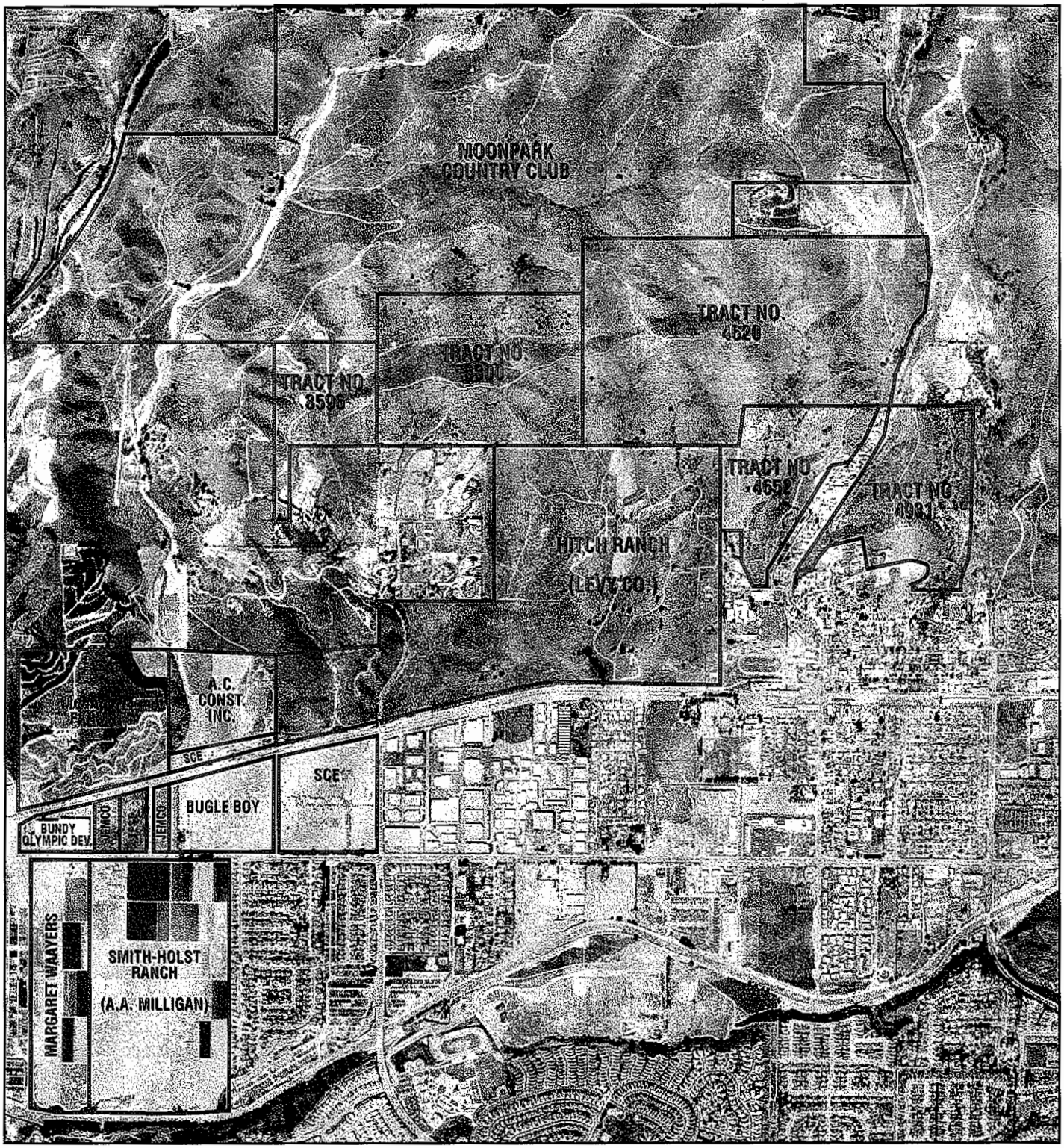
Many of the undeveloped parcels are currently in different stages of development planning and the various stakeholders have been contacted during the initial plan formulation of this watershed to solicit input.

Table No. 2. 1- Summary of Watershed Undeveloped Large Parcels

Parcel Owner / Development	Channel Frontage Length (feet)	Approximate Area* (acres)
Hitch Ranch (Levy Co.)	4,680	285
Margaret Waayers	2,740	58
Smith-Holst Ranch (A.A. Milligan)	------	135
SCE	2,230	41
Bugle Boy	2,050	32
Test	300	5
Jemco	970	4
McGrath Farms	1,290	82
A.C. Const. Inc.	1,050	34
Moorpark Country Club	------	650

* Length and area of parcels are approximate based upon map measurements

The Moorpark Country project, Tract 4928, has prepared a preliminary hydrology investigation which evaluated the potential drainage impacts from the development and analyzed recommendations for onsite detention basins in order to mitigate the changes in runoff. The information contained in the



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ROBERT BEIN, WILLIAM FROST & ASSOCIATES

3-97 JN 33113-4787

Watershed Undeveloped Large Parcel Ownership

Gabbert and Walnut Canyon Channels

development hydrology reference documents were reviewed as part of this current investigation.

Planning regional public improvements within the watershed are another form of development which must be identified as a potential planning constraint. The primary public improvement which could potentially impact the regional drainage system is the planned Simi Valley Freeway corridor. The proposed freeway corridor traverses the foothills, generally parallel to the SPRR and ultimately connects to the Moorpark Freeway. The potential constraints associated with the freeway is limiting the utility of regional detention basin sites and modification of drainage patterns.

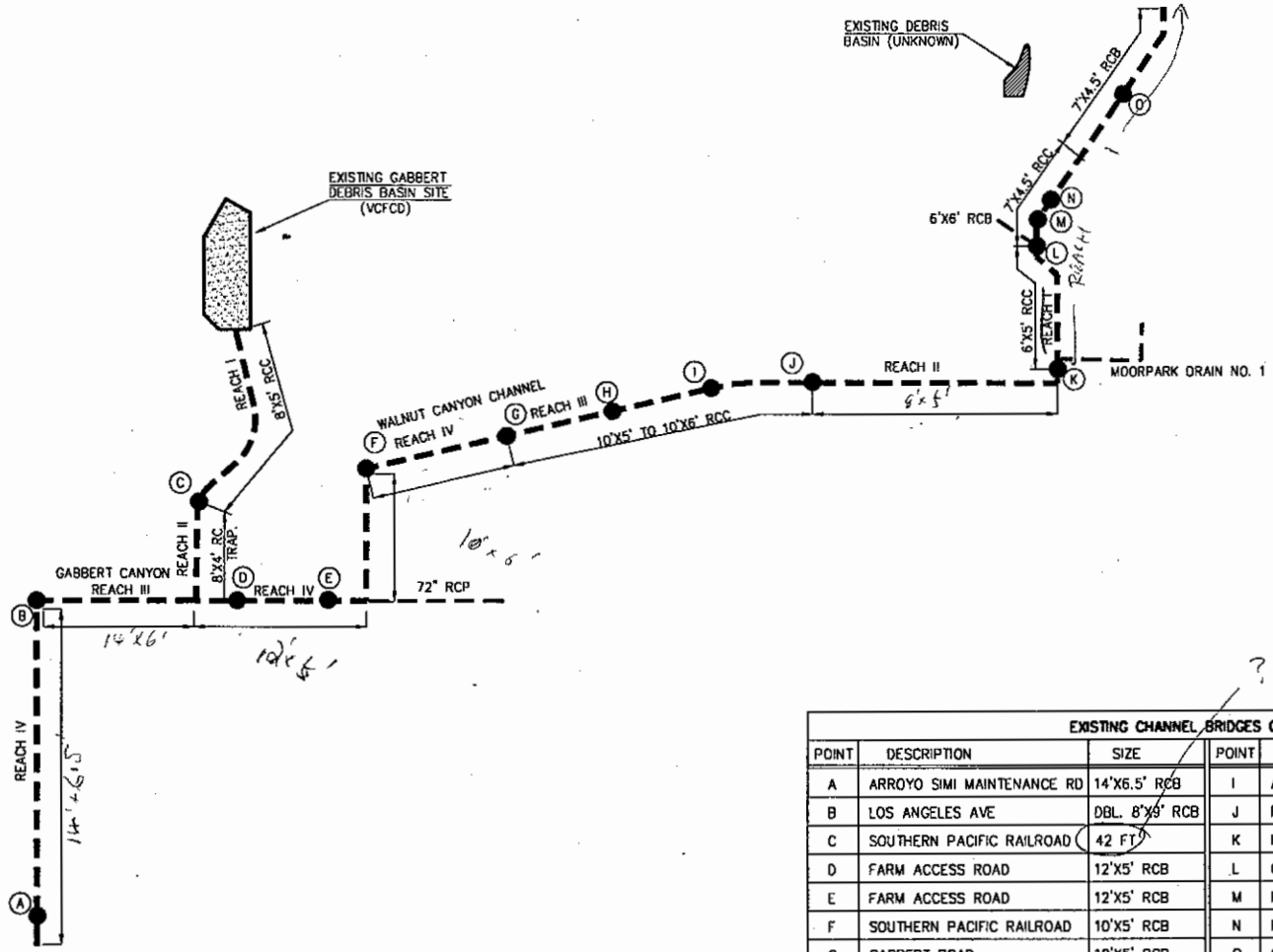
Section 3—Description of Existing Drainage System

3.1 Existing Channel Facilities

The existing 1.5 miles of Gabbert Canyon Channel and 2.5 miles of Walnut Canyon Channel are regional flood control channels or "red line" facilities maintained by the Ventura County Flood Control District which the majority were originally constructed by the Soil Conservation Service (SCS) between 1959 and 1962. These primarily concrete rectangular channel facilities collect and convey storm runoff to the Arroyo Simi from a total tributary watershed drainage of 6.91 square miles which has a significant portion that is not developed. The channel systems provide a significant flood protection benefit through a horizontal alignment which results in intercepting the drainage from the mouth of several large canyons and would have resulted in uncontrolled flooding. The average channel depth ranges from 5 to 6 feet and channel widths ranging from 7 to a maximum of 14 feet. The channel slopes within the canyon areas are relatively steep with slopes ranging from 1.5% to 3% and in the downstream sections the channel flattens to an average slope of 0.5%. The implementation history for the channel improvements within the watershed is indicated in the following table.

Table No. 3.1 - Construction History of Existing Flood Control Improvements

Channel	Description	Length	Agency	Design Date
Gabbert	Arroyo Simi confluence. Modifications to original channel as part of the Arroyo Simi improvement project from Hitch Blvd. To Peach Hill Wash	231 lf	VCFCD	1995
Gabbert	Confluence of Arroyo Simi Channel upstream to the Southern Pacific Railroad crossing, including Walnut Canyon confluence	5,780 l.f.	SCS	1958
Gabbert	Downstream of Southern Pacific Railroad to the spillway for the Gabbert Debris Basin	2,174	VCFCD	1963
Gabbert	Gabbert Debris Basin 4.8 acres (DB-09)	30.4 A.F.	SCS	1963
Gabbert	Reconstruction of Los Angeles Avenue culvert crossing from dbl. 8'x6' RCB to dbl. 8' x 9' RCB and construct 450 lf of flood wall extensions, approx. 2.5-3.0 ft height	124 l.f.	VCFCD	1986
Walnut	370 feet upstream of confluence with Gabbert Canyon Channel to Casey Road	10,553 l.f.	SCS	1962



? openings size

EXISTING CHANNEL, BRIDGES OR CULVERT					
POINT	DESCRIPTION	SIZE	POINT	DESCRIPTION	SIZE
A	ARROYO SIMI MAINTENANCE RD	14'X6.5' RCB	I	ACCESS ROAD CROSSING	10'X5' RCB
B	LOS ANGELES AVE	DBL. 8'X9' RCB	J	POINDEXTER ROAD	8'X5' RCB
C	SOUTHERN PACIFIC RAILROAD	42 FT	K	HIGH STREET CULVERT	6'X5' RCB
D	FARM ACCESS ROAD	12'X5' RCB	L	CASEY ROAD	8'X6' RCB
E	FARM ACCESS ROAD	12'X5' RCB	M	PEDESTRIAN CROSSING	7'X4.5' RCB
F	SOUTHERN PACIFIC RAILROAD	10'X5' RCB	N	PEDESTRIAN CROSSING	7'X4.5' RCB
G	GABBERT ROAD	10'X5' RCB	O	COVERED CHANNEL REACH	7'X4.5' RCB
H	ACCESS ROAD CROSSING	10'X5' RCB			

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WALNUT/GABBERT CANYON

DATE 4/97

EXISTING CONDITION
CHANNEL SYSTEM FACILITY SUMMARY

EXHIBIT

Table No. 3.1 - Construction History of Existing Flood Control Improvements				
Channel	Description	Length	Agency	Design Date
Walnut	Rectangular channel from Casey Road box culvert to inlet structure of natural floodplain adjacent to Walnut Canyon Road	2,690 l.f.	VCFCD	1970

3.1.1 Gabbert Canyon Channel

The existing Gabbert Canyon channel consists primarily of a concrete rectangular section which extends from the outlet into the Arroyo Simi channel, to the spillway from the Gabbert Debris Basin, approximately 7,739 linear feet. The initial 5,600 feet of the channel from the Arroyo Simi outlet to downstream of the Southern Pacific Railroad was originally designed by the Soil Conservation Service in 1958. The physical characteristics of the existing channel geometry associated with the 1.5 miles of the Gabbert Canyon Channel are indicated in the following tables. The information is based upon record drawings for the original construction. The tables summarize information on the geometry and the culvert or bridge crossings.

Table No. 3.2 - Existing Gabbert Canyon Channel Geometry								
Reach	Station		Existing Channel				Design Flow	
			Geometry	basewidth	height	slope	Original Flow[1]	Current Q_{50}
1	75+45	71+00	rect	12' to 8'	4.5 ft	0.02515	670	1,732
1	69+00	58+76	rect	8 ft	5 ft	0.01788	670	1,732
1	58+76	56+90	rect	8 ft	5.5 ft	0.01588	670	1,732
2	56+90	55+96	rect	8 ft	5 ft	0.03691	670	1,732
2	55 +65	50+70	trap	8 ft	4 ft	0.0185	1,070	1,732
2	50+20	47+77	rect	8 ft	6 ft	0.014	1,070	1,732
3	46+66	35+17	rect	14 ft	6 ft	0.004	1,070	2,275
4	32+61	3+14	rect	14 ft	6.5 ft	0.0045	1,070	2,279

Notes: 1. Design flow indicated on original improvement plans, either VCFCD or SCS.

Table No. 3.3 - Summary of Gabbert Canyon Channel Bridge/Culvert Crossings						
Location Description	Design Flow (cfs)		Channel Station	Length	Height	Width / Size
	Orig.	Q_{50}				
Arroyo Simi Maintenance Road	1,070	2,279	0+90	34 ft	6.5 ft	14' x 6.5' RCB
Los Angeles Avenue (culvert on spiral curve)	1,070	2,276	33+62	124 ft	9.0 ft	Dbl. 8' x 9' RCB
Southern Pacific Railroad	670	1,732	57+11	------	5.5 ft	42 ft skewed width at abutments

3.1.2 Walnut Canyon Channel

The physical characteristics of the existing channel geometry associated with the 2.5 miles of the Walnut Canyon Channel are indicated in the following tables. The information is based upon record drawings for the original construction. The tables summarize information on the geometry and the culvert or bridge crossings.

Table No. 3.4 - Summary of Existing Walnut Canyon Channel Geometry								
Reach	Station		Existing Channel				Design Flow	
			Geometry	basewidth	height	slope	Original Flow[1]	Current Q_{50}
1	135+78	122+18	RCB	7 ft	4.5 ft	0.035	500	283
1	122+18	108+88	rect.	7 ft	4.5 ft	0.025	500	292
1	108+38	107+10	rect	6 ft	6 ft	0.021	440	469
1	107+10	102+65	rect	6 ft	5 ft	0.21	440	469
1	102+35	101+65	rect	6 ft	5 ft	0.016	440	469
1	101+35	96+00	rect	6 ft	5 ft	0.021	440	469
2	95+80	83+00	rect	8 ft	5 ft	0.008	440	603
3	83+00	69+80	rect	8 ft	5 ft	0.0074	440	797
3	69+60	46+15	rect	10 ft	5 ft	0.0054	440	797

Table No. 3.4 - Summary of Existing Walnut Canyon Channel Geometry								
Reach	Station		Existing Channel				Design Flow	
			Geometry	basewidth	height	slope	Original Flow[1]	Current Q_{50}
1	44+45	30+84	rect	10 ft	6 ft	0.0051	590	1,123
1	29+45	3+43	rect	12 ft	5 ft	0.0047	590	1,258

Notes: 1. Design flow indicated on original improvement plans, either VCFCD or SCS.

Table No. 3.5 - Summary of Walnut Canyon Channel Bridge/Culvert Crossings						
Location Description	Design Flow (cfs)		Channel Station	Length	Height	Width / Size
	Orig.	Q_{50}				
Farm Access Road	590	1,258	6+06	40 ft	5.0 ft	12' x 5' RCB
Farm Access Road	590	1,258	16+24	40 ft	5.0 ft	12' x 5 RCB
Southern Pacific Railroad	590	1,176	29+63	99 ft	5.0 ft	10' x 5' RCB
Gabbert Road	590	1,176	43+92	40 ft	6.0 ft	10' x 5' RCB
Access Road Crossing	440	797	57+10	20 ft	5.0 ft	10' x 5' RCB
Access Road Crossing	440	797	67+73	20 ft	5.0 ft	10' x 5' RCB
Poindexter Road	440	797	74+97	20 ft	5.0 ft	8' x 5' RCB
High Street Culvert	440	469	96+76	57 ft	5.0 ft	6' x 5' RCB
Casey Road	440	469	------	-------	6.0 ft	8' x 6' RCB
Pedestrian Crossing	500	292	3+07	7 ft	4.5 ft	7' x 4.5' RCB
Pedestrian Crossing	500	292	4+27	7 ft	4.5 ft	7' x 4.5' RCB
Covered Channel Reach	500	283	13+30	1,360 ft	4.5 ft	7' x 4.5 RCB

3.1.3 Gabbert Canyon Debris Basin

The existing Gabbert Canyon Debris Basin is located on an 11.3 acre parcel which is owned in fee by VCFCD. The basin was originally constructed by the SCS in 1963 ~~and is regional flood control facility which is maintained by VCFCD~~. The basin site is located at the mouth of Gabbert Canyon,

approximately 2,000 north or upstream of Los Angeles Avenue. The basin has a total tributary drainage area of 2,350 acres which is primarily undeveloped. The storage volume is generated by an earthen ring levee 800 feet in length, which intercepts the flow from the canyon mouth prior to discharging onto a wide alluvial fan. The surface area of the basin is 4.8 acres. The geometry of the basin generates a maximum level storage of 16,600 cubic yards (10.1 acre-feet) and a maximum debris storage capacity of 49,050 cubic yards (30.4 acre-feet) based upon the formation of a debris cone in the basin. The effective storage height of the embankment measured from the basin floor to the spillway is 11-feet and the distance from the spillway to the top of embankment is 8-feet.

The outlet works for the basin consist of a primary spillway and a slotted metal pipe riser. The spillway is a 40' x 8' section which operates as a broad crested weir. The riser is a 14-inch diameter corrugated steel pipe in the basin with a walkway from the embankment to service the inlet. Historical maintenance records beginning from 1963 to 1990 indicate that **239,000 cubic yards** have been removed from the basin or an equivalent annual amount of 8,800 cubic-yards/year.

3.2 Hydraulic Capacity of Existing Channels

The hydraulic capacity of the existing channel systems were evaluated through developing water surface profiles for each system and iteratively adjusting the flowrate until the maximum allowable flow depth in the channel was achieved. In addition, initial evaluation of the channel system analyzed uniform or "normal" depth in the channel section for the existing system and the requirements for bank-full design. The results are provided in the following tables for comparison purposes. The actual channel capacities were based upon the water surface profile analysis for bank-full conditions with superelevation. The results are also presented in a summary table. The capacity was evaluated for maximum depth with freeboard including superelevation and also with maximum depth with superelevation only which corresponds to the difference between the 50-year and 100-year level of flood protection.

Table No. 3. 6- Existing Walnut Canyon Channel Comparison of Uniform Flow Channel Hydraulics

Reach	Station		Existing Channel				Q_{100} Design uniform flow hyd.		
			Sect	width	height	slope	Q_{100}	flow depth[1]	equiv. width[2]
1	135+78	122+18	RCB	7 ft	4.5 ft	0.035	431	2.4	------
1	122+18	108+88	rect.	7 ft	4.5 ft	0.025	431	2.7	------
1	108+38	107+10	rect	6 ft	6 ft	0.021	696	4.9	-------
1	107+10	102+65	rect	6 ft	5 ft	0.021	696	4.9	------
1	102+35	101+65	rect	6 ft	5 ft	0.16	696	2.3	-----

Table No. 3. 6- Existing Walnut Canyon Channel
Comparison of Uniform Flow Channel Hydraulics

Reach	Station		Existing Channel				Q_{100} Design uniform flow hyd.		
			Sect	width	height	slope	Q_{100}	flow depth[1]	equiv. width[2]
1	101+35	96+00	rect	6 ft	5 ft	0.021	696	4.9	8.4
2	95+80	83+00	rect	8 ft	5 ft	0.008	889	6.4	10.1
3	83+00	69+80	rect	8 ft	5 ft	0.0074	1,149	8.2	12.7
3	69+60	46+15	rect	10 ft	5 ft	0.0054	1,149	7.2	14.3
4	44+45	30+84	rect	10 ft	6 ft	0.0051	1,619	10.0	15.7
4	29+45	3+43	rect	12 ft	5 ft	0.0047	1,810	8.9	21.9

Notes: 1. Normal depth in existing channel geometry with current 100-year design flow
2. Equivalent revised channel basewidth to provide 100-year bank-full flow depth.

Table No. 3.7 - Existing Gabbert Canyon channel
Comparison of Uniform Flow Channel Hydraulics

Reach	Station		Existing Channel				Q_{100} Design uniform flow hyd.		
			sect	width	height	slope	Q_{100}	flow depth[1]	equiv. width[2]
1	75+45	71+00	rect	12' to 8'	4.5 ft	0.2515	2,185	2.4 -3.4	-----
1	69+00	58+76	rect	8 ft	5 ft	0.0178	2,185	9.7	14.9
1	58+76	56+90	rect	8 ft	5.5 ft	0.0158	2,185	10.1	11.2
2	56+90	55+96	rect	8 ft	5 ft	0.0369	2,185	7.2	16.3
2	55+65	50+70	trap[3]	8 ft	4 ft	0.0185	2,185	5.0	14.2
2	50+20	47+77	rect	8 ft	6 ft	0.014	2,185	10.6	16.9
3	46+66	35+17	rect	14 ft	6 ft	0.004	2,944	11.7	28
4	32+61	3+14	rect	14 ft	6.5 ft	0.0045	2,947	11.2	24

Notes: 1. Normal depth in existing channel geometry with current 100-year design flow
2. Equivalent revised channel basewidth to provide 100-year bank-full flow depth.
3. Trapezoidal side slope 1.5:1 and mannings coefficient = 0.015

3.2.1 *Summary of Baseline Channel Hydraulic Analysis*

The hydraulic analysis of the existing channel system was based upon developing a water surface profile from the current channel geometry and cross section information. The initial water surface profile analysis was based upon both 50- and 100-year flowrates for the existing watershed. Additional incremental depths were added to these values to account for residual freeboard and superelevation for the 50-year flowrates, only superelevation was applied for the 100-year frequency. The controlling design frequency associated with the drainage systems resulted in the 100-year analysis since detention basins were part of the proposed system. 100-year hydraulic analysis resulted in evaluating the "bank-full" capacity of the channel with the addition of water surface superelevation around curves.

The hydraulic capacity analysis was an iterative process which proceed along one direction of the channel evaluating the flowrate which provided a water surface elevation matching the top-of-bank elevation. Flowrates are adjusted in the water surface profile for a particular channel reach until the correct water surface elevation is achieved. The total water surface elevation at a curve was determined through adding the calculated superelevation from the average hydraulic parameters in the water surface profile model. This iterative process continued along all the channel reaches until a revised water surface profile model had been developed with flowrates corresponding to the "bank-full" capacity analysis. The results of this analysis are summarized in the following table. Generally, the critical section which controlled the hydraulic capacity in all the channel reaches evaluated was located at the curves. The existing 100-year flowrate is provided as a reference point to asses the magnitude of the hydraulic deficiency for each of the reaches.

Table No. 3.8 - Existing Channel System Maximum Bank-Full Capacity Water Surface Profile

Channel	Reach 1	Reach 2	Reach 3	Reach 4
Walnut	440 cfs (Q_{100} 469)	570 cfs (Q_{100} 797)	640 cfs (Q_{100} 1,158)	825 cfs (Q_{100} 1,258)
Gabbert	650 cfs (Q_{100} 1,732)	950 cfs (Q_{100} 1,732)	1,200 cfs (Q_{100} 2,275)	1,450 cfs (Q_{100} 2,275)

3.3 *Summary of Channel Hydraulic Deficiencies and Hydraulic Restrictions*

The hydraulic deficiency portion of this investigation focused identifying the deficiency based on the hydraulic capacity. The difference between the hydraulic capacity and the design flowrate represents the magnitude of the deficiency. Relative approximation of the channel deficiency can be determined from a comparison of the uniform depth channel hydraulics and these are presented in *Table No. 3 -Comparison of Uniform Hydraulics*. A more detailed approach utilized a water surface profile analysis to determine the actual depths of flow in the channel and identify the critical hydraulic

restrictions. "Bank-full" hydraulic analysis included both the actual hydraulic depth and the water surface superelevation where there were horizontal curves in the channel alignment. The results of the hydraulic analysis indicated that the **limiting hydraulic capacity of the channel occurs at the curves** and not at the bridges. However, if the superelevation is neglected from the capacity analysis then the culverts and bridge crossing become the controlling hydraulic restriction. A summary of the superelevation associated with the critical channel curves is indicated in the following table.

Table No. 3.9 - Existing Channel Capacity Analysis
Critical Superelevation Locations

Channel	Station	Radius	Flow (capacity)	Flow Depth (ft)	Superelevation (h)	Channel Depth
Gabbert	58+76	160 ft	840 cfs	4.48 ft	1.02 ft	5.5 ft
Gabbert	48+16	99.4 ft	780 cfs	4.8 ft	1.24 ft	6.0 ft
Gabbert	35+07	99.1 ft	1,300 cfs	4.9 ft	0.95 ft	6.0 ft
Walnut	97+33	97.4 ft	570 cfs	3.86 ft	1.3 ft	5.0 ft
Walnut	18+18	99.4 ft	640 cfs	4.16 ft	0.76 ft	5.0 ft

Comparison of the estimated maximum "bank-full" channel capacity can be compared to determine the estimated flood protection frequency which the channel can provide. The ratio of the channel capacity to the 100-year peak flow can be correlated to an estimated frequency of occurrence with the VCFCD hydrologic multipliers used for planning level estimates. Intermediate values were interpolated from a log-log plot of the hydrologic multipliers. The level of flood protection using this estimate is only an approximation since it assumes that the hydraulics are related to the rainfall/runoff frequency analysis. However, it provides a relative indicator regarding the magnitude of the deficiency.

Table No. 3.10 - Existing Channel System
Estimated Current Level of Flood Protection

Channel	Reach 1	Reach 2	Reach 3	Reach 4
Walnut	70-year	25-year	10-year	20-year
Gabbert	5-year	10-year	10-year	15-year

Section 4—Hydrologic Data

4.1 Watershed Description

The 6.9 square mile Gabbert and Walnut Canyon Channel watershed is a tributary to the Arroyo Simi which ultimately discharges to Mugu Lagoon. Approximately 33 % of the Gabbert and Walnut Canyon watershed is located outside the corporate limits of the City of Moorpark, corresponding to approximately 1,476 acres of offsite tributary drainage area from the upper watershed. The alignment of the channel system results in intercepting the drainage from four canyons areas, two of which are the Gabbert and Walnut Canyons which have tributary areas of **2,571** and **846 acres** respectively. The other two canyons have smaller drainage areas of **475** and **104 acres**, located between Gabbert and Walnut Canyons. The channel alignment is generally located along the canyon mouths and collects the runoff which would have naturally continued across the wide valley floor of the Arroyo Simi floodplain. Gabbert Canyon is the larger of the watersheds and at the confluence of the two channel systems the relative magnitude of the drainage areas is 2,571 acres from the Gabbert Canyon Channel compared to 1,794 acres from the Walnut Canyon channel.

The majority of the watershed is undeveloped with some light residential development, except for two municipal storm drain systems which drain urbanized areas 124 acres (Los Angeles Avenue storm drain) and 112 acres (Moorpark Drain No. 2) to the channel. The topography of the watershed is generally dominated by the canyon areas upstream to Broadway, where the topography is less extreme and are open gradual sloping areas. The representative watershed lengths for the drainage paths are approximately 29,000 feet for Gabbert Canyon and 22,500 on Walnut Canyon, measured to the confluence of the channels. The elevations within the watershed range from a maximum of 2120 in Gabbert Canyon and 1,060 in Walnut Canyon to a minimum value of elevation 450 at the channel confluence. The existing 4.8 acre Gabbert Canyon debris basin is the most significant debris storage facility within the watershed with approximately 2,350 acres of tributary natural area and is operated by VCFCD. In addition, there are at least six small reservoirs within the watershed which may have been constructed for agricultural purposes or by the SCS which would provide some limited storage capabilities. There is one municipal debris basin adjacent to Wicks Road which is tributary to the Moorpark Drain No. 1. Potential debris storage from the smaller reservoirs within the watershed were not evaluated because of their size and unknown ownership.

4.2 Hydrologic Watershed Parameters

The Walnut and Gabbert Canyon Channel watershed is an ungaged watershed and synthetic methods are necessary in order predict the rainfall-runoff response. The baseline hydrology study prepared by VCFCD for the Gabbert and Walnut Canyon Channel watershed developed a series of hydrologic parameters to characterize the watershed subareas and evaluate the runoff.

Watershed Subarea Delineation

VCFCD prepared the delineation of the existing watershed which subdivided the entire 4,425 acre regional watershed into **79 subareas**. The subareas ranged in size from 8 acres to 105 acres with individual time of concentrations less than 30 minutes consistent with VCFCD criteria.

Rainfall

Regional analysis of historical rainfall data throughout the County of Ventura resulted in the development of rainfall zone designations to classify common rainfall regimens as part of the *Ventura County Hydrology Manual*. A **rainfall zone "J"** was used by VCFCD in the watershed analysis which best corresponds to the historical rain gage data for the Moorpark area. The 50-year 24-hour point rainfall isohyetals range from approximately 6.0 inches near the central portion of the City of Moorpark to 9.0 inches near the headworks of the watershed.

Hydrologic Soil Type

General classification of the average soil infiltration rates have been performed throughout the entire County by the SCS. The soils were grouped into seven soil groups of hydrologically similar characteristics which are shown on the Ventura County Hydrologic Maps in the *Ventura County Hydrology Manual*. The soils appear to be primarily type 4, but range from type 1 to 6 as indicated in the VCRAT watershed model subarea characteristics prepared by VCFCD staff. The general regional classification representative of soils for the Moorpark area appears to be the **Rincon-Huerhuero-Azule association** consisting of very fine sand loams to silty clay loams.

Percent Impervious Cover

Impervious surfaces within the watershed reduce rainfall losses associated with soil infiltration rates. Average values which describe the amount of impervious cover have been assigned to different landuses. Representative percentage impervious used by VCFCD to describe single family residential is 23%, 0% for natural areas, and 50% for commercial areas. Area average values of impervious cover were assigned to each watershed subarea resulting in percent impervious primarily ranging from 0% to 37% in the existing watershed landuse hydrology model.

Subarea Time of Concentrations

Subarea time of concentrations for each of the individual subarea are representative of the runoff travel time and are all less than thirty minutes.

Previous Hydrologic Investigations

Previous drainage studies which encompass this area include: City of Moorpark Masterplan of Drainage (1995), Moorpark Central City Drainage Study (1987), and the Walnut Canyon Study (1980).

4.2.1 Estimated Debris Volume Generation

The required storage volume for debris basins or the dead storage allowances for detention basins which drain natural watershed areas is based upon the potential debris production or estimated "yield" from the watershed. VCFCD utilizes the formula developed by Dr. Kevin Scott from the USGS to calculate the estimated debris production rate which is based upon drainage area, 24-hour precipitation, 10-day rainfall, slope failure, fir factor, and watershed shape. The following equation is used to calculate the debris production associated with different storm events:

$$SY = 17.54\ (A)^{0.828}\ (ER)^{1.382}\ (FF)^{0.251}\ (SF)^{0.375}\ K^{0.840}$$

where: SY = Sediment yield (cubic yard)
A = Area of the watershed (square miles)
ER = Elongation ratio (equivalent diameter with watershed area divided by the maximum length of the channel)
FF = Fire factor (value dependent on time after watershed burn, 88 = 6 months after burn)
SF = Slope failure (area of watershed that is prone to landslides, acres per square mile)
K = Dimensionless rainfall factor (product of the square of the 24-hour precipitation and the 10-day precipitation)

VCFCD applied the Scott equation to determine the estimated debris volumes for the potential sediment and debris basin locations, so allowances could be provided in the estimates for either the facility sizes and amount of dead storage. Rainfall gage No. 141 located in the downtown portion of Moorpark and gage No. 191 located in the upper watershed, upstream of Broadway, were used to evaluate the 24-hour and the 10-day precipitation, then a weighted value was used based upon the proposed basin site relative to the gages. The debris production analysis prepared by VCFCD was performed using the following additional assumption or characteristic values: (1) 100% of the watershed burned, (2) slope failure varied from 6 acres/square mile to 20 acres/square mile, (3) both 6-months after the burn and 4.5 years after the burn or pre-burn condition, which provides fire factors of 88 and 20 respectively.

VCFCD prepared the debris production analysis for four potential regional detention basin locations which correspond closely to the four primary canyon watershed areas. The results of the debris production analysis are summarized in the following table and the 100-year debris production values were used in the facility sizing for the alternative drainage systems.

Table No. 4.1 - 100-year Estimated Sediment Yield						
Watershed Conc. Pt.	Description	Area (acres)	Sediment Yield Before Burn	Sediment Yield After Burn	VCFCD Required Debris Storage	Bulking Factor
5A	Walnut Canyon upstream existing improved channel inlet	336	8,427 c.y.	12,223 c.y.	11.4 AF	1.55
13	Canyon tributary to Walnut Channel at Casey Road	276	6,121 c.y.	8,878 c.y.	8.3 AF	1.53
48	Tributary Canyon at Gabbert Canyon Road	474	23,506 c.y.	34,095 c.y.	31.7 AF	1.67
109	Gabbert Canyon Debris Basin	2,350	--------	56,900 c.y.	52.9 AF	-------

4.3 Hydrologic Analysis Procedures

The watershed rainfall-runoff model utilized to evaluate the watershed primarily relied upon the Ventura County Modified Rational Method procedure which is applicable for urban drainage system design. The VCFCD computational procedure involves application of the basic rational method equation which is utilized to develop a runoff hydrograph from each individual ~~the different~~ subarea. The cumulative rainfall mass curve is used to evaluate rainfall intensity over the storm duration and determine intermediate hydrograph ordinates. The individual hydrographs from the subareas are routed through the hydraulic conveyance systems or can be combined to simulate the interconnected components associated with the physical processes occurring in the watershed.

The shape of the unit hydrographs developed using the modified rational method do not necessarily generate the correct effective runoff volume or net rainfall since the cumulative mass rainfall curves are averaged. The expected runoff yield based upon local point or isohyetal rainfall data compared to the computed runoff yield from the modified rational hydrograph will typically need to be adjusted to provide the same effective rainfall. This process is known as "fattening" and the adjustment results in modification to the shape of the calculated runoff hydrograph so the area under the hydrograph provides the desired effective or net rainfall. The correct amount of direct runoff volume is a critical factor for the storage routing analysis of detention basins and this required that the inflow hydrographs to detention basins generated from VCRAT were "fattened" prior to routing.

As the watershed area increases in size the area-averaged point rainfall values used in the design storm pattern should be adjusted so that the volume of rainfall of the area is accurately represented by the point rainfall characteristics. As the spatial extent of the storm increase the depth of rainfall decreases. The reduction is made using a depth-area adjustment factor when selecting point rainfall to apply uniformly over the watershed. The modified rational procedure is calculating runoff hydrographs for the individual subareas with the rainfall associated with the smaller drainage area. A larger watershed composed of numerous interconnected subarea hydrographs results in over

estimating the point rainfall associated with concentration points further downstream in the watershed. Depth-area adjustment factors were applied to the inflow hydrographs for the detention basins. The depth-area adjustment curve was constructed by VCFCD staff specifically for the Gabbert/Walnut canyon watershed as a function of total drainage area. The results are indicated in the following table and the reference data is contained in the *Technical Appendix*.

Table No. 4.2 - Detention Basin Inflow Hydrographs Adjustment Factors

Basin No.	Conc. Point	Drainage Area (acres)	Peak Q_{100} Inflow	Fattening Factor	Area Reduction Factor
Offline Diversion (Basin 3& 4)	35AB	1,014	847 cfs	56% 3.58	0.915 (0.085)
Gabbert Debris Basin	109B	2,433	2,185 cfs	49% 3.3	0.83 (0.17)
Basin 0	6A	382	390 cfs	62% 4.27	0.97 (0.03)
Basin 1	12BC	207	309 cfs	46% 2.92	0.97 (0.03)
Basin 2	41B	475	514 cfs	45% 2.85	0.955 (0.045)

Local Drainage Systems

The hydrology analysis for the Gabbert/Walnut Canyon Channel watershed assumed that all the local storm drain could deliver the peak flows to the channel system, but **limited to the maximum hydraulic capacity of the storm drain**. The Moorpark Drain No. 1 was limited to the hydraulic capacity or original design flow of the storm drain indicated on the improvement drawings which was approximately 125 cfs, but the estimated 100-year discharge from the 137 acre urban watershed area is 243 cfs. The other major local storm drain system is the 72-inch diameter facility joining the Walnut Canyon Channel at Los Angeles Avenue which has an estimated capacity of 195 cfs and the estimated 100-year flow from the 125 acre subareas is 251 cfs.

Discussion of Watershed Model

Several unique features regarding the application of the VCFCD modified rational procedures to this watershed investigation were encountered because of the size of the drainage area and the complexity of the watershed processes. These items included:

• Depth-area reduction factors were applied to the hyrographs at the detention basins, but were not applied to the main channel hydrographs even though the peak runoff based upon the smaller subarea precipitation value.

• The configuration of the watershed involves two large watersheds which confluence and the shape of the hydrographs is extremely important in accurately determining the resulting total flowrate. Using superposition to add the hydrographs relies on accurate ordinates for both limbs of hydrograph and the shape of the main channel hydrographs were not adjusted, only if reservoir routing was involved. If the hydrographs from the two primary streams were "fattened" prior and then combined then this resulted in a different hydrograph from the standard confluence addition.

• The outflow hydrographs resulting from the reservoir routing were fattened hydrographs which were input in the remainder of the modified rational watershed model and combined with additional hydrographs which were not "fattened."

• The watershed system involves evaluating the effect of several detention basins operating simultaneously and on different streams. The modified rational method is not particularly suited to effectively simulate the effects of multiple reservoirs where storage volume and timing is critical in accurately determining the cumulative effect.

4.4 VCFCD Baseline Watershed Hydrology Model

VCFCD prepared a synthetic unit hydrograph model of the entire Gabbert and Walnut Canyon Channel watershed, June 1996, specifically evaluating the current landuse conditions within the watershed. The VCFCD watershed model was utilized to establish a baseline condition for predicted flowrate generation from the watershed without any future development. This assumption is applicable since it is assumed that a drainage ordinance will require all future development to maintain the existing or pre-development flows. The current hydrology model was prepared utilizing the VCRAT program which is based on the modified rational method hydrology procedures outlined in the *Ventura County Hydrology Manual* (1978). The hydrology model corresponds to "link-node" model which simulates the physical rainfall-runoff processes occurring in the watershed. The individual subareas are hydrologic nodes and the hydraulic conveyance sections are the links which interconnect the subareas. The watershed delineation subdivided the entire 4,425 acre regional watershed into **79 subareas** which ranged in size from 8 acres to 105 acres and individual time of concentrations less than 30 minutes. Runoff hydrographs are computed within the model for each subarea, routed through the conveyance system, and combined with other subarea hydrographs as the analysis proceeds downstream through the watershed.

4.4.1 Summary of Baseline Design Hydrology

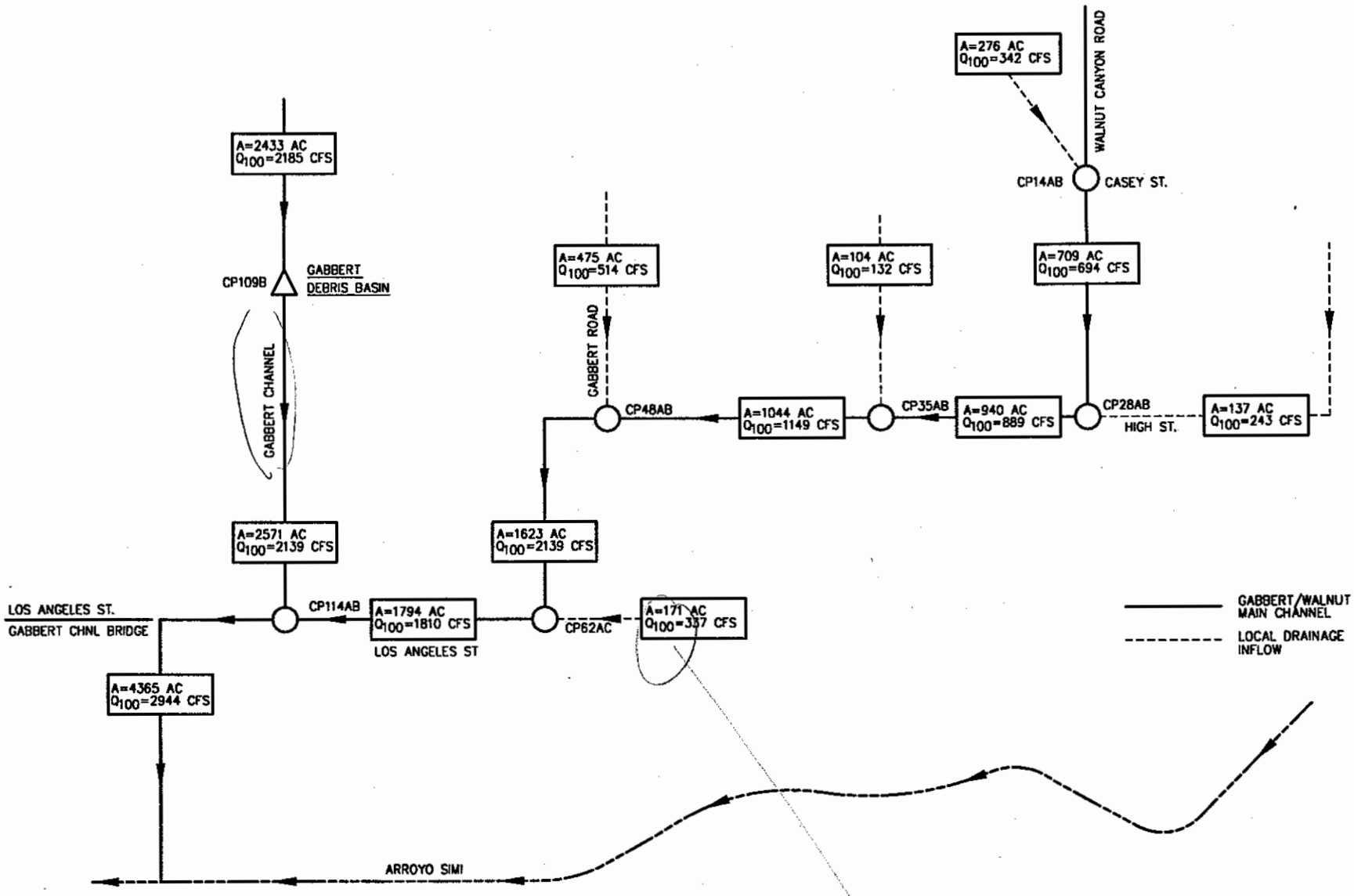
Application of the Ventura County Modified Rational watershed model for the current landuse conditions was evaluated for both the 50-year and 100-year return periods. The hydrograph peak

discharges associated with critical concentration points along the channel system are indicated in *Table No. 4 - Summary of Existing Watershed Hydrology - Clearwater Design Flowrates*. The detailed input and output for the watershed models are contained in the *Technical Appendix*. All discharges generated from the VCFCD baseline watershed model reflect clearwater values. Runoff conveying debris and sediment has an increased total volume which tends to increase or "bulk" the apparent clearwater flowrate. However, it is assumed that the potential for debris production will be reduced through future debris collection facilities and no "bulking factor" was applied to the discharges.

Table No. 4. 3- Summary of Existing Watershed Hydrology
Clearwater Design Flowartes[1]

Channel	Watershed Model Node	Drainage Area (acres)	Design Clearwater Flow		Channel Reach Description
			Q_{50}	Q_{100}	
Gabbert	109B	2,433	1,732 cfs	**2,185 cfs**	Gabbert Debris Basin spillway
Gabbert	114AB	4,365	2,275 cfs	**2,944 cfs**	Downstream of Walnut Canyon confluence
Gabbert	115A	4,388	2,276 cfs	**2,945 cfs**	Los Angeles Avenue Culvert crossing
Gabbert	118AC	4,425	2,279 cfs	**2,947 cfs**	Outlet to the Arroyo Simi
Walnut	6A	382	283 cfs	**382 cfs**	Existing improved channel headworks next to Walnut Canyon Road
Walnut	7A	433	292 cfs	**431 cfs**	Upstream Casey Road culvert
Walnut	14AB	709	469 cfs	**696 cfs**	Confluence at Casey Road culvert with small offsite canyon area
Walnut	28AC	846	603 cfs	**889 cfs**	Downstream of confluence at High Street Drain with Moorpark Drain No. 1
Walnut	35AB	1,044	797 cfs	**1,149 cfs**	Downstream of confluence at Poindexter culvert crossing
Walnut	48AB	1,553	1,123 cfs	**1,619 cfs**	Downstream of confluence at Gabbert Canyon Road
Walnut	49A	1,623	1,176 cfs	**1,688 cfs**	Southern Pacific Railroad culvert crossing
Walnut	62AC	1,794	1,258 cfs	**1,810 cfs**	Downstream of confluence with 54" dia. Los Angeles Avenue city storm drain

1. Peak flowrates do not reflect any depth-area adjustment factor



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WALNUT/GABBERT CANYON

DATE
4/97

EXISTING WATERSHED CONDITION
CHANNEL 50-YEAR DESIGN HYDROLOGY

EXHIBIT

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4.5 *Hydrologic Modeling of Flood Control Storage Alternatives*

The watershed hydrology model developed on VCRAT for the current landuse conditions was utilized to perform hydrologic routing to evaluate the effect of the different detention basin alternatives. Most of the proposed drainage system alternatives consider the use of multiple detention basins at different locations within the watershed and the cumulative effect on the resulting hydrograph peak attenuation impacts the channel conveyance requirements. A variety of different detention basin combinations were initially investigated in order to maximize the peak flow reduction. The geometry and configuration of each of the individual detention basin sites "optimized" in order to maximize the performance based upon the physical site restrictions and avoiding a jurisdictional dam facility. The optimization procedure involved numerous combinations of basin geometry and outlet configurations until the peak flow attenuation was maximized. The optimized detention basin could then be evaluated in the overall watershed drainage "system" to determine the regional effect.

Three different hydrology software programs were used to perform the reservoir routing analysis based upon the input data which was utilized for the inflow hydrograph and the complexity of the detention basin outflow. The models which were used included: (1) VCHYDRO, (2) Army Corps of Engineers HEC-1, and (3) Advanced Interconnected Channel & Pond Routing Program (ADICPR). In addition, the optimization of the individual detention pond configuration was evaluated through the application of PONDOPT. PONDOPT provides the ability to evaluate several hundred combinations of basin outlet configurations or basin geometries using specified limitation or restrictions on the basin, such as the maximum depth or target outflow. The program will provide the minimum basin storage which will maximize the peak attenuation. VCHYDRO was the primary reservoir routing program utilized since this is the utility program for VCRAT which performs the modified puls routing and the baseline watershed model had been prepared using VCRAT. HEC-1 and ADICPR have unique reservoir routing features which provide flexibility in evaluating complex detention basin configurations which were required.

PONDOPT - Typical detention basin design requires a trial and error analysis of the basin geometry and the outlet in order to generate the maximize flow attenuation within the least area and minimum excavation. This program is a multiple outlet detention pond design program which can evaluate up to two hundred alternatives in a single computer run based upon the design constraints placed on the design such as the maximum depth. The analysis will design the pond and outlet structure to satisfy the given design criteria and optimize the design so the final pond requires the least surface area and storage volume.

VCHYDRO - The utility program for VCRAT which utilizes the synthetic runoff hydrograph developed in the modified rational method and allows performing the runoff yield to the shape of the VCRAT hydrograph in order to ensure the effective rainfall volume matches the volume of the hydrograph. The "fattened" hydrograph can be routed through a reservoir based upon outflow rating curve data and depth-storage relationships for the basin. The resulting outflow hydrograph from the detention basin can be imported back into the VCRAT program to continue the simulation through the remainder of the watershed. An important item for consideration when applying this model to

a watershed with multiple detention basin is that the routed hydrographs which are imported back into the VCRAT model are "fattened", however, the remaining hydrographs generated by VCRAT are not fattened. This effect can potentially modify the effect of different hydrographs within the watershed depending upon the timing and magnitude of the watershed.

HEC-1 - This hydrograph software package is extremely flexible for the evaluation of complex ungaged watersheds and has several procedures for generating synthetic unit hydrographs. HEC-1 reservoir routing features allow rapidly evaluation of different basin configurations and the stage outflow relationship can be determined by the program from weir and orifice configuration.

ADICPR - Most standard hydrology models are not capable of analyzing detention ponds which are hydraulically dependent upon each other, however, ADICPR is a finite element software package which was specifically developed with algorithms to evaluate these effects. The unique application feature which was utilized specifically for this project was the ability to model multiple outlets from a single basin and the outflow hydrograph from each outlet is a separate stream. This feature was useful for the Gabbert Detention Basin which required the initial upstream basin to bypass the initial portion of the hydrograph and the remainder would continue to be routed through the downstream connected basin. The model was applied through inputting the design inflow hydrograph which was generated from HEC-1 and then routed with the complex basin geometry to verify the operation, especially with hydraulics of the diversion systems dependent on the reservoir operation.

4.5.1 Summary of Alternative Drainage System Design Discharges

The baseline watershed VCRAT hydrology model prepared by VCFCD was modified to reflect the proposed storage or diversion elements associated with each of the eight watershed drainage system alternatives which were selected for detailed investigation. Reservoir routing elements and flow splits for diversions were incorporated into the overall watershed hydrology model which resulted in modifying the mainline channel hydrograph. Routing analysis were performed for 100-year return period only since is the VCFCD design criteria associated with detention basin and the resulting hydrographs in the mainline channel were also evaluated for the 100-year return period. The watershed model results for the 100-year discharges of each of the channel system alternatives are summarized in the following table. Representative watershed concentration points are presented which reflect channel system reach lengths utilized to describe the channel for this study.

Table No. 4.4 - Summary Drainage Systems Alterative Hydrology
Walnut Canyon Channel 100-year Peak Discharges

Conc. Pt.	Chann Reach	Exist Q_{100} (cfs)	Drainage System Alternate - Q_{100} (cfs)								
			A	B	C	D	E	F	G	H	I
6A	1	390	273	273	273	273	273	273	273	273	273
14AB	1	696	476	476	476	476	476	476	476	476	476

Table No. 4.4 - Summary Drainage Systems Alterative Hydrology
Walnut Canyon Channel 100-year Peak Discharges

Conc. Pt.	Chann Reach	Exist Q_{100} (cfs)	Drainage System Alternate - Q_{100} (cfs)								
			A	B	C	D	E	F	G	H	I
28AC	2	889	597	597	597	597	597	597	597	597	597
36A	Split	1,112	847	847	847	847	847	847	847	847	847
48AB	3	1,619	150	150	150	144	144	144	144	154	154
62AC	4	1,810	559	559	559	555	555	555	555	563	563

Table No. 4.5 - Summary Drainage Systems Alterative Hydrology
Gabbert Canyon Channel 100-year Peak Discharges

Conc. Pt.	Chann Reach	Exist Q_{100} (cfs)	Drainage System Alternate - Q_{100} (cfs)								
			A	B	C	D	E	F	G	H	I
109B	1 & 2	2,185	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411
114AB	3 & 4	2,944	1,890	1,890	1,890	1,879	1,879	1,879	1,879	1,886	1,886

Section 5—Engineering Design Criteria

5.1 Flood Protection Requirements and Design Criteria

The flood protection requirements were based upon the standard VCFCD design criteria and incorporated both the channel and detention basin requirements. The standard VCFCD detention basin design criteria is based upon the 100-year level of protection. Flood control channels are designed to provide 50-year conveyance with freeboard or 100-year capacity without freeboard.

Freeboard

The VCFCD freeboard requirements for open channels are based upon adding allowance to the actual depth which area calculated for air entrainment, flow in the unstable zone, and superelevation. A minimum residual freeboard must be maintained above the 50-year water surface or the totals for these additional allowances. Freeboard was calculated when evaluating the capacity analysis for the 50-year design condition and the results are provided in the *Technical Appendix*.

Superelevation

Centrifugal effect cause a transverse hydraulic gradient for channel flow around a bend and results in the water surface elevation higher on the outside of the curve. VCFCD design criteria is to design the curves to limit the superelevation to one foot above the normal depth or 10% of the channel width. The amount of superelevation can be calculated for a supercritical rectangular channel, the most common case for this channel system, using the following equation:

$$h = 1.2 \frac{V^2 b}{Rg}$$

5.2 Hydraulic Analysis

Hydraulic analysis associated with the conveyance systems followed the general criteria outlined in the *Ventura County Flood Control Design Manual* (1968) for both the deficiency analysis and the preliminary design of the replacement channel facilities. Water surface profiles for the channel systems were analyzed to determine actual flow depths and evaluate the effects of culverts or junctions. Another hydraulic effect is the potential for surface waves, especially in supercritical channels which can occur from shifts in alignment such as at curves. The primary item which influenced the hydraulic capacity for this channel system was superelevation of the water surface around channel curves of the alignment. The Los Angeles County Flood Control District hydraulic analysis program F0515P or WSPG was utilized to develop the hydraulic model of the channel system. The program computes and plots uniform and non-uniform steady state flow water surface profiles and pressure gradients in open channels or closed conduit with irregular and regular section.

The computation procedure is based on solving Bernoulli's equation for the total energy between the section in a reach. The open channel flow analysis utilizes the standard step procedure while confluences and bridge piers are analyzed using the pressure and momentum theory.

Deficiency Analysis

Water surface profiles for the existing channel system were prepared using the Los Angeles County's Water Surface Pressure Gradient (WSPG) hydraulics program. The actual water depths from the water surface profile were used to evaluate the maximum conveyance capacities in the channel system based upon facility dimensions indicated on the improvement plans. The deficiency analysis was based calculating a conveyance capacity with freeboard and without freeboard, but including superelevation. The results of the analysis indicated that the locations of the channel bends were the severe restriction because of the amount of superelevation.

Hydraulic Design Modified / Replacement Channel

The hydraulic design of replacement channel systems, including diversion systems, were evaluated through the preparation of water surface profile analysis to ensure that all systems provided identical levels of flood protection. The objective of the channel modifications was to provide the minimum amount of improvements that provides the desired level of flood protection. Some of the criteria which was applied to assist in guiding the development of the various alternatives for the channel reconstruction included:

- Wall height extensions to the existing channel were applied to a maximum height of 3-feet and if this did not provide the required addition capacity then the base width was widened using the existing channel depth for the new cross section.

- Splitter walls were applied to different channel curve locations in order to maintain a maximum superelevation below one-foot.

- The reconstructed channel was assumed to follow the same vertical alignment and elevations as the existing channel system

- The modified channel section was designed to convey the main channel 100-year flowrate based upon the implementation of different detention basin alternative. The 100-year conveyance uses "bank full" capacity with superelevation.

Water Surface Control Elevations

The downstream water surface control for the hydraulic analysis of the channel system was based upon the water surface elevations in the Arroyo Simi determined by VCFCD. The backwater influence from the Arroyo Simi generally was limited to downstream of Los Angeles Avenue, since the majority of the channel system is supercritical. Hydraulic analysis of the Walnut Canyon Channel

utilized the water surface calculated from the confluence with Gabbert Channel.

Table No. 5.1 - Arroyo Simi Water Surface Control Elevations			
Location Description	Arroyo Simi Chann. Sta.	Proposed Design W.S. Elev.	FIRM W.S. Elev.
Shasta Diversion System	117+00	481.0	482.0
Relocated Walnut Outlet	62+00	447.8	-----
Existing Gabbert Outlet	37+20	419.9	------

5.3 Detention Basin Requirements

One of the primary requirements applied in the initial planning and evaluation of the stormwater detention facilities was limiting the size of the facilities so these storage basins would not be considered jurisdictional DSOD "dams". The limitation are discussed in more detail in *Section 8.5-Division of Safety of Dams Design Considerations/Criteria* and generally were the governing factor regarding the effectiveness of the stormwater storage attenuating the peak flowrates. Size of the detention facilities were maximized based upon the physical site considerations and the DSOD limitations in order to optimize the effectiveness of each basin. In addition, VCFCD has published minimum guidelines for stormwater detention facilities which focus on the specific design elements for detention basins. These requirements were included in the planning of the individual basins and also addressed in the construction cost estimates.

Debris Storage

Tributary watersheds to a detention basin which is under five square miles must include allowance for debris storage which is equivalent to 125% of the 100-year frequency design debris production (see *Section 4.2.1-Estimated Debris Volume Generation*) placed level in basin before routing of the hydrograph. All the detention basin locations evaluated as part of this investigation had a measured tributary watershed less than five square miles. The largest tributary watershed was the existing Gabbert Debris Basin with a drainage area of 2,433 acres or approximately 3.8 square miles.

Level of Protection

Detention basins are designed to provide 100-year level of flood protection so all hydrologic routing analysis of the detention basins involved 100-year hydrographs. The effects of the peak attenuation of the flows within the channel system associated with the detention basins were based upon applying the 100-year hydrology model for the entire watershed. The flood protection criteria for the flood control channels utilized either 50-year conveyance with freeboard or 100-year conveyance "bank-full" or no freeboard. All the channel system alternative utilized stormwater detention elements so the 100-year criteria was applied to the evaluation of the channel system hydraulics.

Outlet Works

The outlet works must consist of a permanent concrete structure which will reduce the tendency of plugging by floating debris. The outlet works shall also consist of facilities for disposing of stored water in the debris pool portion of the basin.

Emergency Spillway

Emergency spillway designed for the unattenuated peak 100-year flow and will extend beyond the downstream of the embankment toe. one foot above max. w.s. elevation under operational condition.

Earthen Embankment

The crest of the embankment shall be located three-feet above the maximum water surface for the emergency spillway flow. The minimum crest width is twenty feet and a 15-foot wide asphalt paved road shall be centered on the crest. The downstream slope of the embankment shall generally be on a 3:1 slope and downstream face shall be covered with 12-inch blanket of river-run cobble stones.

Access Requirements

Access shall be provided to the embankment crest, emergency spillway, and the outlet works. In addition access will be provided to the bottom of the basin for debris removal.

5.4 Debris Basin Requirements

The specific design requirements associated with the detention basin are applicable to planning the minimum required features for debris storage facilities. The particular requirements include providing an allowance of 125% of the estimated 100-year single event debris production. In addition, VCFCD has prepared *Debris Basin Manual* (1991) which also contains additional design criteria particularly related to existing debris basin facilities. The basis for estimating the debris production rates for various storm events involves applying the Dr. Kevin Scott formula and the analysis for this watershed is described in more detail in *Section 4.2.1 - Estimated Debris Volume Generation*. The available debris storage volume is calculated assume the slope of the debris cone surface will extend from the spillway elevation equal to 0.6 times the original streambed slope

Need to confirm this ?

Section 6—Plan Formulation and Alternative Development

6.1 Design Objective and Criteria

The project alternatives have been developed with the goal of achieving a balance between (1) flood protection objectives, (2) providing the minimum cost for the maximum benefit or economic constraints, and (3) compatibility with existing physical constraints and future development. Numerous alternatives were developed during the initial plan formulation process and then screened through a feasibility evaluation. The alternative must be technically feasible and achieve the desired project objectives to the maximum extent possible. The following key objectives were identified in guiding the development of the alternative formulation:

- Provide a comprehensive flood control program which provides flexibility for the local agencies and facilitates implementation.

- Minimize the hydrologic impacts on the channel system from future urbanized development within watershed.

- Provide a foundation to guide adjacent development within the watershed which will accommodate the regional flood protection requirements and allow development to proceed.

- Provide a regional drainage system which develops the minimum level of flood protection with the least economic impact.

- Identify locations within the watershed for land acquisition or reserve land for flood control facilities.

- Maximize utilization of existing flood control facilities and right-of-way which integrate into the recommended program

The general approach to regional stormwater management involves that application of either conveyance oriented solutions or a storage oriented approach. The conveyance oriented approach is the more traditional design and provides drainage systems for the hydraulic conveyance of the runoff. The storage oriented approach provides temporary storage of stormwater runoff and release at a reduced rate. The conveyance- and storage-oriented approaches are not necessarily mutually exclusive. The two approaches can be compatible and the integrates use of the two approaches generally lead to a more optimum system. The plan formulation process in this investigation attempted to optimize the design for this watershed through the combined application of these approaches

Development of a comprehensive regional flood protection program requires the application of a "systems" approach since implementation individual design features have effects which extend

throughout the watershed. The technique involved identification of individual design elements such as (1) detention basins, (2) debris basins, (3) channel improvements, (4) channel relocations, and (5) diversion systems, which each provide various degrees of enhanced flood protection. The available individual design elements were combined into "alternative drainage systems" to evaluate the collective benefit on the channel system. This technique involved (1) formulation of potential design elements, (2) evaluation of the individual measures, (3) performing a feasibility investigation of the control measure, (4) combining these feasible elements into an implementable watershed drainage system, and (5) screening these alternative "systems" to the most potentially feasible.

The design criteria applied in performing the technical investigation and plan formulation for the recommended flood control system relied on the Ventura County Flood Control District standards design guidelines. Additional criteria related to specific requirements applied in the alternative development and facility requirements is discussed in more detail in *Section No. 5 - Engineering Design Criteria.*

6.2 General Flood Protection Design Approach

The flood protection requirement which governed the plan formulation of each design alternative for the removing the channel deficiency involved either (1) providing 50-year conveyance in the channel plus the appropriate freeboard in the channel as defined in the *VCFCD Design Manual* or (2) 100-year conveyance in the channel without freeboard but including superelevation for curves. All detention basins were designed based upon the 100-year frequency. The various combinations of detention basin storage and amount of channel reconstruction were optimized in order to minimize the capital costs, but provide similar levels of flood protection.

6.3 Alternative System components

The available flood control elements which were utilized to address correcting the hydraulic deficiency can be either classified as conveyance oriented or storage oriented. The individual elements were analyzed to develop a wide range of available tools. The various individual elements were then combined to develop potential watershed "systems" since each of the elements will have a combined effect which must be evaluated.

6.3.1 Flood Control Storage Elements

The flood control storage facilities which were investigated in the plan formulation included both the construction of new basins or the modification of the existing debris basins to provide stormwater attenuation. The type of facilities included both debris and stormwater storage since the watersheds are primarily natural and have debris production potential. The planning process developed nine potential sites which could provide flood control storage capabilities. These were refined to five feasible locations with eight actual alternatives that were selected for detailed evaluation and incorporated into the drainage systems alternatives. The storage facilities included both on-line and off-line detention storage basins that were generated from either embankments or excavated below

the natural ground. All the facilities were developed to be outside the jurisdiction of DSOD. All facilities were provided with adequate storage for debris potential except for the off-line basins 3,4,and 5. These facilities were located downstream of proposed debris collection facilities for basins 0 and 1, also the flow-by nature will reduce the potential of significant bedload from depositing.

Table No. 6.1 - Summary of Proposed Detention Basin Characteristics

Basin Alt. No.	Surface Area (acres)	Max Storage (acre-feet)	Max Depth (feet)	Q_{100} Inflow	Q_{100} Outflow
Gabbert -A Triple Basin	16	138[1]	25 feet	1,316 cfs (900cfs bypass)	811 cfs
Gabbert -B Double Basin	11	94[1]	16 feet	984 cfs (600cfs bypass)	514 cfs
0	1.3	14[3]	10 feet	390 cfs	273 cfs
1	0.65	25[3]	18.5 feet	301 cfs	65 cfs
2	1.7	36[3]	15 feet	514 cfs	141 cfs
3	14	70[2]	5 feet[2]	847 cfs	9 cfs
4	61	305[2]	5 feet[2]	847 cfs	4 cfs
5	42	210[2]	5 feet[2]	847 cfs	14 cfs

1. Total combined storage of all ponds, not DSOD jurisdictional
2. Incised basin below natural ground, not DSOD jurisdictional
3. Maximum limiting volume of 50 AF not available due to site restrictions such as major road relocations or existing residential development within inundation area

6.3.2 Hydraulic Conveyance Elements

The hydraulic conveyance system alternatives focused on new facilities which would assist in providing the desired hydraulic capacity. The conveyance was provided through either improvement of the existing channel section to the desired increased flow capacity or an relief system was provided which could additional capacity to supplement the existing channel system.

6.3.2.1 Channel System Modification

The existing channel system for both Walnut Canyon Channel and Gabbert Canyon Channel was divided into four different homogeneous segments to facilitate analysis and evaluation of system modifications. Modifications to the existing channel assumed that the existing horizontal and vertical alignment of the channel would be utilized, just the cross sectional area increased to maintain the desired capacity. An "all-channelization" alternative which results in the complete reconstruction of

the existing channel was evaluated and the relative size requirements can be determined from *Tables 3.6 and 3.7 Comparison of Uniform Hydraulics* which indicates the required channel dimensions in order to achieve bank-full normal depth capacity. However, the development of the recommended modified channel dimensions was based actual hydraulics from water surface profiles to achieve the desired flood protection requirements, including superelevation.. An iterative design process was performed for the hydraulic analysis and design of the channel sections until satisfying the requirements. **The horizontal curves of the existing channel were maintained in order to avoid property acquisition and other conflicts**. Modification of the existing horizontal curves through increasing the radius would have reduced the superelevation requirements for the channel section since a majority of the existing curves have radius of 99-feet. Pier walls were incorporated at many locations in order to reduce the superelevation to within an acceptable level.

Gabbert Canyon Channel

The alternatives considered either partial reconstruction or complete reconstruction of the existing Gabbert Channel system depending upon the amount of flow attenuation was provided by detention basins. The channel reach upstream of the confluence to the debris basin needs to be reconstructed for all alternatives. The channel section requirements for the various alternatives and channel reaches are indicated in the following table.

Table No. 6. 2- Summary of Gabbert Canyon Rectangular Channel Modifications

Alternate	Reach No.1 (L=2,030')	Reach No. 2 (L=625')	Reach No. 3 (L=1,200')	Reach No. 4 (L=3,310')
Exist	**b=8' / h=4.5'**	**b=8' / h=4'**	**b=14' / h=6'**	**b=14' / h=6.5'**
A	14' x 5'	14' x 4' to 16' x 6' (pier wall)	18' x 7' (new outlet)	existing
B	14' x 5'	14' x 4' to 16' x 6' (pier wall)	14' x 8' (wall extension)	existing
C	14' x 5'	14' x 4' to 16' x 6' (pier wall)	18' x 6'	21' x 6.5'
D	14' x 5'	14' x 4' to 16' x 6' (pier wall)	18' x 7' (new outlet)	existing
E	14' x 5'	14' x 4' to 16' x 6' (pier wall)	14' x 8' (wall extension)	existing
F	14' x 5'	14' x 4' to 16' x 6' (pier wall)	18' x 6'	21 x 6.5'
G	14' x 5'	14' x 4' to 16' x 6' (pier wall)	18' x 7'	existing

Table No. 6. 2- Summary of Gabbert Canyon Rectangular Channel Modifications				
Alternate	Reach No.1 (L=2,030')	Reach No. 2 (L=625')	Reach No. 3 (L=1,200')	Reach No. 4 (L=3,310')
H	14' x 5'	14' x 4' to 16' x 6' (pier wall)	14' x 8' (wall extension)	existing

Walnut Canyon Channel

All the alternatives only required that Reach No. 2 and a portion of Reach No. 3 be reconstructed, approximately 1,900 lineal feet. The channel section requirements for the various alternatives and channel reaches are indicated in the following table.

Table No. 6.3 - Summary of Walnut Canyon Channel Modifications				
Alternate	Reach No.1 (L=1,280')	Reach No. 2 (L=1,300')	Reach No. 3 (L=3,900')	Reach No. 4 (L=4,400')
Exist	**b=7' / h=5'**	**b=8' / h=5'**	**b=10' / h=5'**	**b=12' / h=5'**
A	existing	8' x 6' (wall extension)	existing	existing
B	existing	8' x 6' (wall extension)	existing	existing
C	existing	8' x 6' (wall extension)	existing	existing
D	existing	8' x 6' (wall extension)	existing	existing
E	existing	8' x 6' (wall extension)	existing	existing
F	existing	8' x 6' (wall extension)	existing	existing
G	existing	8' x 6' (wall extension)	existing	existing
H	existing	8' x 6' (wall extension)	existing	existing

6.3.2.2 Diversion System

A diversion is designed to function as a hydraulic relief system, which splits a portion of the total main channel flow and conveys the flow along an alternate alignment to the ultimate outlet. Three potential

diversion system were initially developed as part of the plan formulation which diverted flow from Walnut Canyon Channel to the Arroyo Simi. The most cost effective and feasible of these alternates was the diversion which follows an alignment parallel and west of Shasta Avenue along the rear of a commercial area. The primary constraints associated with the diversion system were (1) the limited elevation difference between the Walnut Canyon Channel and Arroyo Simi resulting in a flat friction slope, (2) the water surface elevation in the Arroyo Simi, (3) existing 21-inch diameter trunk sanitary sewer along Los Angeles Avenue, (4) existing 54" and 48" diameter VCFCD storm drains which cross the Los Angeles Avenue sanitary sewer near Shasta Avenue, providing a corridor or "window" to reconstruct with a larger crossing for the diversion system, (5) channel depth at Walnut Canyon Channel results in shallow cover over the buried diversion system.

The limited available energy gradient for the diversion system results in a relatively large conveyance section for a small amount of flow. Two different amounts of flow diversion were evaluated which included 100 cfs and 300 cfs. The diversion conveyance system was a constant size from Walnut Canyon Channel to Los Angeles Avenue, at this location it combined with the local runoff from the existing 54" and 48" diameter storm drains which would be removed into order to utilize the crossing over the sanitary sewer. The dimensions for the conveyance system associated with the diversion are indicated in the following table.

Table No. 6.4 - Diversion Conveyance System Dimensions

Diverted Flow	Reach	Length	Required Section	Q_{100}
100 cfs	Arroyo Simi to LA Ave	815 ft	78" RCP	100 cfs
	LA Ave to Walnut	2,220 ft	60" RCP	100 cfs
300 cfs	Arroyo Simi to LA Ave	815 ft	14' x 5' RCB	493 cfs
	LA Ave to Walnut	2,220 ft	12' x 5' RCB	300 cfs

A conceptual layout has been prepared for the channel diversion structure or bifurcation system which will split the main channel flows. The system is designed to initially bypass all flows up to 100 cfs or 300 cfs depending upon the discharge selected for the split flow. A typical diversion structure involves the installation of a "smart structure" that relies on the hydraulics of the system rather than manual operation to divert the flow. The concept illustrated utilizes an "in-line" structure which diverts all flows up to an initial amount to the new conveyance system. Once this amount is exceeded, then the additional flow will crest a weir at the diversion structure and spill into the adjacent "diversion" detention basin. The diversion detention basins have been designated as basin numbers 3,4,and 5 which all occur in the Hitch Ranch property. The impact of these basins on the proposed landuse increases as the storage volume increases. These basins just reflect different available storage volumes and areal extent. The diversion structure redirects the diverted flow perpendicular to the existing Walnut Canyon channel alignment, which flows down a chute entrance

of a culvert which crosses the SPRR and continues to the Arroyo Simi.

The size of the diversion system is extremely limited because of the existing physical constraints as previously indicated. Increasing the magnitude of the flow diversion will provide greater benefits which are achieved downstream and the system realizes a better cost-benefit.

6.3.2.3 Walnut Canyon Channel Outlet Realignment

This feature involves realignment of either the Walnut Canyon Channel outlet or the combined Gabbert and Walnut Canyon Channels to a new outlet location into the Arroyo Simi. This relocation functions as a diversion. The relocated channel section would follow a horizontal alignment along the eastern boundary of the Smith-Holst Ranch and involves the construction of 1,400 of an earthen trapezoidal channel section with rock rip-rap lined side slopes. The channel section is designed with a maximum average velocity of 8 fps without influence from the downstream tailwater and the required channel size is based upon the tailwater condition. Relocation of the channel requires construction of a new culvert crossing under Los Angeles Avenue since the existing Gabbert and Walnut Canyon Channels are on the north side of Los Angeles Avenue. Relocating just Walnut has the advantage of reducing the flow to Gabbert by almost half and allows the ability to utilize more of the existing Gabbert channel without reconstruction. The outlet channel dimensions for the various conditions are indicated in the following table.

Table No. 6.5 - Relocated Outlet Channel

Description	Flowrate	Section	Systems Alternate
Gabbert & Walnut Relocation	1,889 cfs	trap b=20', d=11' z=2	A,D, G
Walnut Relocation	1,411 cfs	trap b =14', d=10' z=2	B
Walnut	559	trap b= 14', d=15' z=2	E, H

Section 7—Design Considerations

7.1 Agency Agreements, Permits, and Approvals

Implementation of the recommended watershed improvements would involve various regulatory and governmental agencies for approvals and environmental clearances. The regulatory agencies focus primarily on (1) the environmental issues and impacts and/or, (2) public safety. Early involvement of the jurisdictional agencies and stakeholders within the watershed facilitate development of an implementable plan and ensures requirements associated with the agreements or permits are incorporated into the design.

General Environmental

The California Environmental Quality Act applies to all discretionary activities proposed to be carried out or approved by California public agencies, including state, regional, county and local agencies, unless an exemption applies. Generally, the implementation of CEQA entails three (3) separate phases: a) preliminary review of a Aproject@ to determine whether it is subject to CEQA; b) preparation of an Initial Study to determine whether the project may have a significant environmental effect; and c) preparation of an EIR if the project may have a significant environmental effect or of a Negative Declaration if no significant effects will occur. CEQA applies only to government activities that are defined as Aprojects@. A project is defined as Athe whole of an action which has the potential for resulting in a physical change in the environment, directly or ultimately@. [Guidelines Sec. 15378(a)] The effect on the environment must, however, be *reasonably foreseeable* and the effect must be on the *physical* environment. [Pub. Res. Code Sec. 21065]

FEMA

The implementation of the proposed watershed drainage system improvements would result in the elimination of the flood hazard zones in the city associated with overflow from the channel system. In addition, any modifications or encroachment into the published floodplain for communities participating in the National Flood Insurance Program (NFIP) must be approved by FEMA. Communities which participate in the NFIP are responsible for submitting data to FEMA reflecting projects which modify the floodplain or flood hazard zones.

Regulatory Permits

The construction of the detention basins will result initiating environmental regulatory permits since the detention basins are primarily located in natural stream areas with some riparian vegetation. Jurisdictional agencies that have would potentially be involved include (1) Army Corps of Engineers under Section 404 of the Clean Water Act, (2) California Department of Fish and Game for the 1601 Streambed Alteration Agreement, and (3) Regional Water Quality Control Board which administers three permits that may be required, including: NPDES General Construction Activity Stormwater

Permit, NPDES Groundwater Dewatering Permit, and Section 401 Water Quality Certification.

Utilities

Existing utilities adjacent to the proposed drainage facilities or those that potentially interfere should be incorporated into the design to allow relocation or protection. Early coordination with the impacted agencies to determine specific requirements should be performed.

City Of Moorpark

Approval by the local municipal planning agency and the City Engineer should be obtained to ensure that the proposed watershed plan is adopted into the municipal planning documents. Also, the city will be one of the primary agencies to assist in assuring that future developments are conditioned to implement the drainage facilities and provide a municipal drainage ordinance for the watershed which restricts increasing runoff.

Landowners

Agreements and assessments of land value will have to be developed with landowners for the acquisition of land associated with the proposed improvements.

7.2 Geotechnical Constraints

The primary geotechnical considerations are generally associated with the construction of the proposed detention basins. The channel reconstruction will occur along the same horizontal alignment as the existing channel and does not appear to have experienced foundation related maintenance problems, minimizing geotechnical concerns. The primary items of concern related to the detention basin construction include: (1) embankment slope stability and protection, (2) grading engineered fill including material sources, (3) foundation system requirements for the embankment, and (4) settlement. The embankment design is the critical geotechnical factor to ensure stability and protection of the public.

7.3 Utilities

The existing channel system provides a design corridor which limits the interference or conflicts from other utilities. The proposed reconstruction of the existing channel facilities to enlarge the channel section does not generally extend beyond the existing channel right-of-way which minimizes the potential influence of utilities. The areas where the utilities can potentially be a limiting design constraint include: (1) channel relocation crossing of Los Angeles Avenue, and (2) the diversion system crossing Los Angeles Avenue and Poindexter. All proposed detention basin locations occur on undeveloped land which should minimum impact to utilities.

7.3.1 Sewer and Water

The existing sewer system for the central portion of the City of Moorpark is indicated on *Existing Utility Layout Exhibit* based upon the current sewer index map information for the city. The general location and size of existing water facilities are also illustrated on the same exhibit. Sewer systems generally represent a physical constraint since the vertical alignment is difficult to modify because the systems operate by gravity. The largest sanitary sewer which influenced the drainage system alternative is a large 21-inch diameter trunk line located in Los Angeles Avenue which ultimately crosses the Arroyo Simi at Maureen Lane. This sewer was a physical constraint related to the sizing and alignment of the diversion conveyance systems that required crossing of Los Angeles Avenue. The impact was minimized by utilizing a crossing location where two storm drains, 54" RCP and 48" RCP, currently cross the sewer near Shasta Avenue. In addition, there is a sewer trunk line which parallels Gabbert Canyon Channel along the west side of the channel between Los Angeles Avenue and the outlet to the Arroyo Simi.

7.3.2 Local Storm Drains

There are numerous existing local drainage inlets which join both the Gabbert and Walnut Canyon Channels which are associated with both municipal and private drainage systems. The majority of these inlets are small diameter corrugated metal pipes ranging in size generally from 12-inches to 24-inches. Unconfined surface flow from some of the larger undeveloped canyon areas is intercepted by Walnut Canyon Channel with concrete overpour structures or "small canyon side inlets" which provide long weir crests along section of the channel walls. The original construction drawings for the channel improvements indicate that there are approximately 23 local drainage inlets connecting to the Walnut Canyon channel and 9 local storm drains connecting to the Gabbert Canyon Channel which are small diameter facilities. The two primary large local drainage inlets occur along the Walnut Canyon Channel. These facilities include the Moorpark Drain No. 1 at High Street which is **5' x 3.5' RCB** VCFCD maintained facility which was originally designed to convey 125 cfs from a 137-acre watershed area. The other local storm drain is the Los Angeles Avenue municipal storm drain which is a **72-inch diameter RCP** designed to convey 195 cfs from approximately 124-acres of urbanized area and confluences with Walnut Channel where the channel alignment is perpendicular to Los Angeles Avenue.

Table No. 7.1 - Summary of Major Local Drainage Junctions to Channel

Channel	Station	Facility Size	Drainage Area	Original Design Flow	Q_{50}
Walnut	17 +25	72" RCP	124 acres	195 cfs	214 cfs
Walnut	96+62	5' x 3.5' RCB	137 acres	125 cfs	200 cfs

7.3.3 Other Utilities

Additional utilities have been identified from either the field investigation or design data indicated on historical improvement drawings. These utilities may potentially influence limits of channel reconstruction, potentially require reconstruction, or special protective measures during construction.

Telephone - Adjacent to Walnut Canyon a relatively new underground MCI fiber optic cable has been installed which parallels the channel. The cable is located between the SPRR and the channel.

Electric - The Walnut Canyon Channel is adjacent to the SCE electric substation near the intersection of Los Angeles Avenue and Gabbert Road. Regional transmission lines and towers are in the proximity of this area.

Railroad- The Southern Pacific Railroad is located parallel to Walnut Canyon through the central portion of the City of Moorpark. The distance from the center of the railroad tracks to the center of the channel is 49.5 feet and the distance from the edge of channel to the railroad right-of-way is 8.5 feet. Both Gabbert and Walnut Canyon channel each have separate crossing underneath the SPRR, however the Gabbert Canyon Channel crossing is a free span bridge with a skewed 42-foot span which allows adequate clearance for the existing rectangular channel section. Modifications to either facilities would require coordination with the railroad and the Public Utilities Commission. Involving these agencies generally adds considerable processing and review time for the project.

Gas - A high pressure gas line is located parallel to the Gabbert Canyon Channel, directly adjacent to Los Angeles Avenue and the channel.

7.4 Local Drainage Requirements

The final hydraulics associated with the proposed channel alternatives should result in operating water surface elevations similar to the original design flow depths in the main channel systems relative to the local drainage system which join the channel. The actual hydraulic operation of the minor or major local storm drain systems were not investigated as part of this study. It was assumed that if operating water surface elevations are provided which are similar to the original design then this should satisfy the hydraulic control elevation associated with the local drainage system. The proposed design hydraulics to evaluate the channel water surface profile were based upon the 100-year frequency without freeboard and the local storm drains are based upon a 50-year design frequency. If hydraulic analysis are performed to evaluate the local storm drain systems then it should be based upon similar design frequencies.

Alternative drainage systems for the Gabbert/Walnut Canyon Channels will require reconstruction of the local drainage inlets for alternatives which include modifications to the existing channel section geometry. The costs associated with the small diameter local drain inlets are small and have been neglected in this estimate. However, since over 50% of the land directly adjacent to the channel is undeveloped and provisions for future urban development storm drain systems should be incorporated for those portions of the channel which are reconstructed by providing connection locations.

7.5 *Right-of-Way and Property Acquisition*

The right-of-way associated with the existing channel improvements ranges from a maximum of 60-feet to 20-feet, generally including a 12-foot maintenance road on one side of the channel or access from the adjacent parallel public street. The portions of the channels enlarged will require additional right-of-way in order to maintain the same minimum maintenance and access requirements. The detention basin locations will require right-of-way for the surface area encumbered by these facilities including the maximum inundation limits associated with the reservoir pool. Additional right-of-way may be required for access to the detention basins and temporary easements just for construction purposes

Table No. 7.2 - Summary of Minimum Land Acquisition Requirements

Drainage Alternative	Area (acres)			
	Channel Relocation	Detention Basin	Diversion System	Total
A	7.5	28	1.7	37.2
B	6.5	28	1.7	36.7
C	0	28	1.7	29.7
D	7.5	74	0	81.5
E	6.5	74	0	80.5
F	0	74	0	74
G	7.5	46	0.9	54.4
H	6.5	46	0.9	53.4

7.6 *Future Development / Landuse*

A primary consideration in the development of the drainage system alternatives was the relationship to the adjacent undeveloped land within the watershed and the potential landuse impacts. The recommended regional drainage improvements are designed to assist many of the adjacent properties that have flood hazard designations and allow continued development of these areas by ensuring that the planning process incorporates the allowances for these drainage facilities. An important element which is inherently assumed with the proposed drainage alternatives is the implementation of an administrative drainage ordinance for the watershed which requires **future development projects to mitigate hydrologic impacts from their projects to match pre-existing conditions**. All the hydrologic analysis performed for this investigation was based upon the ~~current landuse, not future development.~~ The future development plan formulation process must include both allowances for the regional drainage facilities and the local detention requirements based upon each the individual development project. The allowances for the drainage regional facilities include adequate land for

1996 land use conditions & development

In the determination of the required detention facility capacity & outlet channel size through Smith/Holst Ranch & Hitch Ranch, allowance were made to account for the required mitigation * future project

enlargement of existing channels, regional detention or debris storage facilities, and channel relocation.

The two large undeveloped parcels which are most impacted from the implementation of the proposed drainage facilities include the Smith-Holst Ranch and the Hitch Ranch. These parcel also have the most frontage to the existing channel system. Initial landuse planning documents had been provided by consultants for the Smith-Holst Ranch and the Hitch Ranch which indicated preferred locations for the drainage facilities which would be compatible with their development landuse plans.

Table No. 7.3 - Summary of Undeveloped Land Parcel Impacts

Parcel Description	Proposed Facilities	Impacted Area	Percent of Parcel Impacted
Smith/Holst Ranch	Relocated Outlet Channel	7.5 acres	5%
Hitch-Ranch	Detention Basin	20.5 to 67.5 acres[1]	7% to 24%
Tract No. 4652	Detention Basin	6.0 acres	3%
Tract No. 4520	Detention Basin	5.0 acres	3%

1. Impacted area varies depending upon the size of the offline diversion detention basin which varies from 21.0, 49.0, and 68.0 acres

7.7 *Division of Safety of Dams Design Considerations/Criteria*

The planning of the regional stormwater detention basins focused upon providing facilities which would **not** be under the jurisdiction of the State Division of Safety of Dams (DSOD). The specific requirements associated with jurisdictional dams are defined in the *Statutes and Regulations Pertaining to Supervision of Dams and Reservoirs* (1995) and *Guidelines for the Design and construction of Small Embankment Dams* (1993) published by the State Department of Water Resources, Division of Safety of Dams. The earthwork foundation costs associated with the dam embankment are substantially reduced if the facility in not considered a jurisdictional dam. The embankment of a jurisdictional facility has stringent requirements related to the foundation and must be embedded into competent material which may require major excavations if there are deep alluvial deposits and cutoff trenches. Similar restrictions are associated with the primary spillway which must be constructed in native material and the spillway cannot be located within the embankment. The embankment and excavation are some of the primary cost elements associated with dam construction and the introduction of these requirements will result in major construction cost increases. The basic criteria which is utilized by DSOD to define a jurisdictional "dam" facility includes the following:

- Embankments which are more than 25-feet height measured from the **natural stream bed or lowest point at the downstream toe of the embankment**

- Embankments which impound a **storage volume exceeding 50 acre-feet**

• Embankments which are less than 6-feet in height, regardless of storage capacity, or which have a storage capacity of 15 acre-feet, regardless of height shall **not be considered a "dam"**

The definition of a jurisdictional DSOD facility was applied to define the maximum size limitations for potential detention basins in order to evaluate the effects stormwater storage alternatives and assist in the initial plan formulation. The DSOD facility size limits of storage volume and height present a severe restriction which minimizes the effectiveness of a single stormwater detention basin within a large watershed, especially when considering "flow-through" or "on-line" detention facilities. However, creative techniques are available to maximize the benefit from smaller detention facilities which are not jurisdictional DSOD facilities. The application of these features are particularly important for developing an effective storage alternative for the Gabbert watershed which has a large tributary watershed. Some of these techniques which can be incorporated in the planning of a basin which optimize the effectiveness of the facility are discussed in more details in *Section 8 - Detention Basin Features and Requirements* and include the following:

• Excavating the basin and creating the storage volume below the natural surrounding ground elevation, since an incised basin or pit is not considered a "dam"

• Excavating a portion of the basin below the natural ground elevation measured at the downstream toe of the embankment. The amount of storage volume measured from the embankment toe elevation is not considered in calculating the storage volume associated with the embankment for defining a jurisdictional facility. However, the primary limitation in the excavation depth becomes the ability to provide a gravity outlet to drain the reservoir pool.

• Use several smaller interconnected storage facilities which will operate similar to a single larger facility.

• Incorporate "off-line" or "flow-by" detention basins rather than "in-line" basins, since these facilities provide a more effective reduction in the hydrograph peak with the **minimum storage volume** requirement.

Interconnected Ponds

The application of interconnected ponds was a concept which was applied for several alternatives related to modifying the existing Gabbert Canyon Debris Basin to a stormwater detention basin. Discussions were performed with DSOD staff to verify the applicability of this concept and determine if any special requirements would be associated with this facility. A primary concern was that even though the smaller basins would be below the DSOD jurisdictional facility size requirements that the combination of all the basins might be considered a single basin. The initial indication from the DSOD staff was that the interconnected smaller basins can be utilized and would not be considered a jurisdictional dam if:

• All the embankments of the basins were designed to the same standard, including any

common embankments separating basin pools that would inundate both sides of the embankment.

- Each detention basin had its own spillway system.

Final determination of the jurisdictional nature of these more complex systems would require a review by DSOD of the conceptual designs.

Section 8—Detention Basin Features and Requirements

8.1 Summary of Detention Basin Alternatives

Stormwater detention facilities are the principal elements in a storage oriented approach for flood control, providing peak flow reduction based on temporary storage of the runoff volume. **Six potential retarding basin sites** have been selected for detailed evaluation at various locations within the watershed after performing a feasibility screening of numerous alternatives. The sites were selected based upon (1) physical site constraints and limitations, (2) maximizing drainage area impacted, (3) minimizing inundation areas, (4) embankment size requirements, (5) DSOD limitations, (6) future landuse constraints, and (7) proximity to channel. The initial screening of detention basin sites involved elimination of the drainage area to the detention basin site from the VCRAT hydrology model, or complete retention, and then evaluating the effects on the main channel discharge. This analysis provided an indication of the maximum potential benefit from the basin. Application of combining multiple detention basins within the watershed were evaluated since these will effect the overall timing of the main channel peak flowrate. The detention basin alternatives included both "on-line" or flow-through basins and "off-line" or flow-by basins. The off-line detention basins allow a more efficient use of the available storage through impacting only the critical portion of the storm hydrograph. "On-line" detention basins involve the entire hydrograph routed through the basin which results in the initial volume associated with the rising limb of the hydrograph utilizing a portion of the available storage required to attenuate the peak flowrate.

The detention basin facilities were specifically sized to avoid DSOD jurisdiction, which restricted the maximum attenuation available from certain sites. Lager detention storage volume at a single site above the 50 acre-feet DSOD jurisdictional limit was generated through (1) multiple basins in series, (2) interconnected basins, and (3) providing a portion of the storage volume below the natural ground elevation.

The potential impacts from sediment dead storage requirements were accounted through providing a separate debris facility upstream or adding an allowance for dead storage. The smaller detention basin site utilized sediment storage volume excavated below the natural ground surface. The resulting detention basins which were elements of the drainage system alternatives are indicated in the following table.

Table No. 8.1 - Summary of Proposed Detention Basin Characteristics

Basin Alt. No.	Surface Area (acres)	Max Storage (acre-feet)	Max Depth (feet)	Q_{100} Inflow	Q_{100} Outflow
Gabbert -A Triple Basin	16	138[1]	25 feet	1,316 cfs (900cfs bypass)	811 cfs
Gabbert -B Double Basin	11	94[1]	16 feet	984 cfs (600cfs bypass)	514 cfs

Table No. 8.1 - Summary of Proposed Detention Basin Characteristics					
Basin Alt. No.	Surface Area (acres)	Max Storage (acre-feet)	Max Depth (feet)	Q_{100} Inflow	Q_{100} Outflow
0	1.3	14[3]	10 feet	390 cfs	273 cfs
1	0.65	25[3]	18.5 feet	301 cfs	65 cfs
2	1.7	36[3]	15 feet	514 cfs	141 cfs
3	14	70[2]	5 feet[2]	847 cfs	9 cfs
4	61	305[2]	5 feet[2]	847 cfs	4 cfs
5	42	210[2]	5 feet[2]	847 cfs	14 cfs

1. Total combined storage of all ponds, not DSOD jurisdictional
2. Incised basin below natural ground, not DSOD jurisdictional
3. Maximum limiting volume of 50 AF not available due to site restrictions such as major road relocations or existing residential development within inundation area

Table No. 8.2 - Summary of Detention Basin Costs				
Alternate	R/W area	R/W Costs	Construction Costs	Total Costs
Gabbert - B	14.5 acre (25.8 acres total)	$290,000	$3,258,000	$3,258,000
0	3 acres	$75,000	$263,000	$338,000
1	6 acres	$150,000	$699,000	$849,000
2	4 acres	$100,000	$408,000	$508,000
3	15 acres	$375,000	$618,000	$993,000
4	61 acres	$1,525,000	$2,259,000	$3,784,000
5	46 acres	$1,150,000	$1,668,000	$2,818,000

8.1.1 Gabbert Basin Modification/Expansion

The existing 4.8-acre Gabbert Canyon Debris Basin is a regional sediment/debris collection facility which drains a primarily natural tributary watershed area of 2,350 acres. The regional location of this site within the watershed, plus situated at the headworks of the Gabbert channel, provides an excellent opportunity to modify the facility for flood control storage benefits. The existing basin has an effective storage depth of 11.0-feet to the spillway crest and level storage volume of 16,300 cubic yards (10.1 acre-feet) with a design 100-year sediment yield of 35.3 acre-feet. Geographically the site is located near the mouth of the canyon which spreads onto the apex of a small alluvial fan. This feature provides a wider area for the basin floor than in the canyon and is the last location where the

floodplain is generally confined. The large size of the drainage area requires that a "by-pass" type detention basin be used in order to generate effective attenuation flow rate during the timing of the peak flow, otherwise a flow-through basin only provides a minor influence on the attenuation. Also, the magnitude of the hydraulic deficiencies downstream require that the total storage exceed the 50 acre-feet DSOD maximum limit in order to provide the required minimum hydraulic benefit to the downstream channel. A larger volume effective storage volume was provided through the application of two alternatives which required multiple basins, including debris storage requirements. A portion of the storage can be provided below the natural ground relative downstream embankment toe elevation which allows excluding this additional volume from the storage definition of a jurisdictional "dam."

Alternate-A (Triple Basin) This system preserves the configuration of the existing Gabbert Canyon debris basin and adds two additional reservoir storage ponds adjacent to the existing embankment. The existing basin embankment is used as a separating dike in between the ponds, but the ponds are interconnected with culverts to allow the basin to operate hydraulically as a single unit or a pond system in **parallel**. The two additional ponds rely on the surrounding topography and a strategically placed levee to create the impoundment for the storage volume. The natural topography lends itself to the natural creation of these other ponds adjacent to the existing debris basin. Also the elevation drop along the canyon is adequate to allow excavation of the facilities below the natural ground to provide additional volume and ensure a gravity outlet. The existing embankment will be raised to the maximum height for a non-jurisdictional facility and the combined total available storage volume is 150 acre-feet. A separate debris basin will be located upstream of this location within the canyon and the maximum limit of the basin is constrained by existing upstream residential structures.

Operational Parameters- The system is designed so that the flow from the canyon will initially be intercepted the upstream debris basin which allows removal of a maximum 53 acre-feet of debris volume (125% of 100-year sediment yield). The flow will outlet the debris basin through a rectangular drop spillway, conveyed by a concrete rectangular channel section to the lower three interconnected detention ponds. A minor amount of storage attenuation is associated with this debris basin, but was ignored since it is a flow-through type basin and the benefits are not that significant. The concrete rectangular channel contains two low-height side weirs which allow up to **600 cfs bypass** without entering the basin, continuing downstream to the existing alignment of Gabbert Canyon Channel which must be enlarged from an 8' x 4.5' RCC to a 12' x 7' RCC. Flows at the basin which exceed 600 cfs will discharge over the side weirs located in the rectangular channel section and the excess discharges into either pond. All ponds are interconnected with culverts that are designed to pass the maximum discharge so the three ponds can operate as a single unit. Each pond has an independent operating spillway in order to satisfy DSOD restrictions. The upper two ponds utilize the side weir as the spillway and a separate spillway between the lower pond is provided. A circular outlet tower can be provided in one or all three ponds which functions to assist in providing the controlled the release rate downstream. The primary outlet is a drop spillway section from one basin design for the maximum peak flow rate and continues in a box culvert through the embankment downstream to join the existing Gabbert channel alignment.

Alternate-B (Double Basin) This facility configuration provides two detention **ponds in series** which are located downstream of a proposed debris basin similar to that indicated for Alternate-A. The primary difference between alternates "A" and "B" is that "B" has a larger by-pass flowrate but requires a lower storage volume, which generates almost the same combined downstream peak flowrate in either scenario. This alternate preserves the existing basin geometry but also increases the embankment height to the maximum limiting non-jurisdictional value and provide additional excavated volume below the natural ground. The new detention basin is located in-line between the upstream debris basin and downstream Gabbert Basin.

Operational Parameters- This detention basin configuration results in approximately 11.0 acres of surface area for the basins and utilities a maximum storage volume of **94 acre-feet** of the available 100 acre-feet. The upstream debris basin provides a key function in this alternate by performing the flow split to the by-pass channel and the remainder of the inflow hydrograph spills into the intermediate detention basin. The by-pass channel intercepts all the inflow up to 900 cfs and additional flow above this amount will crest an elevated spillway discharging into the intermediate detention basin. Flow release from the intermediate basin is controlled by an outlet tower connecting to the downstream basin location or another rectangular drop spillway. The downstream has a similar outlet configuration with an outlet tower and rectangular drop spillway. The upstream debris basin is designed to provide 53 acre-feet of debris storage volume and the operating head for the flow split to occur from the by-pass structure.

8.1.2 Basin No. 0 (Walnut Canyon)

This 1.3 acre basin site is located at the upstream headworks to the existing Walnut Canyon Channel improvements and within the natural creek floodplain. Approximately 382-acres of primarily undeveloped drainage is tributary to this location. The topography within Walnut Canyon limits the available storage from sites in this area since the canyon bottom is relatively narrow. Walnut Canyon Road follows an alignment within the canyon bottom also which further reduces or limits the maximum storage without impacting the roadway. Several locations within the canyon area were identified as potentially feasible detention basin sites since these areas had significantly widened canyon floor areas and the road was elevated above the floodplain. The storage volume would be generated through the construction of an embankment fill within the natural creek floodplain between one canyon wall and the adjacent roadway fill. The maximum effective storage depth was limited to 10 feet without impacting the roadway. The natural creek within Walnut Canyon has riparian vegetation which would be impacted with any construction in this area.

Operational Parameters: The basin will operate as a flow-through or in-line type basin since the embankment fill is placed directly in the natural floodplain. The resulting 100-year effective storage volume provided by this detention basin is 14.0 acre-feet from attenuating the peak inflow from 390 cfs to 273 cfs. The required debris storage for this basin, in addition to the flood control storage, is 11.4 acre-feet. The controlled release from the basin is based upon hydraulic control from a 42-inch diameter vertical riser used for the outlet works.

8.1.3 Basin No. 1 (Casey Road)

This detention basin utilizes a small existing reservoir located within the natural canyon tributary to Casey Road, adjacent to Walnut Canyon. The existing reservoir was formed from an earthen embankment across a small incised canyon area and has a concrete spillway without a low-level outlet. This reservoir could have been either an agricultural reservoir or a small debris basin constructed by the SCS. This location has a total tributary drainage area of 276-acres which is primarily undeveloped. The proposed detention basin would require removing the existing embankment and reconstructing another embankment downstream where the canyon floor is much wider. The proposed basin would have an effective storage depth of 18.5 feet which is limited by the height of the canyon and the upstream adjacent residential structures which would be inundated. The required sediment storage volume is estimated to be 8.3 acre-feet and would be provided in the total basin volume.

Operational Parameters: The resulting 0.65 acre basin would operate as an in-line basin since it is located directly in the natural floodplain. The 100-year maximum storage volume for the basin in this configuration is 25 acre-feet and results in attenuating the peak inflow from 301 cfs to 65 cfs. The controlled release from the detention basin is based upon a 2-foot diameter outlet pipe.

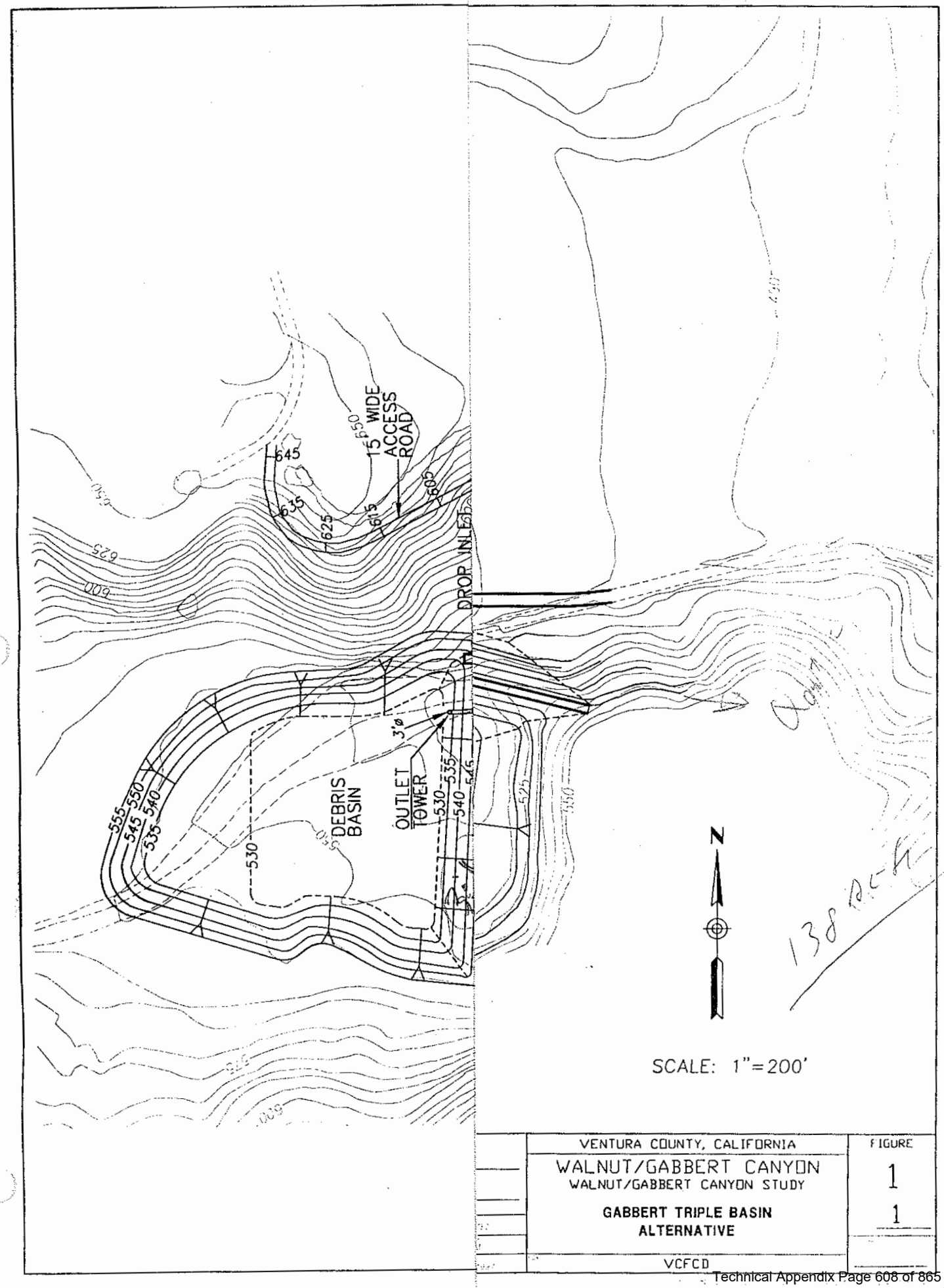
8.1.4 Basin No. 2 (Gabbert Road)

This 1.7 acre basin is another in-line basin which is located at the mouth of a large canyon which is adjacent to the Walnut Canyon Channel. This location has a total tributary drainage area of 475-acres which is primarily undeveloped and draining a significant portion of the proposed Hitch Ranch area. This basin impacts the largest drainage area of all the basins except for the Gabbert Basin. The basin is located within the proposed Hitch Ranch and in an area that the initial land use planning has designated as institutional. Construction of the basin would require the vertical relocation of Gabbert Road since the road it is close to the canyon floor. This location has the advantage of a wide canyon area and a relatively flat canyon slope. The maximum storage volume is restricted by the inundation limits not to encumber existing upstream structures.

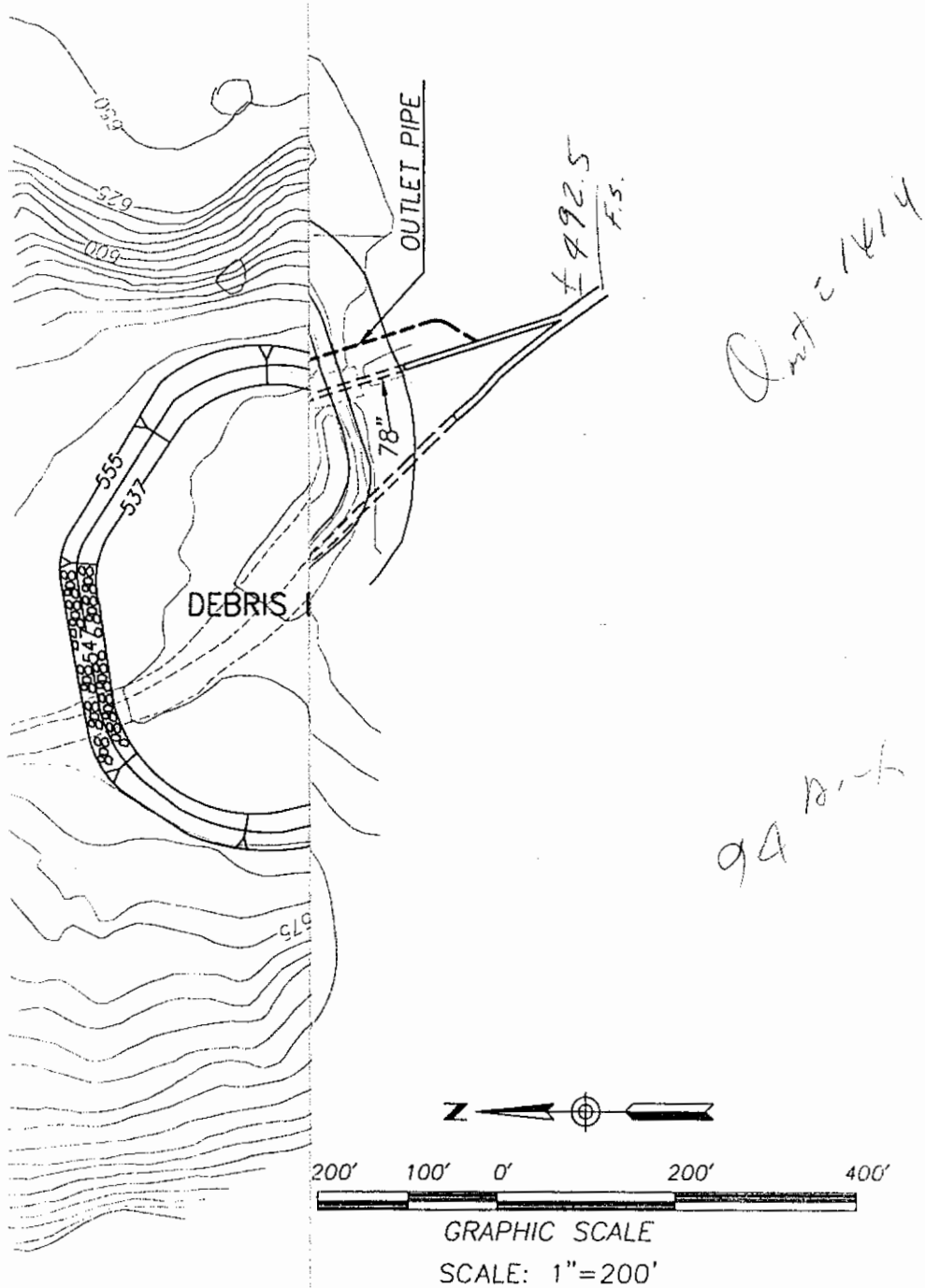
Operational Parameters: This basin is another in-line type basin which would result in blocking the natural floodplain through the construction of an earthen embankment which join either side of the canyon walls. The maximum 100-year effective storage volume for this basin is 36 acre-feet. The required debris dead storage volume allowance at this location 31.7 acre-feet. The controlled release from the basin is based upon the hydraulics of a 3.0 foot diameter riser.

8.1.5 Basin No. 3, 4, and 5 (Diversion Basins)

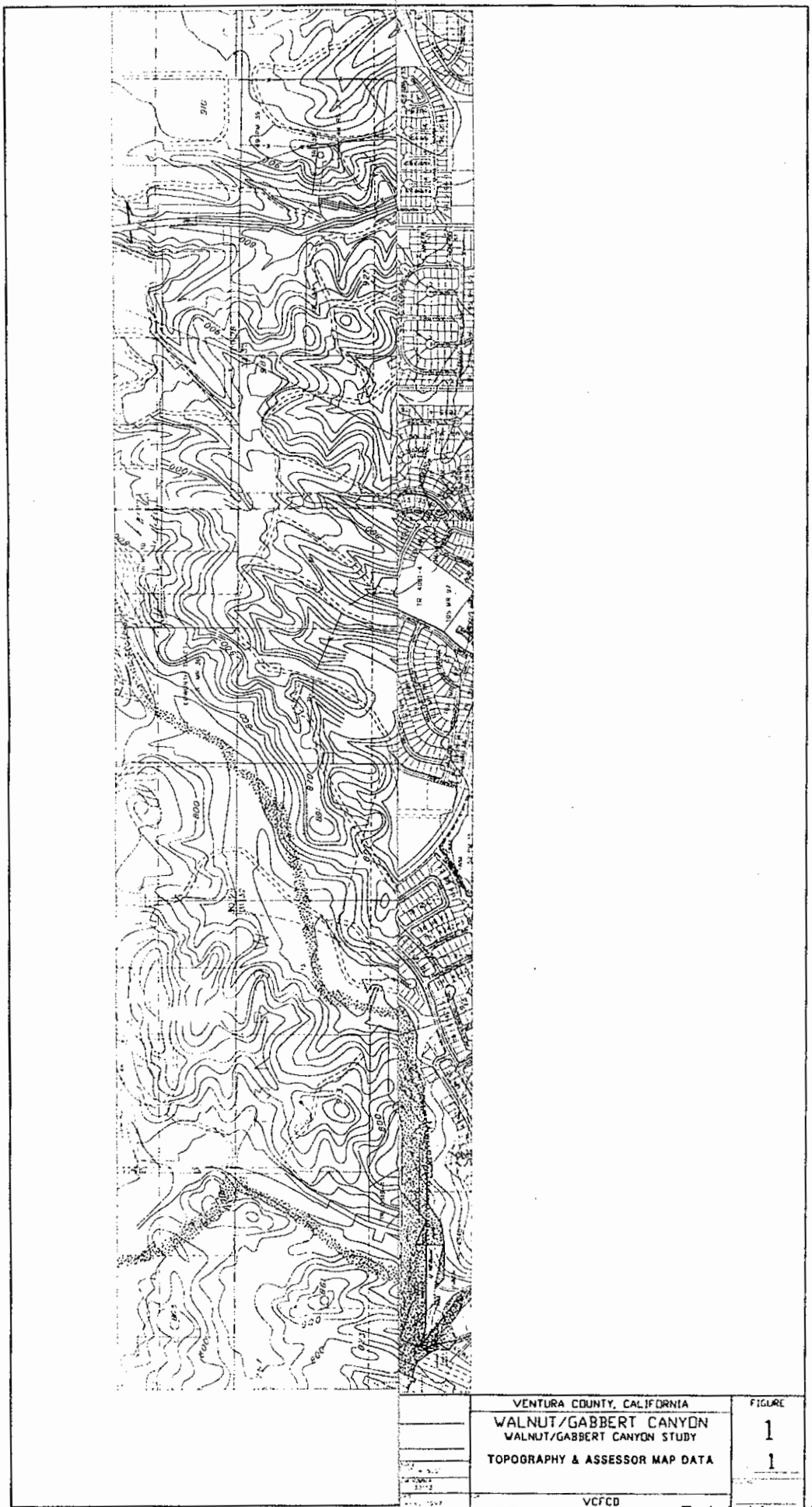
This basin site is the off-line diversion detention basin located directly adjacent to the Walnut Canyon Channel. The basin is designed to function with the diversion structure which will bypass the initial 100 or 200 cfs around the basin prior to allowing runoff to enter the basin. These basins would be constructed by excavation and generating pits below the natural ground. The maximum depth for the



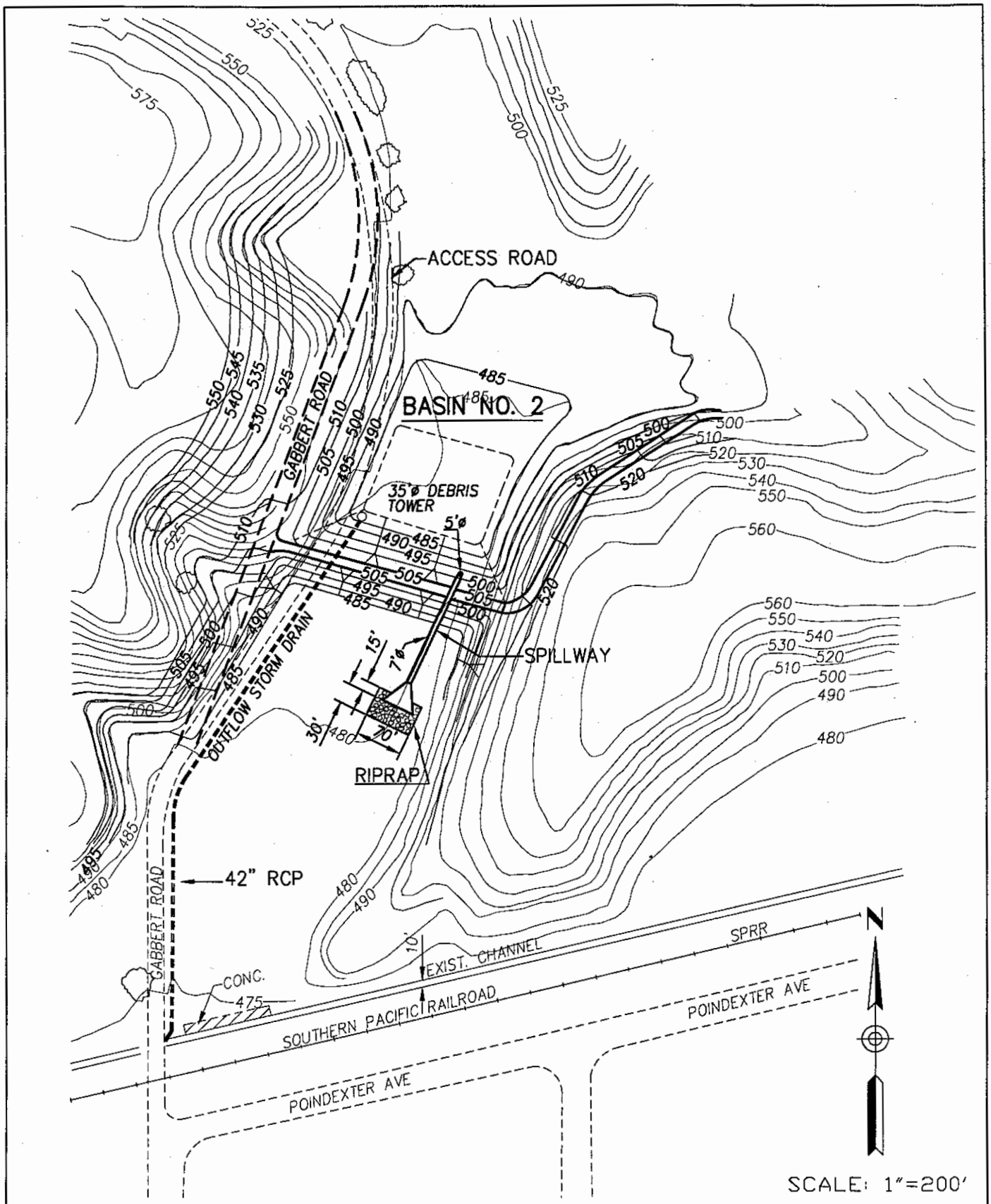
	VENTURA COUNTY, CALIFORNIA	FIGURE
	WALNUT/GABBERT CANYON WALNUT/GABBERT CANYON STUDY	1
	GABBERT TRIPLE BASIN ALTERNATIVE	1
	VCFCD	



VENTURA COUNTY, CALIFORNIA	FIGURE
WALNUT/GABBERT CANYON WALNUT/GABBERT CANYON STUDY	1
MODIFIED GABBERT BASIN **ALTERNATE - B**	1
VCFCD	



	VENTURA COUNTY, CALIFORNIA	FIGURE
	WALNUT/GABBERT CANYON WALNUT/GABBERT CANYON STUDY	1
	TOPOGRAPHY & ASSESSOR MAP DATA	1
	VCFCD	



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	BASIN NO. 2	EXHIBIT

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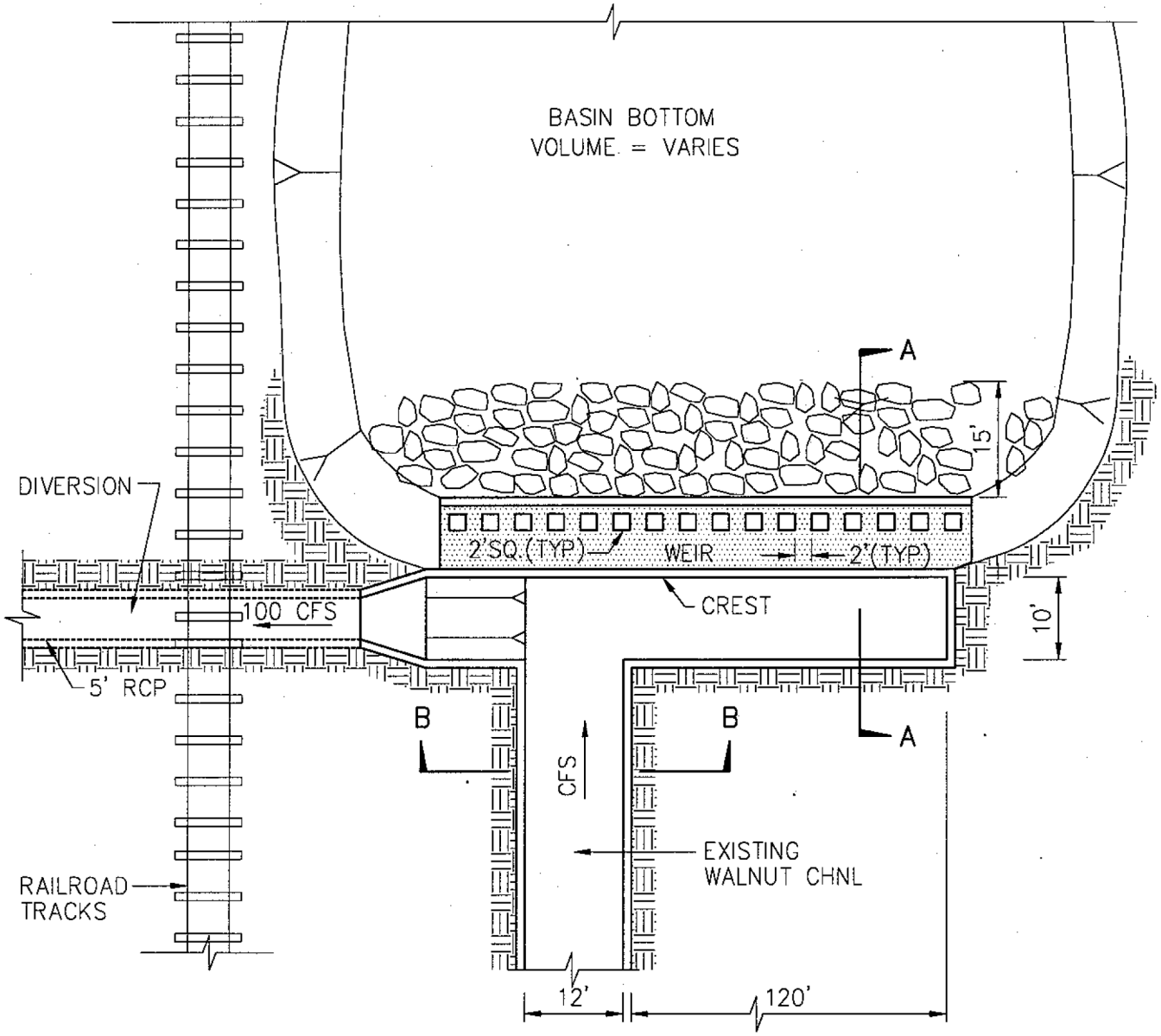

PLAN

SCALE: 1"=20'

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WALNUT GABBERT CANYON	DATE 4/97
DIVERSION BASIN INLET STRUCTURE	EXHIBIT

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effective storage corresponds to five feet which is the same depth as the channel in order to provide a gravity outlet. All three of these basin configurations are at the same location, but encompass different surface areas. In addition the basins are completely located on the proposed Hitch Ranch development in area which the landuse planning has designated park and very high density. The basins would potentially interfere with the proposed alignment of Casey Road. The basins would encumber a total surface area which ranges 14 acres to 61 acres depending upon the maximum flowrate desired.

Operational Parameters: The key operational factor associated with this basin is the performance of the diversion or by-pass structure. The difficulties with this structure include: (1) setting a weir crest elevation and length which can adequately deliver the desired flow into the basin, (2) weir performance so that it is not submerged by the storage in the basin, (3) weir elevation high enough to allow bypass around the basin, (4) shallow depth of the basin and if the basin is to drain by gravity is cannot be deeper than the channel. If a small stormwater pump station was used to drain the volume of the basin below the existing channel invert then this may solve many of the diversion structure operation problems.

8.2 Basin Geometry and Grading Requirements

The geometry of the proposed detention basins was primarily governed by the physical constraints of the site location and minimizing the potential land acquisition requirements. The sites were selected at locations which would effect the largest tributary drainage area prior to joining the main channel system and topographic features. The initial screening of the basin sites was performed by studying the effect if the basin operated as retention rather than detention on the hydrology model. The maximum limits of the basin area generally conformed to the topographic constraints. Excavation of an incised pool area was performed if it was still possible to provide a gravity outlet and provide additional storage volume below the jurisdictional requirements. The excavation of storage volume below the natural ground provided additional dead storage volume allowance used in the smaller detention basin facilities. Excavations utilized slopes of 2:1. The embankment utilized a fill prism which was assumed to have a 3:1 slope on the upstream face and 2:1 on the downstream face.

8.3 Spillway Outlet Configurations

The outlets works for the debris and detention basins were generally provided with a minimum of two outlets which included the (1) controlled release outlet structure or primary outlet, which is generally some form of vertical outlet tower and connecting outlet pipe, (2) rectangular drop spillway, and (3) flowrate by-pass facilities. It was assumed that the primary outlet works associated with the detention basin would consist of a box drop inlet design which is a similar configuration that is utilized by VCFCD on other similar regional facilities. This type of facility has several advantages for a spillway design, including, (1) reduces the potential of eroding the embankment material, (2) allows use of an underground culvert to convey the flow through the embankment, (3) allows continuous vehicular access across the dam crest, and (4) reduces the width of the spillway facility.

The preliminary sizing for the outlet spillway utilized the full unattenuated reservoir inflow and the basic relationship for the discharge head over the crest of a flat rectangular weir box, with a weir coefficient of 2.8. The box drop inlet spillway would be connected to an outlet conduit which would extend to the downstream of the embankment. The outlet conduit would either terminate into the improved channel or an energy dissipation structure.

Offline detention basins incorporated hydraulic structures which would by-pass the lower portion of the storm hydrograph and intercept flow during the critical point of the hydrograph to maximize the attenuation. The proposed structures incorporate some form of side-weir or lateral spillway section. The detailed evaluation of the hydraulics associated with the side-weir was not performed at this engineering level since it involves a spatially varied flow problem because of the variable flow and depth along the weir crest.

8.4 Low-level Outlet Requirements

The low-level outlet for the detention basins will provide the controlled release rate and the sizing of the facility is dictated by the required peak attenuation from the reservoir. The hydraulics associated with the outlet works is a critical component which determines the operation of the detention basin and the effectiveness in attenuating the peak flow rate. The preliminary design of the outlet for the basin involved an optimization process to select the most effective outlet configuration based upon achieving the maximum attenuation within the physical constraints of the basin. PONDOPT was applied to each of the individual basins in order to evaluate numerous design alternatives and the resulting basin configuration was incorporated into the overall watershed hydrology model.

The low-level or primary outlet intake configuration would consist of a staged concrete outlet similar to other VCFCD regional detention basin installations. The intake tower would require (1) low-flow riser to prevent debris and sediment from entering the facility and (2) a trash rack at higher stages or elevations. Access to the intake tower would be from an elevated catwalk or footbridge. The intake tower would be connected to an independent outflow pipe system through the dam embankment to the downstream toe of the dam. Selection of the outflow pipe is designed so that the hydraulics of the pipe should be independent of the intake structure.

8.5 Hydrologic Routing Approach and Methodology

The evaluation of the storm hydrograph movement through a detention basin is performed through a reservoir routing analysis. Hydrologic routing using modified puls method was applied through HEC-1, PONDOPT, and VCHYDRO. The final simulation of the reservoir routing was performed in VCHYDRO combined with VCRAT in order to accurately compare the regional watershed impacts. Modified Puls method requires developing the stage-storage and stage-outflow relationships from known information on the basin geometry and outlet condition. Conceptual layout of the basins was prepared in order to develop these rating curves to provide the storage-indication relationship for reservoir routing.

8.5.1 *Basin Stage-Storage Relationships*

Stage-storage relationships for each basin configuration were determined based upon preliminary grading concepts prepared for each of the basins. The minimum basin floor elevation was either determined from (1) maximum height of the required dead storage for sediment, or (2) lowest elevation which would still provide a gravity outlet. Stage-storage volume relationship for each basin site were derived as a discrete function ro series of points. The surface area of each contour interval was determine, with the storage in any increment Δh equal to the product of the average area and the depth of the increment.

8.5.2 *Basin Inflow/Outflow Characteristics*

The outlet works associated with each basin configuration influenced the hydraulic operation of the controlled release downstream of the basin. The hydraulics of the outlet structures were assumed to be operating as inlet control which facilitated development of outlet rating curves for the facilities. The design of the connecting outlet pipe to the outlet tower will be developed to ensure that the tailwater does not influence the outlet structure. The initial outflow relationships were derived through application of PONDOPT.

Section 9—Alternative Drainage Systems Investigated

9.1 Development of Alternative Drainage "Systems"

The **alternative drainage "systems"** represent a composite or combination of various feasible conveyance and storage elements which would achieve equivalent levels of improved flood protection within the main channel system. The effect of regional drainage improvements must be evaluated on a watershed basis or application of a "systems" approach.

Formulation of the alternatives relied on an initial planning process which screened the feasibility of numerous alternatives that were considered. This included evaluation of an "all-channelization" alternative since this provided a benchmark with relationship to the maximum amount of channel improvements and construction costs to gauge of systems which were developed. The different combinations of alternatives were developed in order to evaluate most economic combination of channel reconstruction and detention basin implementation. There is a delicate balance between attempting to preserve the maximum amount of existing channel improvements through construction of stormwater storage facilities and reconstruction of these facilities. The multiple alternatives investigated attempt to define the most economic system for all systems. In addition, the most effective system with regards to providing the maximum storage, or minimum required land acquisition, or minimum capital improvement costs were all investigated to facilitate the selection process of the recommended system.

9.2 Comparison of Alternative System Features

The essential features associated with each of the alternative drainage "systems" are summarized in *Table No. 9.1 - Summary Description of Alternative Channel Systems*. In addition, watershed schematics and watershed facility layouts have been prepared for all eight alternative drainage systems. All the system plans provide the same level of flood protection through different combination of features. Some general descriptive comparisons of the various drainage systems can be developed which assist in understanding operation requirements and potential impacts

• Alternatives E and F which utilize detention basin no. 5 (offline diversion basin) provide the **most area impact to the Hitch Ranch property.**

• Alternatives which did **not relocate the outlet channel system** resulted in the highest construction costs mainly associated with the reconstruction of Gabbert Canyon Channel.

• The **least channel reconstruction** are alternatives B,E and H which preserve the most amount of the existing channel

• The alternatives which have the **most detention storage volume** include alternatives D, E, and F

• Alternatives which have the **largest amount of channel reconstruction** include alternatives C and F since there is no relocation of the channel outlet.

• Relocating only Walnut Channel to the relocated Arroyo Simi channel outlet is more cost effective than relocating both Gabbert and Walnut to the new outlet channel.

• Smaller diversion system is more cost effective.

Table 9.1 - Summary Description of Alternative Channel Systems

Alt. No.	Gabbert Basin Modification	Additional Detention Basins	Gabbert Channel Reaches	Walnut Channel Reaches	Diversion Channel System	Channel Outlet Relocation
A	Improved to 94 AF Detention Storage	0,1,2,3 (V_{total} = 145 AF)	1,2,3	2	300 cfs	Gabbert & Walnut
B	Improved to 94 AF Detention Storage	0,1,2,3 (V_{total} = 145 AF)	1,2,3	2	300 cfs	Walnut
C	Improved to 94 AF Detention Storage	0,1,2,3 (V_{total} = 145 AF)	Entire Channel	2	300 cfs	None
D	Improved to 94 AF Detention Storage	0,1,2,5 (V_{total} = 380 AF)	1,2,3	2	None	Gabbert & Walnut
E	Improved to 94 AF Detention Storage	0,1,2,5 (V_{total} = 380 AF)	1,2,3	2	None	Walnut
F	Improved to 94 AF Detention Storage	0,1,2,5 (V_{total} = 380 AF)	Entire Channel	2	None	None
G	Improved to 94 AF Detention Storage	0,1,2,4 (V_{total} = 295 AF)	1,2,3	2	100 cfs	Gabbert & Walnut
H	Improved to 94 AF Detention Storage	0,1,2,4 (V_{total} = 295 AF)	1,2,3	2	100 cfs	Walnut

9.3 Alternative System No. A

System Description: (Maximum diversion alternative)

This alternative can be described as the maximum diversion since it has the largest channel outlet relocation to the Arroyo Simi and largest flow diversion at Shasta Avenue. This alternate relocates the channel outlet for both Gabbert and Walnut Canyon Channel upstream of its current location at Arroyo Simi and reconstruct this segment of relocated channel with an earthen trapezoidal section. Gabbert will now flow from west to east to the new confluence location. The relocated channel will be constructed on the boundary of the Smith-Holst Ranch. A flow diversion will be used just west

of the existing Shasta Avenue and divert flow from Walnut Channel to the Arroyo Simi. The maximum possible flow diversion was 300 cfs based upon the physical constraints and the diversion system will be a 14.0 foot wide RCB. A offline detention basin is required at the location of the diversion structure in the Walnut Channel. The maximum storage volume associated with the diversion detention basin is 70 acre-feet with an outflow of 9 cfs.

Storage Elements	**Conveyance Elements**
• *Improved Gabbert detention basin 94 acre-feet storage*	• *Gabbert Channel improvement to reaches 1,2,3 (total length = 3,855 feet)*
• *New Gabbert debris basin*	• *Walnut Channel improvements to reaches 2 and part of 3 (total length = 1,900 feet)*
• *3 offline and 1 offline detention basin (total storage 140 acre-feet) Basins 0,1,2,3*	• *300 cfs underground diversion channel adjacent to Shasta Avenue (length=3,035)*
	•*Relocated Channel outlet to Arroyo Simi for both Gabbert and Walnut Channel*

Estimated R.O.M Costs: Total costs of the alternative is $14,476,000 of which construction capital costs are $13,255,000 and land acquisition is $1,221,000

Property Acquisition: Required total amount of right-of-way is 37.2 acres, which includes 7.5 acres for channel relocation, 28 acres for detention basins, and 1.7 acres for diversion systems

9.4 Alternative System No. B

System Description: (Least Total Costs Alternative)

This alternate proposes to relocate only Gabbert Channel to a new outlet at the Arroyo Simi and maintain the existing Gabbert Channel outlet in its current configuration. This proposed system would result in parallel channels on either side of the Smith-Holst Ranch which flow to the Arroyo Simi. The relocated Walnut Channel outlet system from Arroyo Simi to Los Angeles is approximately 1,400 feet and consist of an earthen channel with rock rip-rap side slopes. The channel is designed with velocities less than 8 fps without influence of backwater. The earthen channel is consistent with the landuse planning for this property. An additional flow diversion is proposed in Walnut Canyon Channel near Shasta Avenue which would divert the initial 300 cfs in the channel directly to the Arroyo Simi. The diversion system would consist of a 14-foot wide underground box section that is 3,035 feet in total length. A flowrate of 300 cfs represents the maximum possible flow diversion based upon the conveyance system and the limiting physical constraints. A 48-inch storm drain at Los Angeles Avenue would join the diversion and was accounted in the hydraulics. An off-line detention basin is required at the diversion location which would provide 70 acre-feet of storage with a release rate of 9 cfs. In addition, the Gabbert debris basin will be modified to provide 94 acre-

feet of storage with a separate debris basin which has a debris capacity of 53 acre-feet. Three on-line detention basins are required along the Walnut Canyon Channel or its tributaries which would provide a total storage volume of 140 acre-feet. Gabbert Channel would be reconstructed from the Walnut Channel confluence upstream to the existing debris basin. Approximately 1,900 lineal feet of Walnut Channel would be reconstructed downstream of High Street from the confluence of Moorpark Drain No.1.

Storage Elements	**Conveyance Elements**
• *Improved Gabbert detention basin 94 acre-feet storage*	• *Gabbert Channel improvement to reaches 1,2,3 (total length = 3,855 feet)*
• *New Gabbert debris basin*	• *Walnut Channel improvements to reaches 2 and part of 3 (total length = 1,900 feet)*
• *3 offline and 1 offline detention basin (total storage 140 acre-feet) Basins 0,1,2,3*	• *300 cfs underground diversion channel adjacent to Shasta Avenue (length=3,035)*
	•*Relocated Channel outlet to Arroyo Simi for Walnut Channel*

Estimated R.O.M Costs: Total costs of the alternative is $12,868,000 of which construction capital costs are $11,674,000 and land acquisition is $1,194,00.

Property Acquisition: Required total amount of right-of-way is 36.7 acres, which includes 6.5 acres for channel relocation, 28 acres for detention basins, and 1.7 acres for diversion systems

9.5 Alternative System No. C

System Description: (Minimum R/W Requirement)

This alternative has the least requirement for land acquisition because of the because of the small storage volume and no channel outlet utilized. However, this does make this alternative the **most expensive construction costs** in order to convey the high discharges in the channel compared to the other alternatives and requiring the most extensive channel improvements. This alternative requires that Gabbert Channel be completely reconstructed because of the limited capacity. Approximately 1,900 lineal feet of Walnut Canyon Channel must be reconstructed downstream of High Street from the confluence of Moorpark Drain No.1. The 300 cfs diversion in Walnut Channel at Shasta Avenue would be incorporated and consists of a 14-foot wide underground box section 3,015 feet in length to the Arroyo Simi. The maximum flow diversion is required at Shasta Avenue along with an offline detention basin at this location with a storage volume of 140 acre-feet. In addition, the Gabbert debris basin will be modified to provide 94 acre-feet of storage with a separate debris basin which has a debris capacity of 53 acre-feet. Three on-line detention basins are required along the Walnut Canyon Channel or its tributaries which would provide a total storage volume of 140 acre-feet.

Storage Elements	Conveyance Elements
• *Improved Gabbert detention basin 94 acre-feet storage*	• *Gabbert Channel improvement to reaches 1,2,3 (total length = 3,855 feet)*
• *New Gabbert debris basin*	• *Walnut Channel improvements to reaches 2 and part of 3 (total length = 1,900 feet)*
• *3 offline and 1 offline detention basin (total storage 305 acre-feet) Basins 0,1,2,5*	• *300 cfs underground diversion channel adjacent to Shasta Avenue (length=3,035)*
	•*Relocated Channel outlet to Arroyo Simi for both Gabbert and Walnut Channel*

Estimated R.O.M Costs: Total costs of the alternative is $14,391,000 of which construction capital costs are $13,358,000 and land acquisition is $1,033,000

Property Acquisition: Required total amount of right-of-way is 29.7 acres, which includes 28 acres for detention basins and 1.7 acres for diversion systems

9.6 Alternative System No. D

System Description: (Maximum R/W requirement)

This system requires the maximum land acquisition because of the large offline detention basins which will be used and the channel relocation. This system replaces the use of the diversion system with a very large offline basin at the same diversion basin location which has a storage volume of 300 acre-feet. This basin is envisioned to be actually several interconnected basins in order to maximize the storage volume and satisfy the elevation differential requirements over the long distance. The maximum flow depth of the offline basin corresponds to the depth of the channel in order to provide a gravity outlet. In addition, the Gabbert debris basin will be modified to provide 94 acre-feet of storage with a separate debris basin which has a debris capacity of 53 acre-feet. Three on-line detention basins are required along the Walnut Canyon Channel or its tributaries which would provide a total storage volume of 140 acre-feet. Gabbert Channel would be reconstructed from the Walnut Channel confluence upstream to the existing debris basin. The other elements of the drainage system are similar to those described in other alternatives.

Storage Elements	Conveyance Elements
• *Improved Gabbert detention basin 94 acre-feet storage*	• *Gabbert Channel improvement to reaches 1,2,3 (total length = 3,855 feet)*
• *New Gabbert debris basin*	• *Walnut Channel improvements to reaches 2 and part of 3 (total length = 1,900 feet)*

• 3 offline and 1 offline detention basin (total storage 140 acre-feet) Basins 0,1,2,3	*•Relocated Channel outlet to Arroyo Simi for both Gabbert and Walnut Channel*

Estimated R.O.M Costs: Total costs of the alternative is $14,678,000 of which construction capital costs are $12,349,000 and land acquisition is $2,329,000

Property Acquisition: Required total amount of right-of-way is 81.5 acres, which includes 7.5 acres for channel relocation and 74 acres for detention basins.

9.7 Alternative System No. E

System Description: (Minimum Channel Construction Costs)

This alternative preserves the maximum amount of the existing channel and minimizes the size of the channel facilities which are reconstructed. This alternate relocates only Gabbert Channel to the new outlet for the Arroyo Simi. No diversion channel system is used in this alternate which requires the large offline detention basin with 300 acre-feet of storage in order to maximize the reuse for the downstream portions of Walnut Canyon Channel. The Gabbert Channel reach downstream of the existing Walnut confluence can be salvaged but the remainder of the channel must be reconstructed. In addition, the Gabbert debris basin will be modified to provide 94 acre-feet of storage with a separate debris basin which has a debris capacity of 53 acre-feet. Three on-line detention basins are required along the Walnut Canyon Channel or its tributaries which would provide a total storage volume of 140 acre-feet. Gabbert Channel would be reconstructed from the Walnut Channel confluence upstream to the existing debris basin.

Storage Elements	**Conveyance Elements**
• Improved Gabbert detention basin 94 acre-feet storage	*• Gabbert Channel improvement to reaches 1,2,3,4 (total length = 3,855 feet)*
• New Gabbert debris basin	*• Walnut Channel improvements to reaches 2 and part of 3 (total length = 1,900 feet)*
• 3 offline and 1 offline detention basin (total storage 305 acre-feet) Basins 0,1,2,5	*• Walnut Channel outlet relocated to Arroyo Simi*

Estimated R.O.M Costs: Total costs of the alternative is $13,116,000 of which construction capital costs are $10,815,000 and land acquisition is $2,300,000

Property Acquisition: Required total amount of right-of-way is 80.5 acres, which includes 6.5 acres for channel relocation and 28 acres for detention basins.

9.8 Alternative System No. F

System Description: (No Channel Diversions)

This system does not incorporate any diversions either through diversion structures or relocation of the channel outlet. All flow will be conveyed along the existing channel alignment to the current outlet into the Arroyo Simi. A large offline detention basin with 300 acre-feet was required in order to compensate for the lack of a diversion system and it would be located adjacent to Poindexter Avenue, within the proposed Smith Ranch. The large basin encumbers a considerable amount of developble area along the entire southern boundary for this parcel. The increased flowrate in the channel without the new outlet requires that the entire Gabbert Channel be completely reconstructed. In addition, the Gabbert debris basin will be modified to provide 94 acre-feet of storage with a separate debris basin which has a debris capacity of 53 acre-feet. Three on-line detention basins are required along the Walnut Canyon Channel or its tributaries which would provide a total storage volume of 140 acre-feet.

Storage Elements	**Conveyance Elements**
• *Improved Gabbert detention basin 94 acre-feet storage*	• *Gabbert Channel improvement to reaches 1,2,3,4 (total length = 7,165 feet)*
• *New Gabbert debris basin*	• *Walnut Channel improvements to reaches 2 and part of 3 (total length = 1,900 feet)*
• *3 offline and 1 offline detention basin (total storage 305 acre-feet) Basins 0,1,2,5*	

Estimated R.O.M Costs: Total costs of the alternative is $14,021,00 of which construction capital costs are $11,881,000 and land acquisition is $2,140,000

Property Acquisition: Required total amount of right-of-way is 74 acres and is only required for the detention basins.

9.9 Alternative System No. G

System Description: This alternative is identical to drainage system alternative "A", but the diversion system capacity is reduced to 100 cfs and the offline detention basin at the diversion is reduced to 220 acre-feet.

Storage Elements	**Conveyance Elements**
• *Improved Gabbert detention basin 94 acre-feet storage*	• *Gabbert Channel improvement to reaches 1,2,3 (total length = 3,855 feet)*
• *New Gabbert debris basin*	• *Walnut Channel improvements to reaches 2 and part of 3 (total length = 1,900 feet)*

• 3 offline and 1 offline detention basin (total storage 140 acre-feet) Basins 0,1,2,3	*• 100 cfs underground diversion channel adjacent to Shasta Avenue (length=3,035)* *•Relocated Channel outlet to Arroyo Simi for both Gabbert and Walnut Channel*

Estimated R.O.M Costs: Total costs of the alternative is $14,532,000 of which construction capital costs are $12,556,000 and land acquisition is $1,976,000

Property Acquisition: Required total amount of right-of-way is 54.4 acres, which includes 7.5 acres for channel relocation, 46 acres for detention basins, and 0.9 acres for diversion systems

9.10 Alternative System No. H

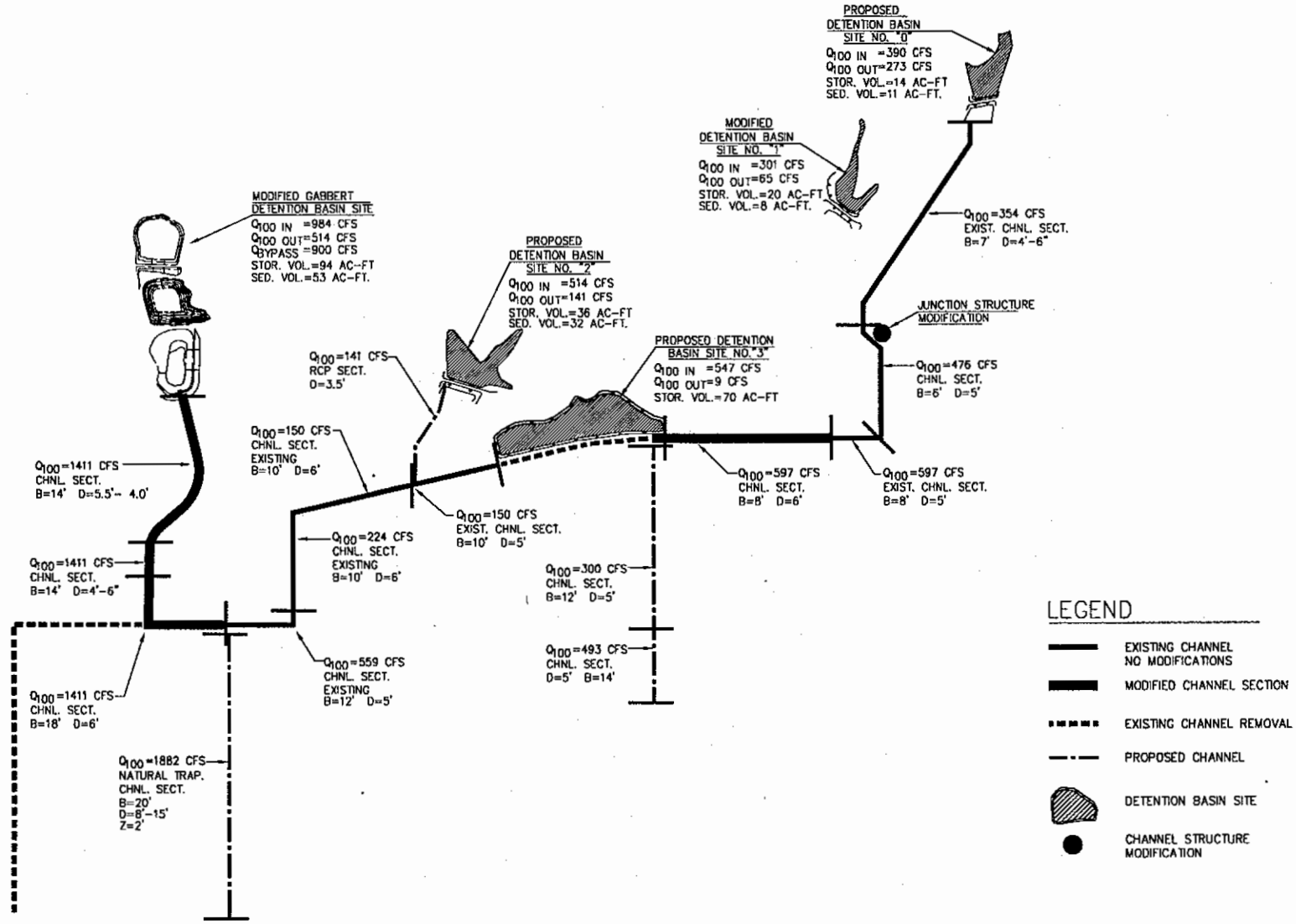
System Description: (Least Construction Capital Costs)

This alternative represents the least construction costs excluding land acquisition for right-of-way. The system alternative is similar to Alternative "B" except that the off-line diversion detention basin volume is 220 acre-feet and the diversion system flowrate is reduced to 100 cfs.

Storage Elements	Conveyance Elements
• Improved Gabbert detention basin 94 acre-feet storage	*• Gabbert Channel improvement to reaches 1,2,3 (total length = 3,855 feet)*
• New Gabbert debris basin w/ 53 acre-feet of debris storage	*• Walnut Channel improvements to reaches 2 and part of 3 (total length = 1,900 feet)*
• 3 offline and 1 offline detention basin (total storage 210 acre-feet) Basins 0,1,2,4	*• 100 cfs underground diversion channel adjacent to Shasta Avenue (length=3,035)* *•Relocated Channel outlet to Arroyo Simi for Walnut Channel*

Estimated R.O.M Costs: Total costs of the alternative is $12,971,000 of which construction capital costs are $11,023,000 and land acquisition is $1,948,000

Property Acquisition: Required total amount of right-of-way is 53.4 acres, which includes 6.5 acres for channel relocation, 46 acres for detention basins, and 0.9 acres for diversion systems



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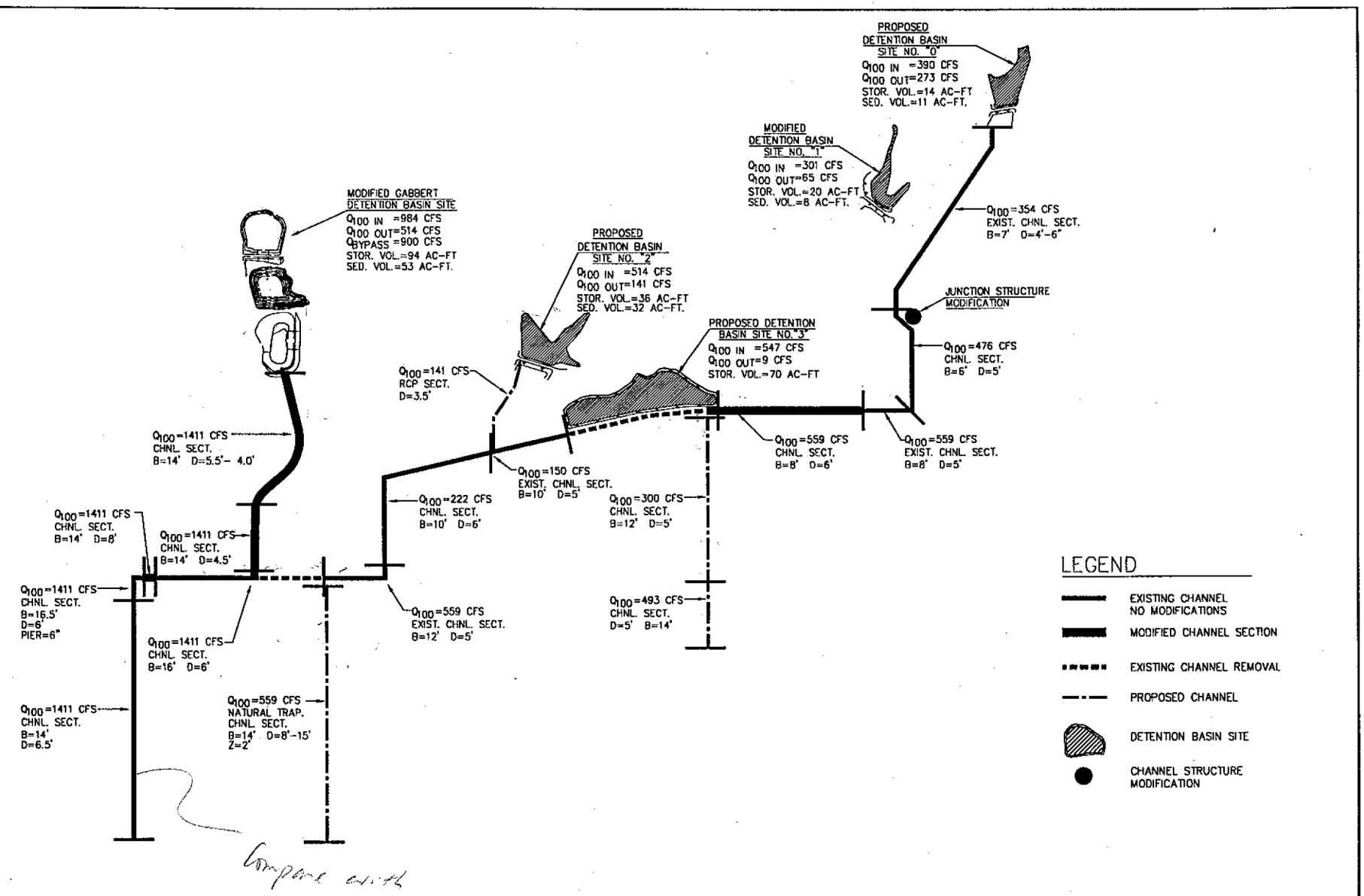
WALNUT/GABBERT CANYON

DATE 4/97

ALTERNATIVE NO. A
SCHEMATIC MAP

EXHIBIT



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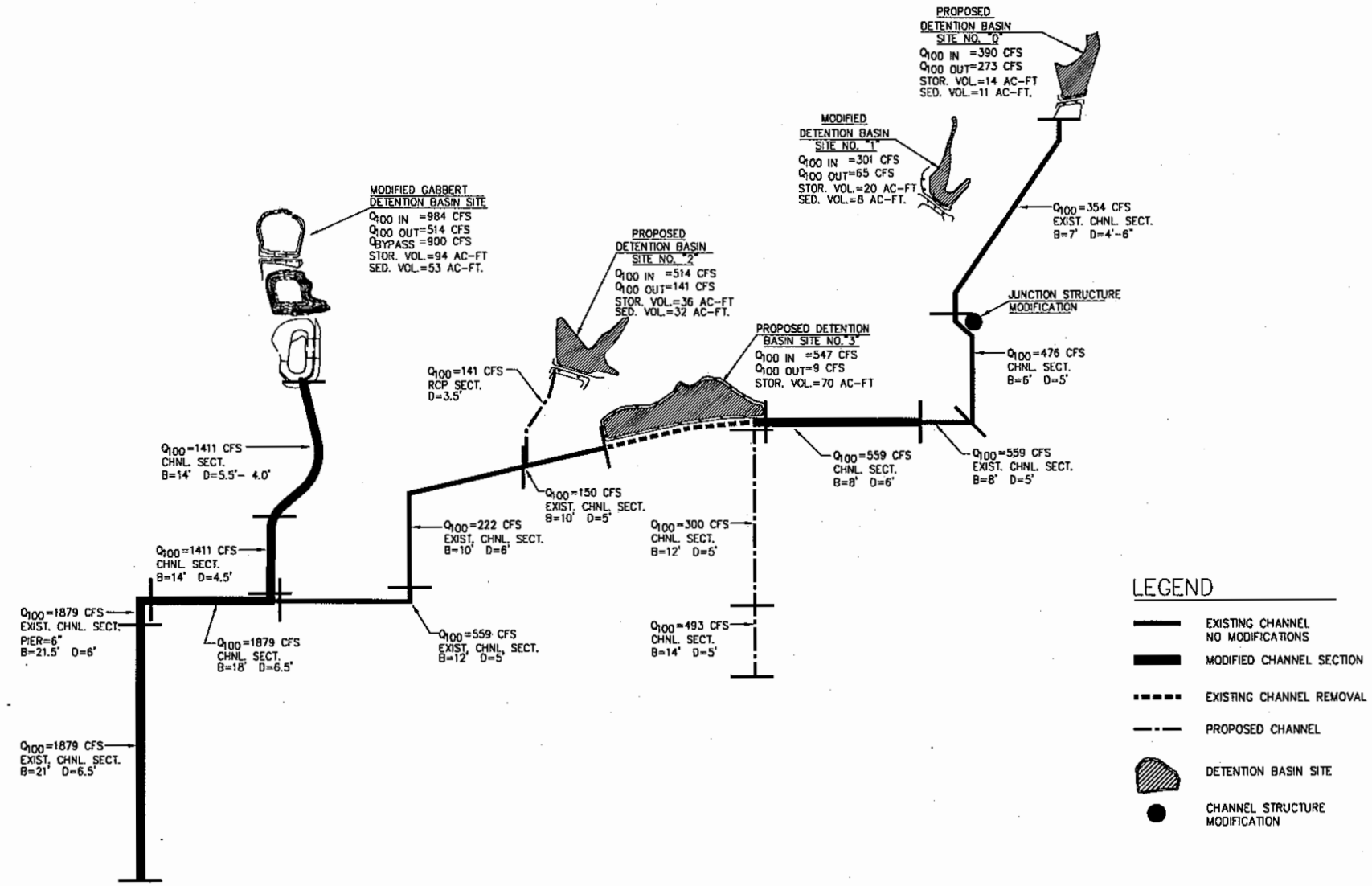
ALTERNATIVE NO. B
SCHEMATIC MAP

EXHIBIT



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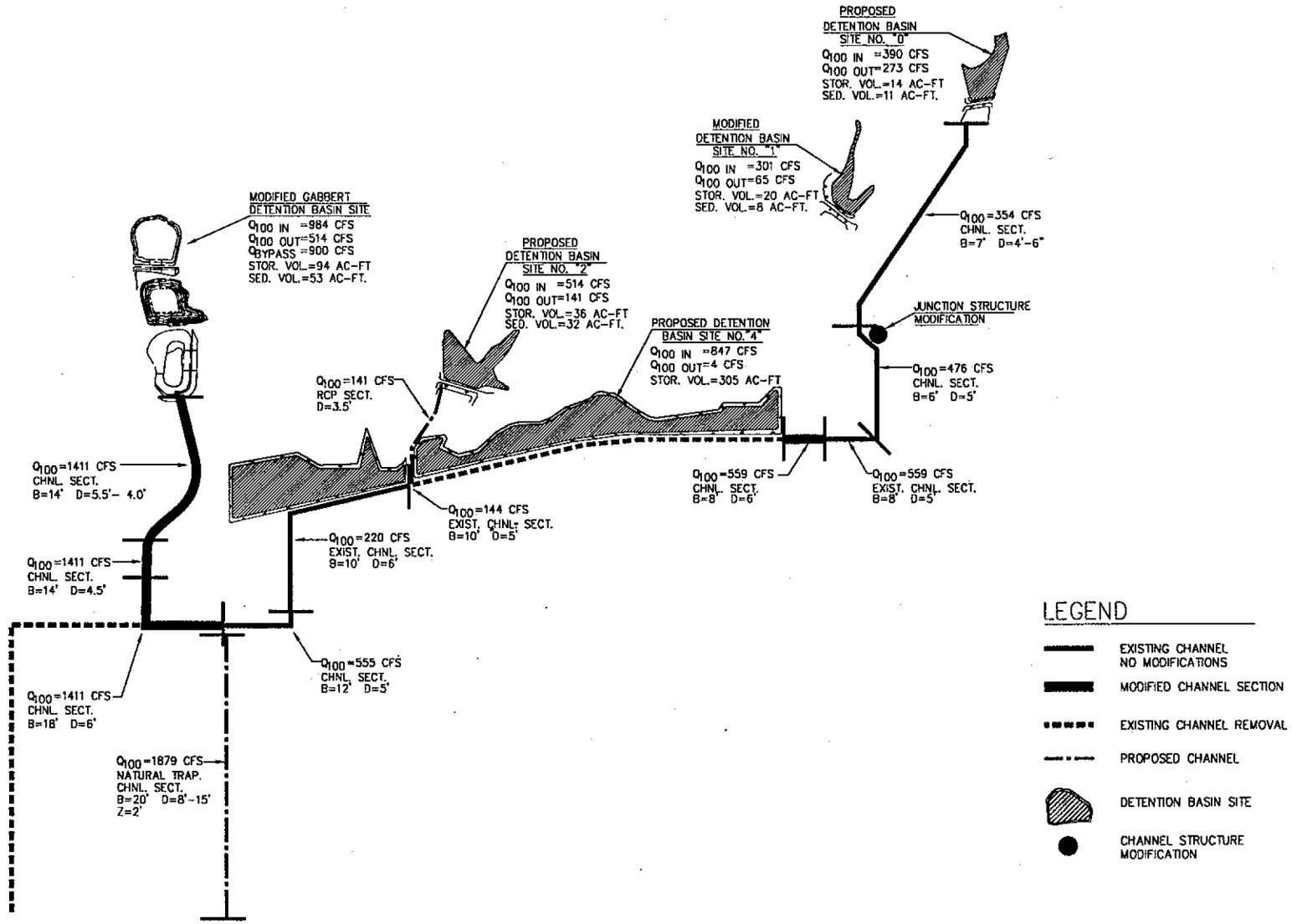
ALTERNATIVE NO. C SCHEMATIC MAP

EXHIBIT



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SCHEMATIC MAP

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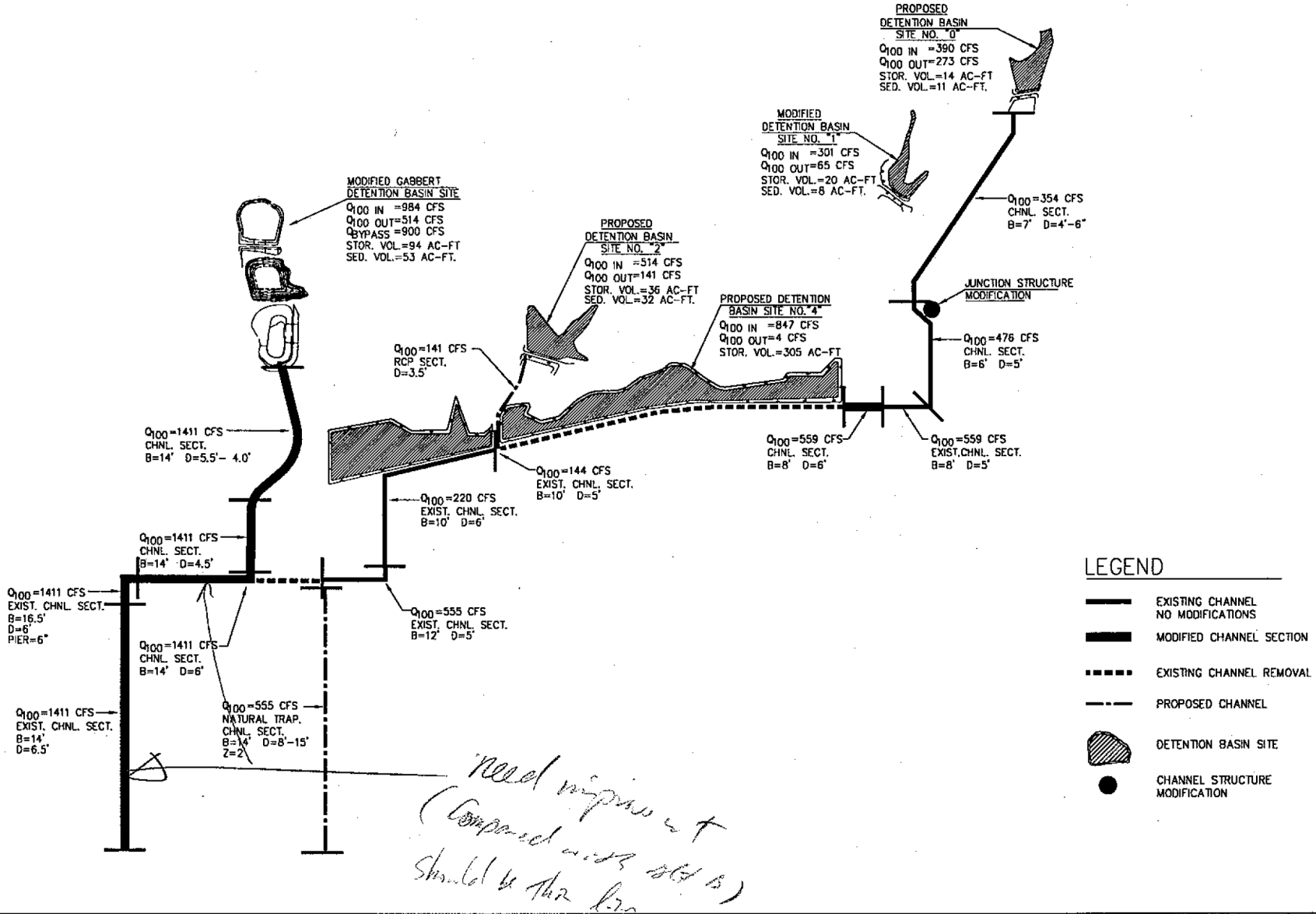

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ALTERNATIVE NO. E
SCHEMATIC MAP

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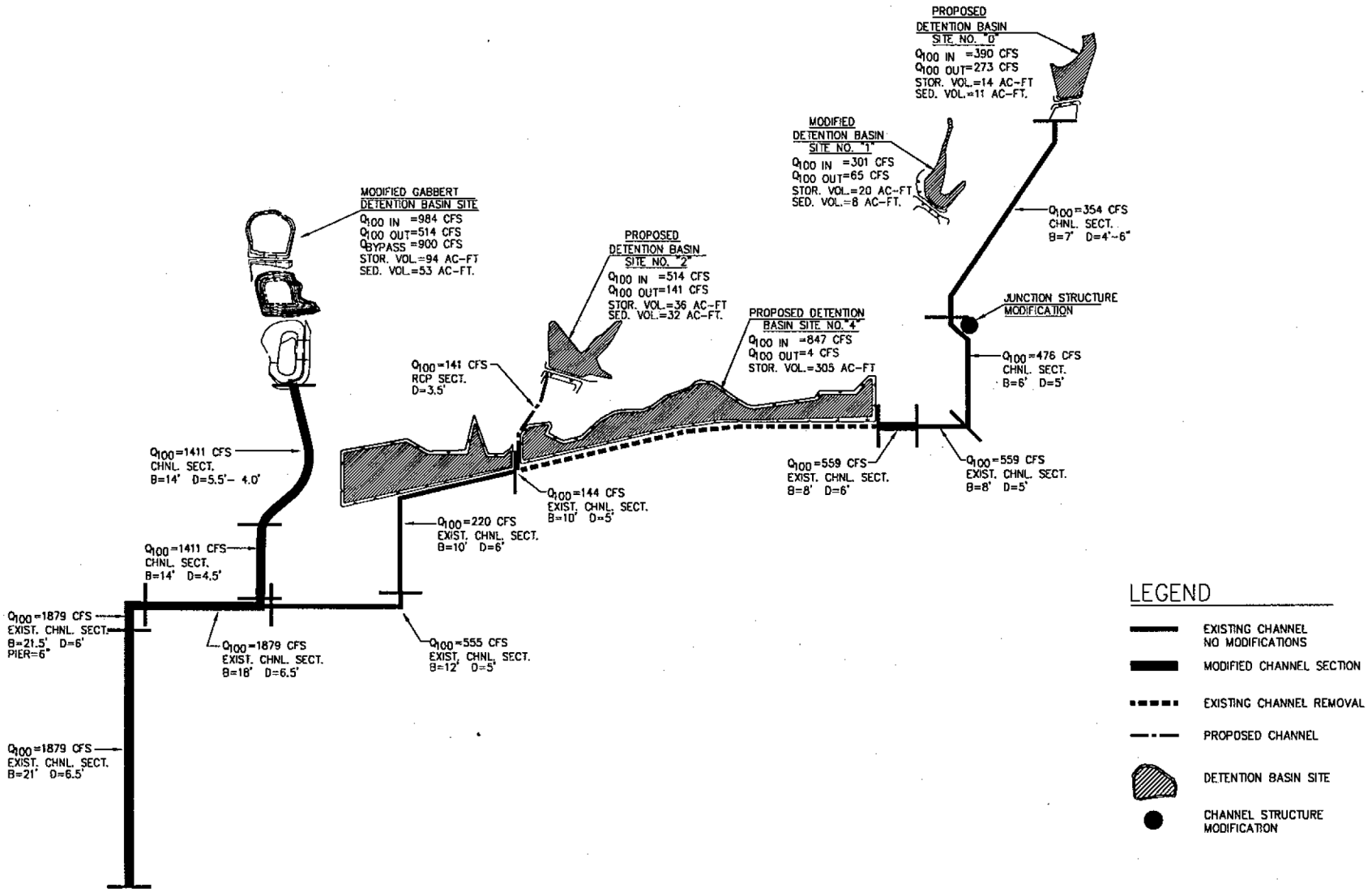

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SCHEMATIC MAP

EXHIBIT

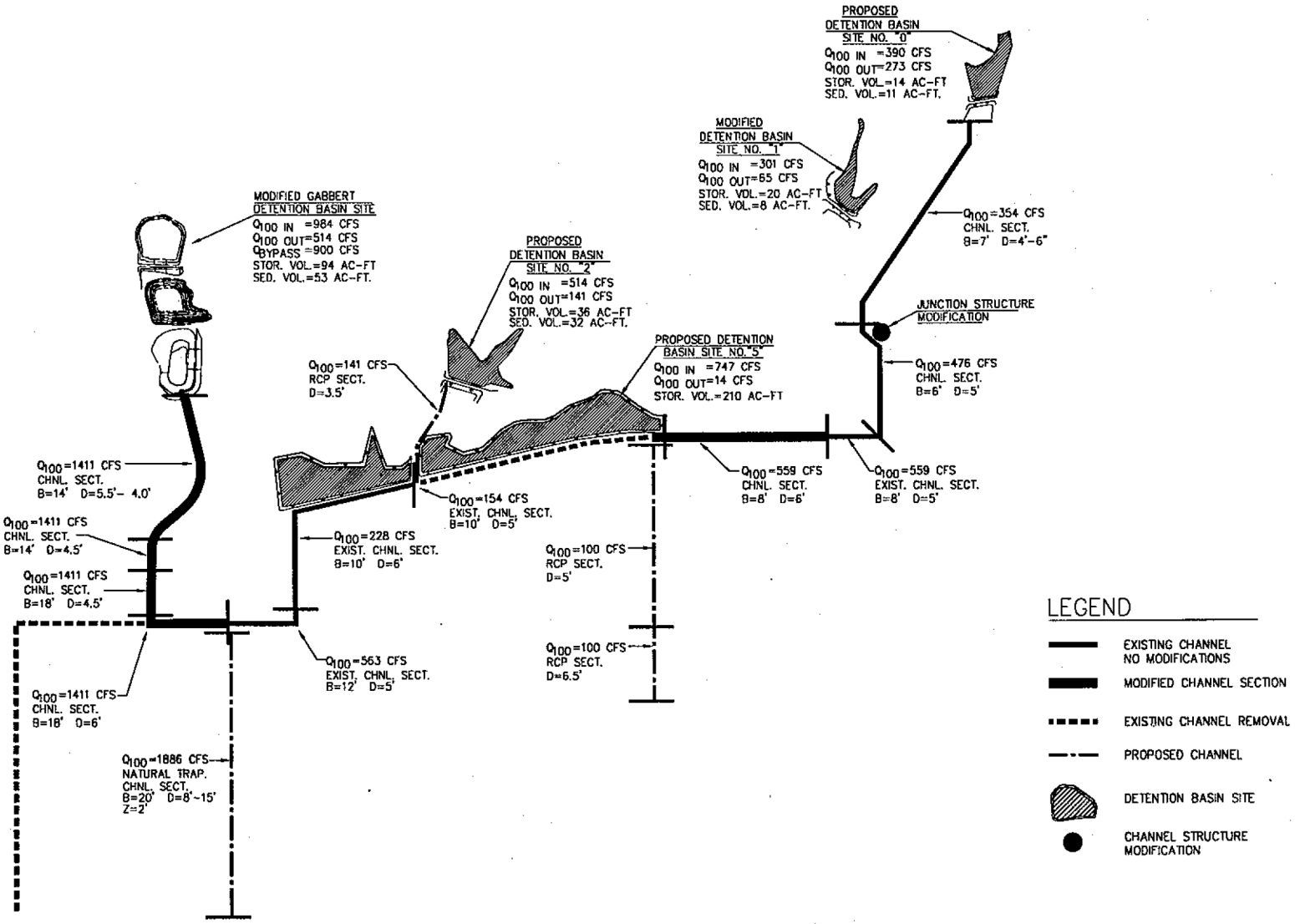

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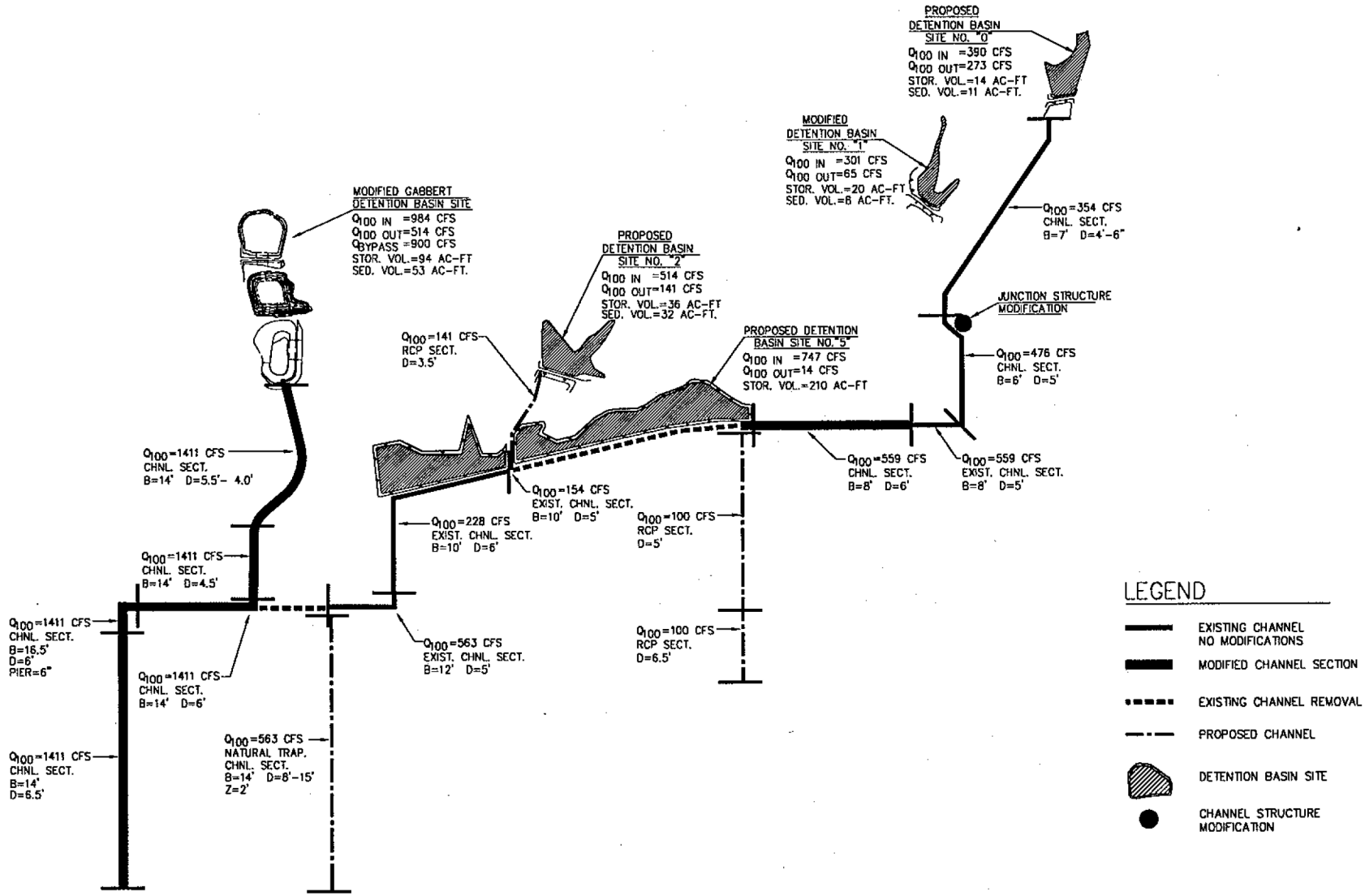
EXHIBIT



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SCHEMATIC MAP

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Section 10—Estimated Construction Costs

10.1 Standard Construction Elements

The various drainage facilities are composed of standard features that are common elements of thee facilities and were included in developing the construction costs estimates. Standard features for the channel reconstruction include the concrete rectangular channel section, channel fencing, and adjacent access roads. The channel reconstruction always required removal and disposal of the existing concrete channel lining. The detention basins include perimeter roads, access ramps, slope and erosion treatment, spillway, outlet tower, and energy dissipators. In addition, if the detention basin volume was based upon an embankment, then this included clearing and grubbing, foundation excavation and preparation, and embankment construction.

10.2 Unit Construction Costs

Construction cost estimates were generated for each of the drainage system alternatives in order to provide an economic comparision of the systems. Standard unit prices for flood control facilities were applied in the preparation construction cost estimates based upon previous regional drainage projects and similar estimates at this level of detail. The costs presented in this study are based upon 1997 dollars and reflect the total capital costs to construct the facilities based upon the current planning level of detail associated with the concept plan. A 20% contingency factor has been applied to provide an allowance for potentially intangible or unknown construction items that cannot be determined at this time. An additional 10% factor was applied for mobilization, engineering, and administration. Consideration was given to the existence of major utilities (see *Section 7.3 Utilities*) in the layout and alignment of the proposed facilities, however, not costs of relocation or special relocation costs have been applied since it would depend on specific location of the facilities. The standard unit costs which were used in the estimate are summarized in the following table

Table No. 10.1 - Construction Unit Cost Database

Item Description	Unit	Price
Excavation - Basin Embankment Foundation	c.y.	$3
Embankment Compacted Fill	c.y.	$6
Channel Excavation	c.y.	$3
Reinforcing Steel	lb.	$0.50
Structural Concrete	c.y.	$450
Access Roadway	s.y.	$5
Rock Rip-Rap	c.y.	$35

Table No. 10.1 - Construction Unit Cost Database		
Item Description	Unit	Price
Concrete Removal	c.y.	$125
Outlet Riser	l.f.	$200
Channel Excavation	c.y.	$3
Clear and Grub	s.f.	$1
Reinforced Concrete Pipe	ft -inch diameter	$3

Table No. 10.2 - Summary of Estimated R/W Costs (Per VCFCD)	
Location Description	Price
Diversion System	$150,000/acre
Upper Walnut Basin	$20,000/acre
Diversion Channel	$25,000/acre
Gabbert Basin Expansion	$20,000/acre

10.3 Preliminary Estimate of Construction Quantities and Costs

Generally four primary types of costs are associated with the implementation of the regional drainage system. These costs include (1) right-of-way or land aquisition, (2) construction or capital costs, (3) engineering and administrative costs, and (4) contingencies. If public financing is used such as bonds or assessment district then these additional costs should be applied. The quantities associated with for the various system elements such as channel reconstruction or detention basins are based upon preliminary design and layout of these facilities. Exhibits illustrating the conceptual design of the facilities have been included and were the basis for preparing the quantity estimates.

A detailed breakdown of the costs for specific design elements which include the detention basin alternatives, Gabbert Detention Basin, outlet channel relocation, and diversion systems are presented in the following tables. A more detailed breakdown of the cost estimates for the individual system alternatives is provided in the *Technical Appendix*.

10.3.1 Comparison of Alternative System Capital Costs

A summary of the major cost elements is provided in *Table 10.3 - Summary of Alternative Systems Construction Costs*. The table provides useful comparisons between the various components of the

drainage systems. A total is also provided with and without right-of-way costs. The summary of the total indicates that Alternative "B" has the lowest overall total costs but Alternative "E" has the lowest capital costs.

Table No. 10.3 - Summary of Alternative Systems Construction Costs
(Cost in thousand of dollars)

Alt	Detention Basins			Divert Chann	Walnut Chann	Gabbert Chann	Outlet Chann	Capital Cost Subtotal	R/W	**Total Costs**
	0,1,2	3,4,5	Gabbert (Alt. B)							
A	$1,369	$618	$3,276	$2,300	$132	$2,179	$558	**$13,255**	$1,221	**$14,476**
*B	$1,369	$618	$3,276	$2,300	$132	$1,079	$350	**$11,674**	$1,194	**$12,868**
C	$1,369	$618	$3,276	$2,300	$132	$2,752	----------	**$13,358**	$1,033	**$14,391**
D	$1,369	$2,259	$3,276	--------	$132	$2,179	$558	**$12,349**	$2,329	**$14,678**
E	$1,369	$2,259	$3,276	--------	$132	$1,079	$350	**$10,815**	$2,300	**$13,116**
F	$1,369	$2,259	$3,276	$751	$132	$2,752	---------	**$11,881**	$2,140	**$14,021**
G	$1,369	$1,668	$3,276	$751	$132	$2,179	$558	**$12,556**	$1,976	**$14,532**
H	$1,369	$1,668	$3,276	$751	$132	$1,079	$350	**$11,023**	$1,948	**$12,971**

* Recommended alternative

Section 11—Financing

11.1 Financing Methods Available

The financing of public facilities by local agencies have a variety of financing mechanisms available to fund the infrastructure costs. Many methods cannot be used by private organizations or individuals, but offer great flexibility to public agencies. The two major categories of public work funding include **pay-as-you go** financing and **debt** financing (pay-as-you-use). Pay-as-you-go financing requires governments to pay for infrastructure costs directly from current revenues. These programs for pay-as-you-go include: creation of special assessment district, levying special property taxes, creating a special district, impact fees from new developments, grants or aid from the State and Federal government. Debt financing requires local governments to tap credit markets and raise funds through the issuance of dept obligations. The use of debt financing involves various type of financing tools which include: short term notes, unlimited tax general obligation bonds, limited tax general obligation bonds, and revenue bonds. Another type of financing is **pay-as-you-need** which is defined as a form of pay-as-you-go, which involves impact fees or assessments to support loan or bond payments. In this form of financing, payments collected vary depending upon the benefit received. The benefit in this case is not necessarily one of need, but rather one of forecasted or predicted need based upon potential flood damage. Assessment must be apportioned upon any basis which will reasonably measure these benefits. The advantage of this method is that only users benefitting from the improvements need to pay for them. The following table outlines some of the most common California laws used as authority for levying special assessments which are available and their applicability according to the elements in the implementation of the recommended project. The costs for long term maintenance and monitoring may be a consideration in the selection of the financing mechanism, since many of the procedures do not include maintenance, but only consider capital construction.

Table No. 11.1 - Project Related Allowable Uses of Assessment Laws

Description of Act	Drainage	Flood Control
Improvement Act of 1911	Capital	Capital
Municipal Improvement Act of 1913	Capital	Capital
Benefit Assessment Act of 1982	Capital & Maintenance	Capital & Maintenance
Mello-Roos Community Facilities Act of 1982	Capital & Maintenance	Capital
Improvement Bond Act of 1915	Capital	Capital
Map Act Areas of Benefit	Capital	------

** The table reflects the associated allowable uses based upon the specifics of each Act. The table indicates uses for either *Capital Improvements* or *Capital Improvements and the Operation and Maintenance* of the facility.

Stormwater Utility Fees is a utility approach to financing public drainage facilities. Stormwater utilities are public utilities that are financed by dedicated user charges. User charges for an individual property are based on the contribution of the property to the total volume of stormwater that must be managed. A general approach to developing a utility rate structure involves estimation of a charge per "equivalent runoff unit" (ERU) and then estimating the charge per parcel. In some areas the charge to the parcel is increased if located in a floodplain and the charge can be reduced if on-site detention is provided as part of the development.

Exactions is the practice of requiring developers to provide certain physical facilities is one of the most important and well established means of financing infrastructure. In California subdivision exactions are worth over five times as much as all development-related fees and assessments, and now account for nearly half of the annual public capital formation in the state. Provisions with the State of California Subdivision Map Act include certain sections which provide for the dedication of land related to drainage systems. Section 66478.1 ensures that local agencies must require public easement along banks of rivers and streams and Section 66479 allows local ordinances to require that property be reserved for certain public facilities. There are certain requirements which must be satisfied by the public agencies in order to impose land reservations by local ordinance and the primary issues include: (1) the requirement of land reservation be based upon adopted specific plan or general plan, (2) the amount of land reserved will not make the development of the remaining land economically unfeasible.

Drainage Fee Assessment Programs are possible through state legislation which enables the implementation of a drainage fee program by a public agency. Section 66483, Division 2 of Title 7 of the State of California Government Code (Subdivision Map Act), as amended January 1, 1994, allows the creation of ordinances which require payment of fees for the purposes of defraying costs of constructing planned drainage facilities. Some of the specific requirements associated with the creation of a drainage fee program include the following:

- An ordinance must be adopted to require the payment of a drainage fee as a condition of approval of final subdivision maps.
- The ordinance must particularly refer to a drainage plan adopted for specific areas.
- Prepare a drainage plan which includes (1) a map of the drainage area or areas showing the boundaries and locations, type and size of planned drainage facilities, and (2)an estimate of construction costs of the drainage facilities for each area.
- The government entity must adopt the drainage plan with a finding by resolution that the development of property within the planned drainage areas will require construction of the described drainage facilities, and a finding that the fees proposed are fairly apportioned on the basis of wither the benefits of, or the need for, drainage facilities created by proposed development
- A "Planned Drainage Facilities Fund" is created for the various drainage area and funds are maintained separately. The basic source of funds are drainage fees collected on a per-acre basis.

VCFCD Land Development Fee is a program in which all cities within the Ventura County Flood Control District, through their Building and Safety Departments, are required to collect a land development fee for flood control when approving a new building permit and transmit the fee to the District for deposit and administration. This fee was initially established in 1967 at $400 per acres and is updated annually based on the Engineering New Record Construction Cost Index for the Los Angeles Area. The VCFCD policy indicates that these monies can be utilized three ways, preferably to finance construction of VCFCD *red line* facilities, which include: (1) financing of storm drains within a city, (2) finance construction of storm drain outside the city that will be of benefit to the city, and (3) use all or part of the "local share" money required to finance a federally funded storm drain.

Two popular financing mechanisms which have been primarily utilized to development special assessment districts based upon the benefit from public improvements are the Mello-Roos Community Facilities Act of 1982 and the Municipal Improvement Act of 1913/1915. The Mello-Roos Community Facilities Act of 1982 was enacted as an alternative method for local governments to provide facilities to serve their communities. It provides an alternative to making dedication and paying in-lieu fees as the method of satisfying requirements to provide certain public capital facilities and services. While not a true assessment, the "special tax" upon land offered by this Act provides a financing tool that is treated in part like an assessment.

The **Mello-Roos Act** allows the formation of "community facilities districts" in specified areas within their jurisdictions. A community facilities district is a special financing entity through which a local government is empowered to levy special taxes and issue bonds authorized by a **two-thirds vote** of the qualified elector of such district. In areas with less than twelve registered voters, the qualified electors are the landowners. Prior to initiation of proceeding to form a community facilities district, the developer may be required to enter into an agreement with the Issuer which will set out term under which the legislative body of the Issuer will form the community facilities district. Usually the developer will be required to advance all costs incurred by the public agency to form the community facilities district. The costs may include estimated engineering, planning, inspection, and administrative costs and expenses. These costs will be repaid to the developer from bond proceeds. Generally, with the cooperation of all parties involved, the proceedings to form a community facilities district may be completed and bond proceeds received in **five to six months** after the proceeding are initiated.

The **Municipal Improvement Act of 1913/1915**, currently the most frequently used Assessment Act in California, allowed local agencies to impose assessment on benefitted property to finance the construction of various public improvements, the acquisition of real property rights, and the maintenance and repair of improvements constructed with this Act.

Another funding mechanism which specifically focuses on flood control projects is the **Benefit Assessment Act of 1982**. This Act authorizes local agencies to impose assessments on benefitted property to finance the operation and maintenance of drainage, flood control services, and the

installation and improvement of drainage and flood control facilities. In the case of an assessment for flood control services, the Act provides that the benefit may be determined on the basis of the proportionate storm water runoff from each parcel.

Special assessment districts are a common funding program using a convenient designation for properties that receive a special benefit and are subject to the special assessment. The special assessment is designed to recover the costs of an improvement that directly benefits an individual property and these assessment are based on formulas that relate the charge against a parcel to the benefits. The capital is generated for the construction of the improvements through the sale of general obligation bonds.

Tax Increment Financing (TIF) uses increases in property values attributed to a capital project to recover the project's costs. Under this approach, a special tax increment district is created by the adoption of a plan for development of the infrastructure of a particular geographic area. Although the use of tax increment financing in rural area is not uncommon, this method is usually used to finance redevelopment in deteriorated areas characterized by declining property values.

A more detailed description of the process associated with the 1913/1915 Act have been provided, however, most of the other special assessment acts previously indicated follow similar procedures. Logic diagrams have been developed for the Special Assessment District and the Mello-Roos Community Facilities District proceedings which graphically illustrate the process for the major elements associated with each funding mechanism (See Exhibit 58 - Special Assessment District Flow Chart, and Exhibit 59 - Mello-Roos CFD Flow Chart). The general process for the 1915 Act when used in conjunction with the 1913 Act are generally as follows:

- The public agency adopts the Resolution to order the improvement, briefly describing the proposed improvement, specify the exterior boundaries of the assessment district, providing for issuance of improvement bonds, declaring its intention to levy assessments to maintain, repair or improve the facility.

- The agency directs preparation of an *Engineers Report* which contains: plans and specifications of the proposed improvements, description of lands and easements to be acquired, an estimate of the cost of the improvement and costs of lands and easements. The report is filed with the public agency. A preliminary approval is adopted and a public hearing is set for not less than thirty days after passage of the resolution. Bids for the construction of the improvements and sale of the bonds can be called for before the hearing. The notice inviting construction bids must be first published at least fourteen day days before the date set for receipt of the bids.

- Prior to public hearing on the assessment district the public agency shall adopt a resolution describing the boundaries of the district. Notice of adoption of the resolution and of the public hearing are published and posted at least twenty days prior to date set for

the public hearing.

- After the public agency passes on the report and any interested person may object to the proposed improvement by filing a written protest before the hearing. If a majority of the owners protest the formation of the district or the levy of the assessment at or before the hearing, then no further proceedings may proceed for a period of one year from the date of the hearing.

- The assessments cannot be increased unless consent from the owner is obtained or an additional noticed hearing is conducted.

- After confirmation by the public agency, the clerk files the final diagram and notice of assessment the county recorder, and the assessment and diagram with the appropriate local agency official

A 1915 Act assessment district format was assumed for the purpose of developing an evaluation of the estimated assessment district bonded costs for the recommended drainage system construction costs, excluding land acquisition costs. This differs from an alternative of using a 1911 Act district which would have less administrative costs, but also less flexibility. Generally, the 1915 Act district is the more common format utilized to finance public improvements.

Table No. 11.2 - Estimated Flood Control Assessment District Bonded Costs

Cost Item	Estimated Cost	Description
Estimated Construction Costs*	**$8,979,000**	Construction costs for flood control improvements
Contingency & Engineering	$2,693,000	30% of construction costs
Cost of Issuance	$179,000	2% costs for underwriter & administration
Formation Costs	$90,000	1% cost for bond counsel
Assessment District Engineering	$45,000	0.5% costs for assessment district engineer
Capitalized Interest (18 months at 6%)	$1,067,000	Finance costs or carry during construction period
Bond Reserve	$591,000	Ranges from 5-10% determined by issuing agency and depends on risk.
Total Amount Assessed	**$13,644,000**	

** Assumes the recommended project drainage system alternative and includes only capital construction costs, excludes R/W or land acquisition. The estimated construction costs reflect **Drainage System Alt. "B"**

An estimate of the bond issuance costs is presented in Table No. 11.1 and these costs generally include **bond counsel, underwriter discount, special tax consultant, debt service reserve fund, capitalized interest (1-2 years), official statement and bond printing, trustee/paying agent, letter of credit or insurance premium, and other miscellaneous costs.**

The determination of the funding for the maintenance of these facilities is important during the initial development of the special assessment district since many procedures do not allow maintenance costs to be included. An example is general obligation bonds are generally issued by public entities only for the purpose of acquisition and construction and may not be used to finance ongoing maintenance and operation costs. Additional limitations may be provided by the statutes of the local agencies and these should be investigated during the initial planning process.

11.1.1 Financing Issues and Policy Considerations

Several issues must be considered when evaluating public financing and these include (1) allocation of costs by benefit, (2) economic feasibility, (3) County policies, and (4) specific types of charges and implementation measures. Assessment fees can either be distributed based upon actual benefits received from implementation of the drainage improvement or based upon considering the negative impacts which result from development of property. The most obvious benefit received from construction of drainage improvements is the reduction or elimination of potential flood damage which could occur to property. The problem with assessing specific benefits is that of determining the value of an individual property is difficult and subjective. The negative impact basis is based on the concept that charges should be based on the contribution to the problem of flooding and proportional cost of a system designed to alleviate that problem. This is a superior approach both on the basis of reasonableness as well as simplicity in determining assessment.

An important aspect to consider in setting fees is legal constraints and statutory restriction on impact fees and assessments. Statutes (Section 66483 of the California State Government Code) governing the assessment of fees and charges to cover both operation and improvement or construction of new facilities state that "...fees should be reasonable, fair and equitable..." or "...fees should be fairly apportioned...on the basis of benefits conferred on the property..." Other restrictions limit charges on individual properties to a prorata basis according to the acreage, and limit charges to cover only the cost of facilities which are not in existence at the adoption of any master plan for the area.

Another key element is the economic feasibility of development-related financing based upon the relationships of the financial burden to the underlying land values. If the burden is large, relative to land value for a particular use, the that use may be rendered uneconomic.

11.1.2 Allocation of Financial Burden to Land Uses

Establishes a fee structure within the watershed requires that the infrastructure costs outlined for the proposed drainage system be apportioned by some fair and reasonable method. In addition there

must be a **nexus** to establish an assessment which provides a relationship between the land and the proposed infrastructure improvements. A Dwelling Unit Equivalent (DUE) can be utilized to determine the relative responsibility of an acre of land in each landuse category compared to an acre of land in the single family residential category. Generally the DUE procedure are based on a "causes or uses" test : the cost of the drainage facilities are sized to accommodate the peak runoff were allocated in proportion to the extent to which each land use category contributes to the peak runoff amount. Application of a DUE cost schedule provides the basis for a valid development impact fee.

11.2 Selection of the Financing Technique

The decision regarding the financing method depends on several considerations which include: (1) cash flow, (2) landowner preferences, (3) adopted County policy. The time at which a particular drainage improvement must be implemented is compared to the amount of development impact fees that would have been collected up to that time. If the total collections are adequate or if an imbalance can be corrected over relatively few years, then impact fees are useable. It has been increasingly common in California for a comprehensive financing plan to include a mix of development impact fees and bonded debt. Bonded debt, is authorized to pay for those major improvements that are required immediately to implement the master plan of drainage. Development impact fees are used to pay for improvements that can be staged over the planning period.

Impact fees would appear to provide the least cost, most effective and simplest form of financing. Impact fees may be charges at the time the property is subdivided, at the time building permits are issued or a combination of both. If these drainage facilities are to be implemented prior to the development occurring in the upper watershed then some form of debt financing must be considered and drainage fees can be used to repay the debt. Exactions in the form of land reservations for stormwater storage detention basins or additional channel right-of-way will fulfill the land requirements in order to implement the drainage systems.

Section 12—Recommended Drainage System

12.1 Recommended System Components

Based upon the costs and feasibility of implementation, drainage system **Alternative "B"** is the least-cost alternative and is the recommended alternative. The R.O.M. costs for this system include $11,674,00 in capital construction costs and $1,194,000 for land acquisition. The total right-of-way required for this alternative is approximately 36.7 acres. The different project alternatives were developed with the goal of achieving a balance achieving the flood protection goal and providing the most economic solution. The primary system components associated Alternative "B" include: (1) reconstruction of Gabbert Debris Basin to provide detention storage through modification of the existing basin and construction of another storage reservoir upstream as well as a separate debris basin at the headworks which will provide 94 acre-feet of flood control storage and 53 acre-feet of debris storage, (2) a 14 acre-foot detention basin at the headworks to the Walnut Canyon Channel, (3) a 25 acre-foot detention basin at the location of an existing reservoir site in a tributary canyon at Casey Road, (4) a 36 acre-foot detention basin located in the tributary canyon adjacent to Gabbert Road, (5) constructing a 300-cfs diversion system from Walnut Canyon Channel along Shasta Avenue to the Arroyo Simi, (6) relocation of the channel outlet for Walnut Canyon Channel along 3,850 feet on earthen trapezoidal channel from Los Angeles Avenue to the Arroyo Simi, (7) reconstruction of the Gabbert Channel from the debris basin to Los Angeles Avenue, and (8) construction of an 70 acre-foot off-line detention basin at the channel diversion location on Walnut Canyon Channel. There are the potential for additional alternatives to be evaluated through refinement of the proposed system. The storage capacity within the Gabbert Canyon detention basin can be further optimized if a portion of the storage is utilized in the proposed upstream debris basin. Further study of the grading design and relative elevations of the interconnected ponds will assist in refining the hydraulic operation for the basin. However, the current analysis provides a conservative evaluation of the system while maximizing the flood control benefits.

Recommended Detention Requirements for Future Development Projects

General recommendations and guidelines are provided for future private development projects to ensure that hydrologic impacts are mitigated. The objective of this program attempts to maintain the existing hydrology on a watershed basis similar to current conditions studied as part of this investigation. A drainage ordinance should be implemented on a watershed basis which outlines the specific requirements that can be used in planning the development projects. General guidelines include the following:

1. The peak outflow from one or more detention basins within a development project area under fully developed conditions should not exceed 90 percent of the peak flow under the existing pre-development conditions for **all storm frequencies up to and including the 100-year frequency** and a single storm duration of up to 24-hours.

2. Follow the minimum requirements outlined by VCFCD for detention basin design.

3. Provide an ungated outlet large enough to permit the complete draining of each basin within 24 hours following a storm.

4. Multi-use detention basins are acceptable and encouraged, including meeting the stormwater quality requirements for the project.

5. The regional effect of the local development project detention basin on the watershed must be evaluated to ensure that it does not have a negative effect on downstream flowrates in the main channel. The potential for increasing the peak flowrate at other downstream locations within the watershed must be avoided in the design of the basin.

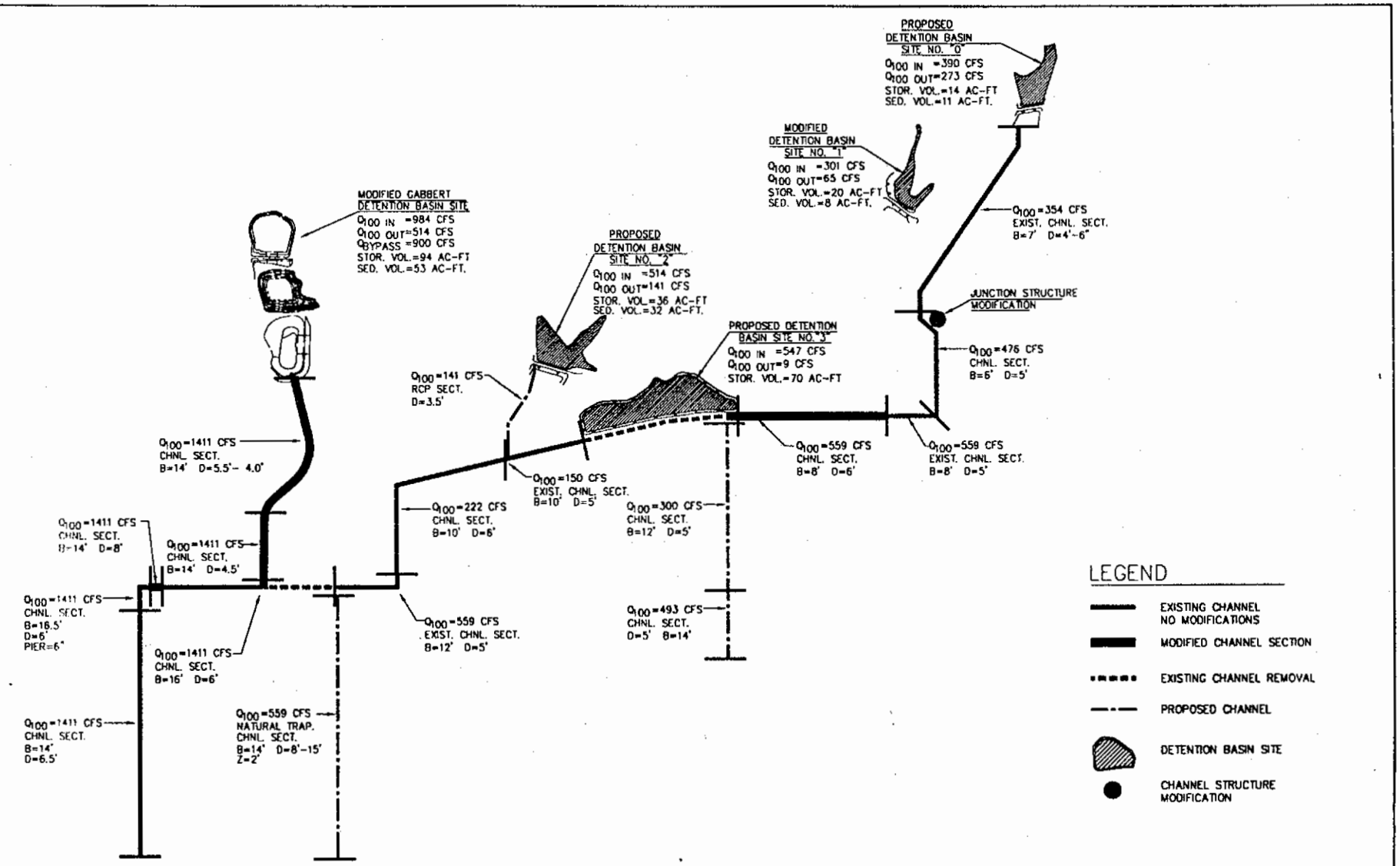
12.1.1 Operation and Maintenance

Implementation of the recommended watershed drainage system improvements will generally result in higher annual maintenance costs primarily associated with the addition of the detention basins. The basins will require the periodic removal of sediment trapped to maintain the require minimum flood control storage volume. Long term development within the upper portions of the watershed will result in reducing the sediment production and in turn lowering some of the maintenance costs. The relocated outlet for Walnut Canyon will require maintenance since the proposed section is an earthen trapezoidal section with rock rip-rap side slopes. The total overall amount of channel does not increase from the length that VCFCD currently maintains, however, detention/debris basins are a significant feature requiring additional maintenance. Additional typical maintenance requirements associated with detention basins include: (1) periodic inspection, (2) weed removal, (3) debris /sediment removal, (4) rodent control, (5) vector control, (6) outlet structure and spillway inspection or repair for cracking, movement, seepage, and piping, and (7) inspection or repair of embankment and slopes for seepage, piping, and instability.

There are a variety of elements which will be incorporated into the flood improvements to facilitate maintaining and provide access to the drainage facilities. Many of these items are standard features for flood control facilities.

Top-of-Bank Maintenance Roads: Maintenance roads would follow the standards outlined by VCFCD for their facilities. The roads would be either six inches of CMB or 3 inches of asphalt over 6 inches of CMB.

Maintenance Road Turnout: The VCFCD maintenance staff has design requirements regarding turnouts at specified interval of long sections of channel maintenance roads. These turnout are generally double wide maintenance road locations which allow passing for vehicles or temporary parking.



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(714) 472-3505

WALNUT/GABBERT CANYON

DATE 4/97

ALTERNATIVE NO. B SCHEMATIC MAP

EXHIBIT

Vehicle Turnarounds: Areas to allow maintenance vehicles to turn-around at locations where the maintenance or road dead-ends without access to a major thoroughfare. The turn-around areas would generally consist of an unencumbered 50 foot square area.

Basin Access Ramps and Perimeter Roads: Direct access for maintenance vehicles to the detention or debris basin locations and the ability for heavy equipment to clean out the basin floor, also accessing the basin outlet works.

12.2 Summary

The hydraulic analysis of the existing Walnut and Gabbert Canyon Channel systems has confirmed that in its present condition that it does not meet the desired level of flood protection and there are hydraulic deficiencies which would cause flooding. Further development of this watershed without restrictions to limit the hydrologic impacts will worsen the condition. In order to alleviate the existing flood hazard potential it is recommended that the drainage system be improved to the extent necessary to provide the desired flood protection. The recommended improvement program outlined in this regional drainage system masterplan have been formulated and evaluated on a watershed basis, but it must be implemented on a local basis.

References

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Hawks and Associates (1995), *City of Moorpark - Master Plan of Drainage*, April 1995

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Los Angeles County Flood Control District, *Design Manual -Criteria for Design of Debris Dams and Basins*, 1979

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California Department of Water Resources, Division of Safety of Dams, *Statutes and Regulations Pertaining to Supervision of Dams and Reservoirs*, 1995.

Ventura County Flood Control District, (1968) *Design Manual*, July , 1968

REFERENCE EXHIBITS

WATERSHED DATA BASE INFORMATION

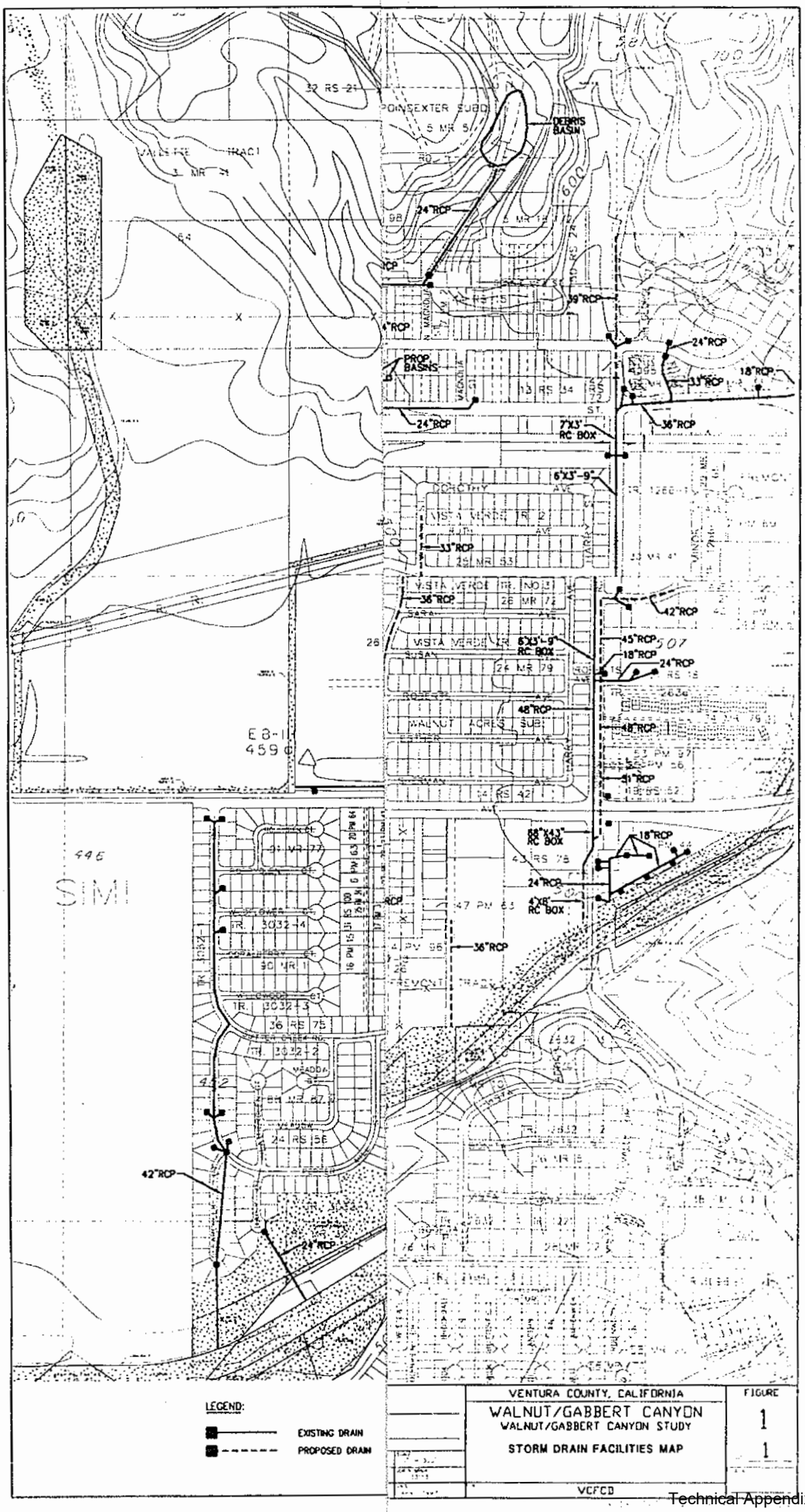
Existing Watershed Topography / Assesor Information

Uitlity Information

Exisitng Storm Drain System

Existing Channel System

Gabbert and Walnut Canyon Channel Deficiency Study



VENTURA COUNTY, CALIFORNIA

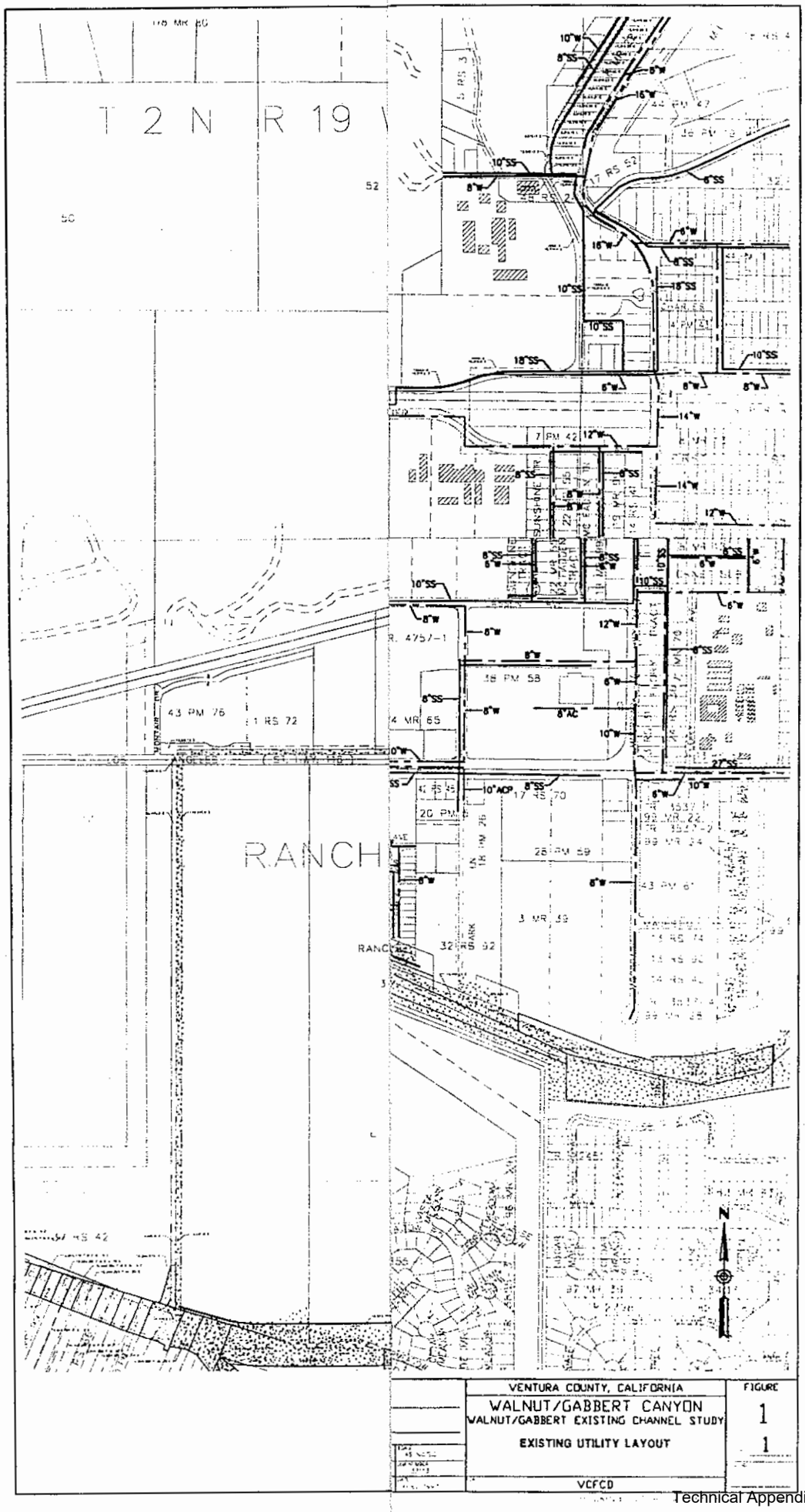
WALNUT/GABBERT CANYON

WALNUT/GABBERT CANYON STUDY

STORM DRAIN FACILITIES MAP

FIGURE 1 1

VCFCD



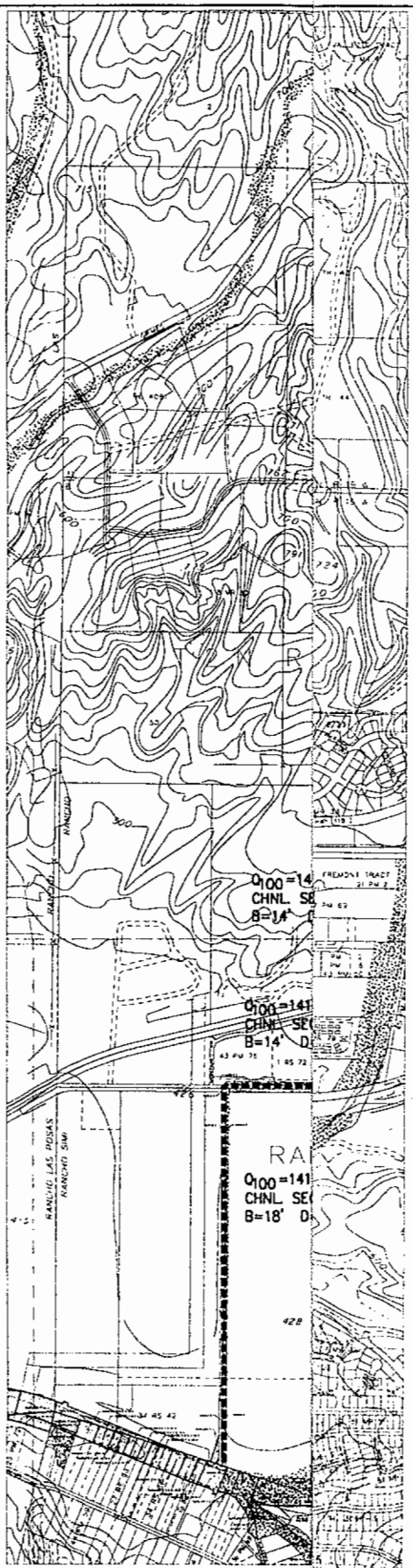
	VENTURA COUNTY, CALIFORNIA WALNUT/GABBERT CANYON WALNUT/GABBERT EXISTING CHANNEL STUDY EXISTING UTILITY LAYOUT VCFCD	FIGURE 1 1

REFERENCE EXHIBITS

ALTERNATIVE DRAINAGE SYSTEMS LAYOUTS

Drainage Systems "A" thru "H"

Gabbert and Walnut Canyon Channel Deficiency Study



LEGEND

- EXISTING CHANNEL NO MODIFICATIONS
- MODIFIED CHANNEL SECTION
- EXISTING CHANNEL REMOVAL
- PROPOSED CHANNEL
- DETENTION BASIN SITE
- CHANNEL STRUCTURE MODIFICATION

COST ESTIMATE
(INCL. 10% CONTINGENCY)

DETENTION BASINS:	$5,043,000
CHANNEL IMPROVEMENTS:	$5,991,000
RIGHT-OF-WAY:	$ 931,000
TOTAL:	$12,616,000

N

500 0 500 1000

SCALE IN FEET

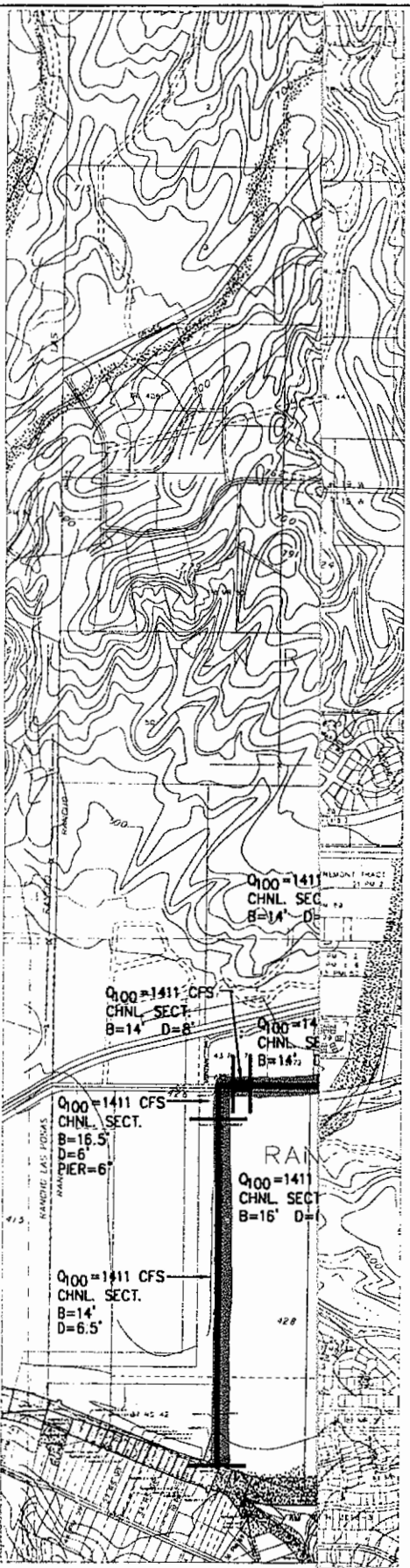
VENTURA COUNTY, CALIFORNIA

WALNUT/GABBERT CANYON
WALNUT/GABBERT CANYON STUDY

ALTERNATIVE NO. A
SCHEMATIC MAP

VCFCD

FIGURE 1 OF 9



LEGEND

- EXISTING CHANNEL NO MODIFICATIONS
- MODIFIED CHANNEL SECTION
- EXISTING CHANNEL REMOVAL
- PROPOSED CHANNEL
- DETENTION BASIN SITE
- CHANNEL STRUCTURE MODIFICATION

COST ESTIMATE
(INCL. 10% CONTINGENCY)

DETENTION BASINS:	$5,043,000
CHANNEL IMPROVEMENTS:	$3,861,000
RIGHT-OF-WAY:	$ 903,000
TOTAL:	$10,788,000

N

500 0 500 1000

SCALE IN FEET

VENTURA COUNTY, CALIFORNIA

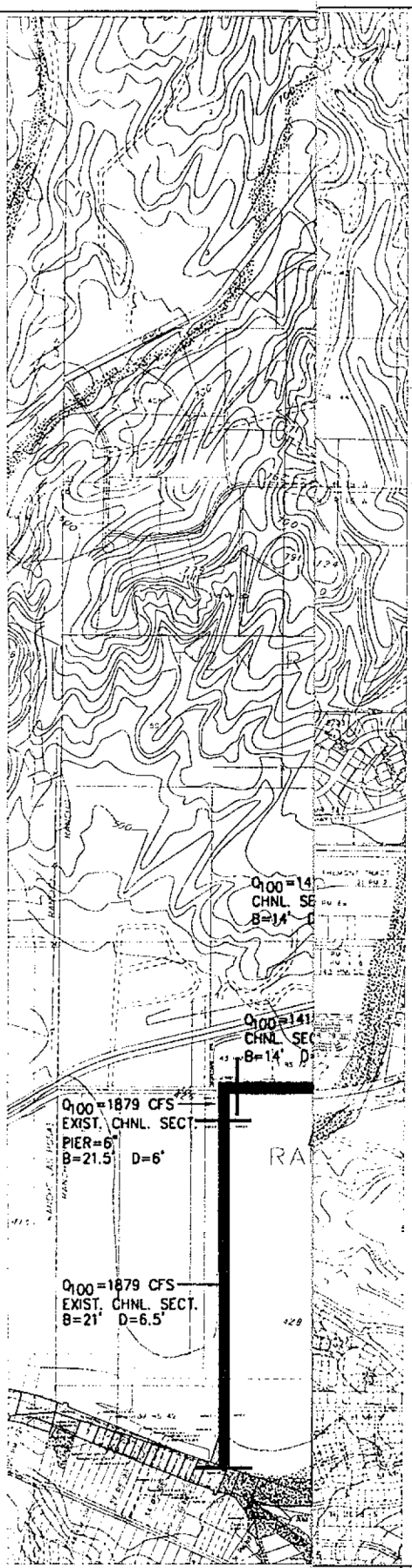
WALNUT/GABBERT CANYON

WALNUT/GABBERT CANYON STUDY

ALTERNATIVE NO. B
SCHEMATIC MAP

VCFCD

FIGURE 2 OF 9



LEGEND

- EXISTING CHANNEL NO MODIFICATIONS
- MODIFIED CHANNEL SECTION
- EXISTING CHANNEL REMOVAL
- PROPOSED CHANNEL
- DETENTION BASIN SITE
- CHANNEL STRUCTURE MODIFICATION

COST ESTIMATE
(INCL. 10% CONTINGENCY)

DETENTION BASINS:	$5,043,000
CHANNEL IMPROVEMENTS:	$9,543,000
RIGHT-OF-WAY:	$ 742,000
TOTAL:	$16,717,000

N

500 0 500 1000
SCALE IN FEET

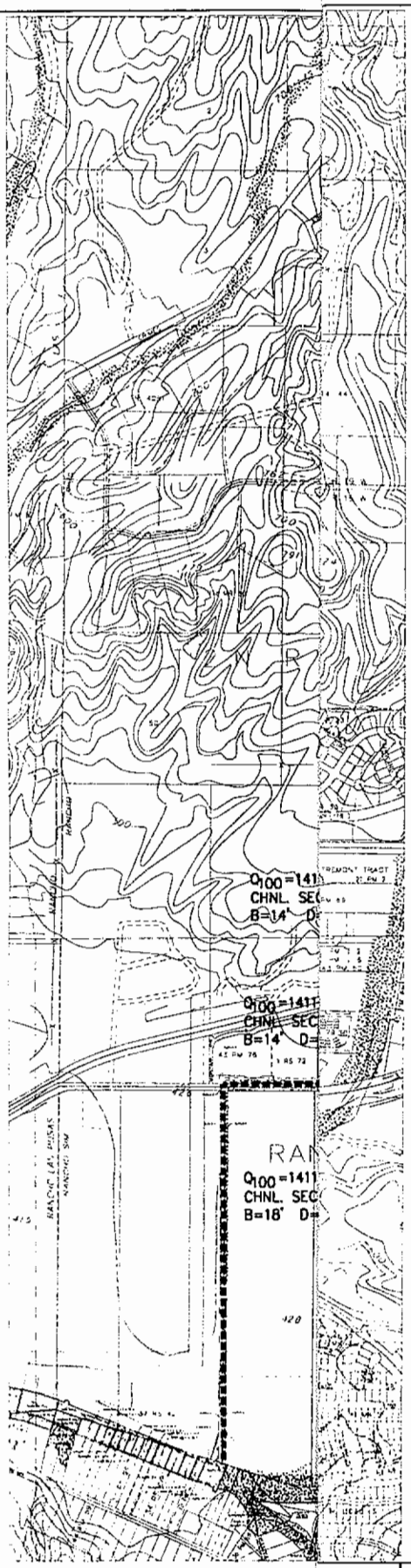
VENTURA COUNTY, CALIFORNIA

WALNUT/GABBERT CANYON
WALNUT/GABBERT CANYON STUDY

ALTERNATIVE NO. C
SCHEMATIC MAP

VCFCD

FIGURE 3 of 9



LEGEND

- EXISTING CHANNEL NO MODIFICATIONS
- MODIFIED CHANNEL SECTION
- EXISTING CHANNEL REMOVAL
- PROPOSED CHANNEL
- DETENTION BASIN SITE
- CHANNEL STRUCTURE MODIFICATION

COST ESTIMATE
(INCL. 10% CONTINGENCY)

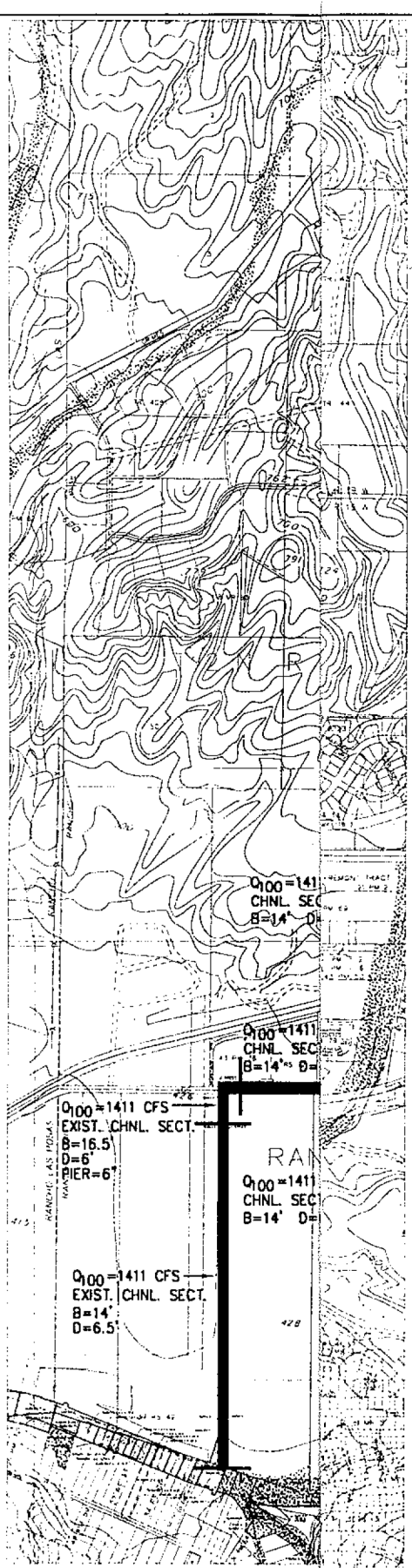
DETENTION BASINS:	$4,432,000
CHANNEL IMPROVEMENTS:	$5,991,000
RIGHT-OF-WAY:	$2,039,000
TOTAL:	$13,501,000

N

500 0 500 1000
SCALE IN FEET

VENTURA COUNTY, CALIFORNIA
WALNUT/GABBERT CANYON
WALNUT/GABBERT CANYON STUDY
ALTERNATIVE NO. D
SCHEMATIC MAP
VCFCD

FIGURE 4 of 9



LEGEND

- EXISTING CHANNEL NO MODIFICATIONS
- MODIFIED CHANNEL SECTION
- EXISTING CHANNEL REMOVAL
- PROPOSED CHANNEL
- DETENTION BASIN SITE
- CHANNEL STRUCTURE MODIFICATION

COST ESTIMATE
(INCL. 10% CONTINGENCY)

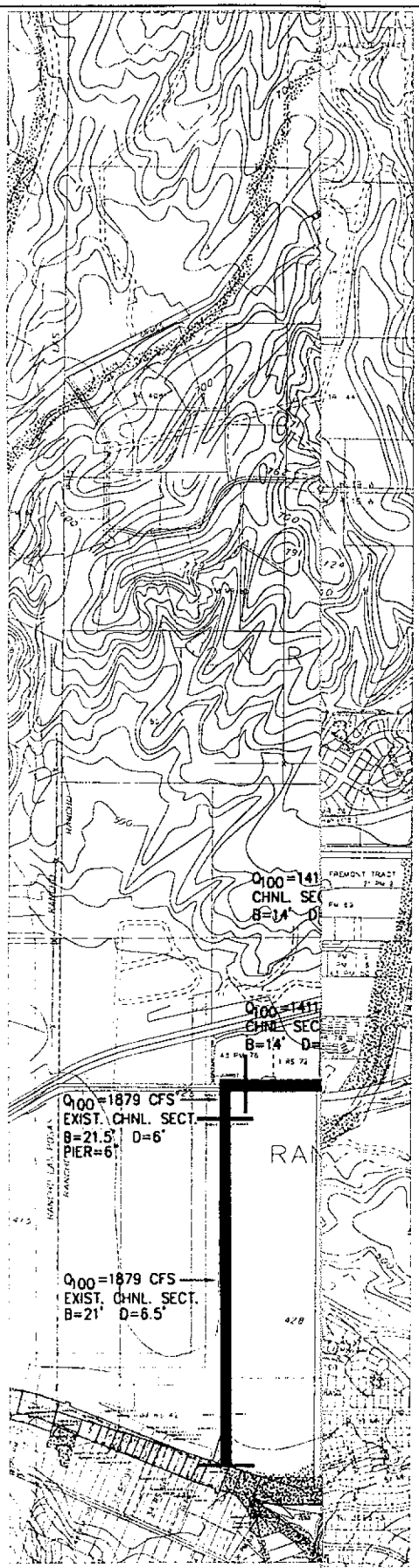
DETENTION BASINS:	$4,432,000
CHANNEL IMPROVEMENTS:	$3,861,000
RIGHT-OF-WAY:	$2,011,000
TOTAL:	$11,286,000

N

500 0 500 1000
SCALE IN FEET

VENTURA COUNTY, CALIFORNIA
WALNUT/GABBERT CANYON
WALNUT/GABBERT CANYON STUDY
ALTERNATIVE NO. E
SCHEMATIC MAP
VCFCD

FIGURE 5 OF 9



LEGEND

- EXISTING CHANNEL NO MODIFICATIONS
- MODIFIED CHANNEL SECTION
- EXISTING CHANNEL REMOVAL
- PROPOSED CHANNEL
- DETENTION BASIN SITE
- CHANNEL STRUCTURE MODIFICATION

COST ESTIMATE
(INCL. 10% CONTINGENCY)

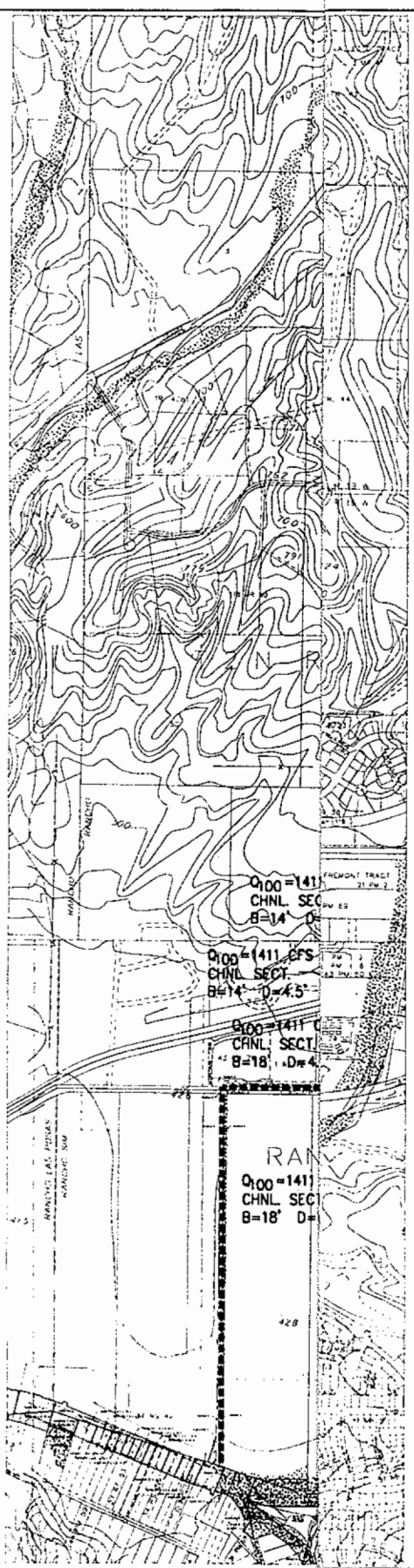
DETENTION BASINS:	$4,432,000
CHANNEL IMPROVEMENTS:	$9,543,000
RIGHT-OF-WAY:	$1,850,000
TOTAL:	$16,699,000

N

500 0 500 1000
SCALE IN FEET

VENTURA COUNTY, CALIFORNIA
WALNUT/GABBERT CANYON
WALNUT/GABBERT CANYON STUDY
ALTERNATIVE NO. F
SCHEMATIC MAP
VCFCD

FIGURE 6 OF 9



LEGEND

- EXISTING CHANNEL NO MODIFICATIONS
- MODIFIED CHANNEL SECTION
- EXISTING CHANNEL REMOVAL
- PROPOSED CHANNEL
- DETENTION BASIN SITE
- CHANNEL STRUCTURE MODIFICATION

COST ESTIMATE
(INCL. 10% CONTINGENCY)

DETENTION BASINS:	$4,733,000
CHANNEL IMPROVEMENTS:	$5,991,000
RIGHT-OF-WAY:	$1,686,000
TOTAL:	$11,788,000

N

500 0 500 1000

SCALE IN FEET

VENTURA COUNTY, CALIFORNIA

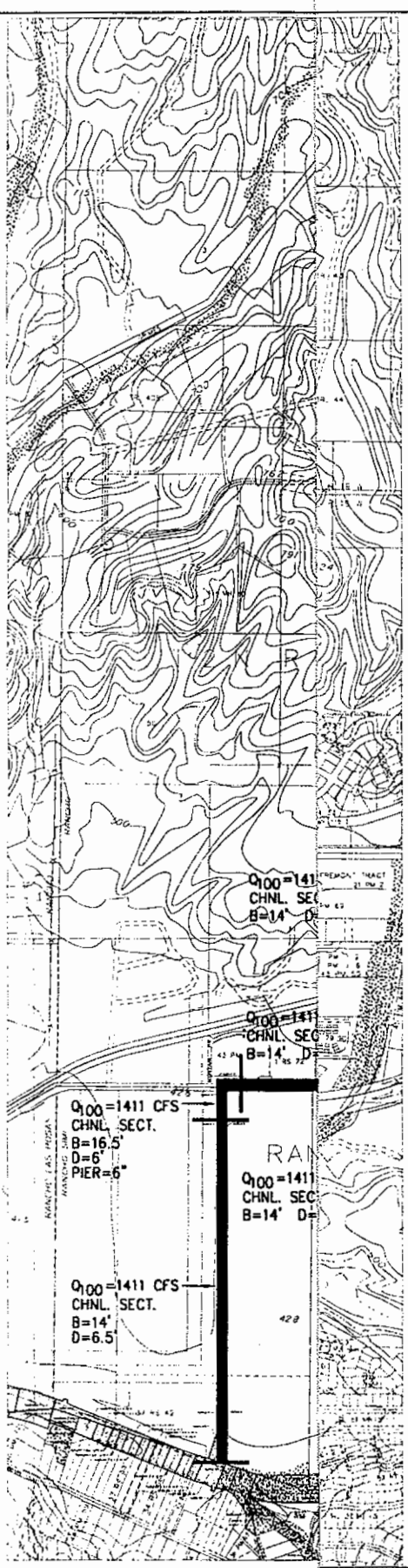
WALNUT/GABBERT CANYON

WALNUT/GABBERT CANYON STUDY

ALTERNATIVE NO. 6
SCHEMATIC MAP

VCFCD

FIGURE 7 of 9



LEGEND

- EXISTING CHANNEL NO MODIFICATIONS
- MODIFIED CHANNEL SECTION
- EXISTING CHANNEL REMOVAL
- PROPOSED CHANNEL
- DETENTION BASIN SITE
- CHANNEL STRUCTURE MODIFICATION

COST ESTIMATE
(INCL. 10% CONTINGENCY)

DETENTION BASINS:	$4,733,000
CHANNEL IMPROVEMENTS:	$3,861,000
RIGHT-OF-WAY:	$1,658,000
TOTAL:	$9,572,000

N

500 0 500 1000

SCALE IN FEET

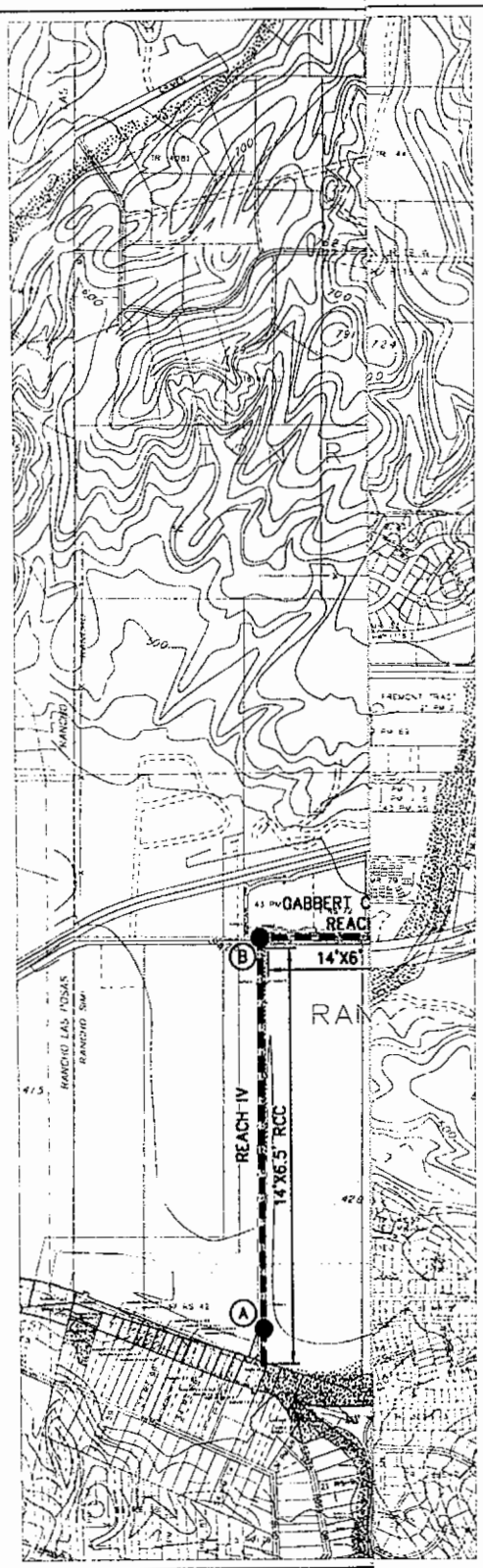
VENTURA COUNTY, CALIFORNIA

WALNUT/GABBERT CANYON
WALNUT/GABBERT CANYON STUDY

ALTERNATIVE NO. H
SCHEMATIC MAP

VCFCD

FIGURE 8 of 9



LEGEND

- EXISTING CHANNEL
- (A) CULVERT OR BRIDGE CROSSING
- REACH IV CHANNEL REACH DESIGNATION

N

500 0 500 1000

SCALE IN FEET

EXISTIN

POINT	DESCRIPTION	
A	ARROYO SIMI MAINTENANCE RD	14'
B	LOS ANGELES AVE	DBL
C	SOUTHERN PACIFIC RAILROAD	42
D	FARM ACCESS ROAD	12'
E	FARM ACCESS ROAD	12'
F	SOUTHERN PACIFIC RAILROAD	10'
G	GABBERT ROAD	10'
H	ACCESS ROAD CROSSING	10'

VENTURA COUNTY, CALIFORNIA

WALNUT/GABBERT CANYON

WALNUT/GABBERT CANYON STUDY

EXISTING CONDITION
CHANNEL SYSTEM FACILITY SUMMARY

VCFCD

FIGURE 9 of 9

Technical Addendum

Gabbert & Walnut Canyon Channels Flood Control Deficiency Study - Addendum

VENTURA COUNTY
WATERSHED PROTECTION DISTRICT
Planning & Regulatory Division
Advance Planning Section

July 2005

Revised:
August 2005

Prepared for:

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PACE JN #7753E

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Executive Summary

The existing Gabbert Canyon Channel and Walnut Canyon Channel, located in the City of Moorpark (see *Regional Vicinity Map*), consist primarily of improved concrete channels which were originally constructed by the Soil Conservation Service (SCS) between 1959 and 1962. These facilities collect and convey storm runoff to the Arroyo Simi from a total tributary watershed of 6.91 square miles. Comparison of the existing hydraulic capacities for the flood control channel sections to the estimated runoff quantities indicates that the channels cannot provide the desired level of flood protection. The limited hydraulic conveyance capacity of the existing channel system results in a flood protection deficiency and is documented on the current Flood Insurance Rate Map (FIRM) for the City of Moorpark. The existing hydraulic capacities can only provide conveyance which correspond to equivalent return periods as low as 5-years, depending upon the location in the channel.

Pacific Advanced Civil Engineering, Inc. (PACE) has contracted with Triliad Development Incorporated to update the Ventura County Water Protection District (VCWPD) the ***Gabbert and Walnut Canyon Channels Flood Control Deficiency Study*** prepared in 1997; herein after referred to as "the original study." The recommended alternative, Alternative-B, presented in the original study provided a 70-acre/ft Detention Basin No. 3 with a 300-cfs diversion to the Arroyo Simi occurring at Shasta Avenue. This plan was adopted by VCWPD as the regional masterplan for Walnut and Gabbert Canyon watersheds. This current study updates the original study to incorporate the improvements proposed in the flood control study prepared for Triliad Development Incorporated, titled ***Moorpark West Corporate Center Flood Protection Project – Walnut Canyon Regional Detention Basin***; dated March, 2003, and prepared by RBF Consulting. The study prepared by RBF Consulting was conducted to provide preliminary design of the regional flood control improvements proposed in the original study that would be implemented in order to eliminate or decrease the flood hazard at the Moorpark West Corporate Center project site. The proposed improvements followed the adopted regional plan but also introduced some variations from the original basin configuration proposed for Detention Basin No. 3. This current study will update the adopted Regional Masterplan to include the basin configuration proposed in the 2003 RBF study with an additional modification proposed by VCWPD in a letter dated October 6, 2003. That additional modification is that the Shasta Avenue diversion to the Arroyo Simi is not feasible and will not be implemented. In its place, there will be a 100-cfs, in-channel detention basin bypass. This bypass provision results in an efficient use of the proposed detention basin storage area by allowing the base of the inflow hydrograph which contains the majority of the storm runoff volume to bypass the basin. So the detention volume provided by the basin is preserved to attenuate the peak of the storm hydrograph. This watershed study focused exclusively on the design and analysis of Detention Basin No.3 and its affects on the downstream watershed hydrology and channel hydraulics. The proposed detention basin site is bounded along the east by the Walnut Canyon High School property, the proposed Casey Road alignment along the west, the proposed High Street extension along the south, and steep hillsides long the north. The vicinity map in the enclosed exhibit map pocket, indicates the proposed detention basin site and adjacent properties (see Exhibit-1).

The primary objective of this study is to develop and evaluate modifications recommended by VCPWA to the previously selected alternative flood control plan, Alternative-B. This study

evaluates the drainage improvements and stormwater management measures that provide: (1) the necessary level of flood protection, (2) compatibility with existing and future landuse, (3) provide the maximum public benefit for least costs, (4) minimize impact to existing facilities, (5) eliminate hydraulic deficiencies, and (6) identify minimum drainage requirements for future development within the watershed. The intent of this document is to develop a conceptual design for the revision of the previously selected recommended system of comprehensive stormwater management measures which will provide the watershed planning framework to allow implementation of the regional flood control improvements and continued development within the watershed.

Various combinations of individual storage and conveyance oriented flood control elements were integrated into comprehensive system which would provide the required level of flood protection. The conveyance system improvements included: (1) increasing the hydraulic capacity of the existing channel section through either reconstruction to enlarge the section or extending wall heights, (2) construction of a channel diversion systems to split a portion of the flow, (3) removal of hydraulic restrictions, and (4) channel outlet relocation and reconstruction. The conveyance oriented improvements primarily involved modifications to the existing channel sections in order to maximize the overall drainage system capacity with minimum acquisition of additional right-of-way. The flood control storage alternatives included both on-line and off-line gravity operated stormwater detention basins. The detention basins also incorporated requirements for debris storage. Detention basin configurations and locations were developed to maximize available storage volume while minimizing impact to property. Another primary consideration which limited the size of the flood control storage facilities was to ensure that the detention were not within the jurisdiction of the California Division of Safety of Dams (DSOD).

The proposed correction of the flood control deficiency must be evaluated on a watershed basis through the application of a systematic approach since the various drainage elements have a combined impact on the channel. The feasibility evaluation resulted in screening the available channel "system" alternatives to a maximum of eight for detailed consideration, from a total of ninety-eight which were developed in the plan formulation. The objective was to optimize the effectiveness of the system through incorporating the existing facilities into the recommended program to the maximum extent possible. The primary components associated with each of the eight channel "system" alternatives are indicated in the *Table E.1 - Summary Description of Alternative Channel Systems*. All alternatives have some similar required construction elements which include: (1) modification of Gabbert Canyon Debris Basin to provide detention storage, (2) additional detention basins located upstream at the headworks of Walnut Canyon, adjacent to Gabbert Road, and upstream of Casey Road, (3) channel reconstruction for the 1,900-foot portion of Walnut Canyon Channel downstream of High Street, and (4) all systems require improvement of 2,655- feet Gabbert Canyon Channel between the Walnut Canyon Channel confluence and the existing Gabbert Debris Basin (See Exhibit 1, Alt. B, for relative locations). In addition to these elements, the alternatives evaluated various combinations of additional detention basins, diversion systems, or relocated channel outlets to the Arroyo Simi.

Table E.1 - Summary Description of Alternative Channel Systems						
Alt. No.	Gabbert Basin Modification	Additional Detention Basins	Gabbert Channel Reaches	Walnut Channel Reaches	Diversion Channel System	Channel Outlet Relocation
B-Revised	Improved to 145 AF Detention Storage	0,1,2,3 (V_{total} = 140 AF)	2	2,4	100 cfs in channel basin diversion	Walnut

The total construction costs for each of the alternative drainage "systems" was previously estimated including land acquisition requirements. These costs were the primary basis for selection of the recommended drainage "system". The cost of the revised recommended alternative was calculated using updated unit costs for the portion of the system that has been updated and revised for this alternative; i.e., detention basin-3. The remainder of the cost elements were updated to reflect the 2005 estimation of costs using the California Construction Cost Index (CCCI) developed and published by the State of California to reflect the escalation of construction costs month to month since 1995. The CCCI is based upon the Building Cost Index (BCI) cost indices produced by Engineering News Record (ENR). The CCCI for March 1997 was 3488 and the CCCI for June 2005 is 4421. Therefore, taking a ration of the indexes yields a construction cost escalation of 26.75% from March 1997 to June 2005. A factor of 1.2675 has been applied to the construction costs as estimated in March 1997 to yield a 2005 estimate of construction costs. A detailed preliminary engineering cost estimate is provided in Section-9. Alternative-B was previously recommended as the selected solution. That alternative included (1) relocating the Walnut Canyon Channel outlet while continuing to utilize the existing Gabbert Canyon Channel outlet, (2) only improving one channel reach on both Gabbert and Walnut Canyon channels, (3) an underground diversion system adjacent to Shasta Avenue, and (4) an "offline" detention basin parallel to Poindexter Avenue. The revision to Alternative-B resulted in 1) the elimination of the Shasta Avenue underground diversion and 2) the addition of an in channel low flow bypass/ side weir structure. Alternative-B and the revision to alternative-B have one of the lesser land acquisition requirements and it appears to have a high degree of feasibility while compatible with the adjacent property owners. The configuration of the various recommended channel and watershed facilities is on *Exhibit - Alternative No. B - Schematic Map* located on the following page.

Table No. E.2 - Summary of Alternative Systems Construction Costs
(Cost in thousand of dollars)

Alt	Detention Basins			*Divert Chann*	Walnut Chann	Gabbert Chann	Outlet Chann*	Capital Cost Subtotal	R/W	**Total Costs**
	0,1,2	3	Gabbert (Alt. B)							
B-Rev*	$1,768	$2,811	$3,179	$0	$531	$378	$2,344	**$11,011**	$2,626	**$13,637**

* - note this cost is based upon the March 1997 preliminary estimate of construction and was adjusted to reflect the escalation of construction costs since March 1997 to June 2005. The basis of the escalation is the California Construction Cost Index developed by the State of California using the Building Cost Index (BCI) cost indices produced by Engineering News Record (ENR). The land value is based upon the 1997 preliminary estimate of R/W acquisition costs of $25,000 per acre and was adjusted for inflation of 10% per year for 8-years for a total increase of 114% to reflect an updated cost more indicative of the current real estate value escalation.

1 Introduction

1.1 Project Description

The existing 1.57 miles of Gabbert Canyon Channel and 2.5 miles of Walnut Canyon Channel (see *Exhibit - Watershed Regional Aerial Photograph*) are improved regional flood control channels or "red line" facilities maintained by the Ventura County Flood Control District. The majority of these channels were originally constructed by the Soil Conservation Service (SCS) between 1959 and 1962. The Gabbert and Walnut Canyon facilities collect and convey storm runoff to the Arroyo Simi from a total tributary watershed drainage of 6.91 square miles of which a significant portion is not developed. The channel systems provide a significant flood protection benefit through a horizontal alignment which results in intercepting the drainage from the mouth of several large canyons. Had the channels not been situated in such a manner the result may have been uncontrolled flooding. Comparison of the existing hydraulic capacities for the flood control channel sections to the estimated runoff quantities indicates that the channels cannot provide the desired level of flood protection. The limited hydraulic conveyance capacity of the existing channel system results in a flood protection deficiency and is documented on the current Flood Insurance Rate Map (FIRM) for the City of Moorpark (see *Exhibit - Existing FEMA FIRM*). The existing hydraulic capacities can only provide conveyance which correspond to return periods as low as 5-years, depending upon the location.

Potential regional drainage improvements to provide the required level of flood protection include combinations of (1) channel reconstruction, (2) detention basins, (3) debris basin, (4) diversion systems, and (5) channel relocation. Future development within the upper watershed and directly adjacent to the channel could limit the possible corrective measures if a comprehensive drainage plan is not provided to assist in the watershed planning.

1.2 Study Objective

The purpose of this investigation is to create an addendum study of the Gabbert and Walnut Canyon Channels Flood Control Deficiency Study created in March 1997. This addendum study will modify the selected alternative identified in the previous study. The requested modifications were formulated by Ventura County Water Protection Agency (VCWPA). This addendum study builds upon the previously identified existing channel hydraulic deficiencies and develops a conceptual recommended "watershed plan" based upon the original selected alternative, Alternative-B, which will provide the desired level of flood protection. This study investigates the feasibility of implementing various combinations of conveyance and storage oriented facilities within the watershed. The project has identified the following key objectives in the development of an implementable watershed master plan:

1. Evaluate the hydraulic capacity of the existing channel systems and determine the magnitude of the hydraulic deficiency with respect to the existing watershed peak flowrates.

2. Analyze the selected "drainage system" alternative composed of channel improvement, detention storage facilities that will allow the channel to safely convey the project design discharge.

3. Identify major physical constraints such as utilities or roads which are impacted by the recommend improvements

4. Estimate construction costs requirements and land acquisition associated with each alternative.

5. Provide an improvement program which is sensitive to the proposed development projects within the watershed and provide recommendations to ensure that these projects do not have hydrologic impacts.

6. Identify potential financing alternatives available for public improvements in order to implement the recommended flood control facilities.

The information contained in this report is intended to provide preliminary design level information that will facilitate overall planning process within the watershed and provide a foundation for the next level of engineering design. It is intended that this document will facilitate the communication with other agencies and the public during the initial stages of the project development.

2 Background

2.1 Project Understanding and Study Area Description

Gabbert Canyon and Walnut Canyon Channels consist primarily of approximately 4.0 miles of improved concrete channels which were originally constructed by the Soil Conservation Service (SCS) between 1959 and 1962. These regional drainage facilities are located in Zone-3 of the Ventura County Flood Control District. The flood control channels intercept drainage from the mouths of four canyons with a total tributary drainage area of 6.9 square miles which discharge into the Arroyo Simi floodplain. Approximately 90% of the watershed area which the channels intercept is primarily undeveloped. There are planning efforts for private development on a significant portion of this area. However, the limited hydraulic conveyance capacity of the existing channel system results in a flood protection deficiency and is documented on the current Flood Insurance Rate Map (FIRM) for the City of Moorpark which indicates shallow flooding occurring from channel overtopping. The existing hydraulic capacities can only provide conveyance which correspond to equivalent return periods as low as 5-years, depending upon the location within the watershed. In addition, approximately 50% of the land directly adjacent to the existing channel is also undeveloped and if channel improvements are to be to remove the flood hazards then alternatives need to be provided to these landowners.

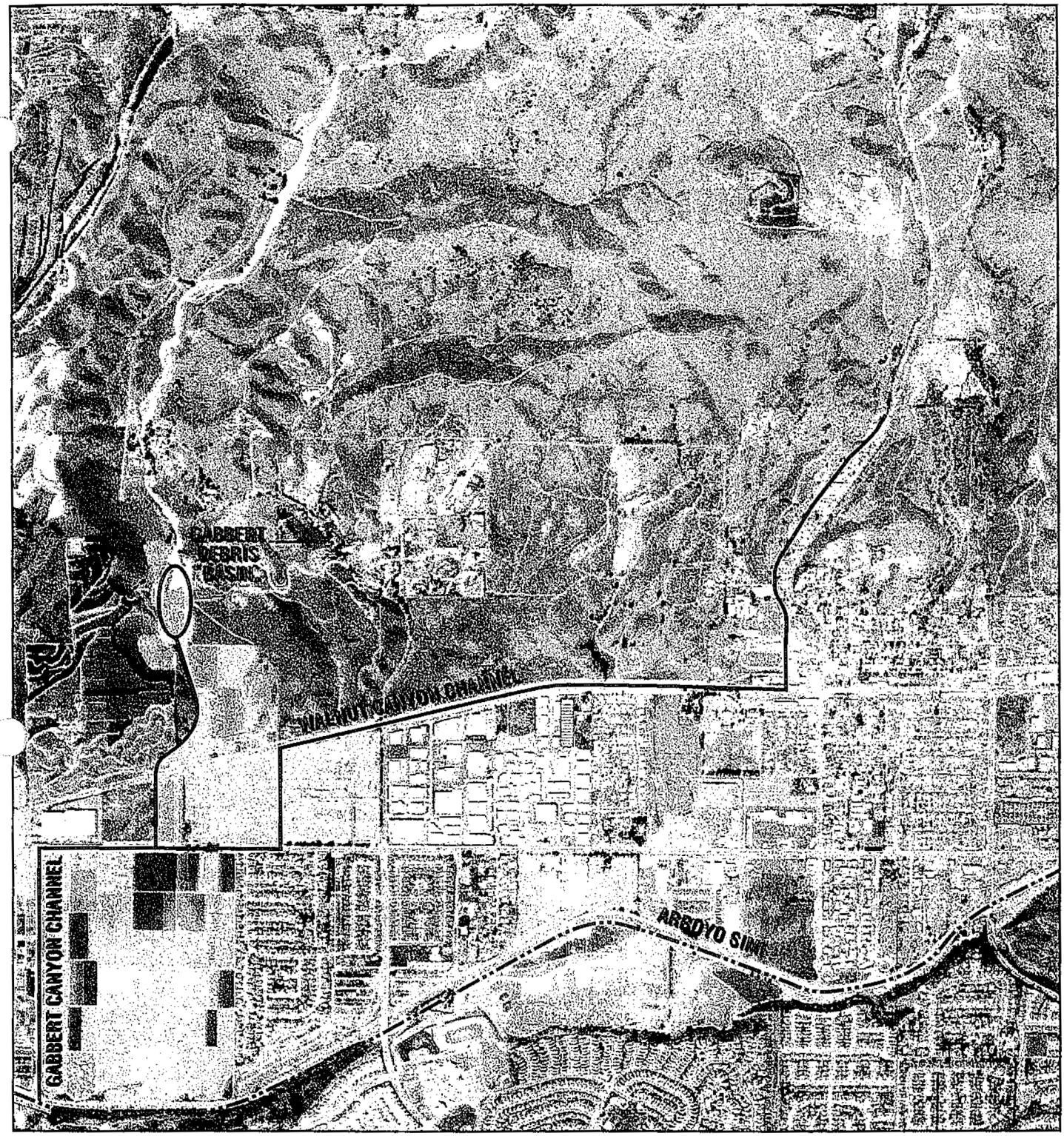
This report functions to identify existing deficiencies within both the Gabbert and Walnut Canyon Channel system, formulate and evaluate alternative solutions, and determine the most cost effective and feasible watershed program.

2.1.1 Field Investigation

A field reconnaissance of the existing channel facilities was performed as part of the original technical investigation, which included field review of potential detention basin locations and verification of existing reference documents. No additional field investigation has been provided for this addendum study.

2.2 Description of Existing Channel Facilities

The channel system consists of approximately 1.57 miles of improved channel in the Gabbert Canyon and 2.5 miles in Walnut Canyon, all maintained by VCFCD. The existing channel system consists almost entirely of a concrete rectangular channel section except for 495-feet of lined concrete trapezoidal channel section on Gabbert Canyon Channel downstream of the SPRR. The depths of the channel primarily range from 4 to 6 feet for the entire length. The average slopes of the channel vary from 1.5% to 3% in the upstream reaches where the canyon is steep to approximately 0.5% in the lower sections within the Arroyo Simi floodplain which is much flatter. The channel base widths in the Walnut Canyon Channel range from 7-feet to 12-feet while the widths in the Gabbert Canyon Channel range from 7.8-feet to 14-feet. There are two existing debris basins within the watershed, in addition to several smaller agricultural reservoirs of unknown ownership. The largest and most significant debris collection facility is the Gabbert Canyon debris basin which is located at the headworks of the improved Gabbert Canyon Channel and has



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NO SCALE

Watershed Regional Aerial Photograph

Gabbert and Walnut Canyon Channels

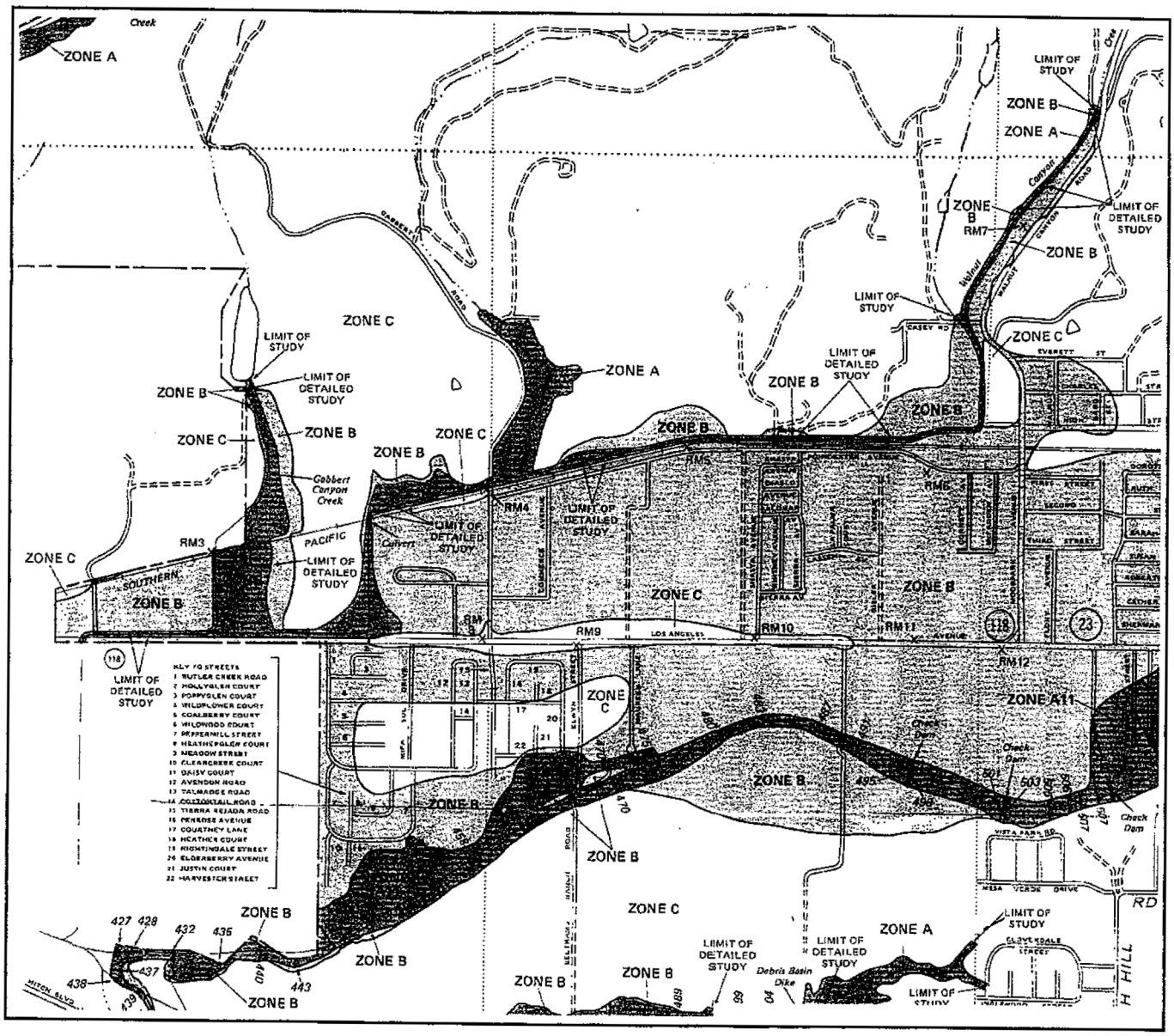
a maximum debris capacity of 30.4 acre-feet. A smaller debris basin is located at the headworks to the Moorpark Drain No.1.

2.3 Floodplain Mapping

The potential for flooding directly associated with the limited hydraulic capacity of the Gabbert and Walnut Canyon Channel systems is reflected in the published floodplain mapping (see following *Exhibit - City of Moorpark Flood Insurance Rate Map*) for the Moorpark area which indicates the 100-year flooding through the urbanized portions of the city. Published Flood Insurance Rate Maps (FIRM) identifying flood hazard zones are available for the City of Moorpark since it is a participant in the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA). Communities participating in the NFIP must adopt and enforce minimum floodplain management standards, including identification of flood hazards and flooding risks. Participation in the NFIP allows the communities to purchase low cost insurance protecting against losses from flooding and it is mandatory for residents located in designed flood hazard Zone A to purchase this insurance. The current FIRM for the City of Moorpark became effective September 29, 1986 and is shown on the FIRM community panel 067120005A which indicates only the mapped flood hazard boundaries within the municipal boundary.

Although the information contained on the FIRM is not intended for design purposes or necessarily correspond to current design hydrology, it can indicate general characteristics of the floodplain and locations of flooding. The hydraulics of the improved channels appear to have been studied in detail but the shallow overflow flooding was evaluated with approximate methods. The locations on the FIRM which have a mapped flood hazard Zone A adjacent to the channel resulting from the limited hydraulic capacity include: (1) the entire length of Gabbert Canyon Channel from the debris basin to the confluence with Walnut Canyon Channel, (2) Walnut Canyon Channel from Los Angeles Avenue to the Southern Pacific Railroad, (3) Walnut Canyon Channel from the Southern Pacific Railroad to upstream of Commerce Avenue, and (4) the small tributary canyon adjacent to Gabbert Road. The areas where the flood hazard Zone A occurs is generally adjacent to undeveloped parcels of land. The hydraulic analysis of the existing channel system performed as this study verifies that these portions of the channel are hydraulically deficient and could potentially result in an overflow condition. The mapped floodplain boundaries along Walnut Canyon Channel indicate that the majority of the flooding from the canyons is confined by the Southern Pacific Railroad embankment adjacent to the channel which functions as a transverse levee. Significant portions of the urbanized areas of the City of Moorpark located downstream of the channel system have been designated Zone B which indicates the potential for shallow flooding of less than one-foot resulting from a 100-year flood. The floodplain in these areas appear to be influenced from flooding sources of both the Gabbert/Walnut Canyon Channels and the Arroyo Simi.

* Length and area of parcels are approximate based upon map measurements



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NO SCALE

Reference: Flood Insurance Rate Map (FIRM)
City of Moorpark, California
Ventura County

Community-Panel Number
060712 0005 A

Effective Date: September 29, 1986

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PACIFIC ADVANCED CIVIL ENGINEERING
17520 NEWHOPE STREET, SUITE 200
FOUNTAIN VALLEY, CA 92708
PH (714) 481-7300 FAX (714) 481-7299

SCALE	NTS
DESIGNED	JCS
DRAWN	DAD
CHECKED	JCS
DATE	07/01/05
JOB NO.	7753E

WALNUT/GABBERT CANYON

FIRM

VCFCD

FIGURE

C

P:\7753E\Engineering\GlobalExhibits\7753 Revised Alternative B.dwg - Tab: FIRM By: ddrahn on Jul. 01, 2005 at 06:42 pm

The Moorpark Country Club project, Tract 4928, prepared a preliminary hydrology investigation which evaluated the potential drainage impacts from the development and analyzed recommendations for onsite detention basins in order to mitigate the changes in runoff. The information contained in the development hydrology reference documents were reviewed as part of the original investigation.

Planning regional public improvements within the watershed are another form of development which must be identified as a potential planning constraint. The primary public improvement which could potentially impact the regional drainage system are the planned Simi Valley Freeway corridor. The proposed freeway corridor traverses the foothills, generally parallel to the SPRR and ultimately connects to the Moorpark Freeway. The proposed alignment is graphically depicted on the exhibits illustrating the watershed alternatives. The potential physical constraints associated with the freeway limit the utility of regional detention basin sites and modify the drainage patterns.

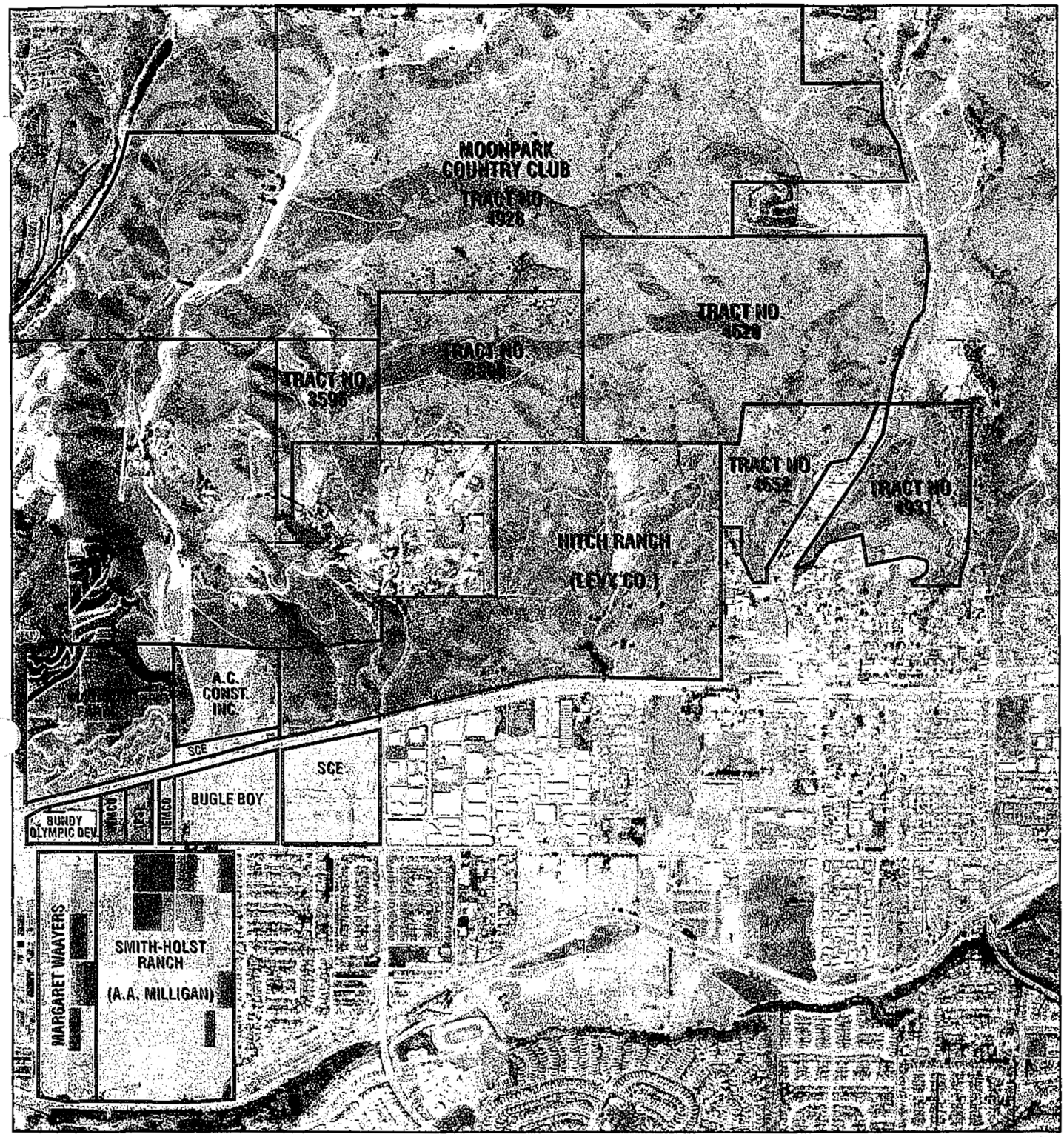
The procedures utilized by FEMA in the development of the floodplain analysis for the FIRM incorporate a hydrologic evaluation of the watershed to develop the 100-year discharge. The hydrology analysis for 100-year discharge reflects the watershed conditions at the time of the study or an "existing condition" flowrate. The current published FIRM may not necessarily reflect up-to-date floodplain boundaries due to urbanization within the watershed since the effective date of the map. Typically, flood control and drainage design are based upon hydrology for "ultimate" land use conditions within the watershed to minimize replacement of facilities.

2.4 Proposed Development within Watershed

A significant portion of the land within the Gabbert and Walnut Canyon watershed remains undeveloped, especially in the upper portions of the watershed. In addition, over 50% of the land directly adjacent to the existing improved channels is currently undeveloped. Prior to development of these undeveloped parcels it is important that considerations be incorporated into the planning which assist in eliminating the hydraulic deficiencies. This corresponds to removing flood hazard restrictions which currently encumber portions of the parcels adjacent to the channels. The primary undeveloped land parcels within the watershed have been identified on the following page in the *Exhibit - Watershed Undeveloped Large Parcel Ownership*. The potential hydrologic impacts associated with urban development of these parcel must also be mitigated in order to prevent increased runoff from additional impervious area. Increases runoff from the development would increase the corresponding observed storm hydrographs in the flood control channels above the existing runoff values which already exceed the hydraulic capacity of channel system.

Many of the undeveloped parcels are currently in different stages of planning and the various stakeholders have been solicited during the initial plan formulation for the original study of this watershed to offer their input.

Table No. 2. 1- Summary of Watershed Undeveloped Large Parcels		
Parcel Owner / Development	Channel Frontage Length (feet)	Approximate Area* (acres)
Hitch Ranch (Levy Co.)	4,680	285
Margaret Waayers	2,740	58
Smith-Holst Ranch (A.A. Milligan)	------	135
SCE	2,230	41
Bugle Boy	2,050	32
Test	300	5
Jemco	970	4
McGrath Farms	1,290	82
A.C. Const. Inc.	1,050	34
Moorpark Country Club	------	650



N

NO SCALE

Watershed Undeveloped Large Parcel Ownership

Gabbert and Walnut Canyon Channels

3 Description of Existing Drainage System

3.1 Existing Channel Facilities

The existing 1.57 miles of Gabbert Canyon Channel and 2.5 miles of Walnut Canyon Channel are regional flood control channels maintained by the Ventura County Flood Control District which were primarily constructed by the Soil Conservation Service (SCS) between 1959 and 1962. These primarily concrete rectangular channel facilities collect and convey storm runoff to the Arroyo Simi from a total tributary watershed drainage of 6.91 square miles which has a significant portion that is not developed. The channel systems provide a significant flood protection benefit through a horizontal alignment which results in intercepting the drainage from the mouth of several large canyons and would have resulted in uncontrolled flooding. The average channel depth ranges from 5 to 6 feet and channel widths ranging from 7 to a maximum of 14 feet. The channel slopes within the canyon areas are relatively steep with slopes ranging from 1.5% to 3% and in the downstream sections the channel flattens to an average slope of 0.5%. There have been no improvements or modifications to the Walnut Canyon channel or the Gabbert Canyon channel since the original 1997 study.

3.1.1 Gabbert Canyon Channel

The existing Gabbert Canyon channel consists primarily of a concrete rectangular section which extends approximately 7,739 linear feet from the Arroyo Simi channel confluence, to the spillway from the Gabbert Debris Basin. The initial 5,600 feet of the channel from the Arroyo Simi outlet to downstream of the Southern Pacific Railroad was originally designed by the Soil Conservation Service in 1958 (construction date approximately in same period). The physical characteristics of the existing channel geometry of the Gabbert Canyon Channel are indicated in the following tables. The information is based upon record drawings for the original construction. The tables summarize information on the geometry and the culvert or bridge crossings.

3.1.2 Summary of Baseline Channel Hydraulic Analysis

The hydraulic analysis of the existing channel system was based upon developing a water surface profile from the current channel geometry and cross section information. The initial water surface profile analysis was based upon both 50- and 100-year flowrates for the existing watershed. Additional incremental depths were added to these values to account for residual freeboard and superelevation for the 50-year flowrates, while none was applied for the 100-year frequency. The controlling design frequency associated with the drainage systems resulted in the 100-year analysis since detention basins were part of the proposed system. The 100-year hydraulic analysis resulted in evaluating the "bank-full" capacity of the channel which excluded the addition of water surface superelevation around curves, since this hydraulic control could be eliminated by construction of wall extensions along the outside radius of the curve.

The hydraulic capacity analysis was an iterative process which proceeded along one direction of the channel evaluating the flowrate which provided a water surface elevation matching the top-of-bank elevation. The flowrates were adjusted in the water surface profile for a particular channel reach until the correct water surface elevation was achieved. The total water surface elevation at a curve was determined through adding the calculated superelevation from the average hydraulic parameters in the water surface profile model. This superelevated water surface was not used in the hydraulic capacity calculation, but determined to verify the height of the wall extension. This iterative process continued along all the channel reaches until a revised water surface profile model had been developed with flowrates corresponding to the "bank-full" capacity analysis. The results of this analysis are summarized in the following table. The existing 100-year flowrate is provided as a reference point to assess the magnitude of the hydraulic deficiency for each of the channel reaches.

Table No. 3.8 - Existing Channel System Maximum Bank-Full Capacity Water Surface Profile

Channel	Reach 1	Reach 2	Reach 3	Reach 4
Walnut	440 cfs (Q_{100} 469)	570 cfs (Q_{100} 797)	640 cfs (Q_{100} 1,158)	825 cfs (Q_{100} 1,258)
Gabbert	920 cfs (Q_{100} 1,732)	900 cfs (Q_{100} 1,732)	1,100 cfs (Q_{100} 2,275)	1,450 cfs (Q_{100} 2,275)

Note: "bank-full" refers to the maximum channel hydraulic conveyance capacity measured at the concrete top of wall

3.2 Summary of Channel Hydraulic Deficiencies and Hydraulic Restrictions

The hydraulic deficiency portion of this investigation focused on identifying the channel deficiency based on the hydraulic capacity. The difference between the hydraulic capacity and the design flowrate represents the magnitude of the deficiency. Relative approximation of the channel deficiency can be determined from a comparison of the uniform depth channel hydraulics and these are presented in *Table No. 3 -Comparison of Uniform Hydraulics*. A more detailed approach utilized a water surface profile analysis to determine the actual depths of flow in the channel and identify the critical hydraulic restrictions. The results of the hydraulic analysis indicated that the **limiting hydraulic capacity of the channel occurs at the curves**, but this initial deficiency location can corrected through relatively low cost wall extensions along the outside wall of the curve. It was assumed that the correction for superelevation at the curves could be implemented, then it can be neglected from the capacity analysis. The culverts and bridge crossings become the controlling hydraulic restriction as a function of the channel geometry and slope. A summary of the superelevation associated with the critical channel curves is indicated in the following table.

4 Hydrologic Data

4.1 Watershed Description

The 6.9 square mile Gabbert and Walnut Canyon Channel watershed is a tributary to the Arroyo Simi which ultimately discharges to Mugu Lagoon. Approximately 33 % of the Gabbert and Walnut Canyon watershed is located outside the corporate limits of the City of Moorpark, corresponding to approximately 1,476 acres of offsite tributary drainage area from the upper watershed. The alignment of the channel system intercepts the drainage from four canyons areas, two of which are the Gabbert and Walnut Canyons which have tributary areas of **2,571** and **846 acres** respectively. The other two canyons have smaller drainage areas of **475** and **104 acres**, located between Gabbert and Walnut Canyons. The channel alignment is generally located along the canyon mouths and collects the runoff which would have naturally continued across the wide valley floor of the Arroyo Simi floodplain. Gabbert Canyon is the larger of the watersheds. At the confluence of the two channel systems the relative magnitude of the drainage areas is 2,571 acres from the Gabbert Canyon Channel and 1,794 acres from the Walnut Canyon channel (see *Exhibit - Regional Watershed Map*).

The majority of the watershed is undeveloped with some light residential development. There are two municipal storm drain systems which drain urbanized areas to the channel; 124 acres from the Los Angeles Avenue storm drain and 112 acres from the Moorpark Drain No. 2. The topography of the watershed is generally dominated by the canyon areas upstream to Broadway Ave., where the topography is less extreme and consist of open gradual sloping areas. The representative watershed lengths for the drainage paths are approximately 29,000 feet for Gabbert Canyon and 22,500 on Walnut Canyon, measured to the confluence of the channels. The elevations within the watershed range from a maximum of 2,120 in Gabbert Canyon and 1,060 in Walnut Canyon to a minimum value of elevation 450 at the channel confluence. The existing 4.8 acre Gabbert Canyon debris basin is the most significant debris storage facility within the watershed with approximately 2,350 acres of tributary natural area and is operated by VCFCD. In addition, there are at least six small reservoirs within the watershed which may have been constructed for agricultural purposes or by the SCS which would provide some limited storage capabilities. There is one municipal debris basin adjacent to Wicks Road which is tributary to the Moorpark Drain No. 1. Potential debris storage from the smaller reservoirs within the watershed were not evaluated because of their size and unknown ownership.

4.2 Hydrologic Watershed Parameters

The Walnut and Gabbert Canyon Channel watershed is an ungaged watershed and synthetic methods are necessary in order to predict the rainfall-runoff response. The baseline hydrology study prepared by VCFCD for the Gabbert and Walnut Canyon Channel watershed developed a series of hydrologic parameters to characterize the watershed subareas and evaluate the runoff.

Watershed Subarea Delineation

VCFCD prepared the delineation of the existing watershed which subdivided the entire 4,425 acre regional watershed into **79 subareas**. The subareas ranged in size from 8 acres to 105 acres with individual time of concentrations less than 30 minutes consistent with VCFCD criteria.

Rainfall

Regional analysis of historical rainfall data throughout the Ventura County resulted in the development of rainfall zone designations to classify common rainfall regimens as part of the *Ventura County Hydrology Manual*. A **rainfall zone "J"** was used by VCFCD in the watershed analysis which best corresponds to the historical rain gage data for the Moorpark area. The 50-year 24-hour point rainfall isohyetals range from approximately 6.0 inches near the central portion of the City of Moorpark to 9.0 inches near the headwaters of the watershed.

Hydrologic Soil Type

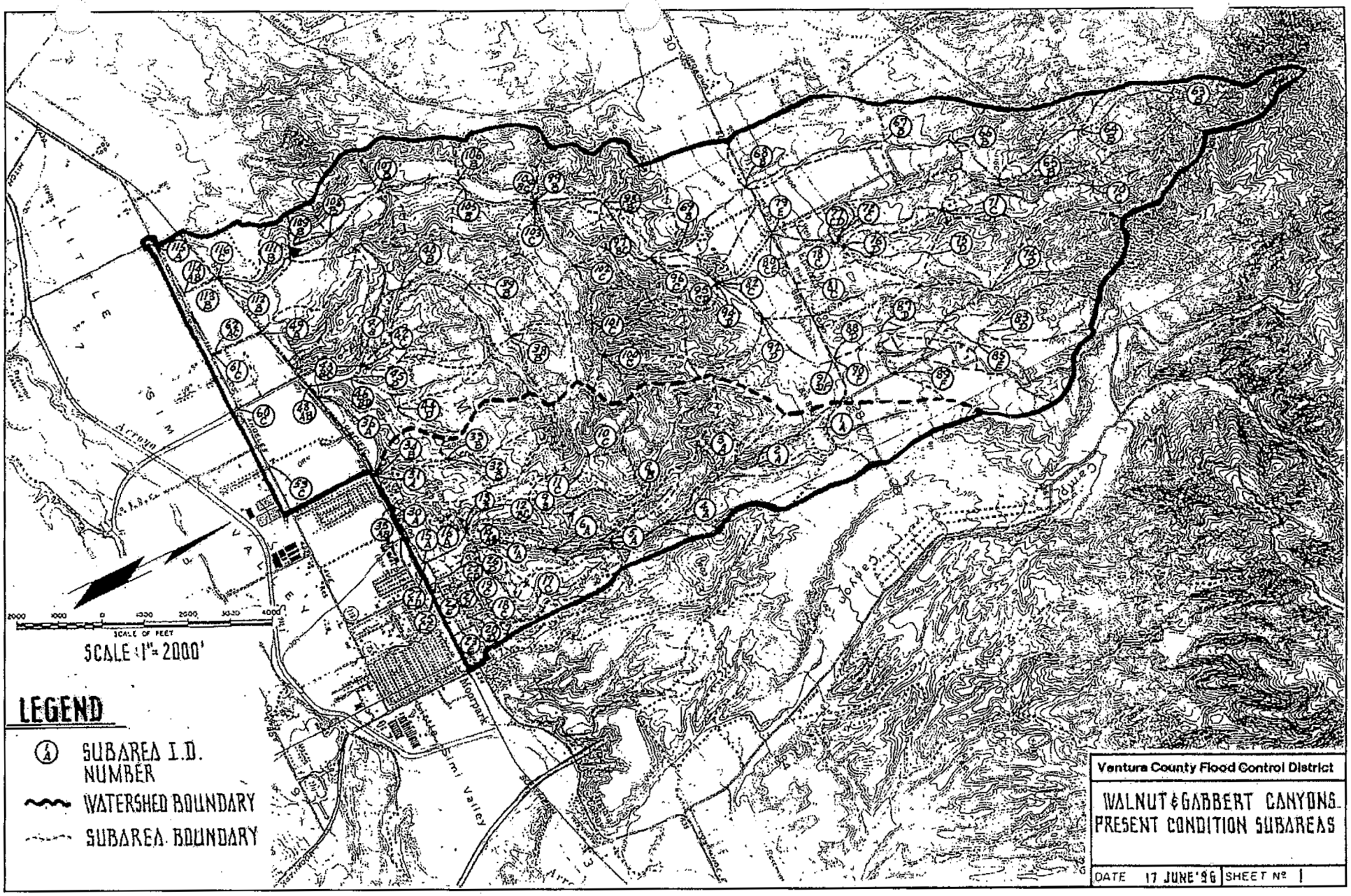
General classification of the average soil infiltration rates have been performed throughout the entire County by the SCS. The soils were grouped into seven soil groups of hydrologically similar characteristics which are shown on the Ventura County Hydrologic Maps in the *Ventura County Hydrology Manual*. The soils appear to be primarily type 4, but range from type 1 to 6 as indicated in the VCRAT watershed model subarea characteristics prepared by VCFCD staff. The general regional classification representative of soils for the Moorpark area appears to be the **Rincon-Huerhuero-Azule Association** consisting of very fine sand loams to silty clay loams.

Percent Impervious Cover

Impervious surfaces within the watershed reduce rainfall losses associated with soil infiltration rates. Average values which describe the amount of impervious cover have been assigned to different landuses. Representative percentage impervious used by VCFCD to describe single family residential is 23%, 0% for natural areas, and 50% for commercial areas. Area average values of impervious cover were assigned to each watershed subarea resulting in percent impervious primarily ranging from 0% to 37% in the existing watershed landuse hydrology model.

Subarea Time of Concentrations

Subarea time of concentrations for each of the individual subarea are representative of the runoff travel time and are all less than thirty minutes.



Regional Watershed Exhibit

Gabbert and Walnut Canyon Channels

Previous Hydrologic Investigations

The 1997 Gabbert and Walnut Canyon Channels Watershed Flood Control Deficency Study thoroughly investigated the Walnut and Gabbert watersheds in order to determine the most feasible flood control solution to resolve the existing deficiencies. This study was accepted by VCPWA and the recommended alternative plan was selected as the flood control masterplan for the Gabbert and Walnut watersheds. This study was the basis for the Moorpark West Corporate Center Flood Protection Project study prepared by RBF in 2000. The 2000 study further refined the selected alternative identified in the 1997 report. The 2000 report modified the proposed detention basin-3 and utilized a larger detention basin flow diversion to the Arroyo Simi. Since then it was determined that the proposed detention basin-3 Arroyo Simi diversion would not be feasible to construct. VCPWA then recommended an inline detention basin-3 bypass as an additional modification to the selected watershed flood control master plan.

Estimated Debris Volume Generation

The required storage volume for debris basins or the dead storage allowances for detention basins which drain natural watershed areas is based upon the potential debris production or estimated "yield" from the watershed. VCFCD utilizes the formula developed by Dr. Kevin Scott from the USGS to calculate the estimated debris production rate which is based upon drainage area, 24-hour precipitation, 10-day rainfall, slope failure, fire factor, and watershed shape. The following equation is used to calculate the debris production associated with different storm events:

$$SY = 17.54\,(A)^{0.828}\,(ER)^{1.382}\,(FF)^{0.251}\,(SF)^{0.375}\,K^{0.840}$$

where: SY = Sediment yield (cubic yard)
A = Area of the watershed (square miles)
ER = Elongation ratio (equivalent diameter with watershed area divided by the maximum length of the channel)
FF = Fire factor (value dependent on time after watershed burn, 88 = 6 months after burn)
SF = Slope failure (area of watershed that is prone to landslides, acres per square mile)
K = Dimensionless rainfall factor (product of the square of the 24-hour precipitation and the 10-day precipitation)

VCFCD applied this sediment yield equation to determine the estimated debris volumes for the potential sediment and debris basin locations, so allowances could be provided in the estimates for either the facility sizes and amount of dead storage. Rainfall gage No. 141 located in the downtown portion of Moorpark and gage No. 191 located in the upper watershed, upstream of Broadway, were used to evaluate the 24-hour and the 10-day precipitation, then a weighted value was used based upon the proposed basin site relative to the gages. The debris production analysis prepared by VCFCD was performed using the following additional assumption or characteristic values: (1) 100% of the watershed burned, (2) slope failure varied from 6 acres/square mile to 20 acres/square mile, (3) both

6-months after the burn and 4.5 years after the burn or pre-burn condition, which provides fire factors of 88 and 20 respectively.

VCFCD prepared the debris production analysis for four potential regional detention basin locations which correspond closely to the four primary canyon watershed areas. The results of the debris production analysis are summarized in the following table and the 100-year debris production values were used in the facility sizing for the alternative drainage systems.

4.3 Hydrologic Analysis Procedures

The watershed rainfall-runoff model utilized to evaluate the watershed primarily relied upon the Ventura County Modified Rational Method procedure which is applicable for urban drainage system design. The VCFCD computational procedure involves application of the basic rational method equation which is utilized to develop a runoff hydrograph from each individual subarea. The cumulative rainfall mass curve is used to evaluate rainfall intensity over the storm duration and determine intermediate hydrograph ordinates. The individual hydrographs from the subareas are routed through the hydraulic conveyance systems or can be combined to simulate the interconnected components associated with the physical processes occurring in the watershed.

The shape of the unit hydrographs developed using the modified rational method do not necessarily generate the correct effective runoff volume or net rainfall since the cumulative mass rainfall curves are averaged. The expected runoff yield based upon local point or isohyetal rainfall data compared to the computed runoff yield from the modified rational hydrograph will typically need to be adjusted to provide the same effective rainfall. This process is known as "fattening" and the adjustment results in modification to the shape of the calculated runoff hydrograph so the area under the hydrograph provides the desired effective or net rainfall. The correct amount of direct runoff volume is a critical factor for the storage routing analysis of detention basins and this required that the inflow hydrographs to detention basins generated from VCRAT were "fattened" prior to routing.As the watershed area increases in size the area-averaged point rainfall values used in the design storm pattern should be adjusted so that the volume of rainfall of the area is accurately represented by the point rainfall characteristics. As the spatial extent of the storm increase the depth of rainfall decreases. The reduction is made using a depth-area adjustment factor when selecting point rainfall to apply uniformly over the watershed. The modified rational procedure is calculating runoff hydrographs for the individual subareas with the rainfall associated with the smaller drainage area. A larger watershed composed of numerous interconnected subarea hydrographs results in over estimating the point rainfall associated with concentration points further downstream in the watershed. Depth-area adjustment factors were applied to the inflow hydrographs for the detention basins. The depth-area adjustment curve was constructed by VCFCD staff specifically for the Gabbert/Walnut canyon watershed as a function of total drainage area. The results are indicated in the following table and the reference data is contained in the *Technical Appendix*.

Table No. 4.2 - Detention Basin Inflow Hydrographs Adjustment Factors						
Basin No.	Conc. Point	100-yr. Precip (in.).	Drainage Area (acres)	Peak Q_{100} Inflow	Effective Rainfall (% to inches total)	Area Reduction Factor
Inline Bypass (Basin 3)	35AB	6.37	1,014	847 cfs	56%	0.915 (0.085)
Gabbert Debris Basin	109B	6.79	2,433	2,188 cfs	49%	0.86 (0.14)
Basin 0	6A	6.79	382	390 cfs	67%	0.97 (0.03)
Basin 1	12BC	6.40	207	309 cfs	46%	0.97 (0.03)
Basin 2	47B	6.37	475	514 cfs	45%	0.955 (0.045)

Local Drainage Systems

The hydrology analysis for the Gabbert/Walnut Canyon Channel watershed assumed that all the local storm drain could deliver the peak flows to the channel system, but **limited to the maximum hydraulic capacity of the storm drain**. The Moorpark Drain No. 1 was limited to the hydraulic capacity or original design flow of the storm drain indicated on the improvement drawings which was approximately **125 cfs**, although the estimated 100-year discharge from the 137 acre urban watershed area is 243 cfs based upon the VCRAT model. The other major local storm drain system is the 72-inch diameter facility joining the Walnut Canyon Channel at Los Angeles Avenue which has an estimated capacity of 195 cfs and the estimated 100-year flow from the 125 acre subareas is 251 cfs.

Discussion of Watershed Model

Several unique features regarding the application of the VCFCD modified rational procedures to this watershed investigation were encountered because of the size of the drainage area and the complexity of the watershed processes. These items included:

- Depth-area reduction factors were applied to the hydrographs at the detention basins, but were not applied to the main channel hydrographs even though the peak runoff was based upon the smaller subarea precipitation value.

The configuration of the watershed involves two large watersheds which confluence and the shape of the hydrographs is extremely important in accurately determining the resulting total flowrate. Using superposition to add the hydrographs relies on accurate

ordinates for both limbs of hydrograph and the shape of the main channel hydrographs were not adjusted, only if reservoir routing was involved. If the hydrographs from the two primary streams were "fattened" prior and then combined then this resulted in a different hydrograph from the standard confluence addition.

- The outflow hydrographs resulting from the reservoir routing were fattened hydrographs which were input in the remainder of the modified rational watershed model and combined with additional hydrographs which were not "fattened."

- The watershed system involves evaluating the effect of several detention basins operating simultaneously and on different streams. The modified rational method is not particularly suited to effectively simulate the effects of multiple reservoirs where storage volume and timing is critical in accurately determining the cumulative effect.

4.4 VCFCD Baseline Watershed Hydrology Model

VCFCD prepared a synthetic unit hydrograph model of the entire Gabbert and Walnut Canyon Channel watershed, June 1996, specifically evaluating the current landuse conditions within the watershed. The VCFCD watershed model was utilized to establish a baseline condition for predicted flowrate generation from the watershed without any future development. A "modified" baseline watershed model was utilized to evaluate the effect of different flood control alternatives which included the application of multiple detention basins. The "modified" watershed model was adjusted to include the Hitch Ranch (Levy Co. property) as completely developed for all alternatives. This parcel was assumed to be developed since many of the proposed regional detention basin alternatives considered as part of this study were located on the property, and the storage volume of the regional basins were sized so that it could accommodate the hydrologic mitigation of the development. This assumption regarding the remainder of the watershed is applicable since it is assumed that a drainage ordinance will require all future development to maintain the existing or pre-development flows.

The current hydrology model was prepared utilizing the VCRAT program which is based on the modified rational method hydrology procedures outlined in the *Ventura County Hydrology Manual* (1978). The hydrology model corresponds to "link-node" model which simulates the physical rainfall-runoff processes occurring in the watershed. The individual subareas are hydrologic nodes and the hydraulic conveyance sections are the links which interconnect the subareas. The watershed delineation subdivided the entire 4,425 acre regional watershed into **79 subareas** which ranged in size from 8 acres to 105 acres and individual time of concentrations less than 30 minutes (see *Exhibit - Regional Watershed Map*). Runoff hydrographs are computed within the model for each subarea, routed through the conveyance system, and combined with other subarea hydrographs as the analysis proceeds downstream through the watershed. *Summary of Baseline Design Hydrology*

Application of the Ventura County Modified Rational watershed model for the current landuse (baseline watershed) conditions was evaluated for both the 50-year and 100-year return periods. The hydrograph peak discharges associated with critical concentration points along the channel system are indicated in *Table No. 4 - Summary of Existing Watershed Hydrology - Clearwater Design Flowrates.* The detailed input and output for the watershed models are contained in the *Technical Appendix.* All discharges generated from the VCFCD baseline watershed model reflect clearwater values. Runoff conveying debris and sediment has an increased total volume which tends to increase or "bulk" the apparent clearwater flowrate. However, it is assumed that the potential for debris production will be reduced through future development and debris collection facilities and no "bulking factor" was applied to the discharges.

Table No. 4. 3- Summary of Existing Watershed Hydrology
Clearwater Design Flowrates

Channel	Watershed Model Node	Drainage Area (acres)	Design Clearwater Flow		Channel Reach Description
			Q_{50}	Q_{100}	
Gabbert	109B	2,433	1,732 cfs	**2,185 cfs**	Gabbert Debris Basin spillway
Gabbert	114AB	4,365	2,275 cfs	**2,944 cfs**	Downstream of Walnut Canyon confluence
Gabbert	115A	4,388	2,276 cfs	**2,945 cfs**	Los Angeles Avenue Culvert crossing
Gabbert	118AC	4,425	2,279 cfs	**2,947 cfs**	Outlet to the Arroyo Simi
Walnut	6A	382	283 cfs	**382 cfs**	Existing improved channel headworks next to Walnut Canyon Road
Walnut	7A	433	292 cfs	**431 cfs**	Upstream Casey Road culvert
Walnut	14AB	709	469 cfs	**696 cfs**	Confluence at Casey Road culvert with small offsite canyon area
Walnut	28AC	846	603 cfs	**889 cfs**	Downstream of confluence at High Street Drain with Moorpark Drain No. 1
Walnut	35AB	1,044	797 cfs	**1,149 cfs**	Downstream of confluence at Poindexter culvert crossing
Walnut	48AB	1,553	1,123 cfs	**1,619 cfs**	Downstream of confluence at Gabbert Canyon Road
Walnut	49A	1,623	1,176 cfs	**1,688 cfs**	Southern Pacific Railroad culvert crossing
Walnut	62AC	1,794	1,258 cfs	**1,810 cfs**	Downstream of confluence with 54" dia. Los Angeles Avenue city storm drain

4.5 Hydrologic Modeling of Flood Control Storage Alternatives

The watershed hydrology model developed on VCRAT for the current landuse conditions was utilized to perform hydrologic routing to evaluate the effect of the different detention basin alternatives. Most of the proposed drainage system alternatives consider the use of multiple detention basins at different locations within the watershed and the cumulative effect on the resulting hydrograph peak attenuation impacts the channel conveyance requirements. A variety of different detention basin combinations were initially investigated in order to maximize the peak flow reduction. The geometry and configuration of each of the individual detention basin sites "optimized" in order to maximize the performance based upon the physical site restrictions without coming under the jurisdiction of the Division of Safety of Dams. The optimization procedure involved numerous combinations of basin geometry and outlet configurations until the peak flow attenuation was maximized. The optimized detention basin could then be evaluated in the overall watershed drainage "system" to determine the regional effect.

VCHYDRO was the primary reservoir routing program utilized since this is the utility program for VCRAT which performs the modified pulse routing and the baseline watershed model had been prepared using VCRAT.

VCHYDRO - The utility program for VCRAT which utilizes the synthetic runoff hydrograph developed in the modified rational method and allows performing the runoff yield to the shape of the VCRAT hydrograph in order to ensure the effective rainfall volume matches the volume of the hydrograph. The "fattened" hydrograph can be routed through a reservoir based upon outflow rating curve data and depth-storage relationships for the basin. The resulting outflow hydrograph from the detention basin can be imported back into the VCRAT program to continue the simulation through the remainder of the watershed. An important item for consideration when applying this model to a watershed with multiple detention basin is that the routed hydrographs which are imported back into the VCRAT model are "fattened", however, the remaining hydrographs generated by VCRAT are not fattened. This effect can potentially modify the effect of different hydrographs within the watershed depending upon the timing and magnitude of the watershed.

4.5.1 Summary of Alternative Drainage System Design Discharges

The baseline watershed VCRAT hydrology model prepared by VCFCD was modified to reflect the proposed storage or diversion elements associated with each of the eight watershed drainage system alternatives which were selected for detailed investigation. Reservoir routing elements and flow splits for diversions were incorporated into the overall watershed hydrology model which resulted in modifying the mainline channel hydrograph. Routing analysis were performed for 100-year return period only since the VCFCD design criteria associated with detention basin and the resulting hydrographs in the mainline channel were also evaluated for the 100-year return

period. The watershed model results for the 100-year discharges of each of the channel system alternatives are summarized in the following tables for both Walnut and Gabbert Canyon Channels. Representative watershed concentration points are presented which reflect channel system reach lengths utilized to describe the channel for this study.

Table No. 4.4 - Summary Drainage Systems Alternative Hydrology
Walnut Canyon Channel 100-year Peak Discharges

Conc. Pt.	Chann Reach	Exist Q_{100} (cfs)	Drainage System Alternate - Q_{100} (cfs)	
			B	B-Revised
6A	1	390	273	273
14AB	1	696	476	476
28AC	2	889	597	597
36A	Split	1,112	847	847
48AB	3	1,619	156	***
62AC	4	1,810	564	***

5 Engineering Design Criteria

5.1 Flood Protection Requirements and Design Criteria

The flood protection requirements were based upon the standard VCFCD design criteria and incorporated both the channel and detention basin requirements. The standard VCFCD detention basin design criteria is based upon the 100-year level of protection. Flood control channels are designed to provide 50-year conveyance with freeboard or 100-year capacity without freeboard.

Freeboard

The VCFCD freeboard requirements for open channels are based upon adding allowance to the actual depth with area calculated for air entrainment, flow in the unstable zone, and superelevation. A minimum residual freeboard must be maintained above the 50-year water surface or the totals for these additional allowances. Freeboard was calculated when evaluating the capacity analysis for the 50-year design condition and the results are provided in the *Technical Appendix*.

Superelevation

Centrifugal effects cause a transverse hydraulic gradient for channel flow around a bend and results in the water surface elevation higher on the outside of the curve. VCFCD design criteria is to design the curves to limit the superelevation to one foot above the normal depth or 10% of the channel width. The amount of superelevation can be calculated for a supercritical rectangular channel, the most common case for this channel system, using the following equation:

$$h = 1.2\frac{V^2 b}{Rg}$$

5.2 Hydraulic Analysis

Hydraulic analysis associated with the conveyance systems followed the general criteria outlined in the *Ventura County Flood Control District Design Manual* (1968) for both the deficiency analysis and the preliminary design of the replacement channel facilities. Water surface profiles for the channel systems were analyzed to determine actual flow depths and evaluate the effects of culverts or junctions. Another hydraulic effect is the potential for surface waves, especially in supercritical channels which can occur from shifts in alignment such as at curves. The Los Angeles County Flood Control District hydraulic analysis program F0515P or Water Surface Pressure Gradient (WSPG) was utilized to develop the hydraulic model of the channel system. The program computes and plots uniform and non-uniform steady state flow water surface profiles and pressure gradients in open channels or closed conduit with irregular and regular section. The computation

procedure is based on solving Bernoulli's equation for the total energy between the section in a reach. The open channel flow analysis utilizes the standard step procedure while confluences and bridge piers are analyzed using the pressure and momentum theory.

Hydraulic Design Modified / Replacement Channel

The hydraulic design of replacement channel systems, including diversion systems, were evaluated through the preparation of water surface profile analysis to ensure that all systems provided identical levels of flood protection. The objective of the channel modifications was to provide the minimum amount of improvements that provides the desired level of flood protection. Some of the criteria which was applied to assist in guiding the development of the various alternatives for the channel reconstruction included:

- Wall height extensions to the existing channel were applied to a maximum height of 3-feet and if this did not provide the required addition capacity then the base width was widened using the existing channel depth for the new cross section.

- Splitter walls were applied to different channel curve locations in order to maintain a maximum superelevation less than one-foot.

- The reconstructed channel was assumed to follow the same vertical alignment and elevations as the existing channel system

- The modified channel section was designed to convey the main channel 100-year flowrate based upon the implementation of different detention basin alternatives. The hydraulic conveyance capacity uses "bank full" capacity, neglecting superelevation or freeboard.

Water Surface Control Elevations

The downstream water surface control for the hydraulic analysis of the channel system was based upon the water surface elevations in the Arroyo Simi determined by VCFCD. The backwater influence from the Arroyo Simi generally was limited to downstream of Los Angeles Avenue, since the majority of the channel system is supercritical. Hydraulic analysis of the Walnut Canyon Channel utilized the water surface calculated from the confluence with Gabbert Canyon Channel.

Table No. 5.1 - Arroyo Simi Water Surface Control Elevations

Location Description	Arroyo Simi Chann. Sta.	Proposed Design W.S. Elev.	FIRM W.S. Elev.
Relocated Walnut Outlet	62+00	447.8	-----

5.3 Detention Basin Requirements

One of the primary requirements applied in the initial planning and evaluation of the stormwater detention facilities was limiting the size of the facilities so these storage basins would not be considered jurisdictional DSOD "dams". The limitation are discussed in more detail in *Section 8.5-Division of Safety of Dams Design Considerations/Criteria* and generally were the governing factor regarding the effectiveness of the stormwater storage attenuating the peak flowrates. Size of the detention facilities were maximized based upon the physical site considerations and the DSOD limitations in order to optimize the effectiveness of each basin. In addition, VCFCD has published minimum guidelines for stormwater detention facilities which focus on the specific design elements for detention basins. These requirements were included in the planning of the individual basins and also addressed in the construction cost estimates.

Debris Storage

Tributary watersheds to a detention basin which is under five square miles must include allowance for debris storage which is equivalent to 125% of the 100-year frequency design debris production (see *Section 4.2.1-Estimated Debris Volume Generation*) placed level in basin before routing of the hydrograph. All the detention basin locations evaluated as part of this investigation had a measured tributary watershed less than five square miles. The largest tributary watershed was the existing Gabbert Debris Basin with a drainage area of 2,433 acres or approximately 3.8 square miles.

Level of Protection

Detention basins are designed to provide 100-year level of flood protection so all hydrologic routing analysis of the detention basins involved 100-year hydrographs. The effects of the peak attenuation of the flows within the channel system associated with the detention basins were based upon applying the 100-year hydrology model for the entire watershed. The flood protection criteria for the flood control channels utilized either 50-year conveyance with freeboard or 100-year conveyance "bank-full" or no freeboard. All the channel system alternative utilized stormwater detention elements so the 100-year criteria was applied to the evaluation of the channel system hydraulics.

Outlet Works

The outlet works must consist of a permanent concrete structure which will reduce the tendency of plugging by floating debris. The outlet works shall also consist of facilities for disposing of stored water in the debris pool portion of the basin.

Emergency Spillway

Emergency spillway designed for the unattenuated peak 100-year flow and will extend beyond the downstream of the embankment toe. Emergency spillway crest elevation should be one foot above the maximum operation water surface elevation.

Earthen Embankment

The crest of the embankment shall be located three-feet above the maximum water surface for the emergency spillway flow. The minimum crest width is twenty feet and a 15-foot wide asphalt paved road shall be centered on the crest. The downstream slope of the embankment shall generally be on a 3:1 slope and downstream face shall be covered with 12-inch blanket of river-run cobble stones.

Access Requirements

Access shall be provided to the embankment crest, emergency spillway, and the outlet works. In addition access will be provided to the bottom of the basin for debris removal.

5.4 Debris Basin Requirements

The specific design requirements associated with the detention basin are applicable to planning the minimum required features for debris storage facilities. The particular requirements include providing an allowance of 125% of the estimated 100-year single event debris production. In addition, VCFCD has prepared *Debris Basin Manual* (1991) which also contains additional design criteria particularly related to existing debris basin facilities. The basis for estimating the debris production rates for various storm events involves applying the Dr. Kevin Scott sediment yield formula. The analysis for this watershed is described in more detail in *Section 4.2.1 - Estimated Debris Volume Generation.* The available debris storage volume is calculated assuming the slope of the debris cone surface will extend from the spillway elevation equal to 0.6 times the original streambed slope

6 Plan Formulation and Alternative Development

6.1 Design Objective and Criteria

The project alternatives that were developed in the original study were created with the goal of achieving a balance between (1) flood protection objectives, (2) providing the minimum cost for the maximum benefit or economic constraints, and (3) compatibility with existing physical constraints and future development. Numerous alternatives were developed during the initial plan formulation process and then screened through a feasibility evaluation. This current study is a further refinement of the recommended alternative, Alternative-B. This refinement is intended to make the flood control improvements more technically feasible while reaching the desired project objectives. The following key objectives were identified in guiding the development of the refinement of Alternative-B:

- Provide a comprehensive flood control program which provides flexibility for the local agencies and facilitates implementation.

- Minimize the hydrologic impacts on the channel system from future urbanized development within watershed through the introduction of watershed drainage ordinance which requires development projects mitigate increases in runoff.

- Provide a foundation to guide adjacent development within the watershed which will accommodate the regional flood protection requirements and allow development to proceed.

- Provide a regional drainage system which develops the required level of flood protection with the least economic impact.

- Identify locations within the watershed for land acquisition or reserve land for flood control facilities.

- Maximize utilization of existing flood control facilities and right-of-way which integrate into the recommended program

The general approach to regional stormwater management involves that application of either conveyance oriented solutions or a storage oriented approach. The conveyance oriented approach is the more traditional design and provides drainage systems for the hydraulic conveyance of the runoff. The storage oriented approach provides temporary storage of stormwater runoff and release at a reduced rate. The conveyance- and storage-oriented approaches are not necessarily mutually exclusive. The two approaches can be compatible and the use of the two approaches generally lead to a more optimum system. The plan formulation process in this investigation attempted to optimize the design for this watershed through the combined application of these approaches

Development of a comprehensive regional flood protection program requires the application of a "systems" approach since implementation of specific design features have effects which extend throughout the watershed. The technique involved identification of individual design elements such as (1) detention basins, (2) debris basins, (3) channel improvements, (4) channel relocations, and (5) diversion systems, which provide various degrees of enhanced flood protection. The available design elements were combined into "alternative drainage systems" to evaluate the collective benefit on the channel system. This technique involved (1) formulation of potential design elements, (2) evaluation of the measures, (3) performing a feasibility investigation of the control measure, (4) combining these feasible elements into an implementable watershed drainage system, and (5) screening these alternative "systems" to the most potentially feasible.

The design criteria applied in performing the technical investigation and plan formulation for the revised recommended flood control system relied on the Ventura County Flood Control District standards design guidelines. Additional criteria related to specific requirements applied in the alternative development and facility requirements is discussed in more detail in *Section No. 5 - Engineering Design Criteria.*

6.2 General Flood Protection Design Approach

The flood protection requirement which governed the plan formulation of the revised recommended alternative for the removing the channel deficiency involved either (1) providing 50-year conveyance in the channel plus the appropriate freeboard in the channel as defined in the *VCFCD Design Manual* or (2) 100-year conveyance in the channel without freeboard or superelevation in curves. All detention basins were designed based upon the 100-year frequency. The various combinations of detention basin storage and amount of channel reconstruction were optimized in order to minimize the capital costs, but provide similar levels of flood protection.

6.3 Flood Protection System components

The available flood control elements which were utilized to address correcting the hydraulic deficiency can be either classified as conveyance oriented or storage oriented. The individual elements were analyzed to develop a wide range of available tools. In the original study, the various individual elements were then combined to develop potential watershed "systems" since each of the elements will have a combined effect which must be evaluated. This same approach was utilized in the evaluation of the revised recommended alternative.

6.3.1 Flood Storage Elements

The flood storage facilities which were investigated in the revised recommended plan formulation included both the construction of new basins and the modification of the existing debris basins to provide stormwater attenuation. The planning process developed nine potential sites which could provide flood control storage capabilities. These were refined to five feasible locations with eight actual alternatives that were selected for detailed evaluation and incorporated into the drainage systems alternatives. The storage facilities included both on-line and off-line detention basins

that were constructed from either embankments or excavated below the natural ground. All the facilities were developed to be outside the jurisdiction of DSOD. All facilities were provided with adequate storage for debris potential except for the off-line basins 3, 4, and 5. These facilities were located downstream of proposed debris collection facilities for basins 0 and 1, also the by-passing of the flow will reduce the potential of significant bedload from depositing.

Table No. 6.1 - Summary of Proposed Detention Basin Characteristics

Basin Alt. No.	Surface Area (acres)	Max Storage (acre-feet)	Max Basin Depth (feet)	Q_{100} Inflow	Q_{100} Outflow
Gabbert -B Double Basin	11	145[1]	10.6 feet	982 cfs (902cfs bypass)	0 cfs
0	1.3	14[3]	10 feet	390 cfs	273 cfs
1	0.65	25[3]	18.5 feet	301 cfs	65 cfs
2	3.6	36[3]	15 feet	536 cfs	143 cfs
3	14	70[2]	5 feet[2]	847 cfs	9 cfs
4	61	305[2]	5 feet[2]	847 cfs	4 cfs
5	42	210[2]	5 feet[2]	847 cfs	14 cfs

1. Total combined storage of all ponds, not DSOD jurisdictional
2. Incised basin below natural ground, not DSOD jurisdictional
3. Maximum limiting volume of 50 AF not available due to site restrictions such as major road relocations or existing residential development within inundation area

6.3.2 Hydraulic Conveyance Elements

The hydraulic conveyance system focused on new facilities which would assist in providing the desired hydraulic capacity. The conveyance was provided through either improvement of the existing channel section to the desired increased flow capacity or a relief system was provided which could provide additional capacity to supplement the existing channel system.

6.3.2.1 Channel System Modification

The existing channels system for both Walnut Canyon Channel and Gabbert Canyon Channel was divided into four different homogeneous segments to facilitate analysis and evaluation of system modifications. Modifications to the existing channel assumed that the existing horizontal and vertical alignment of the channel would be utilized, just the cross sectional area increased to maintain the desired capacity. An "all-channelization" alternative which results in the complete reconstruction of the existing channel was evaluated and the relative size requirements can be determined from *Tables*

3.6 and 3.7 Comparison of Uniform Hydraulics which indicates the required channel dimensions in order to achieve bank-full normal depth capacity. However, the development of the recommended modified channel dimensions was based on actual hydraulics from water surface profiles to achieve the desired flood protection requirements. An iterative design process was performed for the hydraulic analysis and design of the channel sections until it satisfied the requirements. **The horizontal curves of the existing channel were maintained in order to avoid property acquisition and other conflicts**. Modification of the existing horizontal curves through increasing the radius would have reduced the superelevation requirements for the channel section since a majority of the existing curves are small radius curves with radii of 99-feet. Pier walls/splitter walls were incorporated at many locations in order to reduce the superelevation to within an acceptable level. Also wall extensions can be constructed in those areas where the existing channel reaches were adequate with the reduced flow from detention basins.

Gabbert Canyon Channel

The alternatives considered either partial reconstruction or complete reconstruction of the existing Gabbert Canyon Channel system depending upon the amount of flow attenuation provided by detention basins. The channel reach from the Walnut Canyon Channel confluence upstream to the debris basin needs to be reconstructed for all alternatives. The channel section requirements for the various alternatives and channel reaches are indicated in the following table.

Table No. 6. 2- Summary of Gabbert Canyon Rectangular Channel Modifications

Alternate	Reach No.1 (L=2,030')	Reach No. 2 (L=625')	Reach No. 3 (L=1,200')	Reach No. 4 (L=3,310')
Exist	**b=8' / h=4.5'**	**b=8' / h=4'**	**b=14' / h=6' (3' wall extension)**	**b=14' / h=6.5'**
B	Existing	10' x 5'	Existing	existing
B-Revised	Existing	10' x 5'	Existing	existing

Walnut Canyon Channel

All the alternatives only required that Reach No. 2 and a portion of Reach No. 3 be reconstructed, approximately 1,900 lineal feet. The channel section requirements for the various alternatives and channel reaches are indicated in the following table.

Table No. 6.3 - Summary of Walnut Canyon Channel Modifications				
Alternate	Reach No.1 (L=1,280')	Reach No. 2 (L=1,300')	Reach No. 3 (L=3,900')	Reach No. 4 (L=4,400')
Exist	**b=7' / h=5'**	**b=8' / h=5'**	**b=10' / h=5'**	**b=12' / h=5'**
B	existing	8' x 6' (wall extension)	existing	existing
B-Revised	existing	8' x 6' (wall extension)	existing	b=14' / h=5'

6.3.2.2 Walnut Canyon Channel Outlet Realignment

The selected alternative flood control plan recommended realignment of the Walnut Canyon Channel outlet to a new outlet location into the Arroyo Simi. This relocation functions as a diversion. The relocated channel section would follow a horizontal alignment along the eastern boundary of the Smith-Holst Ranch and involves the construction of approximately 3,000-feet of earthen trapezoidal channel section with rock rip-rap lined side slopes. The channel section is designed with a maximum average velocity of 8 fps without influence from the downstream tailwater and the required channel size is based upon the tailwater condition. Relocation of the channel requires construction of a new culvert crossing under Los Angeles Avenue since the existing Gabbert and Walnut Canyon Channels are on the north side of Los Angeles Avenue. Relocating just Walnut has the advantage of reducing the flow to Gabbert by almost half and allows the ability to utilize more of the existing Gabbert Canyon Channel without reconstruction. The outlet channel dimensions for the various conditions are indicated in the following table.

Table No. 6.5 - Relocated Outlet Channel			
Description	Flowrate	Section	Systems Alternate
Walnut Relocation	830 cfs	trap b= 21', d=varies 6'min to 15'max z=2	Revised -B

7 Design Considerations

7.1 Agency Agreements, Permits, and Approvals

Implementation of the recommended watershed improvements would involve various regulatory and governmental agencies for approvals and environmental clearances. The regulatory agencies focus primarily on (1) the environmental issues and impacts and/or, (2) public safety. Early involvement of the jurisdictional agencies and stakeholders within the watershed facilitate development of an implementable plan and ensures requirements associated with the agreements or permits are incorporated into the design.

General Environmental

The California Environmental Quality Act applies to all discretionary activities proposed to be carried out or approved by California public agencies, including state, regional, county and local agencies, unless an exemption applies. Generally, the implementation of CEQA entails three (3) separate phases: a) preliminary review of a project to determine whether it is subject to CEQA; b) preparation of an Initial Study to determine whether the project may have a significant environmental effect; and c) preparation of an EIR if the project may have a significant environmental effect or of a Negative Declaration if no significant effects will occur. CEQA applies only to government activities that are defined as a project. A project is defined as the whole of an action which has the potential for resulting in a physical change in the environment, directly or ultimately. [Guidelines Sec. 15378(a)] The effect on the environment must, however, be *reasonably foreseeable* and the effect must be on the *physical* environment. [Pub. Res. Code Sec. 21065]

FEMA

The implementation of the proposed watershed drainage system improvements would result in the elimination of the flood hazard zones in the city associated with overflow from the channel system. In addition, any modifications or encroachment into the published floodplain for communities participating in the National Flood Insurance Program (NFIP) must be approved by FEMA. Communities which participate in the NFIP are responsible for submitting data to FEMA reflecting projects which modify the floodplain or flood hazard zones.

Regulatory Permits

The construction of the detention basins will require environmental regulatory permits since the detention basins are primarily located in natural stream areas with some riparian vegetation. Jurisdictional agencies that would potentially be involved include (1) Army Corps of Engineers under Section 404 of the Clean Water Act, (2) California Department of Fish and Game for the 1601 Streambed Alteration Agreement, and (3) Regional Water Quality Control Board which administers Section 401 Water Quality requirement.

Utilities

Existing utilities adjacent to the proposed drainage facilities or those that potentially interfere should be incorporated into the design to allow relocation or protection. Early coordination with the impacted agencies to determine specific requirements should be performed.

City Of Moorpark

Concurrence by the local municipal planning agency and the City Engineer should be obtained to ensure that the proposed watershed plan is adopted into the municipal planning documents. Also, the city will be one of the primary agencies to assist in assuring that future developments are conditioned to implement the drainage facilities and provide a municipal drainage ordinance for the watershed which restricts increasing runoff.

7.2 Geotechnical Constraints

The primary geotechnical considerations are generally associated with the construction of the proposed detention basins. The channel reconstruction will occur along the same horizontal alignment as the existing channel and does not appear to have experienced foundation related maintenance problems, minimizing geotechnical concerns. The primary items of concern related to the detention basin construction include: (1) embankment slope stability and protection, (2) grading engineered fill including material sources, (3) foundation system requirements for the embankment, and (4) settlement. The embankment design is the critical geotechnical factor to ensure stability and protection of the public.

7.3 Utilities

The existing channel system provides a design corridor which limits the interference or conflicts from other utilities. The proposed reconstruction of the existing channel facilities to enlarge the channel section does not generally extend beyond the existing channel right-of-way which minimizes the potential influence of utilities. The areas where the utilities can potentially be a limiting design constraint include: (1) channel relocation crossing of Los Angeles Avenue, and (2) the diversion system crossing Los Angeles Avenue and Poindexter. All proposed detention basin locations occur on undeveloped land which should minimum impact to utilities.

7.3.1 Sewer and Water

The existing sewer system for the central portion of the City of Moorpark is indicated on *Existing Utility Layout Exhibit* based upon the current sewer index map information for the city. The general location and size of existing water facilities are also illustrated on the same exhibit. Sewer systems generally represent a physical constraint since the vertical alignment is difficult to modify because the systems operate by gravity. The largest sanitary sewer which influenced the drainage system alternative is a large 21-inch diameter trunk line located in Los Angeles Avenue which ultimately crosses the Arroyo Simi at Maureen Lane. This sewer was a physical constraint related to the sizing and alignment of the diversion conveyance

Alternative drainage systems for the Gabbert/Walnut Canyon Channels will require reconstruction of the local drainage inlets for alternatives which include modifications to the existing channel section geometry. The costs associated with the small diameter local drain inlets are small and have been neglected in this estimate. However, since over 50% of the land directly adjacent to the channel is undeveloped and provisions for future urban development storm drain systems should be incorporated for those portions of the channel which are reconstructed by providing connection locations.

7.5 Right-of-Way and Property Acquisition

The right-of-way associated with the existing channel improvements ranges from a maximum of 60-feet to 20-feet, generally including a 12-foot maintenance road on one side of the channel or access from the adjacent parallel public street. The portions of the channels enlarged will require additional right-of-way in order to maintain the same minimum maintenance and access requirements. The detention basin locations will require right-of-way for the surface area encumbered by these facilities including the maximum inundation limits associated with the reservoir pool. Additional right-of-way may be required for access to the detention basins and temporary easements just for construction purposes

Table No. 7.2 - Summary of Minimum Land Acquisition Requirements

Drainage Alternative	Area (acres)			
	Channel Relocation	Detention Basin	Diversion System	Total
B	6.5	28	2.2	36.7
Revised-B	6.5	28	0	34.5

7.6 Future Development / Landuse

A primary consideration in the development of the drainage system alternatives was the relationship to the adjacent undeveloped land within the watershed and the potential landuse impacts. The recommended regional drainage improvements are designed to assist many of the adjacent properties that have flood hazard designations and allow continued development of these areas by ensuring that the planning process incorporates the allowances for these drainage facilities. An important element which is inherently assumed with the proposed drainage alternatives is the implementation of an administrative drainage ordinance for the watershed which requires **future development projects to mitigate hydrologic impacts from their projects to match pre-existing conditions**. All the hydrologic analysis performed for this investigation was based upon the 1996 landuse and development condition, except for the development of the Hitch Ranch. The future development plan formulation process must include both allowances for the regional drainage facilities and the local detention requirements based upon each the individual

development project. The allowances for the regional drainage facilities include adequate land for enlargement of existing channels, regional detention or debris storage facilities, and channel relocation.

The two large undeveloped parcels which are most impacted from the implementation of the proposed drainage facilities include the Smith-Holst Ranch and the Hitch Ranch. These parcel also have the most frontage to the existing channel system. Initial landuse planning documents had been provided by consultants for the Smith-Holst Ranch and the Hitch Ranch which indicated preferred locations for the drainage facilities which would be compatible with their development landuse plans.

Table No. 7.3 - Summary of Undeveloped Land Parcel Impacts

Parcel Description	Proposed Facilities	Impacted Area	Percent of Parcel Impacted
Smith/Holst Ranch	Relocated Outlet Channel	7.5 acres	5%
Hitch-Ranch	Detention Basin	20.5 to 67.5 acres[1]	7% to 24%
Tract No. 4652	Detention Basin	6.0 acres	3%
Tract No. 4520	Detention Basin	5.0 acres	3%

Impacted area varies depending upon the size of the offline diversion detention basin which varies from 21.0, 49.0, and 68.0 acres

2. Note that in the determination of detention capacity and channel size through Smith/Holst Ranch and Hitch Ranch, allowances were made to account for required future project mitigation.

Evaluation of the detention basin size requirements assumed the future development within the watershed would be required to mitigate onsite the increase in peak flowrates and the detention basins provided peak flow reduction to satisfy the hydraulic deficiencies. The sizing of the regional detention basins, however, included the proposed development of the Hitch Ranch which would be mitigated in the required storage volume.

7.7 Division of Safety of Dams Design Considerations/Criteria

The planning of the regional stormwater detention basins focused upon providing facilities which would **not** be under the jurisdiction of the State Division of Safety of Dams (DSOD). The specific requirements associated with jurisdictional dams are defined in the *Statutes and Regulations Pertaining to Supervision of Dams and Reservoirs* (1995) and *Guidelines for the Design and construction of Small Embankment Dams* (1993) published by the State Department of Water Resources, Division of Safety of Dams. The earthwork foundation costs associated with the dam embankment are substantially reduced if the facility in not considered a jurisdictional dam. The embankment of a jurisdictional facility has stringent requirements related to the foundation and must be embedded into competent material which may require major excavations if there are deep alluvial deposits and cutoff trenches. Similar restrictions are associated with the primary spillway which must be constructed in native material and the spillway cannot be located within the embankment.

The embankment and excavation are some of the primary cost elements associated with dam construction and the introduction of these requirements will result in major construction cost increases. The basic criteria which is utilized by DSOD to define a jurisdictional "dam" facility includes the following:

- Embankments which are more than 25-feet height measured from the **natural stream bed or lowest point at the downstream toe of the embankment**

- Embankments which impound a **storage volume exceeding 50 acre-feet**

- Embankments which are less than 6-feet in height, regardless of storage capacity, or which have a storage capacity of 15 acre-feet, regardless of height shall **not be considered a "dam"**

The definition of a jurisdictional DSOD facility was applied to define the maximum size limitations for potential detention basins in order to evaluate the effects stormwater storage alternatives and assist in the initial plan formulation. The DSOD facility size limits of storage volume and height present a severe restriction which minimizes the effectiveness of a single stormwater detention basin within a large watershed, especially when considering "flow-through" or "on-line" detention facilities. However, creative techniques are available to maximize the benefit from smaller detention facilities which are not jurisdictional DSOD facilities. The application of these features are particularly important for developing an effective storage alternative for the Gabbert watershed which has a large tributary watershed. Some of these techniques which can be incorporated in the planning of a basin which optimize the effectiveness of the facility are discussed in more details in *Section 8 - Detention Basin Features and Requirements* and include the following:

- Excavating the basin and creating the storage volume below the natural surrounding ground elevation, since an incised basin or pit is not considered a "dam"

- Excavating a portion of the basin below the natural ground elevation measured at the downstream toe of the embankment. The amount of storage volume measured from the embankment toe elevation is not considered in calculating the storage volume associated with the embankment for defining a jurisdictional facility. However, the primary limitation in the excavation depth becomes the ability to provide a gravity outlet to drain the reservoir pool.

- Use several smaller interconnected storage facilities which will operate similar to a single larger facility.

- Incorporate "off-line" or "by-pass" detention basins rather than "in-line" or "flow through" basins, since these facilities provide a more effective reduction in the hydrograph peak with **reduced storage volume** requirement.

Interconnected Ponds

The application of interconnected ponds was a concept which was applied for several alternatives related to modifying the existing Gabbert Canyon Debris Basin to a stormwater detention basin. Discussions were performed with DSOD staff to verify the applicability of this concept and determine if any special requirements would be associated with this facility. A primary concern was that even though the smaller basins would be below the DSOD jurisdictional facility size requirements that the combination of all the basins might be considered a single basin. The initial indication from the DSOD staff was that the interconnected smaller basins can be utilized and would not be considered a jurisdictional dam if:

- All the embankments of the basins were designed to the same standard, including any common embankments separating basin pools that would inundate both sides of the embankment.

- Each detention basin had its own spillway system.

Final determination of the jurisdictional nature of these more complex systems would require a review by DSOD of the conceptual designs.

8 Detention Basin Features and Requirements

8.1 Summary of Detention Basin Alternatives

Stormwater detention facilities are the principal elements in a storage oriented approach for flood control, providing peak flow reduction based on temporary storage of the runoff volume. **Six potential detention basin sites** have been selected for detailed evaluation at various locations within the watershed after performing a feasibility screening of numerous alternatives. The sites were selected based upon (1) physical site constraints and limitations, (2) maximizing drainage area impacted, (3) minimizing inundation areas, (4) embankment size requirements, (5) DSOD limitations, (6) future landuse constraints, and (7) proximity to a channel. The initial screening of detention basin sites involved elimination of the drainage area to the detention basin site from the VCRAT hydrology model, or complete retention, and then evaluating the effects on the main channel discharge. This analysis provided an indication of the maximum potential benefit from the basin. The application of multiple detention basins within the watershed were evaluated since these will effect the overall timing of the main channel peak flowrate. The detention basin alternatives included both "on-line" or flow-through basins and "off-line" or by-pass basins. The off-line detention basins allow a more efficient use of the available storage through impacting only the critical portion of the storm hydrograph. "On-line" detention basins involve the entire hydrograph routed through the basin which results in the initial volume associated with the rising limb of the hydrograph utilizing a portion of the available storage required to attenuate the peak flowrate.

The detention basin facilities were specifically sized to avoid DSOD jurisdiction, which restricted the maximum attenuation available from certain sites. A larger detention storage volume at a single site above the 50 acre-feet DSOD jurisdictional limit was generated through (1) multiple basins in series, (2) interconnected basins, and (3) providing a portion of the storage volume below the natural ground elevation.

The potential impacts from sediment dead storage requirements were accounted through providing a separate debris facility upstream or adding an allowance for debris storage. The smaller detention basin site utilized sediment storage volume excavated below the natural ground surface. The resulting detention basins which were elements of the drainage system alternatives are indicated in the following table.

Table No. 8.1 - Summary of Proposed Detention Basin Characteristics

Basin Alt. No.	Surface Area (acres)	Max Storage (acre-feet)	Max Basin Depth (feet)	Q_{100} Inflow	Q_{100} Outflow
Gabbert -B Double Basin	11	145[1]	16 feet	982 cfs (902cfs bypass)	0 cfs
0	1.3	14[3]	10 feet	390 cfs	273 cfs

Table No. 8.1 - Summary of Proposed Detention Basin Characteristics					
Basin Alt. No.	Surface Area (acres)	Max Storage (acre-feet)	Max Basin Depth (feet)	Q_{100} Inflow	Q_{100} Outflow
1	0.65	20[3]	18.5 feet	301 cfs	65 cfs
2	1.7	38[3]	15 feet	536 cfs	143 cfs
3	14	90	5 feet[2]	764 cfs	241 cfs

1. Total combined storage of all ponds, not DSOD jurisdictional
2. Incised basin below natural ground, not DSOD jurisdictional
3. Maximum limiting volume of 50 AF not available due to site restrictions such as major road relocations or existing residential development within inundation area

Table No. 8.2 - Summary of Detention Basin Costs				
Alternate	R/W area	R/W Costs**	Construction Costs*	Total Costs
Gabbert - B	14.5 acre (25.8 acres total)	$777,200 @ $53,600/ac	$3,178,890	$3,956,090
0	3 acres	$160,800 @ $53,600/ac	$320,678	$481,478
1	6 acres	$900,000 @ $53,600/ac	$765,570	$1,665,570
2	4 acres	$214,400 @ $53,600/ac	$680,648	$895,048
3	15 acres	$804,000 @ $53,600/ac	$920,205	$1,724,205

* - note this cost is based upon the March 1997 preliminary estimate of construction and was adjusted to reflect the escalation of construction costs since March 1997 to June 2005. The basis of the escalation is the California Construction Cost Index developed by the State of California using the Building Cost Index (BCI) cost indices produced by Engineering News Record (ENR).

** -note-this cost is based upon the 1997 preliminary estimate of R/W acquisition costs of $25,000 per acre and was adjusted for inflation of 10% per year for 8-years for a total increase of 114% to reflect an updated cost more indicative of the current real estate value escalation.

8.1.1 Gabbert Basin Modification/Expansion

The existing 4.8-acre Gabbert Canyon Debris Basin is a regional sediment/debris collection facility which drains a primarily natural tributary watershed area of 2,350 acres. The location of this site at the headworks of the Gabbert Canyon Channel provides an excellent opportunity to modify the facility for flood storage. The existing basin has an effective storage depth of 11.0-feet to the spillway crest and level storage volume of 16,300 cubic yards (10.1 acre-feet) with a design 100-year sediment yield of 35.3 acre-feet. Geographically the site is located near the mouth of the canyon which spreads onto the apex of a small alluvial fan. This feature provides

a wider area for the basin floor than in the canyon and is the last location where the floodplain is generally confined. The large size of the drainage area requires that a "by-pass" type detention basin be used in order to generate effective attenuation flow rate during the timing of the peak flow, otherwise a flow-through basin only provides a minor influence on the attenuation. Also, the magnitude of the hydraulic deficiencies downstream require that the total storage exceed the 50 acre-feet DSOD maximum limit in order to provide the required minimum hydraulic benefit to the downstream channel. A larger volume effective storage volume was provided through the application of two alternatives which required multiple basins, including debris storage requirements. A portion of the storage can be provided below the natural ground relative downstream embankment toe elevation which allows excluding this additional volume from the storage definition of a jurisdictional "dam."

Alternate-B (Double Basin) This facility configuration provides two detention **ponds in series** which are located downstream of a proposed debris basin similar to that indicated for Alternate-A. The primary difference between alternates "A" and "B" is that "B" has a larger by-pass flowrate, but requires a lower storage volume. Alternative "B" has the advantage of reducing the total flow downstream of the Gabbert Basin to a value which minimizes the amount of reconstruction upstream of Los Angeles Avenue to only a small segment of existing trapezoidal channel. This alternative preserves the existing basin geometry, but also increases the embankment height to the maximum limiting non-jurisdictional value and provide additional excavated volume below the natural ground. The new detention basin is located in-line between the upstream debris basin and downstream Gabbert Basin.

Operational Parameters- This detention basin configuration results in approximately 11.0 acres of surface area for the basins and utilities with a maximum storage volume of **145 acre-feet**. This storage volume is accomplished without being a jurisdictional dam through excavating a portion of the storage volume below the elevation of the embankment toe elevation. The upstream debris basin provides a key function in this alternate by performing the flow split to the by-pass channel and the remainder of the inflow hydrograph spills into the intermediate detention basin. The by-pass channel intercepts all the inflow up to 902 cfs and additional flow above this amount will crest an elevated spillway discharging into the intermediate detention basin. Flow release from the intermediate basin is controlled by an outlet tower connecting to the downstream basin location or another rectangular drop spillway. The downstream has a similar outlet configuration with an outlet tower and rectangular drop spillway. The flood control storage basins are designed with adequate volume to completely retain this portion of the storm hydrograph and requiring only a minimal return flow to drain the detention basin. The upstream debris basin is designed to provide 53 acre-feet of debris storage volume and the operating head for the flow split to occur from the by-pass structure.

The by-pass structure consist of a 96-inch diameter "two-staged covered riser" following the SCS design procedures and was selected since it is considered to be the

best drop inlet spillway riser for use under a wide variety of conditions. Flows entering the debris basin would initially be intercepted by the riser until the water surface in the basin corresponded to the maximum bypass flowrate. When the water surface reaches the higher level it would then spillway over another rectangular drop spillway which would convey this portion of the hydrograph into the first detention basin.

8.1.2 Basin No. 0 (Walnut Canyon)

This 1.3 acre basin site is located at the upstream headworks to the existing Walnut Canyon Channel improvements and within the natural creek floodplain. Approximately 382-acres of primarily undeveloped drainage is tributary to this location. The topography within Walnut Canyon limits the available storage from sites in this area since the canyon bottom is relatively narrow. Walnut Canyon Road follows an alignment within the canyon bottom also which further reduces or limits the maximum storage without impacting the roadway. Several locations within the canyon area were identified as potentially feasible detention basin sites since these areas had significantly widened canyon floor areas and the road was elevated above the floodplain. The storage volume would be generated through the construction of an embankment fill within the natural creek floodplain between one canyon wall and the adjacent roadway fill. The maximum effective storage depth was limited to 10 feet without impacting the roadway. The natural creek within Walnut Canyon has riparian vegetation which would be impacted with any construction in this area.

Operational Parameters: The basin will operate as a flow-through or in-line type basin since the embankment fill is placed directly in the natural floodplain. The resulting 100-year effective storage volume provided by this detention basin is 14.0 acre-feet from attenuating the peak inflow from 390 cfs to 273 cfs. The required debris storage for this basin, in addition to the flood storage, is 11.4 acre-feet. The controlled release from the basin is based upon hydraulic control from a 42-inch diameter vertical riser used for the outlet works.

8.1.3 Basin No. 1 (Casey Road)

This detention basin utilizes a small existing reservoir located within the natural canyon tributary to Casey Road, adjacent to Walnut Canyon. The existing reservoir was formed from an earthen embankment across a small incised canyon area and has a concrete spillway without a low-level outlet. This reservoir could have been either an agricultural reservoir or a small debris basin constructed by the SCS. This location has a total tributary drainage area of 276-acres which is primarily undeveloped. The proposed detention basin would require removing the existing embankment and reconstructing another embankment downstream where the canyon floor is much wider. The proposed basin would have an effective storage depth of 18.5 feet which is limited by the height of the canyon and the upstream adjacent residential structures which would be inundated. The required sediment storage volume is estimated to be 8.3 acre-feet and would be provided in the total basin volume.

Operational Parameters: The resulting 0.65 acre basin would operate as an in-line basin since it is located directly in the natural floodplain. The 100-year maximum storage volume for the basin in this configuration is 25 acre-feet and results in attenuating the peak inflow from 301 cfs to 65 cfs. The controlled release from the detention basin is based upon a 2-foot diameter outlet pipe.

8.1.4 Basin No. 2 (Gabbert Road)

This 3.8-acre basin is another in-line basin which is located at the mouth of a large canyon which is adjacent to the Walnut Canyon Channel. The geometry of this basin has been configured to accommodate the future 118 freeway and freeway ramp system in this canyon area. A conceptual layout of this basin is provided on the following exhibit for the basin. This location has a total tributary drainage area of 475-acres which is primarily undeveloped and draining a significant portion of the proposed Hitch Ranch area. This basin impacts the largest drainage area of all the basins except for the Gabbert Basin. The basin is located within the proposed Hitch Ranch and in an area that the initial land use planning has designated as institutional. Construction of the basin would require the vertical relocation of Gabbert Road since the road it is close to the canyon floor. This location has the advantage of a wide canyon area and a relatively flat canyon slope. The maximum storage volume is restricted by the inundation limits not to encumber existing upstream structures.

Operational Parameters: This basin is another in-line type basin which would result in blocking the natural floodplain through the construction of an earthen embankment which join either side of the canyon walls. The maximum 100-year effective storage volume for this basin is 36 acre-feet. The required debris dead storage volume allowance at this location 31.7 acre-feet. The controlled release from the basin is based upon the hydraulics of a 3.0 foot diameter riser.

8.1.5 Basin No. 3 (Bypass Basin)

This basin site was the off-line diversion detention basin located directly adjacent to the Walnut Canyon Channel in the original study. In this current update/revision to the original study detention basin-3 is proposed to be in the same place as the original study but the function of the basin is altered. In the original study the basin was designed to function with the diversion structure which would divert the initial 300 cfs away from the Walnut Channel to a proposed diversion channel which was called the Shasta Ave. Diversion. The current study provides a 100 cfs bypass to the basin. The bypass will allow up to 100cfs to remain in the Walnut channel and bypass detention basin-3. Any flowrate in excess of 100cfs would be captured and routed in detention basin-3. The basin would be constructed by excavation and generating a pit below the natural ground. The maximum depth for the effective storage corresponds to five feet which is the same depth as the channel in order to provide a gravity outlet. The basin configuration is encompasses a larger surface areas than the previously proposed basin-3. In addition the basin is completely located on the proposed Hitch Ranch development in area which the landuse planning has designated park and very high density. The basin would potentially interfere with the proposed alignment of

Casey Road. The basins would encumber a total surface area of approximately 15 acres.

Operational Parameters: The key operational factor associated with this basin is the performance of the diversion or by-pass structure. The difficulties with this structure include: (1) setting a weir crest elevation and length which can adequately deliver the desired flow into the basin, (2) weir performance so that it is not submerged by the storage in the basin, (3) weir elevation high enough to allow bypass around the basin, (4) shallow depth of the basin and if the basin is to drain by gravity it cannot be deeper than the channel. If a small stormwater pump station was used to drain the volume of the basin below the existing channel invert then this may solve many of the diversion structure operation problems.

8.1.6 Basin Geometry and Grading Requirements

The geometry of the proposed detention basins was primarily governed by the physical constraints of the site location and minimizing the potential land acquisition requirements. The sites were selected at locations which would affect the largest tributary drainage area prior to joining the main channel system and topographic features. The initial screening of the basin sites was performed by studying the effect if the basin operated as retention rather than detention on the hydrology model. The maximum limits of the basin area generally conformed to the topographic constraints. Excavation of an incised pool area was performed if it was still possible to provide a gravity outlet and provide additional storage volume below the jurisdictional requirements. The excavation of storage volume below the natural ground provided additional dead storage volume allowance used in the smaller detention basin facilities. Excavations utilized slopes of 2:1. The embankment utilized a fill prism which was assumed to have a 2:1 slope on the upstream face and 3:1 on the downstream face.

8.2 Spillway Outlet Configurations

The outlets works for the debris and detention basins were generally provided with a minimum of two outlets which included the (1) controlled release outlet structure or primary outlet, which is generally some form of vertical outlet tower and connecting outlet pipe, (2) rectangular drop spillway, and (3) flowrate by-pass facilities. It was assumed that the primary outlet works associated with the detention basin would consist of a box drop inlet design which is a similar configuration that is utilized by VCFCD on other similar regional facilities. This type of facility has several advantages for a spillway design, including, (1) reduces the potential of eroding the embankment material, (2) allows use of an underground culvert to convey the flow through the embankment, (3) allows continuous vehicular access across the dam crest, and (4) reduces the width of the spillway facility. The preliminary sizing for the outlet spillway utilized the full unattenuated reservoir inflow and the basic relationship for the discharge head over the crest of a flat rectangular weir box, with a weir coefficient of 3.2. The box drop inlet spillway would be connected to an outlet conduit which would extend to the downstream of the embankment. The outlet

conduit would either terminate into the improved channel or an energy dissipation structure.

Offline detention basins incorporated hydraulic structures which would by-pass the lower portion of the storm hydrograph and intercept flow during the critical point of the hydrograph to maximize the attenuation. The proposed structures incorporate some form of side-weir or lateral spillway section. The detailed evaluation of the hydraulics associated with the side-weir was not performed at this engineering level since it involves a spatially varied flow problem because of the variable flow and depth along the weir crest.

8.3 Low-level Outlet Requirements

The low-level outlet for the detention basins will provide the controlled release rate and the sizing of the facility is dictated by the required peak attenuation from the reservoir. The hydraulics associated with the outlet works is a critical component which determines the operation of the detention basin and the effectiveness in attenuating the peak flow rate. The preliminary design of the outlet for the basin involved an optimization process to select the most effective outlet configuration based upon achieving the maximum attenuation within the physical constraints of the basin.

The low-level or primary outlet intake configuration would consist of a staged concrete outlet similar to other VCFCD regional detention basin installations. The intake tower would require (1) low-flow riser to prevent debris and sediment from entering the facility and (2) a trash rack at higher stages or elevations. Access to the intake tower would be from an elevated catwalk or footbridge. The intake tower would be connected to an independent outflow pipe system through the dam embankment to the downstream toe of the dam. Selection of the outflow pipe is designed so that the hydraulics of the pipe should be independent of the intake structure.

8.4 Hydrologic Routing Approach and Methodology

The evaluation of the storm hydrograph movement through a detention basin is performed through a reservoir routing analysis. Hydrologic routing using modified puls method was applied through VCHYDRO. The final simulation of the reservoir routing was performed in VCHYDRO combined with VCRAT in order to accurately compare the regional watershed impacts. Modified Puls method requires developing the stage-storage and stage-outflow relationships from known information on the basin geometry and outlet condition. Conceptual layout of the basins was prepared in order to develop these rating curves to provide the storage-indication relationship for reservoir routing.

8.4.1 Basin Stage-Storage Relationships

Stage-storage relationships for each basin configuration were determined based upon preliminary grading concepts prepared for each of the basins. The minimum basin floor elevation was either determined from (1) maximum height of the required debris storage for sediment, or (2) lowest elevation which would still provide a gravity outlet. Stage-storage volume relationship for each basin site were derived as a discrete function or series of points. The surface area of each contour interval was

determine, with the storage in any increment Δh equal to the product of the average area and the depth of the increment.

8.4.2 Basin Inflow/Outflow Characteristics

The outlet works associated with each basin configuration influenced the hydraulic operation of the controlled release downstream of the basin. The hydraulics of the outlet structures were assumed to be operating as inlet control which facilitated development of outlet rating curves for the facilities. The design of the connecting outlet pipe to the outlet tower will be developed to ensure that the tailwater does not influence the outlet structure.

The only basin which the stage-discharge relationship was developed for a different outlet configuration was the Gabbert Canyon Basin. The hydraulics for the outlet structure of this basin utilized a "two-staged covered riser" for the by-pass inlet system. The hydraulics for the 96-inch diameter riser were analyzed utilizing the procedures developed by the SCS (1965). The results of the rating curve for this riser configuration are provided in the following table.

Table No. 8.4 - Proposed Gabbert Basin Operational Rating Table
Upstream Debris Basin

Q_{in} (cfs.)	Water Surf. Elev (ft.)	Basin Vol (ac-ft)	Bypass Chnl. 96" RCP Q_{out} (cfs)	Emergency Outlet Q_{out} (cfs)	Total Q_{out} (cfs)
0.00	546.00	0.00	0.00	0.00	0.00
148.80	547.00	6.60	148.80	0.00	148.80
420.87	548.00	14.20	420.87	0.00	420.87
757.84	549.00	21.80	757.84	0.00	757.84
830.17	550.50	33.20	830.17	0.00	830.17
1017.32	551.00	37.00	852.90	164.42	1017.32
1750.95	552.00	44.60	896.70	854.25	1750.95
1888.62	552.15	45.70	903.10	985.52	1888.62

9 Alternative Drainage Systems Investigated

9.1 Development of Alternative Drainage "Systems"

In the original study, **alternative drainage "systems"** were investigated which represented a composite or combination of various feasible conveyance and storage elements which would achieve equivalent levels of improved flood protection within the main channel system. The effect of regional drainage improvements must be evaluated on a watershed basis or application of a "systems" approach.

Formulation of the alternatives relied on an initial planning process which screened the feasibility of numerous alternatives that were considered. This included evaluation of an "all-channelization" alternative since this provided a benchmark with relationship to the maximum amount of channel improvements and construction costs to gauge of systems which were developed. The different combinations of alternatives were developed in order to evaluate most economic combination of channel reconstruction and detention basin implementation. There is a delicate balance between attempting to preserve the maximum amount of existing channel improvements through construction of stormwater storage facilities and reconstruction of these facilities. The multiple alternatives investigation attempted to define the most economic system for all systems. In addition, the most effective system with regards to providing the maximum storage, or minimum required land acquisition, or minimum capital improvement costs were all investigated to facilitate the selection process of the recommended system.

9.2 Comparison of Alternative System Features

The essential features associated with the Original Selected Alternative-B drainage system and the Revised Alternate-B drainage system are summarized in *Table No. 9.1 - Summary Description of Alternative Channel Systems*. In addition, watershed schematics and watershed facility layouts have been prepared for all eight alternative drainage systems. All the system plans provide the same level of flood protection through different combinations of features. Some general descriptive comparisons of the various drainage systems can be developed which assist in understanding operation requirements and potential impacts.

Table 9.1 - Summary Description of Alternatives

Alt. No.	Gabbert Basin Modification	Additional Detention Basins	Gabbert Channel Reaches	Walnut Channel Reaches	Diversion Channel System	Channel Outlet Relocation
B	Improved to 145 AF Detention Storage	0,1,2,3 (V_{total} = 145 AF)	2	2	300 cfs	Walnut
B-Revised	Improved to 145 AF Detention Storage	0,1,2,3 (V_{total} = 295 AF)	2	2	100cfs in-channel Bypass	Walnut

9.3 Alternative No. B

9.3.1 System Description: (Least Total Costs Alternative)

This alternate proposes to relocate only Walnut Canyon Channel to a new outlet at the Arroyo Simi and maintain the existing Gabbert Canyon Channel outlet in its current configuration. This proposed system would result in parallel channels on either side of the Smith-Holst Ranch which flow to the Arroyo Simi. The relocated Walnut Canyon Channel outlet system from Arroyo Simi to Los Angeles is approximately 3,000 feet and consist of an earthen channel with rock rip-rap side slopes. The channel is designed with velocities less than 8 fps without influence of backwater. The earthen channel is consistent with the landuse planning for this property. An additional flow diversion is proposed in Walnut Canyon Channel near Shasta Avenue which would divert the initial 300 cfs in the channel directly to the Arroyo Simi. The diversion system would consist of a 14-foot wide underground box section that is 3,035 feet in total length. A flowrate of 300 cfs represents the maximum possible flow diversion based upon the conveyance system and the limiting physical constraints. The limiting physical constraint is the corridor which is available at the existing utility crossing and storm drain system. A 48-inch storm drain at Los Angeles Avenue would join the diversion and was accounted in the hydraulics. An off-line detention basin is required at the diversion location which would provide 70 acre-feet of storage with a release rate of 9 cfs. In addition, the Gabbert debris basin will be modified to provide 145 acre-feet of storage with a separate debris basin which has a debris capacity of 53 acre-feet. Three on-line detention basins are required along the Walnut Canyon Channel or its tributaries which would provide a total storage volume of 140 acre-feet. Gabbert Canyon Channel would be reconstructed from the Walnut Canyon Channel confluence upstream to the existing debris basin. Approximately 1,900 lineal feet of Walnut Canyon Channel would be reconstructed downstream of High Street from the confluence of Moorpark Drain No.1.

Storage Elements

- *Improved Gabbert detention basin 145 acre-feet storage*
- *New Gabbert debris basin*
- *3 online and 1 offline detention basin (total storage 140 acre-feet) Basins 0,1,2,3*

Conveyance Elements

- *Gabbert Canyon Channel improvement to reach 2 (total length = 913 feet)*
- *Walnut Canyon Channel improvements to reaches 2 and part of 3 (total length = 1,900 feet)*
- *300 cfs underground diversion channel adjacent to Shasta Avenue (length=3,035)*
- *Relocated Channel outlet to Arroyo Simi for Walnut Canyon Channel*

Estimated R.O.M Costs: Total costs of the alternative is $13,294,000 of which construction capital costs are $10,550,000 and land acquisition is $2,744,000.

Property Acquisition: Required total amount of right-of-way is 51.2 acres, which includes 6.5 acres for channel relocation, 42.5 acres for detention basins, and 2.2 acres for diversion systems

9.4 Alternative No. B-Revised

9.4.1 System Description: (Least Total Costs Alternative with Modification)

This alternate proposes to relocate only Walnut Canyon Channel to a new outlet at the Arroyo Simi and maintain the existing Gabbert Canyon Channel outlet in its current configuration. This proposed system would result in parallel channels on either side of the Smith-Holst Ranch which flow to the Arroyo Simi. The relocated Walnut Canyon Channel outlet system from Arroyo Simi to Los Angeles is approximately 3,000 feet and consist of an earthen channel with rock rip-rap side slopes. The channel is designed with velocities less than 8 fps without influence of backwater. The earthen channel is consistent with the landuse planning for this property. An in channel detention basin bypass is proposed in Walnut Canyon Channel near Shasta Avenue which would bypass up to 100 cfs in the channel downstream in the Walnut Canyon channel. The bypass system would consist of a in channel side weir structure. A flowrate of 100 cfs represents the maximum effective flow bypass based upon the conveyance system and the cost benefit comparison. An off-line detention basin (basin-3) is required at the bypass location which would provide 90 acre-feet of storage with a release rate of 241 cfs. In addition, the Gabbert debris basin will be modified to provide 145 acre-feet of storage with a separate debris basin which has a debris capacity of 53 acre-feet. Three on-line detention basins are required along the Walnut Canyon Channel or its tributaries which would provide a total storage volume of 160 acre-feet. Gabbert Canyon Channel would be reconstructed from the Walnut Canyon Channel confluence upstream to the existing debris basin. Approximately 1,900 lineal feet of Walnut Canyon Channel would be reconstructed downstream of High Street from the confluence of Moorpark Drain No.1.

Storage Elements

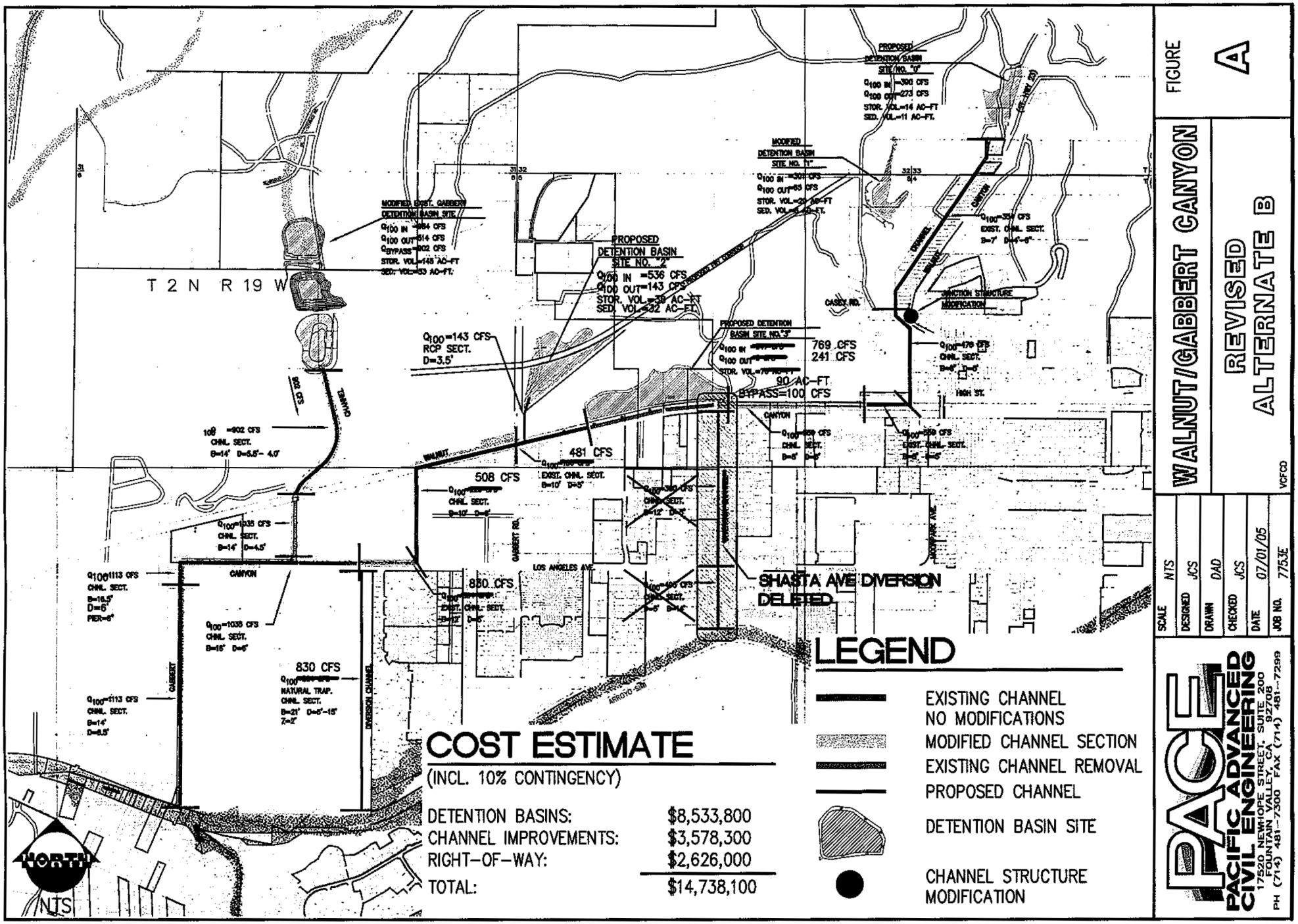
- *Improved Gabbert detention basin 145 acre-feet storage*
- *New Gabbert debris basin*
- *3 online and 1 offline detention basin (total storage 160 acre-feet) Basins 0,1,2,3*

Conveyance Elements

- *Gabbert Canyon Channel improvement to reach 2 (total length = 913 feet)*
- *Walnut Canyon Channel improvements to reaches 2, 3 and part of 4 (total length = 2,600 feet)*
- *100 cfs in-channel bypass*
- *Relocated Channel outlet to Arroyo Simi for Walnut Canyon Channel*

Estimated R.O.M Costs: Total costs of the alternative is $13,637,000 of which construction capital costs are $11,011,000 and land acquisition is $2,626,00.

Property Acquisition: Required total amount of right-of-way is 49.0 acres, which includes 6.5 acres for channel relocation, and 42.5 acres for detention basins.



COST ESTIMATE

(INCL. 10% CONTINGENCY)

DETENTION BASINS:	$8,533,800
CHANNEL IMPROVEMENTS:	$3,578,300
RIGHT-OF-WAY:	$2,626,000
TOTAL:	$14,738,100

LEGEND

- EXISTING CHANNEL NO MODIFICATIONS
- MODIFIED CHANNEL SECTION
- EXISTING CHANNEL REMOVAL
- PROPOSED CHANNEL
- DETENTION BASIN SITE
- CHANNEL STRUCTURE MODIFICATION

FIGURE A

WALNUT/GABBERT CANYON
REVISED ALTERNATE B

SCALE	NTS
DESIGNED	JCS
DRAWN	DAD
CHECKED	JCS
DATE	07/01/05
JOB NO.	7753E

VCFCD

PACE
PACIFIC ADVANCED CIVIL ENGINEERING
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10 Estimated Construction Costs

10.1 Standard Construction Elements

The various drainage facilities are composed of standard features that are common elements of the facilities and were included in developing the construction costs estimates. Standard features for the channel reconstruction include the concrete rectangular channel section, channel fencing, and adjacent access roads. The channel reconstruction always required removal and disposal of the existing concrete channel lining. The detention basins include perimeter roads, access ramps, slope and erosion treatment, spillway, outlet tower, and energy dissipators. In addition, if the detention basin volume was based upon an embankment, then this included clearing and grubbing, foundation excavation and preparation, and embankment construction. For purposes of comparison the unit costs for the revised recommended alternative are the same as the unit costs used in the original study in 1997.

10.2 Unit Construction Costs

Construction cost estimates were generated for each of the drainage system alternatives in order to provide an economic comparison of the systems. Standard unit prices for flood control facilities were applied in the preparation construction cost estimates based upon previous regional drainage projects and similar estimates at this level of detail. The costs presented in this study are based upon 1997 dollars and reflect the total capital costs to construct the facilities based upon the current planning level of detail associated with the concept plan. A 20% contingency factor has been applied to provide an allowance for potentially intangible or unknown construction items that cannot be determined at this time. An additional 10% factor was applied for mobilization, engineering, and administration. Consideration was given to the existence of major utilities (see *Section 7.3 Utilities*) in the layout and alignment of the proposed facilities, however, not costs of relocation or special relocation costs have been applied since it would depend on specific location of the facilities. The standard unit costs which were used in the estimate are summarized in the following table

Table No. 10.1 - Construction Unit Cost Database

Item Description	Unit	Price
Excavation - Basin Embankment Foundation	c.y.	$5
Embankment Compacted Fill	c.y.	$6
Channel Excavation	c.y.	$5
Reinforcing Steel	lb.	$0.55
Structural Concrete	c.y.	$650
CMB Access Roadway	c.y.	$40

Table No. 10.1 - Construction Unit Cost Database		
Item Description	Unit	Price
½ ton Rock Rip-Rap	c.y.	$45
Concrete Removal	c.y.	$100
Outlet Riser	l.f.	$400
Channel Excavation	c.y.	$5
Clear and Grub	ac.	$500
Reinforced Concrete Pipe	ft -inch diameter	$3

Table No. 10.2 - Summary of Estimated R/W Costs (Per VCFCD)	
Location Description	Price
Diversion System	$53,600/acre
Upper Walnut Basin	$53,600/acre
Diversion Channel	$53,600/acre
Gabbert Basin Expansion	$53,600/acre

Note-this cost is based upon the 1997 preliminary estimate of R/W acquisition costs of $25,000 per acre and was adjusted for inflation of 10% per year for 8-years for a total increase of 114% to reflect an updated cost more indicative of the current real estate value escalation.

10.3 Preliminary Estimate of Construction Quantities and Costs

Generally four primary types of costs are associated with the implementation of the regional drainage system. These costs include (1) right-of-way or land acquisition, (2) construction or capital costs, (3) engineering and administrative costs, and (4) contingencies. If public financing is used such as bonds or assessment district then these additional costs should be applied. The quantities associated with for the various system elements such as channel reconstruction or detention basins are based upon preliminary design and layout of these facilities. Exhibits illustrating the conceptual design of the facilities have been included and were the basis for preparing the quantity estimates.

A detailed breakdown of the costs for specific design elements which include the detention basin alternatives, Gabbert Detention Basin, outlet channel relocation, and diversion

systems are presented in the following tables. A more detailed breakdown of the cost estimates for the individual system alternatives is provided in the *Technical Appendix.*

10.3.1 Comparison of Alternative System Capital Costs

A summary of the major cost elements is provided in *Table 10.3 - Summary of Alternative Systems Construction Costs.* The table provides useful comparisons between the various components of the drainage systems. A total is also provided with and without right-of-way costs. The summary of the total indicates that Alternative "B" has the lowest overall total costs. The construction cost estimates have been updated to reflect the 2005 estimation of costs. The California Construction Cost Index (CCI) developed and published by the State of California reflects the escalation of construction costs month to month since 1995. The CCI is based upon the Building Cost Index (BCI) cost indices produced by Engineering News Record (ENR). The CCCI for March 1997 was 3488 and the CCCI for June 2005 is 4421. Therefore, taking a ration of the indexes yields a construction cost escalation of 26.75% from March 1997 to June 2005. A factor of 1.2675 has been applied to the construction costs as estimated in March 1997 to yield a 2005 estimate of construction costs.

Table No. 10.3 - Summary of Alternative Systems Construction Costs
(Cost in thousand of dollars)

Alt	Detention Basins			Divert Chann	Walnut Chann	Gabbert Chann	Outlet Chann	Capital Cost Subtotal	R/W	**Total Costs**
	0,1,2	3,4,5	Gabbert (Alt. B)							
B	$1,768	$744	$3,179	$2,872	$167	$378	$1,442	**$10,550***	$2,744	**$13,294**
B-Rev.	$1,768	$2,811	$3,179	$0	$531	$378	$2,344	**$11,011****	$2,626	**$13,637**

* - note this cost is based upon the March 1997 preliminary estimate of construction and was adjusted to reflect the escalation of construction costs since March 1997 to June 2005. The basis of the escalation is the California Construction Cost Index developed by the State of California using the Building Cost Index (BCI) cost indices produced by Engineering News Record (ENR).

** - note this cost is based upon the 2005 preliminary estimate of construction costs.

11 Financing

11.1 Financing Methods Available

The financing of public facilities by local agencies have a variety of financing mechanisms available to fund the infrastructure costs. Many methods cannot be used by private organizations or individuals, but offer great flexibility to public agencies. The two major categories of public work funding include **pay-as-you go** financing and **debt** financing (pay-as-you-use). Pay-as-you-go financing requires governments to pay for infrastructure costs directly from current revenues. These programs for pay-as-you-go include: creation of special assessment district, levying special property taxes, creating a special district, impact fees from new developments, grants or aid from the State and Federal government. Debt financing requires local governments to tap credit markets and raise funds through the issuance of dept obligations. The use of debt financing involves various type of financing tools which include: short term notes, unlimited tax general obligation bonds, limited tax general obligation bonds, and revenue bonds. Another type of financing is **pay-as-you-need** which is defined as a form of pay-as-you-go, which involves impact fees or assessments to support loan or bond payments. In this form of financing, payments collected vary depending upon the benefit received. The benefit in this case is not necessarily one of need, but rather one of forecasted or predicted need based upon potential flood damage. Assessment must be apportioned upon any basis which will reasonably measure these benefits. The advantage of this method is that only users benefiting from the improvements need to pay for them. The following table outlines some of the most common California laws used as authority for levying special assessments which are available and their applicability according to the elements in the implementation of the recommended project. **However, recent passage of Proposition 218 may influence the ability for the public agency to levee rates/charges, or establish fees to support the financing for construction, operation, and maintenance of public facilities.** The costs for long term maintenance and monitoring may be a consideration in the selection of the financing mechanism, since many of the procedures do not include maintenance, but only consider capital construction.

Table No. 11.1 - Project Related Allowable Uses of Assessment Laws

Description of Act	Drainage	Flood Control
Improvement Act of 1911	Capital	Capital
Municipal Improvement Act of 1913	Capital	Capital
Benefit Assessment Act of 1982	Capital & Maintenance	Capital & Maintenance
Mello-Roos Community Facilities Act of 1982	Capital & Maintenance	Capital
Improvement Bond Act of 1915	Capital	Capital
Map Act Areas of Benefit	Capital	------

** The table reflects the associated allowable uses based upon the specifics of each Act. The table indicates uses for either *Capital Improvements* or *Capital Improvements and the Operation and Maintenance* of the facility.

Stormwater Utility Fees is a utility approach to financing public drainage facilities. Stormwater utilities are public utilities that are financed by dedicated user charges. User charges for an individual property are based on the contribution of the property to the total volume of stormwater that must be managed. A general approach to developing a utility rate structure involves estimation of a charge per "equivalent runoff unit" (ERU) and then estimating the charge per parcel. In some areas the charge to the parcel is increased if located in a floodplain and the charge can be reduced if on-site detention is provided as part of the development.

Exactions is the practice of requiring developers to provide certain physical facilities is one of the most important and well established means of financing infrastructure. In California subdivision exactions are worth over five times as much as all development-related fees and assessments, and now account for nearly half of the annual public capital formation in the state. Provisions with the State of California Subdivision Map Act include certain sections which provide for the dedication of land related to drainage systems. Section 66478.1 ensures that local agencies must require public easement along banks of rivers and streams and Section 66479 allows local ordinances to require that property be reserved for certain public facilities. There are certain requirements which must be satisfied by the public agencies in order to impose land reservations by local ordinance and the primary issues include: (1) the requirement of land reservation be based upon adopted specific plan or general plan, (2) the amount of land reserved will not make the development of the remaining land economically unfeasible.

Drainage Fee Assessment Programs are possible through state legislation which enables the implementation of a drainage fee program by a public agency. Section 66483, Division 2 of Title 7 of the State of California Government Code (Subdivision Map Act), as amended January 1, 1994, allows the creation of ordinances which require payment of fees for the purposes of defraying costs of constructing planned drainage facilities. Some of the specific requirements associated with the creation of a drainage fee program include the following:

- An ordinance must be adopted to require the payment of a drainage fee as a condition of approval of final subdivision maps.
- The ordinance must particularly refer to a drainage plan adopted for specific areas.
- Prepare a drainage plan which includes (1) a map of the drainage area or areas showing the boundaries and locations, type and size of planned drainage facilities, and (2)an estimate of construction costs of the drainage facilities for each area.
- The government entity must adopt the drainage plan with a finding by resolution that the development of property within the planned drainage areas will require construction of the described drainage facilities, and a finding that the fees proposed are fairly apportioned on the basis of wither the benefits of, or the need for, drainage facilities created by proposed development

- A "Planned Drainage Facilities Fund" is created for the various drainage area and funds are maintained separately. The basic source of funds are drainage fees collected on a per-acre basis.

VCFCD Land Development Fee This fee was initially established in 1967 at $400 per acres and is updated annually based on the Engineering New Record Construction Cost Index for the Los Angeles Area. The VCFCD policy indicates that these monies can be utilized three ways, preferably to finance construction of VCFCD *red line* facilities, which include: (1) financing of improvements within a city, (2) finance construction outside the city that will be of benefit to the city, and (3) use all or part of the "local share" money required to finance federally funded construction.

Two popular financing mechanisms which have been primarily utilized to development special assessment districts based upon the benefit from public improvements are the Mello-Roos Community Facilities Act of 1982 and the Municipal Improvement Act of 1913/1915. The Mello-Roos Community Facilities Act of 1982 was enacted as an alternative method for local governments to provide facilities to serve their communities. It provides an alternative to making dedication and paying in-lieu fees as the method of satisfying requirements to provide certain public capital facilities and services. While not a true assessment, the "special tax" upon land offered by this Act provides a financing tool that is treated in part like an assessment.

The **Mello-Roos Act** allows the formation of "community facilities districts" in specified areas within their jurisdictions. A community facilities district is a special financing entity through which a local government is empowered to levy special taxes and issue bonds authorized by a **two-thirds vote** of the qualified elector of such district. In areas with less than twelve registered voters, the qualified electors are the landowners. Prior to initiation of proceeding to form a community facilities district, the developer may be required to enter into an agreement with the Issuer which will set out term under which the legislative body of the Issuer will form the community facilities district. Usually the developer will be required to advance all costs incurred by the public agency to form the community facilities district. The costs may include estimated engineering, planning, inspection, and administrative costs and expenses. These costs will be repaid to the developer from bond proceeds. Generally, with the cooperation of all parties involved, the proceedings to form a community facilities district may be completed and bond proceeds received in **five to six months** after the proceeding are initiated.

The **Municipal Improvement Act of 1913/1915**, currently the most frequently used Assessment Act in California, allowed local agencies to impose assessment on benefited property to finance the construction of various public improvements, the acquisition of real property rights, and the maintenance and repair of improvements constructed with this Act.

Another funding mechanism which specifically focuses on flood control projects is the **Benefit Assessment Act of 1982**. This Act authorizes local agencies to impose assessments on benefited property to finance the operation and maintenance of drainage,

flood control services, and the installation and improvement of drainage and flood control facilities. In the case of an assessment for flood control services, the Act provides that the benefit may be determined on the basis of the proportionate storm water runoff from each parcel.
Special assessment districts are a common funding program using a convenient designation for properties that receive a special benefit and are subject to the special assessment. The special assessment is designed to recover the costs of an improvement that directly benefits an individual property and these assessment are based on formulas that relate the charge against a parcel to the benefits. The capital is generated for the construction of the improvements through the sale of general obligation bonds.

Tax Increment Financing (TIF) uses increases in property values attributed to a capital project to recover the project's costs. Under this approach, a special tax increment district is created by the adoption of a plan for development of the infrastructure of a particular geographic area. Although the use of tax increment financing in rural area is not uncommon, this method is usually used to finance redevelopment in deteriorated areas characterized by declining property values.

A more detailed description of the process associated with the 1913/1915 Act have been provided, however, most of the other special assessment acts previously indicated follow similar procedures. Logic diagrams have been developed for the Special Assessment District and the Mello-Roos Community Facilities District proceedings which graphically illustrate the process for the major elements associated with each funding mechanism (See Exhibit 58 - Special Assessment District Flow Chart, and Exhibit 59 - Mello-Roos CFD Flow Chart). The general process for the 1915 Act when used in conjunction with the 1913 Act are generally as follows:

- The public agency adopts the Resolution to order the improvement, briefly describing the proposed improvement, specify the exterior boundaries of the assessment district, providing for issuance of improvement bonds, declaring its intention to levy assessments to maintain, repair or improve the facility.

- The agency directs preparation of an *Engineers Report* which contains: plans and specifications of the proposed improvements, description of lands and easements to be acquired, an estimate of the cost of the improvement and costs of lands and easements. The report is filed with the public agency. A preliminary approval is adopted and a public hearing is set for not less than thirty days after passage of the resolution. Bids for the construction of the improvements and sale of the bonds can be called for before the hearing. The notice inviting construction bids must be first published at least fourteen day days before the date set for receipt of the bids.

- Prior to public hearing on the assessment district the public agency shall adopt a resolution describing the boundaries of the district. Notice of adoption of the resolution and of the public hearing are published and posted at least twenty days prior to date set for the public hearing.

printing, trustee/paying agent, letter of credit or insurance premium, and other miscellaneous costs.

The determination of the funding for the maintenance of these facilities is important during the initial development of the special assessment district since many procedures do not allow maintenance costs to be included. An example is general obligation bonds are generally issued by public entities only for the purpose of acquisition and construction and may not be used to finance ongoing maintenance and operation costs. Additional limitations may be provided by the statutes of the local agencies and these should be investigated during the initial planning process.

11.2 Financing Issues and Policy Considerations

Several issues must be considered when evaluating public financing and these include (1) allocation of costs by benefit, (2) economic feasibility, (3) County policies, and (4) specific types of charges and implementation measures. Assessment fees can either be distributed based upon actual benefits received from implementation of the drainage improvement or based upon considering the negative impacts which result from development of property. The most obvious benefit received from construction of drainage improvements is the reduction or elimination of potential flood damage which could occur to property. The problem with assessing specific benefits is that of determining the value of an individual property is difficult and subjective. The "negative impact basis" is based on the concept that the charges to a parcel should be based on the contribution to the problem of flooding and proportional cost of a system designed to alleviate that problem. This is a superior approach both on the basis of reasonableness as well as simplicity in determining assessment.

An important aspect to consider in setting fees is legal constraints and statutory restriction on impact fees and assessments. Statutes (Section 66483 of the California State Government Code) governing the assessment of fees and charges to cover both operation and improvement or construction of new facilities state that "...fees should be reasonable, fair and equitable..." or "...fees should be fairly apportioned...on the basis of benefits conferred on the property..." Other restrictions limit charges on individual properties to a prorata basis according to the acreage, and limit charges to cover only the cost of facilities which are not in existence at the adoption of any master plan for the area.

Another key element is the economic feasibility of development-related financing based upon the relationships of the financial burden to the underlying land values. If the burden is large, relative to land value for a particular use, the that use may be rendered uneconomic.

11.3 Allocation of Financial Burden to Land Uses

Establishes a fee structure within the watershed requires that the infrastructure costs outlined for the proposed drainage system be apportioned by some fair and reasonable method. In addition there must be a **nexus** to establish an assessment which provides a relationship between the land and the proposed infrastructure improvements. A Dwelling Unit Equivalent (DUE) can be utilized to determine the relative responsibility of an acre of land in each landuse category compared to an acre of land in the single family residential category. Generally the DUE procedure are based on a "causes or uses" test : the cost of the drainage facilities are sized to accommodate the peak runoff were allocated in proportion to the extent to which each land use category contributes to the peak runoff amount. Application of a DUE cost schedule provides the basis for a valid development impact fee.

11.4 Selection of the Financing Technique

The decision regarding the financing method depends on several considerations which include: (1) cash flow, (2) landowner preferences, (3) adopted county policy. The time at which a particular drainage improvement must be implemented is compared to the amount of development impact fees that would have been collected up to that time. If the total collections are adequate or if an imbalance can be corrected over relatively few years, then impact fees are useable. It has been increasingly common in California for a comprehensive financing plan to include a mix of development impact fees and bonded debt. Bonded debt, is authorized to pay for those major improvements that are required immediately to implement the master plan of drainage. Development impact fees are used to pay for improvements that can be staged over the planning period.

Impact fees would appear to be most effective and simplest form of financing. Impact fees may be charged at the time the property is subdivided, at the time building permits are issued or a combination of both. If these drainage facilities are to be implemented prior to the development occurring in the upper watershed then some form of debt financing must be considered and drainage fees can be used to repay the debt. Exactions in the form of land reservations for stormwater storage detention basins or additional channel right-of-way will fulfill the land requirements in order to implement the drainage systems.

12 Revised Recommended Drainage System

12.1 Recommended System Components

Based upon the costs and feasibility of implementation, drainage system **Alternative "B"** was selected as the least-cost alternative and was the recommended alternative. The updated Rough Order Magnitude (R.O.M.) costs for this system include $10,550,000 in capital construction costs and $2,744,000 for land acquisition, which totaled an estimated R.O.M. cost of **$13,294,000**. The **"Revised-Alternative-B"** has an estimated R.O.M. cost of $11,011,000 in capital construction costs and $2,626,000 for land acquisition, which totaled an estimated R.O.M. cost of **$13,637,000**. The total right-of-way required for this alternative is approximately 34.5 acres. The different project alternatives were developed with the goal of achieving a balance achieving the flood protection goal and providing the most economic solution. The primary system components associated Alternative "B" include: (1) reconstruction of Gabbert Debris Basin to provide detention storage through modification of the existing basin and construction of another storage reservoir upstream as well as a separate debris basin at the headworks which will provide 145 acre-feet of flood control storage and 53 acre-feet of debris storage, (2) a 14 acre-foot detention basin at the headworks to the Walnut Canyon Channel, (3) a 20 acre-foot detention basin at the location of an existing reservoir site in a tributary canyon at Casey Road, (4) a 36 acre-foot detention basin located in the tributary canyon adjacent to Gabbert Road, (5) constructing a 100-cfs in-channel basin bypass system from Walnut Canyon Channel, (6) relocation of the channel outlet for Walnut Canyon Channel along 3,000 feet of earthen trapezoidal channel from Los Angeles Avenue to the Arroyo Simi, (7) reconstruction of the Gabbert Canyon Channel from the debris basin to Los Angeles Avenue, and (8) construction of an 90 acre-foot off-line detention basin at the in-channel bypass location on Walnut Canyon Channel. There is the potential for additional alternatives to be evaluated through refinement of the proposed system. The storage capacity within the Gabbert Canyon detention basin can be further optimized if a portion of the storage is utilized in the proposed upstream debris basin. Further study of the grading design and relative elevations of the interconnected ponds will assist in refining the hydraulic operation for the basin. However, the current analysis provides a conservative evaluation of the system while maximizing the flood control benefits.

Recommended Detention Requirements for Future Development Projects

General recommendations and guidelines are provided for future private development projects to ensure that hydrologic impacts are mitigated. The objective of this program attempts to maintain the existing hydrology on a watershed basis similar to current conditions studied as part of this investigation. The proposed Hitch Ranch development hydrologic impacts have been accommodated in the proposed detention basins located on their property. A drainage ordinance should be implemented on a watershed basis which outlines the specific requirements that can be used in planning the development projects. General guidelines include the following:

1. The peak outflow from one or more detention basins within a development project area under fully developed conditions should not exceed 90 percent of the peak flow under the existing pre-development conditions for **all storm frequencies up to and including the 100-year frequency** and a single storm duration of up to 24-hours.

2. Follow the requirements outlined by VCFCD for detention basin design.

3. Provide an ungated outlet large enough to permit the complete draining of each basin within 24 hours following a storm.

4. Multi-use detention basins are acceptable and encouraged, including meeting the stormwater quality requirements for the project.

5. The regional effect of the local development project detention basin on the watershed must be evaluated to ensure that it does not have a negative effect on downstream flowrates in the main channel. The potential for increasing the peak flowrate at other downstream locations within the watershed must be avoided in the design of the basin.

In addition, it may be appropriate to consider utilizing a 10-year storm frequency for the design on the on-site storm drain systems within the developments rather than a 50-year frequency adopted by the City. The 10-year design frequency is consistent with the current VCFCD guidelines and provides conveyance of the 10-year storms but residence are still protected from the 100-year in order to satisfy FEMA requirements. The effect of changing the design frequency allows the ability to take advantage of local storage within the streets during large peak storm events and minimizing the impact on the flood control system with reduced efficiency of the local storm drain.

12.1.1 Operation and Maintenance

Implementation of the recommended watershed drainage system improvements will generally result in higher annual maintenance costs primarily associated with the addition of the detention basins. The basins will require the periodic removal of sediment trapped to maintain the require minimum flood control storage volume. Long term development within the upper portions of the watershed will result in reducing the sediment production and in turn lowering some of the maintenance costs. The relocated outlet for Walnut Canyon will require maintenance since the proposed section is an earthen trapezoidal section with rock rip-rap side slopes. The total overall amount of channel does not increase from the length that VCFCD currently maintains, however, detention/debris basins are a significant feature requiring additional maintenance. Additional typical maintenance requirements associated with detention basins include: (1) periodic inspection, (2) weed removal, (3) debris /sediment removal, (4) rodent control, (5) vector (mosquito abatement) control, (6) outlet structure and spillway inspection or repair for cracking, movement, seepage, and piping, and (7) inspection or repair of embankment and slopes for seepage, piping, and instability.

There are a variety of elements which will be incorporated into the flood control improvements to facilitate maintaining and provide access to the drainage facilities. Many of these items are standard features for flood control facilities.

Top-of-Bank Maintenance Roads: Maintenance roads would follow the standards outlined by VCFCD for their facilities. The roads would be either six inches of CMB or 3 inches of asphalt over 6 inches of CMB.

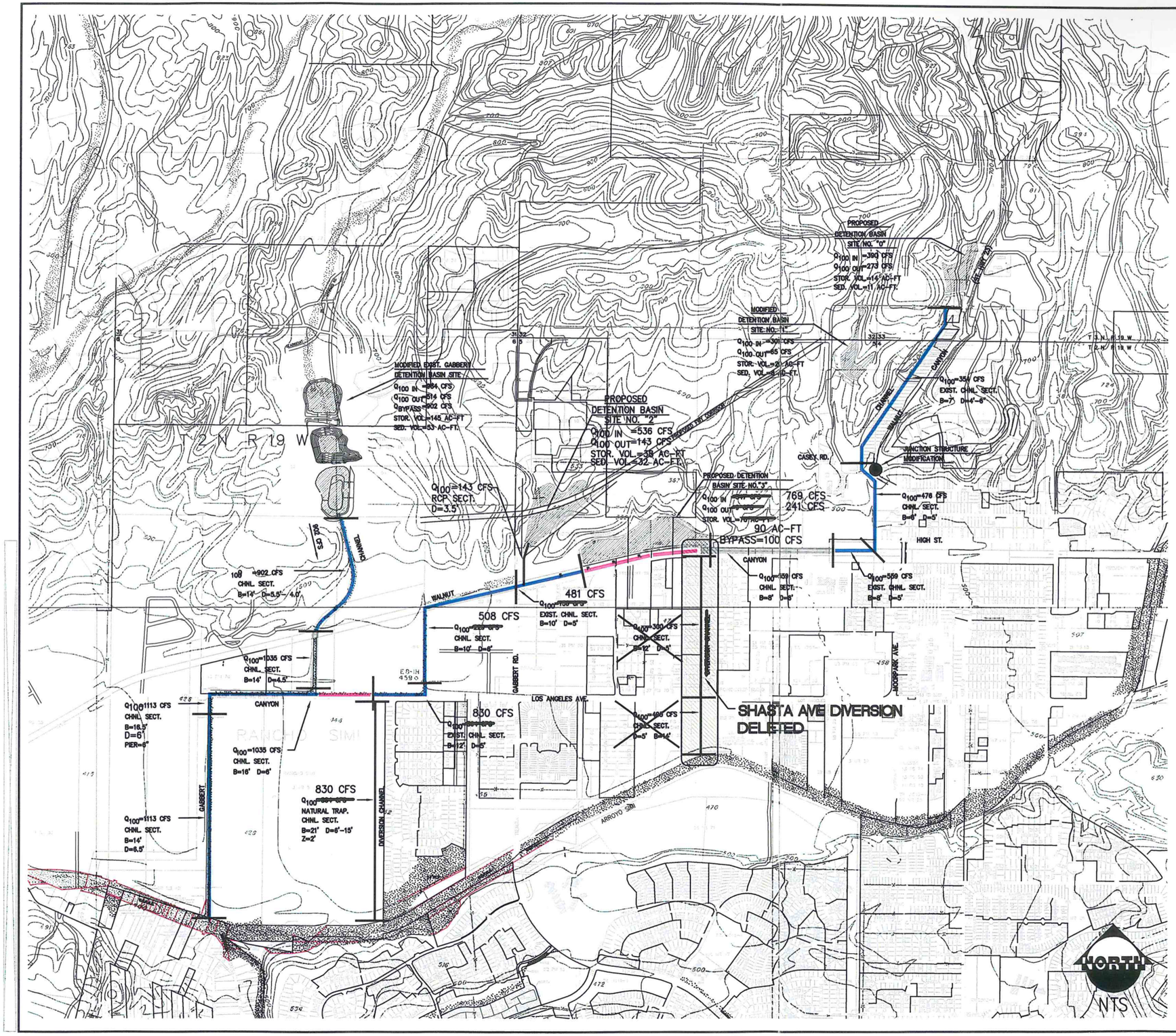
Maintenance Road Turnout: The VCFCD maintenance staff has design requirements regarding turnouts at specified interval of long sections of channel maintenance roads. These turnout are generally double wide maintenance road locations which allow passing for vehicles or temporary parking.

Vehicle Turnarounds: Areas to allow maintenance vehicles to turn-around at locations where the maintenance or road dead-ends without access to a major thoroughfare. The turn-around areas would generally consist of an unencumbered 50 foot square area.

Basin Access Ramps and Perimeter Roads: Direct access for maintenance vehicles to the detention or debris basin locations and the ability for heavy equipment to clean out the basin floor, also accessing the basin outlet works.

12.2 Summary

The hydraulic analysis of the existing Walnut and Gabbert Canyon Channel systems has confirmed that in its present condition that it does not meet the desired level of flood protection and there are hydraulic deficiencies which would cause flooding. Further development of this watershed without restrictions to limit the hydrologic impacts will worsen the condition. In order to alleviate the existing flood hazard potential it is recommended that the drainage system be improved to the extent necessary to provide the desired flood protection. The recommended improvement program outlined in this regional drainage system master plan have been formulated and evaluated on a watershed basis, but it must be implemented on a local basis.



LEGEND

- EXISTING CHANNEL NO MODIFICATIONS
- MODIFIED CHANNEL SECTION
- EXISTING CHANNEL REMOVAL
- PROPOSED CHANNEL
- DETENTION BASIN SITE
- CHANNEL STRUCTURE MODIFICATION

COST ESTIMATE

(INCL. 10% CONTINGENCY)

DETENTION BASINS:	$5,092,000
CHANNEL IMPROVEMENTS:	$1,725,000
RIGHT-OF-WAY:	$ 927,000
TOTAL:	$7,744,000

TITLE: REVISED ALTERNATIVE B

JOB: WALNUT/GABBERT CANYON GA

VENTURA COUNTY VCFCD

SCALE	NTS
DESIGNED	JCS
DRAWN	DAD
CHECKED	JCS
DATE	07/01/05
JOB NO.	7753E

PACE
PACIFIC ADVANCED CIVIL ENGINEERING
17520 NEWHOPE STREET, SUITE 200
FOUNTAIN VALLEY, CA 92708
PH (714) 481-7300 FAX (714) 481-7299

FIGURE B

Technical Appendices

13 Walnut Canyon Watershed Hydrology – Technical Discussion

13.1 Proposed Condition Watershed

This study utilized the Ventura County Rational Method (VCRAT) and (VCHYDRO) hydrology models prepared in the original study for the adopted Watershed Masterplan; Alternative-B. The watershed model utilized the land uses indicated in the 1996 area masterplan, which is the same land use indicated in the original study, as well as the RBF study. The soil types represented in the use hydrology models are consistent with the 1969 Ventura County Flood Control District (VCFCD) hydrology manual Moorpark Hydrologic Map, Plate B-10. The Walnut Canyon channel watershed lies entirely within rainfall Zone-A. This study investigated the 100-yr frequency storm event using the precipitation patterns indicated in the VCFCD precipitation data file VCRAIN.

13.2 VCRAT Hydrograph Fattening

The proposed basin will have two (2) inflow sources; one to be located at the northwesterly extent, and the other at the south easterly extent. Therefore, in the hydrology model the concentration 35ab is a confluence point for two streams; streams A and B. The shape of the unit hydrographs developed using the modified rational method do not necessarily generate the correct effective runoff volume or net rainfall since the cumulative mass rainfall curves are averaged. The expected runoff yield based upon local point or isohyetal rainfall data compared to the computed runoff yield from the modified rational hydrograph will typically need to be adjusted to provide the same effective rainfall. This process is known as "fattening" and the adjustment results in modification to the shape of the calculated runoff hydrograph so the area under the hydrograph provides the desired effective or net rainfall. The correct amount of direct runoff volume is a critical factor for the storage routing analysis of detention basins and this required that the inflow hydrographs to detention basins generated from VCRAT were "fattened" prior to routing. The inflow hydrograph for stream-B, located at the north westerly extent of the basin was fattened using a watershed yield factor of 3.2-inches. The yield factor was calculated using the Soil Conservation Service (SCS) method for calculating storm yield (see Table-2.2.1). However, no hydrograph fattening was performed upon the inflow hydrograph for stream-A at the proposed detention basin location. There are two (2) proposed detention basins (Basin-0 and Basin-1) that will be upstream of this proposed basin, Detention Basin No. 3. The inflow hydrograph to each of the upstream basins was fattened at the respective inflow points. So, no additional fattening was performed on stream-A at this location.

Table – 2.2.1 - 100-yr Runoff Volume Calculation *Based on SCS Procedure for Calculating Effective Runoff Volume*						
Sub-watershed	**Area (acres)**	**VC Soil Type**	**SCS Soil Type**	**CN - Pervious Portion**	**Fraction of Imperviousness**	**Weighted CN**
32B	27	2	C	74	0.03	74.7
33B	48	5	B	61	0.03	62.1
34B	29	5	B	61	0.03	62.1

Total Area =	**104**	**Composite CN =**	**65.4**
		S =	**5.3**
		50-yr, 24-hr Precipitation, P(in.) =	**6.4**
		100-yr, 24-hr Precipitation, P(in.) =	**7.1**
		Runoff Volume, Q(in.) =	**3.2**

13.3 VCRAT Hydrograph Area Reduction

As the watershed area increases in size, the area-averaged point rainfall values used in the design storm pattern should be adjusted so that the volume of rainfall of the area is accurately represented by the point rainfall characteristics. As the spatial extent of the storm increase, the depth of rainfall decreases. The reduction is made using a depth-area adjustment factor when selecting point rainfall to apply uniformly over the watershed. The modified rational procedure is calculating runoff hydrographs for the individual subareas with the rainfall associated with the smaller drainage area. A larger watershed composed of numerous interconnected subarea hydrographs result in overestimating the point rainfall associated with concentration points further downstream in the watershed. Depth-area adjustment factors were applied to the inflow hydrographs for the detention basins. The depth-area adjustment curve was constructed by VCFCD staff specifically for the Gabbert/Walnut Canyon watershed as a function of total drainage area as indicated in the original watershed deficiency study.

Table-2.3.1 - Detention Basin Inflow Hydrographs Adjustment Factors						
Basin No.	**Conc. Point**	**100-yr. Precip (in.).**	**Drainage Area (acres)**	**Peak Q_{100} Inflow**	**Effective Rainfall (% to inches total)**	**Depth-Area Reduction Factor**
Offline Bypass (Basin-3)	35AB	6.37	1,014	847 cfs	56%	0.915 (0.085)

Because of the size of the drainage area and the unique complexity of the Gabbert and Walnut Canyon watersheds, several unique features were encountered in the application of the VCFCD modified rational procedures to the watershed investigation in the original deficiency study. These features and characteristics were explained in depth. Some of those same unique attributes are inherent in this analysis as well and are worth reiterating to aid in understanding. These items included:

- Depth-area reduction factors were applied to the hydrographs at the detention basins, but were not applied to the main channel hydrographs even though the peak runoff was based upon the smaller subarea precipitation value.

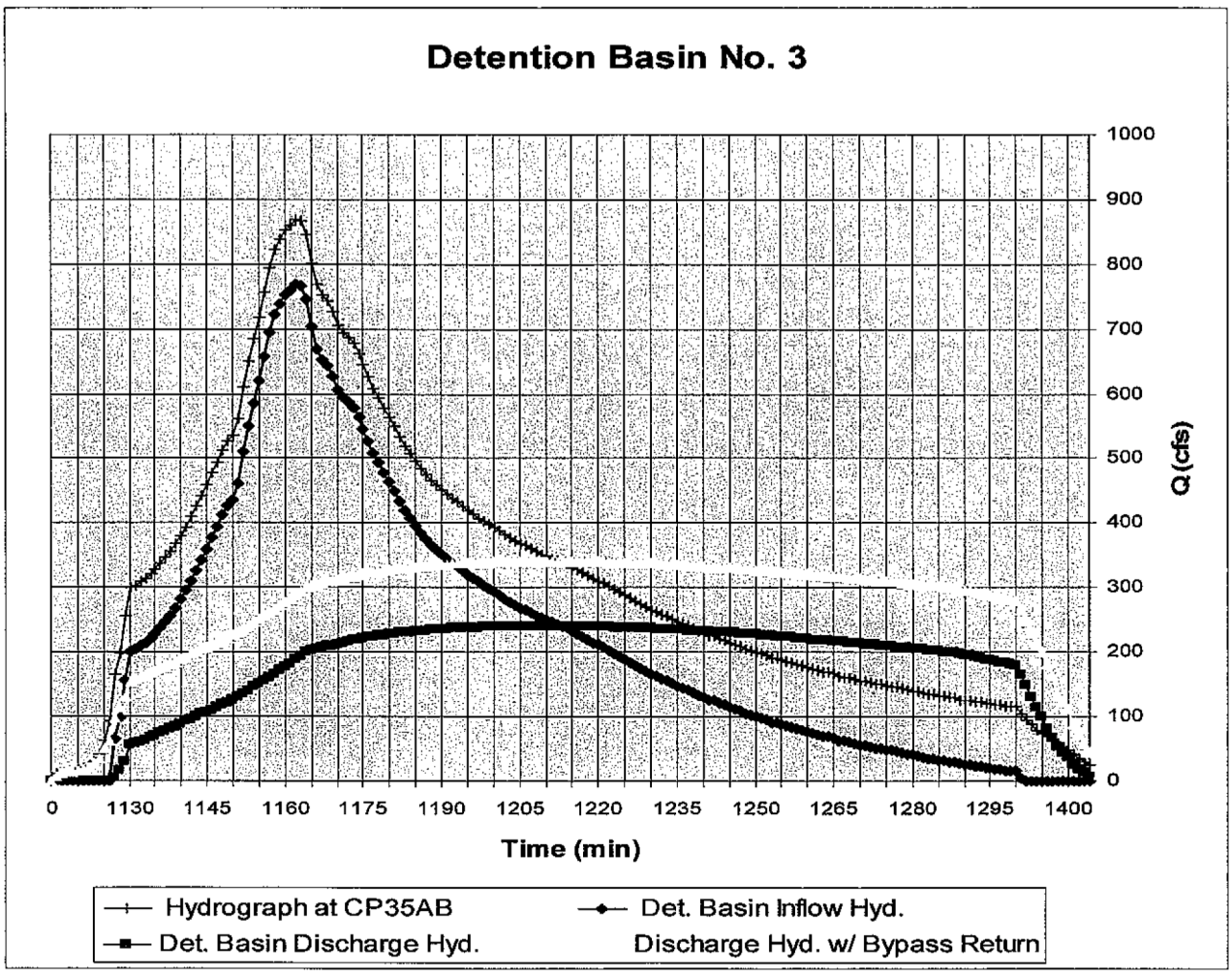
- The configuration of the Walnut Canyon watershed involves several sub-watersheds which were modeled with proposed detention basins and existing confluences. The shape of the hydrographs is very important in accurately determining the resulting total flowrate. Using superposition to add the hydrographs relies on accurate ordinates for both limbs of hydrograph and the shape of the main channel hydrographs were not adjusted, unless reservoir routing was involved. If the hydrographs from any of the several primary streams were "fattened" upstream and then combined, this will result in a different hydrograph from the standard confluence addition.

- The outflow hydrographs resulting from the reservoir routing were fattened hydrographs which were input in the remainder of the modified rational watershed model and combined with additional hydrographs which were "fattened" if there was a detention basin in the corresponding watershed of the additional hydrograph. If not, then no "fattening" was performed.

13.4 Proposed Detention Basin Modeling

In the watershed hydrology models prepared for this and prior studies, the proposed Detention Basin No.3 is located at hydrologic node point cp35ab. In order to optimize the performance and minimize the size of the proposed detention basin, an in-channel 100-cfs bypass is proposed in the design. The bypass will be provided by a horizontal weir inlet structure. The length of the required weir structure will be determined in the preliminary design of the basin. The horizontal weir was incorporated into the hydrology models to allow 100-cfs to remain in the Walnut Canyon channel and bypass the proposed detention basin. The volume of storm runoff contained in the flood hydrograph above 100-cfs will be captured in the proposed basin, detained and routed through the basin and discharged back into the Walnut Canyon channel. The time period associated with routing, the detention time in the basin, creates a 49 minute lag in the time between occurrence of the peak of the inflow hydrograph at basin inlet and the peak of the outlet hydrograph at the outlet from the basin. The inlet location and outlet location for the proposed basin are hydrologically modeled at cp35ab.

Chart-2.4.1


Detention Basin No. 3
1000
900
800
700
600
500
400
300
200
100
0
Q (cfs)
0
1130
1145
1160
1175
1190
1205
1220
1235
1250
1265
1280
1295
1400
Time (min)
Hydrograph at CP35AB
Det. Basin Inflow Hyd.
Det. Basin Discharge Hyd.
Discharge Hyd. w/ Bypass Return

The preliminary design of the detention basin is provided in a scaled drawing in the enclosed exhibit map pocket (see Exhibit-2). The detention basin and watershed models were analyzed with two goals to be obtained. The first goal was to limit the discharge peak flowrate from the basin so that the capacity of the existing Walnut Canyon channel downstream of the proposed detention basin and upstream of Los Angeles Avenue would not be exceeded with the ultimate condition detention facilities in-place as indicated in the accepted 1997 watershed masterplan (see Exhibit-3). The second goal was to determine the resultant flowrate of the watershed downstream of Los Angeles Avenue to provide a basis of design for the future re-alignment of Walnut Canyon channel to an earthen trapezoidal channel paralleling the westerly boundary of Tract 3034. The detention basin will be a single stage 90-acre/ft detention facility which would not fall within the California Department of Dam Safety (DSOD) jurisdiction. The proposed basin would have a storage volume of 90 acre/ft covering an area of 10.8-acres (water surface area) and is partially incised (or excavated). The proposed roadway alignments, which bound the detention basin along the south (High Street) and the west (Casey Road), would be raised on fill. The upstream end of the basin would be located at the boundary between the Hitch Ranch property and the Walnut Canyon High School property and would extend a distance of 1,500-feet downstream. The minimum width of the basin floor would be 180-feet and the maximum width would be 270-feet. The basin would have two primary inflow points - west end from the natural canyon watershed north of the basin, and from the east end at the overflow weir structure along the existing Walnut Canyon channel.

The watershed analysis results are summarized in Table 2.2.1. Results from the original study are included as well for comparative purposes. The proposed basin was modeled for the ultimate condition both with a 100-cfs bypass and without to give a more complete picture of the affect the basin has on the watershed hydrology. The basin was modeled for the interim condition, with no upstream or downstream proposed detention basins in place to determine the performance of the existing downstream Walnut Channel. The reach capacity of the existing Walnut Canyon channel downstream of the proposed Detention Basin No. 3 is also indicated in Table 2.2.1.

Table 2.2.1 – Hydrology Summary

Channel	Hydro Node Pt.	Trib. Area (acres)	Exist. Q_{100} Peak Flow (cfs)	Recmd Masterplan Alt.-B Q_{100} Peak Flow (cfs)	Basin 3 (0cfs) Bypass Q_{100} Peak Flow Ult. Cond.(cfs)	Basin 3 (100cfs) Bypass Q_{100} Peak Flow Ult. Cond.(cfs)	Basin 3 (0cfs) Bypass Q100 Peak Flow Interim Cond.(cfs)	Chnl Reach	Channel Reach Bank Full Capacity (cfs)	Channel Description
Walnut	35AB	1,044	1,149	9	287	341	486	II	570	Downstream of confluence at Poindexter culvert crossing (Basin 3 location)
Walnut	48AB	1,553	1,619	156	428	481	909	III	640	Downstream of confluence at Gabbert Canyon Road
Walnut	49A	1,623	1,688	229	464	508	975	IV	825	Southern Pacific Railroad culvert crossing
nut	62AC	1,794	1,810	564	791	830	1,144	IV	825	Downstream of confluence w/ 54" diam. Los Angeles Ave. City storm drain

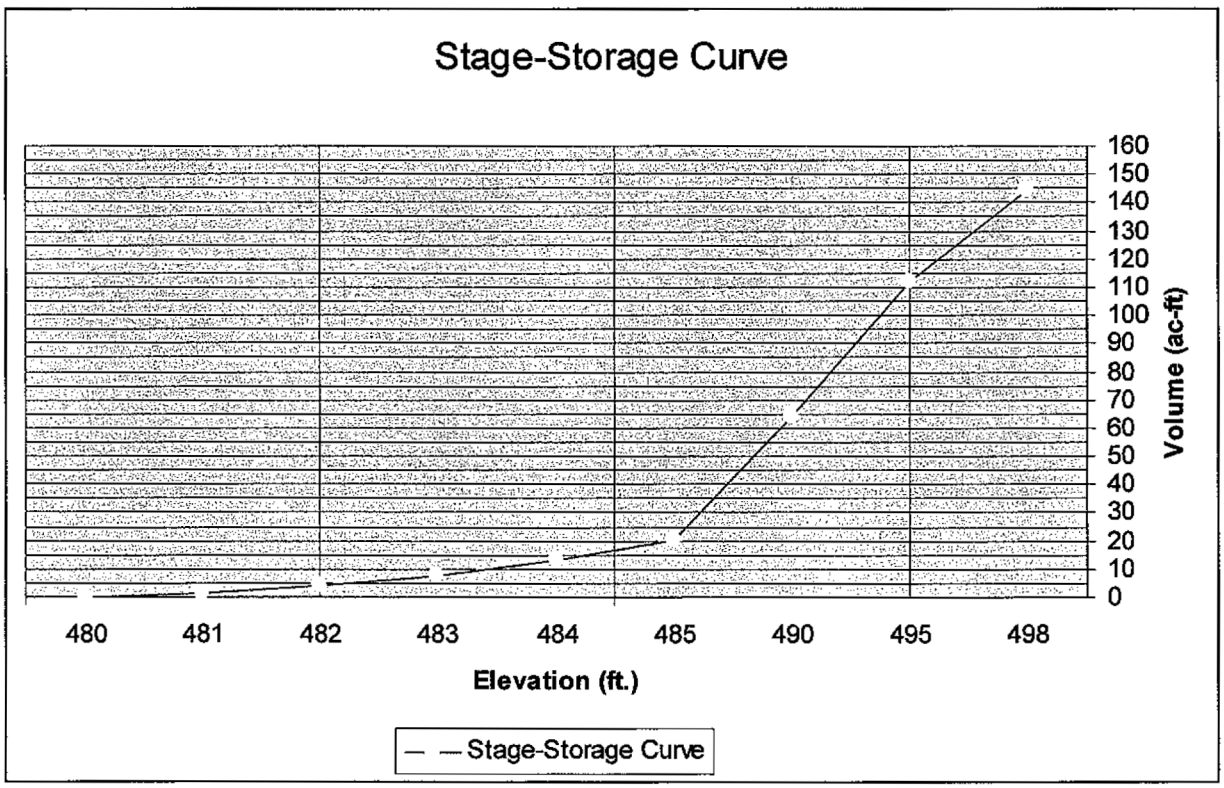
14 Proposed Detention Basin Characteristics

The basin concept/configuration and general grading for this proposed Detention Basin No. 3 is the same as was determined by RBF Consulting in their study prepared in March, 2003; which was based upon a concept prepared by DPS (D. Hardgrave) as part of the planning effort of the Hitch Ranch Specific Plan. The basin size and shape was dictated topographic constraints, minimizing encroachment upon adjacent property in addition to hydrologic and hydraulic constraints. The basin covers an area of 10.8-acres and will require additional grading area along the steep hillsides along the north side. The basin extends a distance of 1,500-feet and has a minimum and maximum width of 180-ft and 270-ft respectively. Basin invert elevations range from 480-ft to 485-ft at the upstream end. The basin floor slope is approximately 0.003-ft/ft. The top of bank is set at a constant elevation 498-feet around the entire perimeter of the proposed basin. A 15-ft maintenance road has been provided along the perimeter of the basin. The south side of the basin is bounded by the proposed High Street extension (roadway width of 60-feet).

14.1 Maximum Storage Surface Area/ Storage Pool

The proposed detention basin impounds an area of 10.8-acres at a water surface level at the crest of the overflow weir structure (elevation 493.5-ft). At this level, the estimated storage volume is 90-acre/ft.

Chart - 3.1.1



14.2 Embankment/Excavation

The earthen embankment would have a side slope of 2 horizontal to 1 vertical. The embankment would be partially protected with either concrete material or rock riprap. At the west end, where additional flows will be entering the basin, riprap material will be placed to prevent potential erosion/headcutting. A concrete lining along the overflow weir structure is provided. The reservoir storage volume is generated through excavation and partially bound by raised proposed roadways along the west and south sides of the basin. The proposed roadway along the south (High Street) is raised as much as 10-feet above the existing ground level. The basin's emergency spillway crest is located at elevation 496-feet. The height from spillway crest to the downstream toe of the roadway embankment is approximately 5 to 6-feet. The height of 5 to 6-feet from the emergency spillway to the embankment toe will not require the basin to be under DSOD jurisdiction.

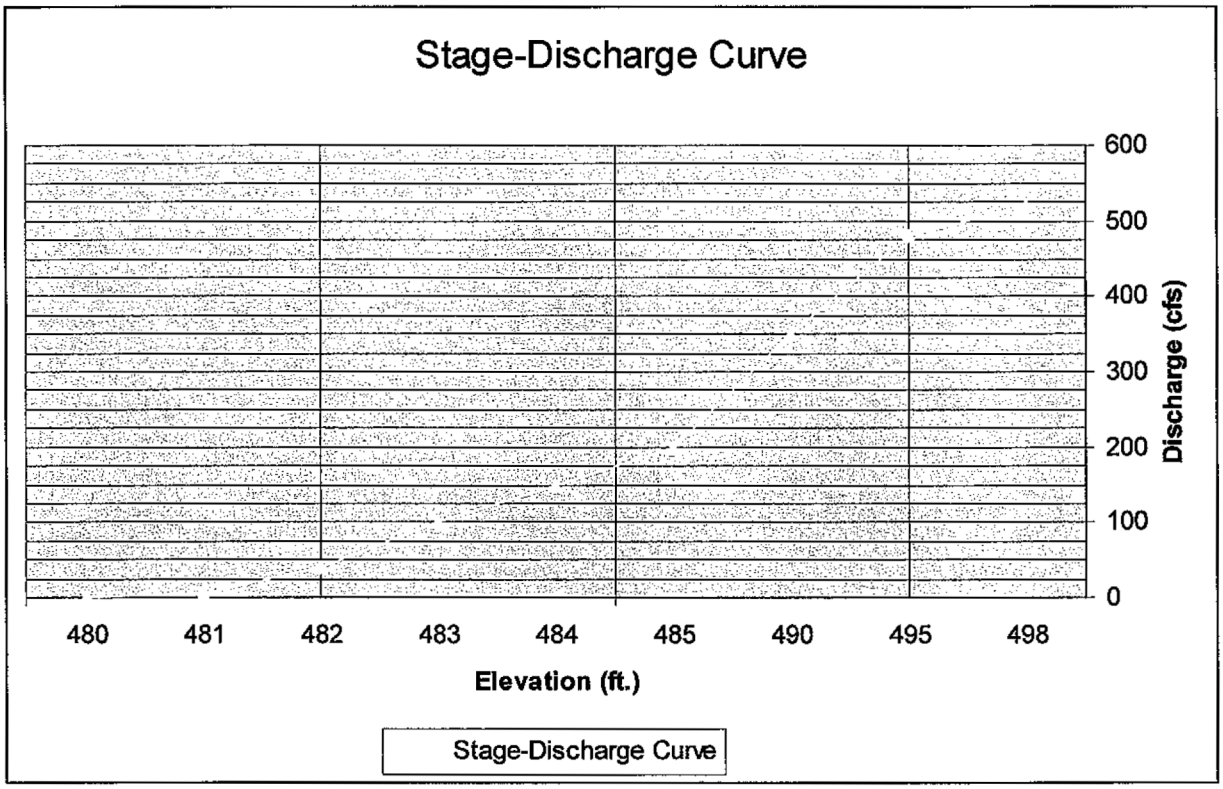
14.3 Basin Structures

The structures associated with the basin operation include the overflow weir structure (inlet structure), the outlet structure, canyon overflow spill inlet structure, an emergency spillway structure, and the existing Walnut Canyon channel.

14.3.1 Detention Basin Outlet Facilities

The proposed basin discharge will be regulated by a proposed single cell 7'x 4' reinforced concrete box (RCB) with an opening height of 4-feet and a span of 7-feet. The outlet RCB would extend a distance of approximately 300-feet to confluence with the existing Walnut Canyon channel. The upstream and downstream invert would be 480-feet and 479.4-feet, respectively. The downstream invert of the outlet structure would match the invert of the existing Walnut Canyon channel. Note that this outlet configuration was sized to accommodate the required outflow discharge under the existing upstream watershed condition. Under the regional ultimate watershed condition (with the future construction of upstream detention basins), the outlet structure opening would be modified with an orifice plate (opening size similar to an 18-inch RCP).

Chart - 3.3.1.1



14.3.2 Basin Inlet Features

There are two primary inflow points to the basin; the west end and the east end. Flow along the west end would enter the basin from contributing watershed by flowing along the embankment. This section of the embankment would have riprap protection. The second inflow point is controlled by an overflow weir structure allowing flow to enter the basin from the existing Walnut Canyon channel. The overflow weir crest is at elevation 493.5-feet. Details of these two structures will be provided during later phases of the design.

Table 3.3.1 Summary of Detention Basin Features	
Storage Volume	90 AF
Basin Area (Top of Bank)	10.8 Acres
Top of Bank Elevation	498.0 ft
Basin Invert Elevation (Low Point)	480.0 ft
Overflow Weir Structure	L=120' H=1.5'
Outlet Structure	4'x7' RCB

15 Walnut Canyon Channel Hydraulics

One of the goals in the design and analysis of the proposed detention basin facility was to attenuate the inflow peak flowrate so that the peak discharge rate would result in a peak flowrate downstream of the basin that would be less than the existing Walnut Canyon channel maximum capacity (see Table 4.1.1). Based upon the adopted watershed masterplan, the 1,711-ft portion of Walnut Canyon channel parallel to Los Angeles Avenue with a 12'x 5' reinforced concrete section will be removed and re-constructed. The new reach of 14'x 5 reinforced concrete rectangular channel will be constructed from the Los Angeles Ave 72" storm drain junction with Walnut Canyon channel to the proposed point of re-alignment for the Walnut Canyon channel. The remaining 1,900-ft reach of existing Walnut Canyon channel will be removed from Gabbert Canyon channel to the point of re-alignment. The Gabbert-Walnut Canyon channel confluence will be eliminated per the adopted flood control masterplan. Walnut Canyon channel will be diverted to cross Los Angeles Avenue upstream of the Gabbert Canyon channel and discharge to a proposed earthen channel which will parallel the westerly boundary of Tract 3032.

Table 4.1.1 - Summary of Existing Walnut Canyon Channel Geometry

Reach	Station		Existing Channel				Design Flow	
			Geometry	Basewidth	Wall Height	Slope	Original Design Flowrate	Current Channel Bank-Full Capacity
2	95+80	83+00	rect	8 ft	5 ft	0.008	440	570
3	83+00	69+80	rect	8 ft	5 ft	0.0074	440	640
3	69+60	46+15	rect	10 ft	5 ft	0.0054	440	640
4	44+45	30+84	rect	10 ft	6 ft	0.0051	590	825
4	29+45	3+43	rect	12 ft	5 ft	0.0047	590	825

15.1 Re-aligned Walnut Canyon Channel Cross Section

The proposed Walnut Canyon channel outlet to the Arroyo Simi will be relocated to approximately 1,700-ft upstream of the existing Gabbert Canyon channel outlet to the Arroyo Simi. The invert in the Arroyo Simi channel at the proposed Walnut Canyon outlet is 441.5-ft. The proposed channel cross section will have a 21-ft base width, 2:1 side slopes and a continuously variable wall height ranging from 6-ft to 15-f. The channel will have a longitudinal slope of 0.0027 ft/ft from the Los Angeles Avenue under crossing to the existing 27" sewer located approximately 31-ft upstream of the confluence with the Arroyo Simi. The sewer is shallow and is a physical limitation to the gradient of the channel and as a result becomes a hydraulic control for the design of the Re-aligned portion of the Walnut Canyon Channel. The gradient of the proposed channel downstream of the 27" sewer would be 0.1957ft/ft.

15.2 Hydraulic Analysis

The *Windows* version of LA County hydraulic modeling program Water Surface Pressure Gradient (WSPG) was used to analyze the proposed Walnut Canyon channel re-alignment. Two (2) sets of models were prepared utilizing 1) a 100-year water surface in the Arroyo Simi and 2) critical depth in the Walnut Canyon channel at the proposed confluence with the Arroyo Simi. These two scenarios simulate both extremes of hydraulic controls for the proposed channel and produce a worst case analysis for water surface elevation and flow velocity in the Walnut Canyon channel; respectively. The proposed Walnut Canyon channel outlet was hydraulically modeled at 3-feet above the invert in the Arroyo Simi to provide positive drainage and minimize silt build up or deposition at or in the Walnut Canyon channel. Two channel linings were initially analyzed in the hydraulic modeling of the re-aligned channel 1) earthen channel with Manning's n-value of 0.022 and 2) rock rip-rap channel armoring with Manning's n-value of 0.035. The earthen channel alternative was subsequently eliminated due to the flow velocities present in the channel with the higher N-value. The hydraulic model indicated that maximum flow velocity of the earthen channel at the design flowrate varies along the reach of the proposed trapezoidal channel from 18fps at the upstream extent to 9fps at the downstream with a Manning's n-Value of 0.022. The maximum permissible non-eroding flow velocities for unarmored earthen channels and grass lined channels are 5.0 fps and 8fps; respectively. Grade control could be implemented in the design of the re-aligned Walnut Canyon channel as a means to reduce the flow velocities to a range that is more conducive to soft channel linings such as earth and/or grasses. The velocities would prove to be erosive for an unarmored channel and the alternative was eliminated. Grade control was not investigated in this study as a means of erosion control. Absent of grade control the proposed trapezoidal channel will require rock armoring or similar hardened channel armoring to provide a stable conveyance section at the design flowrate. The hydraulic model indicates that the maximum flow velocity of a rip-rap lined trapezoidal channel ranges from 19fps at Los Angeles Avenue to 9fps at the existing Calleguas Metropolitan Water District (CMWD) 27" sewer crossing just upstream of the Arroyo Simi and an acceleration to 19fps at the Arroyo Simi down stream of the existing CMWD 27" sewer. The CMWD is a shallow facility with approximately 6.5-feet of cover to the top of pipe. The crossing becomes a hydraulic control for the Walnut Canyon channel both upstream and down stream of this point. The Walnut Channel invert was preliminarily designed to be 1' above the top of pipe of the 27" sewer. The sewer would be protected with a full concrete encasement a minimum of 1-foot thick. The channel invert would be a minimum of 2-ft above the top of the encasement at 441.0-ft and the top of the encasement elevation would be 439.0-ft at the crossing. The encasement would also provide a trapezoidal toe-down to protect the sewer from stream erosion damage. The toe-down would extend upstream and downstream at least the width of the sewer pipe plus 5-feet on either side – see Exhibit-2. The concrete encasement would be extended up the side slopes of the channel to provide full protection of the sewer and channel. Please see table 4.2.1 for hydraulic analysis data.

Table 4.2.1 - Proposed Riprap Lined Trap Channel b=21', h=varies, z=2:1 - Hydraulics Table (n = 0.035)									
Sta	Flow Rate (cfs)	Water Surface Control Elevation (ft)	Water Surface Elevation (ft)	Velocity (ft/s)	Flow Depth (ft)	Mannings, n	Critical Depth (ft)	Super Elev (ft)	Minimum Freeboard Elev (ft) (1-ft FB)
80+01.43	830	447.8 Arroyo Simi	447.8	1.31	14.64	0.035	3.27	0	447.16
		u/s sta. 80+31.32	444.27	22.01	1.56				
80+31.32 (Sewer Location)	830	447.8 Arroyo Simi	447.49	4.74	6.49	0.035	3.27	0	447.01
		444.27	444.27	9.22	3.27				
95+55	830	447.8 Arroyo Simi	450.53	4.88	6.36	0.035	3.27	0	449.65
		d/s sta. 80+31.92	449.60	4.80	5.43				
110+50	830	447.8 Arroyo Simi	453.66	4.90	6.35	0.035	3.27	0.32	452.32
		d/s sta 80+31.32	452.77	4.77	5.46				

16 Preliminary Walnut Canyon Watershed Improvement Quantity and Cost Estimates

A preliminary estimation of earthwork and improvement quantities is provided for the detention basin and channel realignment. This estimate is based upon the previous estimate prepared by RBF Consulting in January, 2000. It does not include adjacent proposed roadway quantities and costs or general roadway repairs. The construction of the proposed detention basin would have an estimated cut volume of 440,000 cubic yards. The excavated material would be stockpiled at a temporary site for use as fill material for the development of Hitch Ranch.

Table 5.1 provides a preliminary detailed cost estimate. A contingency of 20 percent has been added to the cost. The estimated cost for construction of the detention basin, the inlet and outlet structures, and the downstream channel re-construction and re-alignment is approximately $6.6 million.

Table 5.1 - Preliminary Cost Estimate for The Construction of Detention Basin No. 3 and Walnut Canyon Channel Improvements

Construction Item	Quantity	Units	Unit Cost	Cost
GENERAL				
Mobilization	1	LS	$110,000	$110,000
Payment and Performance Bonds	1	LS	$80,000	$80,000
Develop Construction Water	1	LS	$20,000	$20,000
Traffic Control	1	LS	$15,000	$15,000
General Subtotal				**225,000**
DETENTION BASIN				
Site Clearing and Grubbing	11	AC	$500	$5,500
Unclassified Excavation	440,000	CY	$5	$2,200,000
Overflow Weir Concrete	270	CY	$650	$175,500
Remove Exist 12' x 5' RC Channel	270	LF	$100	$27,000
7'x4' Outlet RCB-Concrete	200	LF	$600	$120,000
Stockpile Excavated Material	440,000	CY	$0.5	$220,000
½ ton Rip Rap	1,400	CY	$45	$63,000
Detention Basin Subtotal				**2,811,000**
WALNUT CHANNEL REACH-IV RE-CONSTRUCTION				
14' x 5' RC Channel	415	LF	$750	$311,250
Remove Exist 12' x 5' RC Channel	415	LF	$100	$41,500
Compacted Channel Base Material	215	CY	$45	$9,675
Unclassified Excavation	250	CY	$5	$1,250
Channel Re-Construction Subtotal				**363,675**
WALNUT CHANNEL RE-ALIGNMENT				
Site Clearing and Grubbing	9	AC	$500	$4,500
14' x 6' RCB	250	LF	$750	$187,500
Reinf. Conc. Channel Transition Struct. 2-50ft	100	LF	$1,200	$120,000
AC Roadway Re-construction	5,000	SF	$2	$10,000

Unclassified Excavation	27,000	CY	$5	$135,000
CMB Access Roadway Base	2,300	CY	$40	$92,000
Stockpile of Excavated Material	27,000	CY	$0.5	$13,500
Filter Material	3,100	CY	$40	$124,000
Non-woven Geotextile Fabric	19,600	SY	$40	$784,000
½ ton Rip Rap	19,400	CY	$45	$873,000
Channel Re-Alignment Subtotal				**2,343,500**
Subtotal				**$5,743,175**
15% Contingency				**$861,476**
Total				**6,604,651**

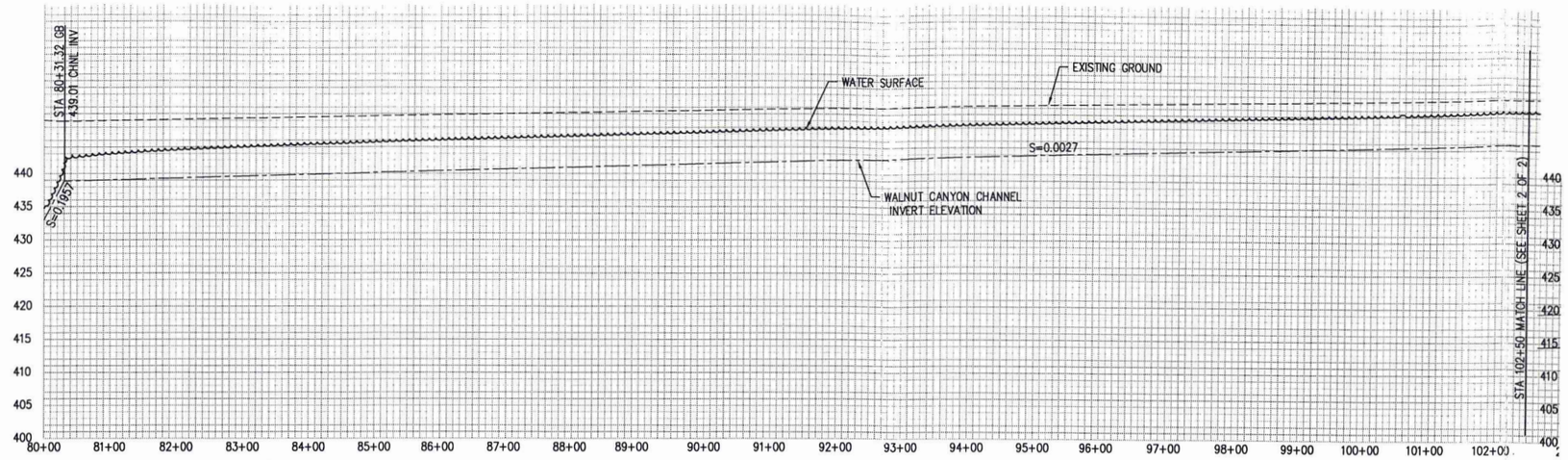
California Construction Cost Index (CCCI)

Month	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995
January	4339	3978	3939	3859	3862	3746	3772	3685	3473	3486	3462
February	4362	4039	3939	3856	3867	3758	3764	3691	3482	3476	3458
March	4360	4034	4021	3863	3867	3846	3751	3695	3488	3475	3455
April	4393	4125	4002	3843	3906	3846	3752	3700	3572	3475	3453
May	4403	4125	4007	3942	3908	3846	3748	3714	3595	3474	3458
June	4421	4192	3988	3943	3885	3857	3744	3715	3598	3474	3474
July		4194	3989	3944	3868	3855	3745	3718	3643	3478	3482
August		4205	3988	3939	3869	3853	3739	3717	3656	3451	3498
September		4309	3993	3939	3862	3858	3742	3732	3656	3471	3486
October		4310	3994	3940	3861	3861	3748	3786	3676	3457	3512
November		4325	3988	3941	3863	3861	3745	3780	3674	3453	3503
December		4339	3980	3941	3860	3862	3745	3772	3685	3473	3494
Annual % ^		*9.1%*	*1.0%*	*2.1%*	*-0.1%*	*3.1%*	*-0.7%*	*2.4%*	*6.1%*	*-0.4%*	*0.9%*

The California Construction Cost index is developed based upon Building Cost Index (BCI) cost indices for San Francisco and Los Angeles produced by Engineering News Record (ENR) and reported in the second issue each month for the previous month. This table is updated at the end of each month.

The ENR BCI reports cost trends for specific construction trade labor and materials in the California marketplace.

This page last updated: 6/10/2005



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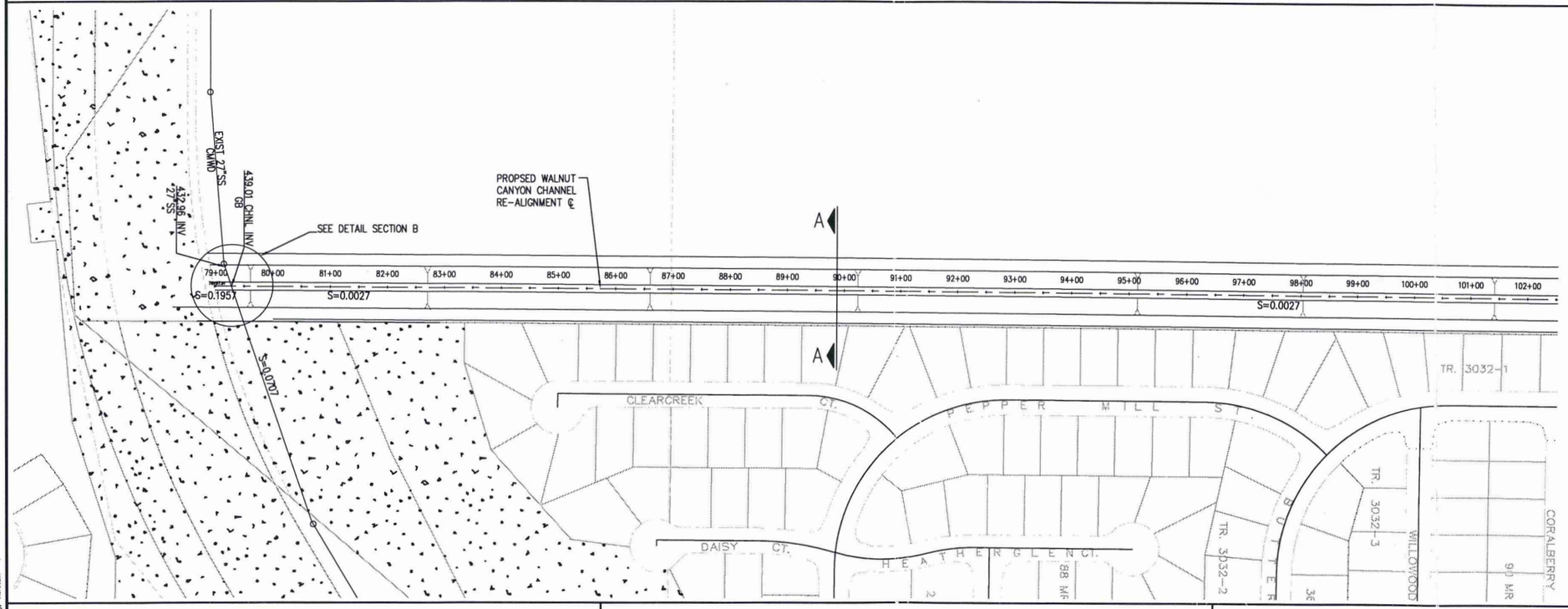
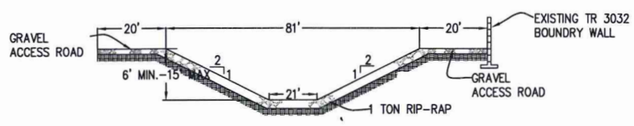
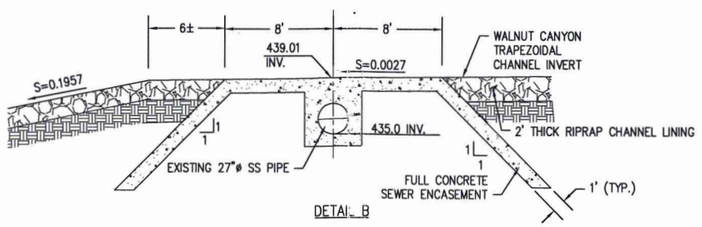




TYPICAL SECTION A-A
WALNUT CANYON TRAPEZOIDAL CHANNEL



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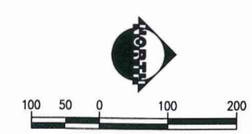

NO	BY	DATE	REVISIONS	DATE	APP.

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DRAWN G.A.
CHECKED J.C.S.
DATE 08/03/05
JOB NO. 7753E

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CITY STATE

PACE
PACIFIC ADVANCED CIVIL ENGINEERING
17520 NEWHOPE STREET, SUITE 200
FOUNTAIN VALLEY, CA 92708
PH (714) 481-7300 FAX (714) 481-7299

EXHIBIT 1
OF 02 SHEETS
JOB NO. 7753-E

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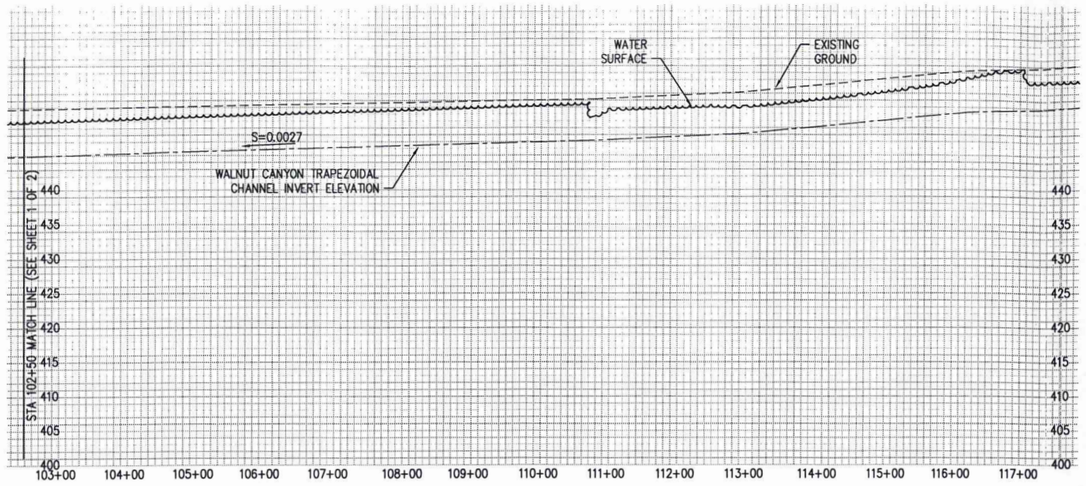

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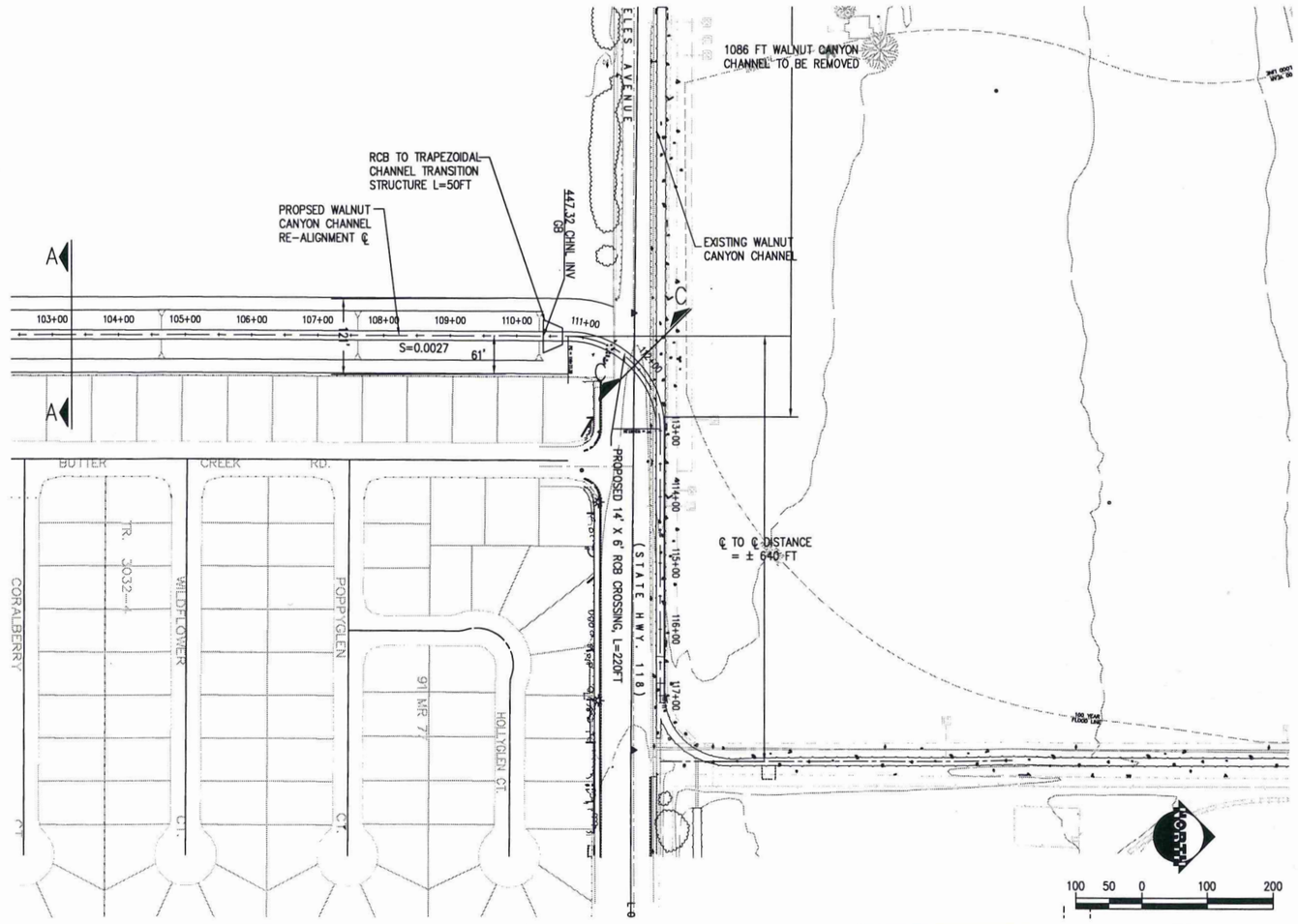
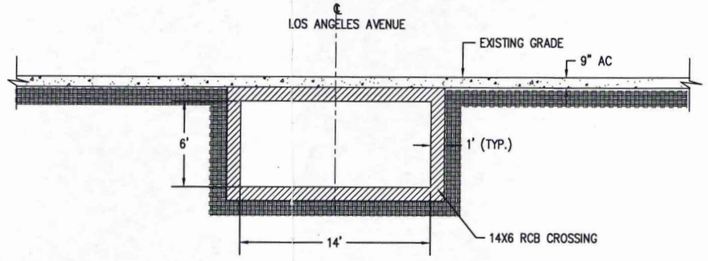
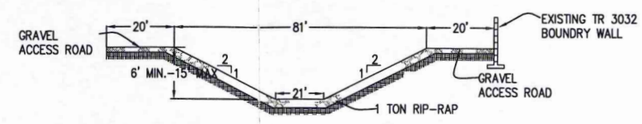




SECTION C-C



TYPICAL SECTION A-A
WALNUT CANYON TRAPEZOIDAL CHANNEL

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CHECKED J.C.S.
DATE 08/03/05
JOB NO. 7753E

TITLE

JOB
WALNUT CANYON CHANNEL
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Appendices 1

VCRAT, VCHYDRO Hydrology Models and Data

VENTURA COUNTY FLOOD CONTROL DISTRICT
MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994

WLNT-GAB W/J &K ZN RN;EX LU & CONVY-1/96 PHOTO;Q100 DDT/RAJ 6/96 STORM DAY 4

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	1A	92.	164.	92.	164.	1	2400.	0.03330	0.00	0.00	0.	10	20	A97	0.06
48660	2A	50.	100.	142.	226.	1	350.	0.02000	0.00	0.00	0.	10	16	A97	0.02
48660	3A	51.	106.	193.	302.	1	475.	0.00840	0.00	0.00	0.	20	12	A97	0.02
48660	4A	84.	147.	277.	413.	1	3200.	0.02500	0.00	0.00	0.	20	17	A97	0.04
48660	5A	59.	126.	336.	391.	1	1400.	0.02290	0.00	0.00	0.	30	10	A97	0.02
48660	6A	46.	95.	382.	390.	5	2080.	0.02950	7.00	0.00	0.	30	11	A97	0.06
48660	7A	51.	118.	433.	431.	0	0.	0.00000	0.00	0.00	0.	30	9	A97	0.18
48660	8B	90.	159.	90.	159.	1	2400.	0.03500	0.00	0.00	0.	30	15	A97	0.05
48660	9B	63.	109.	153.	217.	0	0.	0.00000	0.00	0.00	0.	40	13	A97	0.01
48660	10C	54.	107.	54.	107.	1	1400.	0.07140	0.00	0.00	0.	40	10	A97	0.00
48660	11C	0.	0.	54.	95.	0	0.	0.00000	0.00	0.00	0.	20	99	A97	0.00

* CONFLUENCE Q'S *

* 48660 12B TB 1163 QB 217. QBC 309. QC 93. 48660 12C TC 1160 QC 95. QCB 295. QB 200. *

* 48660 12BC TBC 1163 QBC 309. QB 217. QC 93. *

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	12BC	54.	95.	207.	309.	1	2300.	0.01830	0.00	0.00	0.	20	0	A97	0.00
48660	13B	69.	115.	276.	342.	0	0.	0.00000	0.00	0.00	0.	20	19	A97	0.09

* CONFLUENCE Q'S *

* 48660 14A TA 1159 QA 431. QAB 655. QB 224. 48660 14B TB 1169 QB 342. QBA 694. QA 353. *

* 48660 14AB TAB 1170 QAB 696. QA 358. QB 337. *

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	14AB	276.	342.	709.	696.	5	1163.	0.03560	6.00	0.00	0.	20	0	A97	0.00
48660	15A	0.	0.	709.	694.	0	0.	0.00000	0.00	0.00	0.	20	99	A97	0.00
48660	16C	0.	0.	0.	95.	0	0.	0.00000	0.00	0.00	0.	20	99	A97	0.00
48660	17C	37.	78.	37.	78.	3	1200.	0.07500	0.00	0.00	0.	20	12	A97	0.12
48660	18C	18.	42.	55.	111.	3	1100.	0.01800	0.00	0.00	0.	20	10	A97	0.14
48660	19C	17.	47.	72.	120.	0	0.	0.00000	0.00	0.00	0.	50	6	A97	0.35
48660	20D	10.	27.	10.	27.	3	800.	0.01250	0.00	0.00	0.	50	6	A97	0.30
48660	21D	8.	26.	18.	43.	0	0.	0.00000	0.00	0.00	0.	10	6	A97	0.37

* CONFLUENCE Q'S *

* 48660 22C TC 1157 QC 120. QCD 162. QD 42. 48660 22D TD 1156 QD 43. QDC 162. QC 119. *

* 48660 22CD TCD 1157 QCD 162. QC 120. QD 42. *

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	22CD	18.	43.	90.	162.	4	400.	0.01300	4.00	0.00	0.	30	0	A97	0.00
48660	23E	11.	28.	11.	28.	3	900.	0.01100	0.00	0.00	0.	40	8	A97	0.61
48660	24E	11.	28.	22.	50.	0	0.	0.00000	0.00	0.00	0.	40	9	A97	0.70

VENTURA COUNTY FLOOD CONTROL DISTRICT
MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994

WLNT-GAB W/J &K ZN RN;EX LU & CONVY-1/96 PHOTO;Q100 DDT/RAJ 6/96 STORM DAY 4

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV

* CONFLUENCE Q'S *

* 48660 25C TC 1157 QC 160. QCE 206. QE 46. 48660 25E TE 1159 QE 50. QEC 193. QC 143. *

* 48660 25CE TCE 1157 QCE 206. QC 160. QE 46. *

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	25CE	22.	50.	112.	206.	4	850.	0.00900	4.75	0.00	0.	40	0	A97	0.00
48660	26D	25.	47.	25.	47.	0	0.	0.00000	0.00	0.00	0.	50	12	A97	0.30
48660	27CD	25.	47.	137.	243.	0	0.	0.00000	0.00	0.00	0.	50	0	A97	0.00

* CONFLUENCE Q'S *

* 48660 28A TA 1170 QA 694. QAC 817. QC 123. 48660 28C TC 1159 QC 243. QCA 870. QA 627. *

* 48660 28AC TAC 1160 QAC 889. QA 651. QC 238. *

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	28AC	137.	243.	846.	889.	5	1450.	0.00800	11.00	0.00	0.	30	0	A97	0.00
48660	29A	0.	0.	846.	881.	0	0.	0.00000	0.00	0.00	0.	50	99	A97	0.00
48660	30A	51.	100.	897.	966.	5	710.	0.00740	8.00	0.00	0.	40	12	A97	0.25
48660	31A	43.	68.	940.	1017.	0	0.	0.00000	0.00	0.00	0.	30	18	A97	0.03
48660	32B	27.	49.	27.	49.	1	275.	0.07300	0.00	0.00	0.	20	16	A97	0.03
48660	33B	48.	61.	75.	109.	1	1850.	0.03800	0.00	0.00	0.	50	20	A97	0.03
48660	34B	29.	46.	104.	132.	0	0.	0.00000	0.00	0.00	0.	50	13	A97	0.03

* CONFLUENCE Q'S *

* 48660 35A TA 1163 QA 1017. QAB 1149. QB 132. 48660 35B TB 1163 QB 132. QBA 1149. QA 1017. *

* 48660 35AB TAB 1163 QAB 1149. QA 1017. QB 132. *

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	35AB	104.	132.	1044.	1149.	5	2750.	0.00575	12.00	0.00	0.	40	0	A97	0.00
48660	36A	34.	61.	1078.	1122.	5	750.	0.00540	10.00	0.00	0.	40	12	A97	0.01

48660	37A	0.	0.	1078.	1117.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	38B	56.	102.	56.	102.	1	3800.	0.04000	0.00	0.00	0.	40	12	A97	0.03
48660	39B	73.	123.	129.	142.	1	1700.	0.04120	0.00	0.00	0.	40	14	A97	0.03
48660	40B	59.	103.	188.	209.	1	1900.	0.03950	0.00	0.00	0.	40	13	A97	0.03
48660	41B	55.	91.	243.	254.	0	0.	0.00000	0.00	0.00	0.	40	15	A97	0.08
48660	42C	84.	133.	84.	133.	0	0.	0.00000	0.00	0.00	0.	40	17	A97	0.15

CONFLUENCE Q'S

48660 43B TB 1165 QB 254. QBC 355. QC 101. 48660 43C TC 1155 QC 133. QCB 295. QB 162.
48660 43BC TBC 1165 QBC 355. QB 254. QC 101.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	43BC	84.	133.	327.	355.	1	500.	0.01540	0.00	0.00	0.	40	0	A97	0.00
48660	44D	69.	92.	69.	92.	1	1100.	0.02270	0.00	0.00	0.	40	21	A97	0.02
48660	45D	79.	107.	148.	183.	0	0.	0.00000	0.00	0.00	0.	50	20	A97	0.150

VENTURA COUNTY FLOOD CONTROL DISTRICT
MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994

WLNT-GAB W/J &K ZN RN;EX LU & CONVY-1/96 PHOTO;Q100 DDT/RAJ 6/96 STORM DAY 4

CONFLUENCE Q'S

48660 46B TB 1167 QB 353. QBD 520. QD 167. 48660 46D TD 1162 QD 183. QDB 520. QB 337.
48660 46BD TBD 1164 QBD 526. QB 346. QD 180.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	46BD	148.	183.	475.	526.	1	1300.	0.01310	0.00	0.00	0.	50	0	A97	0.00
48660	47B	0.	0.	475.	514.	0	0.	0.00000	0.00	0.00	0.	50	99	A97	0.00

CONFLUENCE Q'S

48660 48A TA 1167 QA 1117. QAB 1616. QB 499. 48660 48B TB 1170 QB 514. QBA 1592. QA 1078.
48660 48AB TAB 1168 QAB 1619. QA 1112. QB 507.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	48AB	475.	514.	1553.	1619.	5	1350.	0.00510	10.00	0.00	0.	50	0	A97	0.00
48660	49A	70.	121.	1623.	1688.	5	1275.	0.00470	12.00	0.00	0.	20	18	A97	0.13
48660	50A	0.	0.	1623.	1673.	0	0.	0.00000	0.00	0.00	0.	20	99	A97	0.00
48660	51B	0.	0.	0.	514.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	52B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	53B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	54B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	55B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	56B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	50	99	A97	0.00
48660	57B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	58B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	50	99	A97	0.00
48660	59C	62.	132.	62.	132.	4	1480.	0.00490	4.50	0.00	0.	50	12	A97	0.61
48660	60C	63.	139.	125.	251.	4	1350.	0.00840	5.00	0.00	0.	50	12	A97	0.70
48660	61C	46.	103.	171.	337.	0	0.	0.00000	0.00	0.00	0.	40	10	A97	0.40

CONFLUENCE Q'S

48660 62A TA 1170 QA 1673. QAC 1810. QC 136. 48660 62C TC 1160 QC 337. QCA 1330. QA 994.
48660 62AC TAC 1170 QAC 1810. QA 1673. QC 136.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	62AC	171.	337.	1794.	1810.	5	1575.	0.00470	15.00	0.00	0.	40	0	A97	0.00
48660	63B	63.	128.	63.	128.	1	2300.	0.06740	0.00	0.00	0.	40	16	B98	0.05
48660	64B	57.	129.	120.	221.	1	2100.	0.06670	0.00	0.00	0.	40	14	B98	0.15
48660	65B	53.	95.	173.	290.	1	1250.	0.04800	0.00	0.00	0.	40	19	B98	0.03
48660	66B	68.	143.	241.	367.	1	1900.	0.05000	0.00	0.00	0.	40	15	B98	0.04
48660	67B	82.	152.	323.	465.	1	3400.	0.04560	0.00	0.00	0.	40	18	B98	0.01
48660	68B	105.	159.	428.	543.	1	2225.	0.03150	0.00	0.00	0.	40	25	B98	0.05
48660	69B	83.	89.	511.	563.	0	0.	0.00000	0.00	0.00	0.	60	26	B98	0.05
48660	70C	79.	192.	79.	192.	1	3750.	0.06530	0.00	0.00	0.	20	15	B98	0.15
48660	71C	75.	130.	154.	274.	1	2600.	0.05380	0.00	0.00	0.	40	20	B98	0.02
48660	72C	57.	90.	211.	323.	0	0.	0.00000	0.00	0.00	0.	50	21	B98	0.07
48660	73C	0.	0.	211.	323.	0	0.	0.00000	0.00	0.00	0.	50	99	B98	0.00
48660	74D	96.	167.	96.	167.	1	1700.	0.05880	0.00	0.00	0.	40	20	B98	0.030

VENTURA COUNTY FLOOD CONTROL DISTRICT
MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994

WLNT-GAB W/J &K ZN RN;EX LU & CONVY-1/96 PHOTO;Q100 DDT/RAJ 6/96 STORM DAY 4

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	75D	71.	144.	167.	294.	1	2200.	0.03860	0.00	0.00	0.	30	18	B98	0.10
48660	76D	49.	91.	216.	352.	0	0.	0.00000	0.00	0.00	0.	30	21	B98	0.12

CONFLUENCE Q'S

48660 77C TC 1169 QC 323. QCD 673. QD 350. 48660 77D TD 1167 QD 352. QDC 666. QC 314.
48660 77CD TCD 1169 QCD 673. QC 323. QD 350.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	77CD	216.	352.	427.	673.	1	1600.	0.04000	0.00	0.00	0.	30	0	B98	0.00
48660	78C	47.	101.	474.	672.	0	0.	0.00000	0.00	0.00	0.	40	15	B98	0.10
48660	79E	84.	129.	84.	129.	0	0.	0.00000	0.00	0.00	0.	50	23	B98	0.13

CONFLUENCE Q'S

48660 80C TC 1171 QC 672. QCE 770. QE 97. 48660 80E TE 1156 QE 129. QEC 531. QC 402.
48660 80CE TCE 1171 QCE 770. QC 672. QE 97.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	80CE	84.	129.	558.	770.	1	1700.	0.03530	0.00	0.00	0.	50	0	B98	0.00
48660	81C	47.	104.	605.	811.	1	1700.	0.03530	0.00	0.00	0.	10	20	B98	0.10
48660	82C	73.	128.	678.	892.	0	0.	0.00000	0.00	0.00	0.	20	25	B98	0.07
48660	83D	54.	99.	54.	99.	1	450.	0.08890	0.00	0.00	0.	40	18	B98	0.00
48660	84D	0.	0.	54.	99.	0	0.	0.00000	0.00	0.00	0.	40	99	B98	0.00
48660	85E	66.	128.	66.	128.	1	400.	0.05000	0.00	0.00	0.	20	21	B98	0.03

CONFLUENCE Q'S

48660 86D TD 1157 QD 99. QDE 226. QE 127. 48660 86E TE 1158 QE 128. QED 227. QD 99.
48660 86DE TDE 1158 QDE 227. QD 99. QE 128.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	86DE	66.	128.	120.	227.	1	1900.	0.04210	0.00	0.00	0.	20	0	B98	0.00
48660	87D	71.	120.	191.	326.	1	1300.	0.03460	0.00	0.00	0.	40	22	B98	0.13
48660	88D	37.	70.	228.	378.	0	0.	0.00000	0.00	0.00	0.	20	22	B98	0.06
48660	89F	53.	110.	53.	110.	1	1600.	0.05000	0.00	0.00	0.	10	22	B98	0.09
48660	90F	61.	133.	114.	228.	0	0.	0.00000	0.00	0.00	0.	20	18	B98	0.15

CONFLUENCE Q'S

48660 91D TD 1168 QD 378. QDF 562. QF 184. 48660 91F TF 1161 QF 228. QFD 540. QD 312.
48660 91DF TDF 1166 QDF 588. QD 374. QF 213.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	91DF	114.	228.	342.	588.	1	1900.	0.03160	0.00	0.00	0.	20	0	B98	0.00
48660	92D	96.	150.	438.	680.	1	1350.	0.02220	0.00	0.00	0.	20	21	A97	0.05
48660	93D	0.	0.	438.	671.	0	0.	0.00000	0.00	0.00	0.	20	99	A97	0.00
48660	94D	61.	118.	499.	690.	0	0.	0.00000	0.00	0.00	0.	20	14	A97	0.010

VENTURA COUNTY FLOOD CONTROL DISTRICT
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WLNT-GAB W/J &K ZN RN;EX LU & CONVY-1/96 PHOTO;Q100 DDT/RAJ 6/96 STORM DAY 4

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV

CONFLUENCE Q'S

48660 95C TC 1173 QC 892. QCD 1581. QD 690. 48660 95D TD 1173 QD 690. QDC 1581. QC 892.
48660 95CD TCD 1173 QCD 1581. QC 892. QD 690.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	95CD	499.	690.	1177.	1581.	1	1900.	0.02370	0.00	0.00	0.	20	0	A97	0.00
48660	96C	39.	81.	1216.	1556.	0	0.	0.00000	0.00	0.00	0.	40	9	A97	0.02

CONFLUENCE Q'S

48660 97B TB 1177 QB 563. QBC 2119. QC 1556. 48660 97C TC 1177 QC 1556. QCB 2119. QB 563.
48660 97BC TBC 1177 QBC 2119. QB 563. QC 1556.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	97BC	1216.	1556.	1727.	2119.	1	1500.	0.02600	0.00	0.00	0.	40	0	A97	0.00
48660	98B	86.	126.	1813.	2114.	1	1950.	0.02560	0.00	0.00	0.	30	21	A97	0.07
48660	99B	88.	119.	1901.	2088.	0	0.	0.00000	0.00	0.00	0.	40	21	A97	0.05
48660	100C	80.	140.	80.	140.	1	750.	0.04530	0.00	0.00	0.	40	13	A97	0.05
48660	101C	62.	102.	142.	233.	1	1300.	0.02150	0.00	0.00	0.	40	15	A97	0.05
48660	102C	52.	88.	194.	285.	1	1875.	0.01870	0.00	0.00	0.	40	14	A97	0.05
48660	103C	51.	80.	245.	278.	0	0.	0.00000	0.00	0.00	0.	40	16	A97	0.05

CONFLUENCE Q'S

48660 104B TB 1183 QB 2088. QBC 2228. QC 140. 48660 104C TC 1167 QC 278. QCB 1553. QB 1275.
48660 104BC TBC 1182 QBC 2237. QB 2086. QC 150.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	104BC	245.	278.	2146.	2237.	1	1800.	0.02330	0.00	0.00	0.	40	0	A97	0.00
48660	105B	65.	102.	2211.	2218.	0	0.	0.00000	0.00	0.00	0.	40	16	A97	0.05
48660	106B	44.	65.	2255.	2219.	1	1800.	0.02330	0.00	0.00	0.	40	18	A97	0.05
48660	107B	86.	151.	2341.	2203.	1	1700.	0.02350	0.00	0.00	0.	40	13	A97	0.05
48660	108B	71.	112.	2412.	2188.	2	900.	0.02000	0.00	0.00	0.	40	16	A97	0.05
48660	109B	21.	47.	2433.	2185.	5	100.	0.01750	13.00	0.00	0.	30	9	A97	0.05
48660	110B	0.	0.	2433.	2185.	1	2120.	0.00980	0.00	0.00	0.	30	99	A97	0.00
48660	111B	33.	66.	2466.	2137.	0	0.	0.00000	0.00	0.00	0.	30	12	A97	0.10
48660	112B	59.	78.	2525.	2139.	5	720.	0.01850	8.00	1.50	0.	50	20	A97	0.10
48660	113B	46.	68.	2571.	2139.	5	220.	0.01630	8.00	0.00	0.	60	11	A97	0.10

CONFLUENCE Q'S

48660 114A TA 1172 QA 1798. QAB 2657. QB 859. 48660 114B TB 1201 QB 2138. QBA 2907. QA 768.
48660 114AB TAB 1198 QAB 2944. QA 851. QB 2093.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	114AB	2571.	2138.	4365.	2944.	5	1250.	0.00600	14.00	0.00	0.	60	0	A97	0.00
48660	115A	23.	44.	4388.	2945.	0	0.	0.00000	0.00	0.00	0.	60	10	A97	0.40
48660	116C	37.	73.	37.	73.	4	1200.	0.01250	3.00	0.00	0.	20	14	A97	0.100

VENTURA COUNTY FLOOD CONTROL DISTRICT
MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994
WLNT-GAB W/J &K ZN RN;EX LU & CONVY-1/96 PHOTO;Q100 DDT/RAJ 6/96 STORM DAY 4

LOCATION	SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660 117C	0.	0.	37.	71.	0	0.	0.00000	0.00	0.00	0.	20	99	A97	0.00

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1235	16.	1236	16.	1237	16.	1238	15.	1239	15.
1240	15.	1241	15.	1242	15.	1243	15.	1244	14.
1245	14.	1246	14.	1247	14.	1248	13.	1249	13.
1250	13.	1251	13.	1252	13.	1253	13.	1254	12.
1255	12.	1256	12.	1257	12.	1258	12.	1259	12.
1260	12.	1261	12.	1262	12.	1263	12.	1264	12.
1265	12.	1266	12.	1267	12.	1268	12.	1269	12.
1270	12.	1271	12.	1272	12.	1273	12.	1274	11.
1275	11.	1276	11.	1277	11.	1278	11.	1279	11.
1280	11.	1281	10.	1282	10.	1283	10.	1284	10.
1285	10.	1286	10.	1287	10.	1288	10.	1289	10.
1290	10.	1291	10.	1292	10.	1293	10.	1294	10.
1295	10.	1296	10.	1297	10.	1298	9.	1299	9.
1300	9.	1310	8.	1320	8.	1330	6.	1340	5.
1350	6.	1360	6.	1370	5.	1380	5.	1390	5.
1400	4.	1420	4.	1440	4.	1460	4.	1500	4.

MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994
WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE
HYDROGRAPH AT 48660 28A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.	100	9.	200	9.	300	9.	400	10.
500	12.	600	13.	700	15.	800	18.	900	23.
1000	32.	1050	50.	1100	101.	1110	131.	1120	187.
1130	213.	1131	215.	1132	221.	1133	228.	1134	238.
1135	248.	1136	259.	1137	270.	1138	282.	1139	294.
1140	306.	1141	318.	1142	332.	1143	347.	1144	364.
1145	384.	1146	406.	1147	429.	1148	454.	1149	475.
1150	488.	1151	505.	1152	559.	1153	634.	1154	707.
1155	756.	1156	789.	1157	813.	1158	841.	1159	870.
1160	889.	1161	888.	1162	875.	1163	868.	1164	857.
1165	850.	1166	841.	1167	832.	1168	826.	1169	821.
1170	817.	1171	801.	1172	776.	1173	754.	1174	737.
1175	724.	1176	712.	1177	700.	1178	689.	1179	676.
1180	661.	1181	644.	1182	624.	1183	603.	1184	581.
1185	558.	1186	535.	1187	513.	1188	492.	1189	472.
1190	453.	1191	435.	1192	418.	1193	403.	1194	388.
1195	374.	1196	360.	1197	347.	1198	334.	1199	323.
1200	311.	1201	300.	1202	291.	1203	282.	1204	273.
1205	264.	1206	256.	1207	249.	1208	241.	1209	234.
1210	228.	1211	221.	1212	214.	1213	206.	1214	199.
1215	191.	1216	185.	1217	178.	1218	172.	1219	167.
1220	161.	1221	156.	1222	151.	1223	146.	1224	141.
1225	136.	1226	132.	1227	128.	1228	124.	1229	121.
1230	118.	1231	115.	1232	112.	1233	110.	1234	107.
1235	105.	1236	102.	1237	100.	1238	98.	1239	96.
1240	94.	1241	93.	1242	91.	1243	89.	1244	87.
1245	86.	1246	84.	1247	82.	1248	80.	1249	79.
1250	77.	1251	75.	1252	74.	1253	72.	1254	71.
1255	70.	1256	69.	1257	68.	1258	66.	1259	65.
1260	64.	1261	63.	1262	62.	1263	61.	1264	60.
1265	59.	1266	58.	1267	57.	1268	56.	1269	56.
1270	55.	1271	54.	1272	53.	1273	52.	1274	52.
1275	51.	1276	50.	1277	49.	1278	48.	1279	47.
1280	47.	1281	46.	1282	45.	1283	44.	1284	44.
1285	43.	1286	43.	1287	42.	1288	42.	1289	41.
1290	41.	1291	40.	1292	40.	1293	39.	1294	39.
1295	38.	1296	38.	1297	37.	1298	37.	1299	37.
1300	36.	1310	31.	1320	27.	1330	23.	1340	20.
1350	19.	1360	18.	1370	16.	1380	15.	1390	13.
1400	12.	1420	10.	1440	9.	1460	8.	1500	8.

MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994
PROPOSED LOCATION OF WALNUT CYN HITCH RANCH 90AF DET. BASIN
HYDROGRAPH AT 48660 35A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.	100	11.	200	11.	300	12.	400	13.
500	14.	600	16.	700	18.	800	22.	900	28.
1000	37.	1050	55.	1100	110.	1110	141.	1120	204.
1130	246.	1131	250.	1132	255.	1133	260.	1134	267.
1135	275.	1136	284.	1137	296.	1138	308.	1139	322.
1140	337.	1141	355.	1142	374.	1143	394.	1144	413.
1145	435.	1146	458.	1147	484.	1148	512.	1149	535.
1150	557.	1151	594.	1152	661.	1153	715.	1154	767.
1155	825.	1156	891.	1157	956.	1158	1011.	1159	1051.
1160	1084.	1161	1112.	1162	1138.	1163	1149.	1164	1131.
1165	1086.	1166	1054.	1167	1035.	1168	1019.	1169	998.
1170	968.	1171	952.	1172	939.	1173	921.	1174	899.
1175	873.	1176	847.	1177	825.	1178	803.	1179	782.
1180	763.	1181	745.	1182	725.	1183	704.	1184	683.
1185	660.	1186	637.	1187	613.	1188	588.	1189	565.
1190	542.	1191	520.	1192	499.	1193	480.	1194	462.
1195	445.	1196	428.	1197	412.	1198	398.	1199	383.
1200	370.	1201	357.	1202	344.	1203	333.	1204	322.
1205	312.	1206	302.	1207	293.	1208	284.	1209	276.
1210	269.	1211	261.	1212	254.	1213	247.	1214	240.
1215	233.	1216	225.	1217	218.	1218	210.	1219	203.
1220	196.	1221	190.	1222	184.	1223	178.	1224	173.
1225	167.	1226	162.	1227	157.	1228	153.	1229	148.

1230	144.	1231	139.	1232	136.	1233	132.	1234	129.
1235	126.	1236	123.	1237	120.	1238	117.	1239	115.
1240	112.	1241	110.	1242	108.	1243	106.	1244	104.
1245	102.	1246	100.	1247	99.	1248	97.	1249	95.
1250	93.	1251	91.	1252	89.	1253	88.	1254	86.
1255	84.	1256	82.	1257	81.	1258	79.	1259	78.
1260	77.	1261	75.	1262	74.	1263	73.	1264	72.
1265	71.	1266	70.	1267	68.	1268	67.	1269	66.
1270	65.	1271	64.	1272	64.	1273	63.	1274	62.
1275	61.	1276	60.	1277	59.	1278	58.	1279	57.
1280	56.	1281	55.	1282	54.	1283	54.	1284	53.
1285	52.	1286	51.	1287	51.	1288	50.	1289	49.
1290	49.	1291	48.	1292	48.	1293	47.	1294	47.
1295	46.	1296	45.	1297	45.	1298	44.	1299	44.
1300	43.	1310	38.	1320	34.	1330	30.	1340	25.
1350	23.	1360	22.	1370	20.	1380	18.	1390	17.
1400	15.	1420	12.	1440	11.	1460	11.	1500	11.

MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994
WALNUT CYN PRIOR TO JCT W/ GABBERT,1/96 AERIAL PHOTO LU, Q100
HYDROGRAPH AT 48660 37A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.	100	11.	200	11.	300	12.	400	12.
500	14.	600	16.	700	18.	800	21.	900	27.
1000	36.	1050	50.	1100	98.	1110	119.	1120	163.
1130	217.	1131	221.	1132	227.	1133	232.	1134	238.
1135	243.	1136	249.	1137	255.	1138	261.	1139	268.
1140	277.	1141	287.	1142	298.	1143	311.	1144	325.
1145	341.	1146	358.	1147	378.	1148	399.	1149	421.
1150	442.	1151	465.	1152	495.	1153	534.	1154	573.
1155	612.	1156	656.	1157	704.	1158	756.	1159	813.
1160	872.	1161	931.	1162	988.	1163	1037.	1164	1072.
1165	1094.	1166	1110.	1167	1117.	1168	1112.	1169	1097.
1170	1078.	1171	1058.	1172	1039.	1173	1017.	1174	996.
1175	976.	1176	957.	1177	939.	1178	919.	1179	897.
1180	875.	1181	853.	1182	831.	1183	810.	1184	790.
1185	770.	1186	751.	1187	731.	1188	711.	1189	690.
1190	669.	1191	648.	1192	626.	1193	603.	1194	581.
1195	560.	1196	539.	1197	519.	1198	500.	1199	481.
1200	464.	1201	448.	1202	433.	1203	418.	1204	404.
1205	390.	1206	377.	1207	365.	1208	353.	1209	342.
1210	331.	1211	321.	1212	311.	1213	302.	1214	293.
1215	285.	1216	277.	1217	269.	1218	262.	1219	255.
1220	248.	1221	242.	1222	235.	1223	229.	1224	222.
1225	216.	1226	209.	1227	203.	1228	197.	1229	191.
1230	185.	1231	180.	1232	174.	1233	169.	1234	165.
1235	160.	1236	155.	1237	151.	1238	147.	1239	143.
1240	139.	1241	135.	1242	132.	1243	129.	1244	126.
1245	123.	1246	120.	1247	118.	1248	115.	1249	113.
1250	111.	1251	109.	1252	107.	1253	105.	1254	103.
1255	101.	1256	100.	1257	98.	1258	96.	1259	95.
1260	93.	1261	91.	1262	90.	1263	88.	1264	86.
1265	85.	1266	83.	1267	82.	1268	80.	1269	79.
1270	78.	1271	76.	1272	75.	1273	74.	1274	73.
1275	72.	1276	70.	1277	69.	1278	68.	1279	67.
1280	66.	1281	65.	1282	64.	1283	64.	1284	63.
1285	62.	1286	61.	1287	60.	1288	59.	1289	58.
1290	57.	1291	56.	1292	56.	1293	55.	1294	54.
1295	53.	1296	53.	1297	52.	1298	52.	1299	51.
1300	50.	1310	45.	1320	40.	1330	36.	1340	32.
1350	28.	1360	25.	1370	23.	1380	21.	1390	20.
1400	18.	1420	15.	1440	12.	1460	11.	1500	11.

MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994
GABBERT CYN INFLOW TO DEBRIS BASIN,1/96 AERIAL PHOTO LU, Q100
HYDROGRAPH AT 48660 109B STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.	100	34.	200	34.	300	37.	400	42.
500	46.	600	49.	700	54.	800	59.	900	70.
1000	93.	1050	117.	1100	164.	1110	183.	1120	219.
1130	256.	1131	261.	1132	266.	1133	272.	1134	278.
1135	284.	1136	291.	1137	298.	1138	306.	1139	314.
1140	322.	1141	332.	1142	342.	1143	354.	1144	366.
1145	380.	1146	396.	1147	413.	1148	431.	1149	446.
1150	459.	1151	477.	1152	514.	1153	551.	1154	587.
1155	615.	1156	643.	1157	674.	1158	710.	1159	745.
1160	773.	1161	789.	1162	818.	1163	850.	1164	883.
1165	919.	1166	959.	1167	999.	1168	1028.	1169	1036.
1170	1047.	1171	1072.	1172	1111.	1173	1158.	1174	1211.
1175	1266.	1176	1323.	1177	1380.	1178	1440.	1179	1500.
1180	1565.	1181	1632.	1182	1699.	1183	1766.	1184	1830.
1185	1891.	1186	1949.	1187	2003.	1188	2052.	1189	2095.
1190	2131.	1191	2159.	1192	2177.	1193	2185.	1194	2184.
1195	2173.	1196	2153.	1197	2125.	1198	2091.	1199	2052.
1200	2009.	1201	1963.	1202	1914.	1203	1864.	1204	1812.
1205	1760.	1206	1708.	1207	1656.	1208	1605.	1209	1554.
1210	1504.	1211	1455.	1212	1407.	1213	1360.	1214	1315.
1215	1271.	1216	1228.	1217	1187.	1218	1147.	1219	1109.
1220	1072.	1221	1036.	1222	1002.	1223	969.	1224	937.

1225	906.	1226	877.	1227	848.	1228	821.	1229	795.
1230	770.	1231	746.	1232	723.	1233	701.	1234	680.
1235	660.	1236	640.	1237	621.	1238	603.	1239	586.
1240	569.	1241	554.	1242	538.	1243	523.	1244	509.
1245	495.	1246	482.	1247	470.	1248	458.	1249	446.
1250	435.	1251	424.	1252	413.	1253	403.	1254	393.
1255	384.	1256	375.	1257	366.	1258	358.	1259	349.
1260	341.	1261	334.	1262	326.	1263	319.	1264	313.
1265	306.	1266	300.	1267	293.	1268	287.	1269	282.
1270	276.	1271	271.	1272	265.	1273	260.	1274	256.
1275	251.	1276	246.	1277	242.	1278	237.	1279	233.
1280	229.	1281	225.	1282	221.	1283	217.	1284	214.
1285	211.	1286	207.	1287	204.	1288	201.	1289	198.
1290	195.	1291	193.	1292	190.	1293	187.	1294	185.
1295	182.	1296	180.	1297	178.	1298	176.	1299	174.
1300	172.	1310	154.	1320	139.	1330	127.	1340	118.
1350	110.	1360	102.	1370	96.	1380	90.	1390	84.
1400	78.	1420	68.	1440	59.	1460	51.	1500	40.

MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994
WALNUT-GABBERT AT HWY 118, 1/96 AERIAL PHOTO LAND USE, Q100
HYDROGRAPH AT 48660 118A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.	100	66.	200	66.	300	68.	400	75.
500	84.	600	93.	700	102.	800	119.	900	143.
1000	182.	1050	227.	1100	333.	1110	374.	1120	445.
1130	536.	1131	545.	1132	555.	1133	564.	1134	576.
1135	590.	1136	607.	1137	627.	1138	648.	1139	669.
1140	691.	1141	713.	1142	736.	1143	761.	1144	787.
1145	815.	1146	844.	1147	877.	1148	913.	1149	951.
1150	991.	1151	1036.	1152	1095.	1153	1159.	1154	1243.
1155	1336.	1156	1431.	1157	1520.	1158	1603.	1159	1685.
1160	1764.	1161	1841.	1162	1914.	1163	1996.	1164	2073.
1165	2145.	1166	2224.	1167	2305.	1168	2383.	1169	2456.
1170	2523.	1171	2580.	1172	2628.	1173	2662.	1174	2676.
1175	2677.	1176	2673.	1177	2669.	1178	2663.	1179	2658.
1180	2651.	1181	2647.	1182	2644.	1183	2644.	1184	2646.
1185	2651.	1186	2660.	1187	2674.	1188	2692.	1189	2715.
1190	2743.	1191	2774.	1192	2806.	1193	2837.	1194	2865.
1195	2891.	1196	2913.	1197	2930.	1198	2942.	1199	2947.
1200	2946.	1201	2936.	1202	2919.	1203	2895.	1204	2864.
1205	2826.	1206	2784.	1207	2737.	1208	2686.	1209	2632.
1210	2577.	1211	2519.	1212	2461.	1213	2401.	1214	2340.
1215	2280.	1216	2219.	1217	2160.	1218	2100.	1219	2042.
1220	1985.	1221	1929.	1222	1874.	1223	1820.	1224	1767.
1225	1716.	1226	1665.	1227	1617.	1228	1569.	1229	1524.
1230	1481.	1231	1439.	1232	1399.	1233	1361.	1234	1323.
1235	1286.	1236	1250.	1237	1216.	1238	1183.	1239	1151.
1240	1119.	1241	1089.	1242	1060.	1243	1032.	1244	1005.
1245	979.	1246	954.	1247	930.	1248	907.	1249	885.
1250	863.	1251	842.	1252	822.	1253	802.	1254	783.
1255	764.	1256	746.	1257	729.	1258	712.	1259	696.
1260	681.	1261	666.	1262	651.	1263	637.	1264	624.
1265	611.	1266	599.	1267	587.	1268	576.	1269	565.
1270	555.	1271	545.	1272	535.	1273	525.	1274	515.
1275	506.	1276	496.	1277	487.	1278	478.	1279	469.
1280	461.	1281	453.	1282	445.	1283	437.	1284	429.
1285	422.	1286	415.	1287	408.	1288	401.	1289	394.
1290	388.	1291	381.	1292	375.	1293	370.	1294	364.
1295	359.	1296	354.	1297	348.	1298	344.	1299	339.
1300	334.	1310	295.	1320	263.	1330	236.	1340	212.
1350	195.	1360	180.	1370	166.	1380	155.	1390	145.
1400	135.	1420	118.	1440	104.	1460	92.	1500	78.

Proposed Condition Hydrology

VENTURA COUNTY FLOOD CONTROL DISTRICT
MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994

WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE — STORM DAY 4

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	34A	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	50	99	A97	0.03
48660	35A	1044.	341.	1044.	341.	5	2750.	0.00575	8.00	0.00	0.	40	0	A97	0.00
48660	36A	34.	61.	1078.	341.	5	750.	0.00540	10.00	0.00	0.	40	12	A97	0.01
48660	37A	0.	0.	1078.	341.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	38B	56.	102.	56.	102.	1	3800.	0.04000	0.00	0.00	0.	40	12	A97	0.03
48660	39B	73.	123.	129.	142.	1	1700.	0.04120	0.00	0.00	0.	40	14	A97	0.03
48660	40B	59.	103.	188.	209.	1	1900.	0.03950	0.00	0.00	0.	40	13	A97	0.03
48660	41B	55.	91.	243.	254.	0	0.	0.00000	0.00	0.00	0.	40	15	A97	0.08
48660	42C	84.	133.	84.	133.	0	0.	0.00000	0.00	0.00	0.	40	17	A97	0.15

CONFLUENCE Q'S

48660 43B TB 1165 QB 254. QBC 355. QC 101. 48660 43C TC 1155 QC 133. QCB 295. QB 162.
48660 43BC TBC 1165 QBC 355. QB 254. QC 101.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	43BC	84.	133.	327.	355.	1	500.	0.01540	0.00	0.00	0.	40	0	A97	0.00
48660	44D	69.	92.	69.	92.	1	1100.	0.02270	0.00	0.00	0.	40	21	A97	0.02
48660	45D	79.	107.	148.	183.	0	0.	0.00000	0.00	0.00	0.	50	20	A97	0.15

CONFLUENCE Q'S

48660 46B TB 1167 QB 353. QBD 520. QD 167. 48660 46D TD 1162 QD 183. QDB 520. QB 337.
48660 46BD TBD 1164 QBD 526. QB 346. QD 180.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	46BD	148.	183.	475.	526.	1	1300.	0.01310	0.00	0.00	0.	50	0	A97	0.00
48660	47B	475.	141.	475.	141.	0	0.	0.00000	0.00	0.00	0.	50	0	A97	0.00

CONFLUENCE Q'S

48660 48A TA 1218 QA 341. QAB 481. QB 140. 48660 48B TB 1225 QB 141. QBA 481. QA 340.
48660 48AB TAB 1225 QAB 481. QA 340. QB 141.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	48AB	475.	141.	1553.	481.	5	1350.	0.00510	10.00	0.00	0.	50	0	A97	0.00
48660	49A	70.	121.	1623.	508.	5	1275.	0.00470	12.00	0.00	0.	20	18	A97	0.13
48660	50A	0.	0.	1623.	508.	0	0.	0.00000	0.00	0.00	0.	20	99	A97	0.00
48660	51B	0.	0.	0.	141.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	52B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	53B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	54B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	55B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	56B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	50	99	A97	0.00
48660	57B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	40	99	A97	0.00
48660	58B	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	50	99	A97	0.00
48660	59C	62.	132.	62.	132.	4	1480.	0.00490	4.50	0.00	0.	50	12	A97	0.61
48660	60C	63.	139.	125.	251.	4	1350.	0.00840	5.00	0.00	0.	50	12	A97	0.70
48660	61C	46.	103.	171.	337.	0	0.	0.00000	0.00	0.00	0.	40	10	A97	0.400

VENTURA COUNTY FLOOD CONTROL DISTRICT
MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994

WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE — STORM DAY 4

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV

CONFLUENCE Q'S

48660 62A TA 1166 QA 508. QAC 735. QC 227. 48660 62C TC 1160 QC 337. QCA 830. QA 493.
48660 62AC TAC 1160 QAC 830. QA 493. QC 337.

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	62AC	171.	337.	1794.	830.	5	1575.	0.00470	11.00	0.00	0.	40	0	A97	0.00
48660	63B	63.	128.	63.	128.	1	2300.	0.06740	0.00	0.00	0.	40	16	B98	0.05
48660	64B	57.	129.	120.	221.	1	2100.	0.06670	0.00	0.00	0.	40	14	B98	0.15
48660	65B	53.	95.	173.	290.	1	1250.	0.04800	0.00	0.00	0.	40	19	B98	0.03
48660	66B	68.	143.	241.	367.	1	1900.	0.05000	0.00	0.00	0.	40	15	B98	0.04
48660	67B	82.	152.	323.	465.	1	3400.	0.04560	0.00	0.00	0.	40	18	B98	0.01
48660	68B	105.	159.	428.	543.	1	2225.	0.03150	0.00	0.00	0.	40	25	B98	0.05
48660	69B	83.	89.	511.	563.	0	0.	0.00000	0.00	0.00	0.	60	26	B98	0.05
48660	70C	79.	192.	79.	192.	1	3750.	0.06530	0.00	0.00	0.	20	15	B98	0.15
48660	71C	75.	130.	154.	274.	1	2600.	0.05380	0.00	0.00	0.	40	20	B98	0.02
48660	72C	57.	90.	211.	323.	0	0.	0.00000	0.00	0.00	0.	50	21	B98	0.07
48660	73C	0.	0.	211.	323.	0	0.	0.00000	0.00	0.00	0.	50	99	B98	0.00
48660	74D	96.	167.	96.	167.	1	1700.	0.05880	0.00	0.00	0.	40	20	B98	0.03
48660	75D	71.	144.	167.	294.	1	2200.	0.03860	0.00	0.00	0.	30	18	B98	0.10
48660	76D	49.	91.	216.	352.	0	0.	0.00000	0.00	0.00	0.	30	21	B98	0.12

CONFLUENCE Q'S

48660 77C TC 1169 QC 323. QCD 673. QD 350. 48660 77D TD 1167 QD 352. QDC 666. QC 314.
48660 77CD TCD 1169 QCD 673. QC 323. QD 350.

LOCATION	SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV

48660	77CD	216.	352.	427.	673.	1	1600.	0.04000	0.00	0.00	0.	30	0	B98	0.00
48660	78C	47.	101.	474.	672.	0	0.	0.00000	0.00	0.00	0.	40	15	B98	0.10
48660	79E	84.	129.	84.	129.	0	0.	0.00000	0.00	0.00	0.	50	23	B98	0.13

* CONFLUENCE Q'S *

* 48660 80C TC 1171 QC 672. QCE 770. QE 97. 48660 80E TE 1156 QE 129. QEC 531. QC 402. *

* 48660 80CE TCE 1171 QCE 770. QC 672. QE 97. *

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	80CE	84.	129.	558.	770.	1	1700.	0.03530	0.00	0.00	0.	50	0	B98	0.00
48660	81C	47.	104.	605.	811.	1	1700.	0.03530	0.00	0.00	0.	10	20	B98	0.10
48660	82C	73.	128.	678.	892.	0	0.	0.00000	0.00	0.00	0.	20	25	B98	0.07
48660	83D	54.	99.	54.	99.	1	450.	0.08890	0.00	0.00	0.	40	18	B98	0.00
48660	84D	0.	0.	54.	99.	0	0.	0.00000	0.00	0.00	0.	40	99	B98	0.00
48660	85E	66.	128.	66.	128.	1	400.	0.05000	0.00	0.00	0.	20	21	B98	0.030

VENTURA COUNTY FLOOD CONTROL DISTRICT
MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994

WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE STORM DAY 4

* CONFLUENCE Q'S *

* 48660 86D TD 1157 QD 99. QDE 226. QE 127. 48660 86E TE 1158 QE 128. QED 227. QD 99. *

* 48660 86DE TDE 1158 QDE 227. QD 99. QE 128. *

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	86DE	66.	128.	120.	227.	1	1900.	0.04210	0.00	0.00	0.	20	0	B98	0.00
48660	87D	71.	120.	191.	326.	1	1300.	0.03460	0.00	0.00	0.	40	22	B98	0.13
48660	88D	37.	70.	228.	378.	0	0.	0.00000	0.00	0.00	0.	20	22	B98	0.06
48660	89F	53.	110.	53.	110.	1	1600.	0.05000	0.00	0.00	0.	10	22	B98	0.09
48660	90F	61.	133.	114.	228.	0	0.	0.00000	0.00	0.00	0.	20	18	B98	0.15

* CONFLUENCE Q'S *

* 48660 91D TD 1168 QD 378. QDF 562. QF 184. 48660 91F TF 1161 QF 228. QFD 540. QD 312. *

* 48660 91DF TDF 1166 QDF 588. QD 374. QF 213. *

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	91DF	114.	228.	342.	588.	1	1900.	0.03160	0.00	0.00	0.	20	0	B98	0.00
48660	92D	96.	150.	438.	680.	1	1350.	0.02220	0.00	0.00	0.	20	21	A97	0.05
48660	93D	0.	0.	438.	671.	0	0.	0.00000	0.00	0.00	0.	20	99	A97	0.00
48660	94D	61.	118.	499.	690.	0	0.	0.00000	0.00	0.00	0.	20	14	A97	0.01

* CONFLUENCE Q'S *

* 48660 95C TC 1173 QC 892. QCD 1581. QD 690. 48660 95D TD 1173 QD 690. QDC 1581. QC 892. *

* 48660 95CD TCD 1173 QCD 1581. QC 892. QD 690. *

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	95CD	499.	690.	1177.	1581.	1	1900.	0.02370	0.00	0.00	0.	20	0	A97	0.00
48660	96C	39.	81.	1216.	1556.	0	0.	0.00000	0.00	0.00	0.	40	9	A97	0.02

* CONFLUENCE Q'S *

* 48660 97B TB 1177 QB 563. QBC 2119. QC 1556. 48660 97C TC 1177 QC 1556. QCB 2119. QB 563. *

* 48660 97BC TBC 1177 QBC 2119. QB 563. QC 1556. *

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	97BC	1216.	1556.	1727.	2119.	1	1500.	0.02600	0.00	0.00	0.	40	0	A97	0.00
48660	98B	86.	126.	1813.	2114.	1	1950.	0.02560	0.00	0.00	0.	30	21	A97	0.07
48660	99B	88.	119.	1901.	2088.	0	0.	0.00000	0.00	0.00	0.	40	21	A97	0.05
48660	100C	80.	140.	80.	140.	1	750.	0.04530	0.00	0.00	0.	40	13	A97	0.05
48660	101C	62.	102.	142.	233.	1	1300.	0.02150	0.00	0.00	0.	40	15	A97	0.05
48660	102C	52.	88.	194.	285.	1	1875.	0.01870	0.00	0.00	0.	40	14	A97	0.05
48660	103C	51.	80.	245.	278.	0	0.	0.00000	0.00	0.00	0.	40	16	A97	0.050

VENTURA COUNTY FLOOD CONTROL DISTRICT
MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994

WALNUT CYN DRN JCT W/MPK DRN NO.1;Q100 W/1996 LAND USE STORM DAY 4

* CONFLUENCE Q'S *

* 48660 104B TB 1183 QB 2088. QBC 2228. QC 140. 48660 104C TC 1167 QC 278. QCB 1553. QB 1275. *

* 48660 104BC TBC 1182 QBC 2237. QB 2086. QC 150. *

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN ZONE	PCT IMPV
48660	104BC	245.	278.	2146.	2237.	1	1800.	0.02330	0.00	0.00	0.	40	0	A97	0.00
48660	105B	65.	102.	2211.	2218.	0	0.	0.00000	0.00	0.00	0.	40	16	A97	0.05
48660	106B	44.	65.	2255.	2219.	1	1800.	0.02330	0.00	0.00	0.	40	18	A97	0.05
48660	107B	86.	151.	2341.	2203.	1	1700.	0.02350	0.00	0.00	0.	40	13	A97	0.05
48660	108B	71.	112.	2412.	2188.	2	900.	0.02000	0.00	0.00	0.	40	16	A97	0.05
48660	109B	2433.	1413.	2433.	1413.	5	100.	0.01750	11.00	0.00	0.	30	0	A97	0.00
48660	110B	0.	0.	2433.	1413.	1	2120.	0.00980	0.00	0.00	0.	30	99	A97	0.00
48660	111B	33.	66.	2466.	1410.	0	0.	0.00000	0.00	0.00	0.	30	12	A97	0.10
48660	112B	59.	78.	2525.	1412.	5	720.	0.01850	8.00	1.50	0.	50	20	A97	0.10
48660	113B	46.	68.	2571.	1413.	5	220.	0.01630	8.00	0.00	0.	60	11	A97	0.10

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*                                                  CONFLUENCE Q'S                                                           *
*  48660  114A  TA 1162 QA     816. QAB    2151. QB    1336.   48660  114B  TB 1243 QB    1413. QBA    1929. QA     516.  *
*                          48660  114AB TAB 1162 QAB    2151. QA     816. QB    1336.                                     *
*****************************************************************************************************************************

                SUBAREA  SUBAREA     TOTAL     TOTAL  CONV    CONV      CONV      CONV  CONV   CONTROL SOIL      RAIN  PCT
   LOCATION       AREA       Q        AREA         Q    TYPE   LNGTH    SLOPE     SIZE     Z        Q    NAME  TC  ZONE  IMPV
  48660  114AB  2571.     1413.     4365.     2151.    5    1250.  0.00600   14.00  0.00        0.     60   0   A97  0.00
  48660  115A     23.       44.     4388.     2150.    0       0.  0.00000    0.00  0.00        0.     60  10   A97  0.40
  48660  116C     37.       73.       37.       73.    4    1200.  0.01250    3.00  0.00        0.     20  14   A97  0.10
  48660  117C      0.        0.       37.       71.    0       0.  0.00000    0.00  0.00        0.     20  99   A97  0.00
*****************************************************************************************************************************
*                                                  CONFLUENCE Q'S                                                           *
*  48660  118A  TA 1164 QA    2150. QAC    2211. QC      61.   48660  118C  TC 1158 QC      71. QCA    2019. QA    1949.  *
*                          48660  118AC TAC 1164 QAC    2211. QA    2150. QC      61.                                     *
*****************************************************************************************************************************

                SUBAREA  SUBAREA     TOTAL     TOTAL  CONV    CONV      CONV      CONV  CONV   CONTROL SOIL      RAIN  PCT
   LOCATION       AREA       Q        AREA         Q    TYPE   LNGTH    SLOPE     SIZE     Z        Q    NAME  TC  ZONE  IMPV
  48660  118AC    37.       71.     4425.     2211.    0       0.  0.00000    0.00  0.00        0.     60   0   A97  0.00
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MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994
PROPOSED LOCATION OF WALNUT CYN HITCH RANCH 90AF DET. BASIN
HYDROGRAPH AT 48660 35A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.	100	6.	200	12.	300	13.	400	14.
500	16.	600	19.	700	22.	800	28.	900	36.
1000	52.	1050	63.	1100	99.	1110	115.	1120	131.
1130	155.	1131	158.	1132	161.	1133	164.	1134	167.
1135	170.	1136	174.	1137	177.	1138	181.	1139	184.
1140	188.	1141	192.	1142	197.	1143	201.	1144	204.
1145	207.	1146	211.	1147	214.	1148	218.	1149	222.
1150	226.	1151	230.	1152	235.	1153	240.	1154	246.
1155	251.	1156	256.	1157	261.	1158	266.	1159	272.
1160	277.	1161	283.	1162	289.	1163	294.	1164	300.
1165	302.	1166	305.	1167	307.	1168	309.	1169	311.
1170	313.	1171	315.	1172	316.	1173	318.	1174	320.
1175	321.	1176	323.	1177	324.	1178	325.	1179	327.
1180	328.	1181	329.	1182	330.	1183	331.	1184	332.
1185	332.	1186	333.	1187	334.	1188	335.	1189	335.
1190	336.	1191	336.	1192	337.	1193	337.	1194	338.
1195	338.	1196	338.	1197	339.	1198	339.	1199	339.
1200	340.	1201	340.	1202	340.	1203	340.	1204	340.
1205	341.	1206	341.	1207	341.	1208	341.	1209	341.
1210	341.	1211	341.	1212	341.	1213	341.	1214	341.
1215	341.	1216	341.	1217	340.	1218	340.	1219	340.
1220	340.	1221	340.	1222	339.	1223	339.	1224	339.
1225	338.	1226	338.	1227	338.	1228	337.	1229	337.
1230	337.	1231	337.	1232	336.	1233	336.	1234	335.
1235	335.	1236	335.	1237	334.	1238	334.	1239	333.
1240	333.	1241	332.	1242	332.	1243	331.	1244	331.
1245	330.	1246	330.	1247	329.	1248	329.	1249	328.
1250	327.	1251	327.	1252	326.	1253	326.	1254	325.
1255	324.	1256	324.	1257	323.	1258	322.	1259	322.
1260	321.	1261	320.	1262	320.	1263	319.	1264	318.
1265	317.	1266	317.	1267	316.	1268	315.	1269	315.
1270	314.	1271	313.	1272	312.	1273	312.	1274	311.
1275	310.	1276	309.	1277	309.	1278	308.	1279	307.
1280	306.	1281	305.	1282	305.	1283	304.	1284	303.
1285	302.	1286	301.	1287	301.	1288	300.	1289	298.
1290	296.	1291	295.	1292	293.	1293	292.	1294	290.
1295	288.	1296	287.	1297	285.	1298	283.	1299	282.
1300	280.	1310	265.	1320	250.	1330	231.	1340	215.
1350	201.	1360	182.	1370	163.	1380	132.	1390	124.
1400	111.	1420	89.	1440	73.	1460	58.	1500	45.

MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994
WALNUT CYN PRIOR TO JCT W/ GABBERT,1/96 AERIAL PHOTO LU, Q100
HYDROGRAPH AT 48660 37A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.	100	6.	200	11.	300	13.	400	13.
500	16.	600	18.	700	22.	800	27.	900	35.
1000	50.	1050	61.	1100	91.	1110	104.	1120	124.
1130	142.	1131	144.	1132	146.	1133	149.	1134	152.
1135	155.	1136	159.	1137	163.	1138	167.	1139	171.
1140	175.	1141	180.	1142	185.	1143	190.	1144	195.
1145	201.	1146	207.	1147	213.	1148	219.	1149	224.
1150	228.	1151	232.	1152	239.	1153	254.	1154	269.
1155	277.	1156	282.	1157	286.	1158	289.	1159	292.
1160	295.	1161	297.	1162	302.	1163	306.	1164	306.
1165	299.	1166	292.	1167	291.	1168	293.	1169	296.
1170	298.	1171	301.	1172	304.	1173	306.	1174	308.
1175	310.	1176	311.	1177	313.	1178	315.	1179	317.
1180	318.	1181	320.	1182	322.	1183	323.	1184	324.
1185	326.	1186	327.	1187	328.	1188	329.	1189	330.
1190	331.	1191	332.	1192	333.	1193	333.	1194	334.
1195	335.	1196	335.	1197	336.	1198	336.	1199	337.
1200	337.	1201	338.	1202	338.	1203	339.	1204	339.
1205	339.	1206	340.	1207	340.	1208	340.	1209	340.
1210	340.	1211	341.	1212	341.	1213	341.	1214	341.

1215	341.	1216	341.	1217	341.	1218	341.	1219	341.
1220	341.	1221	341.	1222	341.	1223	341.	1224	340.
1225	340.	1226	340.	1227	340.	1228	340.	1229	339.
1230	339.	1231	339.	1232	338.	1233	338.	1234	338.
1235	337.	1236	337.	1237	337.	1238	336.	1239	336.
1240	336.	1241	335.	1242	335.	1243	335.	1244	334.
1245	334.	1246	333.	1247	333.	1248	332.	1249	332.
1250	331.	1251	331.	1252	330.	1253	330.	1254	329.
1255	328.	1256	328.	1257	327.	1258	327.	1259	326.
1260	325.	1261	325.	1262	324.	1263	324.	1264	323.
1265	322.	1266	322.	1267	321.	1268	320.	1269	319.
1270	319.	1271	318.	1272	317.	1273	317.	1274	316.
1275	315.	1276	314.	1277	314.	1278	313.	1279	312.
1280	311.	1281	311.	1282	310.	1283	309.	1284	308.
1285	308.	1286	307.	1287	306.	1288	305.	1289	304.
1290	304.	1291	303.	1292	302.	1293	301.	1294	300.
1295	299.	1296	297.	1297	296.	1298	294.	1299	293.
1300	291.	1310	275.	1320	261.	1330	244.	1340	227.
1350	211.	1360	196.	1370	178.	1380	155.	1390	135.
1400	121.	1420	99.	1440	80.	1460	66.	1500	48.

MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994

BASIN 2 HYDROGRAPH

HYDROGRAPH AT 48660 47B STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.	100	1.	200	4.	300	7.	400	8.
500	10.	600	12.	700	14.	800	18.	900	25.
1000	37.	1050	49.	1100	69.	1110	75.	1120	82.
1130	86.	1131	86.	1132	87.	1133	87.	1134	87.
1135	88.	1136	88.	1137	89.	1138	89.	1139	90.
1140	90.	1141	91.	1142	91.	1143	92.	1144	92.
1145	93.	1146	93.	1147	94.	1148	95.	1149	95.
1150	96.	1151	97.	1152	97.	1153	98.	1154	99.
1155	100.	1156	101.	1157	102.	1158	103.	1159	104.
1160	105.	1161	106.	1162	107.	1163	108.	1164	110.
1165	111.	1166	112.	1167	114.	1168	115.	1169	116.
1170	117.	1171	118.	1172	119.	1173	120.	1174	121.
1175	122.	1176	123.	1177	124.	1178	125.	1179	125.
1180	126.	1181	127.	1182	127.	1183	128.	1184	129.
1185	129.	1186	130.	1187	130.	1188	131.	1189	131.
1190	132.	1191	132.	1192	133.	1193	133.	1194	134.
1195	134.	1196	134.	1197	135.	1198	135.	1199	135.
1200	136.	1201	136.	1202	136.	1203	137.	1204	137.
1205	137.	1206	137.	1207	138.	1208	138.	1209	138.
1210	138.	1211	138.	1212	139.	1213	139.	1214	139.
1215	139.	1216	139.	1217	139.	1218	140.	1219	140.
1220	140.	1221	140.	1222	140.	1223	140.	1224	140.
1225	141.	1226	141.	1227	141.	1228	141.	1229	141.
1230	141.	1231	141.	1232	141.	1233	141.	1234	141.
1235	141.	1236	141.	1237	141.	1238	141.	1239	141.
1240	141.	1241	141.	1242	141.	1243	141.	1244	141.
1245	141.	1246	141.	1247	141.	1248	141.	1249	141.
1250	141.	1251	141.	1252	141.	1253	141.	1254	141.
1255	141.	1256	141.	1257	141.	1258	141.	1259	141.
1260	141.	1261	141.	1262	141.	1263	141.	1264	141.
1265	141.	1266	141.	1267	141.	1268	140.	1269	140.
1270	140.	1271	140.	1272	140.	1273	140.	1274	140.
1275	140.	1276	140.	1277	140.	1278	140.	1279	139.
1280	139.	1281	139.	1282	139.	1283	139.	1284	139.
1285	139.	1286	139.	1287	139.	1288	138.	1289	138.
1290	138.	1291	138.	1292	138.	1293	138.	1294	138.
1295	138.	1296	137.	1297	137.	1298	137.	1299	137.
1300	137.	1310	136.	1320	134.	1330	132.	1340	131.
1350	129.	1360	127.	1370	125.	1380	123.	1390	121.
1400	119.	1420	116.	1440	110.	1460	105.	1500	95.

MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994

GABBERT CYN INFLOW TO DEBRIS BASIN,1/96 AERIAL PHOTO LU, Q100

HYDROGRAPH AT 48660 109B STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.	100	39.	200	55.	300	76.	400	90.
500	106.	600	125.	700	155.	800	197.	900	270.
1000	406.	1050	523.	1100	653.	1110	698.	1120	821.
1130	822.	1131	830.	1132	837.	1133	845.	1134	854.
1135	862.	1136	871.	1137	881.	1138	891.	1139	907.
1140	912.	1141	925.	1142	937.	1143	952.	1144	966.
1145	983.	1146	1002.	1147	1021.	1148	1042.	1149	1059.
1150	1075.	1151	1096.	1152	1136.	1153	1175.	1154	1214.
1155	1230.	1156	1233.	1157	1235.	1158	1238.	1159	1241.
1160	1244.	1161	1247.	1162	1250.	1163	1253.	1164	1256.
1165	1259.	1166	1262.	1167	1265.	1168	1268.	1169	1272.
1170	1274.	1171	1277.	1172	1279.	1173	1281.	1174	1284.
1175	1286.	1176	1289.	1177	1292.	1178	1294.	1179	1297.
1180	1299.	1181	1302.	1182	1304.	1183	1307.	1184	1310.
1185	1312.	1186	1315.	1187	1317.	1188	1320.	1189	1323.
1190	1325.	1191	1328.	1192	1330.	1193	1333.	1194	1335.
1195	1338.	1196	1340.	1197	1343.	1198	1345.	1199	1348.
1200	1350.	1201	1353.	1202	1355.	1203	1358.	1204	1360.
1205	1362.	1206	1365.	1207	1367.	1208	1369.	1209	1372.

1210	1374.	1211	1376.	1212	1378.	1213	1380.	1214	1381.
1215	1383.	1216	1385.	1217	1386.	1218	1388.	1219	1389.
1220	1391.	1221	1392.	1222	1394.	1223	1395.	1224	1397.
1225	1398.	1226	1399.	1227	1401.	1228	1402.	1229	1403.
1230	1404.	1231	1406.	1232	1407.	1233	1408.	1234	1409.
1235	1410.	1236	1411.	1237	1412.	1238	1413.	1239	1400.
1240	1384.	1241	1370.	1242	1355.	1243	1341.	1244	1327.
1245	1314.	1246	1302.	1247	1291.	1248	1286.	1249	1268.
1250	1258.	1251	1248.	1252	1238.	1253	1228.	1254	1219.
1255	1210.	1256	1202.	1257	1194.	1258	1186.	1259	1178.
1260	1170.	1261	1164.	1262	1156.	1263	1150.	1264	1144.
1265	1138.	1266	1132.	1267	1125.	1268	1120.	1269	1115.
1270	1109.	1271	1105.	1272	1099.	1273	1094.	1274	1090.
1275	1086.	1276	1081.	1277	1077.	1278	1072.	1279	1068.
1280	1065.	1281	1061.	1282	1057.	1283	1053.	1284	1050.
1285	1047.	1286	1043.	1287	1040.	1288	1037.	1289	1034.
1290	1031.	1291	1029.	1292	1021.	1293	1023.	1294	1021.
1295	1018.	1296	1016.	1297	1014.	1298	1011.	1299	1009.
1300	1007.	1310	987.	1320	968.	1330	952.	1340	937.
1350	922.	1360	907.	1370	897.	1380	877.	1390	867.
1400	843.	1420	807.	1440	771.	1460	736.	1500	659.

MODIFIED RATIONAL METHOD HYDROLOGY / PC 1.0-994
WALNUT-GABBERT AT HWY 118, 1/96 AERIAL PHOTO LAND USE, Q100
HYDROGRAPH AT 48660 118A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.	100	62.	200	77.	300	106.	400	126.
500	147.	600	173.	700	208.	800	265.	900	354.
1000	514.	1050	655.	1100	854.	1110	915.	1120	1022.
1130	1138.	1131	1149.	1132	1159.	1133	1169.	1134	1180.
1135	1192.	1136	1205.	1137	1220.	1138	1235.	1139	1250.
1140	1267.	1141	1285.	1142	1305.	1143	1327.	1144	1352.
1145	1378.	1146	1407.	1147	1438.	1148	1472.	1149	1505.
1150	1537.	1151	1573.	1152	1623.	1153	1681.	1154	1754.
1155	1831.	1156	1902.	1157	1964.	1158	2019.	1159	2071.
1160	2119.	1161	2160.	1162	2185.	1163	2208.	1164	2211.
1165	2196.	1166	2176.	1167	2150.	1168	2122.	1169	2094.
1170	2068.	1171	2042.	1172	2017.	1173	1989.	1174	1954.
1175	1916.	1176	1884.	1177	1860.	1178	1844.	1179	1835.
1180	1828.	1181	1824.	1182	1822.	1183	1821.	1184	1821.
1185	1820.	1186	1821.	1187	1821.	1188	1822.	1189	1823.
1190	1825.	1191	1826.	1192	1828.	1193	1830.	1194	1832.
1195	1835.	1196	1837.	1197	1840.	1198	1843.	1199	1846.
1200	1849.	1201	1853.	1202	1856.	1203	1860.	1204	1864.
1205	1868.	1206	1872.	1207	1877.	1208	1881.	1209	1886.
1210	1891.	1211	1896.	1212	1900.	1213	1904.	1214	1907.
1215	1910.	1216	1913.	1217	1915.	1218	1917.	1219	1918.
1220	1919.	1221	1920.	1222	1921.	1223	1921.	1224	1922.
1225	1922.	1226	1922.	1227	1922.	1228	1922.	1229	1922.
1230	1922.	1231	1923.	1232	1923.	1233	1924.	1234	1925.
1235	1926.	1236	1927.	1237	1927.	1238	1928.	1239	1929.
1240	1930.	1241	1931.	1242	1932.	1243	1932.	1244	1932.
1245	1932.	1246	1929.	1247	1924.	1248	1917.	1249	1908.
1250	1897.	1251	1886.	1252	1874.	1253	1862.	1254	1850.
1255	1839.	1256	1827.	1257	1815.	1258	1803.	1259	1792.
1260	1780.	1261	1769.	1262	1759.	1263	1748.	1264	1738.
1265	1729.	1266	1720.	1267	1710.	1268	1702.	1269	1693.
1270	1685.	1271	1677.	1272	1669.	1273	1662.	1274	1654.
1275	1647.	1276	1639.	1277	1632.	1278	1625.	1279	1619.
1280	1612.	1281	1606.	1282	1599.	1283	1593.	1284	1588.
1285	1582.	1286	1576.	1287	1570.	1288	1565.	1289	1559.
1290	1554.	1291	1549.	1292	1544.	1293	1539.	1294	1534.
1295	1530.	1296	1525.	1297	1521.	1298	1517.	1299	1512.
1300	1508.	1310	1467.	1320	1427.	1330	1387.	1340	1349.
1350	1316.	1360	1284.	1370	1251.	1380	1216.	1390	1178.
1400	1140.	1420	1070.	1440	1009.	1460	951.	1500	845.

Appendices 2

WSPGW Hydraulic Models and Data

Program Package Serial Number: 1577

WATER SURFACE PROFILE LISTING Date: 4- 6-2005 Time: 2:51:28

EXIST COND. ANALYSIS OF WALNUT CANYON CHANNEL 7/11/96 (JCS)
QDES=Q50=500CFS U/S 109+28.18 = 0+00 WLNT CYN CHNL 3-15A PLN &PRO & USDA
SC G:\GRP13\USERS\JCS\JN\ \WSPG\WALNUT.EXS ANALYSIS DEFIC CHNL IMPR OF

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
.010	443.880	5.965	449.845	1258.00	17.89	4.97	454.81	.00	7.09	12.00	6.000	12.000	.00	0 .0
18.719	.0140					.0063	.12	5.97	1.30	4.54	.014	-2.50	.00	RECTANG
18.729	444.142	6.209	450.351	1258.00	17.17	4.58	454.93	.00	7.09	12.00	6.000	12.000	.00	0 .0
14.022	.0140					.0056	.08	6.21	1.22	4.54	.014	-2.50	.00	RECTANG
32.751	444.339	6.507	450.845	1258.00	16.37	4.16	455.01	.00	7.09	12.00	6.000	12.000	.00	0 .0
7.249	.0140					.0049	.04	6.51	1.14	4.54	.014	-2.50	.00	RECTANG
40.000	444.440	6.819	451.259	1258.00	15.61	3.78	455.04	.00	7.09	12.00	6.000	12.000	.00	0 .0
16.000	.0050					.0045	.07	6.82	1.06	6.61	.014	-2.50	.00	RECTANG
56.000	444.520	6.885	451.405	1258.00	15.46	3.71	455.12	.00	7.09	12.00	6.000	12.000	.00	0 .0
14.000	.0050					.0043	.06	6.89	1.05	6.61	.014	-2.50	.00	RECTANG
70.000	444.590	7.094	451.684	1258.00	15.00	3.49	455.18	.00	7.09	12.00	5.000	12.000	.00	0 .0
25.253	.0030					.0039	.10	7.09	1.00	8.05	.014	-2.50	.00	RECTANG
95.253	444.665	7.435	452.100	1258.00	14.30	3.18	455.28	.00	7.09	12.00	5.000	12.000	.00	0 .0
144.097	.0030					.0034	.50	7.43	.93	8.05	.014	-2.50	.00	RECTANG
239.350	445.092	7.792	452.885	1258.00	13.64	2.89	455.77	.00	7.09	12.00	5.000	12.000	.00	0 .0
103.650	.0030					.0032	.33	7.79	.87	8.05	.014	-2.50	.00	RECTANG
343.000	445.400	7.880	453.280	1258.00	13.48	2.82	456.10	.00	7.09	12.00	5.000	12.000	.00	0 .0
58.210	.0047					.0033	.19	7.88	.85	6.76	.014	-2.50	.00	RECTANG

Program Package Serial Number: 1577

WATER SURFACE PROFILE LISTING Date: 4- 6-2005 Time: 2:51:28

EXIST COND. ANALYSIS OF WALNUT CANYON CHANNEL 7/11/96 (JCS)
QDES=Q50=500CFS U/S 109+28.18 = 0+00 WLNT CYN CHNL 3-15A PLN &PRO & USDA
SC G:\GRP13\USERS\JCS\JN\ \WSPG\WALNUT.EXS ANALYSIS DEFIC CHNL IMPR OF

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
401.210	445.674	7.518	453.193	1258.00	14.14	3.10	456.30	.00	7.09	12.00	5.000	12.000	.00	0 .0
13.253	.0047					.0036	.05	7.52	.92	6.76	.014	-2.50	.00	RECTANG
414.463	445.737	7.436	453.173	1258.00	14.30	3.17	456.35	.00	7.09	12.00	5.000	12.000	.00	0 .0
HYDRAULIC JUMP														
414.463	445.737	6.756	452.493	1258.00	15.76	3.86	456.35	.00	7.09	12.00	5.000	12.000	.00	0 .0
109.830	.0047					.0047	.52	6.76	1.08	6.76	.014	-2.50	.00	RECTANG
524.293	446.255	6.767	453.022	1258.00	15.73	3.84	456.87	.00	7.09	12.00	5.000	12.000	.00	0 .0
81.707	.0047					.0044	.36	6.77	1.07	6.76	.014	-2.50	.00	RECTANG
606.000	446.640	7.094	453.734	1258.00	15.00	3.49	457.23	.00	7.09	12.00	5.000	12.000	.00	0 .0
606.000	446.640	5.208	451.848	1258.00	20.54	6.55	458.40	.00	5.21	12.00	5.000	12.000	.00	0 .0
.000	.0045					.0096	.00	5.21	1.60	5.21	.014	-2.50	.00	BOX
606.000	446.640	5.208	451.848	1258.00	20.54	6.55	458.40	.00	5.21	12.00	5.000	12.000	.00	0 .0
40.000	.0045					.0171	.68	5.21	1.60	5.21	.014	-2.50	.00	BOX
646.000	446.820	5.712	452.532	1258.00	20.54	6.55	459.08	.00	5.21	12.00	5.000	12.000	.00	0 .0
646.000	446.820	6.763	453.583	1258.00	15.74	3.85	457.43	.00	7.09	12.00	5.000	12.000	.00	0 .0
722.174	.0047					.0047	3.40	6.76	1.08	6.76	.014	-2.50	.00	RECTANG
1368.174	450.216	6.763	456.979	1258.00	15.74	3.85	460.83	.00	7.09	12.00	5.000	12.000	.00	0 .0
170.742	.0047					.0047	.80	6.76	1.08	6.76	.014	-2.50	.00	RECTANG
1538.916	451.019	6.767	457.786	1258.00	15.73	3.84	461.63	.00	7.09	12.00	5.000	12.000	.00	0 .0
85.314	.0047					.0044	.38	6.77	1.07	6.76	.014	-2.50	.00	RECTANG

Program Package Serial Number: 1577

WATER SURFACE PROFILE LISTING Date: 4- 6-2005 Time: 2:51:28

EXIST COND. ANALYSIS OF WALNUT CANYON CHANNEL 7/11/96 (JCS)
QDES=Q50=500CFS U/S 109+28.18 = 0+00 WLNT CYN CHNL 3-15A PLN &PRO & USDA
SC G:\GRP13\USERS\JCS\JN\ \WSPG\WALNUT.EXS ANALYSIS DEFIC CHNL IMPR OF

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1624.230	451.420	7.094	458.514	1258.00	15.00	3.49	462.01	.00	7.09	12.00	5.000	12.000	.00	0 .0
1624.230	451.420	5.208	456.628	1258.00	20.54	6.55	463.18	.00	5.21	12.00	5.000	12.000	.00	0 .0
.000	.0045					.0096	.00	5.21	1.60	5.21	.014	-2.50	.00	BOX
1624.230	451.420	5.208	456.628	1258.00	20.54	6.55	463.18	.00	5.21	12.00	5.000	12.000	.00	0 .0
40.000	.0045					.0171	.68	5.21	1.60	5.21	.014	-2.50	.00	BOX
1664.230	451.600	5.712	457.312	1258.00	20.54	6.55	463.86	.00	5.21	12.00	5.000	12.000	.00	0 .0
1664.230	451.600	6.844	458.444	1258.00	15.55	3.76	462.20	.91	7.09	12.00	5.000	12.000	.00	0 .0
42.770	.0047					.0043	.19	7.75	1.06	6.78	.014	-2.50	.00	RECTANG
1707.000	451.800	7.094	458.893	1258.00	15.00	3.49	462.39	.00	7.09	12.00	5.000	12.000	.00	0 .0
JUNCT STR	.0050					.0029	.01	7.94	1.00		.014	-2.50	.00	RECTANG
1711.000	451.820	9.310	461.130	1123.00	10.17	1.60	462.73	.39	6.58	12.00	5.000	12.000	.00	0 .0
32.000	.0047					.0017	.05	9.70	.59	6.22	.014	-2.50	.00	RECTANG
1743.000	451.970	9.159	461.129	1123.00	10.33	1.66	462.79	.40	6.58	12.00	5.000	12.000	.00	0 .0
89.012	.0047					.0018	.16	9.56	.61	6.23	.014	-2.50	.00	RECTANG
1832.012	452.386	8.738	461.124	1123.00	10.84	1.82	462.95	.44	6.58	12.00	5.000	12.000	.00	0 .0
26.438	.0047					.0020	.05	9.18	.65	6.23	.014	-2.50	.00	RECTANG
1858.450	452.510	8.611	461.121	1123.00	11.00	1.88	463.00	.00	6.58	12.00	5.000	12.000	.00	0 .0
80.157	.0047					.0021	.17	8.61	.66	6.21	.014	-2.50	.00	RECTANG
1938.607	452.888	8.215	461.103	1123.00	11.54	2.07	463.17	.00	6.58	12.00	5.000	12.000	.00	0 .0
73.615	.0047					.0024	.18	8.22	.71	6.21	.014	-2.50	.00	RECTANG

Program Package Serial Number: 1577

WATER SURFACE PROFILE LISTING Date: 4- 6-2005 Time: 2:51:28

EXIST COND. ANALYSIS OF WALNUT CANYON CHANNEL 7/11/96 (JCS)

QDES=Q50=500CFS U/S 109+28.18 = 0+00 WLNT CYN CHNL 3-15A PLN &PRO & USDA

SC G:\GRP13\USERS\JCS\JN\ \WSPG\WALNUT.EXS ANALYSIS DEFIC CHNL IMPR OF

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
2012.221	453.235	7.838	461.073	1123.00	12.10	2.27	463.35	.00	6.58	12.00	5.000	12.000	.00	0 .0
66.032	.0047					.0027	.18	7.84	.77	6.21	.014	-2.50	.00	RECTANG
2078.253	453.546	7.478	461.024	1123.00	12.69	2.50	463.52	.00	6.58	12.00	5.000	12.000	.00	0 .0
56.348	.0047					.0031	.17	7.48	.82	6.21	.014	-2.50	.00	RECTANG
2134.602	453.811	7.135	460.946	1123.00	13.31	2.75	463.70	.00	6.58	12.00	5.000	12.000	.00	0 .0
24.331	.0047					.0034	.08	7.13	.88	6.21	.014	-2.50	.00	RECTANG
2158.933	453.926	6.975	460.901	1123.00	13.62	2.88	463.78	.00	6.58	12.00	5.000	12.000	.00	0 .0
HYDRAULIC JUMP														
2158.933	453.926	6.204	460.130	1123.00	15.34	3.65	463.78	.00	6.58	12.00	5.000	12.000	.00	0 .0
165.430	.0047					.0047	.79	6.20	1.09	6.21	.014	-2.50	.00	RECTANG
2324.363	454.705	6.182	460.887	1123.00	15.40	3.68	464.57	.00	6.58	12.00	5.000	12.000	.00	0 .0
224.486	.0047					.0051	1.14	6.18	1.10	6.21	.014	-2.50	.00	RECTANG
2548.849	455.763	5.899	461.662	1123.00	16.15	4.05	465.71	.00	6.58	12.00	5.000	12.000	.00	0 .0
126.242	.0047					.0058	.73	5.90	1.18	6.21	.014	-2.50	.00	RECTANG
2675.090	456.358	5.629	461.987	1123.00	16.94	4.46	466.44	.00	6.58	12.00	5.000	12.000	.00	0 .0
101.128	.0047					.0066	.66	5.63	1.27	6.21	.014	-2.50	.00	RECTANG
2776.218	456.835	5.372	462.207	1123.00	17.77	4.90	467.11	.00	6.58	12.00	5.000	12.000	.00	0 .0
88.495	.0047					.0075	.66	5.37	1.36	6.21	.014	-2.50	.00	RECTANG

Program Package Serial Number: 1577

WATER SURFACE PROFILE LISTING Date: 4- 6-2005 Time: 2:51:28

EXIST COND. ANALYSIS OF WALNUT CANYON CHANNEL 7/11/96 (JCS)

QDES=Q50=500CFS U/S 109+28.18 = 0+00 WLNT CYN CHNL 3-15A PLN &PRO & USDA

SC G:\GRP13\USERS\JCS\JN\ \WSPG\WALNUT.EXS ANALYSIS DEFIC CHNL IMPR OF

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT) / SF Ave	Water Elev / HF	Q (CFS) / SE Dpth	Vel (FPS) / Froude N	Vel Head / Norm Dp	Energy Grd.El. / "N"	Super Elev / X-Fall	Critical Depth / ZR	Flow Top Width / Type Ch	Height/Dia.-FT /	Base Wt or I.D. /	ZL /	No Wth Prs/Pip /
2864.713	457.252	5.127	462.379	1123.00	18.63	5.39	467.77	.00	6.58	12.00	5.000	12.000	.00	0 .0
80.287	.0047					.0085	.68	5.13	1.47	6.21	.014	-2.50	.00	RECTANG
2945.000	457.630	4.893	462.523	1123.00	19.54	5.93	468.45	.00	6.58	12.00	5.000	12.000	.00	0 .0
TRANS STR	.0045					.0071	.14	4.89	1.57		.014	-2.50	.00	RECTANG
2965.000	457.720	7.251	464.971	1123.00	15.67	3.81	468.78	.00	7.40	10.00	8.000	10.000	.00	0 .0
68.430	.0051					.0051	.35	7.25	1.03	7.25	.014	-2.00	.00	BOX
3033.430	458.070	7.237	465.307	1123.00	15.70	3.83	469.13	8.17	7.40	10.00	8.000	10.000	.00	0 .0
11.113	.0051					.0051	.06	8.17	1.03	7.24	.014	-2.00	.00	BOX
3044.543	458.127	7.237	465.364	1123.00	15.70	3.83	469.19	8.17	7.40	10.00	8.000	10.000	.00	0 .0
39.457	.0051					.0050	.20	8.17	1.03	7.24	.014	-2.00	.00	BOX
3084.000	458.330	7.400	465.730	1123.00	15.35	3.66	469.39	.00	7.40	10.00	8.000	10.000	.00	0 .0
TRANS STR	.0050							7.40	1.00		.014	-2.00	.00	BOX

---------- WARNING - Flow depth near top of box conduit ----------

3094.000	458.380	7.259	465.639	1123.00	15.65	3.80	469.44	.00	7.40	10.00	6.000	10.000	.00	0 .0
1250.967	.0051					.0051	6.38	7.26	1.03	7.26	.014	-2.00	.00	RECTANG
4344.966	464.761	7.259	472.020	1123.00	15.65	3.80	475.82	.00	7.40	10.00	6.000	10.000	.00	0 .0
37.034	.0051					.0050	.18	7.26	1.03	7.26	.014	-2.00	.00	RECTANG

Program Package Serial Number: 1577

WATER SURFACE PROFILE LISTING Date: 4- 6-2005 Time: 2:51:28

EXIST COND. ANALYSIS OF WALNUT CANYON CHANNEL 7/11/96 (JCS)
QDES=Q50=500CFS U/S 109+28.18 = 0+00 WLNT CYN CHNL 3-15A PLN &PRO & USDA
SC G:\GRP13\USERS\JCS\JN\ \WSPG\WALNUT.EXS ANALYSIS DEFIC CHNL IMPR OF

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
4382.000	464.950	7.387	472.337	1123.00	15.38	3.67	476.01	.00	7.40	10.00	6.000	10.000	.00	0 .0
TRANS STR	.0050					.0049	.05	7.39	1.00		.014	-2.00	.00	RECTANG
4392.000	465.000	7.400	472.400	1123.00	15.35	3.66	476.06	.00	7.40	10.00	10.830	10.000	.00	0 .0
4392.000	465.000	6.167	471.167	1123.00	18.46	5.29	476.46	.00	6.17	10.00	6.000	10.000	.00	0 .0
.001	.0050					.0078	.00	6.17	1.32	6.17	.014	-2.00	.00	BOX
4392.001	465.000	6.167	471.167	1123.00	18.46	5.29	476.46	.00	6.17	10.00	6.000	10.000	.00	0 .0
39.999	.0050					.0128	.51	6.17	1.32	6.17	.014	-2.00	.00	BOX
4432.000	465.200	6.278	471.478	1123.00	18.46	5.29	476.77	.00	6.17	10.00	6.000	10.000	.00	0 .0
JUNCT STR	.0125					.0069	1.12	6.28	1.32		.014	-2.00	.00	BOX
---------- WARNING - Junction Analysis - Change in Channel Type ----------														
4595.000	467.240	10.832	478.072	797.00	7.42	.85	478.93	.00	5.90	10.00	7.000	10.000	.00	0 .0
TRANS STR	.0055					.0010	.02	10.83	.40		.014	-2.00	.00	RECTANG
4615.000	467.350	10.728	478.078	797.00	7.49	.87	478.95	.00	5.90	10.00	5.000	10.000	.00	0 .0
93.315	.0054					.0010	.10	10.73	.40	5.47	.014	-2.00	.00	RECTANG
4708.315	467.854	10.233	478.087	797.00	7.85	.96	479.04	.00	5.90	10.00	5.000	10.000	.00	0 .0
88.612	.0054					.0012	.10	10.23	.43	5.47	.014	-2.00	.00	RECTANG
4796.927	468.333	9.760	478.093	797.00	8.24	1.05	479.15	.00	5.90	10.00	5.000	10.000	.00	0 .0
84.004	.0054					.0013	.11	9.76	.47	5.47	.014	-2.00	.00	RECTANG

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QDES=Q50=500CFS U/S 109+28.18 = 0+00 WLNT CYN CHNL 3-15A PLN &PRO & USDA
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Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
4880.932	468.786	9.310	478.096	797.00	8.64	1.16	479.25	.00	5.90	10.00	5.000	10.000	.00	0 .0
79.456	.0054					.0015	.12	9.31	.50	5.47	.014	-2.00	.00	RECTANG
4960.388	469.215	8.881	478.096	797.00	9.06	1.27	479.37	.00	5.90	10.00	5.000	10.000	.00	0 .0
74.919	.0054					.0016	.12	8.88	.54	5.47	.014	-2.00	.00	RECTANG
5035.307	469.620	8.471	478.091	797.00	9.50	1.40	479.49	.00	5.90	10.00	5.000	10.000	.00	0 .0
70.331	.0054					.0018	.13	8.47	.58	5.47	.014	-2.00	.00	RECTANG
5105.638	470.000	8.081	478.081	797.00	9.97	1.54	479.62	.00	5.90	10.00	5.000	10.000	.00	0 .0
65.601	.0054					.0021	.14	8.08	.62	5.47	.014	-2.00	.00	RECTANG
5171.238	470.354	7.709	478.063	797.00	10.45	1.70	479.76	.00	5.90	10.00	5.000	10.000	.00	0 .0
60.589	.0054					.0023	.14	7.71	.67	5.47	.014	-2.00	.00	RECTANG
5231.827	470.681	7.354	478.035	797.00	10.96	1.87	479.90	.00	5.90	10.00	5.000	10.000	.00	0 .0
55.067	.0054					.0026	.15	7.35	.72	5.47	.014	-2.00	.00	RECTANG
5286.895	470.979	7.016	477.994	797.00	11.50	2.05	480.05	.00	5.90	10.00	5.000	10.000	.00	0 .0
48.622	.0054					.0030	.15	7.02	.77	5.47	.014	-2.00	.00	RECTANG
5335.517	471.241	6.693	477.934	797.00	12.06	2.26	480.19	.00	5.90	10.00	5.000	10.000	.00	0 .0
40.414	.0054					.0034	.14	6.69	.83	5.47	.014	-2.00	.00	RECTANG
5375.930	471.460	6.385	477.845	797.00	12.65	2.48	480.33	.00	5.90	10.00	5.000	10.000	.00	0 .0
2.937	.0054					.0036	.01	6.39	.89	5.47	.014	-2.00	.00	RECTANG

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QDES=Q50=500CFS U/S 109+28.18 = 0+00 WLNT CYN CHNL 3-15A PLN &PRO & USDA
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Station / L/Elem	Invert Elev / Ch Slope	Depth (FT) / SF Ave	Water Elev / HF	Q (CFS) / SE Dpth	Vel (FPS) / Froude N	Vel Head / Norm Dp	Energy Grd.El. / "N"	Super Elev / X-Fall	Critical Depth / ZR	Flow Top Width / Type Ch	Height/Dia.-FT or I.D. / No Wth Prs/Pip
5378.867	471.476	6.362	477.838	797.00	12.69	2.50	480.34	.00	5.90	10.00	5.000
HYDRAULIC JUMP											
5378.867	471.476	5.469	476.944	797.00	14.80	3.40	480.35	.00	5.90	10.00	5.000
125.773	.0054					.0054	.68	5.47	1.12	5.47	.014
5504.640	472.155	5.469	477.624	797.00	14.80	3.40	481.02	.00	5.90	10.00	5.000
166.296	.0054					.0052	.86	5.47	1.12	5.47	.014
5670.937	473.053	5.632	478.685	797.00	14.36	3.20	481.89	.00	5.90	10.00	5.000
29.063	.0054					.0047	.14	5.63	1.07	5.47	.014
5700.000	473.210	5.904	479.114	797.00	13.69	2.91	482.03	.00	5.90	10.00	5.000
5700.000	473.210	5.167	478.377	797.00	15.68	3.82	482.19	.00	5.17	10.00	5.000
.005	.0055					.0063	.00	5.17	1.23	5.17	.014
5700.005	473.210	5.167	478.377	797.00	15.68	3.82	482.19	.00	5.17	10.00	5.000
19.995	.0055					.0108	.22	5.17	1.23	5.17	.014
5720.000	473.320	5.182	478.503	797.00	15.68	3.82	482.32	.00	5.17	10.00	5.000
5720.000	473.320	5.469	478.789	797.00	14.80	3.40	482.19	.00	5.90	10.00	5.000
329.437	.0054					.0054	1.78	5.47	1.12	5.47	.014
6049.437	475.099	5.469	480.568	797.00	14.80	3.40	483.97	.00	5.90	10.00	5.000
198.213	.0054					.0054	1.07	5.47	1.12	5.47	.014
6247.649	476.170	5.477	481.647	797.00	14.78	3.39	485.04	.02	5.90	10.00	5.000
54.750	.0054					.0054	.29	5.50	1.12	5.48	.014

Station / L/Elem	ZL / ZR	Base Wt or I.D. / X-Fall	No Wth Prs/Pip / Type Ch
5378.867	.00	10.000	0 .0
HYDRAULIC JUMP			
5378.867	.00	10.000	0 .0
125.773	.00	-2.00	RECTANG
5504.640	.00	10.000	0 .0
166.296	.00	-2.00	RECTANG
5670.937	.00	10.000	0 .0
29.063	.00	-2.00	RECTANG
5700.000	.00	10.000	0 .0
5700.000	.00	10.000	0 .0
.005	.00	-2.00	BOX
5700.005	.00	10.000	0 .0
19.995	.00	-2.00	BOX
5720.000	.00	10.000	0 .0
5720.000	.00	10.000	0 .0
329.437	.00	-2.00	RECTANG
6049.437	.00	10.000	0 .0
198.213	.00	-2.00	RECTANG
6247.649	.00	10.000	0 .0
54.750	.00	-2.00	RECTANG

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Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
6302.399	476.465	5.477	481.942	797.00	14.78	3.39	485.33	.02	5.90	10.00	5.000	10.000	.00	0 .0
237.251	.0054					.0057	1.35	5.50	1.12	5.48	.014	-2.00	.00	RECTANG
6539.651	477.741	5.260	483.001	797.00	15.39	3.68	486.68	.02	5.90	10.00	5.000	10.000	.00	0 .0
124.567	.0054					.0064	.80	5.28	1.19	5.48	.014	-2.00	.00	RECTANG
6664.218	478.411	5.020	483.430	797.00	16.15	4.05	487.48	.02	5.90	10.00	5.000	10.000	.00	0 .0
92.782	.0054					.0073	.67	5.04	1.28	5.48	.014	-2.00	.00	RECTANG
6757.000	478.910	4.790	483.700	797.00	16.93	4.45	488.15	.00	5.90	10.00	5.000	10.000	.00	0 .0
TRANS STR	.0067					.0078	.05	4.79	1.38		.014	-2.00	.00	RECTANG
6763.000	478.950	4.777	483.727	797.00	16.98	4.48	488.20	.01	5.17	10.00	5.000	10.000	.00	0 .0
19.990	.0055					.0079	.16	4.79	1.38	5.17	.014	-2.00	.00	BOX
---------- WARNING - Flow depth near top of box conduit ----------														
6783.000	479.060	4.726	483.786	797.00	17.17	4.58	488.36	.00	5.90	10.00	7.830	10.000	.00	0 .0
TRANS STR	.0033					.0081	.05	4.73	1.40		.014	-2.00	.00	RECTANG
6789.000	479.080	4.678	483.758	797.00	17.35	4.67	488.43	.03	5.90	10.00	5.000	10.000	.00	0 .0
36.784	.0054					.0085	.31	4.71	1.43	5.48	.014	-2.00	.00	RECTANG
6825.784	479.278	4.573	483.851	797.00	17.75	4.89	488.74	.03	5.90	10.00	5.000	10.000	.00	0 .0
70.146	.0054					.0094	.66	4.60	1.48	5.48	.014	-2.00	.00	RECTANG

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Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
6895.930	479.655	4.364	484.019	797.00	18.62	5.38	489.40	.03	5.90	10.00	5.000	10.000	.00	0 .0
64.070	.0054					.0107	.68	4.40	1.59	5.48	.014	-2.00	.00	RECTANG
6960.000	480.000	4.165	484.165	797.00	19.53	5.92	490.09	.00	5.90	10.00	5.000	10.000	.00	0 .0
TRANS STR	.0065					.0094	.19	4.16	1.70		.014	-1.50	.00	RECTANG
6980.000	480.130	6.126	486.256	797.00	16.43	4.19	490.45	.02	6.82	8.00	5.000	8.000	.00	0 .0
63.760	.0074					.0074	.47	6.15	1.18	6.12	.014	-1.50	.00	RECTANG
7043.760	480.600	6.130	486.730	797.00	16.42	4.19	490.92	.00	6.82	8.00	5.000	8.000	.00	0 .0
168.382	.0074					.0072	1.22	6.13	1.17	6.11	.014	-1.50	.00	RECTANG
7212.142	481.845	6.203	488.048	797.00	16.22	4.09	492.13	.00	6.82	8.00	5.000	8.000	.00	0 .0
107.427	.0074					.0067	.72	6.20	1.15	6.11	.014	-1.50	.00	RECTANG
7319.569	482.639	6.503	489.142	797.00	15.47	3.72	492.86	.00	6.82	8.00	5.000	8.000	.00	0 .0
16.431	.0074					.0060	.10	6.50	1.07	6.11	.014	-1.50	.00	RECTANG
7336.000	482.760	6.818	489.578	797.00	14.75	3.38	492.96	.00	6.82	8.00	5.000	8.000	.00	0 .0
JUNCT STR	.0075					.0107	.04	6.82	1.00		.024	-1.50	.00	RECTANG
7340.000	482.790	9.659	492.449	667.00	8.69	1.17	493.62	.00	6.06	8.00	5.000	8.000	.00	0 .0
58.800	.0074					.0018	.10	9.66	.49	5.33	.014	-1.50	.00	RECTANG
7398.800	483.223	9.213	492.436	667.00	9.11	1.29	493.73	.00	6.06	8.00	5.000	8.000	.00	0 .0
55.109	.0074					.0020	.11	9.21	.53	5.33	.014	-1.50	.00	RECTANG

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Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
7453.910	483.630	8.787	492.417	667.00	9.56	1.42	493.83	.00	6.06	8.00	5.000	8.000	.00	0 .0
23.090	.0074					.0022	.05	8.79	.57	5.33	.014	-1.50	.00	RECTANG
7477.000	483.800	8.606	492.406	667.00	9.76	1.48	493.88	.00	6.06	8.00	5.000	8.000	.00	0 .0
TRANS STR	.0080					.0022	.02	8.61	.59		.014	-1.50	.00	RECTANG
7487.000	483.880	8.527	492.406	667.00	16.47	4.21	496.62	.00	5.13	8.00	5.000	8.000	.00	0 .0
10.000	.0080					.0133	.13	8.53	1.29	5.13	.014	-1.50	.00	BOX
7497.010	483.960	8.580	492.540	667.00	9.79	1.49	494.03	.00	6.06	8.00	9.330	8.000	.00	0 .0
TRANS STR	.0070					.0022	.02	8.58	.59		.014	-1.50	.00	RECTANG
7507.000	484.030	8.515	492.544	667.00	9.86	1.51	494.06	.00	6.06	8.00	5.000	8.000	.00	0 .0
JUNCT STR	.0077					.0056	.07	8.51	.60		.024	-1.50	.00	RECTANG
7520.000	484.130	9.203	493.333	602.00	8.23	1.05	494.39	.00	5.67	8.00	5.000	8.000	.00	0 .0
55.542	.0074					.0016	.09	9.20	.48	4.93	.014	-1.50	.00	RECTANG
7575.542	484.540	8.778	493.318	602.00	8.63	1.16	494.48	.00	5.67	8.00	5.000	8.000	.00	0 .0
52.067	.0074					.0018	.09	8.78	.52	4.93	.014	-1.50	.00	RECTANG
7627.609	484.925	8.372	493.297	602.00	9.06	1.27	494.57	.00	5.67	8.00	5.000	8.000	.00	0 .0
48.543	.0074					.0020	.10	8.37	.55	4.93	.014	-1.50	.00	RECTANG
7676.153	485.283	7.985	493.269	602.00	9.50	1.40	494.67	.00	5.67	8.00	5.000	8.000	.00	0 .0
44.911	.0074					.0023	.10	7.99	.59	4.93	.014	-1.50	.00	RECTANG

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QDES=Q50=500CFS U/S 109+28.18 = 0+00 WLNT CYN CHNL 3-15A PLN &PRO & USDA

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Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
7721.063	485.615	7.617	493.232	602.00	9.96	1.54	494.77	.00	5.67	8.00	5.000	8.000	.00	0 .0
41.089	.0074					.0026	.11	7.62	.64	4.93	.014	-1.50	.00	RECTANG
7762.152	485.918	7.265	493.183	602.00	10.45	1.69	494.88	.00	5.67	8.00	5.000	8.000	.00	0 .0
36.958	.0074					.0029	.11	7.27	.69	4.93	.014	-1.50	.00	RECTANG
7799.110	486.191	6.930	493.121	602.00	10.96	1.86	494.99	.00	5.67	8.00	5.000	8.000	.00	0 .0
32.330	.0074					.0033	.11	6.93	.74	4.93	.014	-1.50	.00	RECTANG
7831.440	486.430	6.610	493.040	602.00	11.49	2.05	495.09	.00	5.67	8.00	5.000	8.000	.00	0 .0
12.951	.0074					.0036	.05	6.61	.79	4.93	.014	-1.50	.00	RECTANG
7844.391	486.526	6.477	493.002	602.00	11.73	2.14	495.14	.00	5.67	8.00	5.000	8.000	.00	0 .0
HYDRAULIC JUMP														
7844.391	486.526	4.925	491.451	602.00	15.47	3.72	495.17	.00	5.67	8.00	5.000	8.000	.00	0 .0
167.583	.0074					.0074	1.24	4.93	1.24	4.93	.014	-1.50	.00	RECTANG
8011.974	487.763	4.925	492.688	602.00	15.47	3.72	496.41	.00	5.67	8.00	5.000	8.000	.00	0 .0
288.026	.0074					.0077	2.22	4.93	1.24	4.93	.014	-1.50	.00	RECTANG
8300.000	489.890	4.778	494.668	602.00	15.96	3.96	498.62	.00	5.67	8.00	5.000	8.000	.00	0 .0
210.038	.0080					.0080	1.68	4.78	1.30	4.78	.014	-1.50	.00	RECTANG
8510.038	491.571	4.778	496.348	602.00	15.96	3.96	500.30	.00	5.67	8.00	5.000	8.000	.00	0 .0
302.352	.0080					.0080	2.42	4.78	1.30	4.78	.014	-1.50	.00	RECTANG

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EXIST COND. ANALYSIS OF WALNUT CANYON CHANNEL 7/11/96 (JCS)
QDES=Q50=500CFS U/S 109+28.18 = 0+00 WLNT CYN CHNL 3-15A PLN &PRO & USDA
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Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
8812.390	493.990	4.772	498.762	602.00	15.98	3.96	502.73	.08	5.67	8.00	5.000	8.000	.00	0 .0
274.261	.0080					.0083	2.27	4.85	1.30	4.78	.014	-1.50	.00	RECTANG
9086.650	496.180	4.665	500.845	602.00	16.35	4.15	505.00	.09	5.67	8.00	5.000	8.000	.00	0 .0
148.663	.0080					.0089	1.32	4.75	1.34	4.77	.014	-1.50	.00	RECTANG
9235.313	497.373	4.519	501.891	602.00	16.89	4.43	506.32	.09	5.67	8.00	5.000	8.000	.00	0 .0
125.597	.0080					.0099	1.24	4.61	1.41	4.77	.014	-1.50	.00	RECTANG
9360.910	498.380	4.311	502.691	602.00	17.71	4.87	507.56	.00	5.67	8.00	5.000	8.000	.00	0 .0
80.524	.0080					.0111	.90	4.31	1.51	4.78	.014	-1.50	.00	RECTANG
9441.435	499.023	4.135	503.158	602.00	18.48	5.30	508.46	.00	5.67	8.00	5.000	8.000	.00	0 .0
74.475	.0080					.0126	.94	4.13	1.61	4.78	.014	-1.50	.00	RECTANG
9515.909	499.618	3.945	503.564	602.00	19.38	5.83	509.40	.00	5.67	8.00	5.000	8.000	.00	0 .0
64.091	.0080					.0143	.91	3.95	1.73	4.78	.014	-1.50	.00	RECTANG
9580.000	500.130	3.765	503.895	602.00	20.33	6.41	510.31	.00	5.67	8.00	5.000	8.000	.00	0 .0
TRANS STR	.0080					.0130	.26	3.76	1.86		.014	.00	.00	RECTANG
9600.001	500.290	5.785	506.075	602.00	17.34	4.67	510.75	.00	6.79	6.00	5.000	6.000	.00	0 .0
4.998	.0218					.0106	.05	5.78	1.27	4.36	.014	.00	.00	RECTANG
9604.999	500.399	5.882	506.281	602.00	17.06	4.52	510.80	.00	6.79	6.00	5.000	6.000	.00	0 .0
10.287	.0218					.0098	.10	5.88	1.24	4.36	.014	.00	.00	RECTANG

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Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
9615.286	500.623	6.169	506.792	602.00	16.26	4.11	510.90	.00	6.79	6.00	5.000	6.000	.00	0 .0
5.521	.0218					.0087	.05	6.17	1.15	4.36	.014	.00	.00	RECTANG
9620.808	500.743	6.470	507.214	602.00	15.51	3.73	510.95	.00	6.79	6.00	5.000	6.000	.00	0 .0
1.683	.0218					.0078	.01	6.47	1.07	4.36	.014	.00	.00	RECTANG
9622.490	500.780	6.787	507.567	602.00	14.78	3.39	510.96	.00	6.79	6.00	5.000	6.000	.00	0 .0
JUNCT STR	.0221							7.20	1.00		.014	.00	.00	RECTANG
9676.000	501.960	3.427	505.387	469.00	22.81	8.08	513.47	.00	5.75	6.00	5.000	6.000	.00	0 .0
JUNCT STR	.0221							3.43	2.17		.014	.00	.00	RECTANG
9676.000	501.960	8.657	510.617	469.00	15.63	3.80	514.41	.00	5.00	6.00	5.000	6.000	.00	0 .0
57.000	.0219					.0143	.82	.00	1.23	3.59	.014	.00	.00	BOX
9733.000	503.210	8.684	511.894	469.00	15.63	3.80	515.69	.00	5.00	6.00	5.000	6.000	.00	0 .0
9733.000	503.210	3.379	506.589	469.00	23.14	8.31	514.90	1.00	5.75	6.00	5.000	6.000	.00	0 .0
7.090	.0106					.0259	.18	4.38	2.22	4.76	.014	.00	.00	RECTANG
9740.090	503.285	3.351	506.637	469.00	23.32	8.45	515.08	1.02	5.75	6.00	5.000	6.000	.00	0 .0
39.771	.0106					.0279	1.11	4.37	2.25	4.76	.014	.00	.00	RECTANG
9779.860	503.707	3.195	506.902	469.00	24.46	9.29	516.19	1.12	5.75	6.00	5.000	6.000	.00	0 .0
37.040	.0106					.0317	1.17	4.32	2.41	4.76	.014	.00	.00	RECTANG
9816.900	504.100	3.047	507.147	469.00	25.66	10.22	517.37	.00	5.75	6.00	5.000	6.000	.00	0 .0
55.594	.0249					.0352	1.95	3.05	2.59	3.42	.014	.00	.00	RECTANG

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EXIST COND. ANALYSIS OF WALNUT CANYON CHANNEL 7/11/96 (JCS)

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Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
9872.494	505.484	2.952	508.435	469.00	26.48	10.89	519.32	.00	5.75	6.00	5.000	6.000	.00	0 .0
66.771	.0249					.0391	2.61	2.95	2.72	3.42	.014	.00	.00	RECTANG
9939.266	507.145	2.815	509.960	469.00	27.77	11.98	521.94	.00	5.75	6.00	5.000	6.000	.00	0 .0
54.428	.0249					.0445	2.42	2.81	2.92	3.42	.014	.00	.00	RECTANG
9993.693	508.500	2.684	511.183	469.00	29.13	13.17	524.36	.00	5.75	6.00	5.000	6.000	.00	0 .0
46.372	.0249					.0506	2.35	2.68	3.13	3.42	.014	.00	.00	RECTANG
10040.070	509.654	2.559	512.213	469.00	30.55	14.49	526.70	.00	5.75	6.00	5.000	6.000	.00	0 .0
40.650	.0249					.0576	2.34	2.56	3.37	3.42	.014	.00	.00	RECTANG
10080.720	510.666	2.440	513.105	469.00	32.04	15.94	529.05	.00	5.75	6.00	5.000	6.000	.00	0 .0
36.339	.0249					.0656	2.38	2.44	3.62	3.42	.014	.00	.00	RECTANG
10117.050	511.570	2.326	513.896	469.00	33.60	17.54	531.43	.00	5.75	6.00	5.000	6.000	.00	0 .0
32.945	.0249					.0748	2.47	2.33	3.88	3.42	.014	.00	.00	RECTANG
10150.000	512.390	2.218	514.608	469.00	35.24	19.29	533.90	.00	5.75	6.00	5.000	6.000	.00	0 .0
12.104	.1600					.0767	.93	2.22	4.17	1.73	.014	.00	.00	RECTANG
10162.100	514.327	2.282	516.608	469.00	34.26	18.22	534.83	.00	5.75	6.00	5.000	6.000	.00	0 .0
17.017	.1600					.0692	1.18	2.28	4.00	1.73	.014	.00	.00	RECTANG
10179.120	517.049	2.393	519.442	469.00	32.66	16.57	536.01	.00	5.75	6.00	5.000	6.000	.00	0 .0
13.992	.1600					.0607	.85	2.39	3.72	1.73	.014	.00	.00	RECTANG

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Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
10193.110	519.288	2.510	521.798	469.00	31.14	15.06	536.86	.00	5.75	6.00	5.000	6.000	.00	0 .0
11.686	.1600					.0533	.62	2.51	3.46	1.73	.014	.00	.00	RECTANG
10204.800	521.158	2.632	523.790	469.00	29.69	13.69	537.48	.00	5.75	6.00	5.000	6.000	.00	0 .0
9.865	.1600					.0469	.46	2.63	3.23	1.73	.014	.00	.00	RECTANG
10214.660	522.736	2.761	525.497	469.00	28.31	12.45	537.94	.00	5.75	6.00	5.000	6.000	.00	0 .0
8.391	.1600					.0412	.35	2.76	3.00	1.73	.014	.00	.00	RECTANG
10223.050	524.079	2.896	526.974	469.00	26.99	11.31	538.29	.00	5.75	6.00	5.000	6.000	.00	0 .0
7.171	.1600					.0363	.26	2.90	2.80	1.73	.014	.00	.00	RECTANG
10230.230	525.226	3.037	528.263	469.00	25.74	10.29	538.55	.00	5.75	6.00	5.000	6.000	.00	0 .0
6.145	.1600					.0319	.20	3.04	2.60	1.73	.014	.00	.00	RECTANG
10236.370	526.209	3.185	529.394	469.00	24.54	9.35	538.75	.00	5.75	6.00	5.000	6.000	.00	0 .0
5.269	.1600					.0282	.15	3.19	2.42	1.73	.014	.00	.00	RECTANG
10241.640	527.052	3.341	530.393	469.00	23.40	8.50	538.89	.00	5.75	6.00	5.000	6.000	.00	0 .0
4.512	.1600					.0248	.11	3.34	2.26	1.73	.014	.00	.00	RECTANG
10246.150	527.774	3.504	531.278	469.00	22.31	7.73	539.01	.00	5.75	6.00	5.000	6.000	.00	0 .0
3.850	.1600					.0219	.08	3.50	2.10	1.73	.014	.00	.00	RECTANG
10250.000	528.390	3.675	532.065	469.00	21.27	7.03	539.09	.00	5.75	6.00	5.000	6.000	.00	0 .0
155.222	.0210					.0203	3.15	3.67	1.96	3.65	.014	.00	.00	RECTANG

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Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
10405.220	531.650	3.713	535.363	469.00	21.05	6.88	542.24	.00	5.75	6.00	5.000	6.000	.00	0 .0
207.269	.0210					.0189	3.91	3.71	1.92	3.65	.014	.00	.00	RECTANG
10612.490	536.002	3.895	539.897	469.00	20.07	6.25	546.15	.00	5.75	6.00	5.000	6.000	.00	0 .0
87.510	.0210					.0167	1.46	3.89	1.79	3.65	.014	.00	.00	RECTANG
10700.000	537.840	4.085	541.925	469.00	19.14	5.69	547.61	.00	5.75	6.00	5.000	6.000	.00	0 .0
TRANS STR	.0210					.0155	.16	4.08	1.67		.014	.00	.00	RECTANG
10710.000	538.050	4.112	542.161	469.00	19.01	5.61	547.77	.00	5.75	6.00	6.000	6.000	.00	0 .0
1.512	.0210					.0154	.02	4.11	1.65	3.64	.014	.00	.00	BOX
10711.510	538.082	4.116	542.198	469.00	18.99	5.60	547.80	.00	5.75	6.00	6.000	6.000	.00	0 .0
47.027	.0210					.0145	.68	4.12	1.65	3.64	.014	.00	.00	BOX
10758.540	539.070	4.317	543.388	469.00	18.11	5.09	548.48	.00	5.75	6.00	6.000	6.000	.00	0 .0
30.715	.0210					.0128	.39	4.32	1.54	3.64	.014	.00	.00	BOX
10789.250	539.716	4.528	544.244	469.00	17.26	4.63	548.87	.00	5.75	6.00	6.000	6.000	.00	0 .0
20.666	.0210					.0114	.23	4.53	1.43	3.64	.014	.00	.00	BOX
10809.920	540.150	4.749	544.899	469.00	16.46	4.21	549.11	.00	5.75	6.00	6.000	6.000	.00	0 .0
13.764	.0210					.0101	.14	4.75	1.33	3.64	.014	.00	.00	BOX
10823.680	540.440	4.981	545.420	469.00	15.69	3.82	549.24	.00	5.75	6.00	6.000	6.000	.00	0 .0
8.658	.0210					.0089	.08	4.98	1.24	3.64	.014	.00	.00	BOX

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Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
10832.340	540.622	5.224	545.846	469.00	14.96	3.48	549.32	.00	5.75	6.00	6.000	6.000	.00	0 .0
4.672	.0210					.0079	.04	5.22	1.15	3.64	.014	.00	.00	BOX
10837.010	540.720	5.479	546.199	469.00	14.27	3.16	549.36	.00	5.75	6.00	6.000	6.000	.00	0 .0
1.427	.0210					.0071	.01	5.48	1.07	3.64	.014	.00	.00	BOX
		---------- WARNING - Flow depth near top of box conduit ----------												
10838.440	540.750	5.747	546.497	469.00	13.60	2.87	549.37	.00	5.75	6.00	6.000	6.000	.00	0 .0
JUNCT STR	.0771					.0066	.38	5.75	1.00		.014	.00	.00	BOX
		---------- WARNING - Flow depth near top of box conduit ----------												
10896.180	545.200	4.054	549.254	292.00	4.55	.32	549.58	.00	2.19	15.83	6.000	15.830	.00	0 .0
10896.180	545.200	1.781	546.981	292.00	20.50	6.52	553.51	.00	3.46	8.00	6.000	8.000	.00	0 .0
32.000	.0259					.0285	.91	1.78	2.71	1.83	.014	.00	.00	BOX
10928.180	546.030	1.768	547.798	292.00	20.65	6.62	554.42	.00	3.46	8.00	6.000	8.000	.00	0 .0
TRANS STR	.0260					.0273	.55	1.77	2.74		.014	.00	.00	BOX
10948.180	546.550	2.057	548.607	292.00	20.28	6.39	554.99	.00	3.78	7.00	4.500	7.000	.00	0 .0
80.311	.0258					.0259	2.08	2.06	2.49	2.06	.014	.00	.00	RECTANG
11028.490	548.620	2.055	550.675	292.00	20.30	6.40	557.07	.22	3.78	7.00	4.500	7.000	.00	0 .0
207.990	.0258					.0262	5.45	2.28	2.50	2.06	.014	.00	.00	RECTANG

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QDES=Q50=500CFS U/S 109+28.18 = 0+00 WLNT CYN CHNL 3-15A PLN &PRO & USDA

SC G:\GRP13\USERS\JCS\JN\ \WSPG\WALNUT.EXS ANALYSIS DEFIC CHNL IMPR OF

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
11236.480	553.990	2.040	556.030	292.00	20.44	6.49	562.52	.00	3.78	7.00	4.500	7.000	.00	0 .0
166.066	.0257					.0274	4.55	2.04	2.52	2.06	.014	.00	.00	RECTANG
11402.550	558.266	1.991	560.256	292.00	20.95	6.82	567.07	.00	3.78	7.00	4.500	7.000	.00	0 .0
125.633	.0257					.0304	3.82	1.99	2.62	2.06	.014	.00	.00	RECTANG
11528.180	561.500	1.898	563.398	292.00	21.98	7.50	570.90	.00	3.78	7.00	4.500	7.000	.00	0 .0
22.209	.0325					.0325	.72	1.90	2.81	1.90	.014	.00	.00	RECTANG
11550.390	562.222	1.898	564.120	292.00	21.98	7.50	571.62	.00	3.78	7.00	4.500	7.000	.00	0 .0
285.120	.0325					.0306	8.71	1.90	2.81	1.90	.014	.00	.00	RECTANG
11835.510	571.488	1.984	573.473	292.00	21.02	6.86	580.33	.00	3.78	7.00	4.500	7.000	.00	0 .0
92.671	.0325					.0268	2.48	1.98	2.63	1.90	.014	.00	.00	RECTANG
11928.180	574.500	2.081	576.581	292.00	20.04	6.24	582.82	.00	3.78	7.00	4.500	7.000	.00	0 .0
38.953	.0250					.0250	.97	2.08	2.45	2.08	.014	.00	.00	RECTANG
11967.130	575.474	2.081	577.555	292.00	20.04	6.24	583.79	.00	3.78	7.00	4.500	7.000	.00	0 .0
291.047	.0250					.0265	7.71	2.08	2.45	2.08	.014	.00	.00	RECTANG
12258.180	582.750	2.001	584.751	292.00	20.84	6.75	591.50	.00	3.78	7.00	4.500	7.000	.00	0 .0
50.000	.0250					.0286	1.43	2.00	2.60	2.08	.014	.00	.00	BOX
12308.180	584.000	1.971	585.971	292.00	21.17	6.96	592.93	.00	3.78	7.00	4.500	7.000	.00	0 .0
39.222	.0250					.0299	1.17	1.97	2.66	2.08	.014	.00	.00	BOX

Program Package Serial Number: 1577

WATER SURFACE PROFILE LISTING Date: 4- 6-2005 Time: 2:51:28

EXIST COND. ANALYSIS OF WALNUT CANYON CHANNEL 7/11/96 (JCS)
QDES=Q50=500CFS U/S 109+28.18 = 0+00 WLNT CYN CHNL 3-15A PLN &PRO & USDA
SC G:\GRP13\USERS\JCS\JN\ \WSPG\WALNUT.EXS ANALYSIS DEFIC CHNL IMPR OF

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
12347.400	584.981	1.940	586.921	292.00	21.50	7.18	594.10	.00	3.78	7.00	4.500	7.000	.00	0 .0
80.778	.0250					.0328	2.65	1.94	2.72	2.08	.014	.00	.00	BOX
12428.180	587.000	1.850	588.850	292.00	22.55	7.90	596.75	.00	3.78	7.00	4.500	7.000	.00	0 .0
625.099	.0350					.0350	21.88	1.85	2.92	1.85	.014	.00	.00	BOX
13053.280	608.878	1.850	610.728	292.00	22.55	7.90	618.63	.00	3.78	7.00	4.500	7.000	.00	0 .0
274.901	.0350					.0357	9.82	1.85	2.92	1.85	.014	.00	.00	BOX
13328.180	618.500	1.824	620.324	292.00	22.87	8.12	628.44	.00	3.78	7.00	4.500	7.000	.00	0 .0
23.545	.0400					.0361	.85	1.82	2.98	1.77	.014	.00	.00	BOX
13351.720	619.442	1.835	621.277	292.00	22.73	8.02	629.30	.00	3.78	7.00	4.500	7.000	.00	0 .0
98.575	.0400					.0335	3.30	1.84	2.96	1.77	.014	.00	.00	BOX
13450.300	623.385	1.925	625.310	292.00	21.67	7.29	632.60	.00	3.78	7.00	4.500	7.000	.00	0 .0
52.880	.0400					.0292	1.55	1.92	2.75	1.77	.014	.00	.00	BOX
13503.180	625.500	2.019	627.519	292.00	20.66	6.63	634.15	.00	3.78	7.00	4.500	7.000	.00	0 .0
12.133	.0390					.0267	.32	2.02	2.56	1.78	.014	.00	.00	BOX
13515.310	625.973	2.046	628.019	292.00	20.39	6.45	634.47	.00	3.78	7.00	4.500	7.000	.00	0 .0
33.871	.0390					.0246	.83	2.05	2.51	1.78	.014	.00	.00	BOX
13549.180	627.292	2.146	629.438	292.00	19.44	5.87	635.31	.00	3.78	7.00	4.500	7.000	.00	0 .0
24.533	.0390					.0215	.53	2.15	2.34	1.78	.014	.00	.00	BOX

Program Package Serial Number: 1577

WATER SURFACE PROFILE LISTING Date: 4- 6-2005 Time: 2:51:28

EXIST COND. ANALYSIS OF WALNUT CANYON CHANNEL 7/11/96 (JCS)

QDES=Q50=500CFS U/S 109+28.18 = 0+00 WLNT CYN CHNL 3-15A PLN &PRO & USDA

SC G:\GRP13\USERS\JCS\JN\ \WSPG\WALNUT.EXS ANALYSIS DEFIC CHNL IMPR OF

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
13573.720	628.248	2.251	630.499	292.00	18.53	5.33	635.83	.00	3.78	7.00	4.500	7.000	.00	0 .0
18.598	.0390					.0188	.35	2.25	2.18	1.78	.014	.00	.00	BOX
13592.310	628.972	2.361	631.333	292.00	17.67	4.85	636.18	.00	3.78	7.00	4.500	7.000	.00	0 .0
14.465	.0390					.0164	.24	2.36	2.03	1.78	.014	.00	.00	BOX
13606.780	629.536	2.476	632.012	292.00	16.85	4.41	636.42	.00	3.78	7.00	4.500	7.000	.00	0 .0
11.400	.0390					.0144	.16	2.48	1.89	1.78	.014	.00	.00	BOX
13618.180	629.980	2.597	632.577	292.00	16.07	4.01	636.58	.00	3.78	7.00	4.500	7.000	.00	0 .0
TRANS STR	.2013					.0123	.18	2.60	1.76		.014	.00	.00	BOX
13633.180	633.000	1.499	634.499	292.00	12.98	2.62	637.12	.00	2.27	15.00	7.000	15.000	.00	0 .0
TRANS STR	.0208					.0073	.09	1.50	1.87		.014	.00	.00	RECTANG
13645.180	633.250	2.797	636.047	292.00	9.49	1.40	637.45	.00	2.80	11.00	7.000	11.000	.00	0 .0

Gabbert/Walnut Canyon Channels
Revised Flood Control Study
Proposed Condition Hydraulics-WSPG

Gabbert/Walnut Canyon Channels

Revised Flood Control Study

D/S Control WSE Critical Depth

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)

QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)

wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
8001.430	433.160	1.563	434.723	830.00	22.01	7.53	442.25	.00	3.27	27.25	15.000	21.000	2.00	0 .0
1.911	.2623					.1775	.34	1.56	3.30	1.40	.035	.00	2.00	TRAP
8003.341	433.661	1.579	435.241	830.00	21.75	7.35	442.59	.00	3.27	27.32	15.000	21.000	2.00	0 .0
6.014	.2623					.1625	.98	1.58	3.24	1.40	.035	.00	2.00	TRAP
8009.355	435.239	1.647	436.886	830.00	20.74	6.68	443.57	.00	3.27	27.59	15.000	21.000	2.00	0 .0
4.413	.2623					.1407	.62	1.65	3.03	1.40	.035	.00	2.00	TRAP
8013.769	436.396	1.718	438.114	830.00	19.77	6.07	444.19	.00	3.27	27.87	15.000	21.000	2.00	0 .0
3.409	.2623					.1218	.42	1.72	2.84	1.40	.035	.00	2.00	TRAP
8017.177	437.291	1.791	439.081	830.00	18.85	5.52	444.60	.00	3.27	28.16	15.000	21.000	2.00	0 .0
2.717	.2623					.1055	.29	1.79	2.66	1.40	.035	.00	2.00	TRAP
8019.894	438.003	1.867	439.870	830.00	17.98	5.02	444.89	.00	3.27	28.47	15.000	21.000	2.00	0 .0
2.209	.2623					.0915	.20	1.87	2.49	1.40	.035	.00	2.00	TRAP
8022.104	438.583	1.945	440.528	830.00	17.14	4.56	445.09	.00	3.27	28.78	15.000	21.000	2.00	0 .0
1.820	.2623					.0793	.14	1.95	2.33	1.40	.035	.00	2.00	TRAP
8023.923	439.060	2.027	441.087	830.00	16.34	4.15	445.23	.00	3.27	29.11	15.000	21.000	2.00	0 .0
1.511	.2623					.0688	.10	2.03	2.18	1.40	.035	.00	2.00	TRAP
8025.434	439.456	2.112	441.568	830.00	15.58	3.77	445.34	.00	3.27	29.45	15.000	21.000	2.00	0 .0
1.258	.2623					.0597	.08	2.11	2.04	1.40	.035	.00	2.00	TRAP

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)

QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)

wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
8026.692	439.786	2.200	441.986	830.00	14.86	3.43	445.41	.00	3.27	29.80	15.000	21.000	2.00	0 .0
1.048	.2623					.0518	.05	2.20	1.91	1.40	.035	.00	2.00	TRAP
8027.740	440.061	2.291	442.352	830.00	14.17	3.12	445.47	.00	3.27	30.16	15.000	21.000	2.00	0 .0
.870	.2623					.0450	.04	2.29	1.79	1.40	.035	.00	2.00	TRAP
8028.610	440.289	2.385	442.674	830.00	13.51	2.83	445.51	.00	3.27	30.54	15.000	21.000	2.00	0 .0
.716	.2623					.0391	.03	2.38	1.68	1.40	.035	.00	2.00	TRAP
8029.326	440.477	2.482	442.960	830.00	12.88	2.58	445.53	.00	3.27	30.93	15.000	21.000	2.00	0 .0
.583	.2623					.0339	.02	2.48	1.57	1.40	.035	.00	2.00	TRAP
8029.909	440.630	2.583	443.213	830.00	12.28	2.34	445.55	.00	3.27	31.33	15.000	21.000	2.00	0 .0
.465	.2623					.0295	.01	2.58	1.47	1.40	.035	.00	2.00	TRAP
8030.374	440.752	2.688	443.440	830.00	11.71	2.13	445.57	.00	3.27	31.75	15.000	21.000	2.00	0 .0
.360	.2623					.0257	.01	2.69	1.38	1.40	.035	.00	2.00	TRAP
8030.734	440.846	2.796	443.643	830.00	11.16	1.93	445.58	.00	3.27	32.18	15.000	21.000	2.00	0 .0
.266	.2623					.0223	.01	2.80	1.29	1.40	.035	.00	2.00	TRAP
8031.000	440.916	2.908	443.824	830.00	10.64	1.76	445.58	.00	3.27	32.63	15.000	21.000	2.00	0 .0
.182	.2623					.0194	.00	2.91	1.21	1.40	.035	.00	2.00	TRAP
8031.182	440.964	3.024	443.988	830.00	10.15	1.60	445.59	.00	3.27	33.10	15.000	21.000	2.00	0 .0
.104	.2623					.0169	.00	3.02	1.14	1.40	.035	.00	2.00	TRAP

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT) / SF Ave	Water Elev / HF	Q (CFS) / SE Dpth	Vel (FPS) / Froude N	Vel Head / Norm Dp	Energy Grd.El. / "N"	Super Elev / X-Fall	Critical Depth / ZR	Flow Top Width / Type Ch	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
8031.286	440.991	3.144	444.135	830.00	9.68	1.45	445.59	.00	3.27	33.58	15.000	21.000	2.00	0 .0
.034	.2623					.0147	.00	3.14	1.07	1.40	.035	.00	2.00	TRAP
8031.320	441.000	3.269	444.269	830.00	9.22	1.32	445.59	.00	3.27	34.07	15.000	21.000	2.00	0 .0
.738	.0021					.0128	.01	3.27	1.00	5.47	.035	.00	2.00	TRAP
8032.058	441.002	3.397	444.398	830.00	8.79	1.20	445.60	.00	3.27	34.59	15.000	21.000	2.00	0 .0
2.538	.0021					.0112	.03	3.40	.94	5.47	.035	.00	2.00	TRAP
8034.596	441.007	3.529	444.536	830.00	8.38	1.09	445.63	.00	3.27	35.12	15.000	21.000	2.00	0 .0
4.874	.0021					.0097	.05	3.53	.88	5.47	.035	.00	2.00	TRAP
8039.470	441.017	3.665	444.682	830.00	7.99	.99	445.67	.00	3.27	35.66	15.000	21.000	2.00	0 .0
7.917	.0021					.0085	.07	3.67	.83	5.47	.035	.00	2.00	TRAP
8047.387	441.033	3.806	444.840	830.00	7.62	.90	445.74	.00	3.27	36.23	15.000	21.000	2.00	0 .0
11.917	.0021					.0074	.09	3.81	.77	5.47	.035	.00	2.00	TRAP
8059.303	441.058	3.952	445.010	830.00	7.27	.82	445.83	.00	3.27	36.81	15.000	21.000	2.00	0 .0
17.236	.0021					.0065	.11	3.95	.73	5.47	.035	.00	2.00	TRAP
8076.540	441.094	4.102	445.196	830.00	6.93	.75	445.94	.00	3.27	37.41	15.000	21.000	2.00	0 .0
24.439	.0021					.0057	.14	4.10	.68	5.47	.035	.00	2.00	TRAP
8100.979	441.145	4.257	445.402	830.00	6.61	.68	446.08	.00	3.27	38.03	15.000	21.000	2.00	0 .0
34.437	.0021					.0049	.17	4.26	.64	5.47	.035	.00	2.00	TRAP

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
8135.416	441.217	4.417	445.634	830.00	6.30	.62	446.25	.00	3.27	38.67	15.000	21.000	2.00	0 .0
48.817	.0021					.0043	.21	4.42	.60	5.47	.035	.00	2.00	TRAP
8184.232	441.318	4.582	445.900	830.00	6.01	.56	446.46	.00	3.27	39.33	15.000	21.000	2.00	0 .0
70.599	.0021					.0038	.27	4.58	.56	5.47	.035	.00	2.00	TRAP
8254.831	441.465	4.752	446.217	830.00	5.73	.51	446.73	.00	3.27	40.01	15.000	21.000	2.00	0 .0
106.320	.0021					.0033	.35	4.75	.53	5.47	.035	.00	2.00	TRAP
8361.151	441.686	4.927	446.614	830.00	5.46	.46	447.08	.00	3.27	40.71	15.000	21.000	2.00	0 .0
173.275	.0021					.0029	.50	4.93	.50	5.47	.035	.00	2.00	TRAP
8534.427	442.047	5.108	447.155	830.00	5.21	.42	447.58	.00	3.27	41.43	15.000	21.000	2.00	0 .0
337.017	.0021					.0025	.85	5.11	.47	5.47	.035	.00	2.00	TRAP
8871.443	442.748	5.294	448.042	830.00	4.96	.38	448.42	.00	3.27	42.18	15.000	21.000	2.00	0 .0
683.716	.0021					.0022	1.53	5.29	.44	5.47	.035	.00	2.00	TRAP
9555.160	444.170	5.431	449.601	830.00	4.80	.36	449.96	.00	3.27	42.73	15.000	21.000	2.00	0 .0
1223.222	.0021					.0021	2.59	5.43	.42	5.46	.035	.00	2.00	TRAP
10778.380	446.739	5.456	452.195	830.00	4.77	.35	452.55	.00	3.27	42.82	15.000	21.000	2.00	0 .0
271.618	.0021					.0021	.57	5.46	.42	5.46	.035	.00	2.00	TRAP
11050.000	447.310	5.456	452.766	830.00	4.77	.35	453.12	.11	3.27	42.82	15.000	21.000	2.00	0 .0
TRANS STR	.0021							5.57	.42		.014	-2.50	2.00	TRAP

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
WAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
11100.000	447.415	3.992	451.407	830.00	15.25	3.61	455.02	.72	4.88	14.00	6.000	14.000	.00	0 .0
64.352	.0046					.0063	.40	4.71	1.36	4.38	.014	-2.50	.00	BOX
11164.350	447.711	3.877	451.588	830.00	15.71	3.83	455.42	.77	4.88	14.00	6.000	14.000	.00	0 .0
85.648	.0046					.0070	.60	4.64	1.43	4.38	.014	-2.50	.00	BOX
11250.000	448.105	3.702	451.807	830.00	16.48	4.22	456.02	.84	4.88	14.00	6.000	14.000	.00	0 .0
TRANS STR	.0047					.0078	.23	4.55	1.53		.014	-2.50	.00	BOX
11280.000	448.246	3.603	451.849	830.00	16.94	4.46	456.31	.00	4.88	14.00	5.000	14.000	.00	0 .0
20.000	.0047					.0083	.17	3.60	1.60	4.34	.014	-2.50	.00	RECTANG
11300.000	448.340	3.558	451.898	830.00	17.17	4.58	456.47	.00	4.88	14.00	5.000	14.000	.00	0 .0
22.301	.0095					.0084	.19	3.56	1.63	3.42	.014	-2.50	.00	RECTANG
11322.300	448.552	3.573	452.125	830.00	17.09	4.54	456.66	.00	4.88	14.00	5.000	14.000	.00	0 .0
143.295	.0095					.0078	1.12	3.57	1.62	3.42	.014	-2.50	.00	RECTANG
11465.600	449.913	3.742	453.655	830.00	16.30	4.12	457.78	.00	4.88	14.00	5.000	14.000	.00	0 .0
73.225	.0095					.0068	.50	3.74	1.51	3.42	.014	-2.50	.00	RECTANG
11538.820	450.609	3.920	454.528	830.00	15.54	3.75	458.28	.00	4.88	14.00	5.000	14.000	.00	0 .0
43.404	.0095					.0059	.26	3.92	1.40	3.42	.014	-2.50	.00	RECTANG
11582.220	451.021	4.106	455.127	830.00	14.82	3.41	458.54	.00	4.88	14.00	5.000	14.000	.00	0 .0
26.544	.0095					.0052	.14	4.11	1.31	3.42	.014	-2.50	.00	RECTANG

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
11608.770	451.273	4.301	455.574	830.00	14.13	3.10	458.67	.00	4.88	14.00	5.000	14.000	.00	0 .0
15.462	.0095					.0045	.07	4.30	1.22	3.42	.014	-2.50	.00	RECTANG
11624.230	451.420	4.506	455.926	830.00	13.47	2.82	458.74	.00	4.88	14.00	5.000	14.000	.00	0 .0
40.000	.0045					.0042	.17	4.51	1.13	4.41	.014	-2.50	.00	RECTANG
11664.230	451.600	4.559	456.159	830.00	13.31	2.75	458.91	.77	4.88	14.00	5.000	14.000	.00	0 .0
27.241	.0047					.0040	.11	5.33	1.11	4.35	.014	-2.50	.00	RECTANG
11691.470	451.727	4.660	456.387	830.00	13.01	2.63	459.02	.74	4.88	14.00	5.000	14.000	.00	0 .0
15.528	.0047					.0036	.06	5.40	1.07	4.35	.014	-2.50	.00	RECTANG
11707.000	451.800	4.883	456.683	830.00	12.41	2.39	459.07	.00	4.88	14.00	5.000	14.000	.00	0 .0
JUNCT STR	.0050							5.56	1.00		.014	-2.50	.00	RECTANG
11711.000	451.820	3.540	455.360	508.00	12.32	2.36	457.72	.57	3.92	12.00	5.000	12.000	.00	0 .0
32.000	.0047					.0047	.15	4.11	1.17	3.54	.014	-2.50	.00	RECTANG
11743.000	451.970	3.540	455.510	508.00	12.32	2.36	457.87	.57	3.92	12.00	5.000	12.000	.00	0 .0
115.450	.0047					.0047	.54	4.11	1.17	3.54	.014	-2.50	.00	RECTANG
11858.450	452.510	3.533	456.043	508.00	12.35	2.37	458.41	.00	3.92	12.00	5.000	12.000	.00	0 .0
522.381	.0047					.0047	2.46	3.53	1.17	3.53	.014	-2.50	.00	RECTANG
12380.830	454.972	3.533	458.505	508.00	12.35	2.37	460.87	.00	3.92	12.00	5.000	12.000	.00	0 .0
206.487	.0047					.0048	1.00	3.53	1.17	3.53	.014	-2.50	.00	RECTANG

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT) / SF Ave	Water Elev / HF	Q (CFS) / SE Dpth	Vel (FPS) / Froude N	Vel Head / Norm Dp	Energy Grd.El. / "N"	Super Elev / X-Fall	Critical Depth / ZR	Flow Top Width / Type Ch	Height/Dia.-FT / No Wth Prs/Pip
12587.320	455.945	3.472	459.417	508.00	12.57	2.45	461.87	.00	3.92	12.00	5.000
145.707	.0047					.0053	.78	3.47	1.21	3.53	.014
12733.030	456.631	3.316	459.947	508.00	13.18	2.70	462.64	.00	3.92	12.00	5.000
86.870	.0047					.0061	.53	3.32	1.30	3.53	.014
12819.900	457.040	3.166	460.207	508.00	13.83	2.97	463.17	.00	3.92	12.00	5.000
67.616	.0047					.0070	.47	3.17	1.39	3.53	.014
12887.510	457.359	3.024	460.383	508.00	14.50	3.26	463.65	.00	3.92	12.00	5.000
57.488	.0047					.0080	.46	3.02	1.50	3.53	.014
12945.000	457.630	2.888	460.518	508.00	15.21	3.59	464.11	.00	3.92	12.00	5.000
TRANS STR	.0045					.0068	.14	2.89	1.61		.014
12965.000	457.720	4.041	461.761	508.00	12.83	2.56	464.32	.00	4.39	10.00	8.000
68.430	.0051					.0050	.34	4.04	1.14	4.01	.014
13033.430	458.070	4.081	462.151	508.00	12.71	2.51	464.66	1.32	4.39	10.00	8.000
50.570	.0051					.0047	.24	5.40	1.12	4.01	.014
13084.000	458.330	4.183	462.513	508.00	12.39	2.38	464.90	.00	4.39	10.00	8.000
TRANS STR	.0050					.0048	.05	4.18	1.08		.014
13094.000	458.380	4.019	462.399	508.00	12.91	2.59	464.99	.00	4.39	10.00	6.000
899.394	.0051					.0051	4.59	4.02	1.15	4.02	.014

Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
12.000	.00	0 .0
-2.50	.00	RECTANG
12.000	.00	0 .0
-2.50	.00	RECTANG
12.000	.00	0 .0
-2.50	.00	RECTANG
12.000	.00	0 .0
-2.50	.00	RECTANG
12.000	.00	0 .0
-2.50	.00	RECTANG
10.000	.00	0 .0
-2.00	.00	BOX
10.000	.00	0 .0
-2.00	.00	BOX
10.000	.00	0 .0
-2.00	.00	BOX
10.000	.00	0 .0
-2.00	.00	RECTANG

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)

QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)

wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
13993.390	462.968	4.019	466.986	508.00	12.91	2.59	469.57	.00	4.39	10.00	6.000	10.000	.00	0 .0
205.634	.0051					.0054	1.11	4.02	1.15	4.02	.014	-2.00	.00	RECTANG
14199.030	464.017	3.870	467.886	508.00	13.42	2.80	470.68	.00	4.39	10.00	6.000	10.000	.00	0 .0
106.582	.0051					.0061	.65	3.87	1.22	4.02	.014	-2.00	.00	RECTANG
14305.610	464.560	3.693	468.254	508.00	14.07	3.07	471.33	.00	4.39	10.00	6.000	10.000	.00	0 .0
76.391	.0051					.0069	.53	3.69	1.31	4.02	.014	-2.00	.00	RECTANG
14382.000	464.950	3.525	468.475	508.00	14.76	3.38	471.86	.00	4.39	10.00	6.000	10.000	.00	0 .0
TRANS STR	.0050					.0075	.08	3.53	1.40		.014	-2.00	.00	RECTANG
14392.000	465.000	3.483	468.483	508.00	14.94	3.47	471.95	.00	4.39	10.00	6.000	10.000	.00	0 .0
40.000	.0050					.0080	.32	3.48	1.43	4.05	.014	-2.00	.00	BOX
14432.000	465.200	3.377	468.577	508.00	15.42	3.69	472.27	.00	4.39	10.00	6.000	10.000	.00	0 .0
JUNCT STR	.0125					.0062	1.01	3.38	1.50		.014	-2.00	.00	BOX
---------- WARNING - Junction Analysis - Change in Channel Type ----------														
14595.000	467.240	4.212	471.452	481.00	11.65	2.11	473.56	.00	4.24	10.00	7.000	10.000	.00	0 .0
TRANS STR	.0055					.0047	.09	4.21	1.01		.014	-2.00	.00	RECTANG
14615.000	467.350	3.788	471.138	481.00	12.99	2.62	473.76	.00	4.24	10.00	5.000	10.000	.00	0 .0
878.698	.0054					.0054	4.75	3.79	1.19	3.79	.014	-2.00	.00	RECTANG

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
15493.700	472.096	3.788	475.883	481.00	12.99	2.62	478.50	.00	4.24	10.00	5.000	10.000	.00	0 .0
206.302	.0054					.0054	1.12	3.79	1.19	3.79	.014	-2.00	.00	RECTANG
15700.000	473.210	3.783	476.993	481.00	13.00	2.62	479.62	.00	4.24	10.00	5.000	10.000	.00	0 .0
20.000	.0055					.0054	.11	3.78	1.19	3.76	.014	-2.00	.00	BOX
15720.000	473.320	3.787	477.108	481.00	12.99	2.62	479.73	.00	4.24	10.00	5.000	10.000	.00	0 .0
323.085	.0054					.0054	1.75	3.79	1.19	3.79	.014	-2.00	.00	RECTANG
16043.080	475.065	3.787	478.853	481.00	12.99	2.62	481.47	.00	4.24	10.00	5.000	10.000	.00	0 .0
204.565	.0054					.0054	1.10	3.79	1.19	3.79	.014	-2.00	.00	RECTANG
16247.650	476.170	3.793	479.963	481.00	12.97	2.61	482.57	.02	4.24	10.00	5.000	10.000	.00	0 .0
173.508	.0054					.0054	.93	3.81	1.19	3.79	.014	-2.00	.00	RECTANG
16421.160	477.103	3.793	480.896	481.00	12.97	2.61	483.51	.02	4.24	10.00	5.000	10.000	.00	0 .0
233.141	.0054					.0058	1.34	3.81	1.19	3.79	.014	-2.00	.00	RECTANG
16654.300	478.358	3.620	481.978	481.00	13.60	2.87	484.85	.02	4.24	10.00	5.000	10.000	.00	0 .0
102.701	.0054					.0066	.68	3.64	1.27	3.79	.014	-2.00	.00	RECTANG
16757.000	478.910	3.456	482.366	481.00	14.26	3.16	485.52	.00	4.24	10.00	5.000	10.000	.00	0 .0
TRANS STR	.0067					.0070	.04	3.46	1.37		.014	-2.00	.00	RECTANG
16763.000	478.950	3.451	482.401	481.00	14.28	3.17	485.57	.02	4.24	10.00	5.000	10.000	.00	0 .0
19.990	.0055					.0071	.14	3.47	1.37	3.76	.014	-2.00	.00	BOX

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)

QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)

wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
16783.000	479.060	3.414	482.474	481.00	14.44	3.24	485.71	.00	4.24	10.00	7.830	10.000	.00	0 .0
TRANS STR	.0033					.0074	.04	3.41	1.39		.014	-2.00	.00	RECTANG
16789.000	479.080	3.371	482.451	481.00	14.63	3.32	485.77	.02	4.24	10.00	5.000	10.000	.00	0 .0
61.787	.0054					.0080	.50	3.39	1.42	3.79	.014	-2.00	.00	RECTANG
16850.790	479.412	3.231	482.643	481.00	15.28	3.63	486.27	.02	4.24	10.00	5.000	10.000	.00	0 .0
57.879	.0054					.0091	.53	3.25	1.52	3.79	.014	-2.00	.00	RECTANG
16908.670	479.724	3.084	482.808	481.00	16.03	3.99	486.80	.02	4.24	10.00	5.000	10.000	.00	0 .0
51.334	.0054					.0104	.54	3.11	1.63	3.79	.014	-2.00	.00	RECTANG
16960.000	480.000	2.945	482.945	481.00	16.81	4.39	487.33	.00	4.24	10.00	5.000	10.000	.00	0 .0
TRANS STR	.0065					.0092	.18	2.94	1.75		.014	-1.50	.00	RECTANG
16980.000	480.130	4.175	484.305	481.00	14.62	3.32	487.62	.02	4.89	8.00	5.000	8.000	.00	0 .0
63.760	.0074					.0073	.47	4.19	1.27	4.16	.014	-1.50	.00	RECTANG
17043.760	480.600	4.182	484.782	481.00	14.59	3.31	488.09	.00	4.89	8.00	5.000	8.000	.00	0 .0
141.607	.0074					.0071	1.01	4.18	1.27	4.16	.014	-1.50	.00	RECTANG
17185.370	481.647	4.243	485.889	481.00	14.38	3.21	489.10	.00	4.89	8.00	5.000	8.000	.00	0 .0
110.428	.0074					.0066	.73	4.24	1.24	4.16	.014	-1.50	.00	RECTANG
17295.800	482.463	4.447	486.910	481.00	13.71	2.92	489.83	.00	4.89	8.00	5.000	8.000	.00	0 .0
32.709	.0074					.0058	.19	4.45	1.15	4.16	.014	-1.50	.00	RECTANG

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PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
17328.510	482.705	4.661	487.365	481.00	13.08	2.65	490.02	.00	4.89	8.00	5.000	8.000	.00	0 .0
7.494	.0074					.0051	.04	4.66	1.07	4.16	.014	-1.50	.00	RECTANG
17336.000	482.760	4.886	487.646	481.00	12.46	2.41	490.06	.00	4.89	8.00	5.000	8.000	.00	0 .0
JUNCT STR	.0075					.0083	.03	4.89	1.00		.024	-1.50	.00	RECTANG
17340.000	482.790	7.450	490.240	341.00	5.77	.52	490.76	.00	3.90	8.00	5.000	8.000	.00	0 .0
44.955	.0074					.0009	.04	7.45	.37	3.24	.014	-1.50	.00	RECTANG
17384.960	483.121	7.106	490.228	341.00	6.05	.57	490.80	.00	3.90	8.00	5.000	8.000	.00	0 .0
42.412	.0074					.0010	.04	7.11	.40	3.24	.014	-1.50	.00	RECTANG
17427.370	483.434	6.779	490.213	341.00	6.35	.63	490.84	.00	3.90	8.00	5.000	8.000	.00	0 .0
39.910	.0074					.0011	.04	6.78	.43	3.24	.014	-1.50	.00	RECTANG
17467.280	483.728	6.466	490.194	341.00	6.66	.69	490.88	.00	3.90	8.00	5.000	8.000	.00	0 .0
9.725	.0074					.0012	.01	6.47	.46	3.24	.014	-1.50	.00	RECTANG
17477.000	483.800	6.389	490.189	341.00	6.74	.70	490.89	.00	3.90	8.00	5.000	8.000	.00	0 .0
TRANS STR	.0080					.0012	.01	6.39	.47		.014	-1.50	.00	RECTANG
17487.000	483.880	6.307	490.187	341.00	8.42	1.10	491.29	.00	3.90	8.00	5.000	8.000	.00	0 .0
10.000	.0080					.0035	.03	6.31	.66	3.15	.014	-1.50	.00	BOX
17497.010	483.960	6.262	490.222	341.00	6.88	.73	490.96	.00	3.90	8.00	9.330	8.000	.00	0 .0
TRANS STR	.0070							6.26	.49		.014	-1.50	.00	RECTANG

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)

QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)

wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
17507.000	484.030	2.249	486.279	341.00	19.50	5.90	492.18	.00	3.90	8.00	5.000	8.000	.00	0 .0
JUNCT STR	.0077					.0417	.54	2.25	2.32		.024	-1.50	.00	RECTANG
17520.000	484.130	4.894	489.024	597.00	15.45	3.70	492.73	.00	5.64	8.00	5.000	8.000	.00	0 .0
491.977	.0074					.0074	3.63	4.89	1.24	4.89	.014	-1.50	.00	RECTANG
18011.980	487.763	4.894	492.657	597.00	15.45	3.70	496.36	.00	5.64	8.00	5.000	8.000	.00	0 .0
288.023	.0074					.0077	2.22	4.89	1.24	4.89	.014	-1.50	.00	RECTANG
18300.000	489.890	4.748	494.638	597.00	15.93	3.94	498.58	.00	5.64	8.00	5.000	8.000	.00	0 .0
206.105	.0080					.0080	1.65	4.75	1.30	4.75	.014	-1.50	.00	RECTANG
18506.110	491.539	4.748	496.287	597.00	15.93	3.94	500.23	.00	5.64	8.00	5.000	8.000	.00	0 .0
306.285	.0080					.0080	2.45	4.75	1.30	4.75	.014	-1.50	.00	RECTANG
18812.390	493.990	4.742	498.732	597.00	15.95	3.95	502.68	.08	5.64	8.00	5.000	8.000	.00	0 .0
274.260	.0080					.0083	2.27	4.82	1.30	4.75	.014	-1.50	.00	RECTANG
19086.650	496.180	4.637	500.817	597.00	16.31	4.13	504.95	.09	5.64	8.00	5.000	8.000	.00	0 .0
148.082	.0080					.0089	1.32	4.72	1.34	4.74	.014	-1.50	.00	RECTANG
19234.730	497.368	4.494	501.862	597.00	16.84	4.40	506.27	.09	5.64	8.00	5.000	8.000	.00	0 .0
126.178	.0080					.0099	1.25	4.58	1.41	4.74	.014	-1.50	.00	RECTANG
19360.910	498.380	4.287	502.667	597.00	17.66	4.84	507.51	.00	5.64	8.00	5.000	8.000	.00	0 .0
80.727	.0080					.0111	.90	4.29	1.51	4.75	.014	-1.50	.00	RECTANG

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
19441.640	499.025	4.112	503.137	597.00	18.43	5.27	508.41	.00	5.64	8.00	5.000	8.000	.00	0 .0
74.398	.0080					.0125	.93	4.11	1.61	4.75	.014	-1.50	.00	RECTANG
19516.040	499.619	3.923	503.542	597.00	19.33	5.80	509.34	.00	5.64	8.00	5.000	8.000	.00	0 .0
63.965	.0080					.0142	.91	3.92	1.73	4.75	.014	-1.50	.00	RECTANG
19580.000	500.130	3.744	503.874	597.00	20.27	6.38	510.26	.00	5.64	8.00	5.000	8.000	.00	0 .0
TRANS STR	.0080					.0130	.26	3.74	1.86		.014	.00	.00	RECTANG
19600.000	500.290	5.749	506.039	597.00	17.31	4.65	510.69	.00	6.75	6.00	5.000	6.000	.00	0 .0
5.182	.0218					.0105	.05	5.75	1.27	4.34	.014	.00	.00	RECTANG
19605.180	500.403	5.851	506.253	597.00	17.01	4.49	510.74	.00	6.75	6.00	5.000	6.000	.00	0 .0
10.186	.0218					.0097	.10	5.85	1.24	4.34	.014	.00	.00	RECTANG
19615.370	500.625	6.136	506.761	597.00	16.22	4.08	510.84	.00	6.75	6.00	5.000	6.000	.00	0 .0
5.465	.0218					.0087	.05	6.14	1.15	4.34	.014	.00	.00	RECTANG
19620.830	500.744	6.436	507.179	597.00	15.46	3.71	510.89	.00	6.75	6.00	5.000	6.000	.00	0 .0
1.658	.0218					.0077	.01	6.44	1.07	4.34	.014	.00	.00	RECTANG
19622.490	500.780	6.751	507.531	597.00	14.74	3.37	510.90	.00	6.75	6.00	5.000	6.000	.00	0 .0
JUNCT STR	.0221							7.16	1.00		.014	.00	.00	RECTANG
19676.000	501.960	3.462	505.422	476.00	22.92	8.16	513.58	.00	5.80	6.00	5.000	6.000	.00	0 .0
JUNCT STR	.0221							3.46	2.17		.014	.00	.00	RECTANG

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
19676.000	501.960	8.512	510.472	476.00	15.87	3.91	514.38	.00	5.00	6.00	5.000	6.000	.00	0 .0
57.000	.0219					.0148	.84	.00	1.25	3.63	.014	.00	.00	BOX
19733.000	503.210	8.577	511.787	476.00	15.87	3.91	515.70	.00	5.00	6.00	5.000	6.000	.00	0 .0
19733.000	503.210	3.412	506.622	476.00	23.25	8.39	515.02	1.01	5.80	6.00	5.000	6.000	.00	0 .0
6.699	.0106					.0260	.17	4.43	2.22	4.82	.014	.00	.00	RECTANG
19739.700	503.281	3.386	506.667	476.00	23.43	8.52	515.19	1.03	5.80	6.00	5.000	6.000	.00	0 .0
39.961	.0106					.0280	1.12	4.42	2.24	4.82	.014	.00	.00	RECTANG
19779.660	503.705	3.228	506.933	476.00	24.57	9.38	516.31	1.13	5.80	6.00	5.000	6.000	.00	0 .0
37.238	.0106					.0318	1.18	4.36	2.41	4.82	.014	.00	.00	RECTANG
19816.900	504.100	3.078	507.178	476.00	25.77	10.31	517.49	.00	5.80	6.00	5.000	6.000	.00	0 .0
52.018	.0249					.0351	1.83	3.08	2.59	3.46	.014	.00	.00	RECTANG
19868.920	505.395	2.989	508.384	476.00	26.54	10.94	519.32	.00	5.80	6.00	5.000	6.000	.00	0 .0
67.746	.0249					.0390	2.64	2.99	2.71	3.46	.014	.00	.00	RECTANG
19936.670	507.081	2.850	509.931	476.00	27.83	12.03	521.96	.00	5.80	6.00	5.000	6.000	.00	0 .0
55.150	.0249					.0443	2.44	2.85	2.91	3.46	.014	.00	.00	RECTANG
19991.820	508.453	2.718	511.171	476.00	29.19	13.23	524.40	.00	5.80	6.00	5.000	6.000	.00	0 .0
46.951	.0249					.0504	2.37	2.72	3.12	3.46	.014	.00	.00	RECTANG
20038.770	509.622	2.591	512.213	476.00	30.62	14.56	526.77	.00	5.80	6.00	5.000	6.000	.00	0 .0
41.139	.0249					.0573	2.36	2.59	3.35	3.46	.014	.00	.00	RECTANG

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
20079.910	510.646	2.470	513.116	476.00	32.11	16.01	529.13	.00	5.80	6.00	5.000	6.000	.00	0 .0
36.766	.0249					.0653	2.40	2.47	3.60	3.46	.014	.00	.00	RECTANG
20116.670	511.561	2.356	513.916	476.00	33.68	17.61	531.53	.00	5.80	6.00	5.000	6.000	.00	0 .0
33.328	.0249					.0744	2.48	2.36	3.87	3.46	.014	.00	.00	RECTANG
20150.000	512.390	2.246	514.636	476.00	35.32	19.38	534.01	.00	5.80	6.00	5.000	6.000	.00	0 .0
11.619	.1600					.0765	.89	2.25	4.15	1.75	.014	.00	.00	RECTANG
20161.620	514.249	2.308	516.557	476.00	34.37	18.35	534.90	.00	5.80	6.00	5.000	6.000	.00	0 .0
17.104	.1600					.0691	1.18	2.31	3.99	1.75	.014	.00	.00	RECTANG
20178.720	516.986	2.421	519.406	476.00	32.77	16.68	536.09	.00	5.80	6.00	5.000	6.000	.00	0 .0
14.068	.1600					.0606	.85	2.42	3.71	1.75	.014	.00	.00	RECTANG
20192.790	519.237	2.539	521.775	476.00	31.25	15.16	536.94	.00	5.80	6.00	5.000	6.000	.00	0 .0
11.750	.1600					.0532	.63	2.54	3.46	1.75	.014	.00	.00	RECTANG
20204.540	521.117	2.663	523.779	476.00	29.79	13.78	537.56	.00	5.80	6.00	5.000	6.000	.00	0 .0
9.922	.1600					.0468	.46	2.66	3.22	1.75	.014	.00	.00	RECTANG
20214.460	522.704	2.793	525.497	476.00	28.41	12.53	538.03	.00	5.80	6.00	5.000	6.000	.00	0 .0
8.439	.1600					.0412	.35	2.79	3.00	1.75	.014	.00	.00	RECTANG
20222.900	524.054	2.929	526.983	476.00	27.09	11.39	538.38	.00	5.80	6.00	5.000	6.000	.00	0 .0
7.213	.1600					.0362	.26	2.93	2.79	1.75	.014	.00	.00	RECTANG

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
20230.110	525.208	3.072	528.280	476.00	25.83	10.36	538.64	.00	5.80	6.00	5.000	6.000	.00	0 .0
6.180	.1600					.0319	.20	3.07	2.60	1.75	.014	.00	.00	RECTANG
20236.290	526.197	3.222	529.419	476.00	24.62	9.41	538.83	.00	5.80	6.00	5.000	6.000	.00	0 .0
5.299	.1600					.0281	.15	3.22	2.42	1.75	.014	.00	.00	RECTANG
20241.590	527.045	3.379	530.424	476.00	23.48	8.56	538.98	.00	5.80	6.00	5.000	6.000	.00	0 .0
4.537	.1600					.0248	.11	3.38	2.25	1.75	.014	.00	.00	RECTANG
20246.130	527.771	3.544	531.315	476.00	22.38	7.78	539.10	.00	5.80	6.00	5.000	6.000	.00	0 .0
3.871	.1600					.0219	.08	3.54	2.10	1.75	.014	.00	.00	RECTANG
20250.000	528.390	3.717	532.107	476.00	21.34	7.07	539.18	.00	5.80	6.00	5.000	6.000	.00	0 .0
156.584	.0210					.0203	3.18	3.72	1.95	3.69	.014	.00	.00	RECTANG
20406.580	531.678	3.758	535.436	476.00	21.11	6.92	542.36	.00	5.80	6.00	5.000	6.000	.00	0 .0
205.969	.0210					.0188	3.88	3.76	1.92	3.69	.014	.00	.00	RECTANG
20612.550	536.004	3.941	539.945	476.00	20.13	6.29	546.24	.00	5.80	6.00	5.000	6.000	.00	0 .0
87.447	.0210					.0167	1.46	3.94	1.79	3.69	.014	.00	.00	RECTANG
20700.000	537.840	4.134	541.974	476.00	19.19	5.72	547.69	.00	5.80	6.00	5.000	6.000	.00	0 .0
TRANS STR	.0210					.0155	.16	4.13	1.66		.014	.00	.00	RECTANG
20710.000	538.050	4.160	542.210	476.00	19.07	5.65	547.86	.00	5.80	6.00	6.000	6.000	.00	0 .0
47.301	.0210					.0145	.69	4.16	1.65	3.69	.014	.00	.00	BOX

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
20757.300	539.044	4.360	543.404	476.00	18.20	5.14	548.55	.00	5.80	6.00	6.000	6.000	.00	0 .0
31.238	.0210					.0129	.40	4.36	1.54	3.69	.014	.00	.00	BOX
20788.540	539.701	4.573	544.274	476.00	17.35	4.67	548.95	.00	5.80	6.00	6.000	6.000	.00	0 .0
20.986	.0210					.0114	.24	4.57	1.43	3.69	.014	.00	.00	BOX
20809.530	540.142	4.796	544.938	476.00	16.54	4.25	549.19	.00	5.80	6.00	6.000	6.000	.00	0 .0
13.961	.0210					.0101	.14	4.80	1.33	3.69	.014	.00	.00	BOX
20823.490	540.436	5.030	545.466	476.00	15.77	3.86	549.33	.00	5.80	6.00	6.000	6.000	.00	0 .0
8.775	.0210					.0090	.08	5.03	1.24	3.69	.014	.00	.00	BOX
20832.260	540.620	5.276	545.896	476.00	15.04	3.51	549.41	.00	5.80	6.00	6.000	6.000	.00	0 .0
4.732	.0210					.0080	.04	5.28	1.15	3.69	.014	.00	.00	BOX
20836.990	540.720	5.533	546.253	476.00	14.34	3.19	549.44	.00	5.80	6.00	6.000	6.000	.00	0 .0
1.445	.0210					.0071	.01	5.53	1.07	3.69	.014	.00	.00	BOX
---------- WARNING - Flow depth near top of box conduit ----------														
20838.440	540.750	5.804	546.554	476.00	13.67	2.90	549.46	.00	5.80	6.00	6.000	6.000	.00	0 .0
JUNCT STR	.0771					.0067	.39	5.80	1.00		.014	.00	.00	BOX
---------- WARNING - Flow depth near top of box conduit ----------														

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
20896.180	545.200	4.198	549.398	273.00	4.11	.26	549.66	.00	2.10	15.83	6.000	15.830	.00	0 .0
20896.180	545.200	1.700	546.900	273.00	20.07	6.26	553.16	.00	3.31	8.00	6.000	8.000	.00	0 .0
32.000	.0259					.0286	.92	1.70	2.71	1.75	.014	.00	.00	BOX
20928.180	546.030	1.687	547.717	273.00	20.23	6.36	554.07	.00	3.31	8.00	6.000	8.000	.00	0 .0
TRANS STR	.0260					.0274	.55	1.69	2.75		.014	.00	.00	BOX
20948.180	546.550	1.962	548.512	273.00	19.87	6.13	554.65	.00	3.61	7.00	4.500	7.000	.00	0 .0
80.311	.0258					.0259	2.08	1.96	2.50	1.96	.014	.00	.00	RECTANG
21028.490	548.620	1.961	550.581	273.00	19.89	6.14	556.72	.22	3.61	7.00	4.500	7.000	.00	0 .0
207.990	.0258					.0261	5.43	2.18	2.50	1.96	.014	.00	.00	RECTANG
21236.480	553.990	1.948	555.938	273.00	20.02	6.22	562.16	.00	3.61	7.00	4.500	7.000	.00	0 .0
170.660	.0257					.0274	4.67	1.95	2.53	1.96	.014	.00	.00	RECTANG
21407.140	558.384	1.900	560.283	273.00	20.53	6.54	566.83	.00	3.61	7.00	4.500	7.000	.00	0 .0
121.039	.0257					.0304	3.68	1.90	2.62	1.96	.014	.00	.00	RECTANG
21528.180	561.500	1.811	563.311	273.00	21.53	7.20	570.51	.00	3.61	7.00	4.500	7.000	.00	0 .0
38.496	.0325					.0325	1.25	1.81	2.82	1.81	.014	.00	.00	RECTANG
21566.680	562.751	1.811	564.562	273.00	21.53	7.20	571.76	.00	3.61	7.00	4.500	7.000	.00	0 .0
272.176	.0325					.0306	8.32	1.81	2.82	1.81	.014	.00	.00	RECTANG
21838.850	571.597	1.893	573.489	273.00	20.61	6.59	580.08	.00	3.61	7.00	4.500	7.000	.00	0 .0
89.328	.0325					.0268	2.40	1.89	2.64	1.81	.014	.00	.00	RECTANG

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)
QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)
wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
21928.180	574.500	1.985	576.485	273.00	19.65	5.99	582.48	.00	3.61	7.00	4.500	7.000	.00	0 .0
51.410	.0250					.0250	1.29	1.99	2.46	1.99	.014	.00	.00	RECTANG
21979.590	575.785	1.985	577.770	273.00	19.65	5.99	583.76	.00	3.61	7.00	4.500	7.000	.00	0 .0
278.590	.0250					.0264	7.35	1.99	2.46	1.99	.014	.00	.00	RECTANG
22258.180	582.750	1.913	584.663	273.00	20.39	6.46	591.12	.00	3.61	7.00	4.500	7.000	.00	0 .0
50.000	.0250					.0284	1.42	1.91	2.60	1.99	.014	.00	.00	BOX
22308.180	584.000	1.884	585.884	273.00	20.70	6.66	592.54	.00	3.61	7.00	4.500	7.000	.00	0 .0
42.283	.0250					.0298	1.26	1.88	2.66	1.99	.014	.00	.00	BOX
22350.460	585.057	1.851	586.909	273.00	21.06	6.89	593.80	.00	3.61	7.00	4.500	7.000	.00	0 .0
77.717	.0250					.0328	2.55	1.85	2.73	1.99	.014	.00	.00	BOX
22428.180	587.000	1.765	588.765	273.00	22.09	7.58	596.34	.00	3.61	7.00	4.500	7.000	.00	0 .0
636.381	.0350					.0350	22.27	1.77	2.93	1.77	.014	.00	.00	BOX
23064.560	609.273	1.765	611.039	273.00	22.09	7.58	618.62	.00	3.61	7.00	4.500	7.000	.00	0 .0
263.619	.0350					.0360	9.48	1.77	2.93	1.77	.014	.00	.00	BOX
23328.180	618.500	1.733	620.233	273.00	22.50	7.86	628.09	.00	3.61	7.00	4.500	7.000	.00	0 .0
9.088	.0400					.0368	.33	1.73	3.01	1.69	.014	.00	.00	BOX
23337.270	618.864	1.737	620.600	273.00	22.45	7.83	628.43	.00	3.61	7.00	4.500	7.000	.00	0 .0
110.500	.0400					.0343	3.79	1.74	3.00	1.69	.014	.00	.00	BOX

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)

QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)

WAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
23447.770	623.284	1.822	625.105	273.00	21.41	7.12	632.22	.00	3.61	7.00	4.500	7.000	.00	0 .0
55.410	.0400					.0299	1.66	1.82	2.80	1.69	.014	.00	.00	BOX
23503.180	625.500	1.911	627.411	273.00	20.41	6.47	633.88	.00	3.61	7.00	4.500	7.000	.00	0 .0
6.523	.0390					.0276	.18	1.91	2.60	1.70	.014	.00	.00	BOX
23509.700	625.754	1.923	627.678	273.00	20.28	6.38	634.06	.00	3.61	7.00	4.500	7.000	.00	0 .0
36.461	.0390					.0256	.93	1.92	2.58	1.70	.014	.00	.00	BOX
23546.160	627.175	2.017	629.192	273.00	19.33	5.80	635.00	.00	3.61	7.00	4.500	7.000	.00	0 .0
25.865	.0390					.0224	.58	2.02	2.40	1.70	.014	.00	.00	BOX
23572.030	628.182	2.116	630.298	273.00	18.43	5.28	635.57	.00	3.61	7.00	4.500	7.000	.00	0 .0
19.385	.0390					.0195	.38	2.12	2.23	1.70	.014	.00	.00	BOX
23591.410	628.937	2.219	631.156	273.00	17.57	4.80	635.95	.00	3.61	7.00	4.500	7.000	.00	0 .0
14.984	.0390					.0171	.26	2.22	2.08	1.70	.014	.00	.00	BOX
23606.400	629.521	2.327	631.848	273.00	16.76	4.36	636.21	.00	3.61	7.00	4.500	7.000	.00	0 .0
11.781	.0390					.0150	.18	2.33	1.94	1.70	.014	.00	.00	BOX
23618.180	629.980	2.441	632.421	273.00	15.98	3.96	636.38	.00	3.61	7.00	4.500	7.000	.00	0 .0
TRANS STR	.2013					.0126	.19	2.44	1.80		.014	.00	.00	BOX
23633.180	633.000	1.432	634.432	273.00	12.71	2.51	636.94	.00	2.18	15.00	7.000	15.000	.00	0 .0
TRANS STR	.0208					.0074	.09	1.43	1.87		.014	.00	.00	RECTANG

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:45: 1

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 7/30/05 (JCS)

QDES=273CFS U/S 209+28.18 (10000' ADDED TO EXIST.COND.STATIONS)

wAL CYN CHANNEL DIVERTED TO ARROYO SIMI AT STA 11300(D/S WSE=CRITICALD

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
23645.180	633.250	2.675	635.925	273.00	9.28	1.34	637.26	.00	2.67	11.00	7.000	11.000	.00	0 .0

Gabbert/Walnut Canyon Channels

Revised Flood Control Study

D/S Control WSE 447.8-Arroyo Simi

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)

QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)

WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
8001.430	433.160	14.640	447.800	830.00	1.31	.03	447.83	.00	3.93	72.56	15.000	14.000	2.00	0 .0
1.557	.2623					.0001	.00	14.64	.08	1.74	.035	.00	2.00	TRAP
8002.987	433.568	14.229	447.797	830.00	1.37	.03	447.83	.00	3.93	70.92	15.000	14.000	2.00	0 .0
1.518	.2623					.0001	.00	14.23	.08	1.74	.035	.00	2.00	TRAP
8004.505	433.967	13.828	447.795	830.00	1.44	.03	447.83	.00	3.93	69.31	15.000	14.000	2.00	0 .0
1.479	.2623					.0001	.00	13.83	.09	1.74	.035	.00	2.00	TRAP
8005.985	434.355	13.437	447.792	830.00	1.51	.04	447.83	.00	3.93	67.75	15.000	14.000	2.00	0 .0
1.442	.2623					.0001	.00	13.44	.09	1.74	.035	.00	2.00	TRAP
8007.427	434.733	13.055	447.788	830.00	1.59	.04	447.83	.00	3.93	66.22	15.000	14.000	2.00	0 .0
1.405	.2623					.0001	.00	13.06	.10	1.74	.035	.00	2.00	TRAP
8008.832	435.101	12.683	447.784	830.00	1.66	.04	447.83	.00	3.93	64.73	15.000	14.000	2.00	0 .0
1.368	.2623					.0001	.00	12.68	.11	1.74	.035	.00	2.00	TRAP
8010.200	435.460	12.320	447.780	830.00	1.74	.05	447.83	.00	3.93	63.28	15.000	14.000	2.00	0 .0
1.333	.2623					.0001	.00	12.32	.11	1.74	.035	.00	2.00	TRAP
8011.532	435.810	11.966	447.776	830.00	1.83	.05	447.83	.00	3.93	61.86	15.000	14.000	2.00	0 .0
1.297	.2623					.0002	.00	11.97	.12	1.74	.035	.00	2.00	TRAP
8012.830	436.150	11.621	447.771	830.00	1.92	.06	447.83	.00	3.93	60.48	15.000	14.000	2.00	0 .0
1.263	.2623					.0002	.00	11.62	.13	1.74	.035	.00	2.00	TRAP

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)
WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
8014.092	436.481	11.284	447.765	830.00	2.01	.06	447.83	.00	3.93	59.14	15.000	14.000	2.00	0 .0
1.229	.2623					.0002	.00	11.28	.13	1.74	.035	.00	2.00	TRAP
8015.321	436.804	10.956	447.759	830.00	2.11	.07	447.83	.00	3.93	57.82	15.000	14.000	2.00	0 .0
1.195	.2623					.0002	.00	10.96	.14	1.74	.035	.00	2.00	TRAP
8016.517	437.117	10.635	447.753	830.00	2.21	.08	447.83	.00	3.93	56.54	15.000	14.000	2.00	0 .0
1.163	.2623					.0003	.00	10.64	.15	1.74	.035	.00	2.00	TRAP
8017.679	437.422	10.323	447.745	830.00	2.32	.08	447.83	.00	3.93	55.29	15.000	14.000	2.00	0 .0
1.130	.2623					.0003	.00	10.32	.16	1.74	.035	.00	2.00	TRAP
8018.809	437.718	10.019	447.737	830.00	2.43	.09	447.83	.00	3.93	54.08	15.000	14.000	2.00	0 .0
1.098	.2623					.0003	.00	10.02	.17	1.74	.035	.00	2.00	TRAP
8019.907	438.006	9.722	447.728	830.00	2.55	.10	447.83	.00	3.93	52.89	15.000	14.000	2.00	0 .0
1.066	.2623					.0004	.00	9.72	.18	1.74	.035	.00	2.00	TRAP
8020.973	438.286	9.433	447.719	830.00	2.68	.11	447.83	.00	3.93	51.73	15.000	14.000	2.00	0 .0
1.034	.2623					.0004	.00	9.43	.19	1.74	.035	.00	2.00	TRAP
8022.007	438.557	9.151	447.708	830.00	2.81	.12	447.83	.00	3.93	50.60	15.000	14.000	2.00	0 .0
1.003	.2623					.0005	.00	9.15	.20	1.74	.035	.00	2.00	TRAP
8023.010	438.820	8.876	447.696	830.00	2.95	.13	447.83	.00	3.93	49.50	15.000	14.000	2.00	0 .0
.972	.2623					.0006	.00	8.88	.22	1.74	.035	.00	2.00	TRAP

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)
WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
8023.981	439.075	8.608	447.683	830.00	3.09	.15	447.83	.00	3.93	48.43	15.000	14.000	2.00	0 .0
.941	.2623					.0006	.00	8.61	.23	1.74	.035	.00	2.00	TRAP
8024.922	439.322	8.347	447.669	830.00	3.24	.16	447.83	.00	3.93	47.39	15.000	14.000	2.00	0 .0
.910	.2623					.0007	.00	8.35	.25	1.74	.035	.00	2.00	TRAP
8025.833	439.561	8.093	447.653	830.00	3.40	.18	447.83	.00	3.93	46.37	15.000	14.000	2.00	0 .0
.879	.2623					.0008	.00	8.09	.26	1.74	.035	.00	2.00	TRAP
8026.712	439.791	7.845	447.636	830.00	3.56	.20	447.83	.00	3.93	45.38	15.000	14.000	2.00	0 .0
.848	.2623					.0009	.00	7.85	.28	1.74	.035	.00	2.00	TRAP
8027.560	440.014	7.604	447.617	830.00	3.74	.22	447.83	.00	3.93	44.41	15.000	14.000	2.00	0 .0
.817	.2623					.0011	.00	7.60	.29	1.74	.035	.00	2.00	TRAP
8028.377	440.228	7.368	447.597	830.00	3.92	.24	447.84	.00	3.93	43.47	15.000	14.000	2.00	0 .0
.786	.2623					.0012	.00	7.37	.31	1.74	.035	.00	2.00	TRAP
8029.164	440.434	7.139	447.574	830.00	4.11	.26	447.84	.00	3.93	42.56	15.000	14.000	2.00	0 .0
.754	.2623					.0014	.00	7.14	.33	1.74	.035	.00	2.00	TRAP
8029.918	440.632	6.916	447.548	830.00	4.31	.29	447.84	.00	3.93	41.66	15.000	14.000	2.00	0 .0
.723	.2623					.0016	.00	6.92	.35	1.74	.035	.00	2.00	TRAP
8030.641	440.822	6.699	447.521	830.00	4.52	.32	447.84	.00	3.93	40.80	15.000	14.000	2.00	0 .0
.679	.2623					.0018	.00	6.70	.38	1.74	.035	.00	2.00	TRAP

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WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)
WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
8031.320	441.000	6.491	447.491	830.00	4.74	.35	447.84	.00	3.93	39.96	15.000	14.000	2.00	0 .0
1307.564	.0021					.0020	2.61	6.49	.40	6.36	.035	.00	2.00	TRAP
9338.884	443.723	6.359	450.082	830.00	4.88	.37	450.45	.00	3.93	39.44	15.000	14.000	2.00	0 .0
216.276	.0021					.0021	.45	6.36	.41	6.36	.035	.00	2.00	TRAP
9555.160	444.173	6.359	450.532	830.00	4.88	.37	450.90	.00	3.93	39.44	15.000	14.000	2.00	0 .0
1058.027	.0021					.0021	2.21	6.36	.41	6.35	.035	.00	2.00	TRAP
10613.190	446.393	6.347	452.740	830.00	4.90	.37	453.11	.00	3.93	39.39	15.000	14.000	2.00	0 .0
436.813	.0021					.0021	.92	6.35	.42	6.35	.035	.00	2.00	TRAP
11050.000	447.310	6.347	453.657	830.00	4.90	.37	454.03	.11	3.93	39.39	15.000	14.000	2.00	0 .0
TRANS STR	.0021							6.46	.42		.035	-2.50	2.00	TRAP
11100.000	447.415	3.992	451.407	830.00	15.25	3.61	455.02	.72	4.88	14.00	6.000	14.000	.00	0 .0
64.352	.0046					.0063	.40	4.71	1.36	4.38	.014	-2.50	.00	BOX
11164.350	447.711	3.877	451.588	830.00	15.71	3.83	455.42	.77	4.88	14.00	6.000	14.000	.00	0 .0
85.648	.0046					.0070	.60	4.64	1.43	4.38	.014	-2.50	.00	BOX
11250.000	448.105	3.702	451.807	830.00	16.48	4.22	456.02	.84	4.88	14.00	6.000	14.000	.00	0 .0
TRANS STR	.0047					.0078	.23	4.55	1.53		.014	-2.50	.00	BOX
11280.000	448.246	3.603	451.849	830.00	16.94	4.46	456.31	.00	4.88	14.00	5.000	14.000	.00	0 .0
20.000	.0047					.0083	.17	3.60	1.60	4.34	.014	-2.50	.00	RECTANG

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)
WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
11300.000	448.340	3.558	451.898	830.00	17.17	4.58	456.47	.00	4.88	14.00	5.000	14.000	.00	0 .0
22.301	.0095					.0084	.19	3.56	1.63	3.42	.014	-2.50	.00	RECTANG
11322.300	448.552	3.573	452.125	830.00	17.09	4.54	456.66	.00	4.88	14.00	5.000	14.000	.00	0 .0
143.295	.0095					.0078	1.12	3.57	1.62	3.42	.014	-2.50	.00	RECTANG
11465.600	449.913	3.742	453.655	830.00	16.30	4.12	457.78	.00	4.88	14.00	5.000	14.000	.00	0 .0
73.225	.0095					.0068	.50	3.74	1.51	3.42	.014	-2.50	.00	RECTANG
11538.820	450.609	3.920	454.528	830.00	15.54	3.75	458.28	.00	4.88	14.00	5.000	14.000	.00	0 .0
43.404	.0095					.0059	.26	3.92	1.40	3.42	.014	-2.50	.00	RECTANG
11582.220	451.021	4.106	455.127	830.00	14.82	3.41	458.54	.00	4.88	14.00	5.000	14.000	.00	0 .0
26.544	.0095					.0052	.14	4.11	1.31	3.42	.014	-2.50	.00	RECTANG
11608.770	451.273	4.301	455.574	830.00	14.13	3.10	458.67	.00	4.88	14.00	5.000	14.000	.00	0 .0
15.462	.0095					.0045	.07	4.30	1.22	3.42	.014	-2.50	.00	RECTANG
11624.230	451.420	4.506	455.926	830.00	13.47	2.82	458.74	.00	4.88	14.00	5.000	14.000	.00	0 .0
40.000	.0045					.0042	.17	4.51	1.13	4.41	.014	-2.50	.00	RECTANG
11664.230	451.600	4.559	456.159	830.00	13.31	2.75	458.91	.77	4.88	14.00	5.000	14.000	.00	0 .0
27.241	.0047					.0040	.11	5.33	1.11	4.35	.014	-2.50	.00	RECTANG
11691.470	451.727	4.660	456.387	830.00	13.01	2.63	459.02	.74	4.88	14.00	5.000	14.000	.00	0 .0
15.528	.0047					.0036	.06	5.40	1.07	4.35	.014	-2.50	.00	RECTANG

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)

QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)

WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
11707.000	451.800	4.883	456.683	830.00	12.41	2.39	459.07	.00	4.88	14.00	5.000	14.000	.00	0 .0
JUNCT STR	.0050							5.56	1.00		.014	-2.50	.00	RECTANG
11711.000	451.820	3.540	455.360	508.00	12.32	2.36	457.72	.57	3.92	12.00	5.000	12.000	.00	0 .0
32.000	.0047					.0047	.15	4.11	1.17	3.54	.014	-2.50	.00	RECTANG
11743.000	451.970	3.540	455.510	508.00	12.32	2.36	457.87	.57	3.92	12.00	5.000	12.000	.00	0 .0
115.450	.0047					.0047	.54	4.11	1.17	3.54	.014	-2.50	.00	RECTANG
11858.450	452.510	3.533	456.043	508.00	12.35	2.37	458.41	.00	3.92	12.00	5.000	12.000	.00	0 .0
522.381	.0047					.0047	2.46	3.53	1.17	3.53	.014	-2.50	.00	RECTANG
12380.830	454.972	3.533	458.505	508.00	12.35	2.37	460.87	.00	3.92	12.00	5.000	12.000	.00	0 .0
206.487	.0047					.0048	1.00	3.53	1.17	3.53	.014	-2.50	.00	RECTANG
12587.320	455.945	3.472	459.417	508.00	12.57	2.45	461.87	.00	3.92	12.00	5.000	12.000	.00	0 .0
145.707	.0047					.0053	.78	3.47	1.21	3.53	.014	-2.50	.00	RECTANG
12733.030	456.631	3.316	459.947	508.00	13.18	2.70	462.64	.00	3.92	12.00	5.000	12.000	.00	0 .0
86.870	.0047					.0061	.53	3.32	1.30	3.53	.014	-2.50	.00	RECTANG
12819.900	457.040	3.166	460.207	508.00	13.83	2.97	463.17	.00	3.92	12.00	5.000	12.000	.00	0 .0
67.616	.0047					.0070	.47	3.17	1.39	3.53	.014	-2.50	.00	RECTANG
12887.510	457.359	3.024	460.383	508.00	14.50	3.26	463.65	.00	3.92	12.00	5.000	12.000	.00	0 .0
57.488	.0047					.0080	.46	3.02	1.50	3.53	.014	-2.50	.00	RECTANG

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WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)
WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
12945.000	457.630	2.888	460.518	508.00	15.21	3.59	464.11	.00	3.92	12.00	5.000	12.000	.00	0 .0
TRANS STR	.0045					.0068	.14	2.89	1.61		.014	-2.50	.00	RECTANG
12965.000	457.720	4.041	461.761	508.00	12.83	2.56	464.32	.00	4.39	10.00	8.000	10.000	.00	0 .0
68.430	.0051					.0050	.34	4.04	1.14	4.01	.014	-2.00	.00	BOX
13033.430	458.070	4.081	462.151	508.00	12.71	2.51	464.66	1.32	4.39	10.00	8.000	10.000	.00	0 .0
50.570	.0051					.0047	.24	5.40	1.12	4.01	.014	-2.00	.00	BOX
13084.000	458.330	4.183	462.513	508.00	12.39	2.38	464.90	.00	4.39	10.00	8.000	10.000	.00	0 .0
TRANS STR	.0050					.0048	.05	4.18	1.08		.014	-2.00	.00	BOX
13094.000	458.380	4.019	462.399	508.00	12.91	2.59	464.99	.00	4.39	10.00	6.000	10.000	.00	0 .0
899.394	.0051					.0051	4.59	4.02	1.15	4.02	.014	-2.00	.00	RECTANG
13993.390	462.968	4.019	466.986	508.00	12.91	2.59	469.57	.00	4.39	10.00	6.000	10.000	.00	0 .0
205.634	.0051					.0054	1.11	4.02	1.15	4.02	.014	-2.00	.00	RECTANG
14199.030	464.017	3.870	467.886	508.00	13.42	2.80	470.68	.00	4.39	10.00	6.000	10.000	.00	0 .0
106.582	.0051					.0061	.65	3.87	1.22	4.02	.014	-2.00	.00	RECTANG
14305.610	464.560	3.693	468.254	508.00	14.07	3.07	471.33	.00	4.39	10.00	6.000	10.000	.00	0 .0
76.391	.0051					.0069	.53	3.69	1.31	4.02	.014	-2.00	.00	RECTANG
14382.000	464.950	3.525	468.475	508.00	14.76	3.38	471.86	.00	4.39	10.00	6.000	10.000	.00	0 .0
TRANS STR	.0050					.0075	.08	3.53	1.40		.014	-2.00	.00	RECTANG

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WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)
WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
14392.000	465.000	3.483	468.483	508.00	14.94	3.47	471.95	.00	4.39	10.00	6.000	10.000	.00	0 .0
40.000	.0050					.0080	.32	3.48	1.43	4.05	.014	-2.00	.00	BOX
14432.000	465.200	3.377	468.577	508.00	15.42	3.69	472.27	.00	4.39	10.00	6.000	10.000	.00	0 .0
JUNCT STR	.0125					.0062	1.01	3.38	1.50		.014	-2.00	.00	BOX
---------- WARNING - Junction Analysis - Change in Channel Type ----------														
14595.000	467.240	4.212	471.452	481.00	11.65	2.11	473.56	.00	4.24	10.00	7.000	10.000	.00	0 .0
TRANS STR	.0055					.0047	.09	4.21	1.01		.014	-2.00	.00	RECTANG
14615.000	467.350	3.788	471.138	481.00	12.99	2.62	473.76	.00	4.24	10.00	5.000	10.000	.00	0 .0
878.698	.0054					.0054	4.75	3.79	1.19	3.79	.014	-2.00	.00	RECTANG
15493.700	472.096	3.788	475.883	481.00	12.99	2.62	478.50	.00	4.24	10.00	5.000	10.000	.00	0 .0
206.302	.0054					.0054	1.12	3.79	1.19	3.79	.014	-2.00	.00	RECTANG
15700.000	473.210	3.783	476.993	481.00	13.00	2.62	479.62	.00	4.24	10.00	5.000	10.000	.00	0 .0
20.000	.0055					.0054	.11	3.78	1.19	3.76	.014	-2.00	.00	BOX
15720.000	473.320	3.787	477.108	481.00	12.99	2.62	479.73	.00	4.24	10.00	5.000	10.000	.00	0 .0
323.085	.0054					.0054	1.75	3.79	1.19	3.79	.014	-2.00	.00	RECTANG
16043.080	475.065	3.787	478.853	481.00	12.99	2.62	481.47	.00	4.24	10.00	5.000	10.000	.00	0 .0
204.565	.0054					.0054	1.10	3.79	1.19	3.79	.014	-2.00	.00	RECTANG

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PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)
WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT) / SF Ave	Water Elev / HF	Q (CFS) / SE Dpth	Vel (FPS) / Froude N	Vel Head / Norm Dp	Energy Grd.El. / "N"	Super Elev / X-Fall	Critical Depth / ZR	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip / Type Ch
16247.650	476.170	3.793	479.963	481.00	12.97	2.61	482.57	.02	4.24	10.00	5.000	10.000	.00	0 .0
173.508	.0054					.0054	.93	3.81	1.19	3.79	.014	-2.00	.00	RECTANG
16421.160	477.103	3.793	480.896	481.00	12.97	2.61	483.51	.02	4.24	10.00	5.000	10.000	.00	0 .0
233.141	.0054					.0058	1.34	3.81	1.19	3.79	.014	-2.00	.00	RECTANG
16654.300	478.358	3.620	481.978	481.00	13.60	2.87	484.85	.02	4.24	10.00	5.000	10.000	.00	0 .0
102.701	.0054					.0066	.68	3.64	1.27	3.79	.014	-2.00	.00	RECTANG
16757.000	478.910	3.456	482.366	481.00	14.26	3.16	485.52	.00	4.24	10.00	5.000	10.000	.00	0 .0
TRANS STR	.0067					.0070	.04	3.46	1.37		.014	-2.00	.00	RECTANG
16763.000	478.950	3.451	482.401	481.00	14.28	3.17	485.57	.02	4.24	10.00	5.000	10.000	.00	0 .0
19.990	.0055					.0071	.14	3.47	1.37	3.76	.014	-2.00	.00	BOX
16783.000	479.060	3.414	482.474	481.00	14.44	3.24	485.71	.00	4.24	10.00	7.830	10.000	.00	0 .0
TRANS STR	.0033					.0074	.04	3.41	1.39		.014	-2.00	.00	RECTANG
16789.000	479.080	3.371	482.451	481.00	14.63	3.32	485.77	.02	4.24	10.00	5.000	10.000	.00	0 .0
61.787	.0054					.0080	.50	3.39	1.42	3.79	.014	-2.00	.00	RECTANG
16850.790	479.412	3.231	482.643	481.00	15.28	3.63	486.27	.02	4.24	10.00	5.000	10.000	.00	0 .0
57.879	.0054					.0091	.53	3.25	1.52	3.79	.014	-2.00	.00	RECTANG
16908.670	479.724	3.084	482.808	481.00	16.03	3.99	486.80	.02	4.24	10.00	5.000	10.000	.00	0 .0
51.334	.0054					.0104	.54	3.11	1.63	3.79	.014	-2.00	.00	RECTANG

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PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)
WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
16960.000	480.000	2.945	482.945	481.00	16.81	4.39	487.33	.00	4.24	10.00	5.000	10.000	.00	0 .0
TRANS STR	.0065					.0092	.18	2.94	1.75		.014	-1.50	.00	RECTANG
16980.000	480.130	4.175	484.305	481.00	14.62	3.32	487.62	.02	4.89	8.00	5.000	8.000	.00	0 .0
63.760	.0074					.0073	.47	4.19	1.27	4.16	.014	-1.50	.00	RECTANG
17043.760	480.600	4.182	484.782	481.00	14.59	3.31	488.09	.00	4.89	8.00	5.000	8.000	.00	0 .0
141.607	.0074					.0071	1.01	4.18	1.27	4.16	.014	-1.50	.00	RECTANG
17185.370	481.647	4.243	485.889	481.00	14.38	3.21	489.10	.00	4.89	8.00	5.000	8.000	.00	0 .0
110.428	.0074					.0066	.73	4.24	1.24	4.16	.014	-1.50	.00	RECTANG
17295.800	482.463	4.447	486.910	481.00	13.71	2.92	489.83	.00	4.89	8.00	5.000	8.000	.00	0 .0
32.709	.0074					.0058	.19	4.45	1.15	4.16	.014	-1.50	.00	RECTANG
17328.510	482.705	4.661	487.365	481.00	13.08	2.65	490.02	.00	4.89	8.00	5.000	8.000	.00	0 .0
7.494	.0074					.0051	.04	4.66	1.07	4.16	.014	-1.50	.00	RECTANG
17336.000	482.760	4.886	487.646	481.00	12.46	2.41	490.06	.00	4.89	8.00	5.000	8.000	.00	0 .0
JUNCT STR	.0075					.0083	.03	4.89	1.00		.024	-1.50	.00	RECTANG
17340.000	482.790	7.450	490.240	341.00	5.77	.52	490.76	.00	3.90	8.00	5.000	8.000	.00	0 .0
44.955	.0074					.0009	.04	7.45	.37	3.24	.014	-1.50	.00	RECTANG
17384.960	483.121	7.106	490.228	341.00	6.05	.57	490.80	.00	3.90	8.00	5.000	8.000	.00	0 .0
42.412	.0074					.0010	.04	7.11	.40	3.24	.014	-1.50	.00	RECTANG

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PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)

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WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
17427.370	483.434	6.779	490.213	341.00	6.35	.63	490.84	.00	3.90	8.00	5.000	8.000	.00	0 .0
39.910	.0074					.0011	.04	6.78	.43	3.24	.014	-1.50	.00	RECTANG
17467.280	483.728	6.466	490.194	341.00	6.66	.69	490.88	.00	3.90	8.00	5.000	8.000	.00	0 .0
9.725	.0074					.0012	.01	6.47	.46	3.24	.014	-1.50	.00	RECTANG
17477.000	483.800	6.389	490.189	341.00	6.74	.70	490.89	.00	3.90	8.00	5.000	8.000	.00	0 .0
TRANS STR	.0080					.0012	.01	6.39	.47		.014	-1.50	.00	RECTANG
17487.000	483.880	6.307	490.187	341.00	8.42	1.10	491.29	.00	3.90	8.00	5.000	8.000	.00	0 .0
10.000	.0080					.0035	.03	6.31	.66	3.15	.014	-1.50	.00	BOX
17497.010	483.960	6.262	490.222	341.00	6.88	.73	490.96	.00	3.90	8.00	9.330	8.000	.00	0 .0
TRANS STR	.0070							6.26	.49		.014	-1.50	.00	RECTANG
17507.000	484.030	2.249	486.279	341.00	19.50	5.90	492.18	.00	3.90	8.00	5.000	8.000	.00	0 .0
JUNCT STR	.0077					.0417	.54	2.25	2.32		.024	-1.50	.00	RECTANG
17520.000	484.130	4.894	489.024	597.00	15.45	3.70	492.73	.00	5.64	8.00	5.000	8.000	.00	0 .0
491.977	.0074					.0074	3.63	4.89	1.24	4.89	.014	-1.50	.00	RECTANG
18011.980	487.763	4.894	492.657	597.00	15.45	3.70	496.36	.00	5.64	8.00	5.000	8.000	.00	0 .0
288.023	.0074					.0077	2.22	4.89	1.24	4.89	.014	-1.50	.00	RECTANG
18300.000	489.890	4.748	494.638	597.00	15.93	3.94	498.58	.00	5.64	8.00	5.000	8.000	.00	0 .0
206.105	.0080					.0080	1.65	4.75	1.30	4.75	.014	-1.50	.00	RECTANG

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PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
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WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
18506.110	491.539	4.748	496.287	597.00	15.93	3.94	500.23	.00	5.64	8.00	5.000	8.000	.00	0 .0
306.285	.0080					.0080	2.45	4.75	1.30	4.75	.014	-1.50	.00	RECTANG
18812.390	493.990	4.742	498.732	597.00	15.95	3.95	502.68	.08	5.64	8.00	5.000	8.000	.00	0 .0
274.260	.0080					.0083	2.27	4.82	1.30	4.75	.014	-1.50	.00	RECTANG
19086.650	496.180	4.637	500.817	597.00	16.31	4.13	504.95	.09	5.64	8.00	5.000	8.000	.00	0 .0
148.082	.0080					.0089	1.32	4.72	1.34	4.74	.014	-1.50	.00	RECTANG
19234.730	497.368	4.494	501.862	597.00	16.84	4.40	506.27	.09	5.64	8.00	5.000	8.000	.00	0 .0
126.178	.0080					.0099	1.25	4.58	1.41	4.74	.014	-1.50	.00	RECTANG
19360.910	498.380	4.287	502.667	597.00	17.66	4.84	507.51	.00	5.64	8.00	5.000	8.000	.00	0 .0
80.727	.0080					.0111	.90	4.29	1.51	4.75	.014	-1.50	.00	RECTANG
19441.640	499.025	4.112	503.137	597.00	18.43	5.27	508.41	.00	5.64	8.00	5.000	8.000	.00	0 .0
74.398	.0080					.0125	.93	4.11	1.61	4.75	.014	-1.50	.00	RECTANG
19516.040	499.619	3.923	503.542	597.00	19.33	5.80	509.34	.00	5.64	8.00	5.000	8.000	.00	0 .0
63.965	.0080					.0142	.91	3.92	1.73	4.75	.014	-1.50	.00	RECTANG
19580.000	500.130	3.744	503.874	597.00	20.27	6.38	510.26	.00	5.64	8.00	5.000	8.000	.00	0 .0
TRANS STR	.0080					.0130	.26	3.74	1.86		.014	.00	.00	RECTANG
19600.000	500.290	5.749	506.039	597.00	17.31	4.65	510.69	.00	6.75	6.00	5.000	6.000	.00	0 .0
5.182	.0218					.0105	.05	5.75	1.27	4.34	.014	.00	.00	RECTANG

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)
WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
19605.180	500.403	5.851	506.253	597.00	17.01	4.49	510.74	.00	6.75	6.00	5.000	6.000	.00	0 .0
10.186	.0218					.0097	.10	5.85	1.24	4.34	.014	.00	.00	RECTANG
19615.370	500.625	6.136	506.761	597.00	16.22	4.08	510.84	.00	6.75	6.00	5.000	6.000	.00	0 .0
5.465	.0218					.0087	.05	6.14	1.15	4.34	.014	.00	.00	RECTANG
19620.830	500.744	6.436	507.179	597.00	15.46	3.71	510.89	.00	6.75	6.00	5.000	6.000	.00	0 .0
1.658	.0218					.0077	.01	6.44	1.07	4.34	.014	.00	.00	RECTANG
19622.490	500.780	6.751	507.531	597.00	14.74	3.37	510.90	.00	6.75	6.00	5.000	6.000	.00	0 .0
JUNCT STR	.0221							7.16	1.00		.014	.00	.00	RECTANG
19676.000	501.960	3.462	505.422	476.00	22.92	8.16	513.58	.00	5.80	6.00	5.000	6.000	.00	0 .0
JUNCT STR	.0221							3.46	2.17		.014	.00	.00	RECTANG
19676.000	501.960	8.512	510.472	476.00	15.87	3.91	514.38	.00	5.00	6.00	5.000	6.000	.00	0 .0
57.000	.0219					.0148	.84	.00	1.25	3.63	.014	.00	.00	BOX
19733.000	503.210	8.577	511.787	476.00	15.87	3.91	515.70	.00	5.00	6.00	5.000	6.000	.00	0 .0
19733.000	503.210	3.412	506.622	476.00	23.25	8.39	515.02	1.01	5.80	6.00	5.000	6.000	.00	0 .0
6.699	.0106					.0260	.17	4.43	2.22	4.82	.014	.00	.00	RECTANG
19739.700	503.281	3.386	506.667	476.00	23.43	8.52	515.19	1.03	5.80	6.00	5.000	6.000	.00	0 .0
39.961	.0106					.0280	1.12	4.42	2.24	4.82	.014	.00	.00	RECTANG
19779.660	503.705	3.228	506.933	476.00	24.57	9.38	516.31	1.13	5.80	6.00	5.000	6.000	.00	0 .0
37.238	.0106					.0318	1.18	4.36	2.41	4.82	.014	.00	.00	RECTANG

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WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)
WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
19816.900	504.100	3.078	507.178	476.00	25.77	10.31	517.49	.00	5.80	6.00	5.000	6.000	.00	0 .0
52.018	.0249					.0351	1.83	3.08	2.59	3.46	.014	.00	.00	RECTANG
19868.920	505.395	2.989	508.384	476.00	26.54	10.94	519.32	.00	5.80	6.00	5.000	6.000	.00	0 .0
67.746	.0249					.0390	2.64	2.99	2.71	3.46	.014	.00	.00	RECTANG
19936.670	507.081	2.850	509.931	476.00	27.83	12.03	521.96	.00	5.80	6.00	5.000	6.000	.00	0 .0
55.150	.0249					.0443	2.44	2.85	2.91	3.46	.014	.00	.00	RECTANG
19991.820	508.453	2.718	511.171	476.00	29.19	13.23	524.40	.00	5.80	6.00	5.000	6.000	.00	0 .0
46.951	.0249					.0504	2.37	2.72	3.12	3.46	.014	.00	.00	RECTANG
20038.770	509.622	2.591	512.213	476.00	30.62	14.56	526.77	.00	5.80	6.00	5.000	6.000	.00	0 .0
41.139	.0249					.0573	2.36	2.59	3.35	3.46	.014	.00	.00	RECTANG
20079.910	510.646	2.470	513.116	476.00	32.11	16.01	529.13	.00	5.80	6.00	5.000	6.000	.00	0 .0
36.766	.0249					.0653	2.40	2.47	3.60	3.46	.014	.00	.00	RECTANG
20116.670	511.561	2.356	513.916	476.00	33.68	17.61	531.53	.00	5.80	6.00	5.000	6.000	.00	0 .0
33.328	.0249					.0744	2.48	2.36	3.87	3.46	.014	.00	.00	RECTANG
20150.000	512.390	2.246	514.636	476.00	35.32	19.38	534.01	.00	5.80	6.00	5.000	6.000	.00	0 .0
11.619	.1600					.0765	.89	2.25	4.15	1.75	.014	.00	.00	RECTANG
20161.620	514.249	2.308	516.557	476.00	34.37	18.35	534.90	.00	5.80	6.00	5.000	6.000	.00	0 .0
17.104	.1600					.0691	1.18	2.31	3.99	1.75	.014	.00	.00	RECTANG

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WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)

QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)

WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
20178.720	516.986	2.421	519.406	476.00	32.77	16.68	536.09	.00	5.80	6.00	5.000	6.000	.00	0 .0
14.068	.1600					.0606	.85	2.42	3.71	1.75	.014	.00	.00	RECTANG
20192.790	519.237	2.539	521.775	476.00	31.25	15.16	536.94	.00	5.80	6.00	5.000	6.000	.00	0 .0
11.750	.1600					.0532	.63	2.54	3.46	1.75	.014	.00	.00	RECTANG
20204.540	521.117	2.663	523.779	476.00	29.79	13.78	537.56	.00	5.80	6.00	5.000	6.000	.00	0 .0
9.922	.1600					.0468	.46	2.66	3.22	1.75	.014	.00	.00	RECTANG
20214.460	522.704	2.793	525.497	476.00	28.41	12.53	538.03	.00	5.80	6.00	5.000	6.000	.00	0 .0
8.439	.1600					.0412	.35	2.79	3.00	1.75	.014	.00	.00	RECTANG
20222.900	524.054	2.929	526.983	476.00	27.09	11.39	538.38	.00	5.80	6.00	5.000	6.000	.00	0 .0
7.213	.1600					.0362	.26	2.93	2.79	1.75	.014	.00	.00	RECTANG
20230.110	525.208	3.072	528.280	476.00	25.83	10.36	538.64	.00	5.80	6.00	5.000	6.000	.00	0 .0
6.180	.1600					.0319	.20	3.07	2.60	1.75	.014	.00	.00	RECTANG
20236.290	526.197	3.222	529.419	476.00	24.62	9.41	538.83	.00	5.80	6.00	5.000	6.000	.00	0 .0
5.299	.1600					.0281	.15	3.22	2.42	1.75	.014	.00	.00	RECTANG
20241.590	527.045	3.379	530.424	476.00	23.48	8.56	538.98	.00	5.80	6.00	5.000	6.000	.00	0 .0
4.537	.1600					.0248	.11	3.38	2.25	1.75	.014	.00	.00	RECTANG
20246.130	527.771	3.544	531.315	476.00	22.38	7.78	539.10	.00	5.80	6.00	5.000	6.000	.00	0 .0
3.871	.1600					.0219	.08	3.54	2.10	1.75	.014	.00	.00	RECTANG

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WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)
WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT) / SF Ave	Water Elev / HF	Q (CFS) / SE Dpth	Vel (FPS) / Froude N	Vel Head / Norm Dp	Energy Grd.El. / "N"	Super Elev / X-Fall	Critical Depth / ZR	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip / Type Ch
20250.000	528.390	3.717	532.107	476.00	21.34	7.07	539.18	.00	5.80	6.00	5.000	6.000	.00	0 .0
156.584	.0210					.0203	3.18	3.72	1.95	3.69	.014	.00	.00	RECTANG
20406.580	531.678	3.758	535.436	476.00	21.11	6.92	542.36	.00	5.80	6.00	5.000	6.000	.00	0 .0
205.969	.0210					.0188	3.88	3.76	1.92	3.69	.014	.00	.00	RECTANG
20612.550	536.004	3.941	539.945	476.00	20.13	6.29	546.24	.00	5.80	6.00	5.000	6.000	.00	0 .0
87.447	.0210					.0167	1.46	3.94	1.79	3.69	.014	.00	.00	RECTANG
20700.000	537.840	4.134	541.974	476.00	19.19	5.72	547.69	.00	5.80	6.00	5.000	6.000	.00	0 .0
TRANS STR	.0210					.0155	.16	4.13	1.66		.014	.00	.00	RECTANG
20710.000	538.050	4.160	542.210	476.00	19.07	5.65	547.86	.00	5.80	6.00	6.000	6.000	.00	0 .0
47.301	.0210					.0145	.69	4.16	1.65	3.69	.014	.00	.00	BOX
20757.300	539.044	4.360	543.404	476.00	18.20	5.14	548.55	.00	5.80	6.00	6.000	6.000	.00	0 .0
31.238	.0210					.0129	.40	4.36	1.54	3.69	.014	.00	.00	BOX
20788.540	539.701	4.573	544.274	476.00	17.35	4.67	548.95	.00	5.80	6.00	6.000	6.000	.00	0 .0
20.986	.0210					.0114	.24	4.57	1.43	3.69	.014	.00	.00	BOX
20809.530	540.142	4.796	544.938	476.00	16.54	4.25	549.19	.00	5.80	6.00	6.000	6.000	.00	0 .0
13.961	.0210					.0101	.14	4.80	1.33	3.69	.014	.00	.00	BOX
20823.490	540.436	5.030	545.466	476.00	15.77	3.86	549.33	.00	5.80	6.00	6.000	6.000	.00	0 .0
8.775	.0210					.0090	.08	5.03	1.24	3.69	.014	.00	.00	BOX

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WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)
WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
20832.260	540.620	5.276	545.896	476.00	15.04	3.51	549.41	.00	5.80	6.00	6.000	6.000	.00	0 .0
4.732	.0210					.0080	.04	5.28	1.15	3.69	.014	.00	.00	BOX
20836.990	540.720	5.533	546.253	476.00	14.34	3.19	549.44	.00	5.80	6.00	6.000	6.000	.00	0 .0
1.445	.0210					.0071	.01	5.53	1.07	3.69	.014	.00	.00	BOX
		---------- WARNING - Flow depth near top of box conduit ----------												
20838.440	540.750	5.804	546.554	476.00	13.67	2.90	549.46	.00	5.80	6.00	6.000	6.000	.00	0 .0
JUNCT STR	.0771					.0067	.39	5.80	1.00		.014	.00	.00	BOX
		---------- WARNING - Flow depth near top of box conduit ----------												
20896.180	545.200	4.198	549.398	273.00	4.11	.26	549.66	.00	2.10	15.83	6.000	15.830	.00	0 .0
20896.180	545.200	1.700	546.900	273.00	20.07	6.26	553.16	.00	3.31	8.00	6.000	8.000	.00	0 .0
32.000	.0259					.0286	.92	1.70	2.71	1.75	.014	.00	.00	BOX
20928.180	546.030	1.687	547.717	273.00	20.23	6.36	554.07	.00	3.31	8.00	6.000	8.000	.00	0 .0
TRANS STR	.0260					.0274	.55	1.69	2.75		.014	.00	.00	BOX
20948.180	546.550	1.962	548.512	273.00	19.87	6.13	554.65	.00	3.61	7.00	4.500	7.000	.00	0 .0
80.311	.0258					.0259	2.08	1.96	2.50	1.96	.014	.00	.00	RECTANG
21028.490	548.620	1.961	550.581	273.00	19.89	6.14	556.72	.22	3.61	7.00	4.500	7.000	.00	0 .0
207.990	.0258					.0261	5.43	2.18	2.50	1.96	.014	.00	.00	RECTANG

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PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)
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WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
21236.480	553.990	1.948	555.938	273.00	20.02	6.22	562.16	.00	3.61	7.00	4.500	7.000	.00	0 .0
170.660	.0257					.0274	4.67	1.95	2.53	1.96	.014	.00	.00	RECTANG
21407.140	558.384	1.900	560.283	273.00	20.53	6.54	566.83	.00	3.61	7.00	4.500	7.000	.00	0 .0
121.039	.0257					.0304	3.68	1.90	2.62	1.96	.014	.00	.00	RECTANG
21528.180	561.500	1.811	563.311	273.00	21.53	7.20	570.51	.00	3.61	7.00	4.500	7.000	.00	0 .0
38.496	.0325					.0325	1.25	1.81	2.82	1.81	.014	.00	.00	RECTANG
21566.680	562.751	1.811	564.562	273.00	21.53	7.20	571.76	.00	3.61	7.00	4.500	7.000	.00	0 .0
272.176	.0325					.0306	8.32	1.81	2.82	1.81	.014	.00	.00	RECTANG
21838.850	571.597	1.893	573.489	273.00	20.61	6.59	580.08	.00	3.61	7.00	4.500	7.000	.00	0 .0
89.328	.0325					.0268	2.40	1.89	2.64	1.81	.014	.00	.00	RECTANG
21928.180	574.500	1.985	576.485	273.00	19.65	5.99	582.48	.00	3.61	7.00	4.500	7.000	.00	0 .0
51.410	.0250					.0250	1.29	1.99	2.46	1.99	.014	.00	.00	RECTANG
21979.590	575.785	1.985	577.770	273.00	19.65	5.99	583.76	.00	3.61	7.00	4.500	7.000	.00	0 .0
278.590	.0250					.0264	7.35	1.99	2.46	1.99	.014	.00	.00	RECTANG
22258.180	582.750	1.913	584.663	273.00	20.39	6.46	591.12	.00	3.61	7.00	4.500	7.000	.00	0 .0
50.000	.0250					.0284	1.42	1.91	2.60	1.99	.014	.00	.00	BOX
22308.180	584.000	1.884	585.884	273.00	20.70	6.66	592.54	.00	3.61	7.00	4.500	7.000	.00	0 .0
42.283	.0250					.0298	1.26	1.88	2.66	1.99	.014	.00	.00	BOX

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PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)

QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)

WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
22350.460	585.057	1.851	586.909	273.00	21.06	6.89	593.80	.00	3.61	7.00	4.500	7.000	.00	0 .0
77.717	.0250					.0328	2.55	1.85	2.73	1.99	.014	.00	.00	BOX
22428.180	587.000	1.765	588.765	273.00	22.09	7.58	596.34	.00	3.61	7.00	4.500	7.000	.00	0 .0
636.381	.0350					.0350	22.27	1.77	2.93	1.77	.014	.00	.00	BOX
23064.560	609.273	1.765	611.039	273.00	22.09	7.58	618.62	.00	3.61	7.00	4.500	7.000	.00	0 .0
263.619	.0350					.0360	9.48	1.77	2.93	1.77	.014	.00	.00	BOX
23328.180	618.500	1.733	620.233	273.00	22.50	7.86	628.09	.00	3.61	7.00	4.500	7.000	.00	0 .0
9.088	.0400					.0368	.33	1.73	3.01	1.69	.014	.00	.00	BOX
23337.270	618.864	1.737	620.600	273.00	22.45	7.83	628.43	.00	3.61	7.00	4.500	7.000	.00	0 .0
110.500	.0400					.0343	3.79	1.74	3.00	1.69	.014	.00	.00	BOX
23447.770	623.284	1.822	625.105	273.00	21.41	7.12	632.22	.00	3.61	7.00	4.500	7.000	.00	0 .0
55.410	.0400					.0299	1.66	1.82	2.80	1.69	.014	.00	.00	BOX
23503.180	625.500	1.911	627.411	273.00	20.41	6.47	633.88	.00	3.61	7.00	4.500	7.000	.00	0 .0
6.523	.0390					.0276	.18	1.91	2.60	1.70	.014	.00	.00	BOX
23509.700	625.754	1.923	627.678	273.00	20.28	6.38	634.06	.00	3.61	7.00	4.500	7.000	.00	0 .0
36.461	.0390					.0256	.93	1.92	2.58	1.70	.014	.00	.00	BOX
23546.160	627.175	2.017	629.192	273.00	19.33	5.80	635.00	.00	3.61	7.00	4.500	7.000	.00	0 .0
25.865	.0390					.0224	.58	2.02	2.40	1.70	.014	.00	.00	BOX

Program Package Serial Number: 1748

WATER SURFACE PROFILE LISTING Date: 8-23-2005 Time:10:37:55

PROP. CONDITION ANALYSIS OF WALNUT CANYON CHANNEL 8/23/05 (JCS)

QDES=273CFS U/S 209+28.18 = 0+00 (10000' ADDED TO EXIST. COND.STATIONS)

WAL CYN CHNL DIVERT TO ARROYO STA 11300(D/S WSE=447.8) REBUILD 415'WAL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
23572.030	628.182	2.116	630.298	273.00	18.43	5.28	635.57	.00	3.61	7.00	4.500	7.000	.00	0 .0
19.385	.0390					.0195	.38	2.12	2.23	1.70	.014	.00	.00	BOX
23591.410	628.937	2.219	631.156	273.00	17.57	4.80	635.95	.00	3.61	7.00	4.500	7.000	.00	0 .0
14.984	.0390					.0171	.26	2.22	2.08	1.70	.014	.00	.00	BOX
23606.400	629.521	2.327	631.848	273.00	16.76	4.36	636.21	.00	3.61	7.00	4.500	7.000	.00	0 .0
11.781	.0390					.0150	.18	2.33	1.94	1.70	.014	.00	.00	BOX
23618.180	629.980	2.441	632.421	273.00	15.98	3.96	636.38	.00	3.61	7.00	4.500	7.000	.00	0 .0
TRANS STR	.2013					.0126	.19	2.44	1.80		.014	.00	.00	BOX
23633.180	633.000	1.432	634.432	273.00	12.71	2.51	636.94	.00	2.18	15.00	7.000	15.000	.00	0 .0
TRANS STR	.0208					.0074	.09	1.43	1.87		.014	.00	.00	RECTANG
23645.180	633.250	2.675	635.925	273.00	9.28	1.34	637.26	.00	2.67	11.00	7.000	11.000	.00	0 .0

Basis of Design Study

Commonwealth Studios - Interim Condition Flood Control Improvements
Walnut and Gabbert Canyon Watershed

May 2009
April 2009 (revised)
January 2009 (revised)
July 2008 (revised)

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1 Introduction

1.1 Project Description

The Commonwealth Studios project site, Tract 5217, owned by Triliad Development Inc. (TDI) will be developed as a 32-acre movie production studio site located in Moorpark, California in southeastern Ventura County. It is located along the northerly right-of-way of Los Angeles Avenue. The Commonwealth Studios project site boundaries are Los Angeles Avenue on the south, Walnut Channel on the east, Union Pacific Railroad right-of-way on the north and Gabbert Channel on the west. As a condition of development, Triliad Development Inc. is required to construct offsite regional flood control improvements as discussed in the *Walnut and Gabbert Canyon Watershed Masterplan* approved in June 2005. The portion of the overall watershed masterplan that will be constructed as a part of this project do not totally alleviate the floodplain issues associated with Walnut and Gabbert Canyon Channels, however, these improvements are a major portion of the necessary improvements. The proposed Regional Basin-3 and Basin-2 Improvements are located offsite on the parcel known as *Hitch Ranch*. The owners of Hitch Ranch and Triliad Development have developed an agreement to allow Triliad to construct the proposed basin improvements on Hitch Ranch property. The regional location and site vicinity map (Figure 1) illustrates the project site from both a regional and local perspective.

Under current conditions, potential flooding could affect the Commonwealth Studios. This flooding would be a result of inundation caused by existing conveyance deficiencies in the Walnut Canyon Channel and Gabbert Canyon Channel. These flood control channels drain a total of approximately 4,365 acres. The existing watershed is largely undeveloped with some residential and commercial landuses. A portion of the watershed masterplan facilities/improvements have been constructed as a part of the development of Tract-5187. The proposed facilities/improvements that would be implemented as a part of this project would be a major step in the elimination of the overall watershed flood control deficiencies. However, the flood control deficiencies in the watershed will not be completely eradicated until the complete masterplan is implemented.

The Regional Watershed Masterplan for Walnut and Gabbert Canyons were adopted by both the City of Moorpark and VCWPD in 2005. *"Gabbert and Walnut Canyon Channels Flood Control Deficiency - Addendum"* dated August 2005, is the title of the Regional Watershed Masterplan that the Commonwealth Studios and Hitch Ranch project sites are subject to. This masterplan identified five (5) regional detention basins along with other channel improvements to alleviate the flooding hazard associated with the Gabbert and Walnut Canyon Channels. One of the basins, known as "Basin-3" is planned to be located adjacent to Walnut Canyon Channel within the Hitch Ranch property. The owners of Hitch Ranch and the Commonwealth Studios sites have created an agreement that will allow the developer of the Commonwealth Studios site, TDI to design and construct the Basin-3, Basin-2, and Basin-2B facilities on Hitch Ranch property. This agreement allows for the development of the Commonwealth Studios site to occur prior to development of the Hitch Ranch site and provides adequate "interim condition" flood protection to the Commonwealth Studios site and adjacent parcels downstream of the proposed Basin-3 facility site in the interim condition.

In the interim condition, Basins-2, -2B and -3 would be regional flood control facilities functioning consistent with the watershed masterplan and designed to meet or exceed minimum Ventura County Watershed Protection District (VCWPD) design standards. The construction of these facilities is referred to as "Interim Condition-1" in this report because there will be subsequent interim condition construction of the masterplan facilities before the ultimate condition is achieved. Basins-2 and 2B outlet structures will be modified in the ultimate condition with the construction of North Hills Parkway. Each of the basins would be dedicated to VCWPD to own, operate, and maintain in the interim and ultimate conditions. Also in ultimate condition Basin 2A will be constructed per Hitch Ranch Masterplan Study (May 2007) The proposed regional basins would meet the performance and design requirements set forth in the Regional Watershed Masterplan for Walnut and Gabbert Canyons and were approved and accepted by both the City of Moorpark and VCWPD in 2006. *"Gabbert and Walnut Canyon Channels Flood Control Deficiency - Addendum"* dated August 2005, is the title of the Regional Watershed Masterplan that the Hitch Ranch

site is a part of. This study determined the minimum performance standards to be met by the individual regional facilities in the interim condition as they are designed and constructed to alleviate the existing floodplain hazard in Moorpark associated with the deficiencies of the Walnut and Gabbert Canyon Channels between High Street and the Arroyo Simi. Figure 2 shows the extent of the existing 100-year Federal Emergency Management Agency (FEMA) floodplain for the Moorpark area.

The development plan for Commonwealth Studios includes the construction of the regional basins (Basin-3 and Basin-2 and -2B), identified in the approved masterplan for this watershed. These basins have been designed for the interim condition to also function in future interim condition phases and in the ultimate condition with minimal modifications. The future interim condition development of Hitch Ranch will construct a regional basin identified as Basins-2A,. The construction of this facility will help to decrease the flooding risk along the Walnut Channel from Casey Road to Commonwealth Studios project site. This interim phase will construct Basin-2, -2B and -3. These facilities were sized such that they will over attenuate the peak flowrate in the Walnut Canyon Channel upstream of the Commonwealth Studios, Tract 5217, site in order to mitigate the increase in peak runoff that typically occurs in a watershed due to development. This over attenuation in Basins-2, 2B and -3 eliminates the need for an onsite detention basin on the Commonwealth Studios site. The resultant peak flowrate at the upstream side (east) (cp62AC) of the Commonwealth Studios site in the Walnut Canyon Channel is less than the masterplan tabled flowrate as determined in the 1997 and 2005 Flood Control Deficiency Studies such that the flowrate at the downstream extent of Tract 5217 shows no net increase due to development; see Section 4.2.

1.2 Study Objective

The purpose of this report is to document and support the design of the proposed interim condition facilities to be built by TDI to mitigate the existing 100-year floodplain hazard(s) at the Commonwealth Studios project site.

The project has identified the following key objectives in the development of an implementable watershed masterplan:

1. A drainage system composed of channel improvements, detention storage facilities that will mitigate the existing flood control deficiencies of the Walnut Canyon Channel.

2. Identify major physical constraints such as utilities, roads, and legal boundaries that are impacted by the recommend improvements.

3. Identify interim condition improvements, their design and operation, their performance targets, and the resultant affect the interim improvements will have on the watershed hydrology.

4. Develop and design an interim condition improvement program that is consistent with the approved Gabbert and Walnut Canyon Channel Watershed Masterplan and which fits within the current Hitch Ranch ultimate condition site plan

5. Demonstrate that the proposed interim condition system improvements would be capable of meeting the ultimate condition watershed flood control performance targets with minimal or no modifications.

The information contained in this report is intended to provide final design level information and data that will facilitate the engineering review and design provided within the construction documents and allow for verification of compliance with the planning for the Gabbert and Walnut Canyon watersheds. This document is intended to provide a record of the engineering design and intent contained in the project construction documents.

2 Project Understanding and Study Area Description

The 32-acre project site is currently undeveloped. The natural topography shows the drainage pattern is north to south and tributary to the Walnut Canyon watershed. Walnut Canyon Channel consists primarily of approximately 2.5 miles of improved concrete channels that were originally constructed by the SCS between 1959 and 1962. These regional drainage facilities are located in Zone-3 of the Ventura County Flood Control District. Due to recent private development on a significant portion of this watershed area and the limited hydraulic conveyance capacity of the existing channel system, flood protection deficiency exists and is documented on the current Flood Insurance Rate Map (FIRM) for the City of Moorpark. Shallow flooding occurring from channel overtopping has been documented.

The City of Moorpark FIRM has defined existing flood hazard zones within and near project site. The FIRM indicated that approximately 20 percent of the site (along the eastern and southern portion) is within the 100-year flood hazard area. An additional 20 percent is subjected to flood hazards associated with Gabbert Canyon Channel (north of the project site) overflow along the western portion of the site. This overflow could extend to the project site up to 500 feet inundation depth of approximately 0.7 feet. The Walnut Canyon Channel would also subject the proposed project site to inundation due to the 100-year floodplain that extends into the project site approximately 250 feet (see Figure 2).

2.1 Field Investigation

A field reconnaissance of the proposed location of Basin -3 and Basin-2 and 2B was performed as part of the this Basis of Design study to observe existing conditions and existing utilities and/or improvements that will need to be relocated or demolished. Photos of the existing conditions, utilities, and improvements near the proposed Basin-3, and Basin-2 and 2B improvements are provided below.



Photograph 1 - Looking east-northeast from the location of Walnut Canyon Channel along the southerly project boundary. The area in the foreground is the proposed location of the Regional Detention Basin.



Photograph 2 – Looking north-northwest and taken from approximately channel station 86+00.00, the area depicted in the photo is the proposed location of the VCWPD Regional Detention Basin-3. The future location of the High Street extension is in the foreground at the fence line.



Photograph 3 - Looking south and taken from approximately channel station 86+42.49, the photo depicts an existing sanitary sewer manhole for the existing 18" VCWPD sewer line. This facility is located approximately 50-ft east of the VCWPD proposed Regional Basin inlet structure(s). The existing Walnut Channel is shown in the background.



Photograph 4 - Looking east and taken from approximately channel station 86+42.49, the photo depicts the existing MTA / Amtrak train tracks located adjacent to the Walnut Channel along the south bank. The area between the tracks and the channel contains several existing utilities below the surface (1) VCWPD 18" sanitary sewer, (2) MCI fiberoptic cable, (3) Sprint fiberoptic cable, and (4) AT&T fiberoptic cable. This is the area or proposed fill to contain the existing overbank flooding upstream of the Basin-3 inlet.



Photograph 5 - Looking north and taken from approximately channel station 86+80.00, the photo depicts an existing 5-ft chain link fence located along the easterly property boundary of the Hitch Ranch property. This fence will be protected in-place and will be located immediately adjacent to the proposed Basin-3 access road along the easterly edge of said road.



Photograph 6 - Looking north and taken from approximately channel station 79+75.00, the photo depicts an existing abandoned pump station and electric pole. These existing improvements are located within the footprint of Basin-3 and will have to be removed.



Photograph 7 - Looking north northwest and taken from approximately channel station 80+00.00, the photo depicts an existing reinforced concrete well sleeve or standpipe shown in the background. This facility is within the footprint of the proposed basin and would have to be removed.



Photograph 8 - Looking north, taken from approximately channel station 75+00.00, the photo depicts existing SCE overhead electricity transmission lines and support poles. The first electric pole shown in the center of the photo is within the footprint of the proposed Basin-3. This facility will need to be relocated outside of the basin footprint. The SCE easement associated with these transmission lines will need to be terminated and relocated / re-dedicated in association with the realignment of the lines.



Photograph 9 - Looking north northwest, taken from approximately channel station 75+00.00, the photo depicts an existing stand of Eucalyptus Trees just west of the SCE overhead electricity transmission lines. This stand of trees will need to be removed and/or relocated as they are within the Basin-3 footprint.



Photograph 10 - Looking north northeast, taken from approximately channel station 45+00.00, the photo depicts the existing condition at the proposed location of Temp Basin-2.



Photograph 11 - Looking north, taken from approximately channel station 45+00.00, the photo depicts the existing condition at the proposed location of Temp Basin-2. In the background, the photo depicts existing SCE transmission lines and support poles / towers. The easterly boundary of the existing SCE easement for the power lines shown will be a common boundary for right-of-way dedicated to VCWPD for the proposed Basin-2 site.



Photograph 12 - There is also an existing cable television and/or buried telephone cable within the SCE easement discussed in the preceding photo. This photo depicts an existing cable junction box located within the easterly shoulder of Gabbert Road, adjacent to the proposed location of Basin-2.

2.2 Description of Existing Channel Facilities

There are no improved channels existing within the Commonwealth Studios property boundaries. All the natural drainage patterns are unimproved and undisturbed. Walnut Canyon Channel borders approximately 2,800-feet of the project site along the westerly as well as southerly border. The Walnut Canyon Channel is owned and maintained by VCWPD. The existing channel cross-section adjacent to the Commonwealth Studios Project site is a concrete rectangular channel section with a 12-foot base width and a 5-foot wall height. The average slope of the channel adjacent to the project site is approximately 0.5%.

2.3 Floodplain Mapping

The potential for flooding directly associated with the limited hydraulic capacity of the Gabbert and Walnut Canyon Channel systems is reflected in the published floodplain mapping for the Moorpark area which indicates the 100-year flooding through the urbanized portions of the city. The current FIRM for the City of Moorpark became effective September 29, 1986 and shown on the FIRM community panel 067120005A which indicates only the mapped flood hazard boundaries within the municipal boundary.

2.4 Previous Hydrologic Investigations

The 1997 RBF study, "*Gabbert and Walnut Canyon Channels Watershed Flood Control Deficiency Study"* thoroughly investigated the Walnut and Gabbert watersheds in order to determine the most feasible flood control solution to resolve the existing deficiencies. This study was accepted by VCWPD and the recommended alternative plan was selected as the flood control masterplan for the Gabbert and Walnut watersheds. This study was the basis for the Commonwealth Studios Corporate Center Flood Protection Project study prepared by RBF in 2000 and further refined the selected alternative identified in the 1997 report.

The 2000 report modified the proposed detention Basin-3 and utilized a larger detention basin flow diversion to the Arroyo Simi. It has since been determined that the proposed detention Basin-3 Arroyo Simi diversion would not be feasible to construct. VCWPD then recommended an inline detention Basin-3 bypass as an additional modification to the selected watershed flood control masterplan.

In July 2005, PACE prepared an addendum to the 1997 Gabbert and Walnut Canyon Channels Watershed Deficiency Study. This study was adopted by both Ventura County and the City of Moorpark as the Watershed Masterplan for the overall watershed that the Hitch Ranch site is within. The 2005 study refined the preferred alternative selected in the 1997 study and 2000 studies and utilized updated information on existing physical constraints

Tract 4928 and Tract 5187 are located in the upstream portion of the Walnut Canyon Channel watershed. Both these project hydrology reports were approved and the projects are under construction. Tract 5187 development include regional basin "BASIN 0" to mitigate the runoff in the existing Walnut Canyon Channel per the 1997 and 2000 RBF Masterplan study(s). The *"Tract 5187 Unit-1 Volume-1 Hydrology Report"* was prepared by *Hall and Foreman* in March 2003.

In May 2007, PACE prepared the *Hitch Ranch Stormwater Management Masterplan*. The Hitch Ranch Project is located in the upstream portion of the Commonwealth Studios project site. This study's emphasis is on both regional and local flood control facilities for the proposed project site plan per previous Gabbert and Walnut Canyons Flood Control Deficiency Studies.

This current study focuses on the design requirement associated with implementation of a large regional stormwater detention with in upper watershed of Walnut Canyon. This basin is also referred is as "BASIN 3" in previous studies. The flood control facilities are based on RBF report *"Commonwealth Studios Corporate Center Flood Protection Project Walnut Canyon Regional Detention Basin."* The proposed basin(s) would be an interim condition solution to the flood control deficiencies of the watershed. They have been designed to meet the ultimate condition hydrologic performance requirements and fit within the current ultimate condition Hitch Ranch site plan with minimal or no modification.

2.5 Design Objective and Criteria

The primary design objective of the proposed flood control basins is to minimize the flood hazards associated with the existing Walnut Canyon Channel deficiencies by reducing the 100-year peak storm discharge downstream of the proposed Basin-3 location, thereby eliminating the flood hazard to the Commonwealth Studios site.

The proposed regional stormwater detention basin is located along the existing Walnut Canyon Channel within the boundary of the Hitch Ranch property in Moorpark. The concept plan, location selection and general configuration of the detention basins were developed in conjunction with the planning efforts of the Hitch Ranch Specific plan with input from the City of Moorpark and the Ventura County Watershed Protection District. The interim condition footprint for Basin-3 is significantly larger than the ultimate condition basin footprint.

The stormwater management program that was developed in this study was created with the goal of achieving a balance between (1) flood protection objectives, (2) providing the minimum cost for the maximum benefit, and (3) compatibility with existing physical constraints and future development. Several alternatives were developed during the master planning and preliminary design process. These alternatives were screened through a feasibility evaluation process, which resulted in the current design configuration being identified as the preferred alternative. The proposed flood control facilities fulfill the following key objectives which were identified in the flood control masterplan for the Gabbert and Walnut Canyon Watersheds.

- Provide a comprehensive flood control program that minimizes the hydrologic impacts on the existing downstream receiving channel system from the proposed site development.

- Provide a regional drainage system that develops the required level of flood protection with the least economic impact.

- Utilize previously identified locations within the watershed where land has been set aside or planned for acquisition by Ventura County for flood control facilities.

- Maximize utilization of existing flood control facilities and right-of-way that integrate into the recommended program.

Ventura County Watershed Protection District and City of Moorpark standards design guidelines and design criteria were applied in designing the proposed basin and channel improvements. Additional criteria related to specific requirements applied in this study are discussed in the following paragraphs.

2.6 General Environmental

2.6.1 FEMA

The Commonwealth Studios project site and the surrounding area are currently listed as subject to Zone-A flooding. Zone- A is defined as areas subject to inundation by the 1% annual chance event (100-year event.). The implementation of the proposed regional flood control basin with the development of the Commonwealth Studios site is an integral part of the necessary improvements to eliminate the existing flood hazard zone downstream of the Hitch Ranch project site associated with overflow from the Walnut Canyon Channel. The entire flood hazard zone will not be eliminated until each piece of the regional masterplan is implemented as identified in the *2005 Gabbert and Walnut Canyon Channels Flood Control Deficiency Study – Addendum* report. However, implementation of the proposed interim condition improvements will eliminate the flood hazard at the project site. Any modifications or encroachment into the published floodplain for communities participating in the National Flood Insurance Program (NFIP) must be approved by FEMA. Communities that participate in the NFIP are responsible for submitting data to FEMA reflecting projects that modify the floodplain or flood hazard zones. Development of the Commonwealth Studios site will require the processing of a Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) with FEMA to map the affects that the proposed improvements will have on the existing floodplain hazards.

2.6.2 Division of Safety of Dams Design Considerations/Criteria

The basic criterion used by DSOD to define a jurisdictional “dam” facility, includes the following:

- Embankments that are more than 25-feet in height measured from the natural stream bed or lowest point at the downstream toe of the embankment.

- Embankments that impound a storage volume exceeding 50 acre-feet.

- Embankments that are less than 6-feet in height, regardless of storage capacity, or which have a storage capacity of 15 acre-feet, regardless of height will not be considered a “dam.”

The proposed basins located in the proposed Hitch Ranch Project site will not come under the jurisdiction of the California DSOD.

2.6.3 Geotechnical Constraints

The primary geotechnical considerations that are generally associated with the construction of the proposed detention basins include: (1) embankment slope stability, (2) engineered fill including material sources, (3) foundation system requirements for the embankment, and (4) settlement, and (5) excavation spoils stockpiles. The embankment design is the critical geotechnical factor to ensure stability and protection of the public. The interior slopes of the basins were designed with a maximum slope of 3 to1 (horizontal to vertical; 3:1) or flatter in order to maximize geotechnical stability and public safety A soils report, will be prepared by the project geotechnical engineer to confirm the stability of the proposed slopes and project grading. The stage-storage-discharge relationships developed for the hydrology

analyses of the detention basins in this study correspond to the embankment slopes and basin volumes shown in the proposed basin grading plans.

2.6.4 Utilities

PACE performed several preliminary site visits and researched records and maps available at the City of Moorpark and Ventura County Public Works – Water and Sanitation Department. The existing utilities adjacent to the proposed drainage facilities or those that potentially interfere have been incorporated into the design to allow relocation or protection in-place. The photo log provided in Section 2.1 indicates each of the identified existing utilities and/or improvements that have been considered in the design. The basin grading plans also indicate the proposed mitigation for each conflicting utility.

2.6.4.1 Local Storm Drains

There are several municipal and private small diameter corrugated metal pipes ranging in size generally from 12-inches to 24-inches which capture tributary flows from the existing canyons of Hitch Ranch and discharge flows to Walnut Canyon Channel. These culverts were constructed to protect the existing access road along the north side of the Walnut Canyon Channel. These facilities will be protected in place. The spillway way pad shown in photo 13A and B below will be protected in-place and will be incorporated into the proposed overflow spillway of Basin-2.





Photographs 13A and 13B - Unconfined surface flow from the undeveloped canyon area adjacent to Gabbert Road is intercepted by Walnut Canyon Channel. Concrete overpour structures or “small canyon side inlets” provide long weir crests along sections of the channel walls.

2.6.5 Dry Utilities

Additional utilities have been identified from either the field investigation or design data indicated on historical improvement drawings. These utilities may potentially influence limits of channel reconstruction, potentially require reconstruction, or special protective measures during construction.

2.6.5.1 Telephone

Adjacent to Walnut Canyon, located on the south side of the channel an underground MCI fiber optic cable has been installed that parallels the channel and is located between the SPRR and the channel. ATT and Sprint fiber optic cables are also in this same area (Photograph 14). The basin grading plans indicate that there will be some minor “offsite” grading in this area to reduce the likelihood that the interim condition Walnut Channel 100-year floodplain upstream of the proposed Basin-3 would bypass the Basin-3 inlet facilities. The proposed grading in the overbank area between the railroad tracks and the Walnut Channel is intended to direct storm runoff in the overbank back into the Walnut Channel at the Basin-3 inlet. The proposed fill is less than or equal to 2-ft.





Photograph 14 - MCI fiber optic cable

2.6.5.2 Electric

The Walnut Canyon Channel is adjacent to the SCE electric substation near the intersection of Los Angeles Avenue and Gabbert Road. Regional transmission lines and towers are in the proximity of this area (Photograph 15). The electric lines, supports, and the substation will not be affected by this project.



Photograph 15 - Walnut Canyon Channel

2.6.5.3 Railroad

The Union Pacific Railroad is located parallel to Walnut Canyon through the central portion of the City of Moorpark (Photograph 16). The distance from the center of the railroad tracks to the center of the channel is 49.5 feet; the distance from the edge of channel to the railroad right-of-way is 8.5 feet. The railroad lines will not be affected by this project. However, the proposed fill in the overbank area between the Walnut Channel and the railroad tracks will require notification of SPRR and coordination between the train schedule and the contractor grading due to the required close proximity of grading equipment to the tracks.



Photograph 16 - Union Pacific Railroad parallel to Walnut Canyon

2.6.5.4 Gas

A high-pressure gas line is located parallel to the Gabbert Canyon Channel, directly adjacent to Los Angeles Avenue and the channel. This gas line will not be affected by the improvements proposed as a part of this project.

3 Hydrology

3.1 Watershed Description

The proposed detention basin and channel improvements will be constructed at an offsite location(s) for the Commonwealth Studios site. The basin location will be on the Hitch Ranch property. An agreement was established between the owners of Hitch Ranch and Triliad Development, which allows for the construction of the basins by Triliad on Hitch Ranch for the mutual benefit of both parties; the downstream property owners, the City of Moorpark, and VCWPD.

The Commonwealth Studios site is an undeveloped fallow 32-acre parcel located below the southeastern foothills of the City of Moorpark, within Zone-3 (Calleguas Creek Watershed) of the VCWPD District Zone Map. The entire project site and watershed is ultimately tributary to the Arroyo Simi River / Calleguas Creek. The proposed project site is located along the Walnut Canyon Channel near Los Angeles Avenue (State Route 118).

The Commonwealth Studios site is presently undeveloped fallow land. The existing drainage pattern is from the northeasterly corner of the project site to the southeasterly corner of the project site at a 1.1% average slope via overland sheet flow. Excess rainfall flows into the existing rectangular concrete Walnut Canyon Channel along the southern border of the site.

The existing condition regional hydrology analysis was performed by modifying the baseline hydrology model provided by VCWPD. This interim condition study utilized the existing watershed condition as of date of the report including the “as built” data for the existing regional Basin-0 constructed with Tract 5187 improvements to analyze the regional watershed for the Walnut Canyon Channel. The proposed interim condition hydrology model includes the existing regional watershed improvements that have been constructed and the improvements proposed as a part of this project.

3.2 Watershed Models

Several hydrology models were created to evaluate the influence proposed improvements have on the regional and local watershed. The models that were created provide the ability to determine if the proposed drainage improvements (i.e. Basins 2, 2B and 3) are in compliance with the Gabbert and Walnut Watershed Masterplan as well as determine the hydrologic affect of the proposed watershed in comparison to the existing watershed.

3.2.1 Baseline Condition

VCWPD prepared a synthetic unit hydrograph model of the entire Gabbert and Walnut Canyon Channel watershed in June 1996, specifically evaluating the current landuse conditions within the watershed. The VCWPD watershed model was then modified to create the Gabbert and Walnut Canyon Watershed Masterplan, which was approved by VCWPD and the City of Moorpark in 2005 as the masterplan and guideline for implementation of identified future regional flood control improvements for those watersheds. This model, the watershed masterplan model is the “baseline condition” for this study.

3.2.2 Interim Condition-1

The currently proposed “interim condition” model was prepared to provide a comparison of the model results with the “baseline condition”, an “Interim Condition-2” model reflecting proposed development of Hitch Ranch, and the “ultimate condition.” The “interim condition-1” model is based on a modified baseline model that was prepared by using the current proposed Commonwealth Studios site plan, “as built” data for the existing regional Basin-0 constructed with Tract 5187 improvements, as-built data for the “extra basin” constructed with Tract 5187 improvements, proposed improvements of this project for regional Basin-3, Basin-2and 2B near Gabbert Road. This “interim condition” does not include future masterplan regional improvements such as Basin 1, 2A and Gabbert Basin, or the Walnut Canyon Channel relocation. See Figure 4 for Interim Condition Watersheds and Drainage features.

3.2.3 Hitch Ranch InterimInterim Condition 2

An “interim condition-interim c-2” model was prepared to provide a comparison of the model results with the approved masterplan target flowrates. The interim condition-interim c-2” model is based on a modified interim condition-ic-1 model which was prepared by using the current proposed Commonwealth Studios site plan, “as built” data for the existing regional Basin-0 constructed with Tract 5187 improvements, as-built data for the “extra basin” constructed with Tract 5187 improvements, proposed improvements of this project for regional Basin-3, Basin-2 and 2B... The regional “Basin 1” is not included in this condition, nor are Gabbert Basin, and the Walnut Canyon Channel relocation.

3.2.4 Ultimate Condition

An ““ultimate condition” model was prepared to provide a comparison of the model results with the approved masterplan target flowrates using as-built data for the existing regional Basin-0 facility, design data for the proposed improvements (Basins 2, 2B, and 3), and conceptual data for future proposed facilities. The “ultimate condition” model is based on a modified interim condition model which was prepared by using the current proposed Commonwealth Studios site plan, “as built” data for the existing regional Basin-0 constructed with Tract 5187 improvements, as-built data for the “extra basin” constructed with Tract 5187 improvements, proposed improvements of this project for regional Basin-3, and Basin-2 and& 2B. This “ultimate condition” includes future masterplan regional improvements such as Basin 1, 2A, Gabbert Basin, and the Walnut Canyon Channel relocation. Please note, the ultimate condition model also includes local (non-regional) detention facilities that will be required to develop the Hitch Ranch site.

4 Hydrologic Analysis Procedures and Parameters

The VCWPD new window-based Modified Rational Method application VCRAT2.5 was used to develop a runoff hydrograph from each individual subarea. The hydrology model corresponds to a "Link-node" model that simulates the physical rainfall-runoff processes occurring in the watershed. Runoff hydrographs are computed within the model for each subarea, routed through the conveyance system and combined with other subarea hydrographs as the analysis proceeds downstream through the watershed.

4.1 Watershed Subarea Delineation

VCWPD prepared the delineation of the existing watershed that subdivided the entire 4,425-acre regional watershed into **79 subareas** for the original 1997 study of the Walnut and Gabbert Canyon watersheds. The subareas ranged in size from 8 acres to 105 acres with individual time of concentrations less than 30 minutes - consistent with VCWPD criteria.

Figure 5 shows post-developed drainage (Interim condition) areas and sub-area numbering as well as pre-developed (Baseline) drainage areas and sub-are numbering for the Gabbert and Walnut Canyon watersheds.

4.1.1 Rainfall

Regional analysis of historical rainfall data throughout Ventura County resulted in the development of rainfall zone designations to classify common rainfall regimens as part of the *Ventura County Hydrology Manual*. **Rainfall zone "J"** was chosen by VCWPD in the watershed analysis as the rainfall zone that best corresponds to the historical rain gage data for the Moorpark area.

4.1.2 Hydrologic Soil Type

General classification of the average soil infiltration rates have been performed throughout the entire County by the SCS (NRCS). The soils were grouped into seven soil groups of hydrologically similar characteristics and are shown on the Ventura County Hydrologic Maps in the *Ventura County Hydrology Manual*. The soils appear to be primarily type 4, but range from type 1 to 7 as indicated in the VCRAT watershed model subarea characteristics prepared by VCWPD staff.

The Ventura County soil groupings correspond to the SCS (NRCS) Soil Groups are shown in Table 1 and Figure 6.

Table 1 - Soil Groups

Ventura County Hydrologic Soil Groups	SCS Hydrologic Soil Groups
7,6	A
5, 4	B
3,2	C
1	D

4.1.3 Land Use

The ultimate landuse designated for the Commonwealth Studios site for this hydrology study was based a preliminary site plan for the proposed movie production studios (see Appendix-D for site plan). The 32-acre parcel will be developed for as a movie production studio complex which would be hydrologically classified as industrial landuse. The percentage of imperviousness for the proposed project site was estimated as 90%. Table 2 shows the County defined land use and corresponding imperviousness.

Table 2 - Land Use

Land Use	% Imp
Open spaces, lawns, parks, golf courses, cemeteries, etc., grass cover on 75% or more	0
Open spaces, etc., grass cover on 50-75%	0
Residential 1 acre lot	10
Residential 1/2 acre lot	13
Residential 1/3 acre lot	15
Residential 1/4 acre lot	19
Residential 1/5 acre lot	23
Residential 1/6 acre lot	28
Residential 1/8 acre lot	32
Residential - Condominiums	37
Industrial - Unpaved yards, etc.	36
Commercial and Business	50
Industrial parks paved parking, etc.	70
Parking lots, roofs, driveways, paved streets with curbs and drains	90

4.1.4 Subarea Time of Concentrations

The existing condition time of concentration was adopted from the county baseline hydrology study, which indicates a time of concentration of 11 min from Commonwealth Studios site. This value was based on existing condition (i.e. Farmland/Natural with Minimal Structures.) In the developed condition, standard drainage improvements will be incorporated into the project consisting of a drainage inlet and pipe conveyance system. This system will reduce the Time of Concentration (Tc) within the watershed from 11 minutes to 7 minutes. Table 3 shows the Tc calculation for the proposed condition for the Commonwealth Studios watershed.

Table 3 - Tc Values for Proposed Watershed

TC Calculation WorkSheet			
Watershed ID	68B		
Flood Zone	3		
Rainfall Zone	J'		
Soil Type	6		
Frequency	100		
Development type	Industrial		
Percent of Impervious	70%		
Time of Concentration	7 min		
Flow Type	**Length ft**	**US Elev**	**DS Elev**
Overland	200	463	460
Streetflow	200	460	449.44
Pipeflow	1450	449.44	448.75

4.2 Proposed Detention Basin Modeling

The detention basin and watershed models were analyzed with two (2) goals to be obtained. The first goal was to limit the discharge peak flowrate from the basin(s) so that the established interim condition peak flowrate in the Walnut Channel downstream of the Commonwealth Studios site, according to the 2005 Gabbert and Walnut Canyon Watershed Masterplan, is not exceeded with the interim condition detention facilities in-place. The second goal was to over-attenuate the discharge from Basins-2 and -3 such that the over attenuation results in a peak flowrate in the Walnut Canyon Channel that is less than the master plan recommended peak flowrate (830 cfs) by difference between the existing condition and development condition runoff from the Commonwealth Studios site. For example, the calculated existing condition 100-year flowrate from the Commonwealth Studios site is 68 cfs and the developed condition flowrate is 133 cfs. The difference is 65 cfs. Therefore, the target maximum interim and ultimate condition flowrates at the junction with Los Angeles Avenue storm drain; hydrologic concentration point 62AC is 816 cfs. The over attenuation in Basins-2, -2B and -3 would allows Triliad Development to develop the movie studio site without need for an onsite detention basin to attenuate the 100-year event runoff. The over attenuation affect that the proposed basins has on the interim and ultimate condition hydrographs is demonstrated in Table 4 shown below. The "attenuation" hydrology analyses are provided in Appendix-A

Table 4 - Attenuation of Hydrology

Summary Table							
Masterplan Node	**Masterplan Q cfs**	**CWS Interim Condition node Id**	**CWS Interim Cond Q cfs**	**HitchRanch Interim Condition node Id**	**HitchRanch Interim Cond Q cfs**	**Ultimate Condition node Id**	**Ultimate Condition node Id**
62AC	830	68AC	816	68AC	826	68AC	772
63B	68 [1]	69B	133 [2]	70B	133 [2]	70B	133 [2]*
64AB	870	70AB	852	71AB	844	71AB	825

1. Undeveloped condition peak flows
2. Developed condition peak flows

* At Moorpark West Project Site

4.2.1 Interim Regional Basin-3

In the watershed hydrology models prepared for this and prior studies, proposed Detention Basin-3 is located at the Hitch Ranch Property hydrologic node point 39B (Baseline model :cp35ab). In order to optimize the performance and minimize the size of the proposed detention basin, an in-channel 100-cfs bypass is proposed in the design. The bypass will be provided by an inlet structure that will allow 100-cfs to remain in the Walnut Canyon Channel and bypass the proposed detention basin while capturing flows in excess of 100-cfs and up to the 100-year peak flowrate of 945 cfs. The basin inlet structure is composed of a combination of side weirs and inline orifice walls. The orifice walls are located downstream of the weirs to increase the head over the weirs and thereby increase the efficiency of the weirs and reduce the required weir length.

One of the two inline orifice wall structures (Sta. 85+54.00 and Sta. 85+39.00) will each be located downstream of each of the lateral weir structures (Sta. 85+99.9 and Sta. 85+49.00). The inline orifice opening beneath the impact walls will have a non-operable opening of 1.9 ft and 1.5 ft from invert of the channel. These two structures will be located in the main flow path of the Walnut Canyon Channel. The hanging wall or orifice walls were sized such that a minimum flowrate of 100-cfs will pass through the opening at peak stage. In order to maintain a 100-cfs bypass, 4-8'x2.5' rectangular window openings are provided in the north wall of the Walnut Channel. The window openings allow channel flows in excess of

100-cfs to spill through the openings into the 4-8'x4' RCB culverts (lateral structures) and into Basin-3. The build-up of static head at the upstream most orifice wall (Sta. 85+54.00) causes the orifice opening to be surcharged and a flowrate in excess of 100-cfs is discharged beneath the wall through the orifice. The second orifice wall (Sta. 85+39.00) constricts the flow in the channel again. The second set of orifice wall and sidewall window opening operate in the same manner as described above for the first set of wall and openings. The second set of orifice wall and sidewall combination ensure that a maximum peak flowrate of 100-cfs is discharged downstream through the orifice opening at Sta. 85+39.00. All flows in excess of 100-cfs that are allowed to bypass the first orifice wall at station 85+54.00 are conveyed to Basin-3 via the 8'x2.5' sidewall window opening and 8'x3.5' connector culvert. Please see Fig 7.13 and 7.14 for plan view, profile, and design details.

The combination of the inline structures and the side weir structures allows for a 100 cfs bypass of the basin and channel flow in excess of 100 cfs to be captured in Basin-3 at peak flow. The volume of storm runoff contained in the flood hydrograph above 100-cfs will be captured in Basin-3, detained, and routed through the basin, then discharged back to the Walnut Canyon Channel at an attenuated peak flowrate of 467 cfs. A HEC-RAS unsteady or varied flow hydraulic model were created to simulate the storm hydrographs that would be either (1) remain in the channel or (2) be diverted into the Basin-3. This was done by uploading the VCRAT hydrograph into HEC-RAS at the basin inlet. The advantage of using the HEC-RAS varied flow capabilities is the increased accuracy of the resultant hydrograph shape as influenced by the complexity of the multiple combined weir and orifice hydraulic structures.

The resultant hydrographs obtained from HEC-RAS unsteady model were utilized in the interim condition hydrology model (VCRAT). In order to provide a comparison with masterplan target peak flowrates, Basin-3 was designed with an 89.45 ac/ft impound volume. In order to meet the Masterplan recommended peak flows at Los Angeles Ave (Node 62AC), two-tier outlet structure was designed for Basin 3. The low-level outlet from the detention basin will be a 24" diameter RCP outlet pipe. Reducing the size of the low-level outlet and adding a weir controlled high stage outlet alters the hydrograph shape beneficially; which results in an offset peak time that effectively reduces the peak flowrate observed downstream The outlet weir was a drop inlet structure 11-ft long and 8-ft wide. A series of 6-48" diameter RCP outlet pipes will convey spillway flow back to Walnut Creek. The emergency overflow structure was designed to convey the peak flowrate tributary to Basin-3 with a minimum of 1-ft of freeboard to the top of basin. The volume of storm runoff contained in the flood hydrograph above 100-cfs will be captured in the proposed basin, detained, and routed through the basin and discharged back into the Walnut Canyon Channel downstream of the basin. The time lag associated with routing and detention in the basin creates a 52-minute lag time between occurrence of the peak of the inflow hydrograph at the basin inlet and the peak of the outlet hydrograph at the outlet from the basin. The inlet location and outlet location for the proposed basin are hydrologically modeled at hydrologic concentration point cp39bf.

4.2.2 Basins-2 and -2B

In order to meet the masterplan tabled peak flowrate in Walnut Canyon Channel at the Commonwealth Studios site, two extended detention basins (Basin-2 and 2B) are proposed. Basins -2 and -2B have a 17.36 and 11.16 ac/ft impoundment volume; respectively. The basins will be constructed in the arroyo adjacent to Gabbert Road and the Walnut Canyon Channel. These basins are necessary because the unattenuated 100-year storm runoff peak flowrate from the watershed north of Walnut Canyon Channel at Gabbert Road produces a 100-yr peak flowrate that exceeds the tabled masterplan maximum allowable peak flowrate in the Walnut Canyon Channel at the junction with Gabbert Channel. Therefore, in the interim condition, it is necessary to attenuate the flow from this watershed (Subareas-44B thru-51D) in addition to the hydrograph attenuation provided by Basin-3. The Basin-2 watershed is largely rural, low-density developed ranchette land.

Basin-2 and Basin 2B were sized to capture and contain the calculated tributary debris volume (Total 5.88 ac-ft) in addition to the stormwater detention volume. Both basins will be incised below existing grade. The low-level outlet will be a 24" diameter RCP pipe that will discharge attenuated flow to Walnut Channel. The emergency spillway will be a drop spillway 24-ft long and 8-ft wide. Three 48" diameter RCP pipes will discharge emergency overflow from the drop spillway to Walnut Channel.

In the ultimate condition, this Basin-2 facility will be modified by the construction of North Hills Parkway. The embankment of the proposed extension of North Hills Parkway will reduce the available volume of Basin-2. This loss of volume will be regained by the construction of Basins 2A. In the ultimate condition, runoff from the Gabbert Canyon watershed will be attenuated by Basins 2, 2A, and 2B.

4.3 Hydrograph Fattening

Per recent requests of VCWPD staff reflected in a memo in March 2009, the Interim Condition models and Ultimate Condition model are based upon "fattening" the entire watershed upstream of each and all proposed basin facilities. This is a departure from the procedure used during the analysis of the adopted 1997 and 2005 addendum reports which are the watershed masterplan. In the adopted masterplan hydrology analysis the area tributary to Basin-2 was not fattened nor was Line-A tributary to Basin-3. This change in the hydrologic analysis procedure resulted in required revisions to the proposed basins and the associated hydraulic structures compared to the preceding version of this report dated January 2009.

The shape of the unit hydrographs developed using the modified rational method provided by VCRAT do not necessarily generate the correct effective runoff volume or net rainfall since the cumulative mass rainfall curves are averaged. The expected runoff yield based upon local point or isohyetal rainfall data compared to the computed runoff yield from the modified rational hydrograph will typically need to be adjusted to provide the same effective rainfall. This process, known as "fattening," results in modification to the shape of the calculated runoff hydrograph so the area under the hydrograph provides the desired effective or net rainfall. The correct amount of direct runoff volume is a critical factor for the storage routing analysis of detention basins and this required that the inflow hydrographs to detention basins generated from VCRAT were "fattened" prior to routing.

The proposed regional basin (Basin-3) will have two (2) inflow sources; one to be at the southeasterly extent (Walnut Canyon Channel) i.e. Line A, and the other located at the northwesterly extent from Hitch Ranch Watershed i.e. Line B . Therefore, in the hydrology model concentration point 35ab (Baseline Model) is a confluence point for two streams within Basin-3; Streams A and B. The Fattening factor for Basin 3 was computed based on the methodology provided by the VCWPD's memorandum for "Double-Fattening in VCRat**"**. Please see attached Appendix B for detailed fattening factor calculation for Basin 3 line A and B. Line A stream has an upstream basins that includes the regional basin "Basin 0" and Tract Basins "Basin # 1" and "Basin # 2". These three basins were build part of Tract 5187 improvements. These basins were fattened per county guidelines and fattening factor ware based on Tract No 5187 hydrology report prepared by Hall & Foreman. See Table 5 below for summary of yield factors for Basin - 3.

The proposed regional basin (Basin-2) will have two (2) inflow sources; one to be located at the northwesterly extent (future Basin -2A, proposed Hitch Ranch property), and the other at the Northerly extent (Basin 2B- Undeveloped rural area). Therefore, in the hydrology model the concentration at basin -54B is a confluence point for two streams within Basin-2, streams B (Basin -2B) and D. The inflow hydrograph for Basin 2B, located at the northerly extent of the basin -2 was fattened using a watershed yield factor of 2.95-inches. The fattened hydrograph is routed trough basin -2B and confluence with Line D at Basin -2. Therefore, the line D was also fattened with yield factor of 2.75-inches prior to confluence with basin-2. Please see Table 5 and 6 for summary of yield factors for Line A and Line B for Basin 3 and Appendix B for detailed calculation.

Table 5 - Runoff Yield Fattening Factor Calculations for Line A Basin-3

Based on SCS Procedure for Calculating Effective Runoff Volume

Node ID	Location	Basin ID	Tributary Area Ac	Outflow Vol in Acft
5A	Regional Basin 0	Basin 0	320	108.79
7A	Small Basin in Tract 5187 D/S of Basin 0	Basin 1	45	18.03
30C	Small Basin in Tract 5187 U/S of Regional Basin 1	Basin 2	82	23.68
Total			447	150.5

Total Area Tributary to Basin 3 =	940
Remaining Area =	493
Composite CN =	72
100-yr, 24-hr Precipitation, P(in.) =	6.4
Runoff Volume, Q(in.) =	3.32
Yield from 493 ac tributary area Acft	**136.40**
Yield from 940 ac tributary area Acft	**286.90**
Weighted yield for VCRAT at Line A of Ba	**3.66**

Table 6 - 100-year Runoff volume Calculation for Line B

100-yr Runoff Volume Calculation

Based on SCS Procedure for Calculating Effective Runoff Volume

Sub-watershed	Area (acres)	VC Soil Type	SCS Soil Type	CN - Pervious Portion	Fraction of Imperviousness	Weighted CN
32B	27	2	C	74	0.03	74.7
33B	48	5	B	61	0.03	62.1
34B	29	5	B	61	0.03	62.1

Total Area =	**104**	**Composite CN =**	**64.4**
		S =	**5.5**
		100-yr, 24-hr Precipitation, P(in.) =	**6.4**
		Runoff Volume, Q(in.) =	**2.6**

4.4 Areal Reduction

Per recent requests of VCWPD staff reflected in a memo in March 2009, the Interim Condition models and Ultimate Condition model utilize a weighted average Areal Reduction factor. This is a departure from the procedure used during the analysis of the adopted 1997 and 2005 addendum reports which are the watershed masterplan. This change in the hydrologic analysis procedure resulted in required revisions to the proposed basins and the associated hydraulic structures that were reflected in the preceding version of this report dated January 2009.

Areal reduction (AR) factors are typically used to scale down the peak flowrates calculated by VCRAT (VCWPD, 2006, page A-75, Exhibit 16). The total Walnut Canyon channel watershed area associated

with Tract-5217 is 1830 acres and at Basin 3 is 1078 acres. AR values for this study were based on Table 4.2 from the 1997 RBF study, "*Gabbert and Walnut Canyon Channels Watershed Flood Control Deficiency Study", which was approved by VCWPD.* Please see the Table 4.2 for AR values from 1997 study. Also AR values are applied per county guidelines, they recommended using AR at Basin 3 with factor of 0.955 and No AR applied at Basin 2. Also No AR factor applied at the Project site due to watershed size which is less than 600 ac.

Table 7 - Hydrology Summary

Summary Table																	
		MP Existing		Existing Cond.			Commonwealth Studio Interim Cond.			Hitchranch Interim Cond.			Ultimate Cond.			Masterplan	
Baseline Node	Location	Tributary Areas (Ac)	MP Existing Cond. Q cfs	Node id	Tributary Areas (Ac)	Baseline (existing)Q cfs	Node id	Tributary Areas (Ac)	Q cfs	Node id	Tributary Areas (Ac)	Q cfs	Node id	Tributary Areas (Ac)	Q cfs	Masterplan Q cfs	Masterplan bankfull condition Q cfs
6A	Basin 0	382	390	6A	394	300	6A	394	300	6A	394	300	6A	394	300		440
7A	Tract 5187 Bond	433	431	7A	445	390	7A	445	390	7A	445	390	7A	445	390	354	440
14AB	Casey Rd.	709	696	14AB	709	665	14AB	709	665	14AB	709	665	14AB	709	540	476	440
28AC	Moorpark Drain # 1 Conf.	846	889	28AC	846	899	28AC	846	899	28AC	846	899	28AC	846	778	559	570
31A	U/S Basin 3 (at Diversion structure)	940	1017	32A	940	1033	32A	940	945	32A	886	873	32A	886	764	559	570
35AB	D/S Basin 3	1044	1149	41AB	1044	1161	41AB	1044	563	40AB	1044	580	40AB	1044	542	100	570
36A	Future Basin 3B Location	1078	1122	42A	1078	1147	42A	1078	563	43AD	1078	596	43AD	1078	557		570
48AB	D/S Basin 2	1553	1619	55AB	1553	1639	55AB	1553	763	55AB	1553	770	55AB	1553	735	481	825
49A	SPRR crossing	1623	1688	56A	1623	1718	56A	1623	770	56A	1623	779	56A	1623	738	508	825
62AC	Los Angeles Ave	1794	1810	68AC	1794	1851	68AC	1794	816	68AC	1794	826	68AC	1794	772	830	825
64AC	At CWS project site	1840		70AB	1840	1846	70AB	1840	852	70AB	1840	844	70AB	1840	825	870	825

* Areal Reduction Factor of 0.915 applied at Basin 3

* All the tributaries associated with the Basins are fattened

5 Detention Basin Design

The geometry of the proposed detention basins was primarily governed by the physical constraints of the site location, the goal to maximize developable land, and an effort to coordinate with the current ultimate condition site plan for Hitch Ranch. The basin concept/configuration and general grading is an extension of the initial concept prepared as part of the planning effort of the Hitch Ranch Specific Masterplan. Portions of the northerly slope above the access road along the top of bank of the proposed basin are the ultimate condition slopes for future developments to occur on the Hitch Ranch site. It is necessary to construct some portion of this slope along with the interim condition basin in order to minimize or eliminate the risk of damaging the Basin-3 access road and north wall during ultimate condition grading of Hitch Ranch. The configuration of Basin-3 along the north slope would be the same in the interim and ultimate conditions.

In order to meet the downstream condition peak flow requirement, the interim condition Basin-3 was designed to operate as an extended detention basin with a 48" outflow pipe. The interim condition will have a larger footprint and storage volume than the ultimate condition Basin-3. The interim condition basin has a storage volume of 134.9 ac/ft and a footprint of 22.26- acres (water surface area). The interim condition basin requires a larger impoundment volume than the ultimate condition basin because the ultimate condition watershed masterplan facilities upstream of Basin-3 (Basin-1) have not been constructed yet.

The smaller proposed interim condition basin, Basin-2, will be located adjacent to Gabbert Road. Please see Figure 7-03 for proposed basin layout. This additional basin has a storage volume of 22.41 ac/ft and 4.42 acres of water surface area.

The smaller proposed interim condition basin, Basin-2B, will be located Northeast corner to Gabbert Road and future road North Hills Parkway intersection. Please see Figure 7-03 for proposed basin layout. This additional basin has a storage volume of 11.16 ac/ft and 2.35 acres of water surface area.

The proposed basins will be excavated below the existing grade. The side slopes will have a maximum of 3:1 (H:V) slope ratio. The basin invert longitudinal slope will be 0.5%. The cross slope of the invert from the toe of the side slope to the flowline at the invert will be 0.1%.

5.1 Proposed Basin Spillway and Low-Level Outlet Design

In the interim condition, Basin-3 will be an extended detention basin with a 24" low-flow outlet structure. The low-level outlet for the detention basins will provide the controlled release rate. The sizing of the facility was dictated by the required peak attenuation from the basin in order to achieve the target peak flowrate downstream. The hydraulics associated with the outlet works is a critical component that determines the operation of the detention basin and the effectiveness in attenuating the peak flow rate. The design of the outlet for the basin involved an optimization process to select the most effective outlet configuration based upon achieving the maximum attenuation within the physical constraints of the basin.

The evaluation of the storm hydrograph movement through a detention basin is performed through a reservoir routing analysis. Hydrologic routing using Modified Puls method was applied through VCHYDRO. The final simulation of the reservoir routing was performed in VCHYDRO combined with VCRAT in order to accurately compare the regional watershed impacts. Modified Puls method requires developing the stage-storage and stage-outflow relationships from known information on the basin geometry and outlet condition. The rating curves for the basin were developed based upon the proposed grading plan and the hydraulic performance of the 24-inch outlet pipe/culvert. The outlet pipe was analyzed using the FHWA culvert hydraulic analysis program HY-8 (see Appendix-E). The combined information provided the storage-indication relationship for reservoir routing.

Basin-3 will have a drop inlet emergency overflow weir spillway that will discharge overflow back to the Walnut Canyon Channel downstream of the basin via 6-48" diameter RCP pipes. (see Figure-7.9 and 7.10). The spillway was designed for the full 100-year peak flowrate tributary to Basin-3 (1040 cfs). In the event of an overflow with the 100-year peak flowrate (1040 cfs) the spillway would have 1-ft of freeboard to the top of slope of the basin. The spillway will be constructed of reinforced concrete and will include cut-off walls along the perimeter of the structure to reduce the likelihood of undermining and piping failures (see Figure 7.10). Table 7 provides a summary of the stage storage discharge for Basin-2.

The outlet works for Basin-2 will consist of a combination of low-flow outlet structure as well as an emergency overflow spillway. The low-flow outlet structure will be a 42" diameter outlet pipe, which was sized to provide the stage-discharge relationship favorable to the effective design of the basin. The low-level outlet will provide positive drainage from the basin at the desired rate above the debris volume. The debris volume was considered to be dead storage in the basin sizing calculations. The rating curves for the basin were developed based upon the proposed grading plan and the hydraulic performance of the 42-inch outlet pipe/culvert. The outlet pipe was analyzed using the FHWA culvert hydraulic analysis program HY-8 (see Appendix-E). The combined information provides the storage-indication relationship for reservoir routing.

Basin-2 will have a drop inlet emergency overflow weir spillway that will discharge overflow to the Walnut Canyon Channel downstream of the basin via 3-48" diameter RCP pipes (see Figure-7.5 and 7.6). The spillway was designed for the full 100-year peak flowrate tributary to Basin-2 (514 cfs). In the event of an overflow with the 100-year peak flowrate (514 cfs) the spillway would have 1-ft of freeboard to the top of slope of the basin. The spillway will be constructed of reinforced concrete and will include cut-off walls along the perimeter of the structure to reduce the likelihood of undermining and piping failures (see Figure-7.5 and 7.6). Table 8 provides a summary of the stage storage discharge for Basin-2.

Table 8 – Stage Discharge Curve for Dry Detention Basin for Basin 3

				Low Flow Outlet		*Emergency Spillway C = 2.8*				
Stage	**Storage Ac-ft**	**Debris Volume Ac-ft**	**Effective Basin Volume (ac-ft)**	**Head for Outlet Culvert (ft)**	**Low flow Discharge 24" cfs**	**Spillway Head (ft)**	**Size (ft)**	**Emergency Spillway Discharge Q3(cfs)**	**Emergency Outlet Pipe Head (ft)**	**Total Discharge**
478	0.0	1.93	0.00	0.0	0	0.00		0	0.00	0
479	2.3	1.93	0.41	0.0	0	0.00		0	0.00	0
480	4.5	1.93	2.54	2.0	4	0.00		0	0.00	4
482	13.8	1.93	11.90	4.0	21	0.00		0	0.00	21
484	26.4	1.93	24.43	6.0	31	0.00		0	0.00	31
486	39.9	1.93	37.97	8.0	38	0.00		0	0.00	38
488	54.5	1.93	52.53	10.0	44	0.00		0	0.00	44
489	62.3	1.93	60.37	11.0	47	0.00		0	0.00	47
489.5	66.2	1.93	64.27	11.5	49	0.00		0	0.00	49
490	70.1	1.93	68.12	12.0	50	0.50	27	27	0.00	77
492	86.7	1.93	84.76	14.0	55	2.50	27	299	0.00	354
494	104.4	1.93	102.45	16.0	60	4.50	27	722	13.00	782
496	123.1	1.93	121.20	18.0	64	6.50	27	1253	15.00	1317

Table 9 – Stage Storage Discharge for Basin 2

				Low Flow Riser							*Emergency Spillway*						
Stage	**Storage Ac-ft**	**Debris Volume Ac-ft**	**Effective Basin Volume (ac-ft)**	**Head for Riser (ft)**	**Riser Diameter (Wier) (ft)**	**Riser Wier Discharge Q1 (cfs)**	**Head for Outlet Culvert (ft)**	**Outlet Culvert Diameter (ft)**	**Outlet Pipe Discharge Q2 (cfs) 1**	**Discharge from Low flow Riser Q3= Min(Q1,Q2) (cfs)**	**Spillway Head (ft)**	**Size (ft)**	**Emergency Spillway Discharge Q3(cfs)**	**Emergency Outlet Pipe Head (ft)**	**Outlet Pipe Diameter (ft)**	**Outlet Pipe Discharge Q4(cfs)**	**Total Discharge**
470.00	0.00	1.51	0.00	0.00	4.50	0.00	3.00	3.75	45	0	0.00		0	0.00		0	0
472.00	1.23	1.51	0.00	0.00	4.50	0	5.00	3.75	88	0	0.00		0	0.00		0	0
472.50	1.65	1.51	0.14	0.00	4.50	0	5.50	3.75	120	0	0.00		0	0.00		0	0
474.00	2.89	1.51	1.38	1.50	4.50	83	7.00	3.75		83	0.00		0	0.00		0	83
476.00	5.00	1.51	3.49	3.50	4.50	296	9.00	3.75	144	144	0.00		0	0.00		0	144
478.00	8.14	1.51	6.63	5.50	4.50	583	11.00	3.75	165	165	0.00		0	0.00		0	165
480.00	12.50	1.51	10.99	7.50	4.50	929	13.00	3.75	183	183	0.00		0	0.00		0	183
482.00	17.54	1.51	16.03	9.50	4.50	1324	15.00	3.75	200	200	0.00		0	0.00		0	200
483.00	20.41	1.51	18.90	10.50	4.50	1538	16.00	3.75	208	208	0.00	24X8	0	0.00		0	208
484.00	23.27	1.51	21.76	11.50	4.50	1763	17.00	3.75	216	216	1.00	24X8	131	10.50	3X48	540	347
486.00	29.70	1.51	28.19	13.50	4.50	2243	19.00	3.75	230	230	3.00	24X8	682	12.50	3X48	605	835
488.00	36.13	1.51	34.62	15.50	4.50	2759	21.00	3.75	244	244	5.00	24X8	1467	14.50	3X48	886	1130

Table 10 – Stage Storage Discharge for Basin 2B

Stage	Storage Ac-ft	Debris Volume Ac-ft	Effective Basin Volume (ac-ft)	Head for Riser (ft)	Outlet Culvert Diameter (ft)	Outlet Pipe Discharge Q2 (cfs) 1
488	0.00	4.18	0.00	0.00	42" & 48"	0
490	1.85	4.18	0.00	0.00	42" & 48"	0
492	3.98	4.18	0.00	0.00	42" & 48"	0
492.5	4.67	4.18	0.49	0.00	42" & 48"	0
493	5.36	4.18	1.18	1.00	42" & 48"	14
494	6.73	4.18	2.55	2.00	42" & 48"	48
496	10.18	4.18	6.00	4.00	42" & 48"	138
498	13.97	4.18	9.79	6.00	42" & 48"	211
500	18.11	4.18	13.93	8.00	42" & 48"	265

5.1.1 Basin Stage-Storage Relationships

Stage-storage relationships for each basin configuration were determined based upon the grading plan prepared for each of the basins. The minimum basin floor elevation was either determined from (1) maximum height of the required debris storage for sediment, or (2) lowest elevation, which would still provide a gravity outlet. Stage-storage volume relationship for each basin site was derived as a discrete function or series of points. The surface area of each contour interval was determine, with the storage in any increment Δh equal to the product of the average area and the depth of the increment. See Table 6 and 7 above for Stage discharge relationship for Basin 3, Basin 2 and Basin 2B.

5.1.2 Estimated Debris Volume Generation

The required storage volume for debris basins or the dead storage allowances for detention basins that drain natural watershed areas is based upon the potential debris production or estimated "yield" from the watershed. VCWPD utilizes the formula developed by Dr. Kevin Scott from the USGS to calculate the estimated debris production rate, which is based upon drainage area, 24-hour precipitation, 10-day rainfall, slope failure, fire factor, and watershed shape. The following equation is used to calculate the debris production associated with different storm events:

$$SY = 17.54(A)^{0.828}(ER)^{1.382}(FF)^{0.251}(SF)^{0.375}K^{0.840}$$

where:

SY = Sediment yield (cubic yard)

A = Area of the watershed (square miles)

ER = Elongation ratio (equivalent diameter with watershed area divided by the maximum length of the channel)

FF = Fire factor (value dependent on time after watershed burn, 88 = 6 months after burn)

SF = Slope failure (area of watershed that is prone to landslides, acres per square mile)

K = Dimensionless rainfall factor (product of the square of the 24-hour precipitation and the 10-day precipitation)

Tributary watersheds to a detention basin that are less than five square miles must include allowance for debris storage, which is equivalent to 125% of the 100-year frequency design debris production (see Section 3.2.1 of VCWPD Manual) – The estimated debris volume generation is assumed level in the

basin as a dead storage volume before routing of the hydrograph. Basin-2 will have a dead storage volume dedicated to debris storage.

Table 11 – Debris Production

Debris Basin	BASIN 2	BASIN 3
Area, A (ac).	475	104
Length, L (ft)	9388	4831
Radius, R	2107	1201
Diameter, D	4214	2402
Elongation Ratio, EL	0.45	0.50
Fire Factor, FF	100	100
Slope Failures, SF	20	20
Rainfall, P24 HR (in)	5.86	5.86
Rainfall, P10 DAY (in)	13.3	13.3
Rainfall Factor, K	457	457
Sediment Yield, SY (CY)	7588	2485
Sediment Yield, SY (Acft)	4.70	1.54
Design Sediment Yield, 1.25 SY (ac.ft)	**5.88**	**1.93**

6 Hydraulics

The proposed hydraulic structures and operation of the entire improved reach of the Walnut Canyon Channel system was modeled utilizing Hydraulic Engineering Center River Analysis System (HEC-RAS) developed by US Army Corps of Engineers (USACE). HEC-RAS provides several advantages over the hydraulic model that was previously utilized for this study (WSPG). HEC-RAS can be used to model the hydraulic response to a runoff hydrograph in an unsteady flow model. The results of an unsteady flow model more accurately reflect the actual watershed response to rainfall runoff. HEC_RAS also analyzes flow in the overbank areas where it occurs and results in a more accurate water surface profile. Also, HEC-RAS was utilized in the hydrology model for routing of the proposed detention basin-3 facility and for hydraulic model of the basin-3 inlet facility. Utilizing one program for each element of the analysis provides for a seamless and consistent transfer of data between hydrology and hydraulics. This approach was utilized to take advantage of the modeling capabilities provided by HEC-RAS in the analysis of unsteady flow with inline and lateral hydraulic structures.

6.1 Hydraulic Modeling – HEC-RAS

Due to the complexity of the proposed diversion structure at the inlet to Basin-3 and the need to preserve and accurately determine the split hydrograph volume at the Basin-3 inlet, it was necessary to use an unsteady state hydraulic model.

The unsteady flow simulation mode in HEC-RAS performs hydraulic analyses of conveyance systems accounting for channel storage within an analysis reach with regard to time. This procedure is commonly known as Storage-Indication Routing or Modified Puls Routing. The movement of a storm runoff wave or hydrograph down a channel is associated with a change in timing or attenuation of the wave and results in temporal and spatial variations of the hydrograph shape and peak ordinate(s) within a reach of channel or river. In general, the Storage-Indication Routing methodology is based upon and the area of a reach of channel representing the volume of water that fills the available volume within the channel reach over a specified time. Inflow exceeds the outflow of the analysis reach while the reach is filling. At some time, the inflow and the outflow are equal and the maximum channel storage within the channel reach is achieved. In the time subsequent to the filling time, the outflow exceeds the inflow and the channel reach empties. Within the channel reach there is channel storage due to wedge flow storage affects above the normal water surface. Wedge storage is ultimately related to energy losses due to friction that are expressed as a water wave above the normal water surface. This wedge storage affect within the channel results in the attenuation of the peak hydrograph ordinate. There is an associated lag in time that corresponds to the attenuation of the peak, which is expressed as translation. In the hydraulic model(s) provided in this report to support the design of the inlet structures this phenomena can be observed in the slight decay in flowrate as the hydrograph wave moves downstream.

The hydraulic model spans approximately 2,250 feet of the channel, starting downstream at channel station Sta. 67+50.00 and ending at channel station Sta. 90+00.00, just upstream of the inlet to Basin-3. A 100-year fattened hydrograph generated in VCRAT hydrology model at Node 32A was imported in to HEC-RAS model as an upstream boundary condition. At the inlet to Basin-3, the diversion structure splits the inflow hydrograph into a basin inflow hydrograph and a bypass hydrograph. The unsteady flow module in HEC-RAS provides a detailed accurate accounting of hydrograph manipulation as performed by the proposed inlet diversion structure(s) system. Using HEC-RAS, the hydrograph was then routed though lateral structures and inline structures at Basin-3 to analyze the shape of the diversion and bypass hydrographs at the inlet. This capability lent itself to combining the hydrologic analysis and hydraulic operation of the basin facilities. VCRAT does not provide the same capabilities and would leave it to the user to manually split the hydrograph. Once the hydrographs were split and verified for accuracy by superimposing the split hydrograph the inflow hydrograph for the basin, it was then transferred to VCRAT/VCHYDRO for basin routing using “imported hydrograph” option in VCRAT at node 33A for flow contained in the Walnut Channel at the downstream of Hanging wall (Sta. 85+39.00) and at node 38E - flow hydrograph diverted in to Basin-3. The bypass hydrograph, the hydrograph that does not enter

Basin-3, was imported back to VCRAT at node 33A as discussed above. This hydrograph was then routed in VCRAT to node 41AB where it was combined with the routed outflow hydrograph coming from Basin-3.

The results shown below and in Appendix-C indicate that in the existing condition the channel section walls from the basin inlet structure at station 86+00.00 upstream to channel station 90+00.00 would be overtopped and there would be flow in the overbank areas upstream of the Basin-3 inlet. In the existing condition, upstream of the proposed Basin-3 site the Walnut Channel does not have adequate capacity to contain or convey the existing condition peak 100-year flowrate within the confines of the channel. In order to prevent flooding in the overbank area from bypassing the Basin-3 inlet structure grading in the overbank area is provided in the vicinity of the inlet to trap the water upstream of the inlet and train the water back into the channel to be conveyed through the bifurcation of the Basin-3 inlet. Figure-x shows the proposed overbank grading that is provided as a part of this project to cut-off flooding in the overbanks at the Basin-3 inlet. In the ultimate condition, flooding of the overbanks upstream of Basin-3 will be mitigated by the construction of the Regional Basin-1.

The proposed condition HEC-RAS models downstream boundary does not correspond to the existing condition because the peak flowrate in the channel is drastically different (945 cfs Vs. 100 cfs) between the two conditions due to the proposed Basin-3 inlet structure. However, the upstream boundaries do correspond between existing and proposed conditions.

Table 122 – HEC-RAS Hydraulic Model Summary Table (Existing and Interim and Interim Condition 2 Profiles)

HEC-RAS Summary					
Existing Condition			Interim condition		
Station	Flow in the Channel	WSE	Station	Flow in the Channel	WSE
9000	1029	501.39	9000	945.13	501.27
8900	988.53	500.55	8900	941.63	500.44
8800	1020.63	499.88	8800	939.26	499.65
8700	1006.84	499.31	8700	936.68	498.77
8600	1005.2	498.85	8600	935.24	497.62
			8599.9	Lat Struct	
8580.*	1004.71	498.76	8580.*	591.41	497.43
8575.*	1004.57	498.73	8575.*	426.88	497.41
8570.*	1004.43	498.7	8570.*	426.87	497.41
8565.*	1004.32	498.66	8565.*	177.49	499.06
8560.*	1004.23	498.63	8560.*	177.47	499.06
8555.*	1004.18	498.59	8555.*	177.46	499.06
			8554	Culvert	
8550.*	1004.14	498.56	8550.*	177.46	495.02
			8549	Lat Struct	
8545.*	1004.09	498.52	8545.*	177.46	495.04
8540.*	1004.05	498.49	8540.*	103.28	495.96
			8539	Culvert	
8500	1003.77	498.18	8535.*	103.28	493.1
8400	1003.28	497.41	8530.*	103.28	493.06
8300	1002.74	496.66	8525.*	103.28	493.03
8200	1002.12	495.91	8520.*	103.28	492.99
8100	1001.43	495.16	8515.*	103.28	492.95
8000	1000.67	494.41	8510.*	103.27	492.91
7900	999.85	493.65	8505.*	103.27	492.87

HEC-RAS Summary					
Existing Condition			Interim condition		
Station	Flow in the Channel	WSE	Station	Flow in the Channel	WSE
7800	997.71	492.9	8500	103.27	492.83
7700	997.61	492.14	8495.*	103.27	492.79
7600	997.43	491.38	8490.*	103.27	492.75
7500	997.19	490.61	8485.*	103.27	492.71
7400	996.87	489.82	8480.*	103.27	492.67
7300	996.49	489.01	8475.*	103.27	492.63
7200	996.05	488.15	8400	103.27	492.04
7100	995.55	487.22	8300	103.26	491.28
7000	994.94	486.46	8200	103.25	490.54
6900	994.2	485.91	8100	103.24	489.8
6800	991.29	485.37	8000	103.23	489.06
6700	991.22	484.82	7900	103.22	488.32

6.1.1 Hydraulic Modeling of the Basin-3 Inlet and Bypass Structure

The proposed window openings in the north channel wall were hydraulically modeled in HEC-RAS as lateral structures. The openings operate hydraulically as either lateral weirs or orifices depending on the depth of flow. When the flow depth is sufficient to submerge the entire perimeter of the window, opening it is an orifice. Prior to full submergence the flow through the window opening is weir flow. The general governing equations for both flow regimes are shown below:

Weir Equation $Q= CLH^{1.5}$

Orifice Equation $Q = CA(2gH)^{0.5}$

The presence of the “hanging walls” or “orifice walls” creates a backwater affect upstream of said walls at the location of the window openings. The backwater curve of the hydraulic grade line is observed in subcritical flow due to a downstream control converting kinematic energy via velocity head ($V^2/2g$) to potential energy via static head (y). This is observed as a reduction in flow velocity in the hydraulic model. The reduced flow velocity and increase in static head lend itself to the efficient operation of the sidewall openings and the rapid transition from weir flow to orifice flow.

The openings below the orifice walls represent a reduced flow area or constriction in the channel conveyance area. The backwater affect caused by the hanging walls, as discussed above, provides for the efficient hydraulic operation of the orifice openings below said walls. In HEC-RAS, the openings below the walls were modeled as short length culverts. Because of the short length and the constant base width between the channel upstream of the constriction and the opening at the constriction there is a strong correlation between the hydraulic results when the constrictions are modeled as “inline structures” and “culverts.” A comparison table of the hydraulic operation of the constricted opening below the orifice wall modeled as a culvert and as an inline orifice is provided below for review (see Table 13)

Table 13 – Inlet Structures

Station	Inline Structure	Opening Width ft	Opening Hight from Invert of the Channel ft	Q Discharge cfs
8554	Culvert	8.0	1.9	159
	Orifice	8.0	1.9	167
8539	Culvert	8.0	1.5	100
	Orifice	8.0	1.5	97

6.1.2 Verification with Ultimate Condition Tabled Flowrates

The 2005 Walnut and Gabbert Canyon Flood Control Deficiency Study became the approved watershed masterplan for this area. That report established performance standards for the ultimate condition regional watershed facilities. In order to reduce the "throw-away" cost associated with converting the proposed interim condition facilities to the ultimate condition in the future we have designed as much of the major facilities as possible to operate desirably in both conditions; interim and ultimate. The Basin-3 inlet structure is a large cost item so we have designed it such that there will be no necessary modifications to the facility when it is converted to the ultimate condition basin in the future. A hydraulic analysis was performed on the Basin-3 inlet structure to demonstrate how the system will operate when the ultimate condition Basin-1 improvements upstream of Basin-3 are constructed. The key parameter for verification of the function of the basin inlet structure is the limitation of 100 cfs maximum bypass. In previous studies it was established that a maximum flowrate of 100-cfs could come from the watershed upstream of Basin-3 in a 100-year event in order to ensure operability and containment of flows within the channel section of the Walnut Channel downstream of Basin-3. The hydraulic summary table shown below demonstrates the performance of the basin inlet structure using the ultimate condition peak flowrate tributary to the Basin-3 inlet (see Table 14).

Table 14 – Interim Condition vs HitchRanch Interim Condition and Ultimate Condition

HEC-RAS Summary								
Interim Condition			Hitch Ranch Interim condition			Ultimate condition		
Station	Flow in the Channel	WSE	Station	Flow in the Channel	WSE	Station	Flow in the Channel	WSE
9000	945.13	501.27	9000	871.48	501.15	9000	763.36	500.9
8900	941.63	500.44	8900	869.49	500.31	8900	762.64	500.04
8800	939.26	499.65	8800	866.34	499.48	8800	761.5	499.15
8700	936.68	498.77	8700	864.1	498.55	8700	760.82	498.17
8600	935.24	497.62	8600	863.88	497.39	8600	760.52	497
8599.9	Lat Struct		8599.9	Lat Struct		8599.9	Lat Struct	
8580.*	591.41	497.43	8580.*	552.98	497.2	8580.*	501.7	496.81
8575.*	426.88	497.41	8575.*	404.57	497.18	8575.*	378.84	496.79
8570.*	426.87	497.41	8570.*	404.57	497.18	8570.*	378.84	496.79
8565.*	177.49	499.06	8565.*	174.92	498.87	8565.*	170.2	498.58
8560.*	177.47	499.06	8560.*	174.82	498.87	8560.*	170.2	498.58
8555.*	177.46	499.06	8555.*	174.72	498.88	8555.*	170.19	498.58
8554	Culvert		8554	Culvert		8554	Culvert	
8550.*	177.46	495.02	8550.*	174.72	494.99	8550.*	170.19	494.93
8549	Lat Struct		8549	Lat Struct		8549	Lat Struct	

HEC-RAS Summary								
Interim Condition			Hitch Ranch Interim condition			Ultimate condition		
Station	Flow in the Channel	WSE	Station	Flow in the Channel	WSE	Station	Flow in the Channel	WSE
8545.*	177.46	495.04	8545.*	174.72	495	8545.*	170.19	494.94
8540.*	103.28	495.96	8540.*	102.45	495.91	8540.*	101.16	495.83
8539	Culvert		8539	Culvert		8539	Culvert	
8535.*	103.28	493.1	8535.*	102.45	493.1	8535.*	101.16	493.08
8530.*	103.28	493.06	8530.*	102.45	493.06	8530.*	101.16	493.05
8525.*	103.28	493.03	8525.*	102.45	493.02	8525.*	101.16	493.01
8520.*	103.28	492.99	8520.*	102.45	492.98	8520.*	101.16	492.97
8515.*	103.28	492.95	8515.*	102.44	492.94	8515.*	101.16	492.93
8510.*	103.27	492.91	8510.*	102.44	492.9	8510.*	101.16	492.89
8505.*	103.27	492.87	8505.*	102.44	492.86	8505.*	101.16	492.85
8500	103.27	492.83	8500	102.44	492.82	8500	101.16	492.81
8495.*	103.27	492.79	8495.*	102.44	492.78	8495.*	101.16	492.77
8490.*	103.27	492.75	8490.*	102.44	492.74	8490.*	101.16	492.73
8485.*	103.27	492.71	8485.*	102.44	492.7	8485.*	101.16	492.69
8480.*	103.27	492.67	8480.*	102.43	492.66	8480.*	101.16	492.65
8475.*	103.27	492.63	8475.*	102.43	492.63	8475.*	101.16	492.61
8400	103.27	492.04	8400	102.41	492.04	8400	101.15	492.02
8300	103.26	491.28	8300	102.38	491.27	8300	101.15	491.26
8200	103.25	490.54	8200	102.34	490.53	8200	101.14	490.52
8100	103.24	489.8	8100	102.31	489.79	8100	101.14	489.78
8000	103.23	489.06	8000	102.27	489.05	8000	101.13	489.04
7900	103.22	488.32	7900	102.24	488.31	7900	101.12	488.3

6.2 Basin-3 Culvert Hydraulics

There are two (2) proposed culverts that will convey storm flows intercepted by the proposed Walnut Channel sidewall window openings to Basin-3. The downstream most culvert located at Walnut Channel centerline Sta. 85+46.06 will be an 8.0-ft x 3.5-ft (w x h) reinforced concrete box (RCB) section conduit. The upstream most culvert will be located at Walnut Channel centerline Sta. 85+81.79. This culvert will be a 4-cell 8.0-ft x 4.0-ft RCB. The proposed culverts will convey intercepted flow from the Walnut Channel to Basin-3. Each were hydraulically modeled as culverts using the procedures developed by The Federal Highway Administration (FHWA) in the manual titled, " Hydraulic Design of Highway Culverts"; FHWA-NHI-01-020. The culverts were determined to operate as "inlet control" facilities with normal depth occurring at or near the outfall from the culvert to Basin-3. The invert elevation at the downstream most extent of the proposed culverts would be located above the normal maximum 100-year water surface pool elevation. The impoundment water surface is hydraulically disconnected from the culvert in order to avoid creating a backwater situation in the culvert that could propagate upstream in the culvert to the Walnut Channel sidewall window endings. The culverts are also hydraulically disconnected from the window openings in order to avoid submerged weir affects created by backwater on the downstream side of the sidewall windows. The hydraulic analyses indicate that neither the inlet nor the outlet end of the culvert would be submerged in a 100-year event. The flow will pass through critical depth just downstream of the culvert entrance and flow supercritical in the barrel(s). The barrel flows partly full over its length, and the flow approaches normal depth at the outlet end.

The hydraulic analyses of each of these culverts were performed using the HY-8 software program developed by FHWA for analysis of highway culverts. HY-8 utilizes the procedures and equations discussed in the FHWA manual referenced in the text above. The hydraulic analysis results for each culvert are provided in Appendix-E.

7 Operation and Maintenance

Implementation of the recommended watershed drainage system improvements will require maintenance by VCWPD. Each component and facility proposed as a part of this flood control plan, both interim condition and ultimate condition, will be dedicated to VCWPD either in fee or via easements and agreements. Each proposed facility was designed with the intent to minimize long-term maintenance costs and maximization of long-term value as one of the main goals. Each facility to be dedicated to VCWPD has been designed to meet VCWPD minimum design standards. Through the permit and inspection process, each facility will be constructed to their minimum standards as well. The proposed detention and debris basins will require the periodic removal of trapped sediment and debris to maintain the required minimum storage volume.

7.1 Basin Maintenance Requirements

The typical maintenance requirements associated with detention basins include: (1) periodic inspection, (2) weed removal, (3) debris /sediment removal, (4) rodent control, (5) vector (mosquito abatement) control, (6) outlet structure and spillway inspection or repair for cracking, movement, seepage, and piping, (7) inspection or repair of embankment and slopes for seepage, piping, and instability, (8) access road and ramp repairs and (9) brush and vegetation management.

C

Responses to 2020 Hydrology Study Review

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February 12, 2020

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Subject: January 21, 2020 Hitch Ranch Meeting:
Responses to Draft VCWPD Review Comments Dated January 14, 2020
Hitch Ranch Hydrology Study Report 2020 Update February 12, 2020

Dear Mr. Vargas (Sergio):

On January 21, 2020 we met to go over your draft review comments regarding the report and supporting data provided as part of the Hitch Ranch Hydrology Study Report Update 2020 (August 2019, Revised December 2019).

The attached draft County letter was addressed to Harriet Rapista of Comstock Homes. Our responses to your draft review comments, and the corresponding changes are provided on the following pages.

Also enclosed with this submittal, are the following electronic files:

1. Hitch Ranch Hydrology Study Report 2020 Update - Main Report & Appendices (2-12-2020)
2. Hitch Ranch Hydrology Study Report 2020 Update - VCRAT Model Files (2-12-2020)

A paper copy of this letter, County letter, and the main report, along with a flash drive of the electronic files will be submitted by the end of the week.

Thank for the opportunity to provide our technical responses. If you have any questions or comments, please feel free to contact me or Rich Gleason at (651) 338-2862 or gleason@kasraieconsulting.com.

Sincerely,

Hassan Kasraie

Hassan Kasraie, PE

ENCLOSURE: VCWPD Draft Review Comments January 14, 2020
Flash Drive Consisting of Above Files

CC: Harriet Rapista, Comstock Homes
Dennis Hardgrave, Development Planning Services, Inc.
Glen Pace, Encompass Consultant Group
Greg Musser, Encompass Consultant Group
Rich Gleason, Kasraie Consulting

Hydrology

1. **County Comment #1**: Existing condition Tc calculation for Subarea 31c used 18 ac, but VCRAT model uses 23 ac. Please revise materials as necessary.

   Response #1: Comment noted and addressed, see explanation below.

   Under the existing condition, Subarea 31c is 22.5 acres. Due to proposed grading, under the proposed condition Subarea 31c is reduced to 18.3 acres. The drainage area in the VCRAT models are correct.

   The calculated Tcs for existing conditions are revised accordingly. Adjusting the area did not result in a change in Tc for the 25- (12 min), 50- (10 min), or 100-year (9 min) events. The corresponding VCRAT models for these storms were not changed. The 10-year Tc changed from 11 minutes to 10 minutes. The 10-year VCRAT model was changed accordingly.

   Report appendices were also changed accordingly.

2. **County Comment #2**: VCRAT model for Interim and Ultimate Conditions appear to have switched the data for subareas 68c and 70c based on the Tc calculator results. Please revise materials as necessary.

   Response #2: Comment noted and addressed, see explanation below.

   The proposed Tc calculator files have been adjusted accordingly. The 100-year VCRAT Ultimate/Interim modeling did not need to be changed as both subareas had the same Tc of 8 minutes. The remaining events (10-, 25-, 50-) were modified with the correct Tc values.

   Report appendices were also changed accordingly.

3. **County Comment #3:** VCRAT model for Interim and Ultimate Conditions use a 100-yr TC of 8 mins for subarea 62c, but Tc calculator results show 9 mins. Please revise as necessary.

   Response #3: Comment noted and addressed, see explanation below.

   The 100-year Interim and Ultimate Condition VCRAT models were changed to be consistent with the Tc calculator results.

   Report appendices were also changed accordingly.

4. **County Comment #4:** Page 29, Section 6.1, Bullet 1. 100-year Ultimate/Interim Condition flows do not appear to be updated with the most recent modeling results.

   Response #4: Comment noted and addressed, see explanation below.

   The report was revised to be consistent with the VCRAT modeling.

5. **County Comment #5:** Page 33, Tables 11 and 12, Existing Condition Q100 values do not appear to be updated with the most recent modeling results. Table 12 last column is labeled with Interim but should be Ultimate.

   Response #5: Comment noted and addressed, see explanation below.

   The report was revised accordingly.

Hydraulics

6. **County Comment #6:** For regional basin (#3), the report stated that "the project will meet the 830-cfs RMP requirement (2005, 2009) of the post-project 100-year being contained within the existing WCC along LA Avenue" – page 1. However, the objective of the study shall be to use the feasible detention storage on Hitch Ranch Development to maximize the reduction of peak discharges to a level that is below the WCC channel capacity of 830-cfs during 100-year events.

   Response #6: Comment noted and addressed, see explanation below.

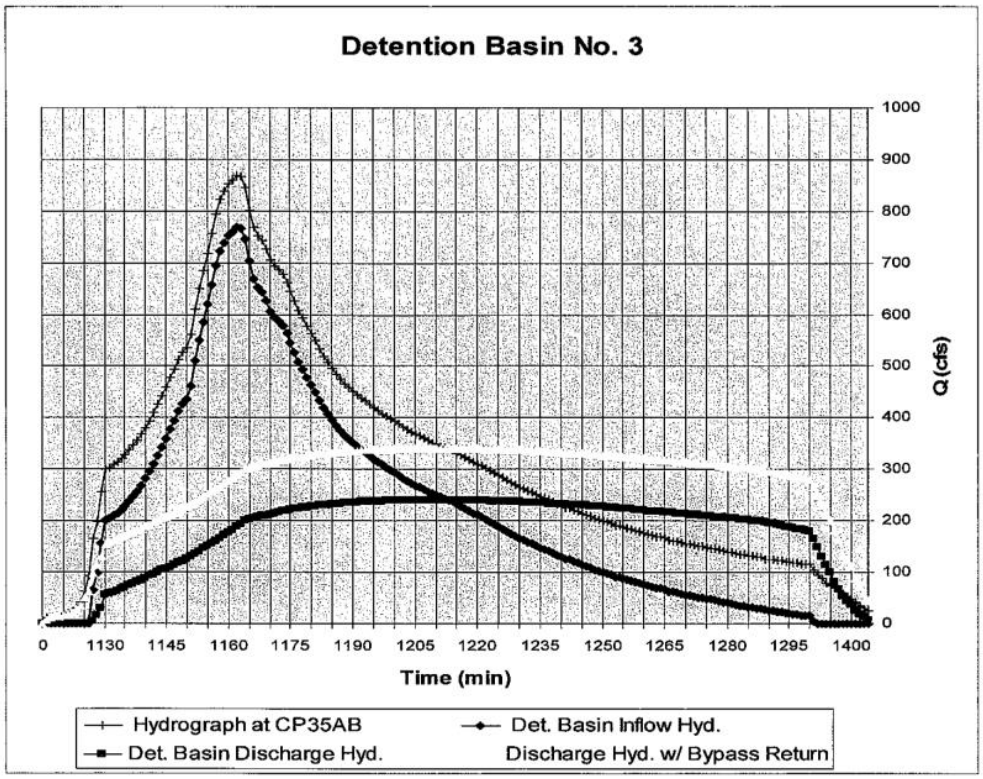
   The editorial change was made as requested:

   December 2019 – "The project will meet the 830-cfs RMP requirement (2005, 2009) of the post-project 100-year flow being contained within the existing WCC along Los Angeles Avenue."

   Revised 2020 – "The project will meet the objective of using available, feasible detention storage within the Hitch Ranch Development to maximize peak discharges to level that results in flows at or below the 830-cfs WCC channel capacity along Los Angeles Avenue. This is consistent with previous RMP requirements (2005, 2009)."

7. **County Comment #7:** To maximize the reduction of peak discharge requires optimization of basin operation and design. For example, different by-pass discharges (94 cfs, 100 cfs, and 136/139 cfs in this report) have been proposed in this and prior studies. Which one is the optimal by-pass discharge rate? Please explain why this study uses 136/139 cfs by-pass and not any other numbers. The chart below is from the 2005 report that having a 100-cfs by-pass.

Chart-2.4.1



Response #7: Comment acknowledged. During final design, further adjustments, maininting similar concepts may be made with stakeholder approval to increase optimization. See explanation below.

Where did 94- and 100-cfs by-pass values come from: Previous studies included a single model VCRAT that assumed a constant 100-cfs flow by-pass due to diversion modeling limitations within the software. This was deemed valid as this is a hydrologic feasability study. For consistency, a similar (single model) version was provided in this submittal using 94-cfs.

What is the optimal by-pass rate and why were the previous numbers not used? As recognized in the 2009 study, the "complexity of the proposed diversion structure at the inlet to Basin-3" required a more accurate accounting of the flow/volume split and corresponding timing. To do so, this study used both HydroCAD (to generate basin rating curves for a split VCRAT model/evaluate diversion/outlet configuratons) and HEC-RAS 2D (independent comparison used for feasability validation). The included configuration results in a ***139-cfs*** peak flow by-passing Regional Basin #3.

Optimization of Basin Design: Throughout discussions, multiple alternatives were discussed with County staff including the direct diverson of local Hitch Ranch runoff to WCC in order to maximize the use of available storage. Based on our review, the preliminary design included best optimized conditions within the physical/regulatory limitations and constraints while still meeting the required RFC and LFRs. It shows conceptual feasability.

Note: Table 8 in the report was revised from 136 to 139 cfs for consistency with the models.

8. **County Comment #8:** In table 8, page 23, total inflow (diversion + local) to Basin #3 is 1,183 cfs and peak outflow is 386 cfs. For an offline detention basin, it is more economically feasable if basin outflow is minimized.

   Response #8: The comment is noted, see discussion below.

   "Section 6.1 Considerations Needed to Meet RFC and LFRs" included in the report provides insight into the constraints of the overall system. As previously stated, the goal was to show conceptual feasability. Additional opportunities for optimization that continue to meet required RFC and LFRs may be explored during the design phase.

9. **County Comment #9:** It is not clear of the local inflow to Basin #3 is flow-through or is offline. To maximize the reduction in peak flow rate, an offline basin design is desireable. Please show conceptual low flow inflow structure and/or local flow diversion structure to Basin #3.

   Response #9: The comment is noted, see discussion below.

   What type of basin is Basin #3 (flow through or offline): Basin 3 is a combined flow-through (local drainage) and by-pass (diversion from WCC) facility.

   Offline Basin Design Desireable?: As stated previously, a local drainage by-pass had limitations due to uncontrollable downstream constraints.

   Please show conceptual low flow inflow structure and/or local flow diversion structure to Basin #3: A conceptual schematic of the proposed WCC to Basin #3 diversion structure is included in section 6.1.1 of the report. Currently there are no plans to divert/by-pass

local flows to WCC away from Basin #3. Specific details, plans, and hydraulic modeling of the local drainage (storm drain, catch basin/collection point, and street flow [required to safely carry flow toward basin above SD capacity]) will be provided as part of final design.

10. **County Comment #10:** For all detention and debris basins, please add stage/elevation-storage and stage/elevation-discharge tables and curves. Please show conceptual design of inlet and outlet structures and explain how the rating tables were developed.

    Response #10: Comment noted and addressed, see explanation below.

    For all detention and debris basins, please add stage/elevation-storage and stage/elevation-discharge tables and curves. *Although included in the appendices,* stage/elevation-storage and stage/elevation-discharge tables for the proposed detention basins were added to the main report (section 6.1.1). Basin 2B is a combination debris/detention basin. Debris volume is not included in the tables/curves. Debris basin outlet and storage curves will be provided in final design. However, the required debris volume calculations are included in section 5.1.5 of the report.

    Please show conceptual design of the inlet and outlet structures. As part of this feasibility analysis, the verbal description of the proposed inlet and outlet structures for the detention basins are included in section 6.1.1 of the report. Plans showing the inlet and outlet structure configurations will be included in final design.

    How were rating tables developed? Volumes were determined from the Tentative Tract Maps (TTM). Through an iterative process, rating tables used in VCRAT were generated in HydroCAD with estimated backwater in WCC from HEC-RAS 2D. VCRAT, HydroCAD, and HEC-RAS 2D all provide similar results.

11. **County Comment #11:** For detention basins #2 and 3, please include in the main report all inflow and outflow hydrographs.

    Response #11: Comment noted and addressed, see explanation below.

    Although previously included in the appendices, inflow and outflow hydrographs were added to the main report (section 6.1.1).

12. **County Comment #12:** The low-lying area between basins 3 and 2 is a floodplain of Walnut Canyon under existing condition and an open space under proposed conditions as shown in Figure 2 of the report. The area will still be flooded under developed conditions during 100-year events, as shown in the 2D model results below. Please explain how it will be used under developed conditions and if it will be removed from the 100-year floodplain. The District encourages multi-purpose uses, such as recreation, groundwater recharge, eco-system restoration and so on, of the floodplains or flood control facilities.

    Response #12: The comment is noted, see discussion below.

    What is the proposed landuse of the low lying area between Basin 2 and 3? Based on the most recent TTM it is to remain open space with the potential for use as water quality treatment. It is not intended to be used for flood storage. District preferences for multi-purpose uses are noted.

    Will the area be removed from the 100-year floodplain as shown in the HEC-RAS2D model? The HEC-RAS 2D model was meant to be a general verificaton of the hydrologic

modeling due to the sensitive nature of peak flow timing and downstream constraints. The low lying area will be drained and removed from the floodplain.

13. **County Comment #13:** Table 1, page 3, % of Watershed shall be % of project site.

    Response #13: Comment noted and addressed, see explanation below.

    The report was revised accordingly.

14. **County Comment #14:** Table 2, page 4, please add a column for acreage of each land use.

    Response #14: Comment noted and addressed, see explanation below.

    The report was revised accordingly.

15. **County Comment #15:** Section 4.4, #2, page 10, "a minimum freeboard of 2-feet must be provided above the top of the calculated, unattenuated flow over the emergency spillway", shall be a minimum of 3-feet freeboard. Please make a similar correction for Table 10, page 32.

    Response #15: Comment noted and addressed, see explanation below.

    General Discussion: The 2-foot freeboard value was based on previously approved projects. Based on January 21, 2020 discussions with County staff, this may be acceptable in some instances where there is sump (excavation) condition versus a levee condition. As this is a feasability study, additional description within the report was added to provide insight into the situation for each basin. Final emergency spillway freeboard values will be included in the design phase for approval by the City and County.

    Section 4.4, #2, page 10, "a minimum freeboard of 2-feet must be provided above the top of the calculated, unattenuated flow over the emergency spillway", shall be a minimum of 3-feet freeboard.

    The following change was made:

    December 2019 – "Based on recent detention design requirements on similar projects, the following County guidance was provided:

    1. *The emergency spillway must be designed to pass the unattenuated 100-year flow and is to be located at least 1-foot above the 100-year modeled design (through any primary/secondary outlets) water surface elevation.*
    2. *A minimum freeboard of 2-feet must be provided above the top of the calculated, unattenuated flow over the emergency spillway."*

    Revised 2020 – "Based on detention design requirements within the 1968 VCFCD (VCWPD) Design Manual, the following County guidance is provided:

    1. *The emergency spillway must be designed to pass the unattenuated 100-year flow and is to be located at least 1-foot above the 100-year modeled design (through any primary/secondary outlets) water surface elevation.*
    2. *A minimum freeboard of 3-feet must be provided above the top of the calculated, unattenuated flow over the emergency spillway.*

    Exceptions to the freeboard requirement for non-County facilities may be made at the discretion of County staff. These involve situations where the reduction in freeboard is unlikely to result in increased hazards. An example would be the situation where the 100-

year water surface elevation in a fully excavated basin is below the natural top of ground (non-levee situation). Similar, recent projects have used a 2-feet."

Please make a similar correction for Table 10, page 32: The change was made. An additional note was also made following the table (now Table 14):

"NOTE: This is not a County facility. Consistent with other recently approved projects that are similar, the freeboard requirement may be reduced in consultation with County staff during final design."

PUBLIC WORKS VENTURA COUNTY

county of ventura

Jeff Pratt
Agency Director

Central Services **Joan Araujo**, Director | Engineering Services **Christopher Cooper**, Director | Transportation **David Fleisch**, Director | Water & Sanitation **Joseph Pope**, Director | Watershed Protection **Glenn Shephard**, Director

DRAFT

January 14, 2020

Harriet Rapista
Comstock Homes
2301 Rosecrans Ave. Suite 1150
El Segundo, CA 90235

Subject: 2018-057 Walnut Canyon-Hitch Ranch-Comstock Homes
Hitch Ranch Specific Plan No 2019-01
APN(s) 511002011, 13, 16, 17, 17, 18, 19 and 511020022
Zone 3 Watershed Protection Project Number: WC2019-0053

Dear Ms. Rapista:

The Ventura County Watershed Protection District (District) has completed its review of the Hitch Ranch Hydrology Study Report 2020 Update dated August 2019 Revised December 2019. Please address the following comments:

A. Hydrology

1. Existing condition Tc calculation for subarea 31c used 18 ac, but VCRat model uses 23 ac. Please revise materials as necessary.
2. VCRat model for Interim and Ultimate Conditions appear to have switched the data for subareas 68c and 70c based on the Tc Calculator results. Please revise materials as necessary.
3. VCRat model for Interim and Ultimate Conditions use a 100-yr Tc of 8 mins for subarea 62c but Tc calculator results show 9 mins. Please revise as necessary.
4. Page 29, Section 6.1, Bullet 1. 100-yr Ultimate/Interim Condition flows do not appear to be updated with most recent modeling results.
5. Page 33, Tables 11 and 12, Existing Condition Q100 values do not appear to be updated with most recent modeling results. Table 12 last column is labeled with Interim but should be Ultimate.

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6. For the regional basin (#3), the report stated that "the project will meet the 830-cfs RMP requirement (2005, 2009) of the post-project 100-year being contained within the existing WCC along LA Avenue" – page 1. However, the objective of the study shall be to use the feasible detention storage on Hitch Ranch Development to

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maximize the reduction of peak discharges to a level that is below the WCC channel capacity of 830-cfs during 100-year events.

7. To maximize the reduction of peak discharge requires optimization of basin operation and design. For example, different by-pass discharges (94 cfs, 100 cfs, and 136/139 cfs in this report) have been proposed in this and prior studies. Which one is the optimal by-pass discharge rate? Please explain why this study uses 136/139 cfs by-pass and not any other numbers. The chart below is from the 2005 report that having a 100 cfs by-pass.

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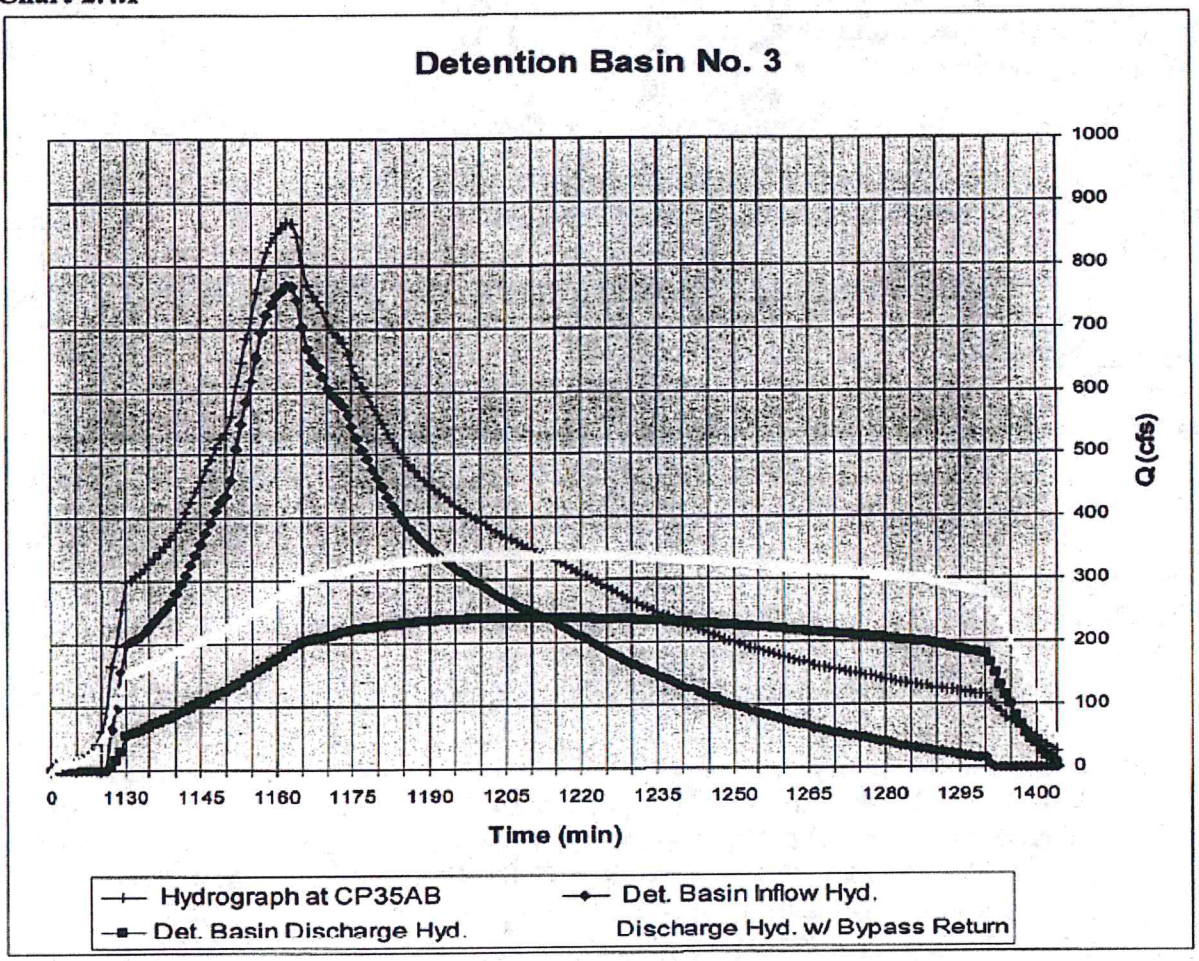

8. In table 8, page 23, total inflow (diversion + local) to Basin #3 is 1,183 cfs and peak outflow is 386 cfs. For an offline detention basin, it is more economically feasible if basin outflow is minimized.

9. It is not clear if the local inflow to Basin #3 is flow-through or is offline. To maximize the reduction of peak flowrate, an offline basin design is desirable. Please show conceptual local flow inflow structure and/or local flow diversion structure to Basin #3.

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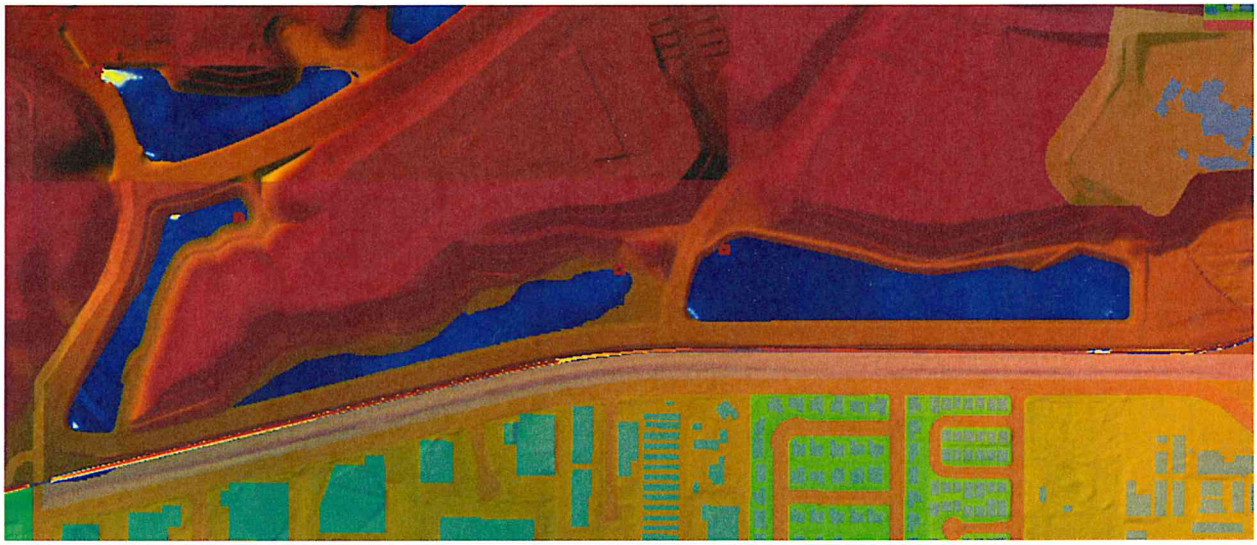
10. For all detention and debris basins, please add stage/elevation-storage and stage/elevation-discharge tables and curves. Please show conceptual design of inlet and outlet structures and explain how the rating tables were developed.
11. For detention basins #2 and 3, please include in the main report all inflow and outflow hydrographs.
12. The low-lying area between basins 3 and 2 is a floodplain of Walnut Canyon under existing condition and an open space under proposed conditions as shown in Figure 2 of the report. The area will still be flooded under developed conditions during 100-year events, as shown in the 2D model results below. Please explain how it will be use under developed conditions and if it will be removed from 100-year floodplain. The District encourages multi-purpose uses, such as recreation, groundwater recharge, eco-system restoration and so on, of floodplains or flood control facilities.



13. Table 1, page 3, % of Watershed shall be % of project site.
14. Table 2, page 4, please add a column for acreage of each land use.
15. Section 4.4, #2, page 10, "*a minimum freeboard of 2-feet must be provided above the top of the calculated, unattenuated flow over the emergency spillway*", shall be a minimum of 3-feet freeboard. Please make similar correction for Table 10, page 32.

3' if have a berm (sudden failure)

If you have any questions, please call me at 805-650-4077 or Laurie Crain at 805-662-6821.

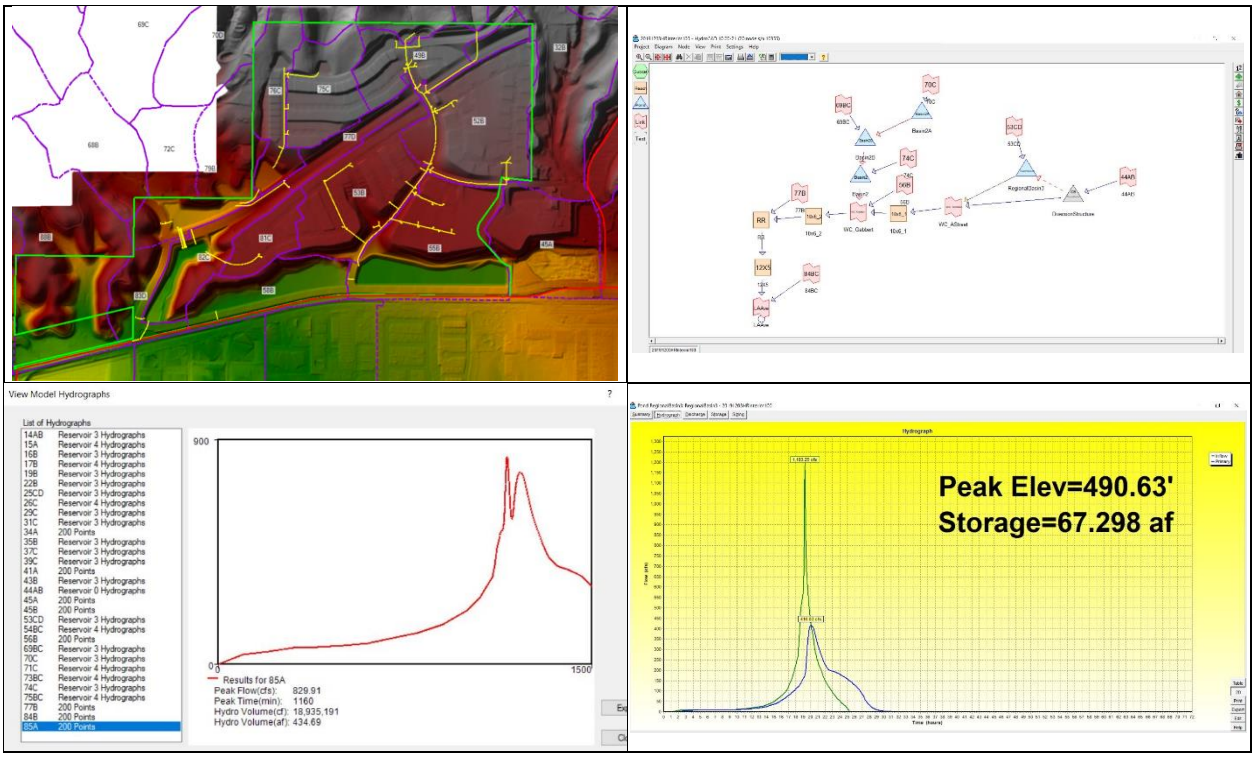
Sincerely,

Sergio Vargas, P.E.
Deputy Director
Watershed Protection

Attachment Basin Data Summary Table.

Cc: Hassan Kasraie

HITCH RANCH
HYDROLOGY STUDY REPORT
2020 UPDATE



Prepared for:

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Prepared by:

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Expires
03/31/2020

August 2019
Revised December 2019, February 2020

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1 Executive Summary

The purpose of the 'Hydrology Study Report - 2020 Update' is to present the results of 100-year and 10-year hydrology for the proposed Hitch Ranch Development project along Walnut Canyon Channel (WCC) in Moorpark. Please see Figure 1.

This study is consistent with the accepted 2005 Regional Master Plan (RMP) and the 2009 RMP Update for this part of the City of Moorpark. As stipulated in the RMP, a regional Detention Basin #3 is included along the main stem of the WCC, as well as three on-site local detention basins and related stormwater facilities.

The hydrology study report shows that the proposed local and regional drainage facilities will successfully meet the following drainage requirements:

1. The project will reduce the projected post-development 100-year flow to below the existing pre-development 10-year flow condition at the westerly project boundary along WCC;
2. The project will meet the objective of using available, feasible detention storage within the Hitch Ranch Development to maximize peak discharges to level that results in flows at or below the 830-cfs WCC channel capacity along Los Angeles Avenue. This is consistent with previous RMP requirements (2005, 2009).

Due to of the long history of this project, this 2020 Update builds upon the various hydrology studied in the 1997, 2005, and 2009 reports related to Hitch Ranch and the surrounding developments along WCC. Therefore, this study is considered the most up-to-date for this part of the WCC drainage system.

This project achieves mitigation for hydrologic and hydraulic deficiencies in WCC as identified in the RMP. Structural deficiencies in the downstream reaches of WCC and the Walnut-Gabbert drainage facilities are not addressed in this report.

The latest hydrology software from Ventura County Watershed Protection District (VCWPD) and other technical tools were utilized for this purpose. Hydrology is presented for three conditions; the Existing Condition with no Hitch Ranch Development in place; an Ultimate Proposed Condition with the Hitch Ranch Development and other upstream developments in place; and Interim Proposed Condition assuming a regional detention basin at Casey Road has not been constructed.

2 Background

2.1 Existing/Proposed Site Description

The Hitch Ranch project consists of the conversion of 277.3 acres of naturally vegetated open space to a mix of residential, open space, flood detention, and transportation land uses. It is located in southeastern Ventura County within the City of Moorpark, just north of Poindexter Road in between Walnut Canyon Road and Gabbert Road. Hitch Ranch lies within the Walnut Canyon watershed, which drains a low-lying portion of the Santa Susana Mountains south west into the Arroyo Simi and ultimately into Calleguas Creek. Figure 1 shows the general location of the Hitch Ranch project site.

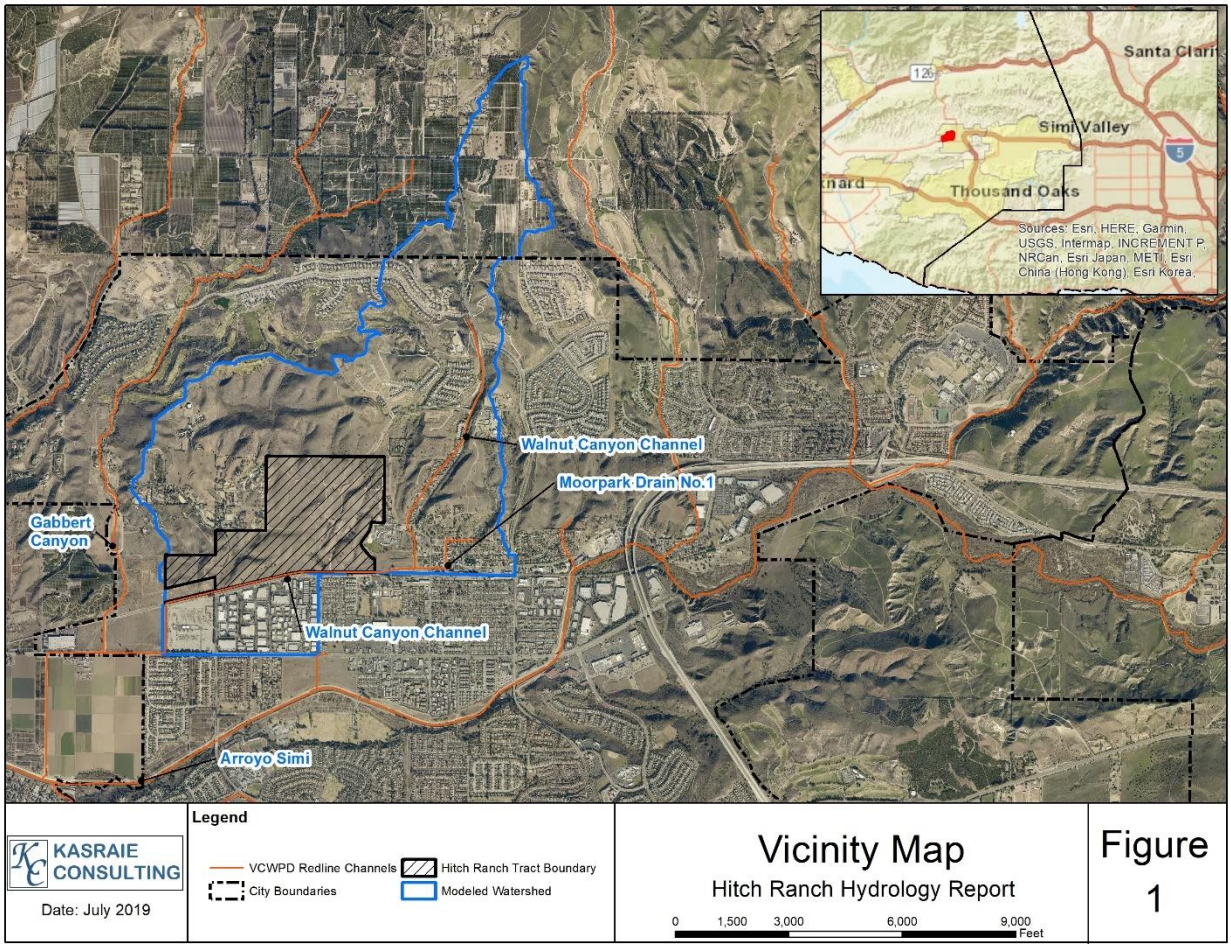

Figure 1: Vicinity Map

Table 1 and Figure 2, on the following page, outline proposed project and main land use categories based on tentative tract maps dated September 2019. Although these design features are not final, future concepts will maintain a similar configuration/percent impervious percentage.

Table 1: Proposed Site Land Use Summary

LAND USE	AREA (acres)	% OF PROJECT SITE
Single Family Dwelling (SFD, 328 Units)	46.9	16.9
Multi-Family Housing (Medium/High Density)	26.5	9.6
Open Space (32 lots)	104.1	37.5
Detention/Debris Basin (4 lots)	27.7	10.0
Park, Rec Space, Passive Rec Space	10.1	3.6
Private Streets	23.5	8.5
Public Streets	31.8	11.5
Not A Part	6.7	2.4
TOTAL	277.3	100

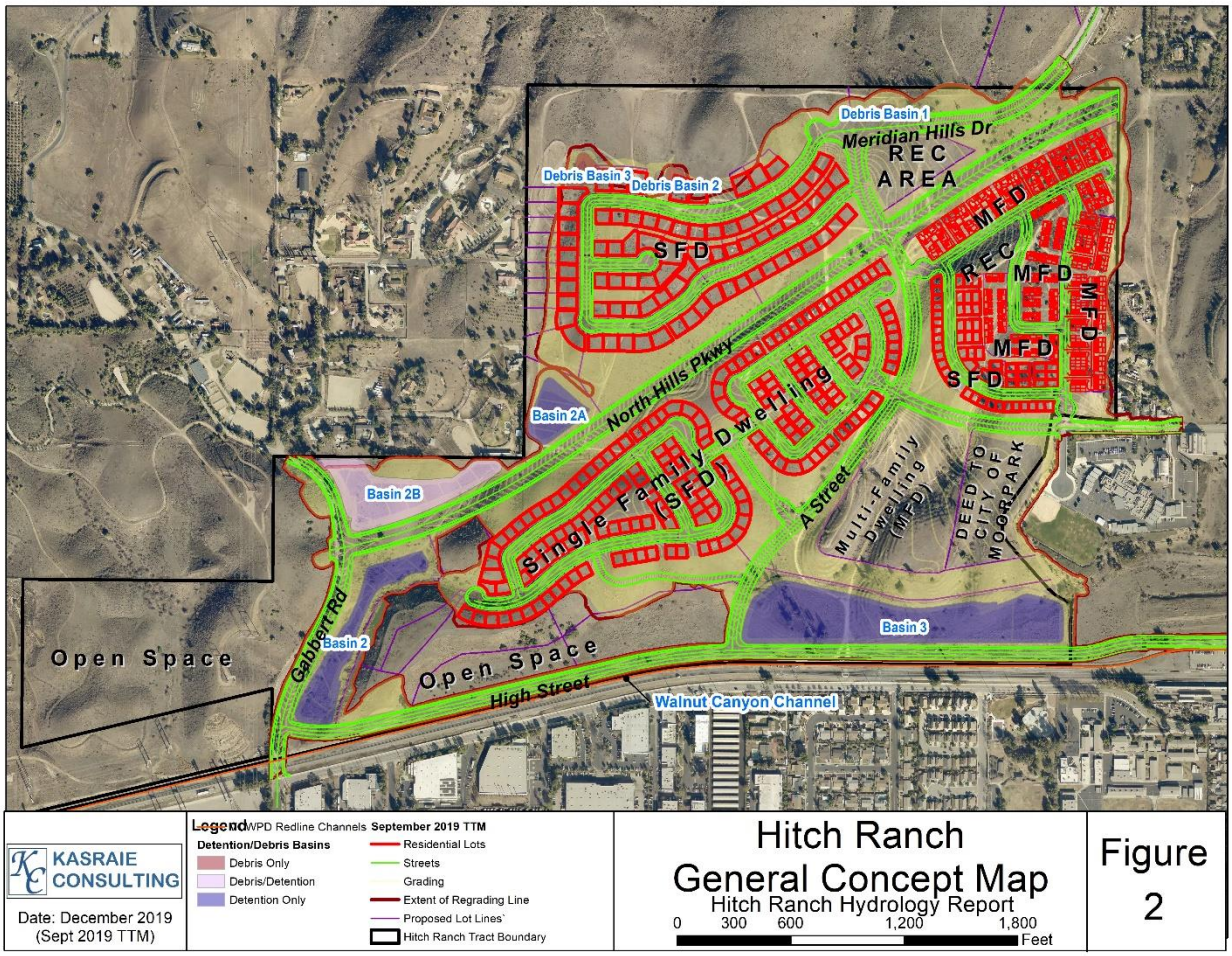

Figure 2: General Concept Map

2.2 Existing Watershed

2.2.1 Description

Walnut Canyon Channel (WCC) drains 2.8 square miles of the City of Moorpark south west approximately 2.3 miles prior to its confluence with Gabbert Canyon channel. This portion of the City lies in the foothills of the Santa Susana Mountains and terrain consists of moderate to steeply sloping hillsides. Approximately 54 % of the watershed remains undeveloped, with the remainder consisting of mixed residential, commercial, industrial, institutional, agricultural and transportation land uses. Table 2 provides a summary of watershed land uses.

Table 2. Walnut Canyon Watershed Land Use Distribution

LAND USE	ACRES	% of WATERSHED
Agriculture- Straight Row + Crop Residue Cover on >5% of surface	27.3	1.5%
Building/Parking Lot	2.2	0.1%
City Hall	3.1	0.2%
Commercial	9.0	0.5%
Detention	3.5	0.2%
Farmsteads- buildings, lanes, driveways, and surrounding lots (2)	22.4	1.2%
Forest	4.0	0.2%
Golf Course	76.8	4.3%
Grass/Yard/Open Space	2.2	0.1%
Industrial Parks, Paved Parking, etc.	107.9	6.0%
Industrial Unpaved Yards, etc.	41.7	2.3%
Library	0.5	0.03%
Open Spaces, Lawns, Parks, Golf Courses, Cemeteries, etc.	4.6	0.3%
Orchard or Tree Farm, 50/50 woods-grass	146.9	8.2%
Paved Streets with open ditches including right-of-way (3)/Transportation and utilities (3)	119.7	6.7%
Public Facilities & Institutions; Includes Schools, Government Centers, Military Bases, etc. (2)	17.5	1.0%
Residential	226.6	12.6%
Rural Building	3.1	0.2%
School/Asphalt	9.0	0.5%
Vacant	964.5	53.8%
Total	**1793**	**100.0%**

WCC was originally constructed by the Soil Conservation Service (currently Natural Resources Conservation Service) between 1959 and 1962 and it is currently owned/maintained by VCWPD. Downstream of the post office, WCC is a rectangular concrete channel running west for 1.25 miles parallel to the Union Pacific Railroad (UPRR) tracks. After passing Gabbert Road and the Southern California Edison (SCE) Plant, the channel veers south under the tracks to Los Angeles Avenue, adding two storm drain junctions from SCE, before it again turns west and picks up flows from a City 72" RCP. It terminates at its confluence with Gabbert Canyon Channel.

Channel depths range between 5 and 8 feet and base widths vary from 6 to 12 feet (see Table 3). Slope within this reach vary from 0.5 to 1.6 percent.

Table 3: Walnut Canyon Channel Facility Drawings/Description

LANDMARK/DESCRIPTION	STATIONING[1]	SECTION	SLOPE	DWG	DATE
Junction of Casey Rd and WCC Inlets	108+96.18-108+88.44	Var B.W. x 6'RCB	0.0772	Y3-0127	1962
	108+88.44-107+10	6'X6'	0.021	Y3-0127	1962
	107+10-102+65	6'X5'	0.021	Y3-0127	1962
WCC Improvements at High Street	**102+35-100+46.75**	**6'X5'**	**0.0243**	**Y3-4650**	2009
	100.+46.75-99+96.75	**TRANSITION**	**0.0215-0.0243**	**Y3-4650**	2009
	99+96.75-98+44.75	**72" RCP**	**0.0769-0.0081**	**Y3-4650**	2009
	98+44.75-98+22	**TRANSITION**	**0.0080**	**Y3-4650**	2009
	98+22-96+45.41	**96" RCP**	**0.0080**	**Y3-4649, Y3-4650**	2009
Location of Incoming 60" RCP Moorpark Drain No.1	96+45.41	96" RCP	0.0080	Y3-4649	1962
	96+45.41-93+37.18	96" RCP	0.0080	Y3-4649	1962
	93+87.18-93+37.18	TRANSITION	0.0080	Y3-4649	1962
	93+37.18-89+31+00	8'X5' RCC	0.0080	Y3-0125	1962
Eastern Boundary of Hitch Ranch	89+31	8'x5' RCC	0.0080	Y3-0125	1962
	89+31-83+00	8'x5' RCC	0.0080	Y3-0125, Y3-0124	1962
	83+00-69+80	8'X5' RCC	0.0074	Y3-0124 thru Y3-0122	1962
	69+80-69+60	TRANSITION	0.0054	Y3-0122	1962
	69+60-46+15	10'X5' RCC	0.0054	Y3-0122 thru Y3-120	1962
Gabbert Road Crossing/ Western Boundary of Hitch Ranch	44+15-43+92	10'X6' RCB	0.0051	Y3-0119	1962
	43+92-30+84	10'x6' RCC		Y3-0119, Y3-0118	1962
UP RR Crossing	30+84-29+65	10'x8' RCB	0.0051	Y3-0118	1962
	29+64-29+45	TRANSITION	0.00477	Y3-0118	1962
	29+45-17+25	12'X5' RCC	0.0047	Y3-0118 thru Y3-0116	1962
	17+25-13+45	12'x5' RCC	0.0047	Y3-0116	1962
1998 Channel Repair	**13+46-08+46**	**12'x5' RCC**	**0.0047**	**Y3-3766**	**1999**
	08+46-03+43	12'x5' RCC	0.0047	Y3-0115	1962

[1]Stationing based on plans, approximate distance upstream of confluence with Gabbert Canyon

3 Previous Studies

Walnut Canyon Channel has been analyzed numerous times over the last 23 years to assess existing and proposed conditions. These studies are listed below:

- **Baseline Condition VCRAT Modeling [VCFCD/VCWPD, 1996]**
- **Walnut and Gabbert Canyon Channel Flood Deficiency Study [RBF, 1997]**
- Moorpark West Corporate Center Flood Protection Project – Walnut Canyon Regional Detention Basin [2003, PACE]
- FEMA Flood Insurance Study (FIS) – Includes Walnut Canyon Channel [Nolte, 2005]
- **Technical Addendum to Walnut and Gabbert Canyon Channel Flood Deficiency Study (Regional Master Plan) [2005, PACE]**
- Hitch Ranch Watershed Masterplan Study [2007, PACE]
- **Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed [2009, PACE]**
- Hitch Ranch Specific Plan Environmental Impact Report (EIR) [2011, PACE]
- FEMA Letter of Map Revision (LOMR) – Walnut Canyon Channel [2011, MRC]

Baseline modeling and subsequent deficiency/design studies in **boldface** provide preliminary conceptual level design alternatives; none of which have been adopted by specific ordinance. Each are described in more detail below.

3.1 Baseline Condition VCRAT Modeling [VCFCD/VCWPD, 1996]

100-year and 50-year VCRAT models of the entire Gabbert and Walnut Canyon watershed intended to represent a baseline condition in anticipation of flow changes due to future development. The 4,425-acre watershed was divided into 79 subareas ranging from 8 to 105 acres in size for VCRAT development.

3.2 Walnut and Gabbert Canyon Channel Flood Deficiency Study [RBF, 1997]

Ventura County Flood Control District (VCFCD, precursor to VCWPD) compared the flood conveyance capacity of the system to the modeled flowrates and determined that the Walnut and Gabbert Canyon flood control channels did not provide the desired level of flood protection. The limited hydraulic conveyance capacity of the existing channel system results in the flood protection deficiency which was documented in the *Walnut and Gabbert Canyon Channel Flood Deficiency Study (RBF, 1997).*

The 1997 study characterized deficiencies and developed a regional masterplan to increase flood protection levels. The plan proposed the implementation of various conveyance-oriented improvements as well as five regional detention basins. While the improvements were designed based on flows resulting from the 1996 land use conditions, it mandates future development

projects mitigate hydrologic impacts from their projects and include allowances for the proposed regional drainage facilities. The chosen, least cost alternative (B) included:

- Construction of a 300 cfs underground Shasta Avenue diversion channel near the current eastern boundary of Hitch Ranch taking flows directly south to Arroyo Simi.
- Separation of the Gabbert and WCC systems by creating a dedicated WCC trapezoidal channel outlet to Arroyo Simi.
- 140 ac-ft of detention storage within the WCC watershed.

This plan was superseded by the Technical Addendum to Walnut and Gabbert Canyon Channel Flood Deficiency Study (Regional Master Plan) [2005, PACE].

3.3 Technical Addendum to Walnut and Gabbert Canyon Channel Flood Deficiency Study (Regional Master Plan) [2005, PACE]

A 2005 Addendum to the 1997 study, referred to as the Regional Master Plan (RMP) from this point forward, similarly mandated that future development projects include allowances for regional flood control facilities and comply with local drainage requirements. This study revises the 1997 regional masterplan to incorporate improvements proposed in the Moorpark West Corporate Center Flood Protection Project – Walnut Canyon Regional Detention Basin prepared in March 2003 by RBF. RMP components are illustrated on Figure 3.

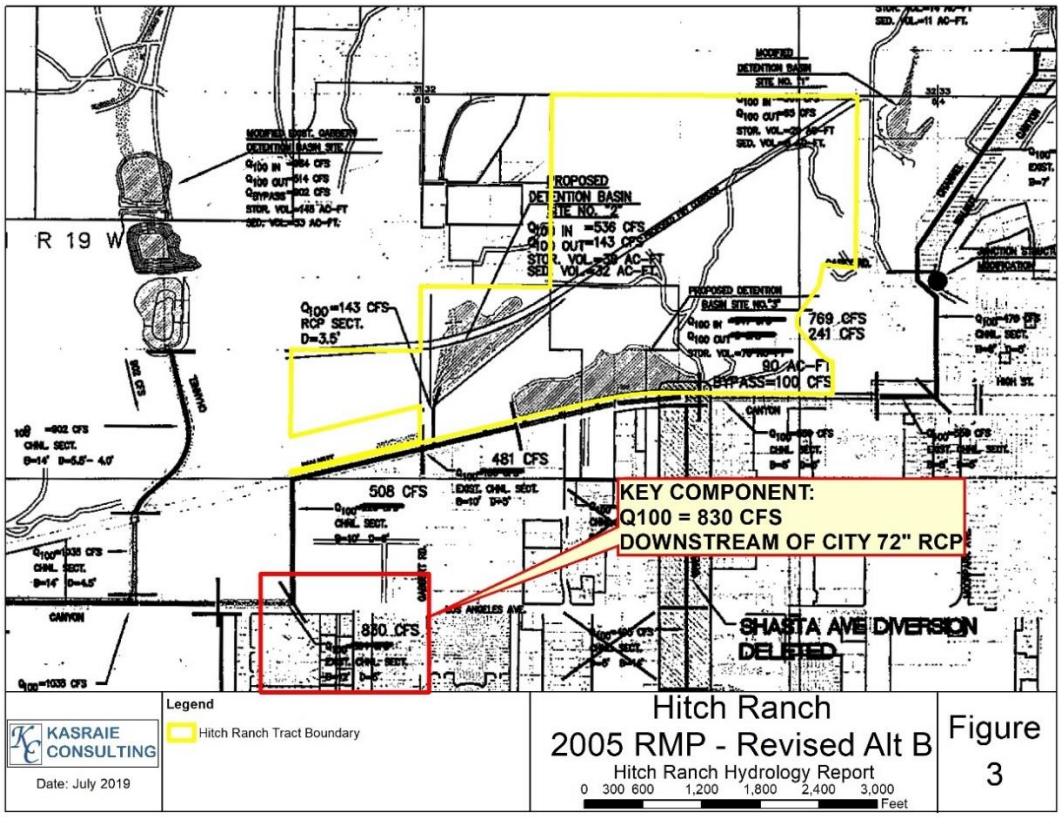

Figure 3: 2005 RMP – Revised Alternative B

The revised Alternative B includes:

- Elimination of the Shasta diversion channel and replaced it with 100 cfs by-pass between diversion from WCC to proposed Basin 3 and corresponding detention outlet back to WCC.
- Increased required storage in proposed Basin 3 from 70 to 90 ac-ft.
- Identified a target flow downstream of City of Moorpark 72" RCP, west of Southern California Edison (SCE) property was determined to be 830 cfs

3.4 Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed [2009, PACE]

A 2009 Update study *entitled Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed* [PACE] prepared for downstream Tract 5217 (immediately west of Southern California Edison property, adjacent to north and west bank of WCC) outlines their requirement to "construct offsite regional flood control improvements as discussed in the Walnut and Gabbert Canyon Watershed Masterplan approved June 2005" and that previous "owners of Hitch Ranch and Triliad Development have developed an agreement to allow Triliad to construct the proposed basin improvements on Hitch Ranch property". This would infer that there would be a cost sharing among benefitting parties. As of August 2019, Tract 5217 has not been developed.

4 Regulatory Framework

4.1 General Local Design/Hydrologic Mitigation Standards

New developments, such as Hitch Ranch, are commonly required to design localized mitigation for runoff flowing directly on or through their site. General regulatory guidance applicable to the project site include:

- City of Moorpark Municipal Code 17.76.050(76) Development standards states: "Drainage improvements must be designed so that after-development, drainage to adjacent parcels would not be increased above pre-development drainage quantities for any stormwater model between and including the ten (10) year and one hundred (100) year storms, nor will surface runoff be concentrated by this project."
- 2017 VCWPD Design Hydrology Manual: "To minimize the impacts of development on the existing drainage system, and in some cases to remedy existing drainage deficiencies, most Cities require that the consultant use detention to attenuate the 100-yr developed condition peak back to the 10-yr developed condition peak. For some watersheds with severe channel deficiencies, the mitigation goal has been the 10-yr undeveloped condition

peak. For the unincorporated County, the mitigation is normally no increase in flow for any design storm from the 10-, 25-, 50-, or 100-yr frequency."

4.2 Critical Additional Design/Hydrologic Mitigation Standards

During 2018-19, the developer and their consultants met with City and VCWPD staff, holding a series of discussions regarding the project. Updated existing condition and proposed condition hydrology including a regional detention basin (commonly known as Basin 3) peak discharge reduction concept similar to the 2005 RMP, along with a Hitch Ranch-Only mitigation measure involving local on-site detention basin facilities (following the general local design/mitigation standards outlined in the previous section) were provided.

After much discussion and collaboration, the Regional Detention Basin 3 concept was found to be the preferred alternative as it will provide the best opportunity to reduce peak discharges in the downstream reaches of WCC. The purpose of the remainder of this report is to demonstrate that the Hitch Ranch project, as shown on the May 2019 (amended July 2019) Tentative Tract Map (TTM), mitigates for local drainage impacts and supports Regional Flood Control (RFC) objectives and Local Flood Requirements (LFR) as outlined in the RMP (See Table 4).

Table 4: Regional Flood Control (RFC) Objectives and Local Flood Requirements (LFR)

Element		Governing Agency	Criteria
Performance Criteria	Regional Flood Control (RFC) Objectives	VCWPD	flood control components must be designed to achieve either 50-year conveyance in the channel with freeboard, or 100-year conveyance in the channel without freeboard but including super-elevation, whichever is greater
	Local Flood Requirements (LFR)	City of Moorpark	Proposed peak flows must not exceed existing flows leaving project site for the 10-, 25-, 50-, and 100-year storm events

Based on the required RFC and LFRs listed above, all designs are required to meet the following targets:

1. Reduce the projected post-development 100-year flow to below the existing pre-development 10-year flow condition at the westerly project boundary along WCC;
2. Meet the 830-cfs RMP requirement (2005, 2009) of the post-project (ultimate)100-year flow being contained within the existing WCC along Los Angeles Avenue.

This 2020 Update, Hydrology Study Report, builds on all the previous hydrology studies, and it presents a new and up-to-date picture of the drainage improvements that the community has requested of the developer and their consultants.

In addition, VCWPD informed the community that since acceptance of the 2005 RMP, WCC facilities have shown signs of severe structural failures. The 2005 RMP and subsequent 2009 design study only addressed downstream hydrologic and hydraulic deficiencies.

No other remedy is offered to address the existing structural failures in the downstream channels, as they are considered to be outside the control of the Hitch Ranch Development project.

4.3 California Division of Safety of Dams (DSOD)

Large dams that may have a higher potential for public safety hazard are considered Jurisdictional Dams and fall under the oversight of the California Division of Safety of Dams (DSOD). Dams that have:

- A dam height more than 6 feet and impounds 50 acre-ft or more
- A dam height greater than 25 feet and impounds 15 acre-ft or more

Dam height is defined as "the vertical distance measured from the lowest point at the downstream toe of the dam to its maximum storage elevation".

Jurisdiction Dams require significant additional design, construction, and maintenance costs. Designs should minimize the likelihood of this classification.

4.4 VCWPD Detention Basin/Outlet Design Requirements

Based on detention design requirements within the 1968 VCFCD (VCWPD) Design Manual, the following County guidance is provided:

1. The emergency spillway must be designed to pass the unattenuated 100-year flow and is to be located at least 1-foot above the 100-year modeled design (through any primary/secondary outlets) water surface elevation.
2. A minimum freeboard of 3-feet must be provided above the top of the calculated, unattenuated flow over the emergency spillway.

Exceptions to the freeboard requirement for privately owned and maintained (non-County) facilities may be made at the discretion of County staff. These involve conditions where the reduction in freeboard is unlikely to result in increased hazards. An example would be when the 100-year water surface elevation in a fully excavated basin is below the natural top of ground (non-levee situation). Similar, recent projects have used a 2-feet.

5 Approach

To demonstrate that the Hitch Ranch project provides appropriate mitigation measures to meet LFR and RFC objectives outlined in previous Regional Master Plan (RMP), hydrologic analysis of the Walnut Canyon watershed was developed and results were evaluated with respect to the above criteria. Modeling was completed using VCRAT (Ventura County Rational Method Hydrology Model, version 2.64.0.37) for the 10-year/100-year Existing and 100-year Interim/Ultimate conditions summarized in Table 5. 25- and 50-year events will be included in a subsequent hydraulic study that includes design of the on-site storm drain system.

Table 5: Modeled Conditions

Condition	Land Use	Basin Configuration
Existing	Existing land use, no development in HR	Includes Basins 0, 5187-1 and 5187-2
Interim	Proposed land use (includes Hitch Ranch and Essex developments)	Includes Existing Basins (0, 5187-1, 5187-2) plus Proposed Hitch Ranch Basins 2A, 2B, 2, and 3
Ultimate	Proposed land use (includes Hitch Ranch, Mansi[1], and Essex developments)	Includes Existing Basins (0, 5187-1, 5187-2), Proposed Hitch Ranch Basins (2A, 2B, 2, and 3) plus Basin 1 (located immediately north of Casey Rd and the Boys and Girls Club)

[1]No plans are available for Mansi, Percent Impervious was estimated at 45% based on Moorpark Community Economic Development Committee (CEDC) meeting notes/agenda (03/20/2013)

5.1 Hydrology Model Development

Hydrology models for this study were developed in VCRAT 2.64 based on an analysis of the most up-to-date spatial data.

5.1.1 Existing Condition

Subareas were delineated based on Ventura County 2005 LiDAR, H&H Report for Tract 5187 and City of Moorpark Storm Drain geodatabase. Soil numbers, imperviousness, time of concentration, routing, and rainfall parameters were spatially calculated using ArcGIS (V10.5.1) for each subarea within the modeled watershed based on the *2017 VCWPD Design Hydrology Manual* methodology. The final product is a single, contiguous model (Nodes 001A-085AB) for the 10-, 25-, 50-, and 100-year frequencies from the WCC headwater, through the confluence with 72" RCP at LA Avenue (adjacent to the Southern California Edison [SCE] property).

Key Existing Condition model features include:

- Two detention facilities located at nodes 002A and 035B were not included in modeling as it is unclear if they are built to flood control standards.

- The Meridian Hills Drive extension southwest through Tract 5187-2 significantly altered the existing topography. The ridge that formed the natural boundary, forcing drainage in the southeasterly direction, was removed. Based on plan 04-ML- 10748 (Sheet 11), the 100-year flow upstream of Meridian Hills Drive will be conveyed below the road through a 21' wide curb opening catch basin and 24" RCP (s = 0.4792). Road drainage will be captured by the same 24-inch RCP through two 7-foot curb opening catch basins (north and south side). Therefore, the previous flow pattern will be maintained. Subarea boundaries in this area were delineated based on this information. See Figures 4 and 5.

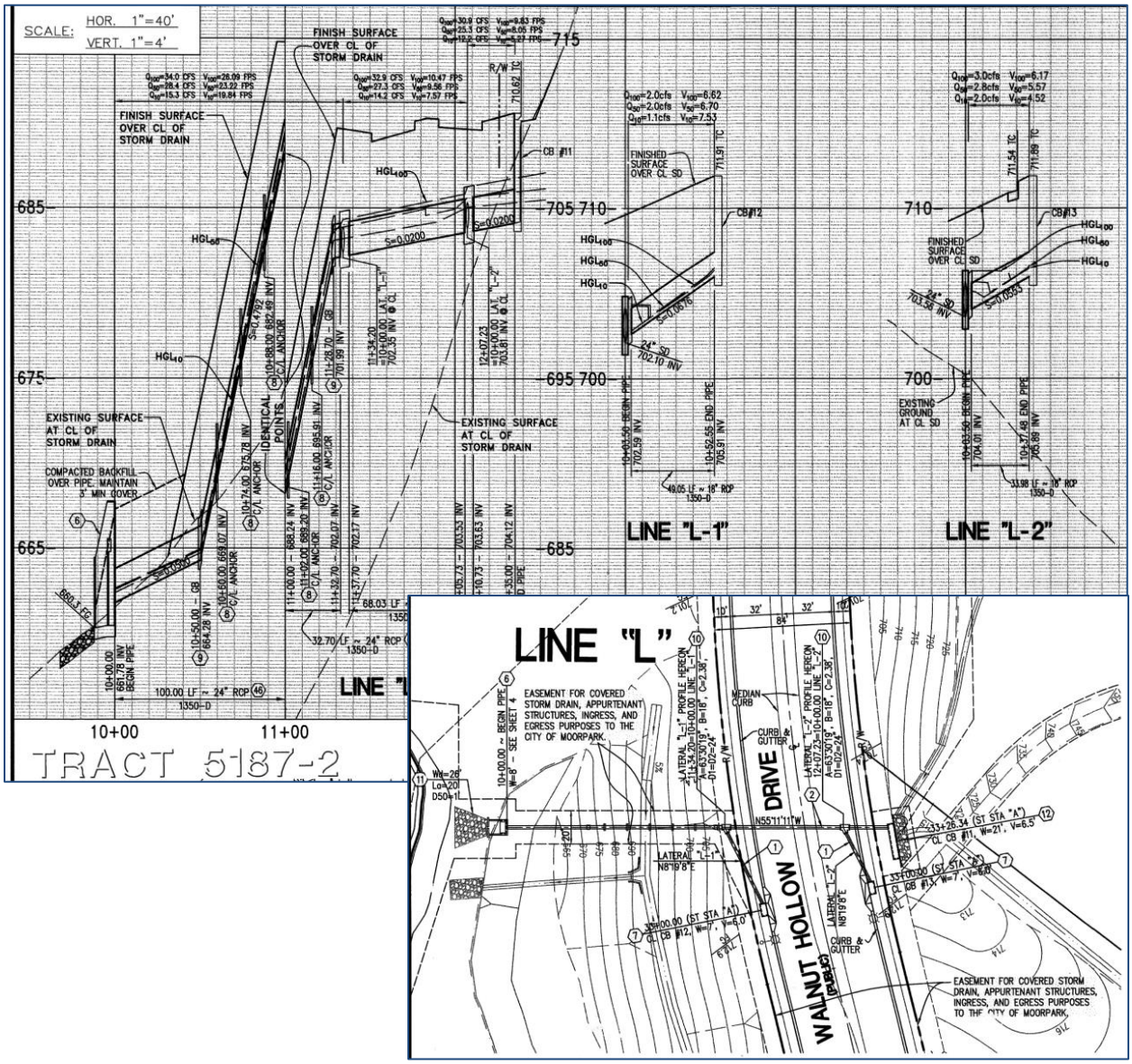

Figure 4: Meridian Hills Pkwy Extension (Plan 04-ML-10748, Sheet 11)

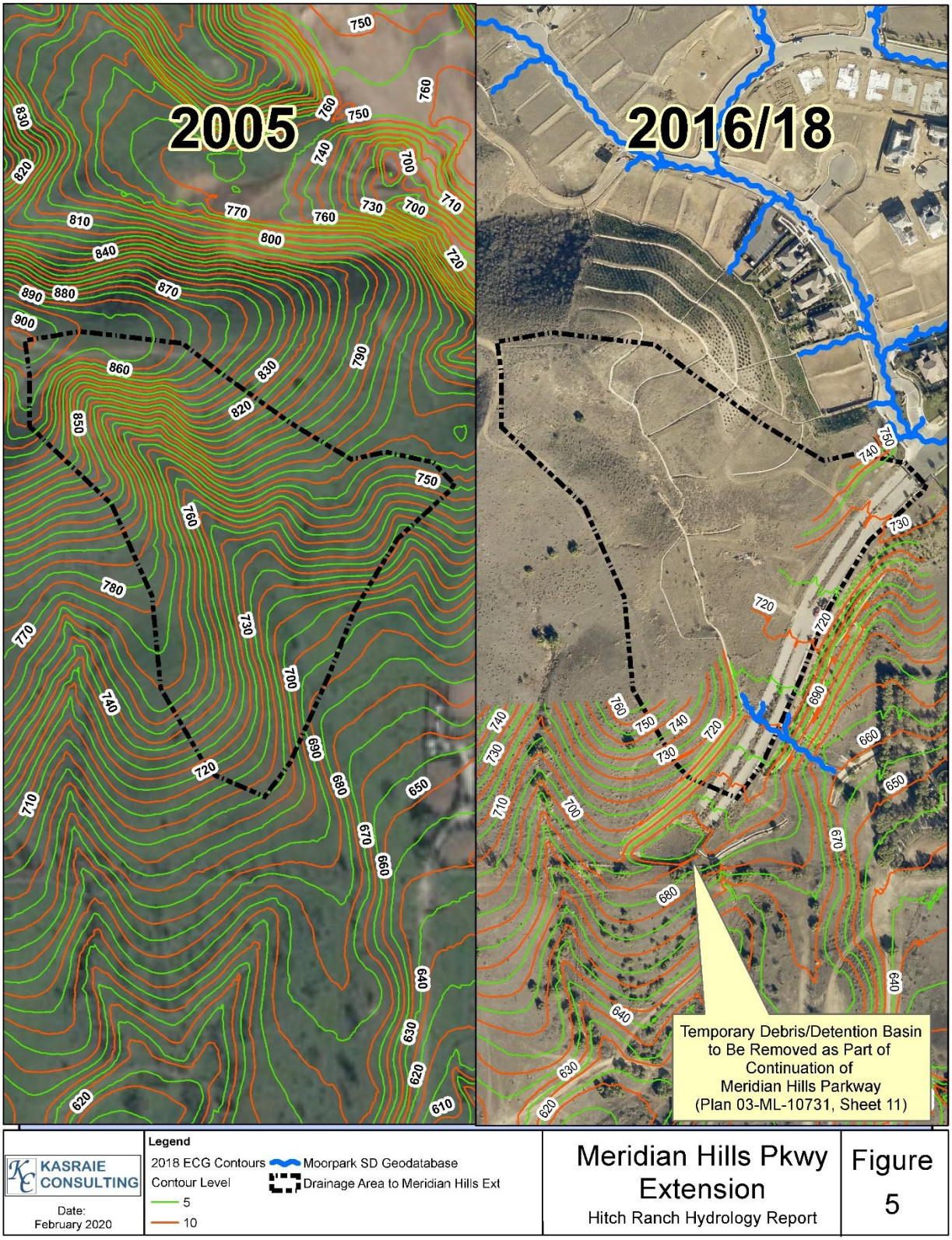

Figure 5: Meridian Hills Pkwy Extension Grading Comparison (2005 vs. 2016/2018)

5.1.2 Proposed Interim/Ultimate Condition

Subareas were adjusted/redelineated within Hitch Ranch and immediately adjacent properties based on May 2019 (amended July 2019) ECG Tentative Tract Maps (TTM). Soil numbers, imperviousness, time of concentration, routing and rainfall were spatially re-calculated. Minor design changes may occur throughout the permitting process, however **general flow patterns and overall percent impervious will not change significantly**. Modeling will be adjusted as part of the final design phase, if necessary.

Key Proposed Interim/Ultimate model features include:

1. VCRAT does not have the direct capability to model complex diversions or detention basins, therefore:
    - The hydrograph split at the diversion and basin outlet rating curves needed to be determined outside the program. HydroCAD (version 10.00-21) was chosen for this purpose due to the ease of modeling complex outlets while connecting the entire system. Hydrographs were exported from an initial VCRAT run for individual and/or linear series of subareas. They were then used as input into HydroCAD as a "Link".
    - Proposed Interim and Ultimate condition evaluations were each split into upstream (Nodes 001A-045A) and downstream (Nodes 045A-085AB) VCRAT models. Outflow hydrographs from HydroCAD diversion calculations were imported into the downstream model to represent the time dependent split.
2. To facilitate the analysis of other storm events, an additional single complete VCRAT watershed model was created to mimic the diversion using a constant 94 cfs by-pass. This is similar to previous RMPs.
3. VCRAT nodes were numbered such that they are the same upstream and downstream of Hitch Ranch. There are **no** changes in parameters for nodes 001A-028B, 032BC-042A, 058B-067BC, and 076AB-085AB.
4. For the Ultimate Condition, a 45% actual percent impervious was used within the proposed Mansi development (nodes 029C-031C). This had not been adjusted in the previous RMPs. Other differences from the Interim Condition include fattening of the incoming hydrograph and inclusion of the rating curve from 2009 *Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed* at Node 033B representing Basin 1 (not built as of 2019).
5. Two detention facilities located at nodes 002A and 035B were not included in modeling as it is unclear if they are built to flood control standards.

5.1.3 Parameter Estimation

Per VCWPD guidelines in the Hydrology Manual (VCWPD, 2017), hydrographs in the VCRAT models were fattened prior to reservoir routing at all detention basins (unless fattening resulted in reduced volumes).

A summary of VCRAT model input data sources and methods for parameterization is provided in Table 6. Additional details, background information and model input/output files can be found in the attached appendices.
10-/25-/50-/100-year Existing, Interim, and Ultimate Condition VCRAT output plots are in Appendices 2-4.

Table 6: VCRAT Model Assumptions

Model Component	Data Source(s)	Parameterization Approach
Subareas (Figures 6 and 7)	1) LiDAR Topography (County of Ventura, 2005) 2) Storm Drains (City of Moorpark, 2015) 3) Hydrology and Hydraulic Report for Tract 5187 (Hall & Foreman, April 2004)	Existing Conditions/Proposed Conditions US Walnut Canyon diversion: Previously modeled subareas (PACE 2009) were reviewed and updated in consideration of 5 ft LiDAR contours (County of Ventura, 2005) and the City of Moorpark's digitized storm drain layer. Proposed Conditions (Hitch Ranch): Within the Hitch Ranch parcel, subareas were delineated based on grading and storm drain infrastructure illustrated in Tentative Tract Maps dated May 2019 (amended July 2019) Unique Id = [HK_ID] was assigned to each subarea based on the final VCRAT model.
Rainfall (Figure 8)	1) Rainfall Zones/NOAA Rainfall Contours (NOAA, 2017) were downloaded from the County of Ventura	Model boundaries are entirely within the South Mountain to Moorpark rainfall zone, as defined by the NOAA 2011 analysis. The 24-hr 100-yr rainfall contours were used to create a rainfall depth TIN and grid. Area weighted total depths were assigned to each subarea [100y24h].
Soils (Figure 9)	Soils shapefile, County of Ventura, 2010	Area weighted soil numbers [Soilno]were calculated for each subarea in ArcGIS.

Table 6: VCRAT Model Assumptions

Model Component	Data Source(s)	Parameterization Approach
Time of Concentration (Appendix 1)	1) LiDAR Topography (County of Ventura 2005) 2) Hydrology and Hydraulic Report for Tract 5187 (Hall & Foreman, April 2004) 3) Storm Drains (City of Moorpark, 2015) 4) ECG TTM (May 2019, amended July 2019)	Existing Conditions/Proposed Conditions US Walnut Canyon diversion: Longest flowpaths were estimated for each subarea based on the available topography (2005 LiDAR and H&H Report Tract 5187) and storm drain layers in ArcGIS. Each flowpath was split into segment types (overland, natural channel, pipe, channel) and a corresponding drainage area was delineated. The VC Tc Calculator program (V 2.64.0.37) was used to determine subarea time of concentration values. Proposed Conditions (Hitch Ranch): The same procedure was used as existing, except the May 2019 (amended July 2019) TTM was used for areas within the proposed development.
Stage-Storage-Discharge Curves (included in HydroCAD and VCRAT Models)	1) ECG TTMs (May 2019, amended July 2019) 2) PACE 2009 modeling	Basins 0, 5187-1, 5187-2, and Basin 1: Based on PACE 2009 modeling. Basins 2A, 2B, 2 and 3: Hydrographs from individual and/or series of subareas draining to a proposed basin were exported from an initial VCRAT model and imported into HydroCAD (Build 10.00-21). Preliminary diversion and outlet structures were designed/optimized to meet project objectives. Corresponding rating curves (outlet) and hydrographs (diversion) were re-imported back into VCRAT. **Required debris volume at Basin 2B is not included in the hydrologic model – no double counting issue.**

Table 6: VCRAT Model Assumptions

Model Component	Data Source(s)	Parameterization Approach
Imperviousness (KC Impervious Layers, Figures 10 and 11)	1) Ventura County Parcel Layer (Downloaded Nov 2019) 2) Aerial Photograph (County of Ventura, 2016) 3) KC Sample Percent Impervious Calculations 4) Exhibit 14B, Design Hydrology Manual, VCWPD, 2017 (actual imperviousness) 5) ECG TTM (May 2019, amended July 2019)	Existing Conditions Layer: The latest Ventura County parcel layer was downloaded from https://www.ventura.org/gis-and-mapping/mapping-base/. Each parcel was assigned a [CNCLASS] category consistent with those in the 2017 VC Hydrology Manual. Actual percent impervious [R_PCTIMP2] was calculated for several sample residential parcels representing assigned [CNCLASS] within the WCC watershed and general vicinity. In general, the calculated value was higher than those found in the 2017 VC Hydrology Manual. The higher value was assigned. All other [CNCLASS] percent impervious values (commercial, industrial, …) were directly based on the actual percent impervious values in the 2017 VC Hydrology manual. Proposed Conditions Layer: The latest ECG TTM was split into impervious (pads, streets, multi-family buildings, parking areas, and sidewalks) and pervious areas (detention areas and open space) and used to replace the existing condition data. The proposed Essex parcel and adjacent property to the south was assumed to be developed similar to residential condos at 69% actual imperviousness. A grid for both conditions was created and corresponding area weighted percent impervious was calculated for each subarea. Based on the imperviousness grid was created and used to calculate a spatially averaged value for each subarea.
Fattening/CN Values (KC CN Layers, Table 7)	1) KC 2019 Impervious Layer 2) Soils shapefile, County of Ventura, 2010 3) Aerial Photograph (County of Ventura, 2016) 4) Exhibit 14B, Design Hydrology Manual, VCWPD, 2017 (actual imperviousness)	Curve numbers for each soil number [CN1]-[CN7] were assigned to each [CNCLASS] in the KC 2019 Impervious Layers (existing and proposed) based on the 2017 VC Hydrology manual. This data was intersected with the soils and a single [CN_FINAL] value was calculated for each feature. A CN grid was created for both existing and proposed conditions. Area weighted CN values were assigned to each subarea. For detention basins with no upstream storage facilities, a composite (area weighted based on all incoming subareas) CN and rainfall total was used in VCRAT to fatten the incoming hydrograph. For detention basins downstream of other storage facilities, individual subareas were fattened. Double fattening does not occur since all subareas were modeled off of the main lines (i.e. there are no nodes upstream of a subarea on the same line).

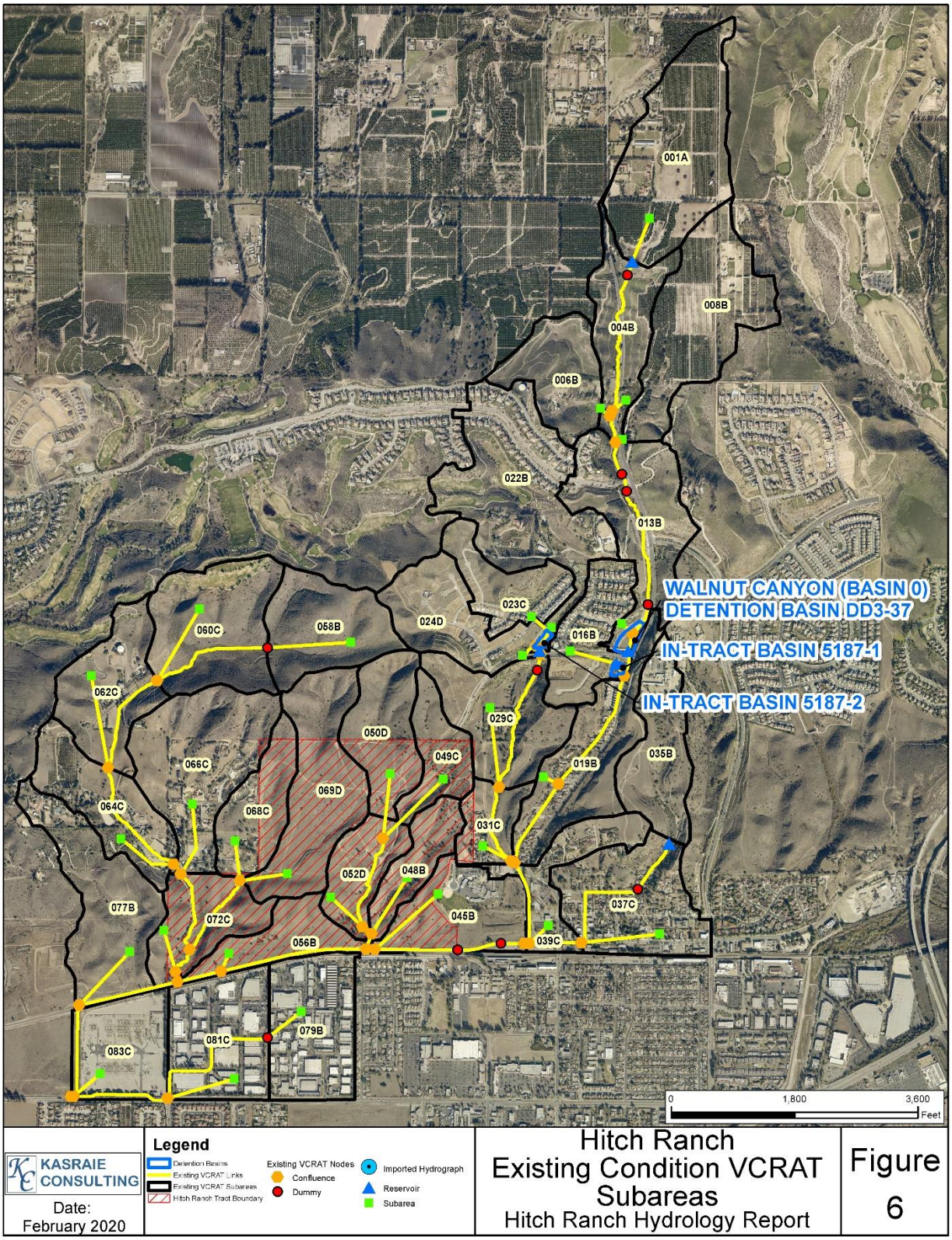

Figure 6: Existing Condition VCRAT Subareas

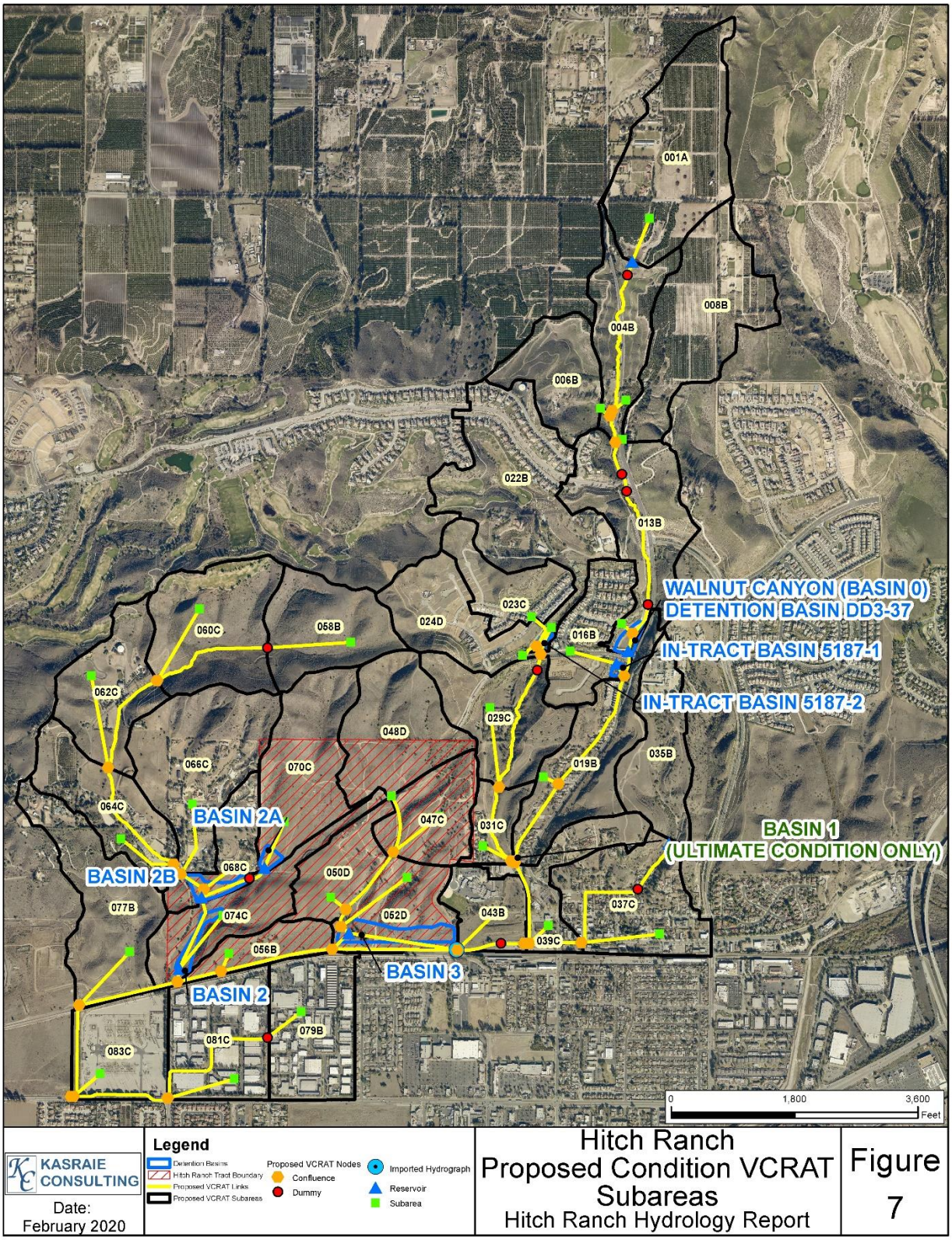

Figure 7: Proposed Condition VCRAT Subareas

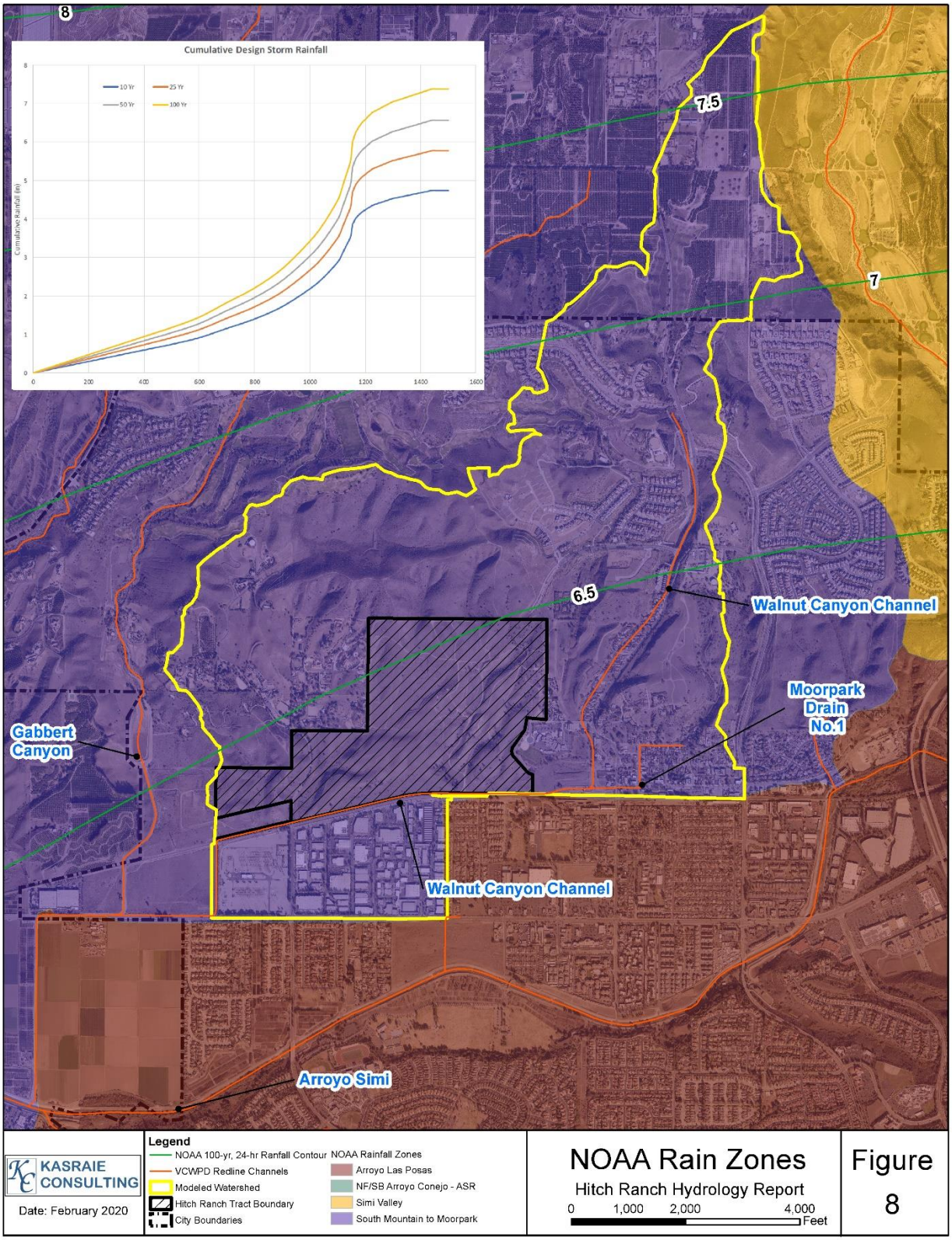

Figure 8: NOAA Rain Zones

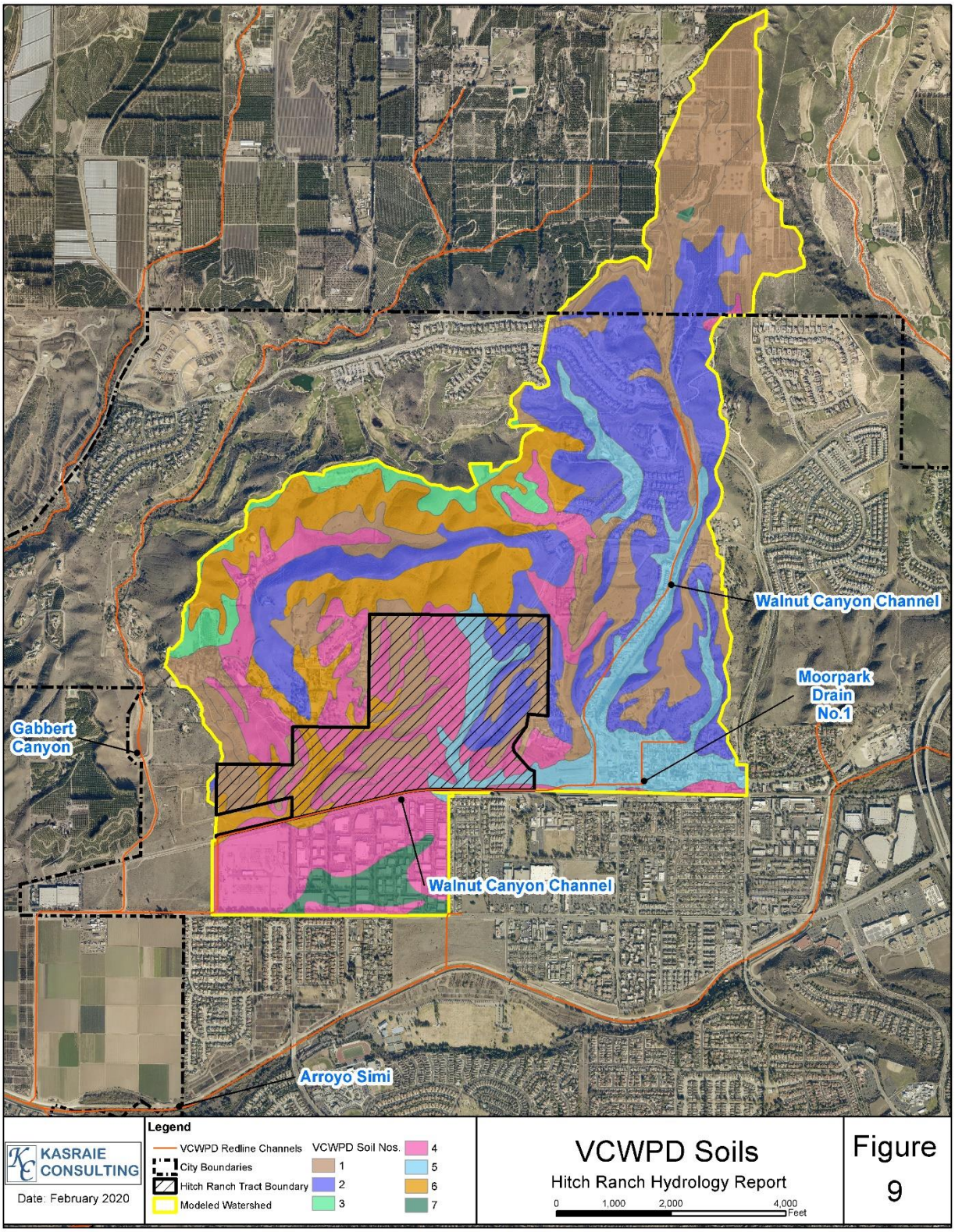

Figure 9: VCWPD Soils

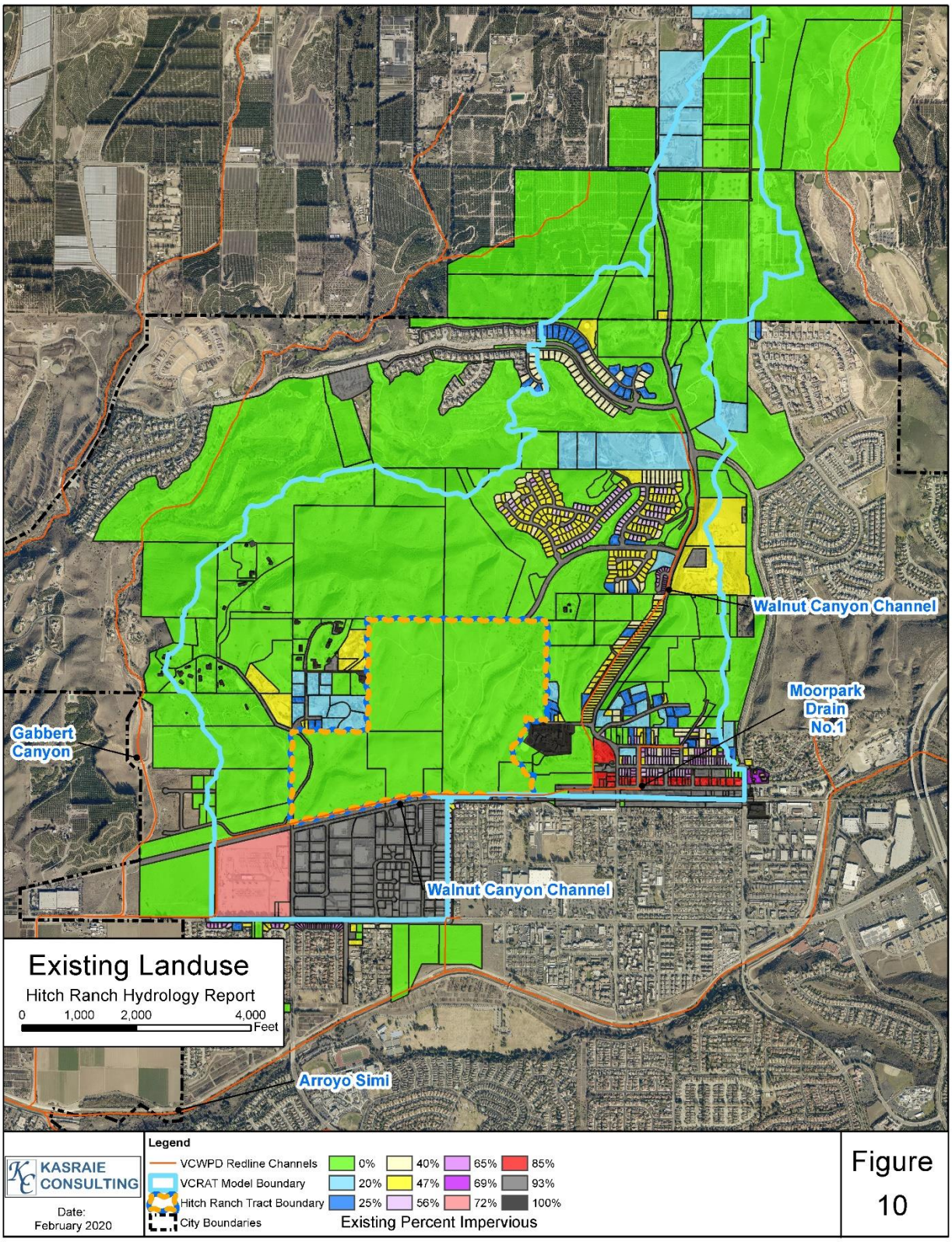

Figure 10: Existing Landuse

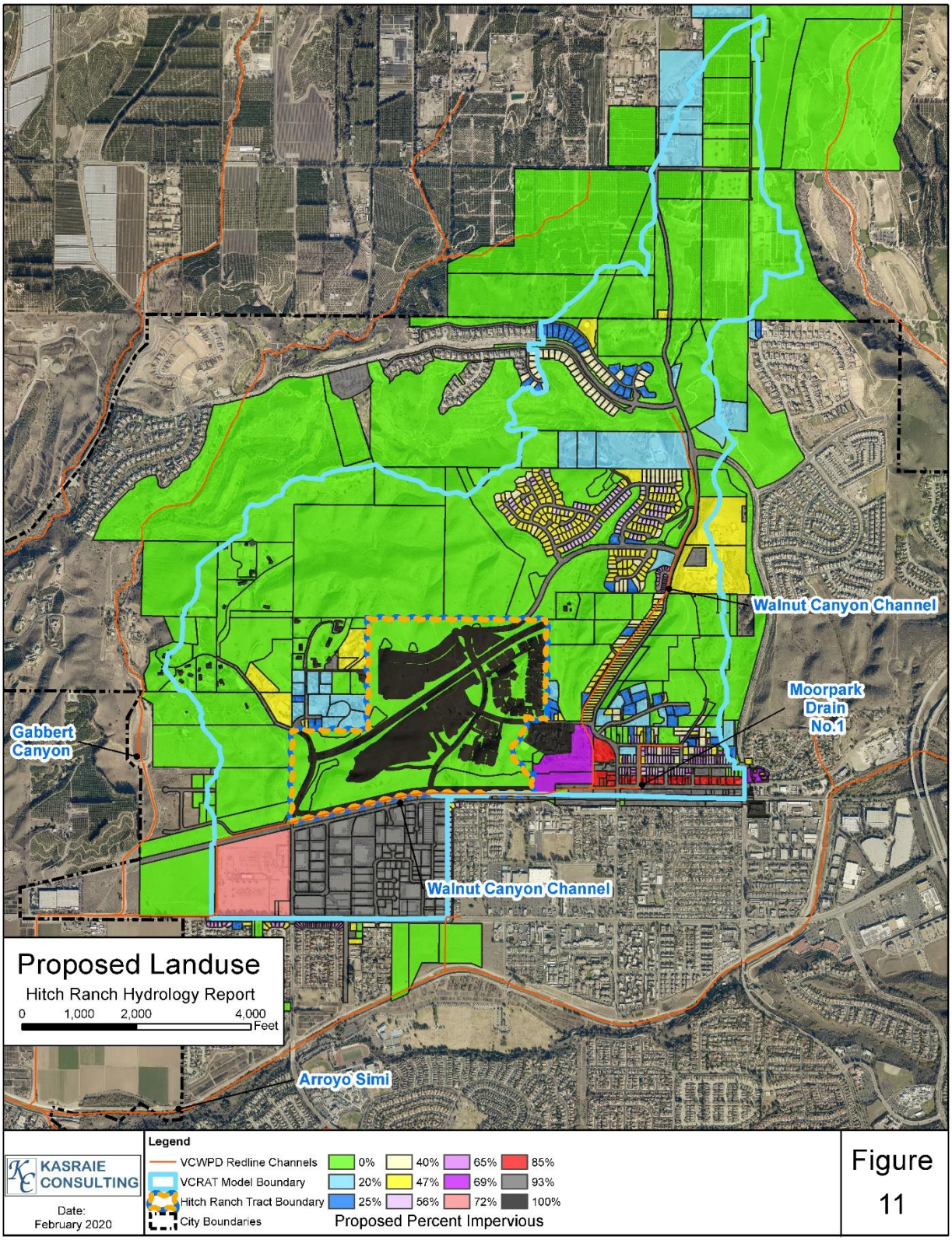

Figure 11: Proposed Landuse

Table 7: Yield Adjustment Assumptions

Location	Node	CN	Rainfall (in)			
			100	50	25	10
Location	**Node**	**CN**	**100**	**50**	**25**	**10**
Reg. Basin 0 (015A)	014AB	73	7.10	6.36	5.61	4.62
Tract 5187 Basin 1 (017B)	016B	86	6.59	5.94	5.28	4.40
Tract 5187 Basin 2 (026C)	025CD	69	6.67	5.99	5.33	4.43
Reg. Basin 3 at Diversion (054BC)[1]	019B	72	6.48	5.84	5.17	4.35
	029C	63	6.52	5.89	5.23	4.38
	031C	71	6.47	5.81	5.13	4.33
	035B	70	6.47	5.83	5.16	4.35
	037C	81	6.42	5.72	5.03	4.28
	039C	84	6.44	5.75	5.06	4.30
	043B	88	6.44	5.74	5.05	4.29
Reg. Basin 3 – Direct (054BC)	053CD	74	6.49	5.84	5.16	4.33
Basin 2A (071C)	070C	69	6.55	5.90	5.23	4.37
Reg. Basin 2B (073BC)	069BC	59	6.67	5.98	5.31	4.40
Reg. Basin 2 (075BC)	074B	76	6.48	5.82	5.12	4.31

[1]All subareas between the upstream detention basins and the diversion were fattened. Modeling in HydroCAD uses the fattened hydrographs from VCRAT as inflow to the diversion and detention basins.

5.1.4 Basin/System Data Summary Table

Table 8: Basin/System Summary Table

	Node	Area (ac)	CN	$Q_{Peak,In}$	$Q_{Peak,Out}$	Peak Reduction ($Q_{Peak,In}$-$Q_{Peak,Out}$) /($Q_{Peak,In}$)	Total Inflow Vol (acft)	Total Outflow Vol (acft)	Total Precip $P_{100yr,24h}$	Yield (in) $Y_{100yr,\ 24h\ In}$	Max Vol (ac-ft)	Max Vol/Area (cf/ac)	Notes
EXISTING DETENTION BASINS													
Regional Basin 0	015A	341	73	344	238	31	114	106	7.11	4.01	22	2796	
5187-1 (Meridian Hills East)	017B	42	86	137	53	61	17	16	6.59	4.98	3	3366	
5187-2 (Meridian Hills West)	026C	84	69	242	85	65	23	21	6.69	3.25	5	2531	
PROPOSED FACILITIES													
Subareas Downstream of Existing Detention Basins, but Upstream of the Diversion	044AB	321	75	N/A	N/A	N/A	110	110	N/A	4.10	N/A	N/A	
Upstream of Diversion (Total WCC Flow Immediately Upstream of HR [044AB])		892	N/A	916	N/A	N/A	253	253	N/A	3.40	N/A	N/A	
Local Inflow to Basin 3	053CD	177	N/A	458	N/A	N/A	53	N/A	N/A	3.60	N/A	N/A	
Total Inflow to Basin 3 (Diversion [046B] + Local [053CD])	054BC	N/A[1]	N/A	1183	386	67	194	161	N/A	N/A	65	N/A	
Basin 3 By-Pass (Flow remaining in WCC)	045A	N/A[1]	N/A	139	139	0	111	111	N/A	N/A	N/A	N/A	
Immediately Downstream of Regional Basin 3	055AB	1069	N/A	1374	497	64	269	269	N/A	3.02	65	2651	Combined effect of Basin 3 on WCC System NOTE: Under existing conditions, the peak flow at 055AB is 1085 cfs --- the proposed flow of 497 cfs is a 54% reduction from existing conditions.
Basin 2A	071C	66	69	140	66	53	17	16	6.55	3.16	1.83	1208	Basin 2A works in combination with Basins 2B and 2 to provide the needed peak reductions. The smaller Max Vol/Area value does not represent the entire system effect.
Unattenuated Flow to Basin 2B	069BC	345	59	385	385	0	66	66	6.67	2.28	N/A	N/A	This is the unattenuated flow from non-developed areas upstream of Basin 2B, therefore the Yield value is significantly lower.
Total Inflow to Basin 2B (Basin 2A Outflow [071C] + Unattenuated Flow [069BC])	073BC	411	N/A	447	218	51	82	62	N/A	2.39	28.07	2975	Yield value does not increase significantly since it represents the combined attenuation from Basin 2A and the undeveloped areas upstream of Basin 2B.
Local Inflow to Basin 2	074C	48	76	110	110	0	15	15	6.48	3.80	N/A	N/A	

Table 8: Basin/System Summary Table

	Node	Area (ac)	CN	$Q_{Peak,In}$	$Q_{Peak,Out}$	Peak Reduction ($Q_{Peak,In}$-$Q_{Peak,Out}$) /($Q_{Peak,In}$)	Total Inflow Vol (acft)	Total Outflow Vol (acft)	Total Precip $P_{100yr,24h}$	Yield (in) $Y_{100yr, 24h\ In}$	Max Vol (ac-ft)	Max Vol/Area (cf/ac)	Notes
Total Inflow to Basin 2 (Basin 2B Outflow [073BC] + Local Inflow [074C])	075BC	459	N/A	237	206	13	78	70	N/A	2.03	11.61	1102	Yield and Max Vol/Area are low since the outlet to Basin 2 represents the combined effect of Basins 2A, 2B, and 2 on WCC System. NOTE: Under existing conditions, the peak flow at 075BC is 441 cfs --- the proposed flow of 206 cfs is a 54% reduction from existing conditions.
At UPRR 10'x8' RCB	078AB	1623	N/A	703	703	0	346	346	N/A	2.56	N/A	N/A	NOTE: Under existing conditions, the peak flow at 075BC is 1576 cfs --- the proposed flow of 703 cfs is a 55% reduction from existing conditions.
At LA Ave/72" RCP Inflow to WCC	085AB	1792	N/A	830/857	830/857	0	427	427	N/A	2.86	N/A	N/A	NOTE: Under existing conditions, the peak flow at 075BC is 1857 cfs --- the proposed flow of 830-857 cfs is a 54-55% reduction from existing conditions.

[1]Total area to the diversion is 892 acres.

5.1.5 Debris Volume

For detention basins with tributary watersheds totaling less than five square miles, the volume required for debris storage is 125 percent of the debris volume expected from the 100-yr storm. This volume is assumed to be present in the basin at 0 percent slope prior to any flood routing.

Debris production is calculated in Ventura County based the following equation (Scott and Williams, 1974):

$$SY = 17.54(A)^{0.828} * ER^{1.382} * FF^{0.251} * SF^{0.375} * K^{0.840}$$

where:

SY = sediment yield in cubic yards

A = watershed area in square miles

ER = elongation ratio – ratio of diameter of a circle with the area of the watershed in square feet to the maximum watershed length

FF = fire factor – percentage of non-recovered vegetative cover in burned watershed, design conditions require that FF be determined based on the values recommended for 4.5 years after a fire (FF=20)

SF = slope failures – The area of the watershed in acres that is prone to slipping divided by the drainage area in square miles. Based on the 2005 RMP: "The debris production analysis prepared by VCFCD was performed using … *slope failure varied from 6 acres/square mile to 20 acres/square mile*,…". An SF = 20 was used for all watersheds. The California Geological Survey (CGS) Surveyed Slope Failure map (2017) shows a single 3-acre failure within the drainage area of Basin 2B (SF = 5.6) and no failure for the smaller debris basins. Using an SF = 20 is conservative.

K = dimensionless rainfall factor – Product of the square of the 1-day precipitation value and the 10-day precipitation value for a given storm frequency. Precipitation values used to determine the K factor are based on NOAA Atlas 14 which results in larger debris volume yields.

Note: The temporary debris basin for Tract 5187-2 shown on plan 03-ML-10731 (See Figures 4 and 5, Section 5.1.1) will be removed as part of the Meridian Hills Drive extension. All on-site flows and debris previously draining to this facility will be conveyed to proposed Debris Basin (facility) 2B1B. Several constructed v-ditch, catch basins, and storm drains (04-ML-10748, Sheet 11) were constructed to maintain the existing flow pattern prior to the construction of the existing portions of Meridian Hills Drive. Although shown to be adequate based on the calculations shown on the construction plans to carry the 100-year event, their capacity and function were not independently evaluated as part of this study.

Proposed debris basin results and locations are shown in the following table and figure.

Table 9: Debris Basin Yield Calculations

Basin	DB1A	DB1B[3]	DB2	DB3	Basin 2B
Area (ac)	31.2	10.5	29.1	8.0	343.2
Area (mi^2)	0.05	0.02	0.05	0.01	0.54
Area (ft^2)	1360150	458070	1268110	346535	14949451
Length (ft)	1325	1729	1897	911	7827
Area/∏	432949	145808	403652	110305	4758558
Radius (ft)	658	382	635	332	2181
Diameter (ft)	1316	764	1271	664	4363
Elongation Ratio	0.99	0.44	0.67	0.73	0.56
Fire Factor	20	20	20	20	20
Area Prone to Slipping (ac)[1]	1.0	0.3	0.9	0.2	10.7[2]
Slope Failure	20.0	20.0	20.0	20.0	20.0
Rainfall P24 hour (100 yr)	6.6	6.5	6.6	6.6	6.7
Rainfall P10 day (100 yr)	15.7	15.7	15.6	15.4	15.7
Rainfalll Factor (K)	677	671	679	664	700
Sediment Yield (CY)	2218	305	1243	467	7710
Sediment Yield (Acft)	1.4	0.2	0.8	0.3	4.8
Design Sediment Yield (Acft) = Sediment Yield x 125%	**1.7**	**0.2**	**1.0**	**0.4**	**6.0**

[1]Area prone to slipping was back calculated based on using a Slope Failure (SF) factor of 20
[2]Value based on CGS SSF (2017) = 3.0
[3]Due to the size of the drainage area and limited on-site space, either a debris basin or trash-rack with clean-out easement will be necessary

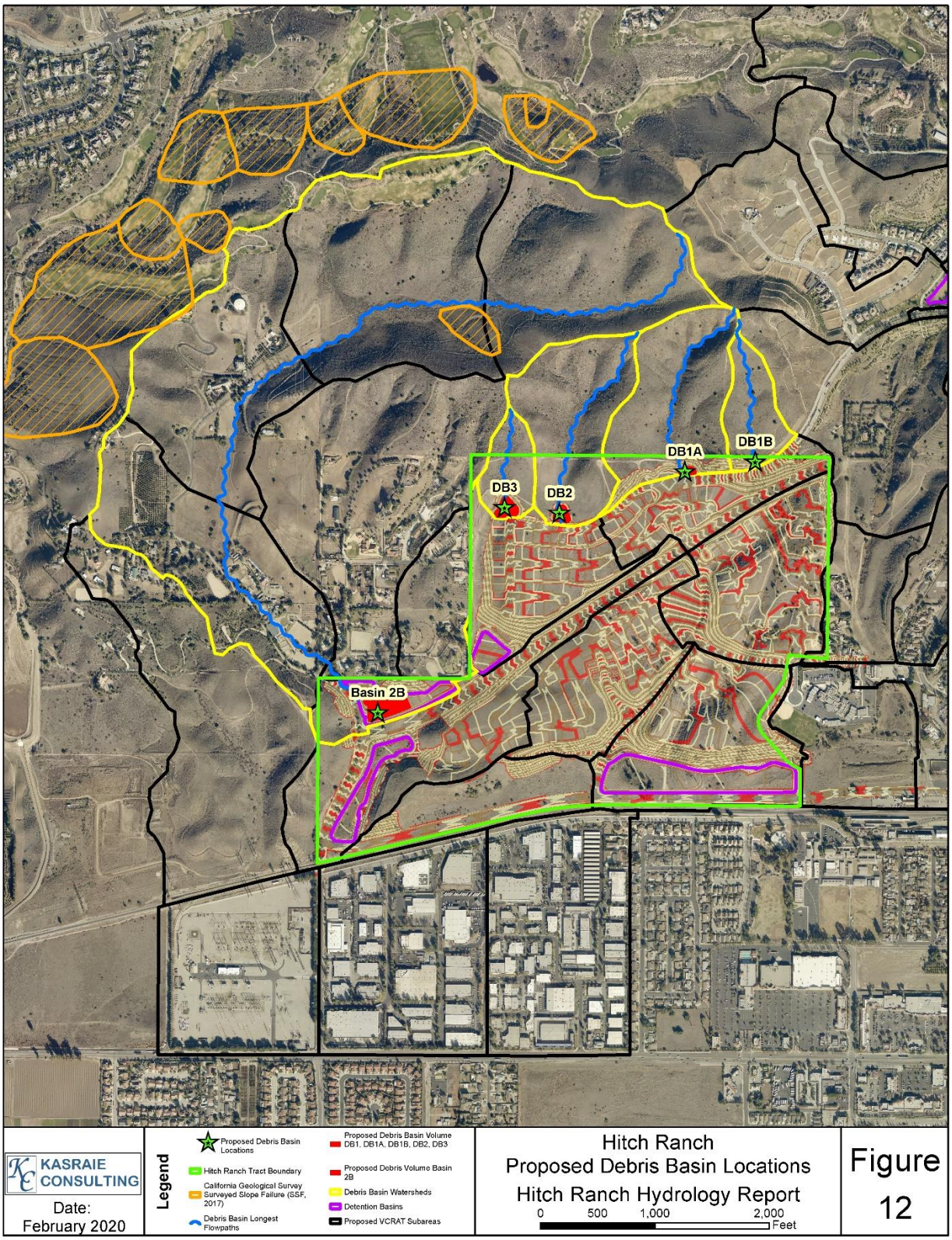

Figure 12: Proposed Debris Basin Locations

5.2 Model Validation

A HEC-RAS 2D (5.0.7) hydraulic model was created using 2018 topography, ECG May 2019 (amended July 2019) TTMs, and inflow hydrographs from VCRAT to internally verify the final hydrologic modeling due to potential backwater and timing constraints. It produced similar results. This model is included as part of this submittal, please see Chapter 7.

6 Hydrologic Design/Results

Four detention facilities are being proposed and were modeled to meet current requirements as identified in *Section 4 Regulatory Framework* section of this report.

6.1 Considerations Needed to Meet RFC and LFRs

The most critical RFC/LFR is the RMP (2005, 2009) requirement that any design results in the post-project 100-year flow being contained within the existing WCC along Los Angeles Avenue (LA Ave). This objective cannot be met by solely treating run-on (runoff that flows directly through the HR from other areas) and on-site flows. It requires the Hitch Ranch development to address off-site deficiencies within the framework of its own tract while addressing downstream features beyond its control (inflows near UPRR 10'x8' RCB and City 72" RCP). Issues include:

1. 100-year Ultimate/Interim Condition flows immediately upstream of Hitch Ranch (Node 044AB) are 797 and 916 cfs. These calculated flows are near or above the target flow of 830 cfs without any addition of attenuated, on-site Hitch Ranch flows to the system. Any added inflow, including the local subarea (77B, 85 cfs) would violate the RMP requirement. Therefore, a portion of upstream flows must be diverted and detained in addition to the on-site runoff (Regional Basin 3). **This is the basis for needing a diversion structure.**
2. 100-year Ultimate/Interim incoming volume (Node 044AB) of flow upstream of Hitch Ranch is 255 and 253 ac-ft respectively. It is not feasible for the entire amount to be detained; therefore, a portion will need to be allowed to by-pass Basin 3. Potential detention basins and outlets need to be optimized to ensure constructability while meeting the downstream target. **This is the basis for the needing a by-pass.**
3. Conceptually, if "no runoff" is allowed into WCC upstream of Gabbert Road, the peak flow at LA Avenue is 454 cfs (Node 085AB) at 19.32 hours into the model. Therefore, upstream flows are limited to 376 cfs at the same time (19.32 hours) which would require time to peak of released flows to be shifted. If 100 cfs flow upstream of HR is allowed to remain in the channel, then the peak at LA Ave is 552 cfs. **This is the basis for limitation, optimization, and lag of outlet flows from the detention basins.**
4. A single, primary outlet must be designed to limit outflow and provide adequate lag while minimizing required detention. Optimizing all three functions is difficult due to the stringent downstream requirement and magnitude of upstream, off-site flows. A dual-outlet system splits the functions such that the primary outlet controls the lag while the secondary controls the impoundment size. This division provides more design flexibility. **This is the basis for a dual-outlet.**

These constraints were outlined in the previous RMPs and lead to a similar conceptual conclusion:

1. A diversion structure at the upstream (eastern) HR boundary will need to be optimized such that flows above a certain threshold are sent from WCC to Regional Basin 3 while the remainder by-passes and continues downstream.
2. Proposed Basins 2 and 3 need to provide a significant lag in peak such that the majority of the flow in the downstream area has passed through the system.

Note: This is preliminary hydrologic design and does not include infiltration of a dead storage area with a low-flow outlet.

6.1.1 Diversion/Outlet Design (12/02/2019)

An in-line 8'x2' (rectangular orifice) hanging wall will be used to create backwater/head diverting flows (>139 cfs) through 6-9.0'x2.5' rectangular side orifices from WCC to Basin 3.

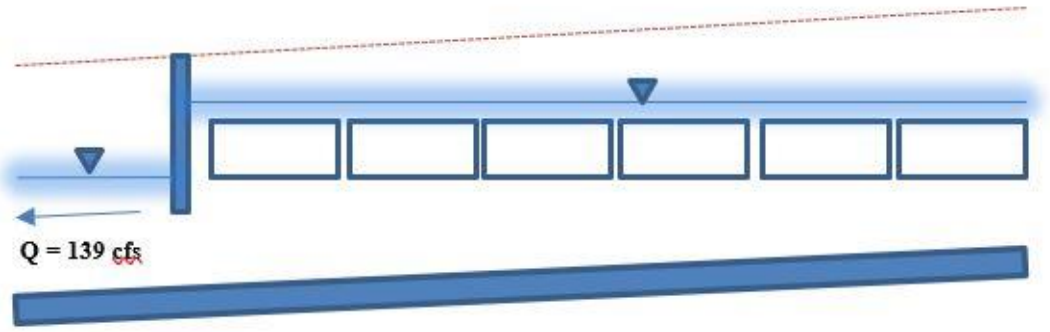

Figure 13: Conceptual Diversion By-pass to Basin 3

Multiple outlet works configurations were initially designed and evaluated (including those from previous efforts) using the current hydrology and available storage (based on May 2019 TTM, revised July 2019) to meet the RFCs/LFRs. The following are descriptions of a selected configuration with the initial outlet works design for each basin. Note that dimensions may be altered to fit standard and/or prefabricated components where necessary during final design. At that time the modeling will be adjusted to reflect the final component plans.

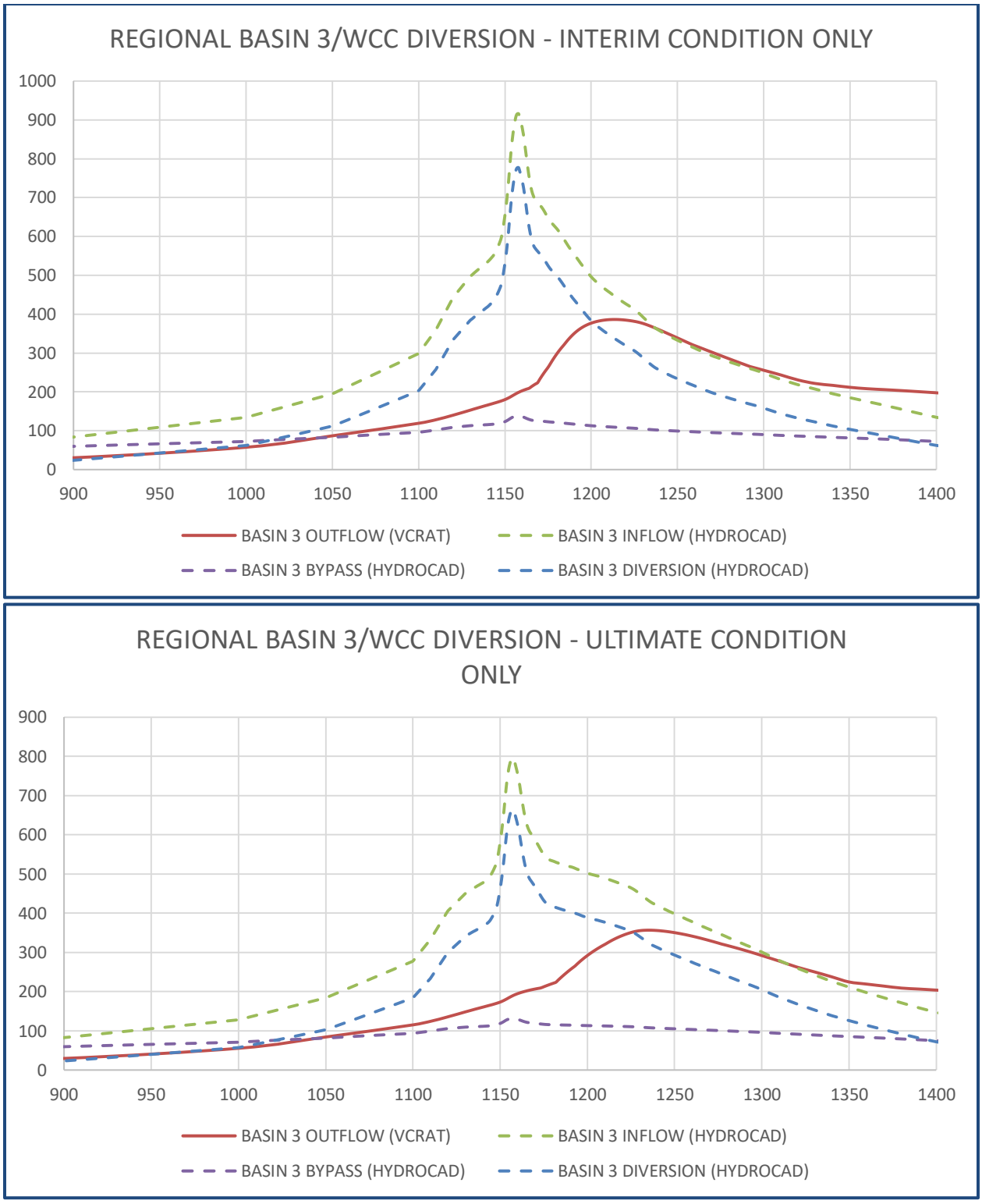

Figure 14: Basin 3 Interim (top)/Ultimate (bottom) Condition Diversion/Outflow Hydrographs

Basin 2A: The outlet will consist of a rectangular, concrete tower having a 27-foot perimeter. The low flow/primary outlet will consist of a single 39-inch, circular orifice opening in the tower. The top of the tower (weir) will serve as the emergency spillway. Two 42-inch RCPs, providing capacity for the unattenuated flow, will exit the tower towards Basin 2B.

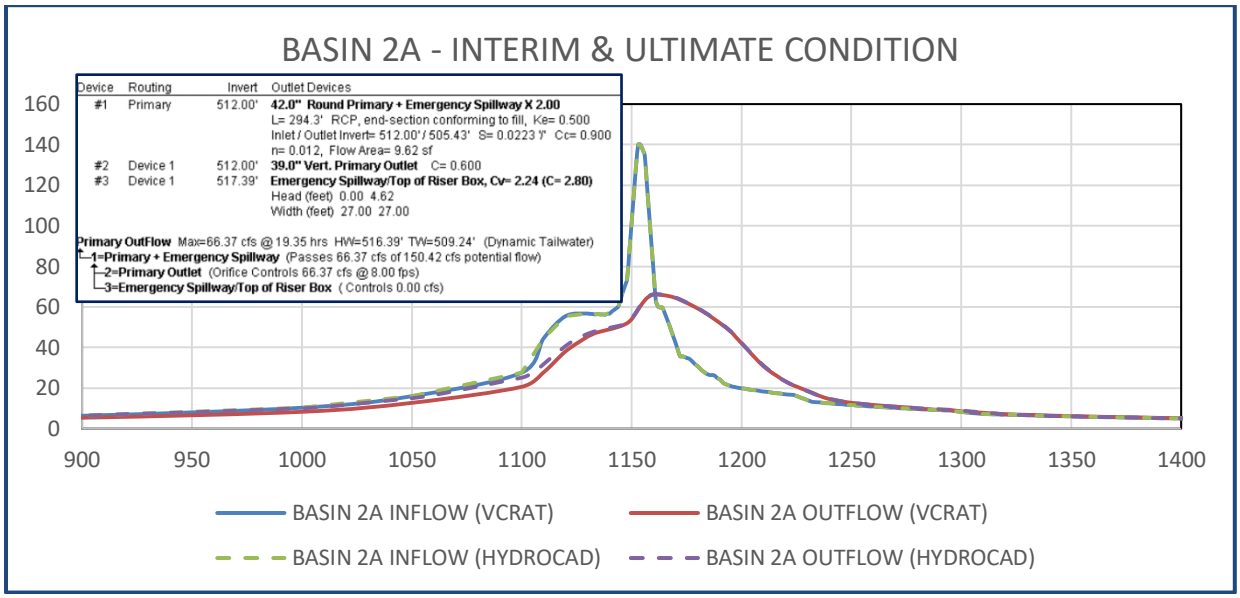

Figure 15: Basin 2A Int/Ult Condition Inflow/Outflow Hydrographs

Table 10: Basin 2A: Stage-Storage-Discharge Curve Export File - VCRat v2.6[1]

Stage (ft)	Storage (af)	Outflow (cfs)	Stage (ft)	Storage (af)	Outflow (cfs)	Stage (ft)	Storage (af)	Outflow (cfs)
513	0	0	516.2	1.66	64.1	519.4	5.69	220.23
513.2	0.03	10.38	516.4	1.86	66.54	519.6	5.97	224.09
513.4	0.07	13.77	516.6	2.06	68.9	519.8	6.26	227.89
513.6	0.11	17.51	516.8	2.28	71.17	520	6.54	231.63
513.8	0.17	21.54	517	2.51	73.38	520.2	6.83	235.3
514	0.23	25.79	517.2	2.75	75.52	520.4	7.12	238.92
514.2	0.31	30.18	517.4	2.99	77.68	520.6	7.42	242.49
514.4	0.39	34.64	517.6	3.24	86.91	520.8	7.71	246.01
514.6	0.48	39.06	517.8	3.5	101.46	521	8.01	249.47
514.8	0.59	43.3	518	3.76	119.57	521.2	8.31	252.89
515	0.7	47.19	518.2	4.03	140.55	521.4	8.61	256.26
515.2	0.83	50.36	518.4	4.3	164.02	521.6	8.91	259.59
515.4	0.97	53.22	518.6	4.57	189.72	521.8	9.21	262.87
515.6	1.12	56.14	518.8	4.85	208.21	522	9.52	266.12
515.8	1.29	58.91	519	5.13	212.29			
516	1.47	61.56	519.2	5.41	216.3			

[1]Olive = Below Emergency Spillway, Rose = Above Emergency Spillway

Basin 2B: The low flow/primary outlet will be 2-18" RCPs that drain to Basin 2. An 87' long weir will serve as the emergency spillway, passing incoming basin flow at 1.5' of head (C = 2.8). It will follow a similar configuration as Basin 0 (Figure 11, 80' weir) with 2-60" RCPs leading to Basin 2. The emergency spillway design has some flexibility. At 2' of head, the weir would only need to be 56' long, but another 0.5' would need to be added to the floodwall to meet freeboard requirements. Required debris volume is below the primary outlet and not included in hydrologic storage modeling calculations.

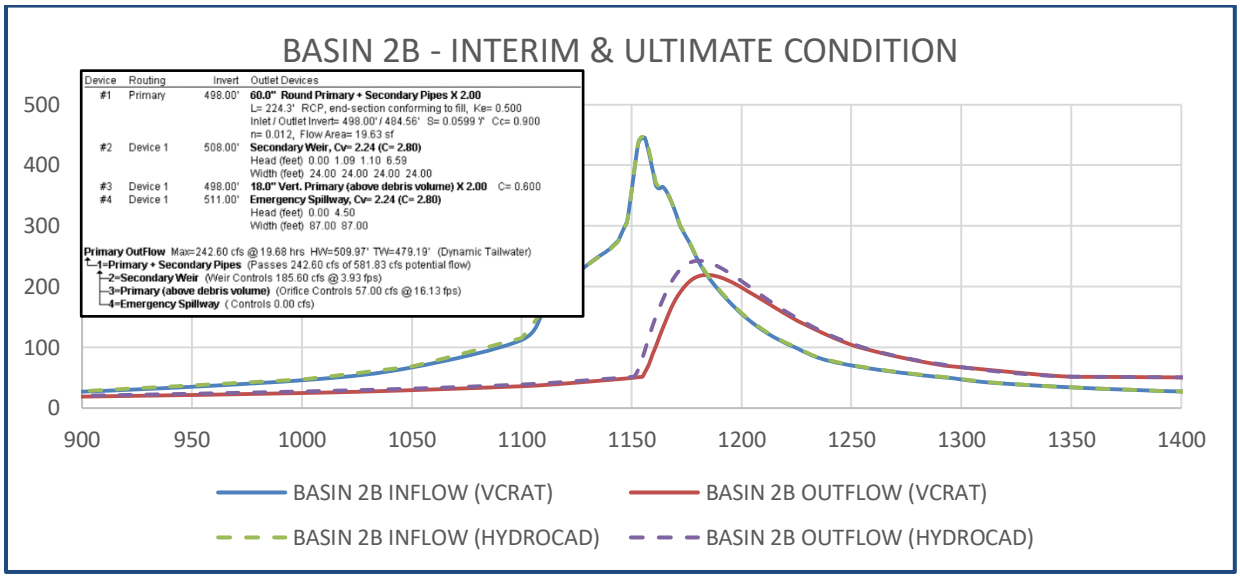

Figure 16: Basin 2B Int/Ult Condition Inflow/Outflow Hydrographs

Table 11: Basin 2B: Stage-Storage-Discharge Curve Export File - VCRat v2.6[1]

Stage (ft)	Storage (af)	Outflow (cfs)	Stage (ft)	Storage (af)	Outflow (cfs)	Stage (ft)	Storage (af)	Outflow (cfs)
498	0	0	504	9.33	38.99	510	28.88	247.15
498.4	0.06	1.63	504.4	10.37	40.45	510.4	30.46	307.94
498.8	0.2	5.84	504.8	11.47	41.86	510.8	32.06	381.63
499.2	0.43	11.3	505.2	12.61	43.22	511.2	33.71	530.85
499.6	0.79	15.69	505.6	13.79	44.54	511.6	35.39	629.96
500	1.27	19.03	506	14.99	45.82	512	37.11	641.21
500.4	1.84	21.86	506.4	16.23	47.07	512.4	38.85	652.27
500.8	2.48	24.37	506.8	17.5	48.28	512.8	40.59	663.14
501.2	3.18	26.64	507.2	18.8	49.47	513.2	42.33	673.84
501.6	3.93	28.73	507.6	20.14	50.63	513.6	44.07	684.37
502	4.73	30.68	508	21.51	51.76	514	45.81	694.74
502.4	5.57	32.51	508.4	22.92	69.86	514.4	47.56	704.96
502.8	6.45	34.25	508.8	24.36	102.03	514.8	49.3	715.03
503.2	7.36	35.9	509.2	25.83	143.35	515.2	51.04	724.96
503.6	8.32	37.48	509.6	27.34	192.06	515.5	52.258	731.83

[1]Olive = Below Emergency Spillway, Rose = Above Emergency Spillway

Basin 2: The outlet will consist of a rectangular, concrete tower having a 34-foot perimeter (similar to Basin 0). The low flow outlet will consist of a single 9-inch circular orifice in the tower, the primary outlet will be a 3'x2' rectangular orifice in the tower, and the secondary outlet will be a weir created by the top of the tower. A 104' long weir will serve as the emergency spillway, passing incoming basin flow at 1.5' of head (C = 2.8). It will follow a similar configuration as Basin 0 (Figure 11, 80' weir) with 2-7.25'x4' RCBs leading to WCC. The emergency spillway design has some flexibility. At 2' of head, the weir would only need to be 57' long, but another 0.5' would need to be added to the floodwall to meet freeboard requirements.

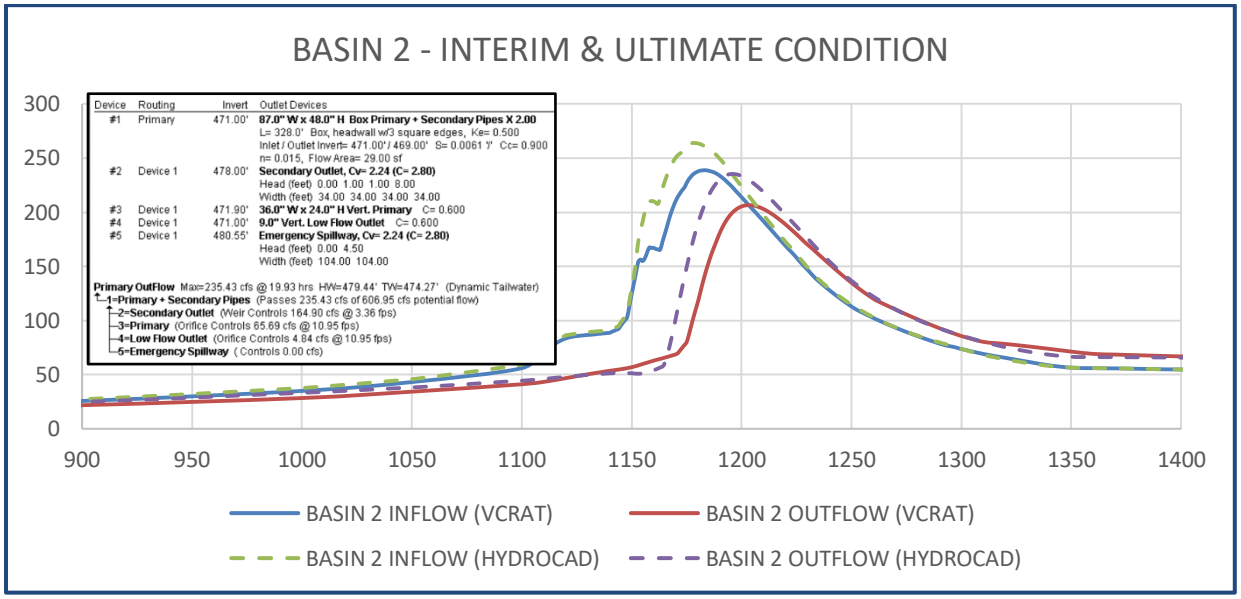

Figure 17: Basin 2 Int/Ult Condition Inflow/Outflow Hydrographs

Table 12: Basin 2: Stage-Storage-Discharge Curve Export File - VCRat v2.6[1]

Stage (ft)	Storage (af)	Outflow (cfs)	Stage (ft)	Storage (af)	Outflow (cfs)	Stage (ft)	Storage (af)	Outflow (cfs)
471	0	0	476.2	5.18	56.95	481.4	17.49	773.67
471.4	0.14	0.52	476.6	5.86	60.26	481.8	18.63	791.87
471.8	0.33	1.39	477	6.59	63.4	482.2	19.79	809.67
472.2	0.57	3.51	477.4	7.38	66.38	482.6	20.97	827.08
472.6	0.85	7.99	477.8	8.23	69.23	483	22.17	844.14
473	1.18	13.82	478.2	9.13	80.48	483.4	23.39	860.86
473.4	1.55	20.72	478.6	10.08	118.85	483.8	24.63	877.25
473.8	1.97	28.53	479	11.07	172.35	484.2	25.88	893.35
474.2	2.43	35.58	479.4	12.09	237.31	484.6	27.14	909.16
474.6	2.91	40.9	479.8	13.13	311.9	485	28.4	924.71
475	3.43	45.5	480.2	14.19	394.96	485.4	29.66	939.99
475.4	3.98	49.63	480.6	15.27	488.94	485.8	30.92	955.03
475.8	4.56	53.42	481	16.37	671.35	486.2	32.18	969.84

[1]Olive = Below Emergency Spillway, Rose = Above Emergency Spillway

Basin 3: The outlet will consist of a rectangular, concrete tower having a 34-foot perimeter (similar to Basin 0). The low flow outlet will consist of a single 6-inch circular orifice in the tower, the primary outlet will be a 8'x2' rectangular orifice in the tower, and the secondary outlet will be a weir created by the top of the tower. A 146' long weir will serve as the emergency spillway, passing the unattenuated flow at 2.0' of head (C = 2.8). It will follow a similar configuration as Basin 0 (Figure 11, 80' weir) with 3-8.25'x4' RCBs leading to WCC. The emergency spillway design has some flexibility. At 3' of head, the weir would only need to be 79' long, but another 1.0' would need to be added to the floodwall to meet freeboard requirements.

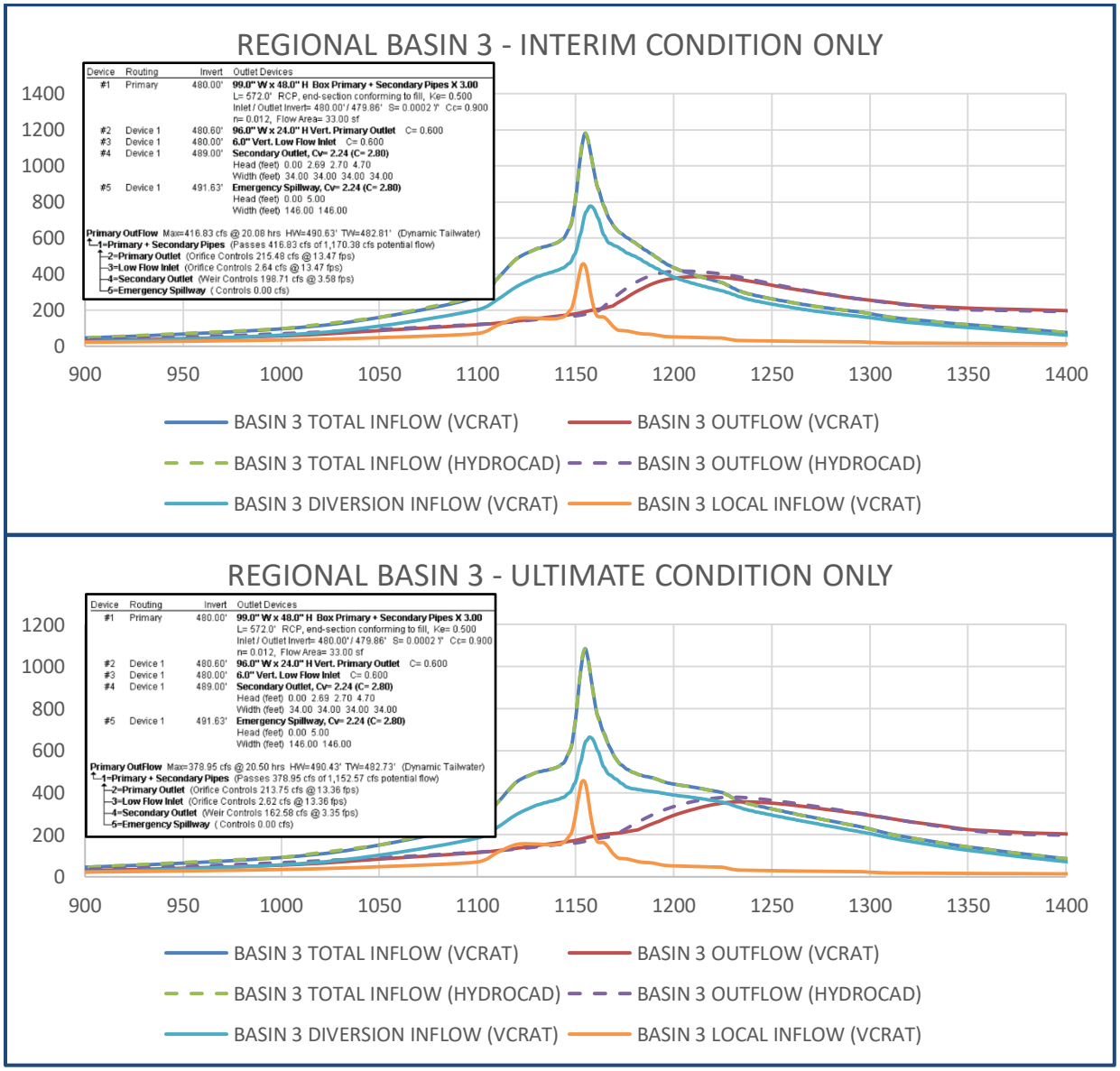

Figure 18: Basin 3 Interim (top) and Ultimate (bottom) Condition Inflow/Outflow Hydrographs

Table 13 Basin 3: Stage-Storage-Discharge Curve Export File - VCRat v2.6[1]								
Stage (ft)	Storage (af)	Outflow (cfs)	Stage (ft)	Storage (af)	Outflow (cfs)	Stage (ft)	Storage (af)	Outflow (cfs)
480	0	0	486	28.28	163.52	492	79.55	838.27
480.4	0.13	0.36	486.4	31.5	170.82	492.4	83.2	1129.43
480.8	0.5	3	486.8	34.74	177.82	492.8	86.88	1344.61
481.2	1.14	12.86	487.2	38.02	184.56	493.2	90.59	1374.36
481.6	2.08	26.78	487.6	41.32	191.05	493.6	94.33	1403.48
482	3.33	43.79	488	44.65	197.33	494	98.1	1432.01
482.4	4.84	63.4	488.4	48.01	203.41	494.4	101.88	1459.98
482.8	6.57	83.01	488.8	51.4	209.32	494.8	105.66	1487.43
483.2	8.53	97.35	489.2	54.82	223.57	495.2	109.45	1514.37
483.6	10.74	109.49	489.6	58.26	264.89	495.6	113.23	1540.85
484	13.21	120.29	490	61.74	321.3	496	117.01	1566.88
484.4	15.91	130.14	490.4	65.24	389.12	496.4	120.8	1592.48
484.8	18.83	139.26	490.8	68.77	466.53	496.8	124.58	1617.68
485.2	21.93	147.8	491.2	72.34	552.37			
485.6	25.09	155.86	491.6	75.93	645.82			

[1]Olive = Below Emergency Spillway, Rose = Above Emergency Spillway

Basins 2 and 3 were excavated to maximize storage which limits the gravity head available for discharge through the primary outlet to WCC. Basin 3 outlet pipes are carried to the channel further downstream to create reasonable slope. To prevent potential backflow from the channel to the basin, flap gates will be installed.

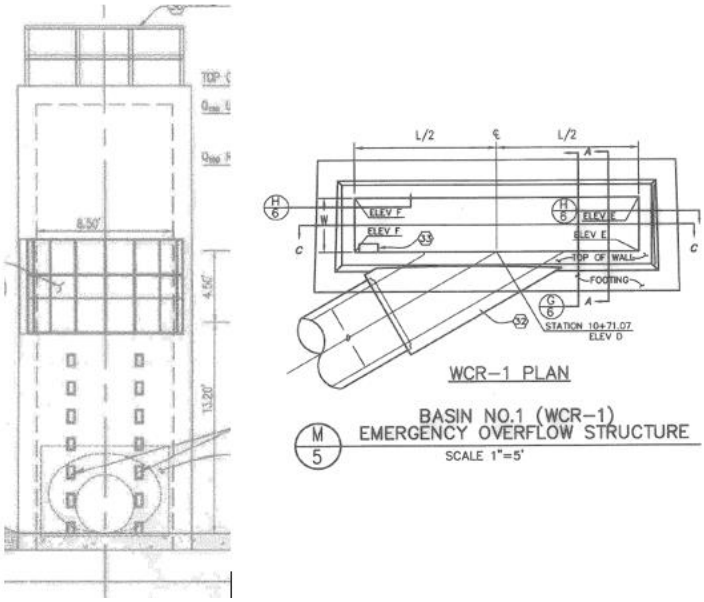

Figure 19: Walnut Canyon Basin 0 Outlet Tower and Emergency Spillway

Critical design features as well as VCRAT 100-yr Interim Condition WSEs are shown in the following table:

Table 14: Proposed Detention Facilities (12/02/2019)

Name	Bottom Elevation	Low Flow Outlet	Primary Outlet	Secondary Outlet	VCRAT 100-yr Interim WSE (Node)	Emergency Spillway	Minimum Top of Basin Elevation (Volume, acft)	Required Floodwall Elevation (Length, ft)[3]
Basin 2A	512.0	None[0]	1-39" Circular Orifice (@512.0)	NONE	516.4 (071C)	27' Weir (@518.4)	522.0 (9.5)	NONE
Basin 2B	498.0[1]	None[1]	2-18" Circular Orifices (@498.0)	24' Weir (@508.0)	509.8 (073BC)	87' Weir (@512.0)	512.0 (37.1[2])	515.5[4] (944")
Basin 2	471.0	1-9" Circular Orifice (@ 471.0)	1-3'x2' Rectangular Orifice (@472.0)	34' Weir (@478.0)	479.2 (075B)	104' Weir (@481.4)	483.0 (22.2)	484.4 (248')
Basin 3	480.0	1-6" Circular Orifice (@ 480.0)	1-7'x2' Rectangular Orifice (@480.6)	34' Weir (488.9)	490.5 (54BC)	146' Weir (@491.6)	494.0 (88.7)	496.6 (824')

[0]Low Flow and Primary are the same.
[1]Low flow not modeled as it will below debris line.
[2]Elevation/Volume above required debris volume.
[3] Required Floodwall Elevation = WSE100 + 1' (Emergency Spillway Elevation) + Depth Over Emergency Spillway to Convey Unattenuated Flows + 3' Freeboard
[4] There is potential for additional excavation that can increase flood storage while maintaining necessary debris volume which would reduce the required floodwall.

NOTE: Proposed detention basin facilities will be privately owned and maintained (not County facilities). Consistent with other recently approved projects that are similar, the freeboard requirement may be reduced in consultation with County staff during final design.

Peak flows were evaluated at three locations to identify current deficiencies as well as determine necessary mitigation:

1. At the western, most downstream boundary of the Hitch Ranch development along WCC at Gabbert Road to confirm that local flood requirements (LFR) are met.
2. At the Union Pacific 10' x 8' RCB where WCC flow direction changes from west to south, resulting in added super-elevation considerations.

3. At Los Angeles Avenue, where WCC changes flow direction from south to west, immediately downstream of the incoming City of Moorpark 72-inch RCP west of the Southern California Edison property to verify that regional flood control/regional master plan (RMP) objectives are achieved.

Existing and the Proposed Interim Condition Peak Flows are included following table:

Table 15: Existing and the Proposed Interim Condition Peak Flows

Location	Target Flow/Capacity cfs (Slope)	VCRAT Modeled Existing Q100 cfs (Node)	VCRAT Modeled Existing Q10 cfs (Node)	VCRAT Modeled Interim Q100 cfs (Node)
WCC @ Gabbert Road (10'x6' RCB) Location #1	833[1] (0.0051)	1453 (76AB)	**842** (76AB)	**705**[4]**/702**[5] (76AB)
WCC @ Union Pacific RR (10'X8' RCB) Location #2	850[1,2] (0.0051)	1505 (78AB)	**867** (78AB)	**706**[4]**/703**[5] (78AB)
WCC, Downstream of MPK 72" RCP (12'x5' RCC) Location #3	**830**[3] (0.0047)	1786 (85AB)	**1023** (85AB)	**830**[4]**/857**[5] (85AB)

[1]Fr>1 = Supercritical
[2]Includes super-elevation based on 38-foot radius of curvature
[3]Based on previous RMP: Technical Addendum to Walnut and Gabbert Canyon Channel Flood Deficiency Study [2005, PACE]
[4]Assumes a constant 94 cfs by-pass of Regional Basin 3/Single VCRAT Model
[5]Design Option Diversion Structure Modeled (HydroCAD), Two VCRAT Models (upstream and downstream of the diversion)

Table 16: Existing and the Proposed Ultimate Condition Peak Flows

Location	Target Flow/Capacity cfs (Slope)	VCRAT Modeled Existing Q100 cfs (Node)	VCRAT Modeled Existing Q10 cfs (Node)	VCRAT Modeled Ultimate Q100 cfs (Node)
WCC @ Gabbert Road (10'x6' RCB) Location #1	833[1] (0.0051)	1453 (76AB)	**842** (76AB)	**640**[4]**/639**[5] (76AB)
WCC @ Union Pacific RR (10'X8' RCB) Location #2	850[1,2] (0.0051)	1505 (78AB)	**867** (78AB)	**641**[4]**/640**[5] (78AB)
WCC, Downstream of MPK 72" RCP (12'x5' RCC) Location #3	**830**[3] (0.0047)	1786 (85AB)	**1023** (85AB)	**823**[4]**/844**[5] (85AB)

[1]Fr>1 = Supercritical
[2]Includes super-elevation based on 38-foot radius of curvature

[3]Based on previous RMP: Technical Addendum to Walnut and Gabbert Canyon Channel Flood Deficiency Study [2005, PACE]
[4]Assumes a constant 94 cfs by-pass of Regional Basin 3/Single VCRAT Model
[5]Design Option Diversion Structure Modeled (HydroCAD), Two VCRAT Models (upstream and downstream of the diversion)

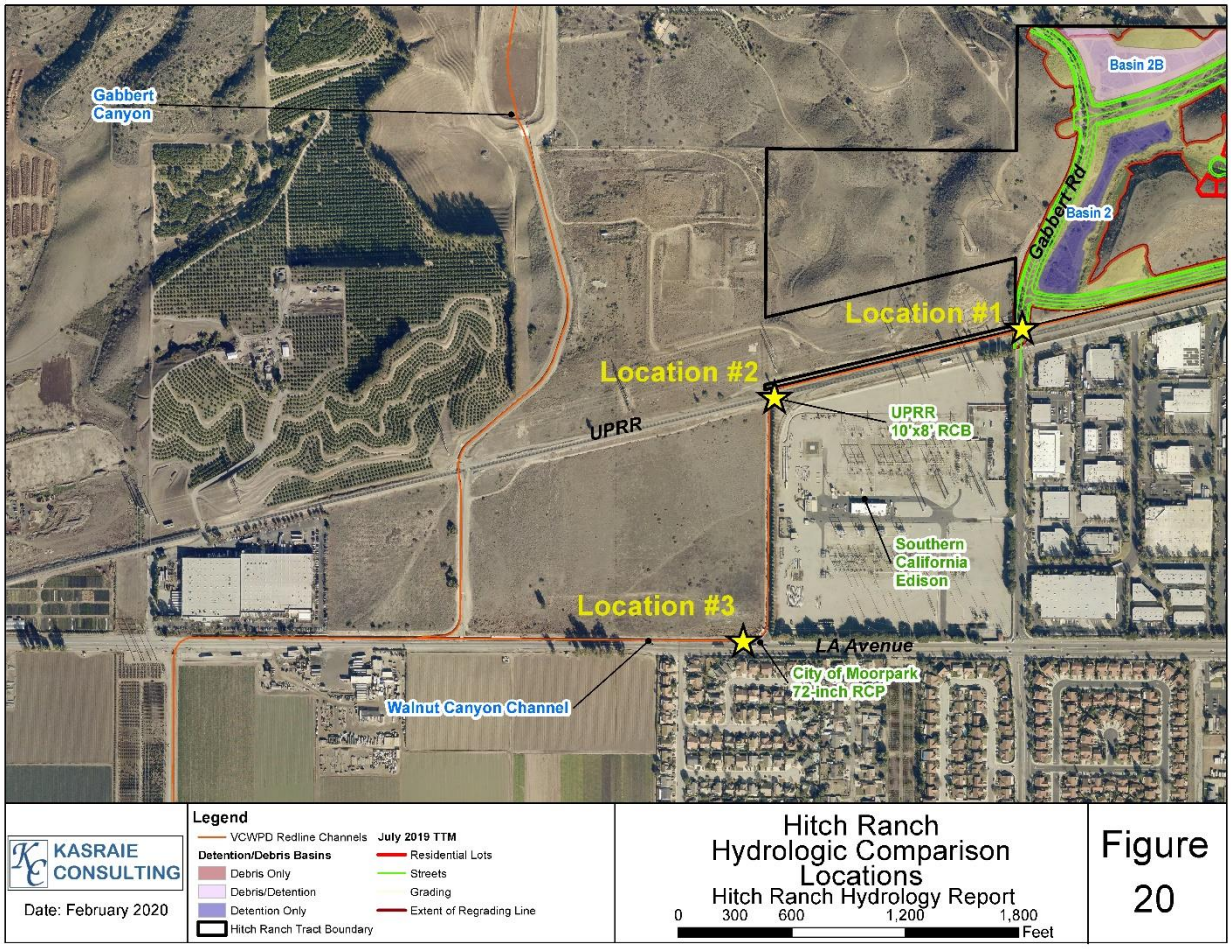

Figure 20: Hydrologic Comparison Locations

Designed diversion and detention facilities provide flow attenuation and time to peak lag which prevent 100-year flows from accumulating beyond the capacity of the downstream system. In addition, proposed Interim Condition 100-yr flows are below 10-yr existing flows along WCC. **Regional Flood Control (RFC) Objectives and Local Flood Requirements (LFR) are met with this design.** This project does not address structural deficiencies or failures of the existing WCC system.

6.2 California Division of Safety of Dams (DSOD) – Jurisdictional Dams

Each proposed detention basin was evaluated based on interpretation of the DSOD definitions as outlined in previous RMPs.

Basins 2 and 3 will be constructed by significantly excavating below the existing surface, creating a "pit" style impoundment. The previous RMPs and *2009 Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed* all discuss this type of design to maximize detention without becoming a "Jurisdictional Dam".

The purpose of this report is to outline proposed stormwater facilities to be used to meet required RFC and LFRs. Subsequent design phases will include additional discussion with City and County staff.

7 Walnut Canyon Channel Hydraulic Analysis

An initial hydraulic evaluation of the existing and proposed conditions was completed to:

1. Determine the overall benefit of the proposed system versus existing conditions.
2. Ensure/verify that the proposed system will likely work as intended. The designed stormwater facilities are made up of interdependent features needed to create necessary peak flow attenuation and increased lag time required to meet the RFC and LFRs in the RMP (2005, 2009). Tailwater within WCC is critical to the functionality of the Basin 2 and 3 outlet works. Neither HydroCAD nor VCRAT are able to address these issues explicitly.

The US Army Corps of Engineers (USACE) Hydraulic Engineering Center River Analysis System (HEC-RAS) was used to analyze hydraulics of WCC. A two-dimensional modeling scheme (RAS2D) was chosen since it best represents varied conditions in the overbanks and detention basins versus the main channel over the time and range of flows. Cells are allowed to vary in shape and size based on the visual detail needed within an area. Parameters are determined for each cell such as Stage versus Volume which is based on an elevation grid terrain model. Results are generated on a cell by cell basis within a mesh.

The validation HEC-RAS 2D model provided in this report is not intended to be used or submitted as a FEMA Letter of Map Change (LOMC) at this time.

7.1 RAS2D Model Components/Parameters

7.1.1 Terrain

RAS2D can generate a composite elevation model based on multiple grid sources and the users ranking of accuracies. Where data overlaps, the most accurate data is used. Elevation data sources are described as follows:

- **2005 Bare Earth LIDAR**: 2005 Ventura County Bare Earth LIDAR converted to a 1-foot cell grid.
- **2018 1-foot Site Contours**: Provided by ECG representing existing conditions converted to a 1-foot cell grid.
- **Main Channel**: A geo-referenced one-dimensional geometry HEC-RAS cross-section geometry of the main channel and immediate overbanks were created based on the 2005 and 2018 elevation data. It was then refined/corrected based on VCWPD plans for WCC and then converted to a 0.1' cell grid (Accuracy Order = 1)
- **Proposed Condition CAD**: The May 2019 (amended July 2019) ECG TTM was provided in CAD, digital format. The cut/fill boundary line and 3D breaklines (pad

elevations, street and open space contours) were converted to TIN and then 1-foot cell grid

All data sets were "snapped" to the same origin to ensure minimal resampling/interpolation in overlapping areas. The following table identifies which data sets were used both the existing and proposed terrain, including the assigned order of accuracy:

Table 17: RAS2D Elevation Terrain Sources

	Existing	Proposed
Proposed Condition CAD	NA	2
Main Channel	1	1
2018 1-foot Contours	2	3
2005- Bare Earth LIDAR	3	4

7.1.2 Manning's Roughness Factors

A roughness factor shapefile was created based on 2016 Ventura County aerial imagery and parcel data for existing conditions. The following values were assigned:

Table 18: RAS2D Manning's "n" Roughness Factors

Barren	0.040
Brush/Scrub	0.070
Buildings	2.000
Commercial/Institutional	0.060
Developed Medium Intensity	0.065
Industrial	0.080
Open Space	0.050
Railroad (including ROW)	0.045
Reinforced Concrete Channel (RCC)	0.015
Roadway	0.015
Unassigned	0.060

7.1.3 Inflow Hydrographs

VCRAT Interim Condition hydrographs at were extracted at all local inflow locations to proposed detention basins, WCC channel downstream of Hitch Ranch (HR), and at the WCC 96-inch RCP outlet near the Post Office. To obtain hydrographs in individual subareas contained in a series (VCRAT line), the model was re-run by putting the area of interest into its own bank. These include:

Table 19: RAS2D Inflow Hydrograph Locations

	VCRAT Node	RAS2D Label
Basin 2A	070C	070C
Basin 2B	069BC	069BC
Basin 2	074C	074C
Basin 3	053CD	053CD
Local Area to WCC between East and West HR	056B	056B
WCC 96" RCP Outlet	044AB	044AB
Local Inflow to WCC at UPRR 10'x8' RCB	077B	077B
Inflow from Moorpark Drain 72" RCP	084BC	084BC

7.1.4 Mesh

The "mesh" is a set of regular and irregular polygons draped over the elevation terrain. It was initially created based on 25-foot squares. Breaklines and refinement polygons representing critical features such as roads and channels were used to force adjustments in the mesh to include computation points at their boundaries. For example, a refinement polygon was used to represent the area within WCC, forcing a single cell covering the RCC bank to bank.

7.1.5 Detention Basin Outlet Structures

Detention basin outlet structures consists of a series of orifices, weirs, and culverts. Emergency spillways were not explicitly modeled since the purpose was to identify the system function under normal 100-yr design conditions.

Low Flow and Primary outlets are combined for Basins 2A and 2B, both of which are culvert pipe(s) These features are modeled culverts within as a 2D Area Connection with embankment height based on the proposed terrain.

Basins 2 and 3 each include a rectangular, concrete tower with orifice openings in the front (primary), a weir consisting of the top perimeter (secondary), and culvert outflow pipes in the back (primary + secondary). Modeling the towers explicitly requires using a series of 2D Area Connections (one for the front, one for the back). The low flow, circular orifice was modeled as a short culvert, while the primary outlet, rectangular orifice was modeled as a gate (set to be open the entire model run) on the Front 2D Area Connection. Also, although rectangular and at the top of the tower, the secondary outlet was added as a linear weir to the front 2D Area Connection extending upwards to the hydrologically determined emergency spillway elevation. The back 2D Area Connection Area includes the tower outlet pipes. The area and storage between the connections is minimal.

7.1.6 Boundary Conditions

Boundary condition lines were added to 8 locations at the downstream exterior of the mesh. Normal depth was used at each based on the immediate slope vicinity. Walnut_Out uses 0.0047, the slope of the channel.

7.2 RAS2D Results

Results are included for a general comparison with hydrology routing and are not intended for design purposes. The Mansi and Essex Development timelines for development are unknown and therefore benefits from upstream improvements such as Basin 1 at Casey Road may not be realized for the near future. Both conditions were modeled and included.

7.2.1 Verification of VCRAT Hydrologic Routing and Outlet Works

RAS2D inflow hydrographs are based on VCRAT, however the remainder of the model is independent. Both models produce similar results therefore providing confidence the VCRAT are adequate with respect to routing and outlet functionality.

Table 20: Comparison of RAS2D and VCRAT at Select Locations for Interim Condition

	RAS2D		VCRAT		
	Outflow	Max WSE	Node	Outflow	Max WSE
Basin 2A	67	516.8	071C	66	516.4
Basin 2B	248	510.0	073BC	218	509.8
Basin 2	288	479.6	075BC	206	479.2
Basin 3	426	490.6	054BC	408[1]/386[2]	490.5[1]//490.4[2]
Location #1: At Gabbert Road	788	NA	076AB	705[1]/702[2]	NA
Location #2: At UPRR	796	NA	078AB	706[1]/703[2]	NA
Location #3: Downstream of 72" RCP	873	NA	085AB	830[1]/857[2]	NA

[1]Assumes a constant 94 cfs by-pass of Regional Basin 3/Single VCRAT Model

[2]Design Option Diversion Structure Modeled (HydroCAD), Two VCRAT Models (upstream and downstream of the diversion)

Table 21: Comparison of RAS2D and VCRAT at Select Locations for Ultimate Condition

	RAS2D		VCRAT		
	Outflow	Max WSE	Node	Outflow	Max WSE
Basin 2A	67	516.8	071C	66	516.4
Basin 2B	248	510.0	073BC	218	509.8
Basin 2	300	479.6	075BC	206	479.2
Basin 3	390	490.4	054BC	374[1]/357[2]	490.3[1]/490.2[2]
Location #1: At Gabbert Road	710	NA	076AB	639[1]/640[2]	NA
Location #2: At UPRR	716	NA	078AB	640[1]/641[2]	NA
Location #3: Downstream of 72" RCP	816	NA	085AB	823[1]/844[2]	NA

[1]Assumes a constant 94 cfs by-pass of Regional Basin 3/Single VCRAT Model

[2]Design Option Diversion Structure Modeled (HydroCAD), Two VCRAT Models (upstream and downstream of the diversion)

7.2.2 Existing versus Proposed (Interim/Ultimate) RAS2D

Proposed facilities provide a significant benefit to the overall system that are not captured in models that solely rely on hydrologic calculations/routing. Flows and water surface elevations at select locations are shown in the following table.

Under existing conditions, there is a significant amount of flow overtopping the UPRR immediately upstream of Gabbert Road, which could impact the industrial/commercial area to the south. This issue will be completely eliminated (does not include problems related to overflow from Arroyo Simi) under the Interim and Ultimate Conditions (See Figure 14).

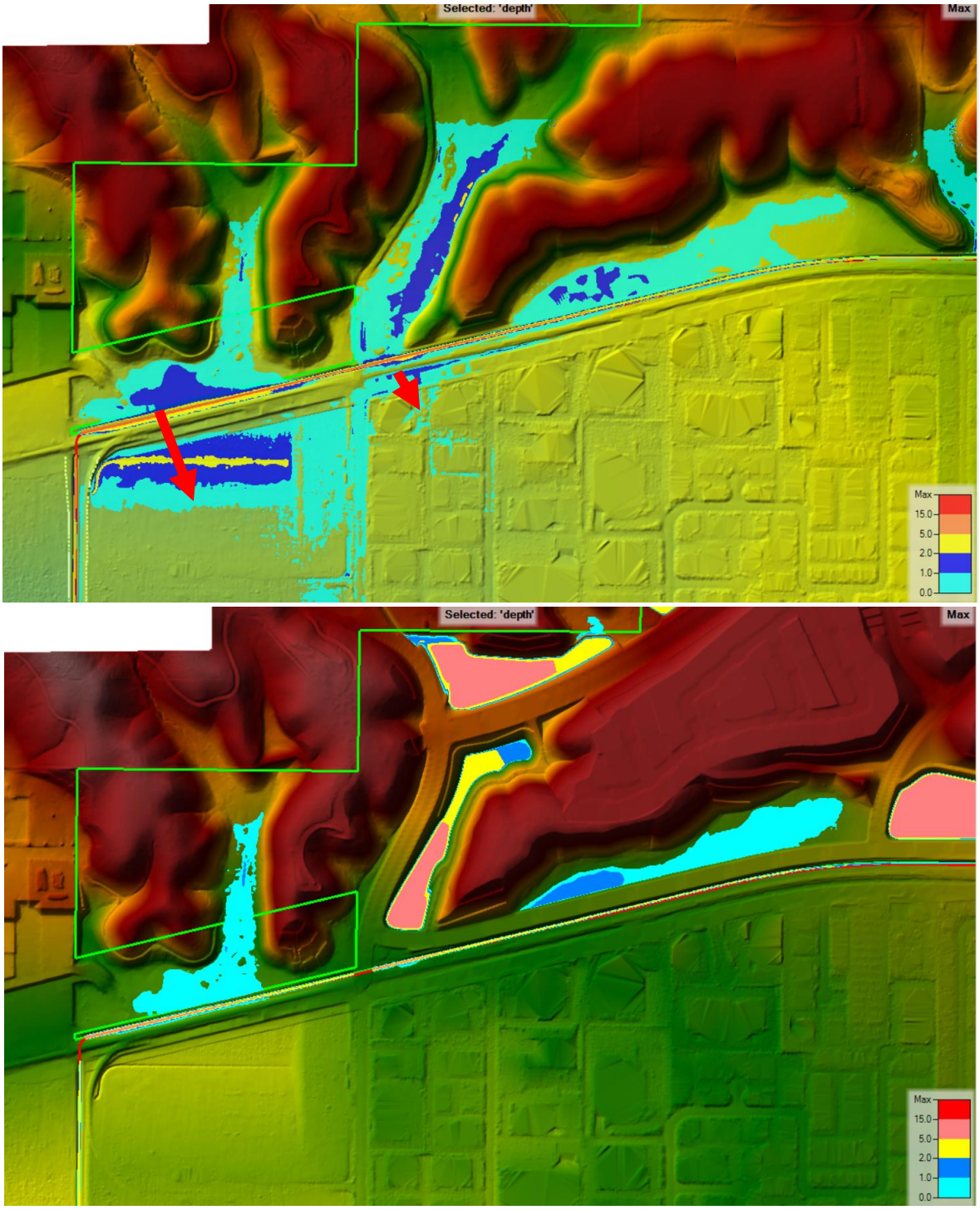

Figure 21: Existing (top) and Interim (bottom) RAS2D Flood Depths between Gabbert and UPRR

8 References

Impact Sciences, Inc., 2011, Hitch Ranch Specific Plan EIR

PACE, 2005, Gabbert and Walnut Canyon Channels Flood Control Deficiency Study Addendum

PACE, 2007, *Hitch Ranch Watershed Masterplan Study*

PACE, 2009, *Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed*

RBF, 1997, Walnut and Gabbert Canyon Channel Flood Deficiency Study

RBF, 2000, Moorpark West Corporate Center Flood Protection Project

Scott and Williams, 1974, Erosion and Sediment Yields in the Mountain Watersheds of the Transverse Ranges, Ventura and Los Angeles Counties, California.

VCWPD, 2017, Ventura County Hydrology Manual

VCWPD, 2018, Draft Debris and Detention Basin Manual

https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams/Jurisdictional-Sized-Dams (sourced August 2019)

Appendix 1 – TC Calculator/Time of Concentration

20200205HRSubareas_Existing10.out

20200205HRSubareas_Existing25.out

20200205HRSubareas_Existing50.out

20200205HRSubareas_Existing100.out

20200205HRSubareas_Proposed10.out

20200205HRSubareas_Proposed25.out

20200205HRSubareas_Proposed50.out

20200205HRSubareas_Proposed100.out

Appendix 2 – Existing Condition VCRAT: 10-, 25-, 50-, 100 year

10- year VCRAT Model

- **20191124HRExisting10.out**

25-year VCRAT Model

- **20200205HRExisting25.out**

50-year VCRAT Model

- **20191124HRExisting50.out**

100-year VCRAT Model

- **20191124HRExisting100.out**

Appendix 3 – Proposed Interim Condition VCRAT: 10-, 25-, 50-, 100 year

10- year VCRAT Model

- **20200205HRInterim10_AR_FAT.out (entire watershed as a single model with a constant 94 cfs by-pass)**

25-year VCRAT Model

- **20200205HRInterim25_AR_FAT.out (entire watershed as a single model with a constant 94 cfs by-pass)**

50-year VCRAT Model

- **20200205HRInterim50_AR_FAT.out (entire watershed as a single model with a constant 94 cfs by-pass)**

100-year VCRAT Models:

- **20200205HRInterim100_AR_FAT.out (entire watershed as a single model with a constant 94 cfs by-pass)**
- **20200205UpstreamHRInterim100_AR_FAT.out (upstream watershed only)**
- **20200205DownstreamHRInterim100_AR_FAT.out (downstream watershed only, diversion based on HydroCAD modeling of designed diversion structure)**

Appendix 4 – Proposed Ultimate Condition VCRAT: 10-, 25-, 50-, 100 year

10- year VCRAT Model

- **20200205HRUltimate10_AR_FAT.out (entire watershed as a single model with a constant 94 cfs by-pass)**

25-year VCRAT Model

- **20200205HRUltimate25_AR_FAT.out (entire watershed as a single model with a constant 94 cfs by-pass)**

50-year VCRAT Model

- **20200205HRUltimate50_AR_FAT.out (entire watershed as a single model with a constant 94 cfs by-pass)**

100-year VCRAT Models:

- **20200205HRUltimate100_AR_FAT.out (entire watershed as a single model with a constant 94 cfs by-pass)**
- **20200205UpstreamHRUltimate100_AR_FAT.out (upstream watershed only)**
- **20200205DownstreamHRUltimate100_AR_FAT.out (downstream watershed only, diversion based on HydroCAD modeling of designed diversion structure)**

Appendix 5 – Proposed Interim Condition HydroCAD: 100 year

Appendix 6 – Proposed Ultimate Condition HydroCAD: 100 year

Appendix 7 – Tentative Tract Maps

ECG August 2019 Tentative Tract Maps

- **Basis for Hydrologic Modeling within Hitch Ranch**

ECG September 2019 (Updated July 2019) Tentative Tract Maps

- **Minor adjustments in layout, overall percent impervious similar. Not used to revise modeling.**

Appendix 8 – VCWPD/City of Moorpark Plans for WCC and Moorpark Drain No. 1

VCWPD Plans Y3-0118 through Y3-0128

VCWPD Plans Y3-3765 through Y3-3768

2008-074_8B875_WalnutCanyonDrain_CityofMoorpark

Exhibit'A'.2008-074.CiofMoorpark.walnutcyn

Exhibit'B'.2008-074.8b875.CityofMoorpark

2008-074a.8b875.Exhibit.C

VCWPD Plan Y3-0914

Appendix 9 – Previous Studies

- **1997** Walnut and Gabbert Canyon Channel Flood Deficiency Study [RBF, 1997]
- **2005** Technical Addendum to Walnut and Gabbert Canyon Channel Flood Deficiency Study (Regional Master Plan) [2005, PACE]
- **2009** Basis of Design Study, Commonwealth Studios – Interim Condition Flood Control Improvements, Walnut and Gabbert Canyon Watershed [2009, PACE]

D

Hitch Ranch Hydrology Study Report 2020 Update Addendum
#1 – Effective Floodplain Map

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May 21, 2021

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Phone: (310) 546-5781
Email: HRapista@comstock-homes.com

SUBJECT: Hitch Ranch Hydrology Study Report 2020 Update
Addendum #1 – Effective Floodplain Map

Dear Ms. Rapista (Harriet):

As requested, this letter is prepared as an Addendum #1 to the Hitch Ranch Hydrology Study Report 2020 Update prepared by Kasraie Consulting dated February 2020. The purpose of this letter is to document that no residential or commercial structures are proposed in the current FEMA flood zone.

The Effective FEMA Flood Insurance Rate Map (FIRM) in the vicinity of the proposed Hitch Ranch development is provided below. Figure 1 shows the effective FIRM Panel 06111C0817E dated January 20, 2010 for Walnut Canyon Drain in the City of Moorpark. The current flood zones within the Hitch Ranch development are designated at Zone X (500-year flood, orange color) along Walnut Canyon Drain shown as an Approximate Zone A along Gabbert Road (100-year flood, blue color).



Figure 1 Effective FEMA Flood Insurance Rate Map Panel 06111C0817E 1/20/2010

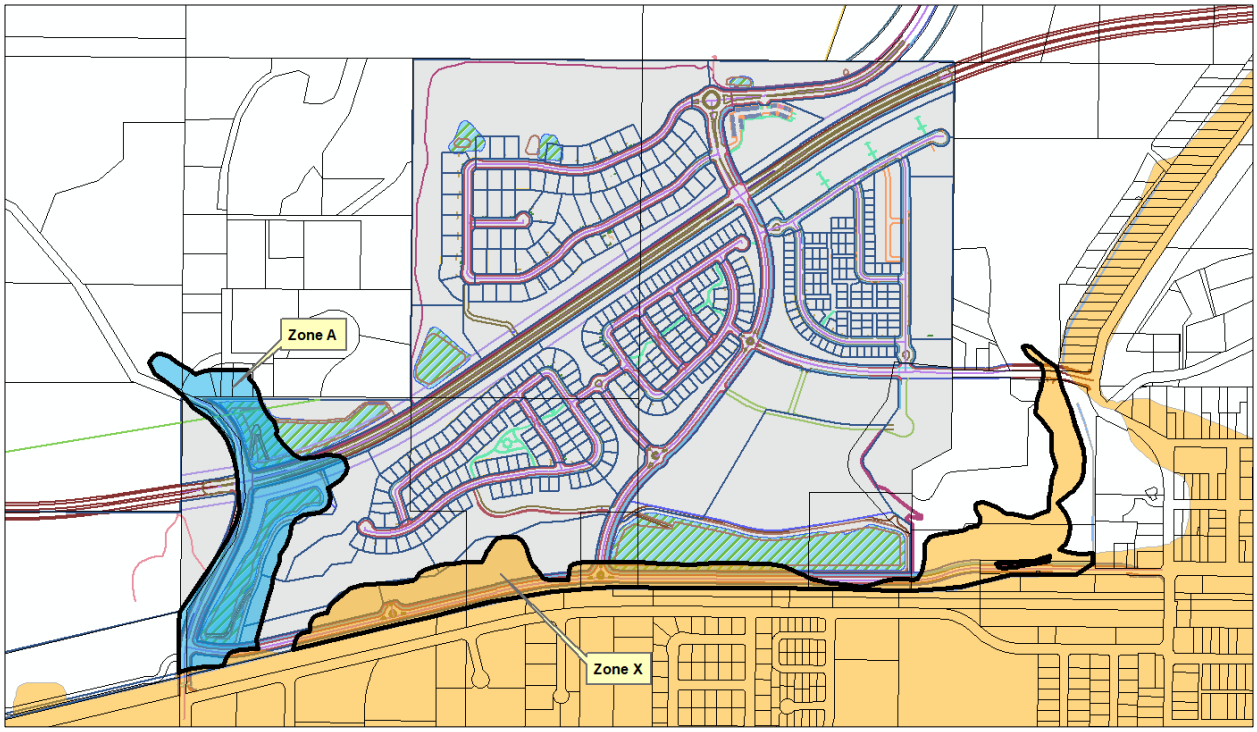


Figure 2 Effective FEMA Flood Zones Within Hitch Ranch

Hitch Ranch is overlaid on top of the FEMA FIRM as shown in Figure 2. The above Figure 2 shows that only the proposed Detention Basins 2 and 2B and Gabbert Road will replace parts of the Zone A floodplain boundary. Along the southern property line, the regional Detention Basin 3 and roads are shown in Zone X flood zones.

Therefore, no homes or other structures are proposed to be built in the Zone A 100-year floodplain, commonly referred to as the Special Flood Hazard Area (SFHA), or the 500-year floodplain Zone X.

However, a FEMA Conditional Letter of Map Revision (CLOMR) will be necessary due to the detention basin construction within the existing Zone A floodplain. The purpose of a CLOMR is to get community and FEMA concurrence that there will be no adverse impacts on adjacent properties and the project meets minimum National Flood Insurance Program (NFIP) standards. Once grading and flood structure construction has been completed, a Letter of Map Revision (LOMR) will need to be submitted based on the as-built conditions. This will result in an actual revision of the FEMA FIRM.

Please feel free to call or email with any questions or comments you might have.

Sincerely,

Hassan Kasraie, PE, CFM
President

APPENDIX 3.10

General Plan – Circulation Element Consistency Analysis

3.10.1 City of Moorpark General Plan - Circulation Element

The City of Moorpark Circulation Element was adopted in 1992. The Highway Network Plan in the Circulation Element was based on roadways needed to accommodate the anticipated growth envisioned in the General Plan Land Use Element while achieving the identified goals for level of service.

This analysis is provided to demonstrate Project consistency with Goal 2 of the Circulation Element, as it is related to Policy 2.1 Level of Service (LOS), and Policy 2.4, the Project's participation in the transportation improvement fee program.

Goal 2: Provide a circulation system which supports existing, approved, and planned land uses throughout the City while maintaining a desired level of service on all streets and at all intersections.

Policy 2.1: Level of service "C" shall be the system performance objective for traffic volumes on the circulation system. For roadways and interchanges already operating at less than level of service "C," the system performance objective shall be to maintain or improve the current level of service.

Policy 2.2: Project phasing shall be coordinated with the construction of on-site and off-site circulation improvements to maintain the performance standards objectives specified in Policy 2.1 and to ensure that improvements are in place when needed.

Policy 2.3: New development projects shall mitigate off-site traffic impacts to the maximum extent feasible.

Policy 2.4: All new development shall participate in a transportation improvement fee program. This fee enables circulation improvements to be funded by new development in a manner that maintains the performance objectives specified in Policy 2.1.

Please note that all analysis provided in this section related to LOS is presented for consistency analysis purposes only, and not for the purpose of determining a significant environmental impact related to transportation under CEQA.

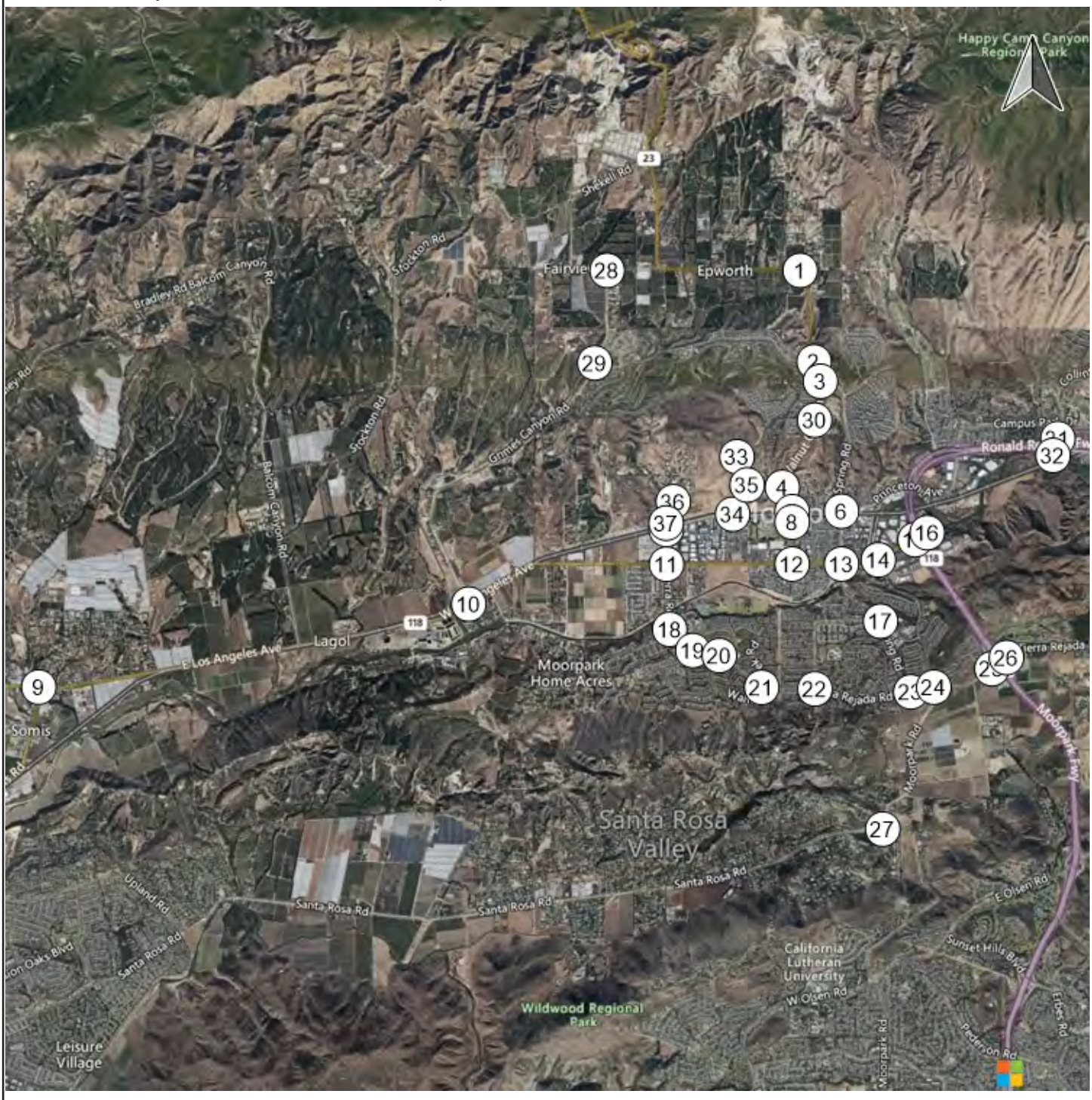
3.10.2 Existing Level of Service Conditions

The transportation study area was defined by the City of Moorpark. The analysis area was defined according to a set of criteria that considered both the amount of project traffic at each intersection in the general area and the capacity of that traffic.

As shown in **Figure 3.10-1, Project Study Area,** the study area for the Hitch Ranch transportation analysis encompasses 32 existing intersections, with an additional five future intersections. As shown in **Figures 3.10-4a** through **3.10-4e, Study Intersections Characteristics,** the 6 of the 32 existing intersections are un-signalized, all of the future intersections would be unsignalized. The study intersections are as follows:

Existing Intersections

1. Walnut Canyon Rd. & Broadway Rd.
2. Walnut Canyon Rd. & Championship Dr.
3. Walnut Canyon Rd. & Spring Rd.
4. Walnut Canyon Rd. & Casey Rd.
5. Moorpark Ave. & High St.
6. Spring Rd. & High St.
7. Gabbert Rd. & Poindexter Ave.
8. Moorpark Ave. & Poindexter Ave/1st St.
9. Somis Rd. & Los Angeles Ave.
10. Grimes Canyon Rd. & Los Angeles Ave.
11. Tierra Rejada Rd. & Los Angeles Ave.
12. Moorpark Ave. & Los Angeles Ave.
13. Spring Rd. & Los Angeles Ave.
14. Miller Pkwy./Science Dr. & Los Angeles Ave.
15. SR-23 SB ramps & Los Angeles Ave.
16. SR-23 NB ramps & Los Angeles Ave.
17. Spring Rd. & Peach Hill Rd.
18. Tierra Rejada Rd. & Countrywood Dr.
19. Mountain Trail St. & Tierra Rejada Rd.
20. Mountain Meadow Dr. & Tierra Rejada Rd.
21. Walnut Creek Rd. & Tierra Rejada Rd.
22. Peach Hill Rd. & Tierra Rejada Rd.
23. Spring Rd. & Tierra Rejada Rd.
24. Miller Pkwy. & Tierra Rejada Rd.
25. SR-23 SB ramps & Tierra Rejada Rd.
26. SR-23 NB ramps & Tierra Rejada Rd.
27. Miller Pkwy. & Santa Rosa Rd.
28. Broadway Rd. & Grimes Canyon Rd.
29. Championship Dr. & Grimes Canyon Rd.
30. Meridian Hills Dr. & Walnut Canyon Rd.
31. SR-118 WB & Collins Dr.
32. SR-118 EB & Collins Dr.
33. Meridian Hills & Street 'A' (future)
34. Casey Rd. & Street 'A' (future).
35. High Street & Street 'A' (future)
36. Gabbert Road & North Hills Parkway (future)
37. Gabbert Road & High Street (future)



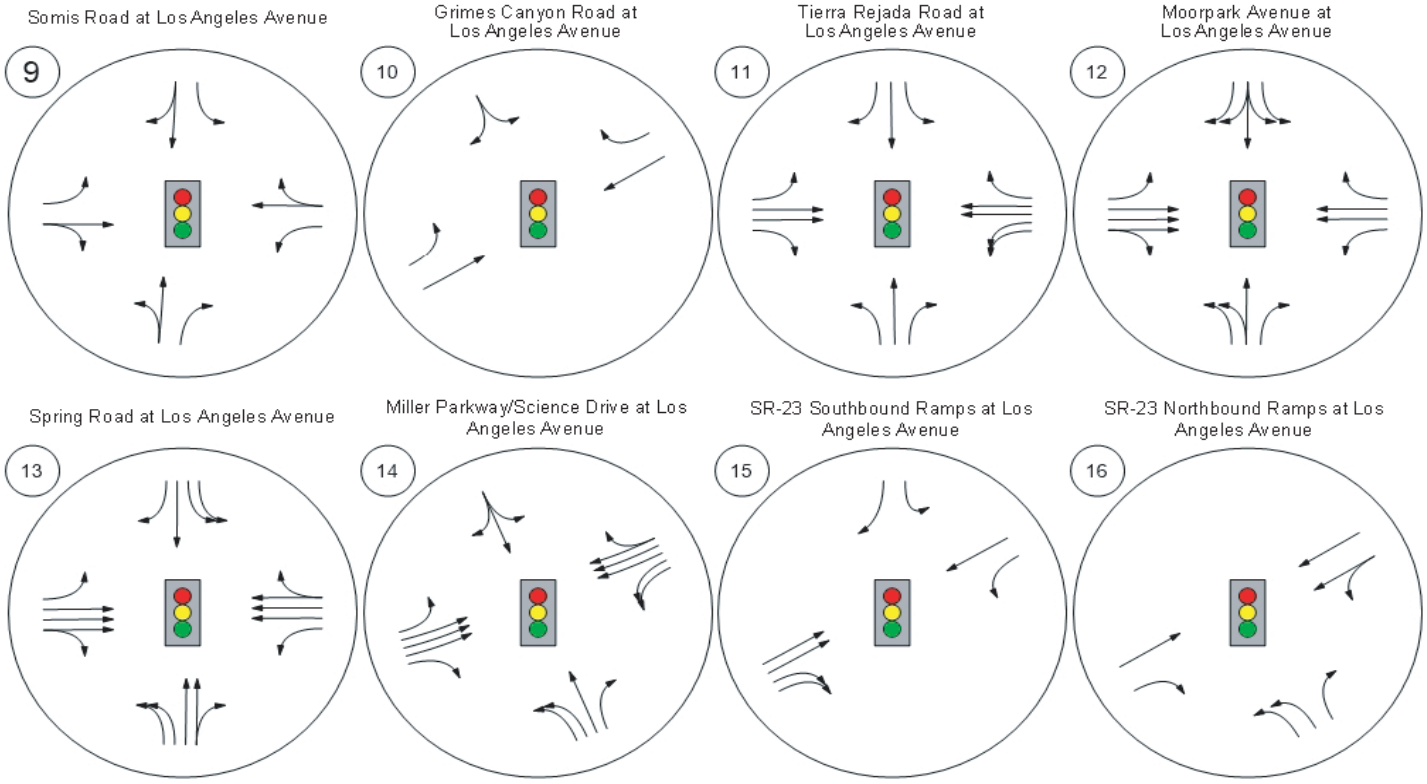
SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-1**

IMPACT SCIENCES

Project Study Area





SOURCE: Impact Sciences, 2019

FIGURE **3.10-2b**

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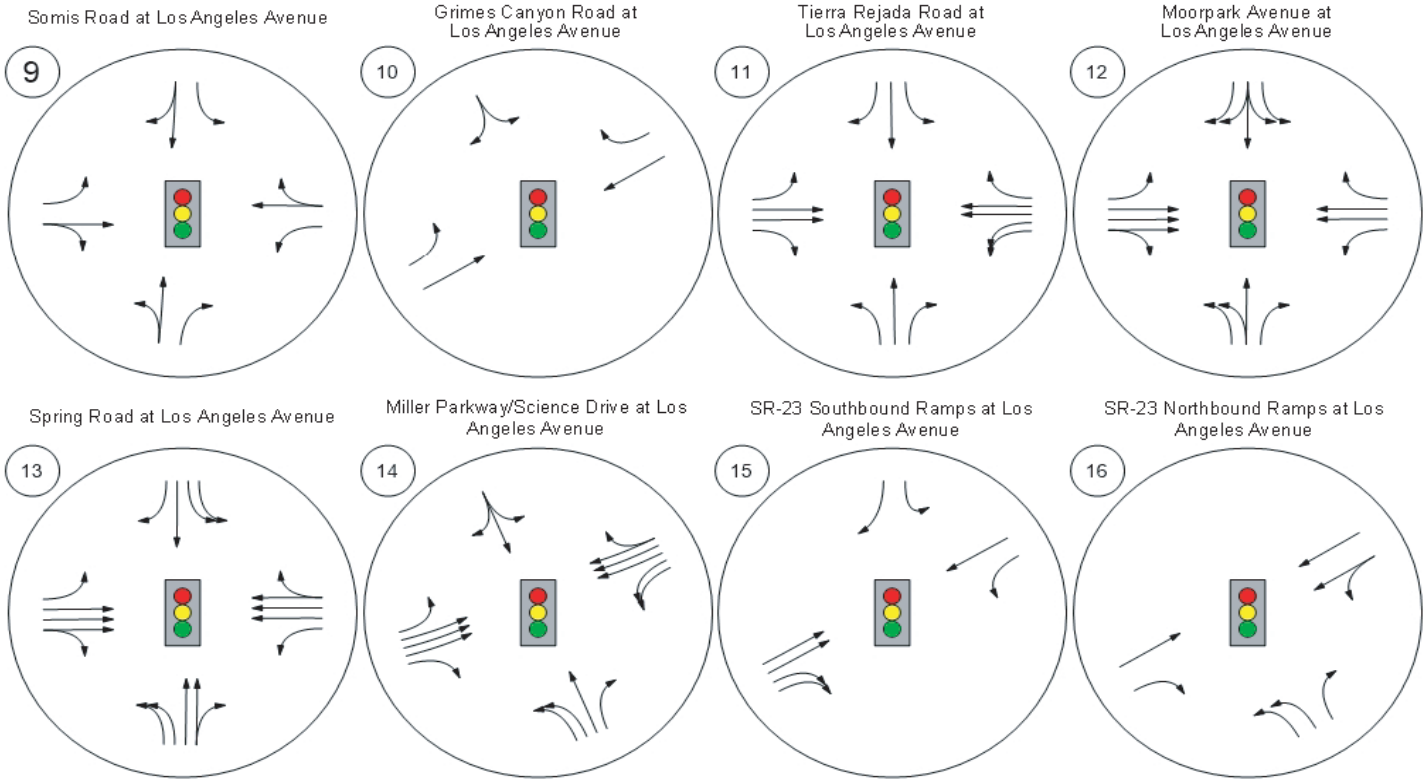
Study Intersecctions Characteristics





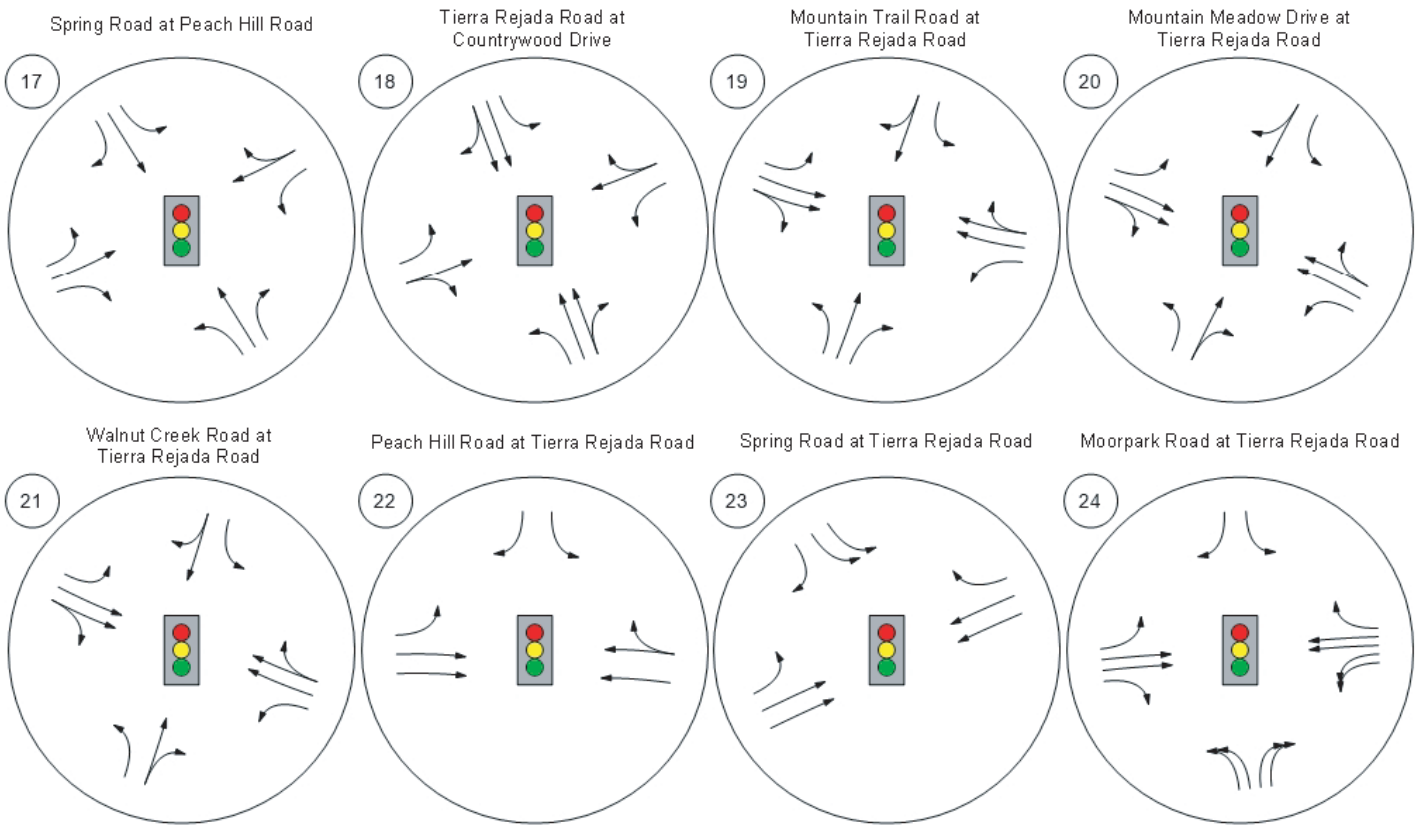
SOURCE: Impact Sciences, 2019

FIGURE **3.10-2b**

IMPACT SCIENCES

Study Intersecctions Characteristics





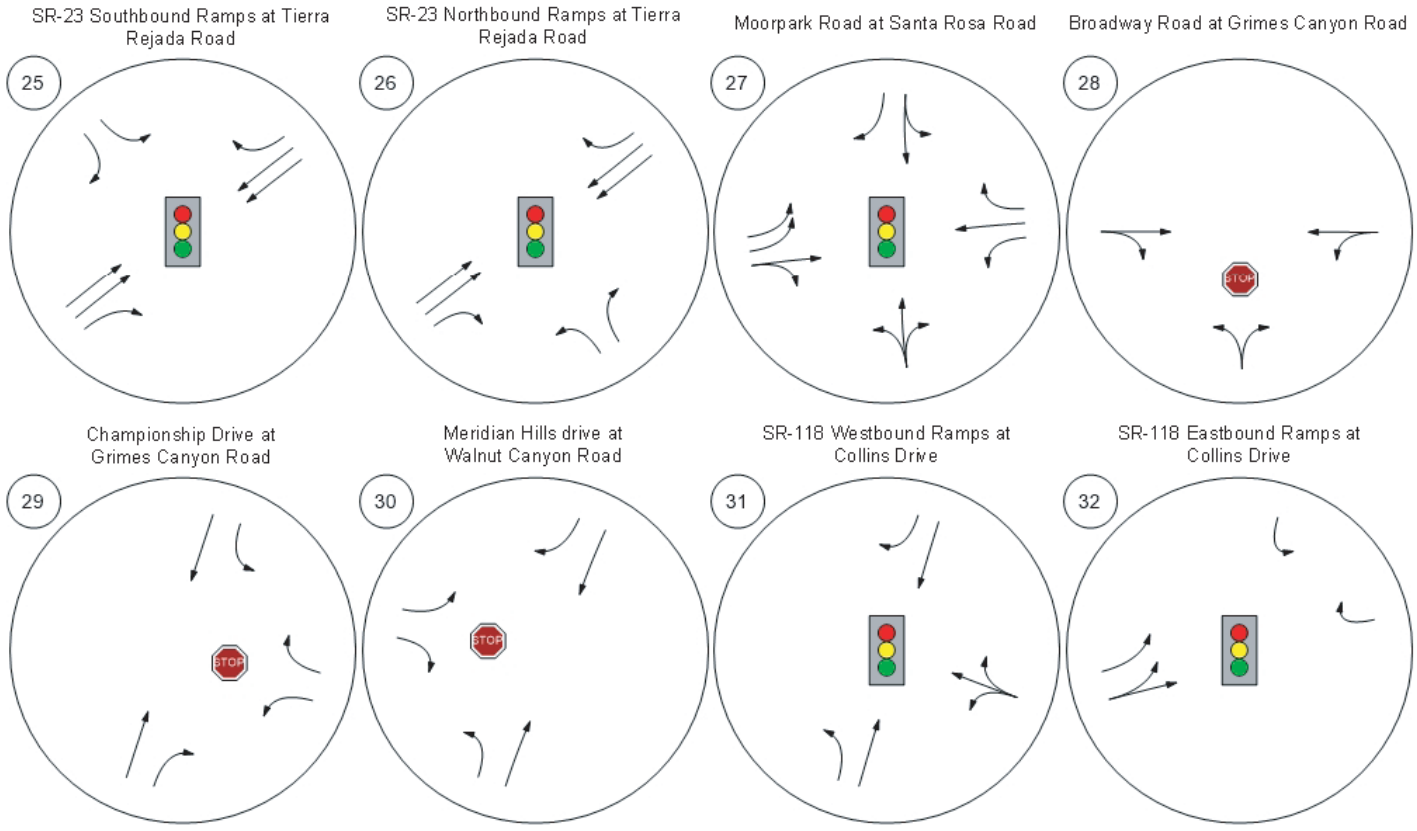
SOURCE: Impact Sciences, 2019

FIGURE **3.10-2c**

IMPACT SCIENCES

Study Intersecctions Characteristics





SOURCE: Impact Sciences, 2019

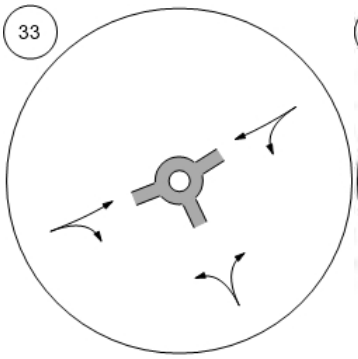
FIGURE **3.10-2d**

IMPACT SCIENCES

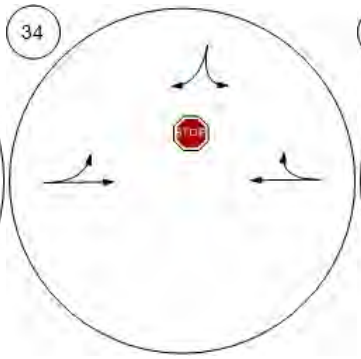
Study Intersecctions Characteristics



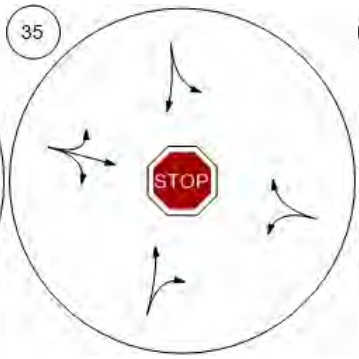
Future Road - Meridian Hills



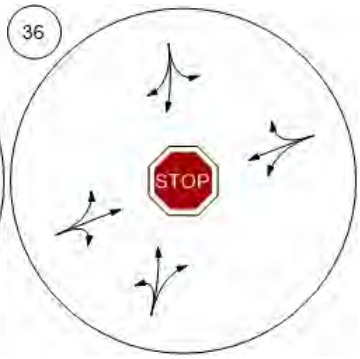
Future Road - Street "A" at Hi



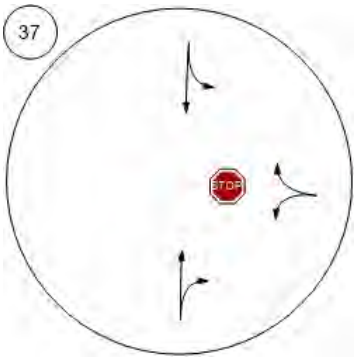
Future Road - Casey Road at



Future Road - Gabbert Road



Future Road - Gabbert Road



SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-2e**

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Study Intersections Characteristics

One way to understand existing traffic conditions is to study existing traffic volumes with an analysis of the operating conditions, indicated through volume-to-capacity (V/C) ratios and Level of Service (LOS). LOS was used previously as the primary method for determining CEQA transportation-related impacts, but is now being used for informational purposes. Recent changes in state legislation and the related guidance from OPR have moved analysis to VMT to support statewide GHG goals and encourage multi-modality in our cities. Traditional mitigation measures to address increases in vehicle delay often involved increasing capacity (i.e., the width of a roadway or intersection), which has the potential to induce more trips/VMT and does not support State goals.

As an information metric, LOS is a measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. LOS can be determined by dividing the number of vehicles (i.e., volume [V]) by roadway capacity (C), and the resulting V/C ratio is then used to obtain the corresponding LOS. To determine the operations of the roadway network during peak commute hours, a LOS analysis was conducted for the roadways in the study area.

Figures 3.10-6a-e through **3.10-7a-g, Existing (2019) Traffic Volume – Weekday AM and PM Peak Hour,** illustrate the existing circulation system in the vicinity of the project site together with observed intersection volumes. Traffic volume data was collected in spring 2019 by National Data & Surveying Services, an independent third-party data collection company used in the TIA. Weekday traffic counts were conducted on Wednesday, April 17, 2019, and Thursday, April 18, 2019, from 7:00 to 9:00 am and 4:00 to 6:00 pm.

The traffic conditions analysis was conducted using the Intersection Capacity Utilization (ICU) method for the study intersections. The ICU procedure uses a ratio of the highest combination of conflicting traffic volume (V) to the intersection capacity (C) to define the proportion of an hour necessary to accommodate all the traffic moving through the intersection assuming all approaches were operating at full capacity. For example, if an intersection has a volume-to-capacity (V/C) value of 0.70, the intersection is operating at 70 percent capacity with 30 percent unused capacity.

Once the intersection V/C ratio has been calculated for each time period, a level of service (LOS) grade (A through F) is assigned to estimate the level of congestion and stability of the traffic flow. The term LOS is used by traffic engineers to describe the quality of traffic flow. Level of Service standard D is generally considered the design capacity of arterial intersections and is thereby often set as the performance standard. Definitions of the LOS grades, from the City's General Plan Circulation Element, are shown in **Table 3.10-1.**

Table 3.10-1
V/C Level of Service Definitions

Level of Service	Definition	Equivalent ICU
A	Excellent- Free flow conditions with low traffic density	0.000-0.600
B	Very Good- A stable flow of traffic	0.601-0.700
C	Good- Light congestion but stable, occasional backups behind left-turning vehicles	0.701-0.800
D	Fair- Approaching instability, drivers are restricted in freely changing lanes. Vehicles may be required to wait through more than one cycle.	0.801-0.900
E	Poor- At or near capacity with some long lines for left-turning vehicles. Blockage of intersection may occur if traffic signal does not provide for protected turning movements.	0.901-1.000
F	Failure- Jammed conditions with stoppages of long duration and long queues.	>1.000

Source: City of Moorpark, May 1992

The LOS thresholds for stop sign controlled intersections differ from signalized intersections to reflect different driver expectations. The expectation is that a signalized intersection is designed to carry higher traffic volumes than a stop-controlled intersection.

For the un-signalized intersections, a delay-based analysis was conducted using procedures based on the HCM method. This procedure calculates the control delay as the total elapsed time from the time a vehicle stops at the end of the queue to the time the vehicle departs from the intersection. Using this procedure, the LOS is evaluated on the basis of the total delay per vehicle for selected movements (in seconds per vehicle).

Definitions of the LOS grades for stop-controlled intersections as defined by the Transportation Research Board are shown below in **Table 3.10-2.**

Table 3.10-2
Level of Service Definitions—Stop Controlled Intersections

Level of Service	Average Control Delay (sec)
A	Less than or equal to 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50

Source: Transportation Research Board, 2020

By applying the ICU and HCM procedures, the V/C ratios, delay values and the corresponding LOS for existing traffic conditions were determined for each intersection.

3.10.3 Project Trip Generation

The project site is currently vacant and generates a nominal amount of peak hour and daily traffic. The existing V/C ratios, delay values and the corresponding LOS values for the study area intersections are summarized in **Table 3.10-3**. Using the 2019 traffic counts, all of the study intersections currently operate at LOS D or better, with one exception (Intersection #24), in the AM Peak Hour. In the PM Peak Hour, one intersection operates at LOS E (Intersection #9).

Table 3.10-3
Existing Traffic Conditions Summary

		AM Peak Hour*			PM Peak Hour*		
No.	Intersection	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Rd. & Broadway Rd.		18.5	C		23.6	C
2	Walnut Canyon Rd. & Championship Dr.		25.4	D		33.2	D
3	Walnut Canyon Rd. & Spring Rd.	0.747		C	0.899		D
4	Walnut Canyon Rd. & Casey Rd.	0.668		B	0.468		A
5	Moorpark Ave. & High St.	0.538		A	0.563		A
6	Spring Rd. & High St.	0.694		B	0.782		C
7	Gabbert Rd. & Poindexter Ave.		10.4	B		10.3	B
8	Moorpark Ave. & Poindexter Ave/1st St.	0.705		C	0.719		C
9	Somis Rd & Los Angeles Ave.	0.821		D	0.953		E
10	Grimes Canyon Rd. & Los Angeles Ave.	0.767		C	0.824		D
11	Tierra Rejada Rd. & Los Angeles Ave.	0.717		C	0.618		B
12	Moorpark Ave. & Los Angeles Ave.	0.571		A	0.602		B
13	Spring Rd. & Los Angeles Ave.	0.696		B	0.695		B
14	Miller Pkwy./Science Dr. & Los Angeles Ave.	0.478		A	0.611		B
15	SR-23 SB ramps & Los Angeles Ave.	0.441		A	0.694		B
16	SR-23 NB ramps & Los Angeles Ave.	0.496		A	0.667		B
17	Spring Rd. & Peach Hill Rd.	0.614		B	0.553		A
18	Tierra Rejada Rd. & Countrywood Dr.	0.547		A	0.428		A
19	Mountain Trail St. & Tierra Rejada Rd.	0.536		A	0.501		A
20	Mountain Meadow Dr. & Tierra Rejada Rd.	0.544		A	0.413		A
21	Walnut Creek Rd. & Tierra Rejada Rd.	0.610		B	0.505		A
22	Peach Hill Rd. & Tierra Rejada Rd.	0.562		A	0.552		A
23	Spring Rd. & Tierra Rejada Rd.	0.646		B	0.577		A
24	Moorpark Ave. & Tierra Rejada Rd.	0.904		E	0.834		D
25	SR-23 SB ramps & Tierra Rejada Rd.	0.829		D	0.846		D
26	SR-23 NB ramps & Tierra Rejada Rd.	0.875		D	0.897		D
27	Moorpark Ave. & Santa Rosa Rd.	0.745		C	0.888		D

No.	Intersection	AM Peak Hour* V/C	AM Peak Hour* Delay (s/veh)	AM Peak Hour* LOS	PM Peak Hour* V/C	PM Peak Hour* Delay (s/veh)	PM Peak Hour* LOS
28	Broadway Rd. & Grimes Canyon Rd.		11.0	B		10.2	B
29	Championship Dr. & Grimes Canyon Rd.		10.0	A		10.0	A
30	Meridian Hills Dr. & Walnut Canyon Rd.		12.2	B		12.1	B
31	SR-118 WB & Collins Dr.	0.444		A	0.385		A
32	SR-118 EB & Collins Dr.	0.719		C	0.629		B
33	Meridian Hills & Street 'A' (future)		3.2	A		3.2	A
34	Street 'A' & High St. (future)						
35	Casey Rd. & Street 'A'(future)						
36	Gabbert Rd. & North Hills Pkwy. (future)						
37	Gabbert Rd. & High St. (future)						

** V/C for signalized intersections, delay for unsignalized intersections.*
Source: Stantec, December 2021, Impact Sciences, July 2021

Traffic-generating characteristics of residential and park land uses have been studied by the Institute of Transportation Engineers (ITE). The results of the traffic generation studies have been published in Trip Generation, 10th Edition Handbook. This publication of traffic generation data has become the industry standard for estimating traffic generation for land uses.

These trip generation studies indicate that the uses associated with the proposed project generally exhibit the trip-making characteristics per dwelling unit or acre as shown by the ITE trip rates in **Table 3.10-4**. Estimates of the project's traffic were calculated on the basis of these ITE traffic generation rates for the project's proposed land uses.

Table 3.10-4
Project Trip Generation Rates (Weekday)

Land Use	ITE Code	Weekday Daily	AM Peak Hour Total	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out
Single-Family Detached housing (per Dwelling Unit)	210	9.44	0.74	25%	75%	0.99	63%	37%
Multifamily Housing (Low-Rise) (per Dwelling Unit)	220	7.32	0.46	23%	77%	0.56	63%	37%
Public Park (per Acre)	411	0.78	0.15	67%	33%	0.11	40%	60%

Source: Impact Sciences, 2021

Traffic volumes expected to be generated by the project were estimated by applying the Table 3.10-4 ITE trip rates per dwelling unit or acre for each of the project's land use components.

As shown in **Figures 3.10-8 and 3.10-9, Project Traffic Volume,** the proposed project would add 6,436 daily vehicle trips to the local roadway system, including 467 morning peak hour trips and 608 afternoon peak hour trips (**Table 3.10-5**). In order to conduct a conservative traffic analysis, no vehicle trip adjustments were made to account for internal capture trips (i.e., interaction between residential uses and/or the public park).

3.10.4 Trip Distribution

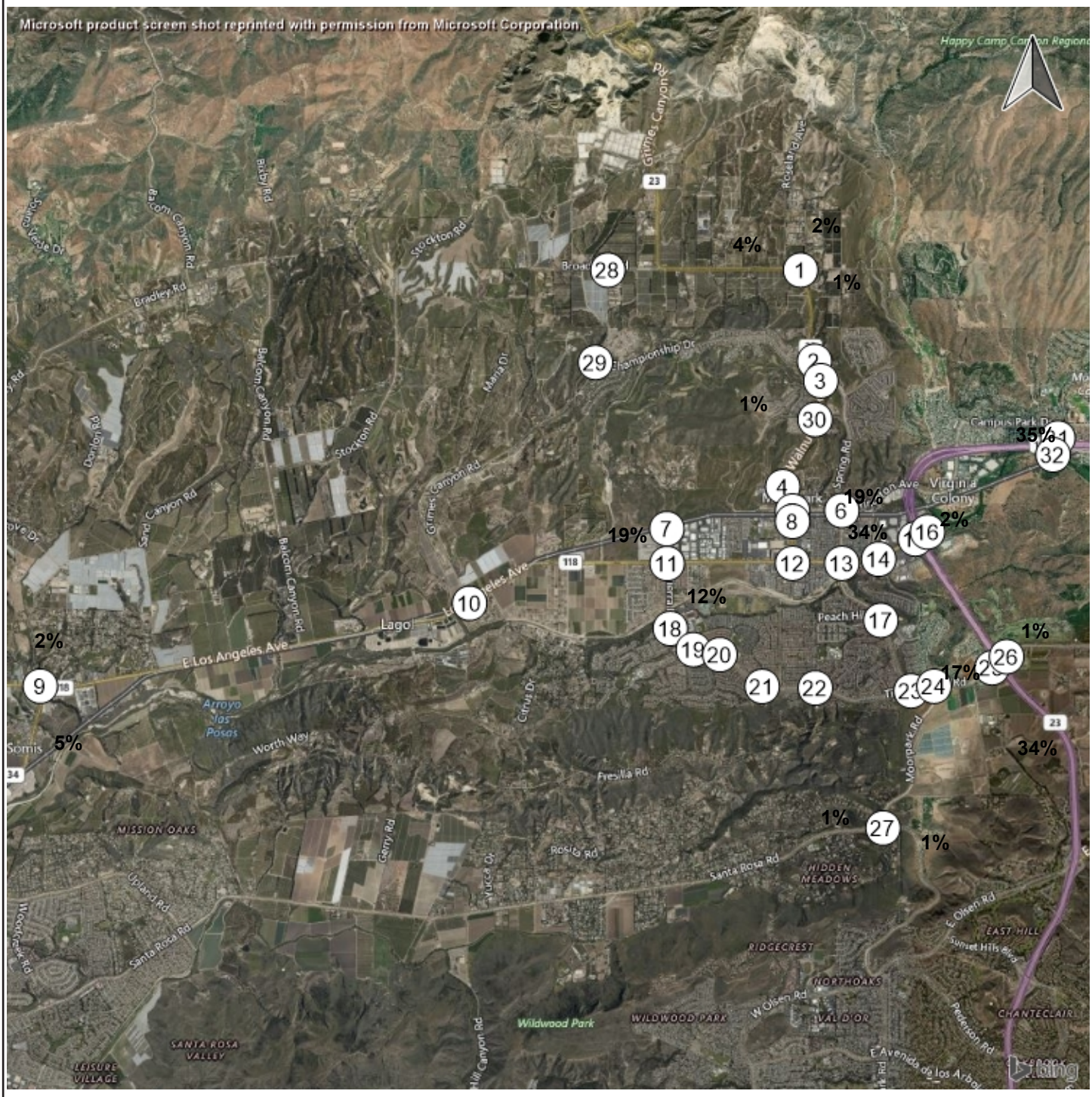
A primary factor affecting trip direction is the spatial distribution of population and employment centers which would generate project trip origins and destinations. The estimated project directional trip distribution is based on the study area roadway network, traffic flow patterns in and out of the project study area, and other traffic studies recently prepared for the general area.

Table 3.10-5
Project Traffic Generation (Weekday AM and PM Hours)

Proposed Land Use	Daily Traffic	AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out
Single-Family Residences	4,301	316	79	237	423	266	157
Multi-Family Residences	2,401	151	35	116	184	116	68
Public Park	4	0	0	0	1	0	1
Total	6,436	467	114	353	608	382	226

Source: Impact Sciences, 2021

Figure 3.10-3, Project Trip Assignment, illustrates the estimated project traffic percentages at the selected study intersections for the morning peak hour and afternoon peak hour. Using the traffic assignment at each intersection and the estimated peak hour traffic volume as provided in **Table 3.10-5**, peak hour traffic volumes at each study location for each study period have been calculated and are shown in **Figures 3.10-4a-e** and **3.10-5a-e Project Traffic Volumes Weekday AM and PM Peak Hours** for the weekday morning and afternoon, respectively. This estimated assignment of the project traffic flow provides the information necessary to analyze the potential traffic generated by the project at the study intersections. **Figures 3.10-6a-e** and **3.10-7a-g Existing (2019) Traffic Volumes Weekday AM and PM Peak Hours** show existing traffic volumes at these intersections.



SOURCE: Impact Sciences, 2019

FIGURE **3.10-3**

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Project Traffic Assignment

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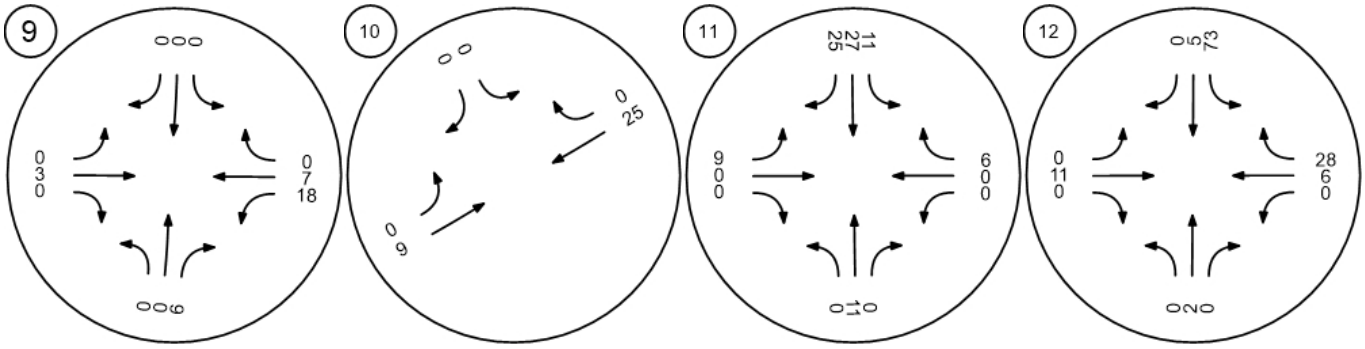
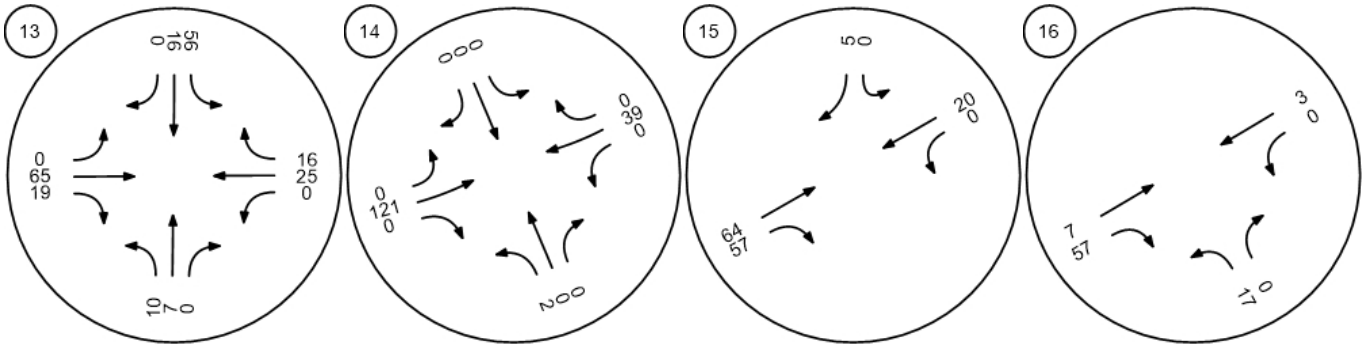
Somis Road and Los Angeles | Grimes Canyon Road and Lo | Tierra Rejada Road and Los | Moorpark Avenue and Los A



Spring Road and Los Angele | Miller Parkway/Science Drive | SR□23 SB ramps and Los An | SR□23 NB ramps and Los An



SOURCE: Impact Sciences, Inc., 2021

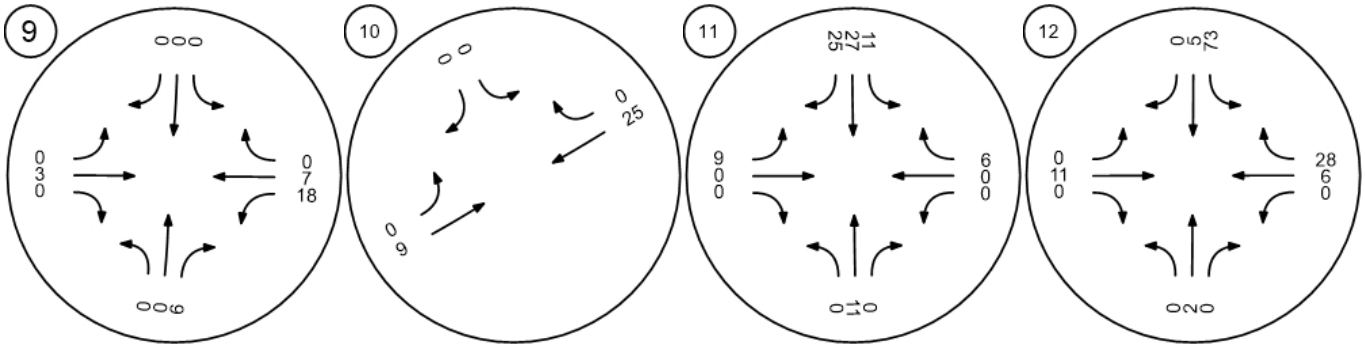
FIGURE **3.10-4b**

IMPACT SCIENCES

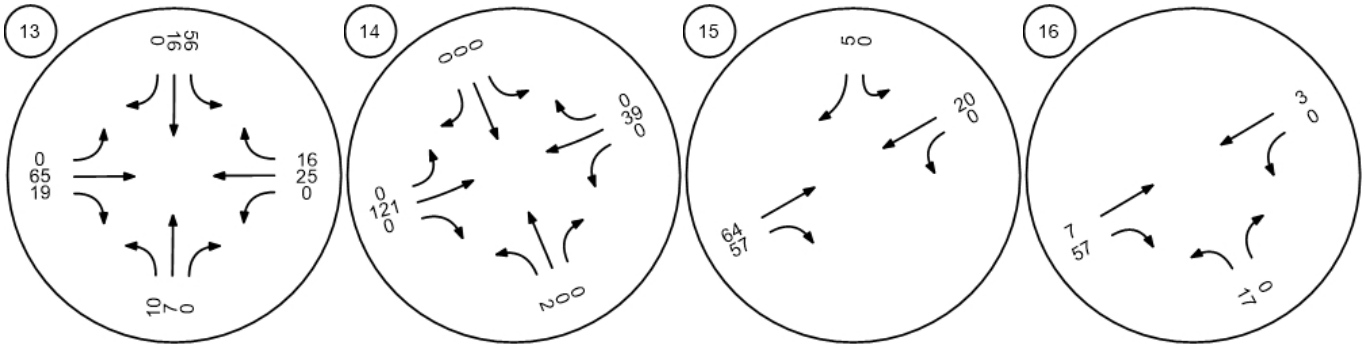
Project Traffic Volume - Weekday AM Peak Hour



Somis Road and Los Angeles | Grimes Canyon Road and Lo | Tierra Rejada Road and Los | Moorpark Avenue and Los A



Spring Road and Los Angele | Miller Parkway/Science Drive | SR□23 SB ramps and Los An | SR□23 NB ramps and Los An



SOURCE: Impact Sciences, Inc., 2021

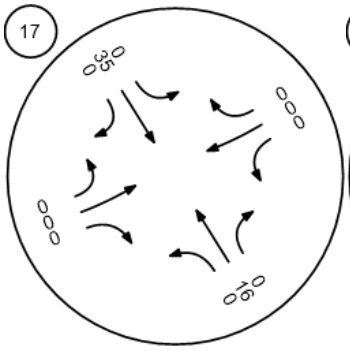
FIGURE **3.10-4b**

IMPACT SCIENCES

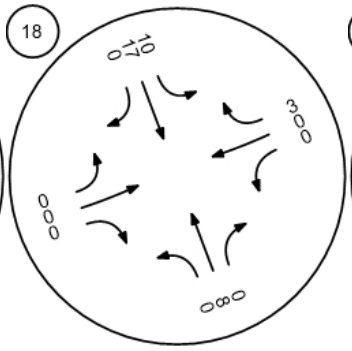
Project Traffic Volume - Weekday AM Peak Hour



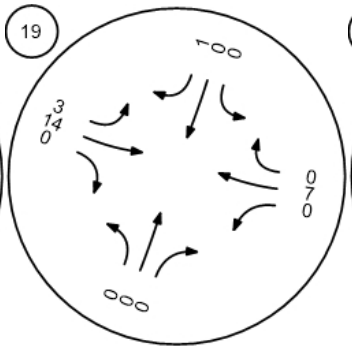
Spring Road and Peach Hill



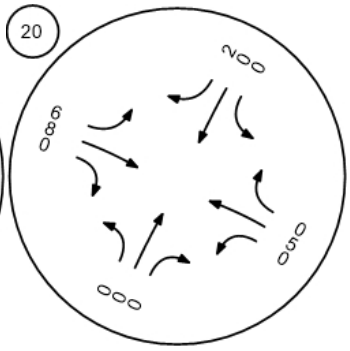
Tierra Rejada Road and Cou



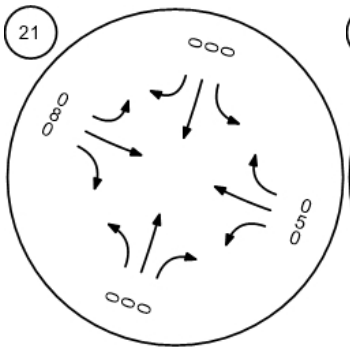
Mountain Trail Road and Tier



Mountain Meadow Drive and



Walnut Creek Road and Tierr



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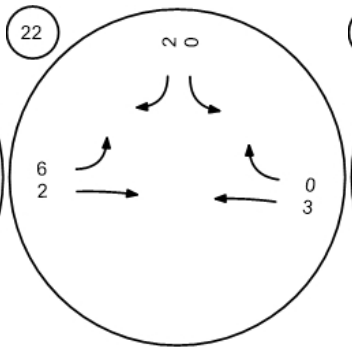
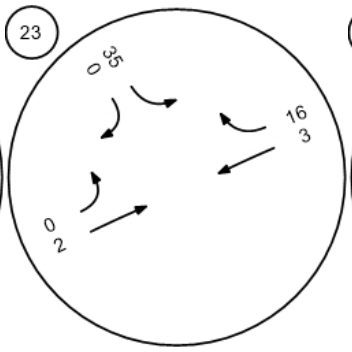
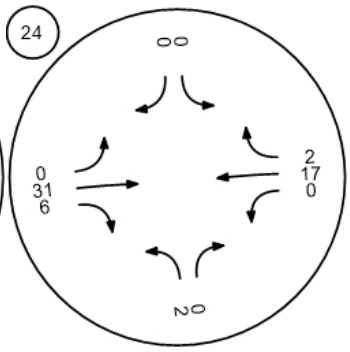


Spring Road and Tierra Reja



Moorpark Road and Tierra R



SOURCE: Impact Sciences, Inc., 2021

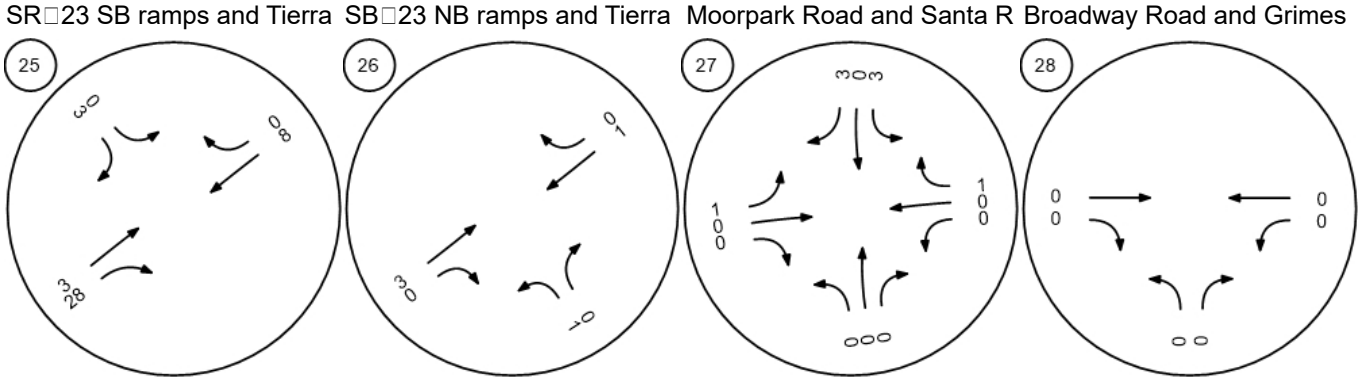
FIGURE **3.10-4c**

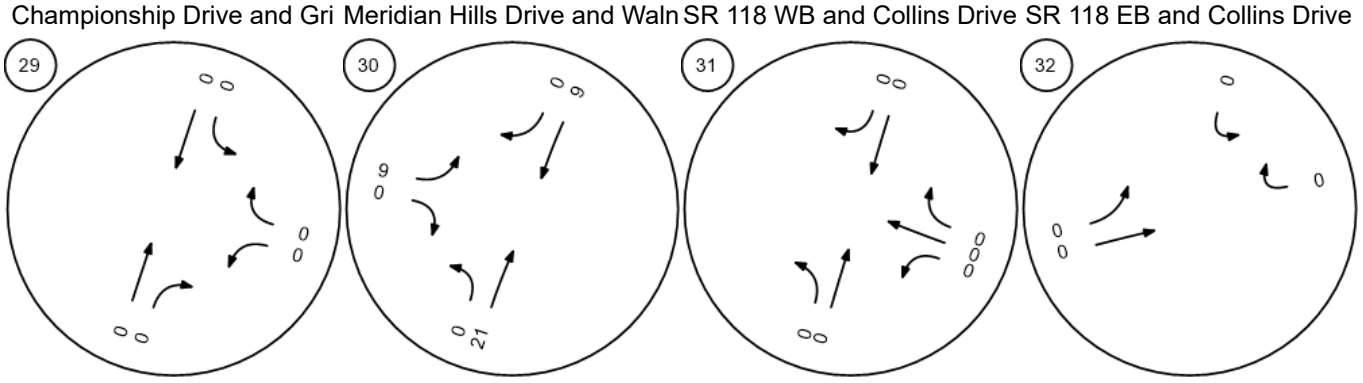
IMPACT SCIENCES

Project Traffic Volume - Weekday AM Peak Hour

1318.003•01/21







SOURCE: Impact Sciences, Inc., 2021

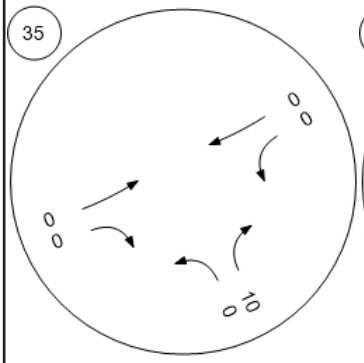
FIGURE **3.10-4d**

IMPACT SCIENCES

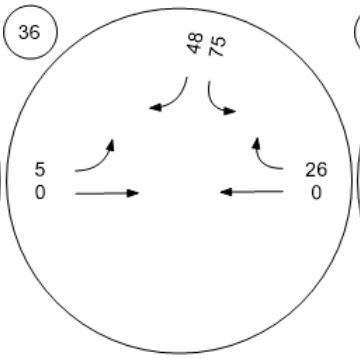
Project Traffic Volume - Weekday AM Peak Hour



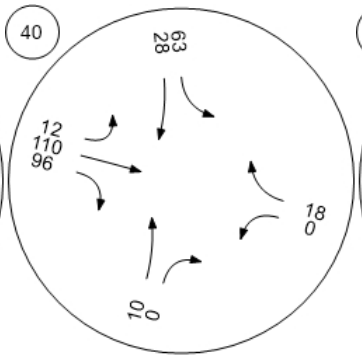
Future Road - Meridian Hills



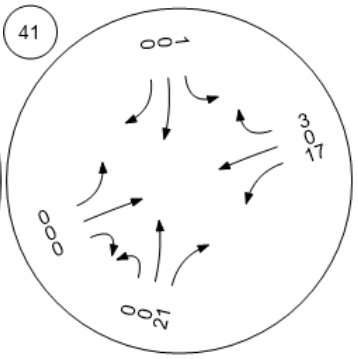
Future Road - Street "A" at Hi



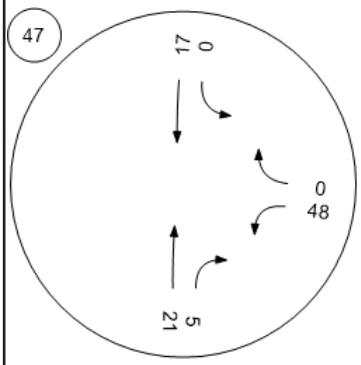
Future Road - Casey Road at



Future Road - Gabbert Road



Future Road - Gabbert Road



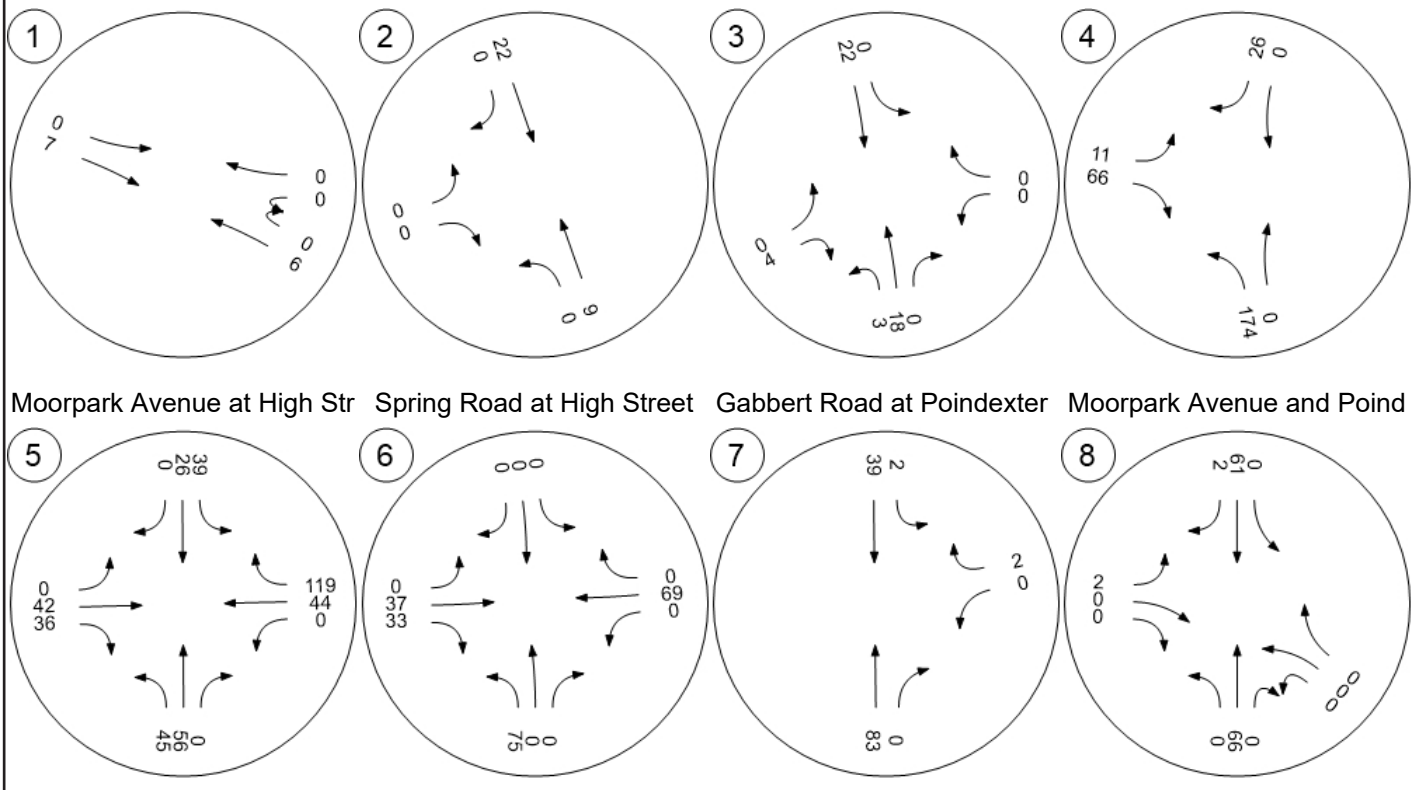
SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-4e**

IMPACT SCIENCES

Project Traffic Volume - Weekday AM Peak Hour





SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-5a**

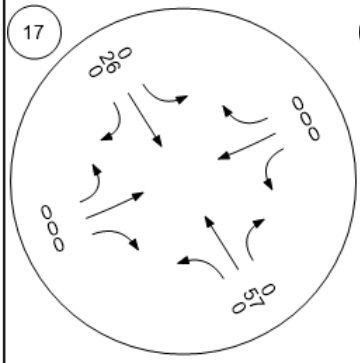
Project Traffic Volume - Weekday PM Peak Hour

IMPACT SCIENCES

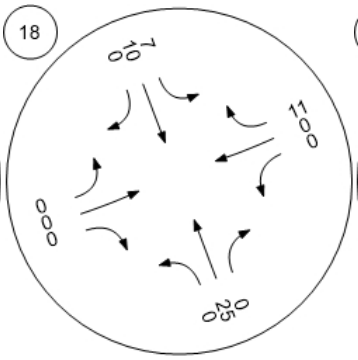
1318.002•12/2021



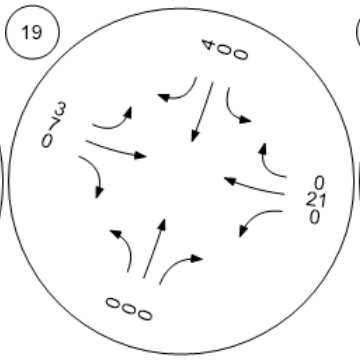
Spring Road and Peach Hill



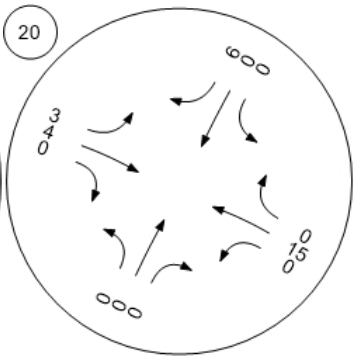
Tierra Rejada Road and Cou



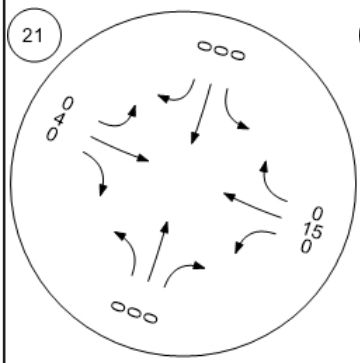
Mountain Trail Street and Tie



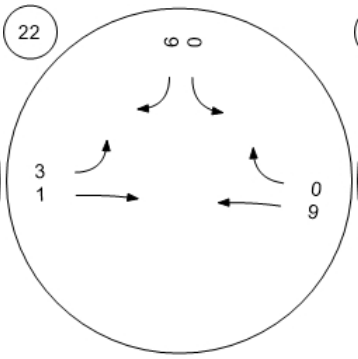
Mountain Meadow Drive and



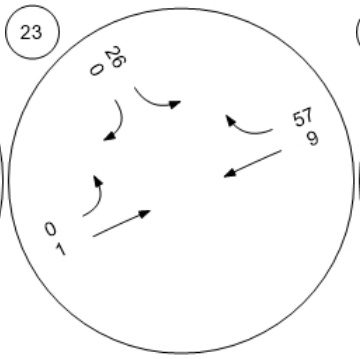
Walnut Creek Road and Tierr



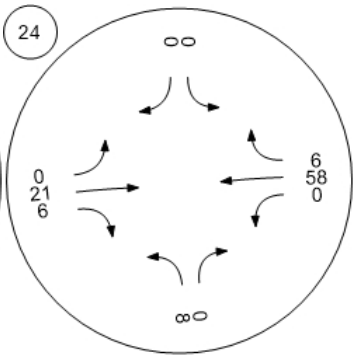
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Moorpark Road and Tierra R



SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-5c**

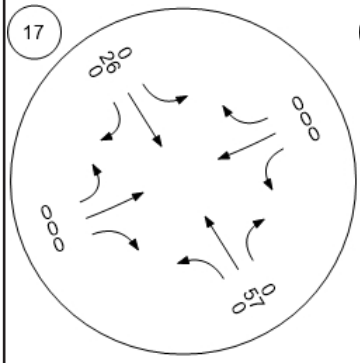
IMPACT SCIENCES

Project Traffic Volume - Weekday PM Peak Hour

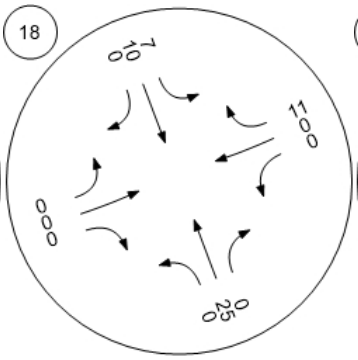
1318.002•12/2021



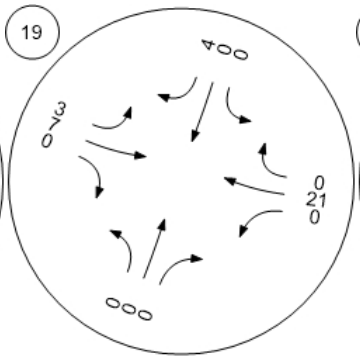
Spring Road and Peach Hill



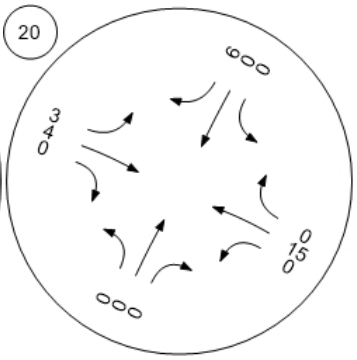
Tierra Rejada Road and Cou



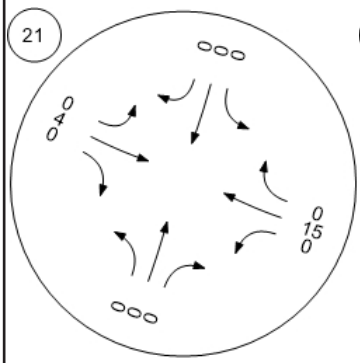
Mountain Trail Street and Tie



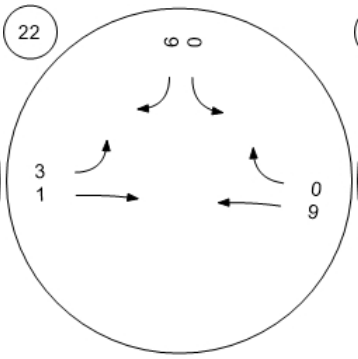
Mountain Meadow Drive and



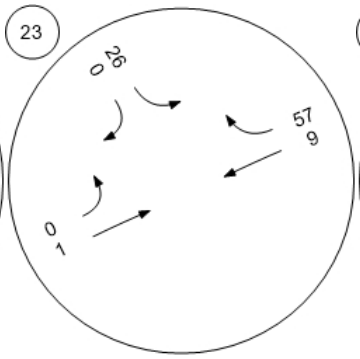
Walnut Creek Road and Tierr



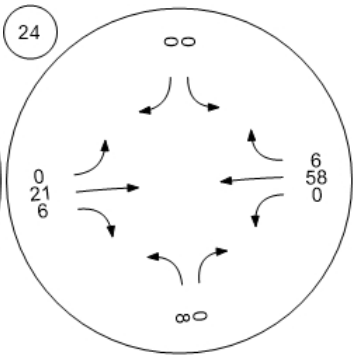
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Moorpark Road and Tierra R



SOURCE: PTV VISTRO, Stantec, 2021.

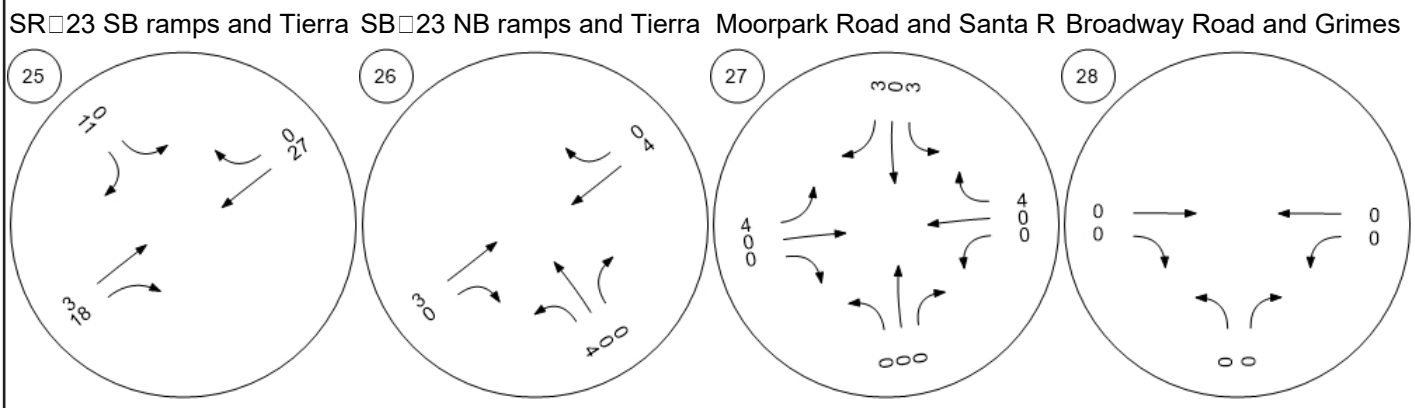
FIGURE **3.10-5c**

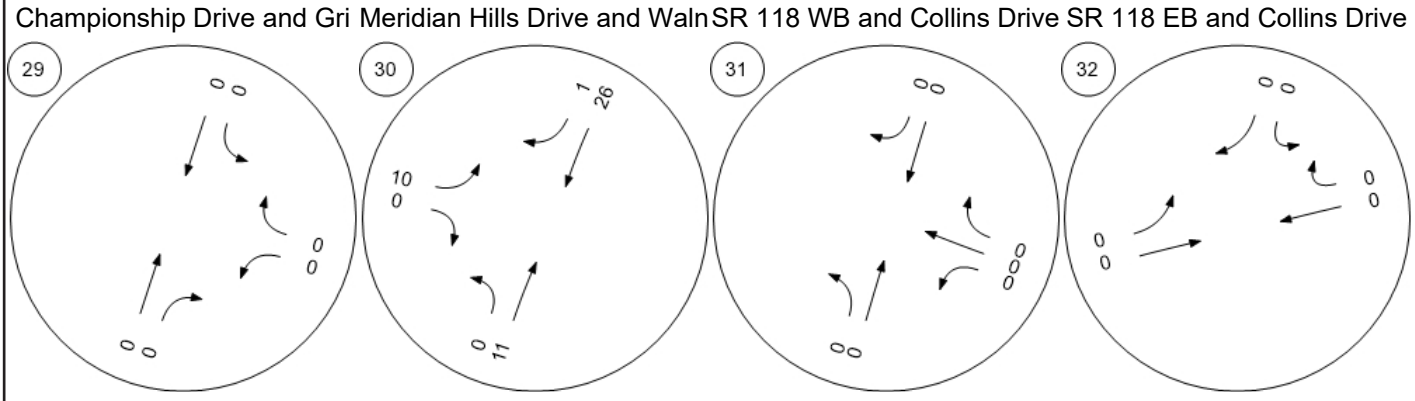
IMPACT SCIENCES

Project Traffic Volume - Weekday PM Peak Hour

1318.002•12/2021







SOURCE: PTV VISTRO, Stantec, 2021.

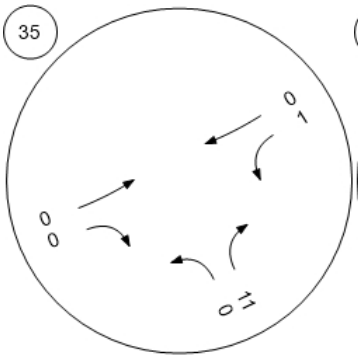
FIGURE **3.10-5d**

Project Traffic Volume - Weekday PM Peak Hour

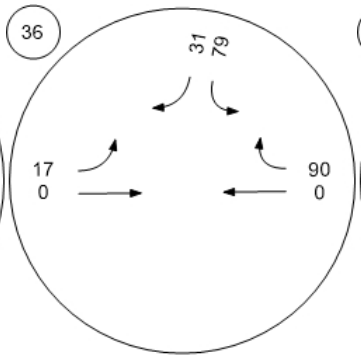
IMPACT SCIENCES



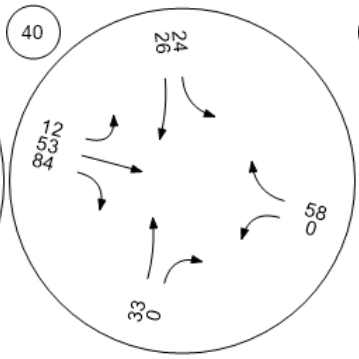
Future Road - Meridian Hills



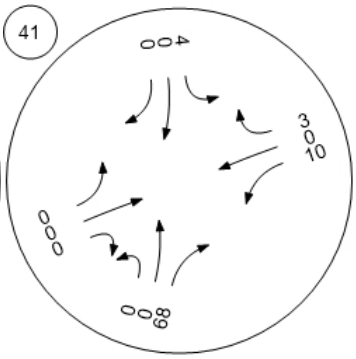
Future Road - Street "A" at Hi



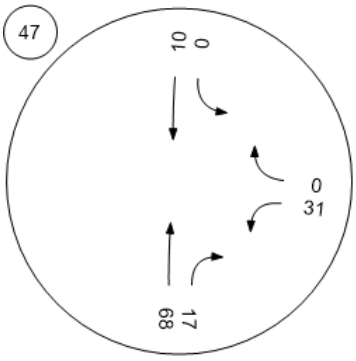
Future Road - Casey Road at



Future Road - Gabbert Road



Future Road - Gabbert Road

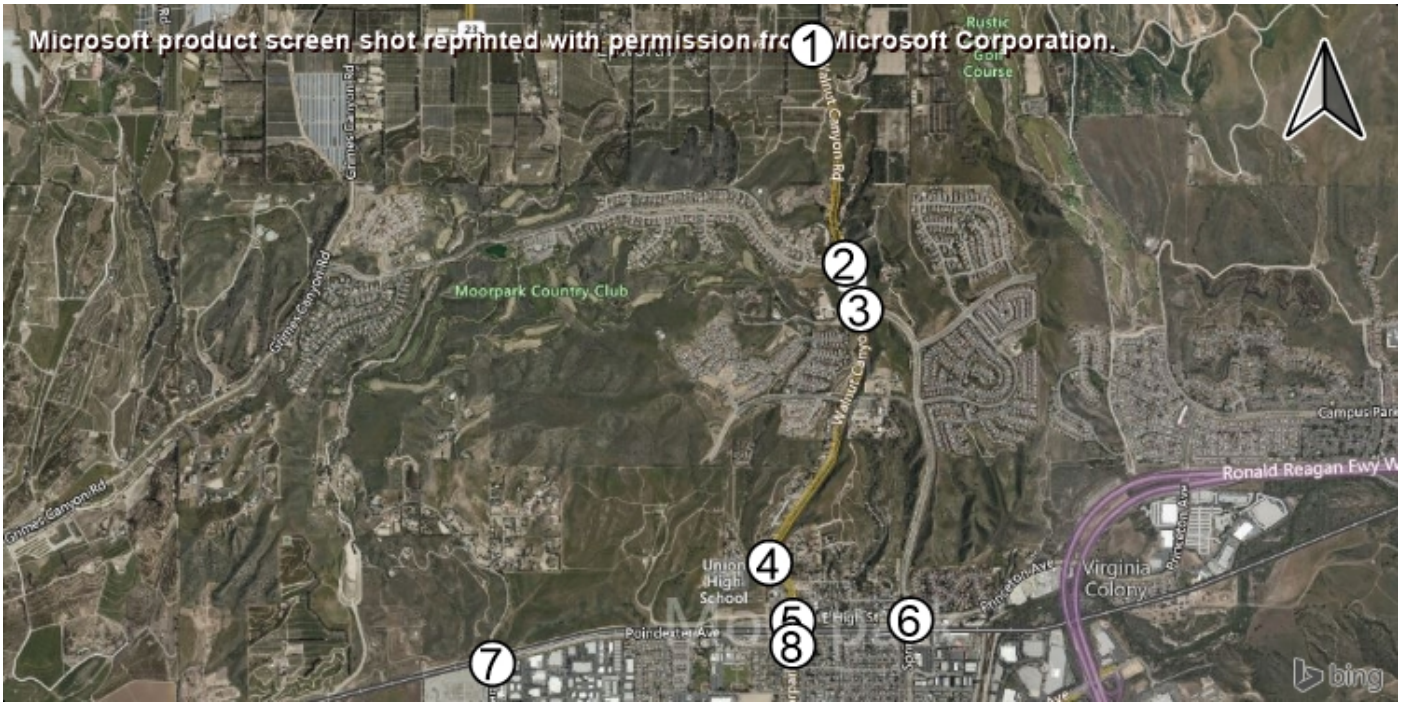


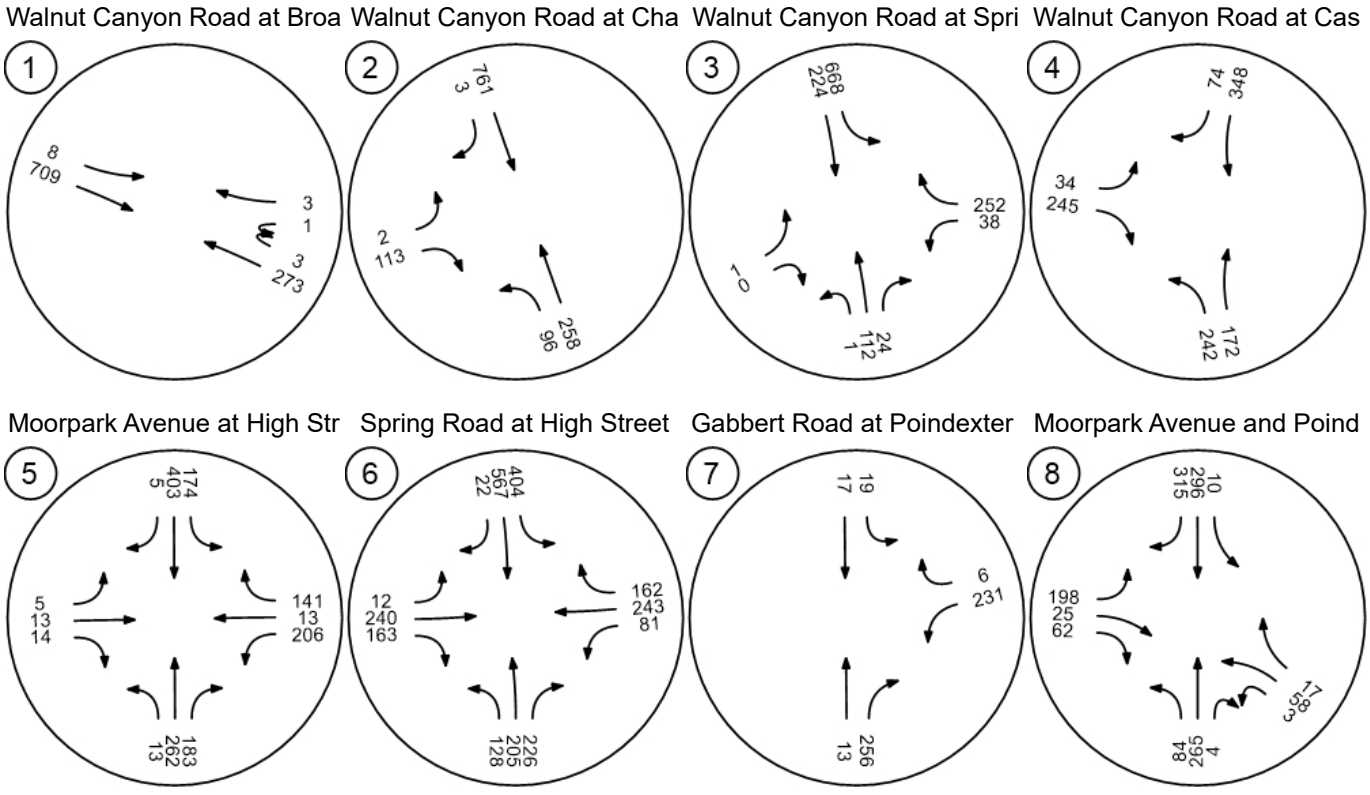
SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-5e**

IMPACT SCIENCES

Project Traffic Volume - Weekday PM Peak Hour





SOURCE: Impact Sciences, Inc., 2021

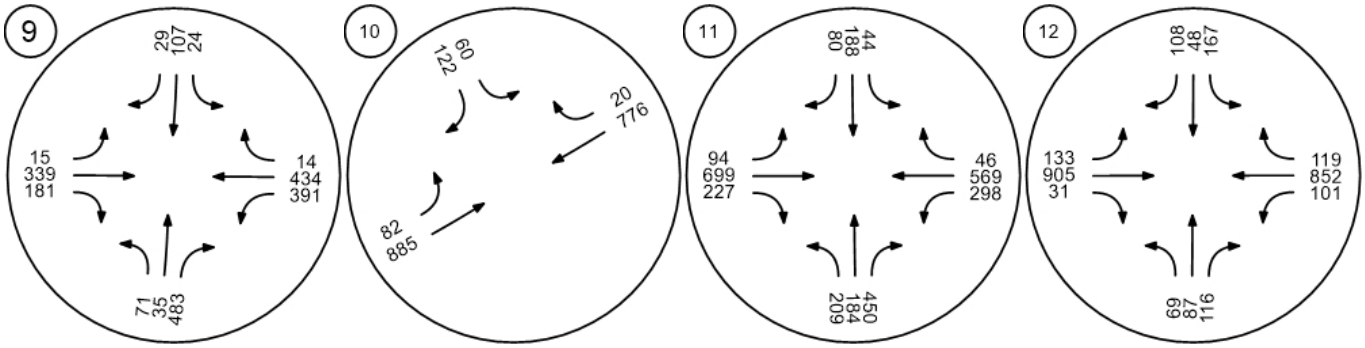
FIGURE **3.10-6a**

IMPACT SCIENCES

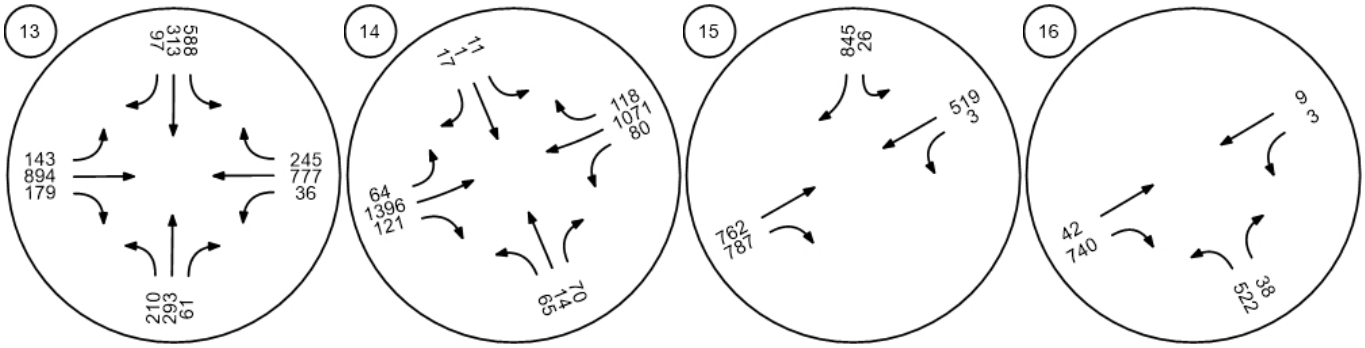
Existing (2019) Traffic Volume - Weekday AM Peak Hour



Somis Road and Los Angeles | Grimes Canyon Road and Lo | Tierra Rejada Road and Los | Moorpark Avenue and Los A



Spring Road and Los Angele | Miller Parkway/Science Drive | SR□23 SB ramps and Los An | SR□23 NB ramps and Los An



SOURCE: Impact Sciences, Inc., 2021

FIGURE **3.10-6b**

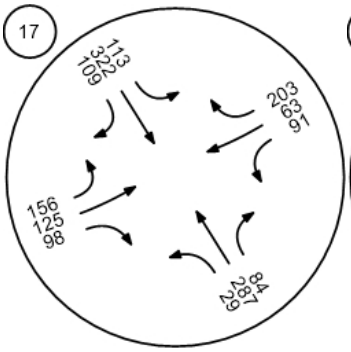
IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday AM Peak Hour

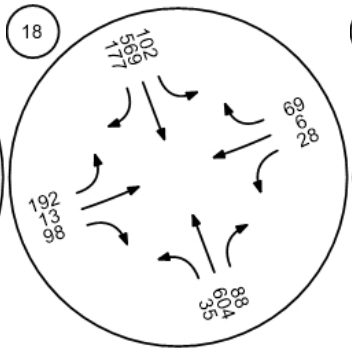
1318.003•01/21



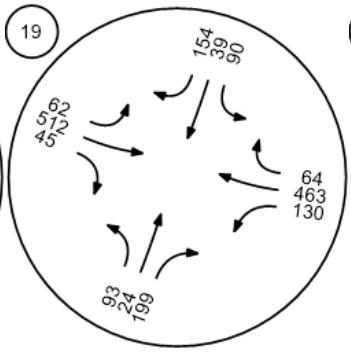
Spring Road and Peach Hill



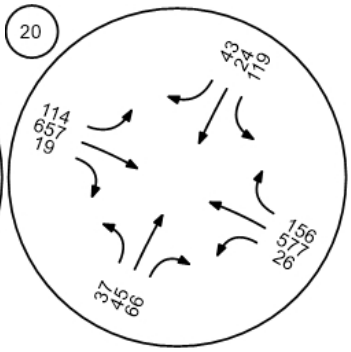
Tierra Rejada Road and Cou



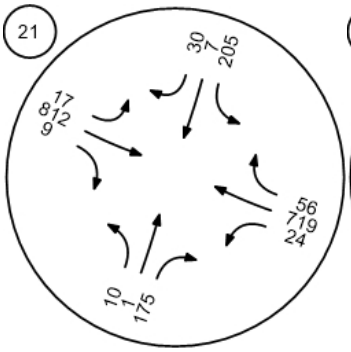
Mountain Trail Road and Tier



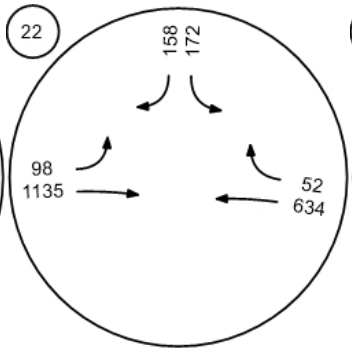
Mountain Meadow Drive and



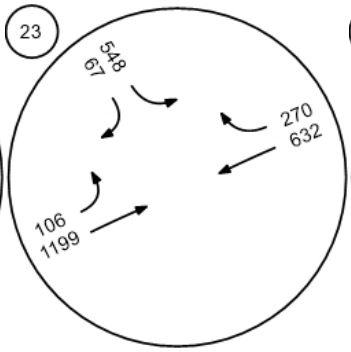
Walnut Creek Road and Tierr



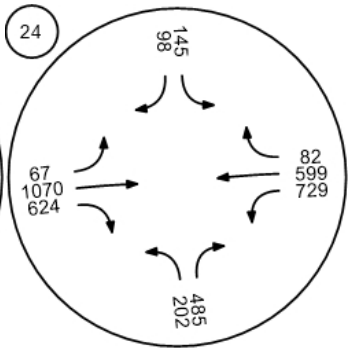
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Moorpark Road and Tierra R



SOURCE: Impact Sciences, Inc., 2021

FIGURE **3.10-6c**

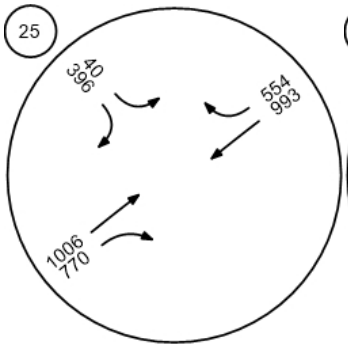
IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday AM Peak Hour

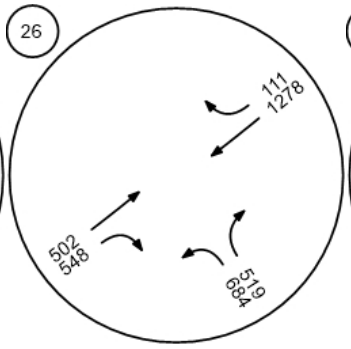
1318.003•01/21



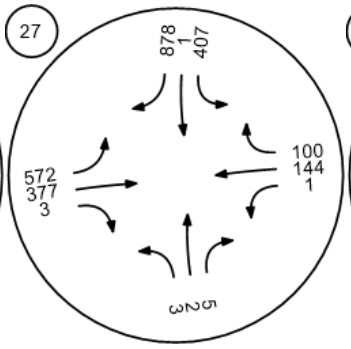
SR 23 SB ramps and Tierra



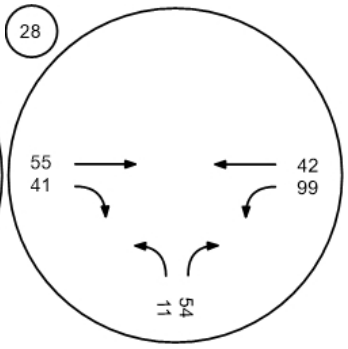
SB 23 NB ramps and Tierra



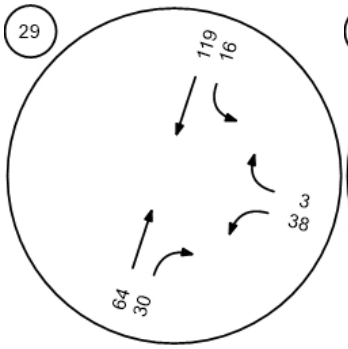
Moorpark Road and Santa R



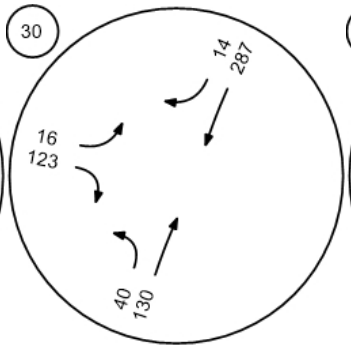
Broadway Road and Grimes



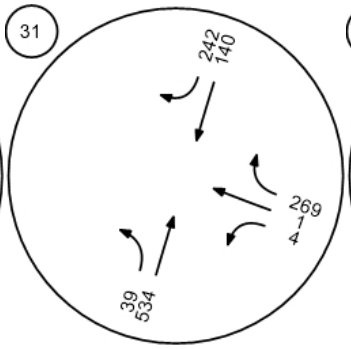
Championship Drive and Gri



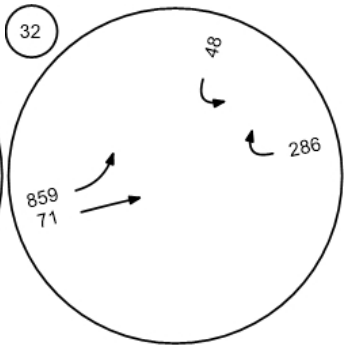
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



SR 118 EB and Collins Drive



SOURCE: Impact Sciences, Inc., 2021

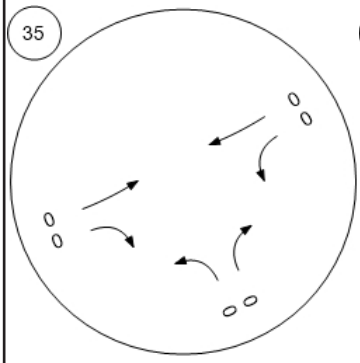
FIGURE **3.10-6d**

IMPACT SCIENCES

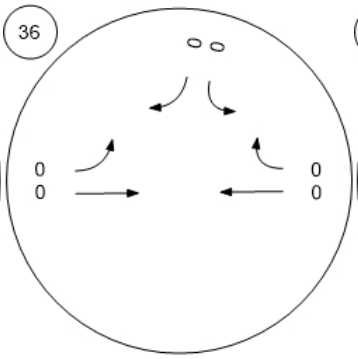
Existing (2019) Traffic Volume - Weekday AM Peak Hour



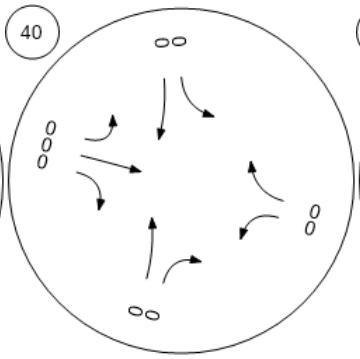
Future Road - Meridian Hills



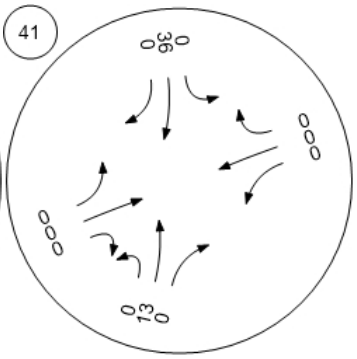
Future Road - Street "A" at Hi



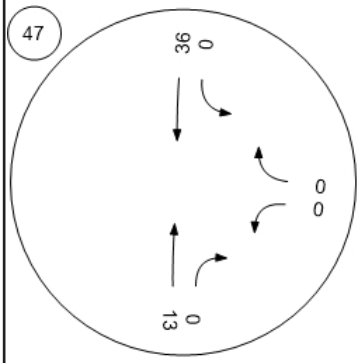
Future Road - Casey Road at



Future Road - Gabbert Road



Future Road - Gabbert Road



SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-6e**

IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday AM Peak Hour

SOURCE: Impact Sciences, Inc., 2021

FIGURE **3.10-7a**

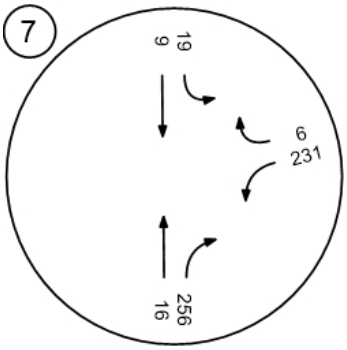
IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday PM Peak Hour

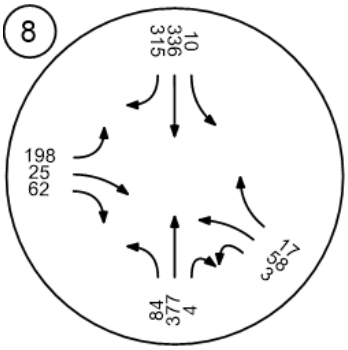
1318.003•01/21



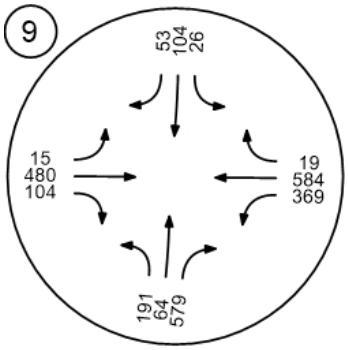
Gabbert Road at Poindexter



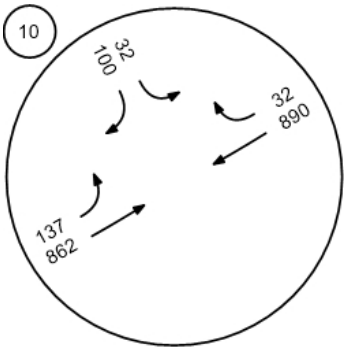
Moorpark Avenue and Poind



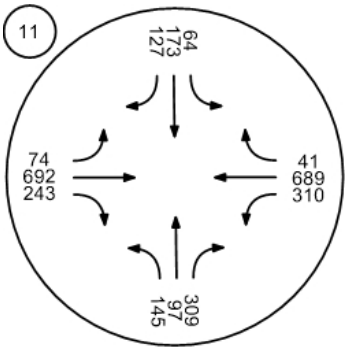
Somis Road and Los Angeles



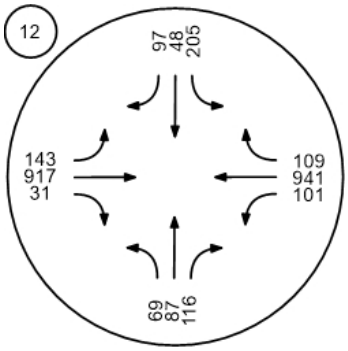
Grimes Canyon Road and Lo



Tierra Rejada Road and Los



Moorpark Avenue and Los A

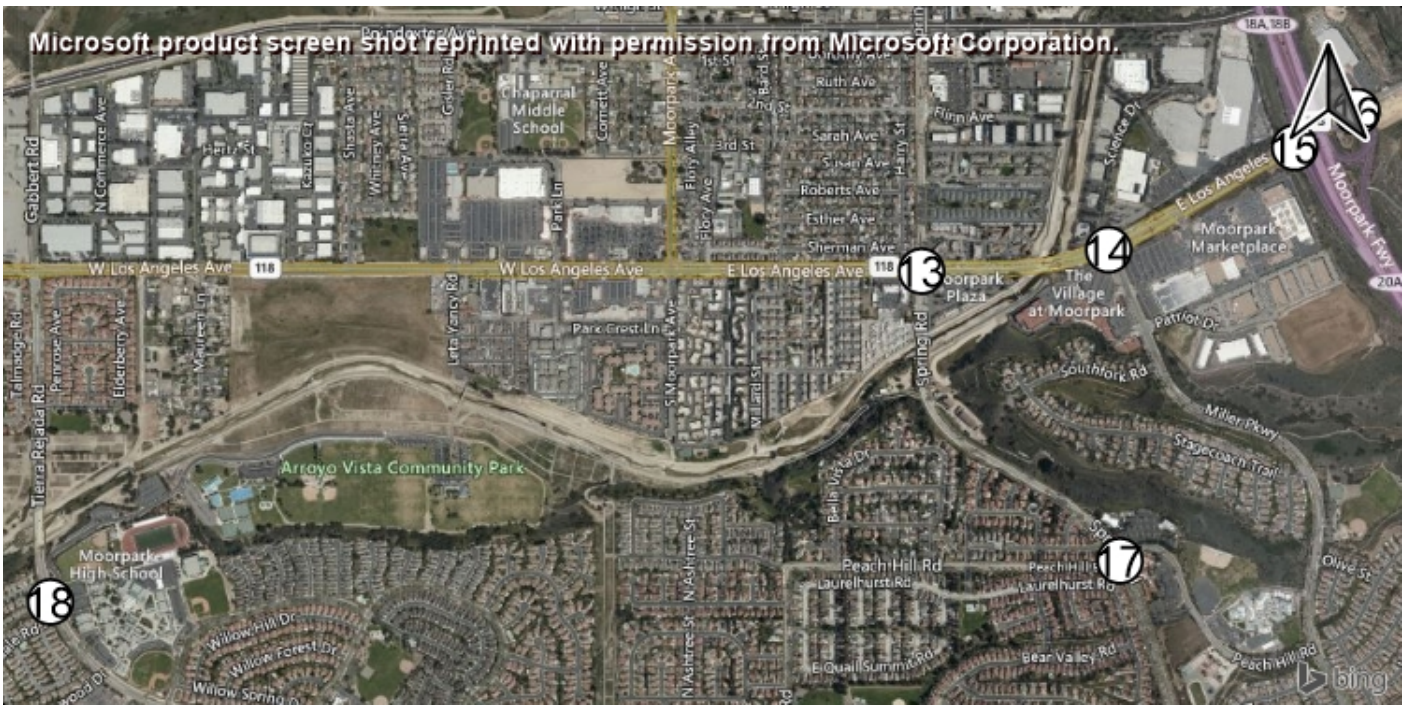


SOURCE: Impact Sciences, Inc., 2021

FIGURE **3.10-7b**

IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday PM Peak Hour



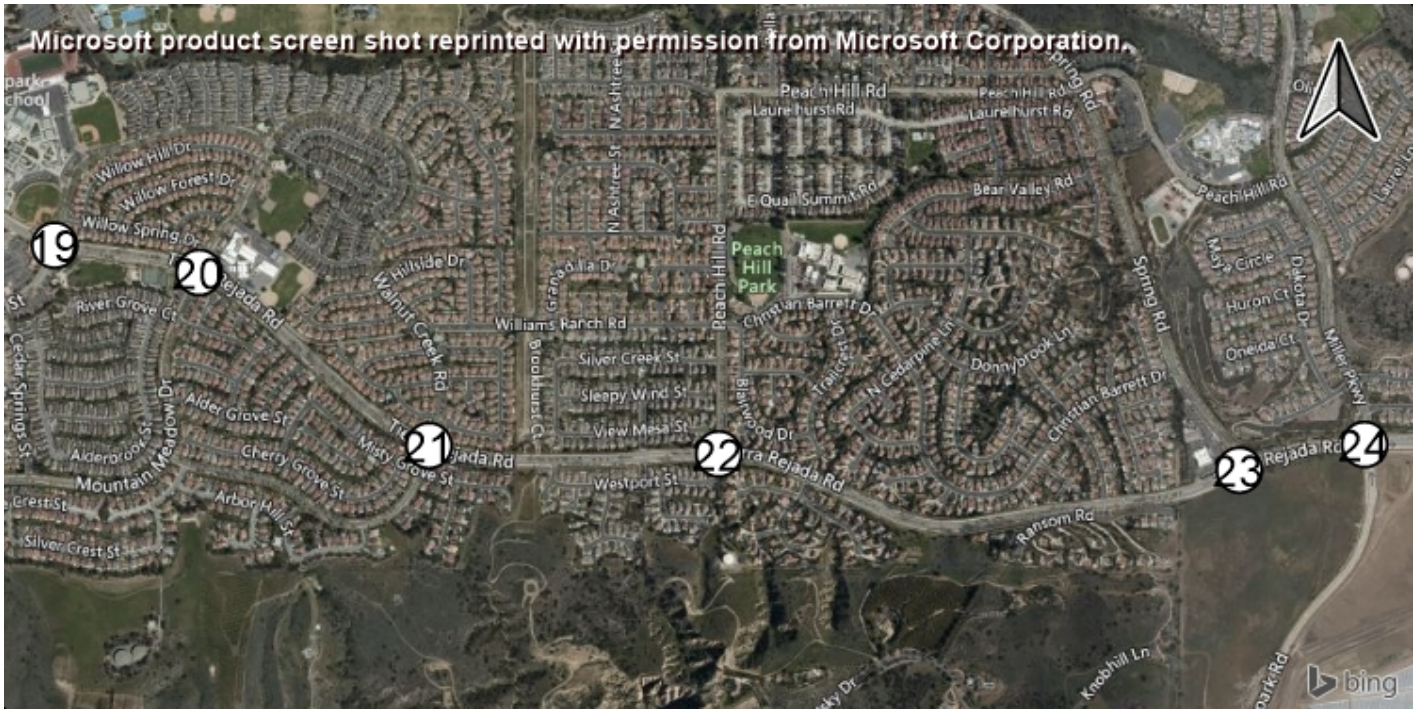
SOURCE: Impact Sciences, Inc., 2021

FIGURE **3.10-7c**

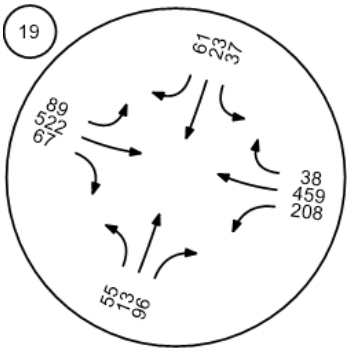
Existing (2019) Traffic Volume - Weekday PM Peak Hour

IMPACT SCIENCES

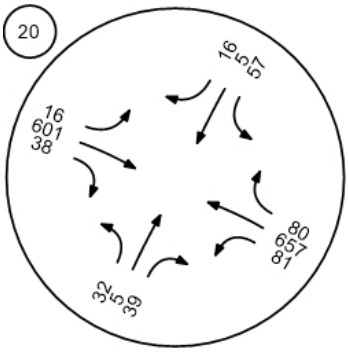
1318.003•01/21



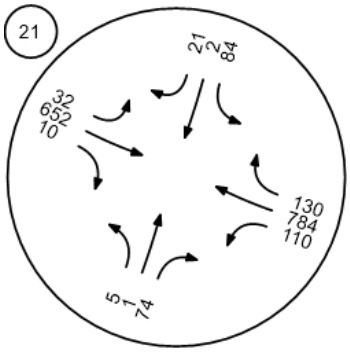
Mountain Trail Road and Tier



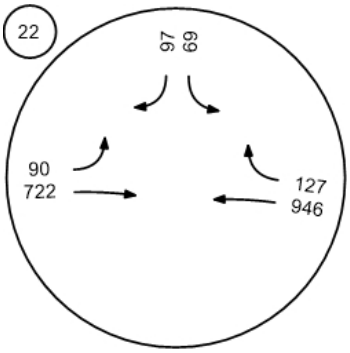
Mountain Meadow Drive and



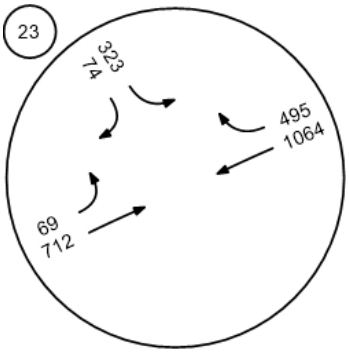
Walnut Creek Road and Tierr



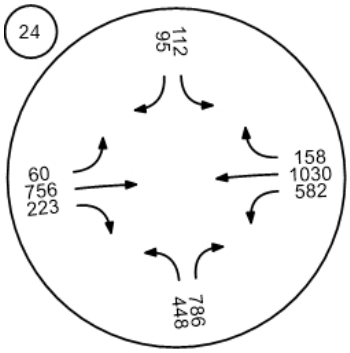
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Moorpark Road and Tierra R



SOURCE: Impact Sciences, Inc., 2021

FIGURE **3.10-7d**

IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday PM Peak Hour

SOURCE: Impact Sciences, Inc., 2021

FIGURE **3.10-7e**

IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday PM Peak Hour

1318.003•01/21

SOURCE: Impact Sciences, Inc., 2021

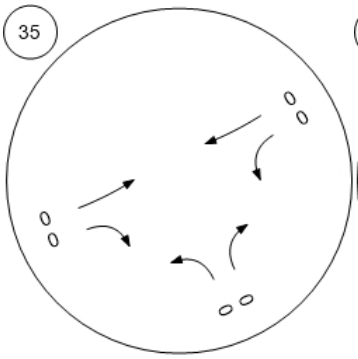
FIGURE **3.10-7f**

IMPACT SCIENCES

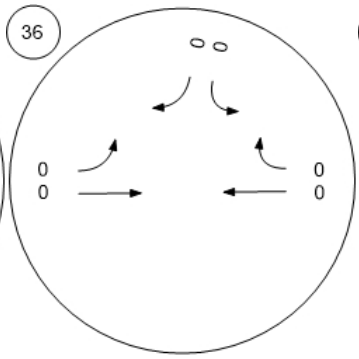
Existing (2019) Traffic Volume - Weekday PM Peak Hour



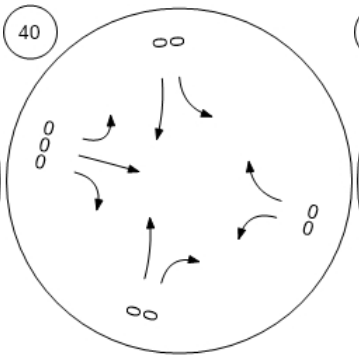
Future Road - Meridian Hills



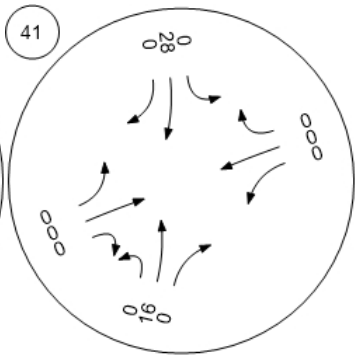
Future Road - Street "A" at Hi



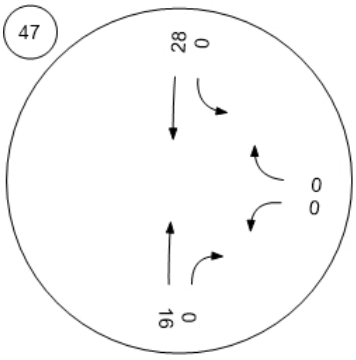
Future Road - Casey Road at



Future Road - Gabbert Road



Future Road - Gabbert Road



SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-7g**

IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday PM Peak Hour

3.10.5 LOS Performance Objective

The City of Moorpark General Plan Circulation Element, Policy 2.1, states, "Level of Service 'C' shall be the system performance objective for traffic volumes on the circulation system. For roadways and interchanges already operating at less than level of service 'C', the system performance objective shall be to maintain or improve the current level of service." Therefore, the performance standard for this consistency analysis is operation at less than LOS 'C' as stated in Policy 2.1.

Policy 2.1: Level of service "C" shall be the system performance objective for traffic volumes on the circulation system. For roadways and interchanges already operating at less than level of service "C," the system performance objective shall be to maintain or improve the current level of service.

3.10.6 Non CEQA LOS Analysis

This analysis summarizes an approach that is consistent with the City of Moorpark's *General Plan Circulation Element* (as adopted May 13, 1992), and *Guidelines for Preparing Traffic and Circulation Studies* (as revised November 22, 1993). ***All analysis provided in this section related to LOS is presented for consistency purposes only, and not for the purpose of determining a significant environmental impact related to transportation under CEQA.***

This analysis represents a summary of the findings of the following reports, included as **Appendix 3.15** of this EIR:

- ***Supplemental Traffic Analysis for the Hitch Ranch Project in the City of Moorpark****, conducted by Stantec, December 2021.*
- ***Traffic impact Analysis for the Proposed Hitch Ranch Specific Plan****, conducted by Impact Sciences, Inc. July 2021.*

As shown in **Figures 3.10-8a-e** through **3.10-9a-e, Existing (2019) + Project Traffic Volume – Weekday AM and PM Peak Hour,** the proposed project would result in the addition of 467 AM peak hour trips and 608 PM peak hour trips. The effects of these additional vehicle trips on intersection levels of service were calculated for the Existing plus Project condition, and the resulting levels of service are presented in **Tables 3.10-6 and 3.10-7**.

As shown in **Table 3.10-6**, one study intersection would operate below the performance objective in the morning peak hour when compared to existing conditions:

1. Walnut Canyon Road and Casey Road

In addition, as shown in **Table 3.10-7**, traffic conditions at two intersections would operate below the performance objective during the afternoon peak hour when compared to existing conditions:

1. Walnut Canyon Road and Spring Road
2. Spring Road and High Street

Therefore, under the City of Moorpark criteria and based on the level of traffic added at these intersections payment of fees, consistent with Circulation Element Policy 2.4, is required.

Table 3.10-6
Existing + Project Traffic Conditions (AM Peak Hour)

		Existing Conditions			Existing with Project Conditions			
No.	Intersection	V/C	Delay	LOS	V/C	Delay	LOS	Exceed Performance Objective?
1	Walnut Canyon Rd & Broadway Rd		18.5	C		18.8	C	No
2	Walnut Canyon Rd & Championship Dr		25.4	D		26.3	D	No
3	Walnut Canyon Rd & Spring Rd	0.747		C	0.764		C	No
4	Walnut Canyon Rd & Casey Rd	0.668		B	0.801		**D**	**Yes**
5	Moorpark Ave & High St	0.538		A	0.676		B	No
6	Spring Rd & High St	0.694		B	0.730		C	No
7	Gabbert Rd at Poindexter Ave		10.4	B		10.6	B	No
8	Moorpark Ave & Poindexter Ave/1st St	0.705		C	0.756		C	No
9	Somis Rd & Los Angeles Ave	0.821		D	0.834		D	No
10	Grimes Canyon Rd & Los Angeles Ave	0.767		C	0.773		C	No
11	Tierra Rejada Rd & Los Angeles Ave	0.717		C	0.734		C	No
12	Moorpark Ave & Los Angeles Ave	0.571		A	0.582		A	No
13	Spring Rd & Los Angeles Ave	0.696		B	0.736		C	No
14	Miller Pkwy/Science Dr/Los Angeles Ave	0.478		A	0.503		A	No
15	SR-23 SB ramps & Los Angeles Ave	0.441		A	0.466		A	No
16	SR-23 NB ramps & Los Angeles Ave	0.496		A	0.519		A	No
17	Spring Rd & Peach Hill Rd	0.614		B	0.624		B	No
18	Tierra Rejada Rd & Countrywood Dr	0.547		A	0.558		A	No
19	Mountain Trail Rd & Tierra Rejada Rd	0.536		A	0.540		A	No
20	Mountain Meadow Dr & Tierra Rejada Rd	0.544		A	0.549		A	No
21	Walnut Creek Rd & Tierra Rejada Rd	0.610		B	0.612		B	No
22	Peach Hill Rd & Tierra Rejada Rd	0.562		A	0.563		A	No
23	Spring Rd and Tierra Rejada Rd	0.646		B	0.658		B	No
24	Moorpark Rd & Tierra Rejada Rd	0.904		E	0.914		E	No
25	SR-23 SB ramps & Tierra Rejada Rd	0.829		D	0.848		D	No
26	SB-23 NB ramps & Tierra Rejada Rd	0.875		D	0.876		D	No
27	Moorpark Rd & Santa Rosa Rd	0.745		C	0.747		C	No
28	Broadway Rd & Grimes Canyon Rd		11.0	B		11.0	B	No
29	Championship Dr & Grimes Canyon Rd		10.0	A		10.0	A	No
30	Meridian Hills Dr & Walnut Canyon Rd		12.2	B		12.7	B	No
31	SR 118 WB & Collins Dr	0.444		A	0.444		A	No
32	SR 118 EB & Collins Dr	0.719		C	0.719		C	No
33	Meridian Hills Dr & Street 'A' (future)		3.2	A		3.3	A	No
34	Street 'A' & High St (future)					9.1	A	No
35	Casey Rd & Street 'A'(future)					7.9	A	No
36	Gabbert Rd & North Hills Pkwy (future)					7.0	A	No
37	Gabbert Rd & High St (future)					9.2	A	No

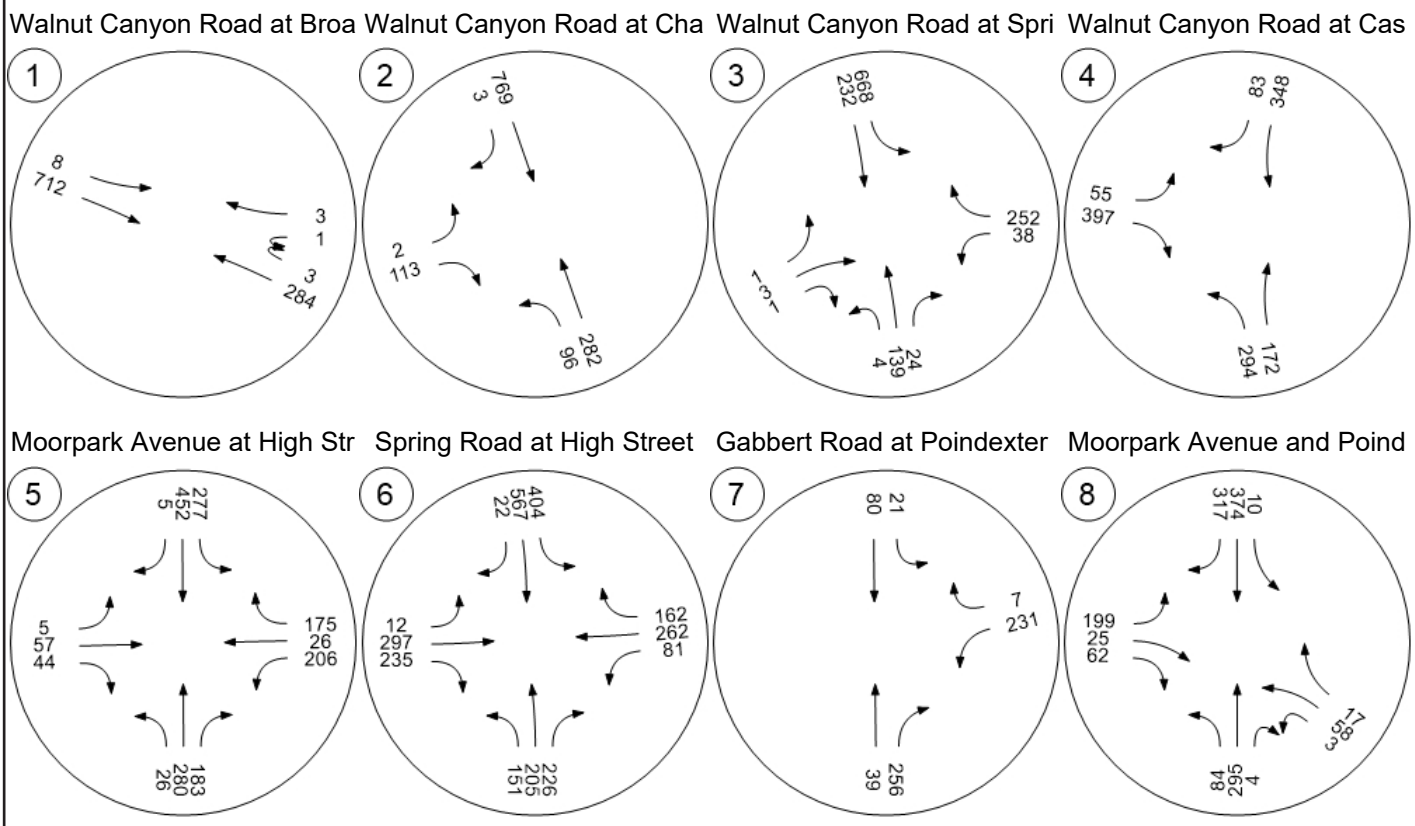
Shading denotes if an intersection exceeds the performance objective based on City of Moorpark criteria.
Source: Stantec, December 2021, Impact Sciences, Inc, July 2021

Table 3.10-7
Existing + Project Traffic Conditions (PM Peak Hour)

		Existing Conditions			Existing with Project Conditions			
No.	Intersection	V/C	Delay	LOS	V/C	Delay	LOS	Exceed Performance Objective?
1	Walnut Canyon Rd & Broadway Rd		23.6	C		23.9	C	No
2	Walnut Canyon Rd & Championship Dr		33.2	D		34.5	D	No
3	Walnut Canyon Rd & Spring Rd	0.899		D	0.912		**E**	**Yes**
4	Walnut Canyon Rd & Casey Rd	0.468		A	0.634		B	No
5	Moorpark Ave & High St	0.563		A	0.726		**C**	**Yes**
6	Spring Rd & High St	0.782		C	0.805		D	No
7	Gabbert Rd at Poindexter Ave		10.3	B		10.5	B	No
8	Moorpark Ave & Poindexter Ave/1st St	0.719		C	0.758		C	No
9	Somis Rd & Los Angeles Ave	0.953		E	0.964		E	No
10	Grimes Canyon Rd & Los Angeles Ave	0.824		D	0.834		D	No
11	Tierra Rejada Rd & Los Angeles Ave	0.618		B	0.628		B	No
12	Moorpark Ave & Los Angeles Ave	0.602		B	0.630		B	No
13	Spring Rd & Los Angeles Ave	0.695		B	0.735		C	No
14	Miller Pkwy/Science Dr/Los Angeles Ave	0.611		B	0.640		B	No
15	SR-23 SB ramps & Los Angeles Ave	0.694		B	0.732		C	No
16	SR-23 NB ramps & Los Angeles Ave	0.667		B	0.695		B	No
17	Spring Rd & Peach Hill Rd	0.553		A	0.588		A	No
18	Tierra Rejada Rd & Countrywood Dr	0.428		A	0.432		A	No
19	Mountain Trail Rd & Tierra Rejada Rd	0.501		A	0.506		A	No
20	Mountain Meadow Dr & Tierra Rejada Rd	0.413		A	0.415		A	No
21	Walnut Creek Rd & Tierra Rejada Rd	0.505		A	0.510		A	No
22	Peach Hill Rd & Tierra Rejada Rd	0.552		A	0.561		A	No
23	Spring Rd and Tierra Rejada Rd	0.577		A	0.588		A	No
24	Moorpark Rd & Tierra Rejada Rd	0.834		D	0.840		D	No
25	SR-23 SB ramps & Tierra Rejada Rd	0.846		D	0.853		D	No
26	SB-23 NB ramps & Tierra Rejada Rd	0.897		D	0.898		D	No
27	Moorpark Rd & Santa Rosa Rd	0.888		D	0.892		D	No
28	Broadway Rd & Grimes Canyon Rd		10.2	B		10.2	B	No
29	Championship Dr & Grimes Canyon Rd		10.0	A		10.0	A	No
30	Meridian Hills Dr & Walnut Canyon Rd		12.1	B		12.6	B	No
31	SR 118 WB & Collins Dr	0.385		A	0.385		A	No
32	SR 118 EB & Collins Dr	0.629		B	0.629		B	No
33	Meridian Hills Dr & Street 'A' (future)		3.2	A		3.3	A	No
34	Street 'A' & High St (future)					9.4	A	No
35	Casey Rd & Street 'A'(future)					7.3	A	No
36	Gabbert Rd & North Hills Pkwy (future)					7.0	A	No
37	Gabbert Rd & High St (future)					9.3	A	No

Shading denotes if an intersection exceeds the performance objective based on City of Moorpark criteria.
Source: Stantec, December 2021, Impact Sciences, Inc, July 2021





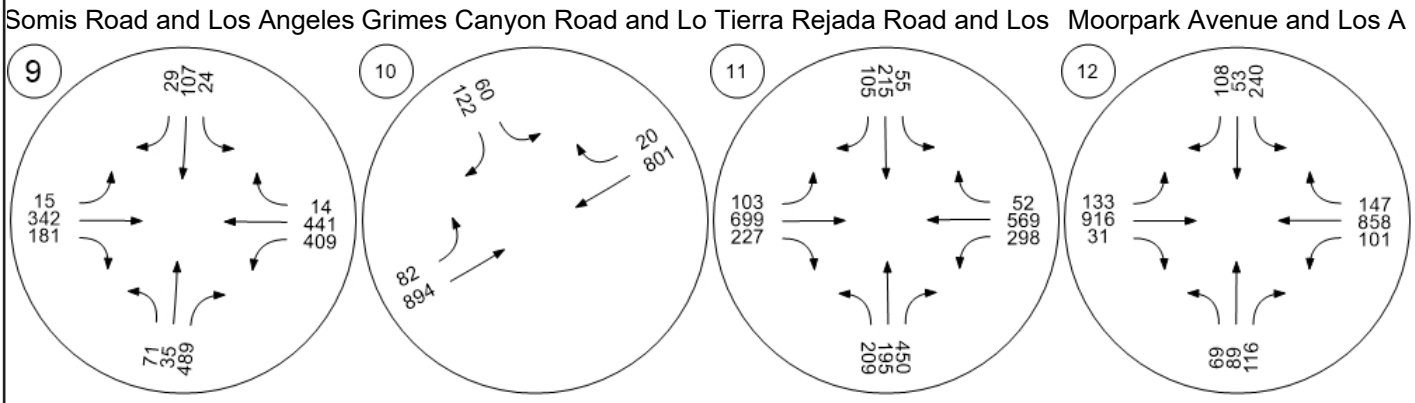
SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-8a**

IMPACT SCIENCES

Existing (2019) + Project Traffic Volume - Weekday AM Peak Hour





SOURCE: PTV VISTRO, Stantec, 2021.

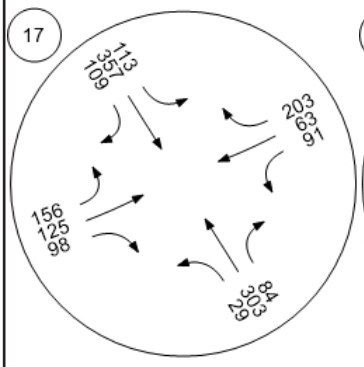
FIGURE **3.10-8b**

IMPACT SCIENCES

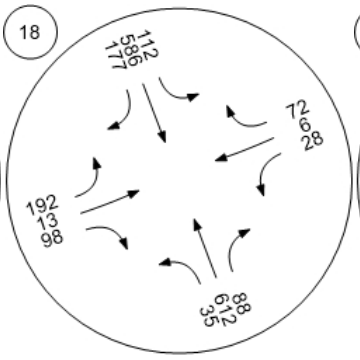
Existing (2019) + Project Traffic Volume - Weekday AM Peak Hour



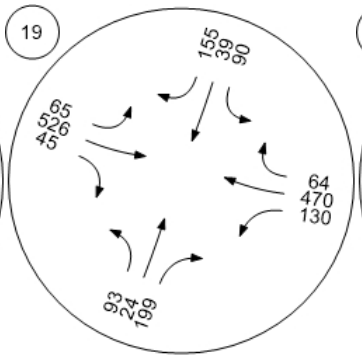
Spring Road and Peach Hill



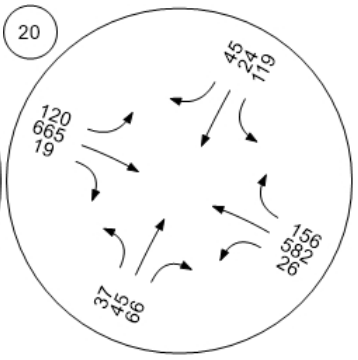
Tierra Rejada Road and Cou



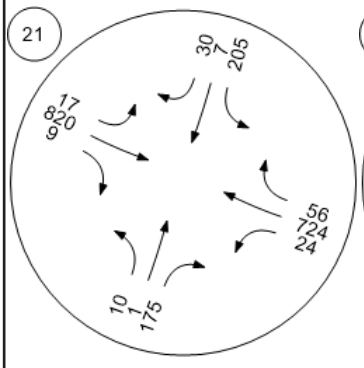
Mountain Trail Street and Tie



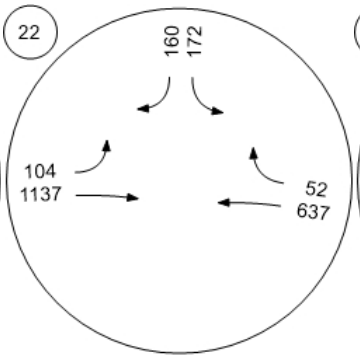
Mountain Meadow Drive and



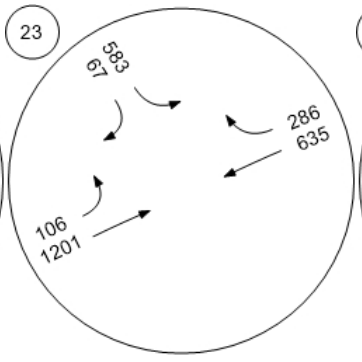
Walnut Creek Road and Tierr



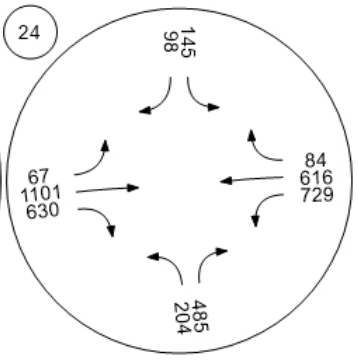
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Moorpark Road and Tierra R



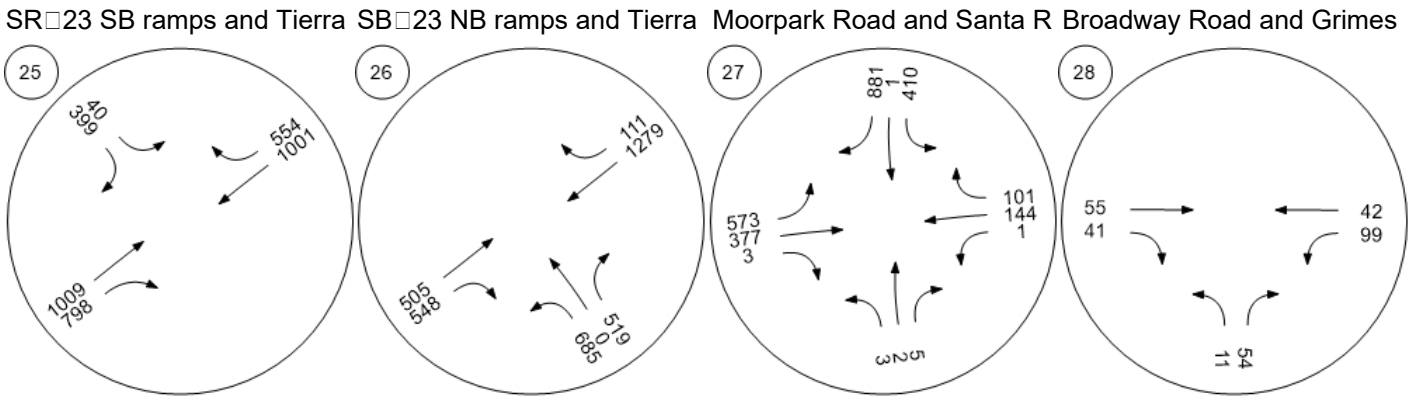
SOURCE: PTV VISTRO, Stantec, 2021.

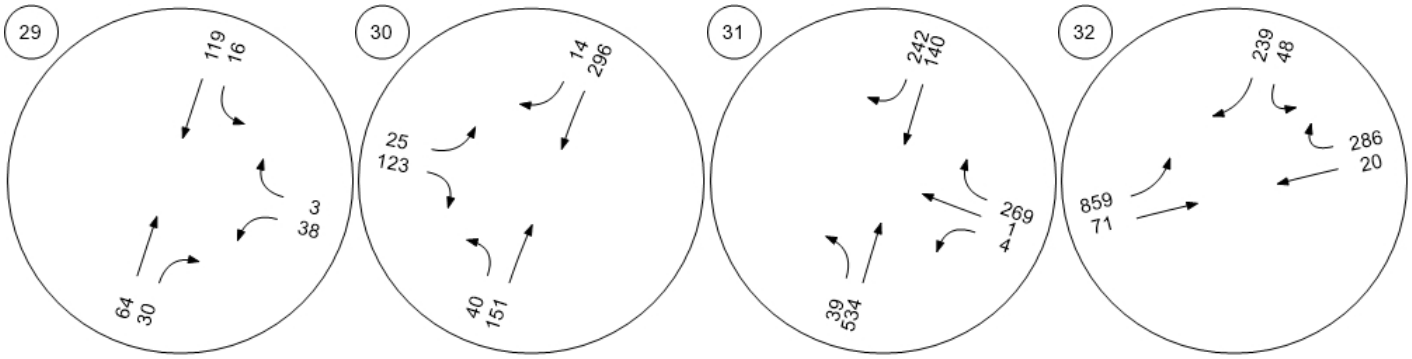
FIGURE **3.10-8c**

IMPACT SCIENCES

Existing (2019) + Project Traffic Volume - Weekday AM Peak Hour







SOURCE: PTV VISTRO, Stantec, 2021.

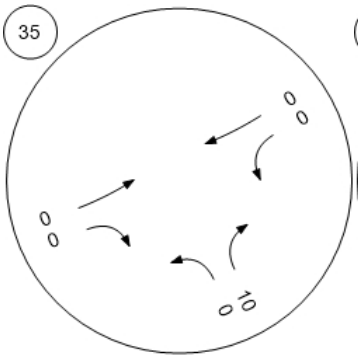
FIGURE **3.10-8d**

IMPACT SCIENCES

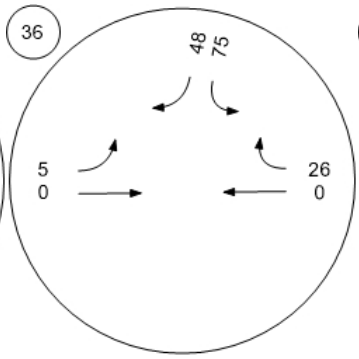
Existing (2019) + Project Traffic Volume - Weekday AM Peak Hour



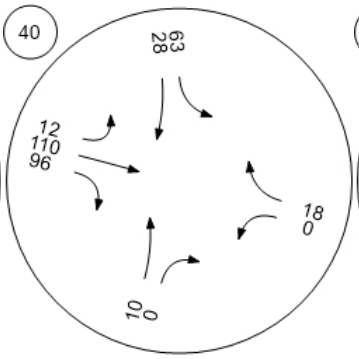
Future Road - Meridian Hills



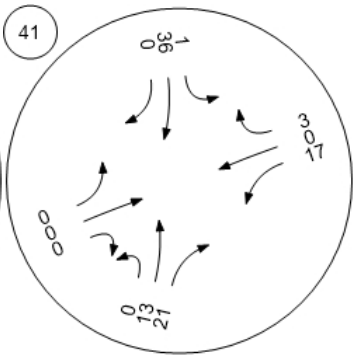
Future Road - Street "A" at Hi

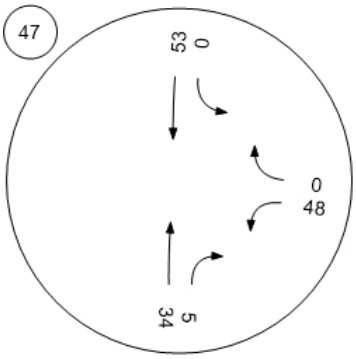


Future Road - Casey Road at



Future Road - Gabbert Road





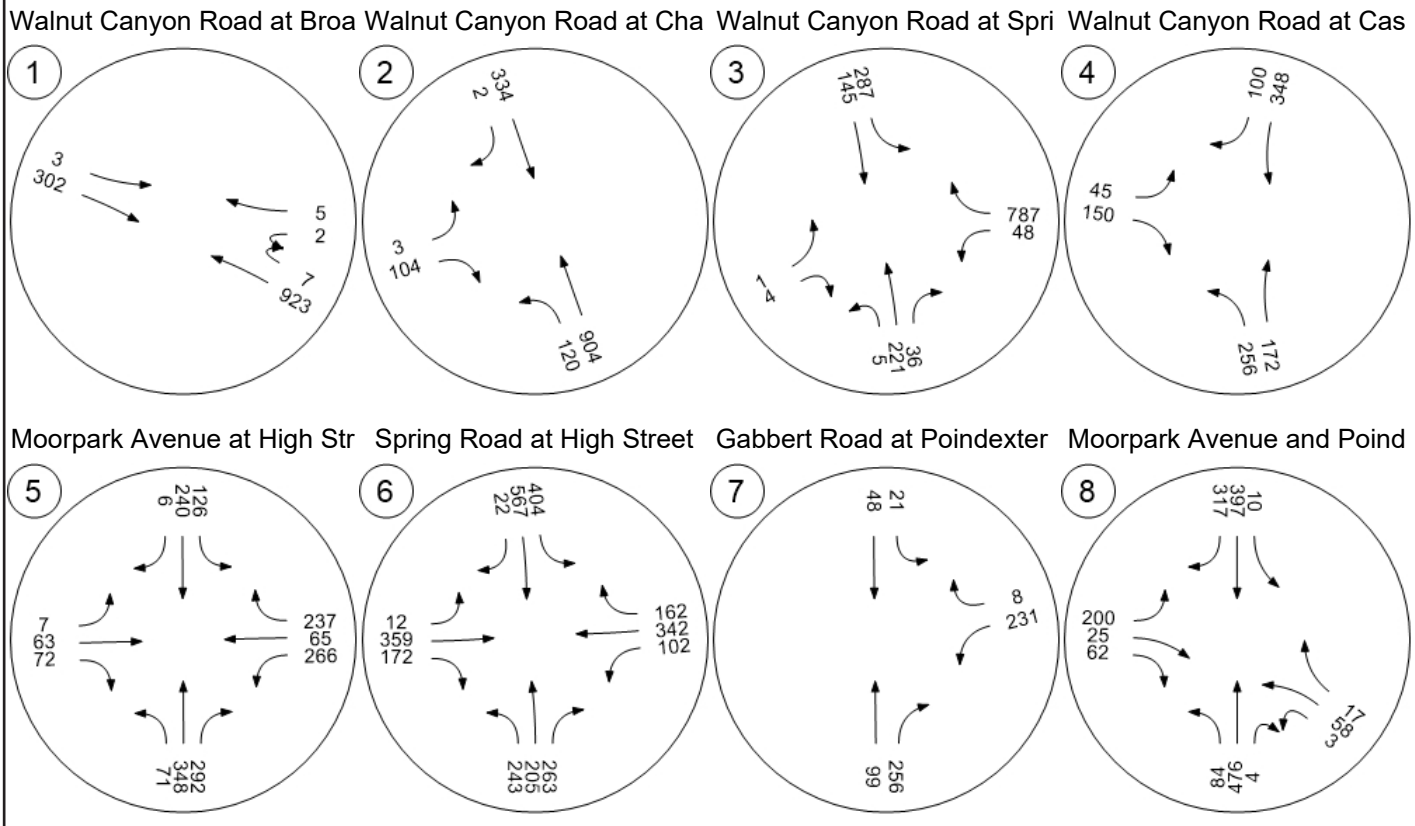
SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-8e**

IMPACT SCIENCES

Existing (2019) + Project Traffic Volume - Weekday AM Peak Hour





SOURCE: PTV VISTRO, Stantec, 2021.

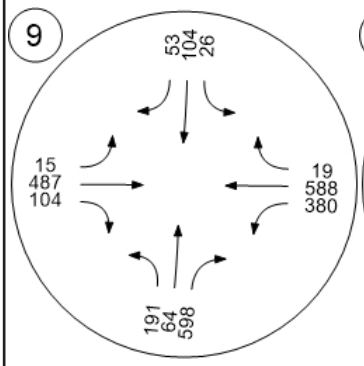
FIGURE **3.10-9a**

IMPACT SCIENCES

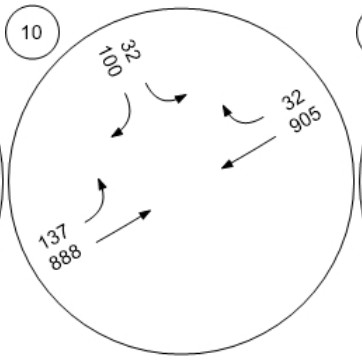
Existing (2019) + Project Traffic Volume - Weekday PM Peak Hour



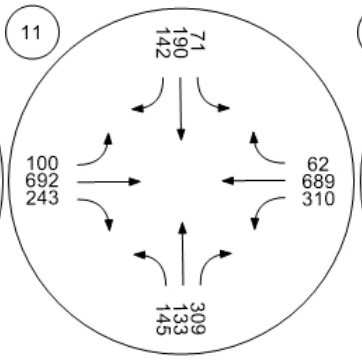
Somis Road and Los Angeles



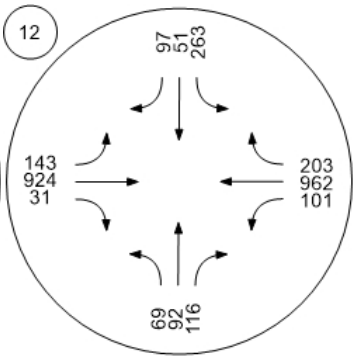
Grimes Canyon Road and Lo



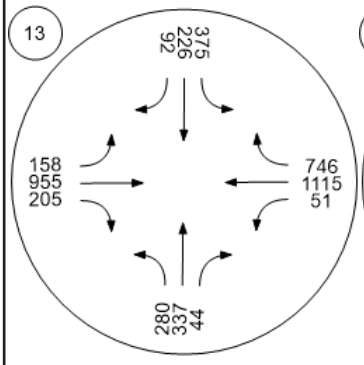
Tierra Rejada Road and Los



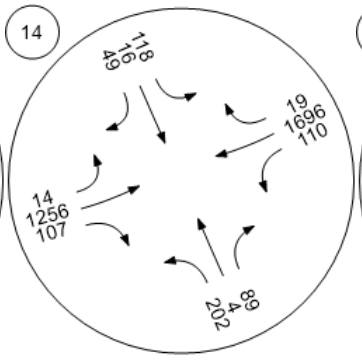
Moorpark Avenue and Los A



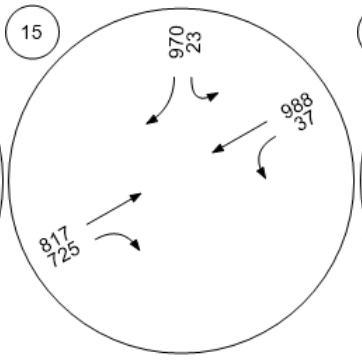
Spring Road and Los Angele



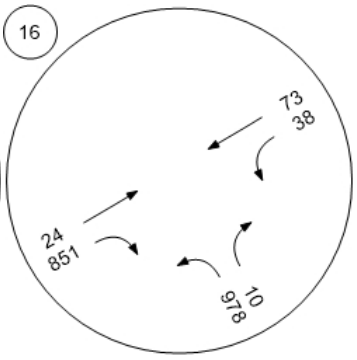
Miller Parkway/Science Drive



SR□23 SB ramps and Los An



SR□23 NB ramps and Los An



SOURCE: PTV VISTRO, Stantec, 2021.

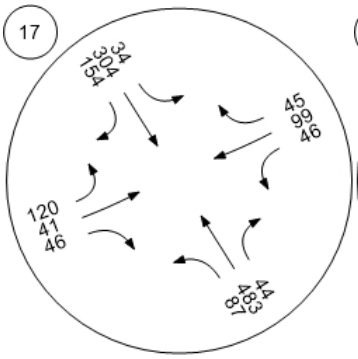
FIGURE **3.10-9b**

IMPACT SCIENCES

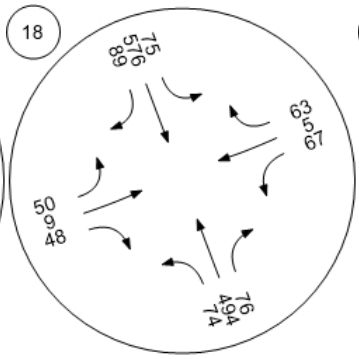
Existing (2019) + Project Traffic Volume - Weekday PM Peak Hour



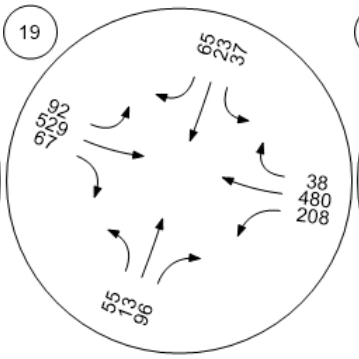
Spring Road and Peach Hill



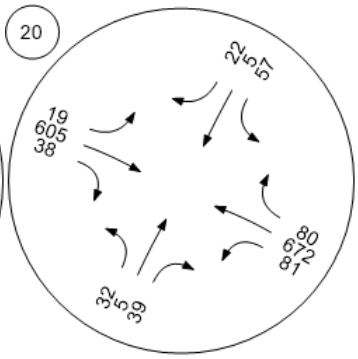
Tierra Rejada Road and Cou



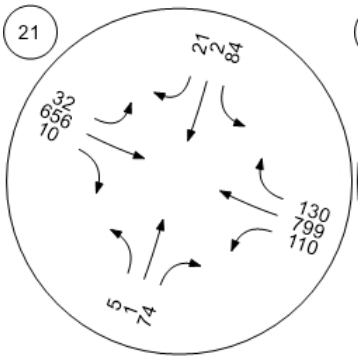
Mountain Trail Street and Tie



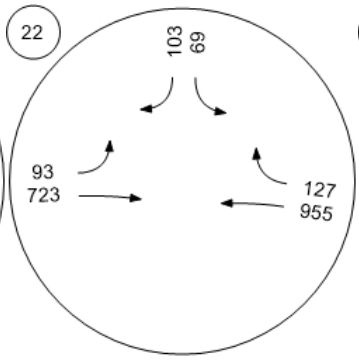
Mountain Meadow Drive and



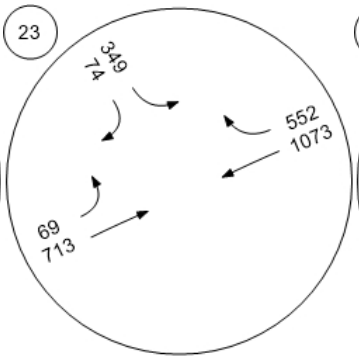
Walnut Creek Road and Tierr



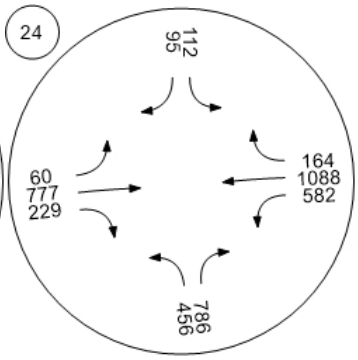
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Moorpark Road and Tierra R



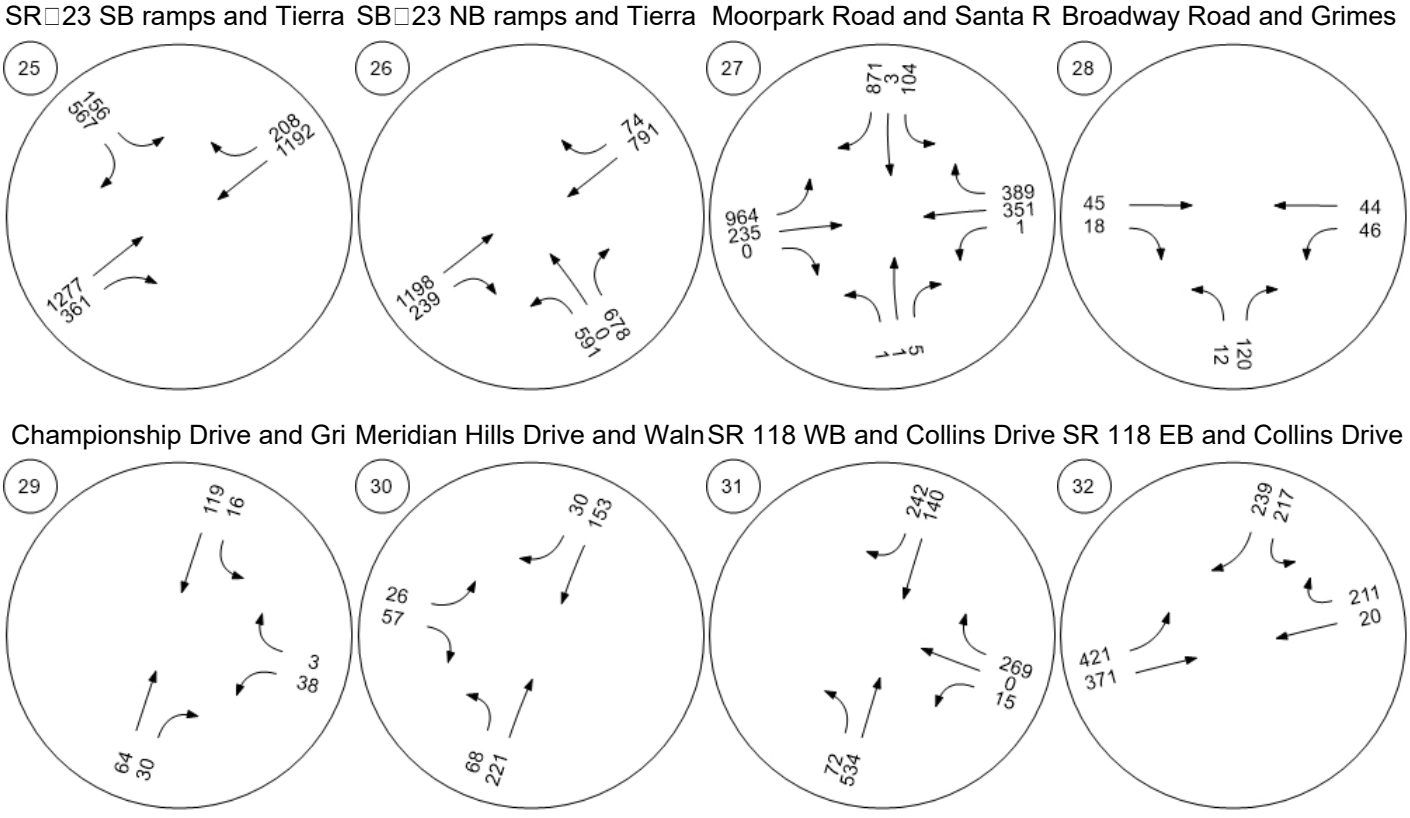
SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-9c**

IMPACT SCIENCES

Existing (2019) + Project Traffic Volume - Weekday PM Peak Hour





SOURCE: PTV VISTRO, Stantec, 2021.

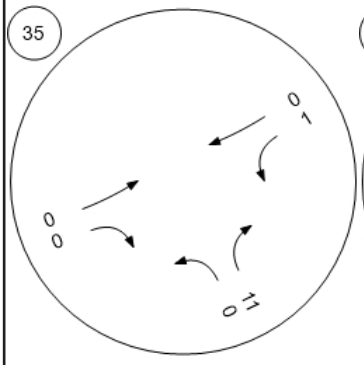
FIGURE **3.10-9d**

IMPACT SCIENCES

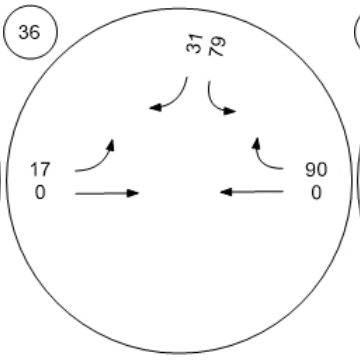
Existing (2019) + Project Traffic Volume - Weekday PM Peak Hour



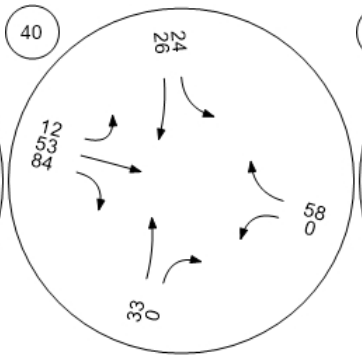
Future Road - Meridian Hills



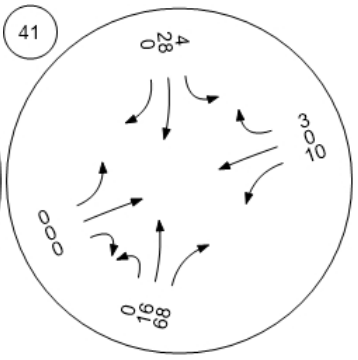
Future Road - Street "A" at Hi



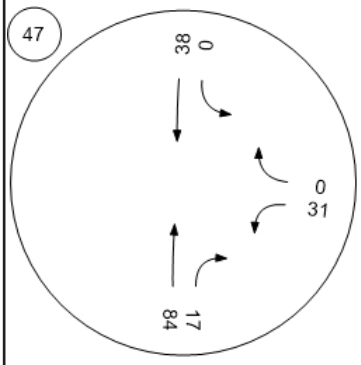
Future Road - Casey Road at



Future Road - Gabbert Road



Future Road - Gabbert Road



SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-9e**

IMPACT SCIENCES

Existing (2019) + Project Traffic Volume - Weekday PM Peak Hour

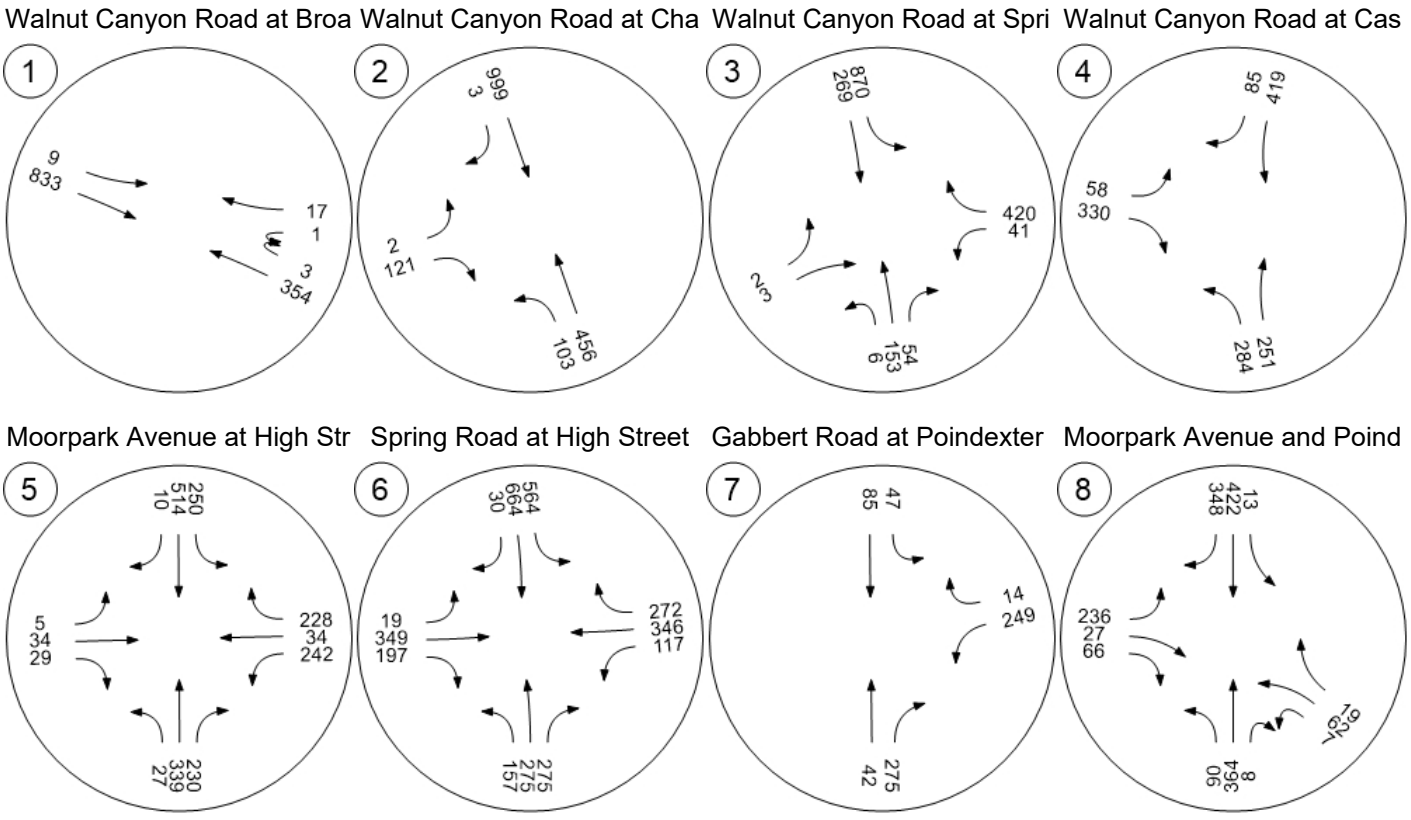
3.10.7 LOS Cumulative Analysis

Future traffic volume projections have been developed to analyze the traffic conditions after completion of other planned land developments including the proposed project for study year 2027, when buildout of the proposed project is anticipated. Descriptions of other related projects, their locations and estimated traffic generation are provided in Table A-1 of the ***Supplemental Traffic Analysis for the Hitch Ranch Project in the City of Moorpark****, conducted by Stantec, December 2021*, provided in **Appendix 3.15** of this EIR.

In addition to the traffic generated by the related project list, other projects outside the study area or projects unknown at this time may contribute to the traffic volume in the area. To account for this outside influence, an ambient annual growth factor (1.0 percent) has been applied to the existing 2019 traffic counts to establish the 2027 study year. The use of both the related project traffic volume growth and the ambient growth factor provides a conservative estimate of future traffic growth in the study area for 2027.

Adding the project traffic to the future "without project" conditions provides the information necessary to calculate the future cumulative project traffic at the study intersections for each future scenario. **Table 3.10-8** shows the estimated project traffic for the 2027 study year. Future cumulative peak hour traffic volumes are shown in **Figures 3.10-10a-e** through **3.10-11a-e, Future Traffic volumes without Project Weekday AM and PM Peak Hours**. In the AM Peak Hour, one intersection operates at LOS D, one intersection operates at LOS E, and one intersection operates of LOS F. In the PM Peak Hour, two intersections operate at LOS D, two intersections operate at LOS E, and one intersection operates at LOS F.





SOURCE: PTV VISTRO, Stantec, 2021.

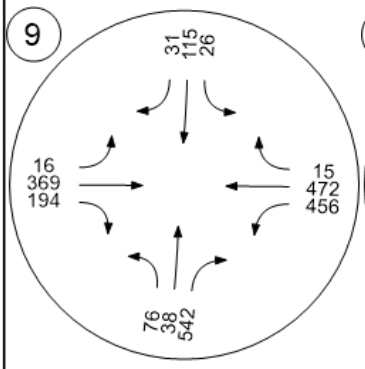
FIGURE **3.10-10a**

IMPACT SCIENCES

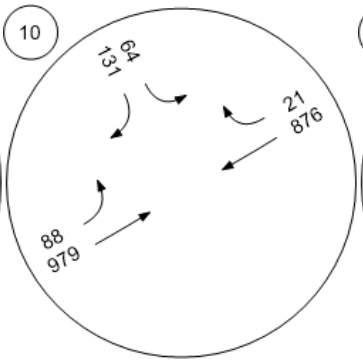
Future Traffic Volume Without Project - Weekday AM Peak Hour



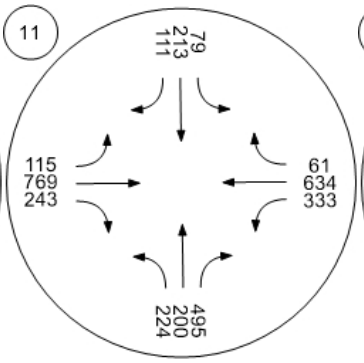
Somis Road and Los Angeles



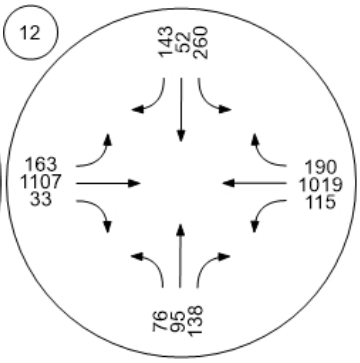
Grimes Canyon Road and Lo



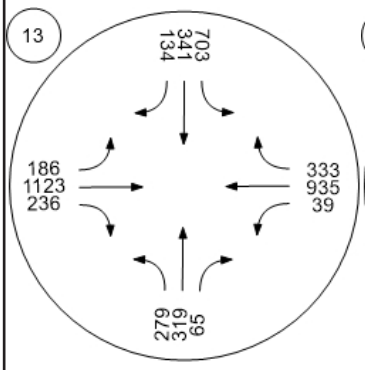
Tierra Rejada Road and Los



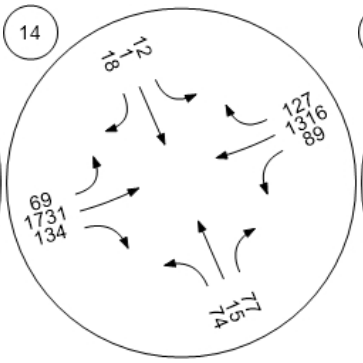
Moorpark Avenue and Los A



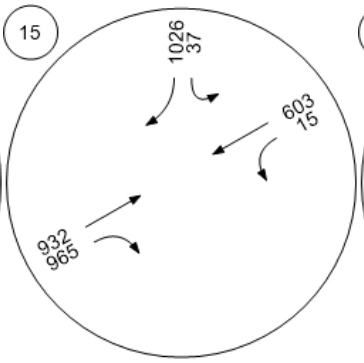
Spring Road and Los Angele



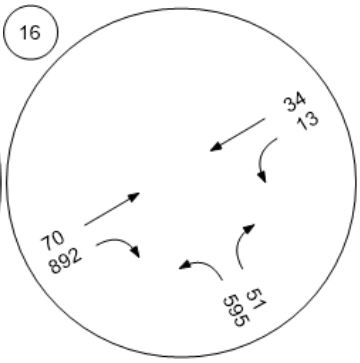
Miller Parkway/Science Drive



SR□23 SB ramps and Los An



SR□23 NB ramps and Los An



SOURCE: PTV VISTRO, Stantec, 2021.

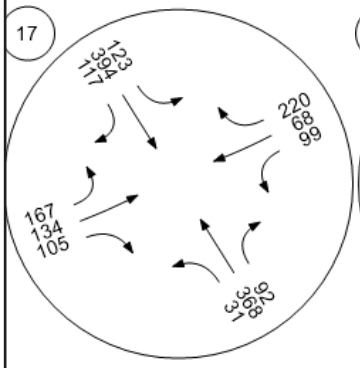
FIGURE **3.10-10b**

IMPACT SCIENCES

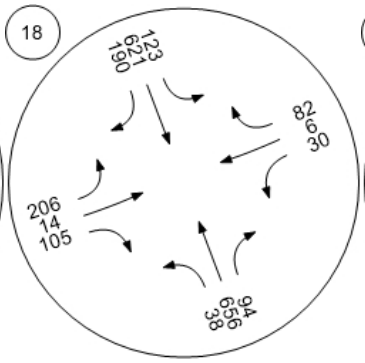
Future Traffic Volume Without Project - Weekday AM Peak Hour



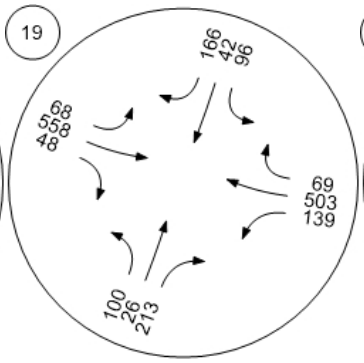
Spring Road and Peach Hill



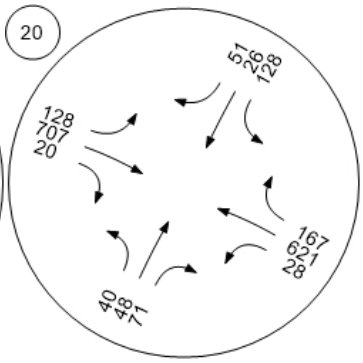
Tierra Rejada Road and Cou



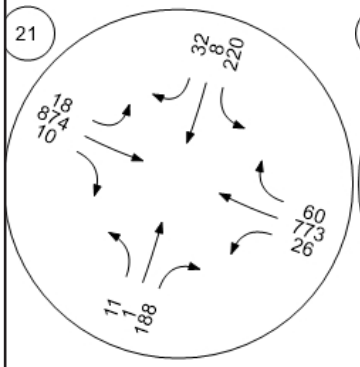
Mountain Trail Street and Tie



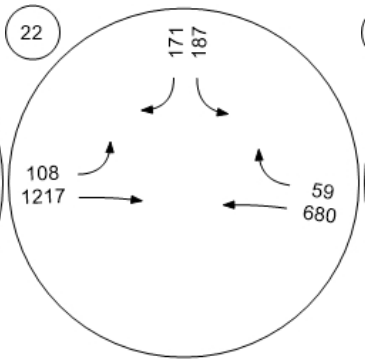
Mountain Meadow Drive and



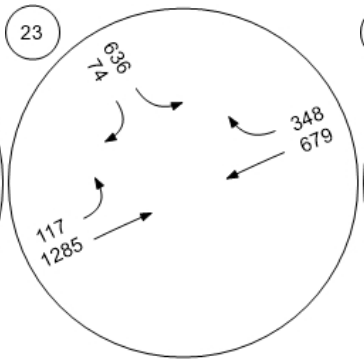
Walnut Creek Road and Tierr



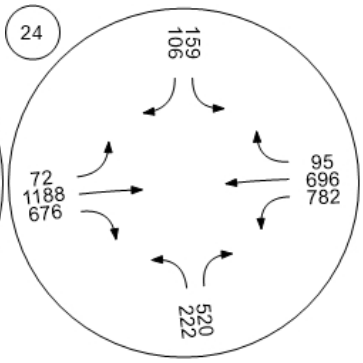
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Moorpark Road and Tierra R



SOURCE: PTV VISTRO, Stantec, 2021.

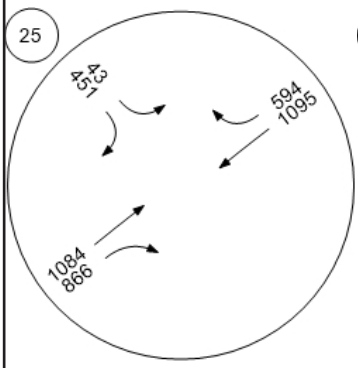
FIGURE **3.10-10c**

IMPACT SCIENCES

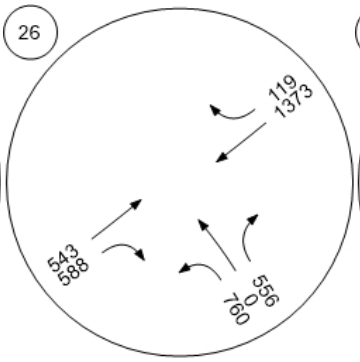
Future Traffic Volume Without Project - Weekday AM Peak Hour



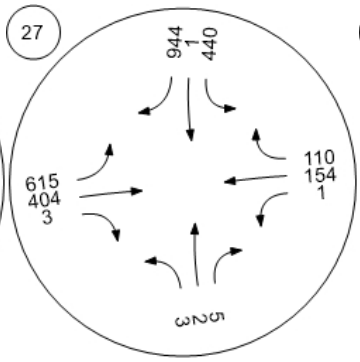
SR□23 SB ramps and Tierra



SB□23 NB ramps and Tierra



Moorpark Road and Santa R



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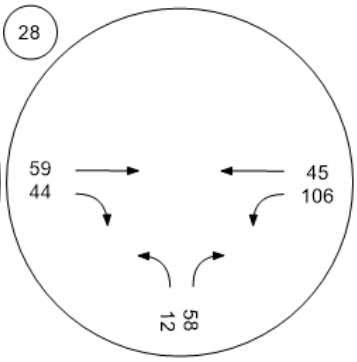
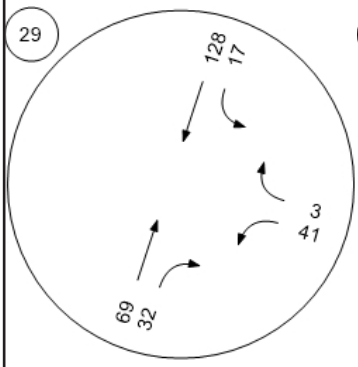
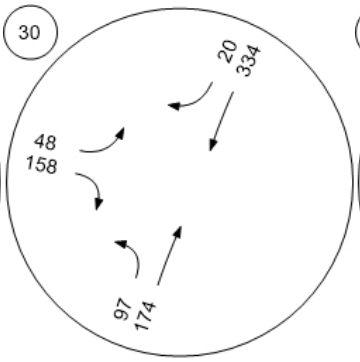


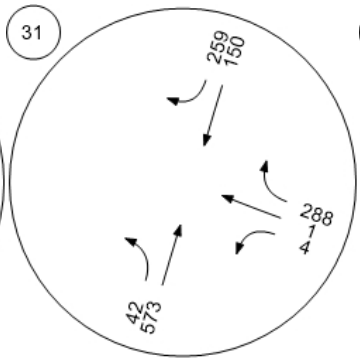
Championship Drive and Gri



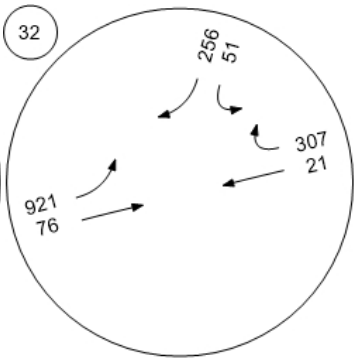
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



SR 118 EB and Collins Drive



SOURCE: PTV VISTRO, Stantec, 2021.

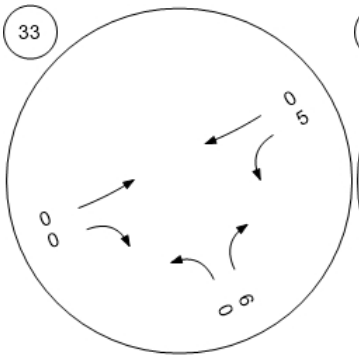
FIGURE **3.10-10d**

IMPACT SCIENCES

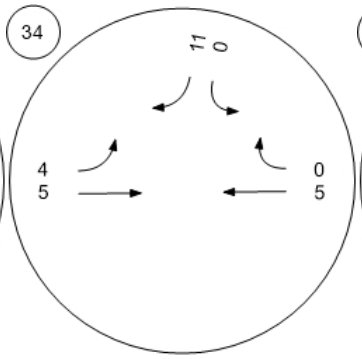
Future Traffic Volume Without Project - Weekday AM Peak Hour



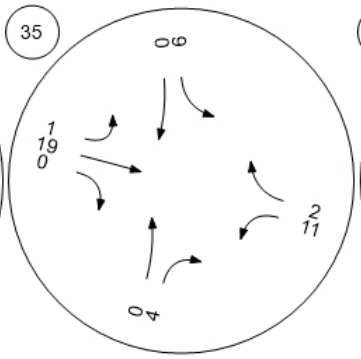
Future Road - Meridian Hills



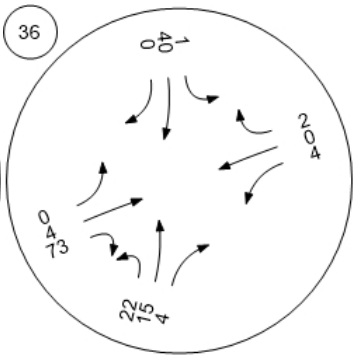
Future Road - Street "A" at Hi



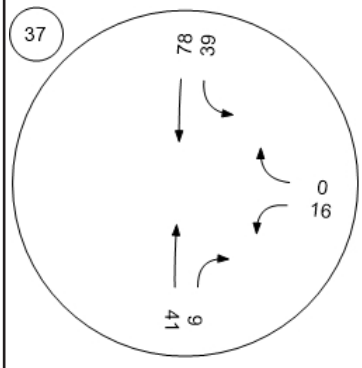
Future Road - Casey Road at



Future Road - Gabbert Road



Future Road - Gabbert Road



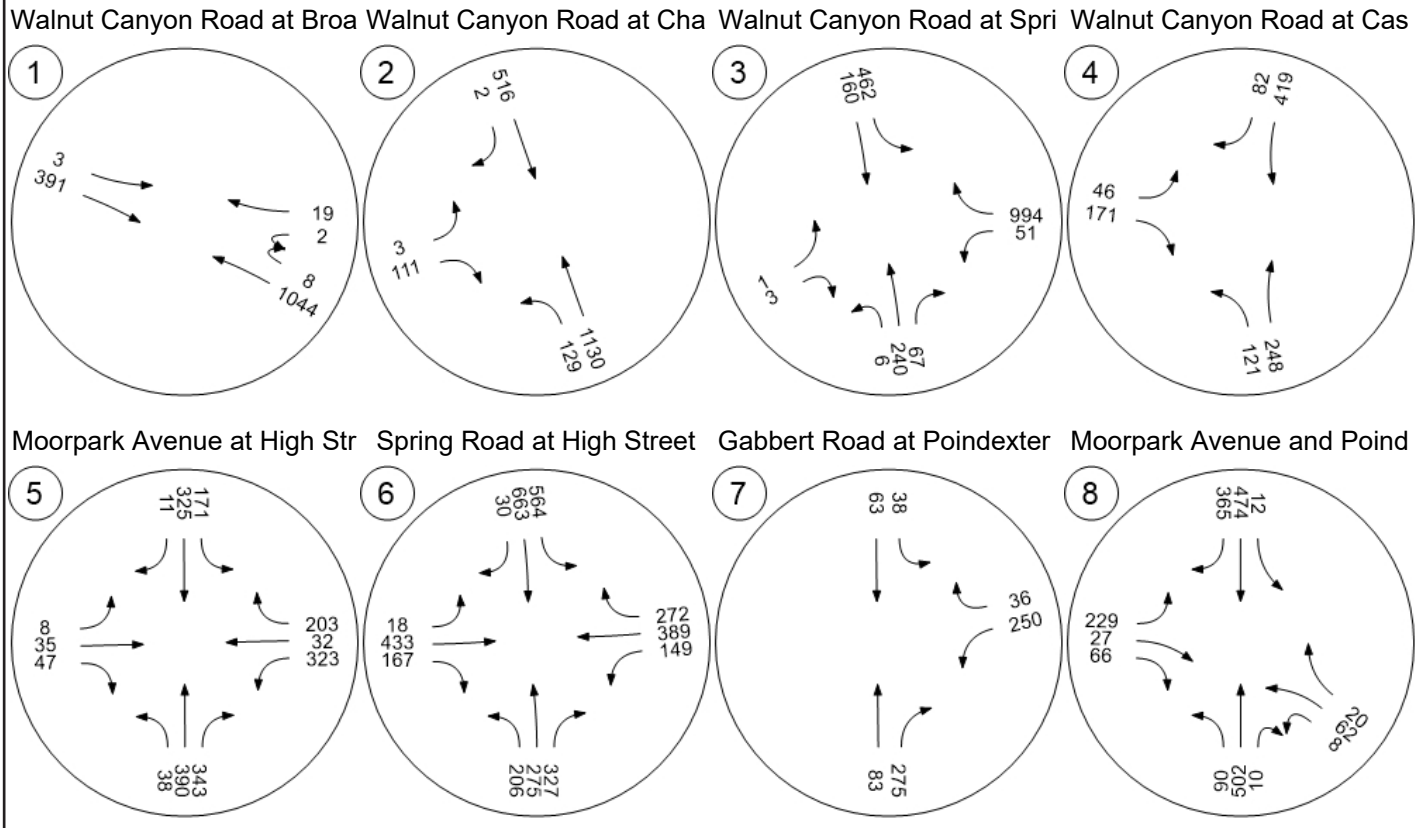
SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-10e**

IMPACT SCIENCES

Future Traffic Volume Without Project - Weekday AM Peak Hour





SOURCE: PTV VISTRO, Stantec, 2021.

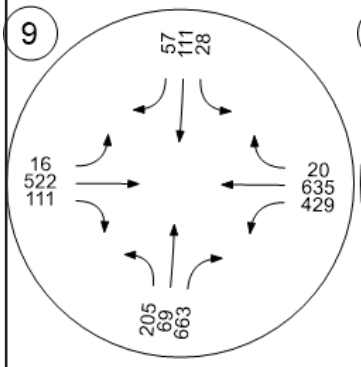
FIGURE **3.10-11a**

IMPACT SCIENCES

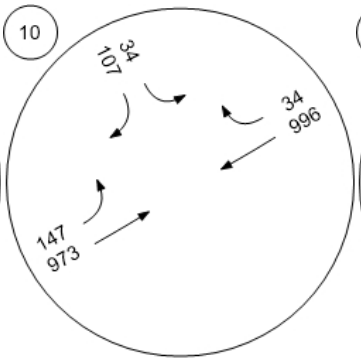
Future Traffic Volume Without Project - Weekday PM Peak Hour



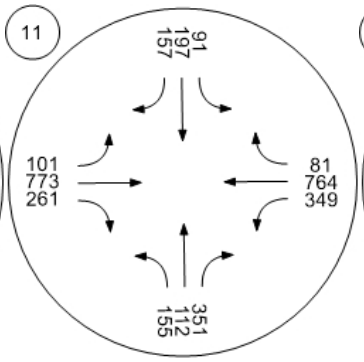
Somis Road and Los Angeles



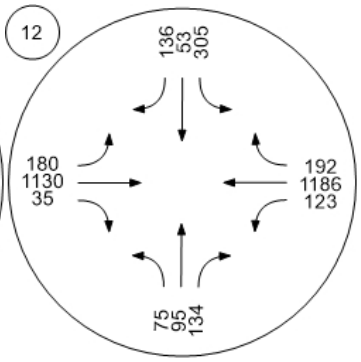
Grimes Canyon Road and Lo



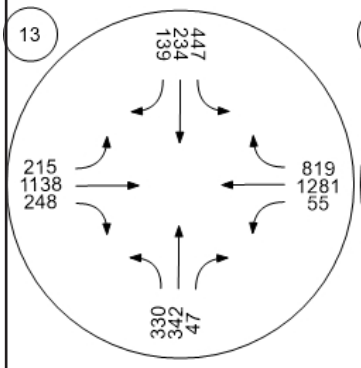
Tierra Rejada Road and Los



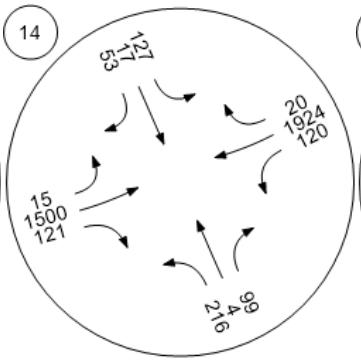
Moorpark Avenue and Los A



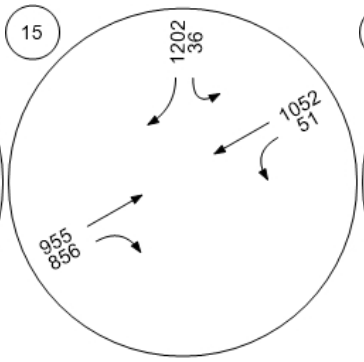
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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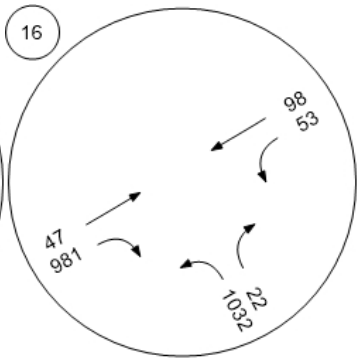


SOURCE: PTV VISTRO, Stantec, 2021.

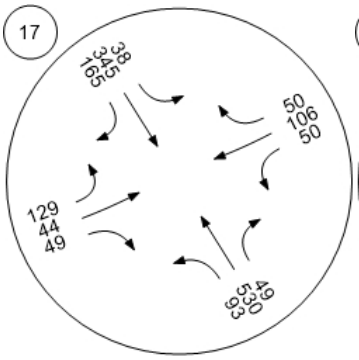
FIGURE **3.10-11b**

IMPACT SCIENCES

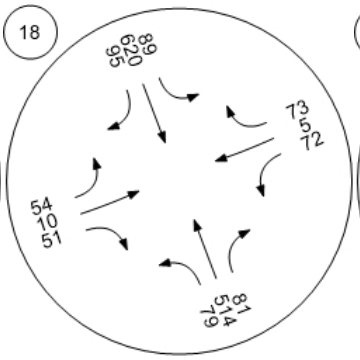
Future Traffic Volume Without Project - Weekday PM Peak Hour



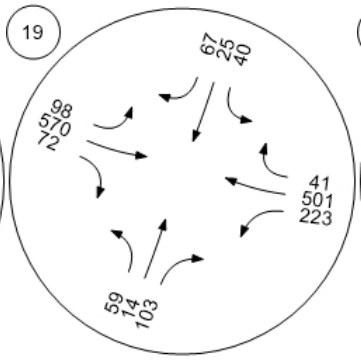
Spring Road and Peach Hill



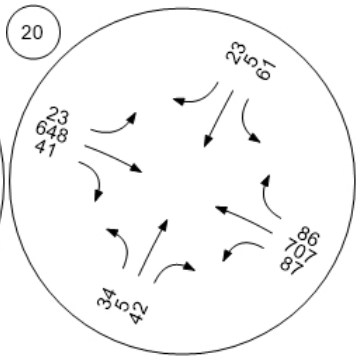
Tierra Rejada Road and Cou



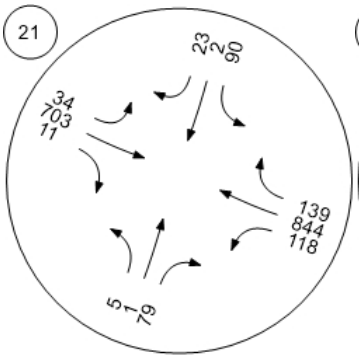
Mountain Trail Street and Tie



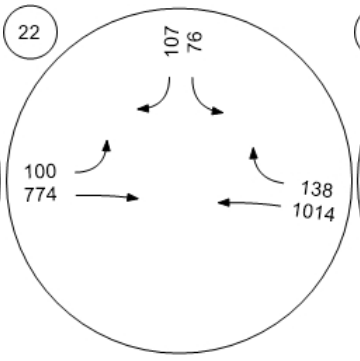
Mountain Meadow Drive and



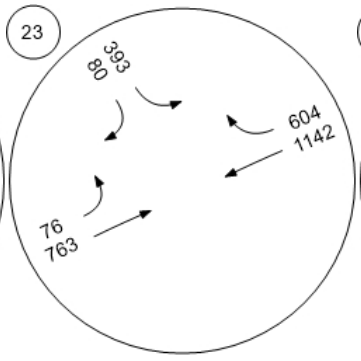
Walnut Creek Road and Tierr



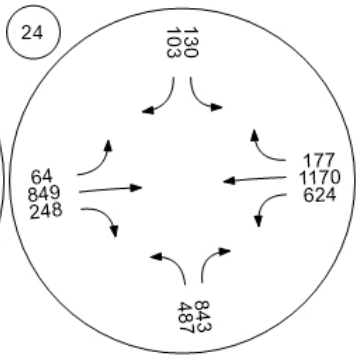
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Moorpark Road and Tierra R



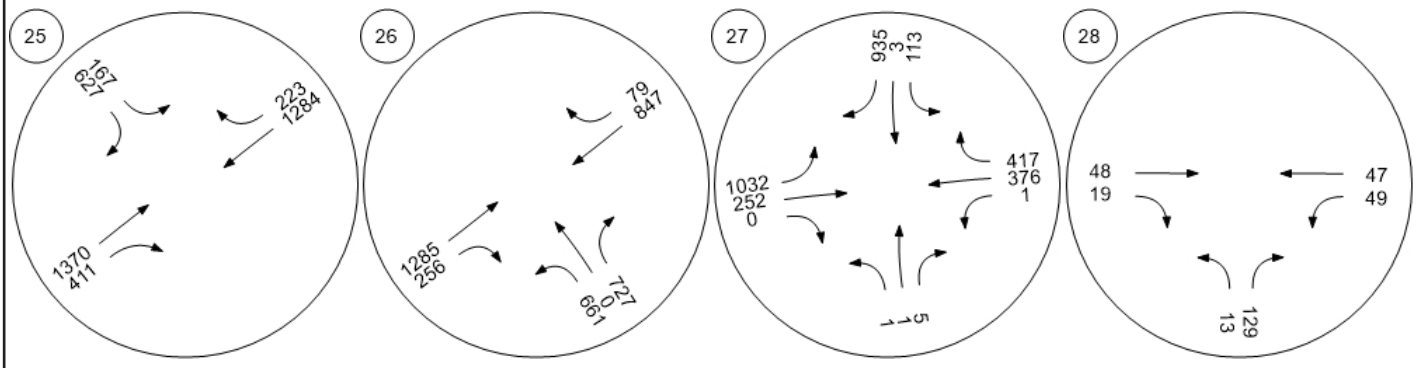
SOURCE: PTV VISTRO, Stantec, 2021.

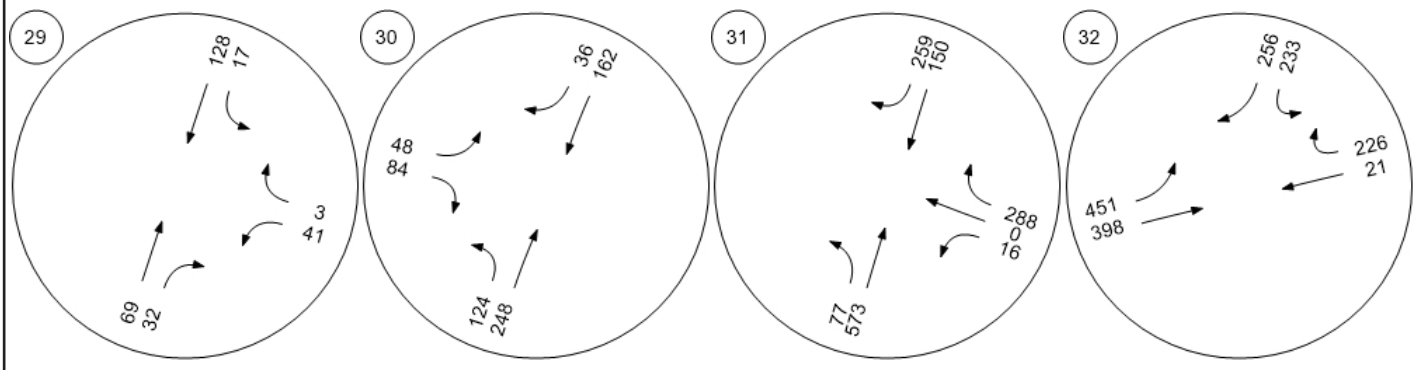
FIGURE **3.10-11c**

IMPACT SCIENCES

Future Traffic Volume Without Project - Weekday PM Peak Hour







SOURCE: PTV VISTRO, Stantec, 2021.

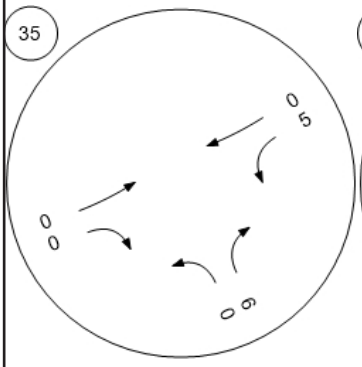
FIGURE **3.10-11d**

IMPACT SCIENCES

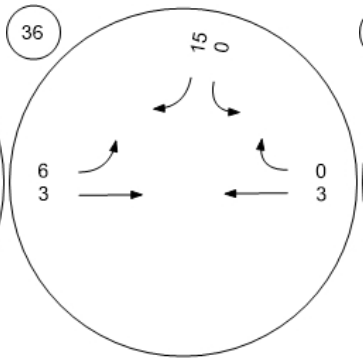
Future Traffic Volume Without Project - Weekday PM Peak Hour



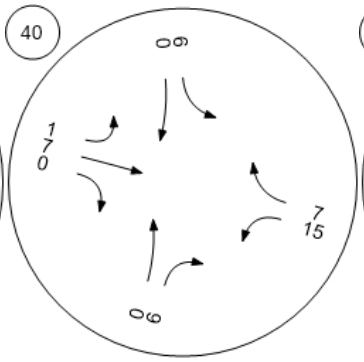
Future Road - Meridian Hills



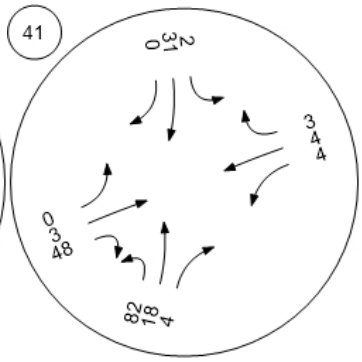
Future Road - Street "A" at Hi



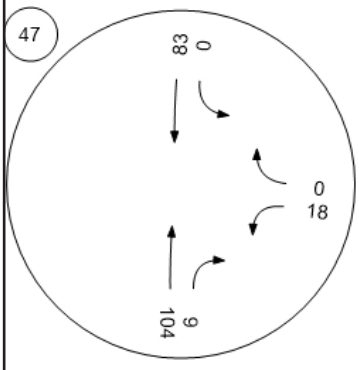
Future Road - Casey Road at



Future Road - Gabbert Road



Future Road - Gabbert Road



SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-11e**

IMPACT SCIENCES

Future Traffic Volume Without Project - Weekday PM Peak Hour

Table 3.10-8
Future Traffic Conditions Summary

No.	Intersection	AM Peak Hour* V/C	AM Peak Hour* Delay (s/veh)	AM Peak Hour* LOS	PM Peak Hour* V/C	PM Peak Hour* Delay (s/veh)	PM Peak Hour* LOS
1	Walnut Canyon Rd & Broadway Rd		23.2	C		31.2	D
2	Walnut Canyon Rd & Championship Dr		45.4	E		61.9	F
3	Walnut Canyon Rd & Spring Rd	1.058		F	1.223		F
4	Walnut Canyon Rd & Casey Rd	0.811		D	0.608		B
5	Moorpark Ave & High St	0.700		C	0.748		C
6	Spring Rd & High St	0.970		E	1.082		F
7	Gabbert Rd at Poindexter Ave		11.2	B		11.0	B
8	Moorpark Ave & Poindexter Ave/1st St	0.836		D	0.873		D
9	Somis Rd & Los Angeles Ave	0.918		E	1.058		F
10	Grimes Canyon Rd & Los Angeles Ave	0.834		D	0.909		E
11	Tierra Rejada Rd & Los Angeles Ave	0.803		D	0.699		B
12	Moorpark Ave & Los Angeles Ave	0.673		B	0.752		C
13	Spring Rd & Los Angeles Ave	0.815		D	0.829		D
14	Miller Pkwy/Science Dr/Los Angeles Ave	0.576		A	0.794		C
15	SR-23 SB ramps & Los Angeles Ave	0.530		A	0.780		C
16	SR-23 NB ramps & Los Angeles Ave	0.616		B	0.837		D
17	Spring Rd & Peach Hill Rd	0.703		C	0.640		B
18	Tierra Rejada Rd & Countrywood Dr	0.609		B	0.461		A
19	Mountain Trail Rd & Tierra Rejada Rd	0.588		A	0.546		A
20	Mountain Meadow Dr & Tierra Rejada Rd	0.591		A	0.443		A
21	Walnut Creek Rd & Tierra Rejada Rd	0.658		B	0.540		A
22	Peach Hill Rd & Tierra Rejada Rd	0.605		B	0.598		A
23	Spring Rd and Tierra Rejada Rd	0.700		C	0.659		B
24	Moorpark Rd & Tierra Rejada Rd	1.078		F	1.016		F
25	SR-23 SB ramps & Tierra Rejada Rd	0.942		E	0.946		E
26	SB-23 NB ramps & Tierra Rejada Rd	0.968		E	0.986		E
27	Moorpark Rd & Santa Rosa Rd	0.832		D	1.006		F
28	Broadway Rd & Grimes Canyon Rd		11.3	B		10.4	B
29	Championship Dr & Grimes Canyon Rd		10.1	B		10.1	B
30	Meridian Hills Dr & Walnut Canyon Rd		16.1	C		15.5	C
31	SR 118 WB & Collins Dr	0.471		A	0.408		A
32	SR 118 EB & Collins Dr	0.787		C	0.687		B
33	Meridian Hills Dr & Street 'A' (future)		3.3	A		3.3	A
34	Street 'A' & High St (future)		8.4	A		8.4	A
35	Casey Rd & Street 'A'(future)		7.0	A		7.0	A
36	Gabbert Rd & North Hills Pkwy (future)		7.1	A		7.5	A
37	Gabbert Rd & High St (future)		9.8	A		9.6	A

** V/C for signalized intersections, delay for unsignalized intersections.*
Source: Stantec, December 2021, Impact Sciences, July 2021

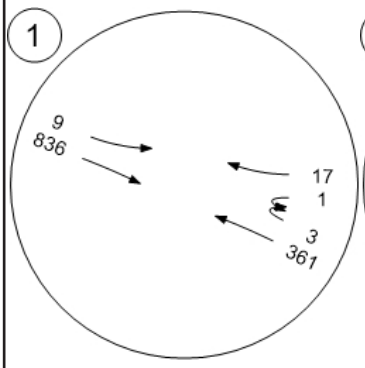
Future cumulative plus Project peak hour traffic volumes are shown in **Figures 3.10-12a-d** through **3.10-13a-f, Future Traffic Volumes with Project Weekday AM and PM Peak Hours**.

As shown in **Table 3.10-9 Future + Project Traffic Conditions (AM Peak Hour), Table 3.10-10 Future (2027) + Project Traffic Conditions (PM Peak Hour),** and assuming all pending and approved projects go forward, the change in traffic flow generated by the proposed project would exceed the City of Moorpark traffic performance objective in the future cumulative condition at seven intersections:

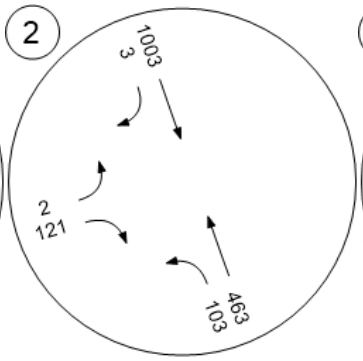
1. Walnut Canyon Road and Casey Road
2. Moorpark Avenue and High Street
3. Spring Road at High Street
4. Moorpark Avenue and Poindexter Avenue
5. Spring Road and Los Angeles Avenue
6. Miller Parkway/Science Drive/Los Angeles Avenue
7. SR-23 southbound ramps and Los Angeles Avenue



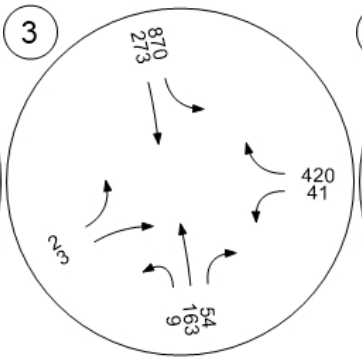
Walnut Canyon Road at Broa



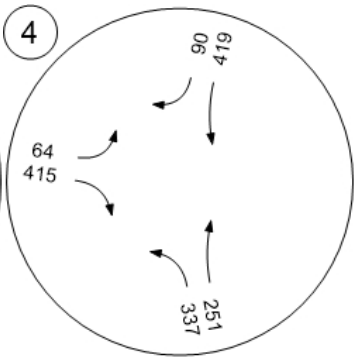
Walnut Canyon Road at Cha



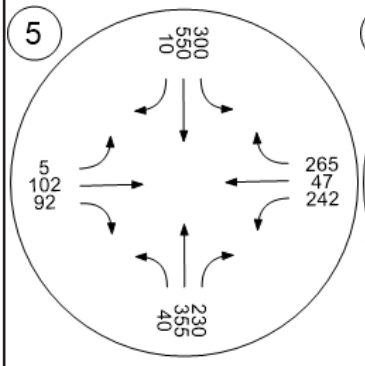
Walnut Canyon Road at Spri



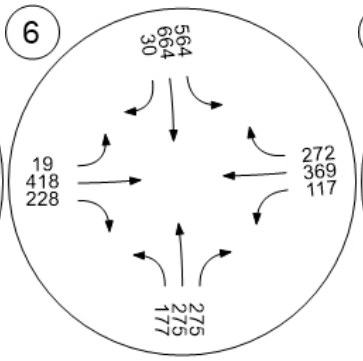
Walnut Canyon Road at Cas



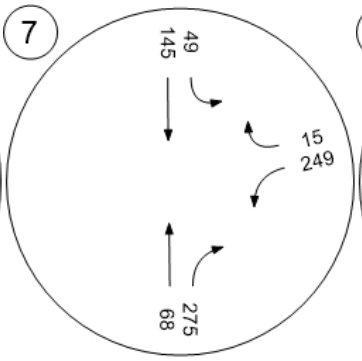
Moorpark Avenue at High Str



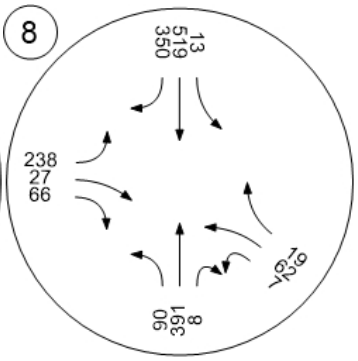
Spring Road at High Street



Gabbert Road at Poindexter



Moorpark Avenue and Poind



SOURCE: PTV VISTRO, Stantec, 2021.

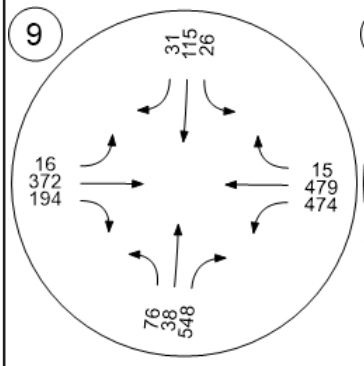
FIGURE **3.10-12a**

IMPACT SCIENCES

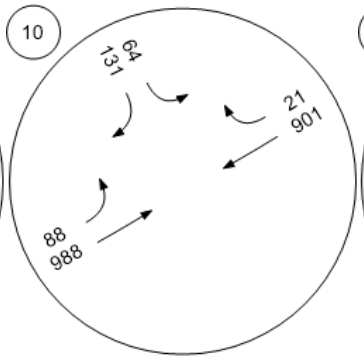
Future + Project Traffic Volume - Weekday AM Peak Hour



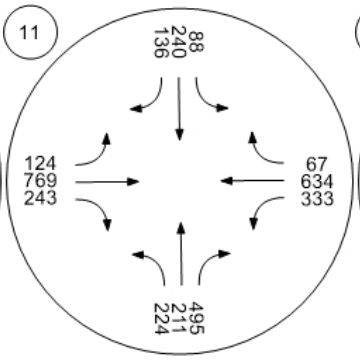
Somis Road and Los Angeles



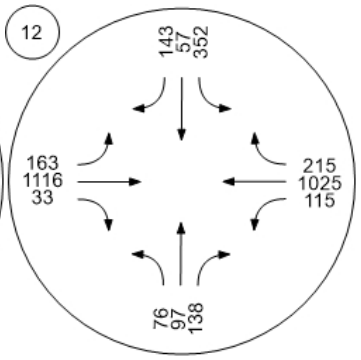
Grimes Canyon Road and Lo



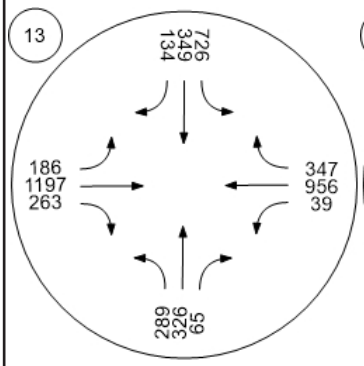
Tierra Rejada Road and Los



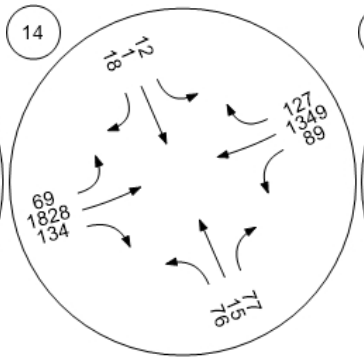
Moorpark Avenue and Los A



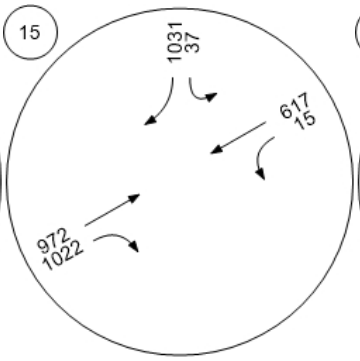
Spring Road and Los Angele



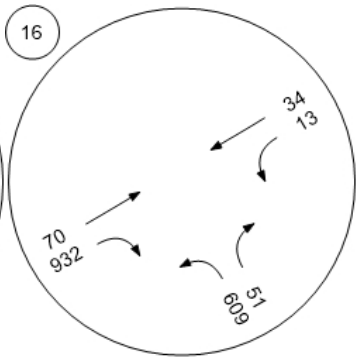
Miller Parkway/Science Drive



SR□23 SB ramps and Los An



SR□23 NB ramps and Los An



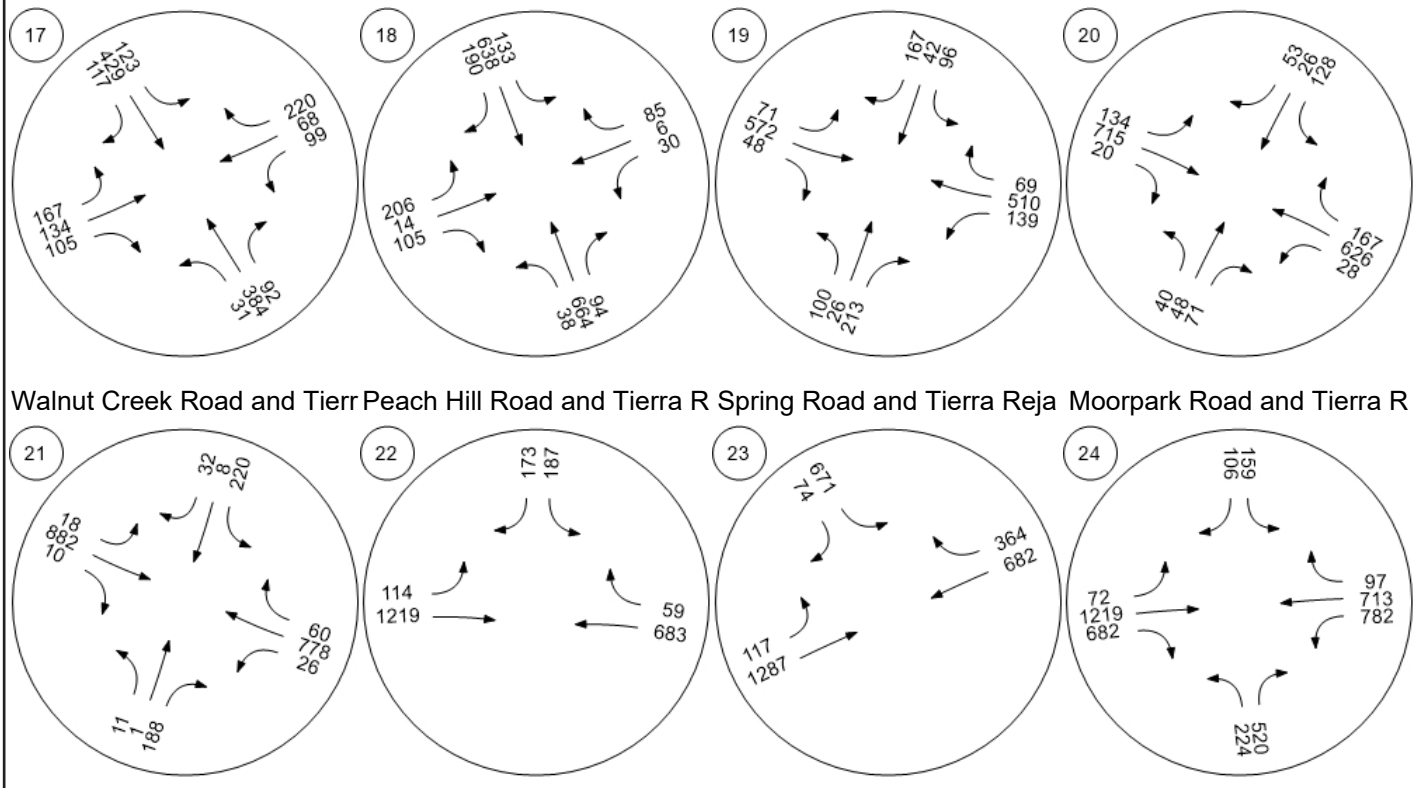
SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-12b**

IMPACT SCIENCES

Future + Project Traffic Volume - Weekday AM Peak Hour





SOURCE: PTV VISTRO, Stantec, 2021.

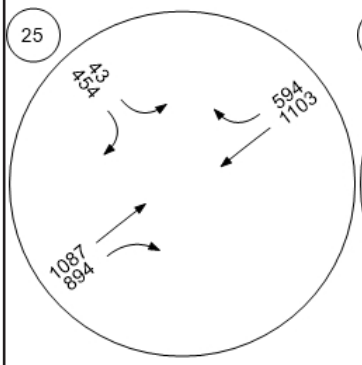
FIGURE **3.10-12c**

IMPACT SCIENCES

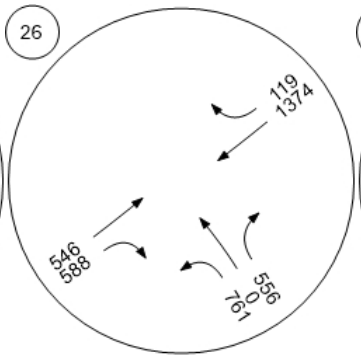
Future + Project Traffic Volume - Weekday AM Peak Hour



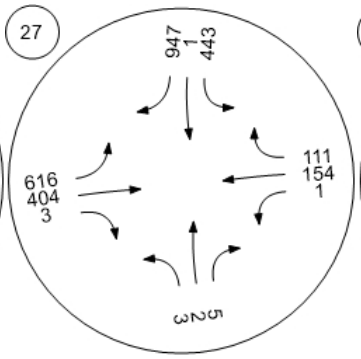
SR□23 SB ramps and Tierra



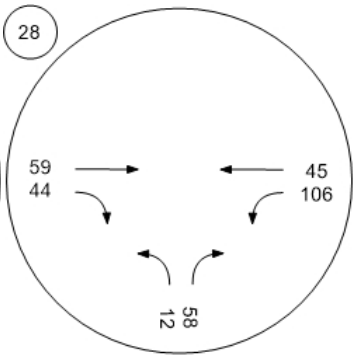
SB□23 NB ramps and Tierra



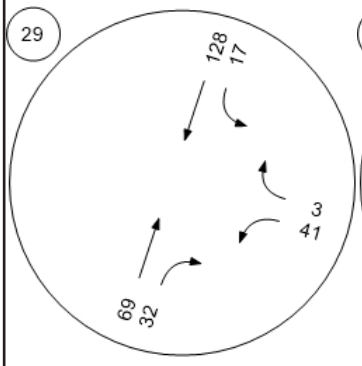
Moorpark Road and Santa R



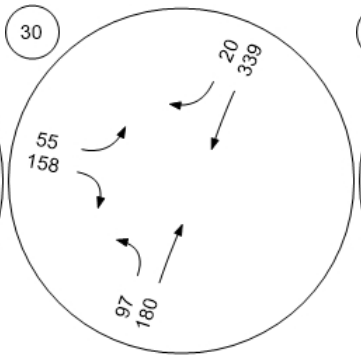
Broadway Road and Grimes



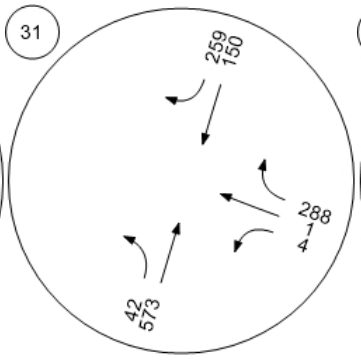
Championship Drive and Gri



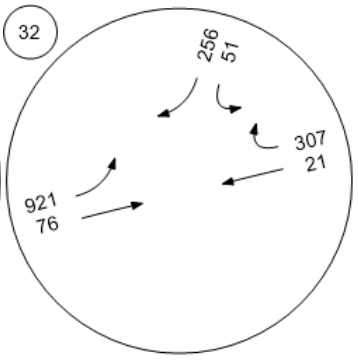
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



SR 118 EB and Collins Drive



SOURCE: PTV VISTRO, Stantec, 2021.

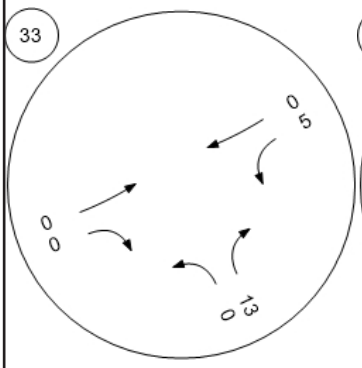
FIGURE **3.10-12d**

IMPACT SCIENCES

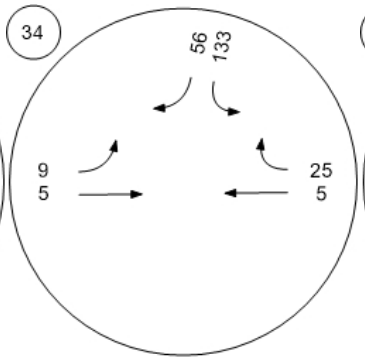
Future + Project Traffic Volume - Weekday AM Peak Hour



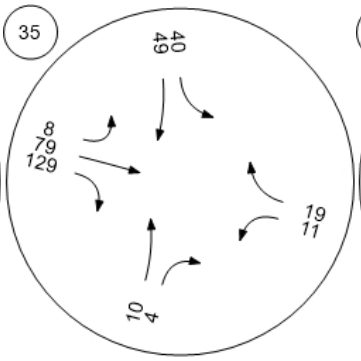
Future Road - Meridian Hills



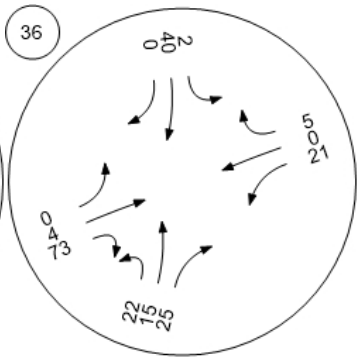
Future Road - Street "A" at Hi



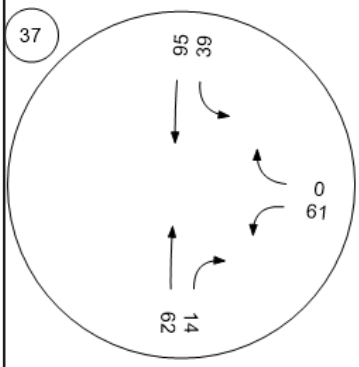
Future Road - Casey Road at



Future Road - Gabbert Road



Future Road - Gabbert Road



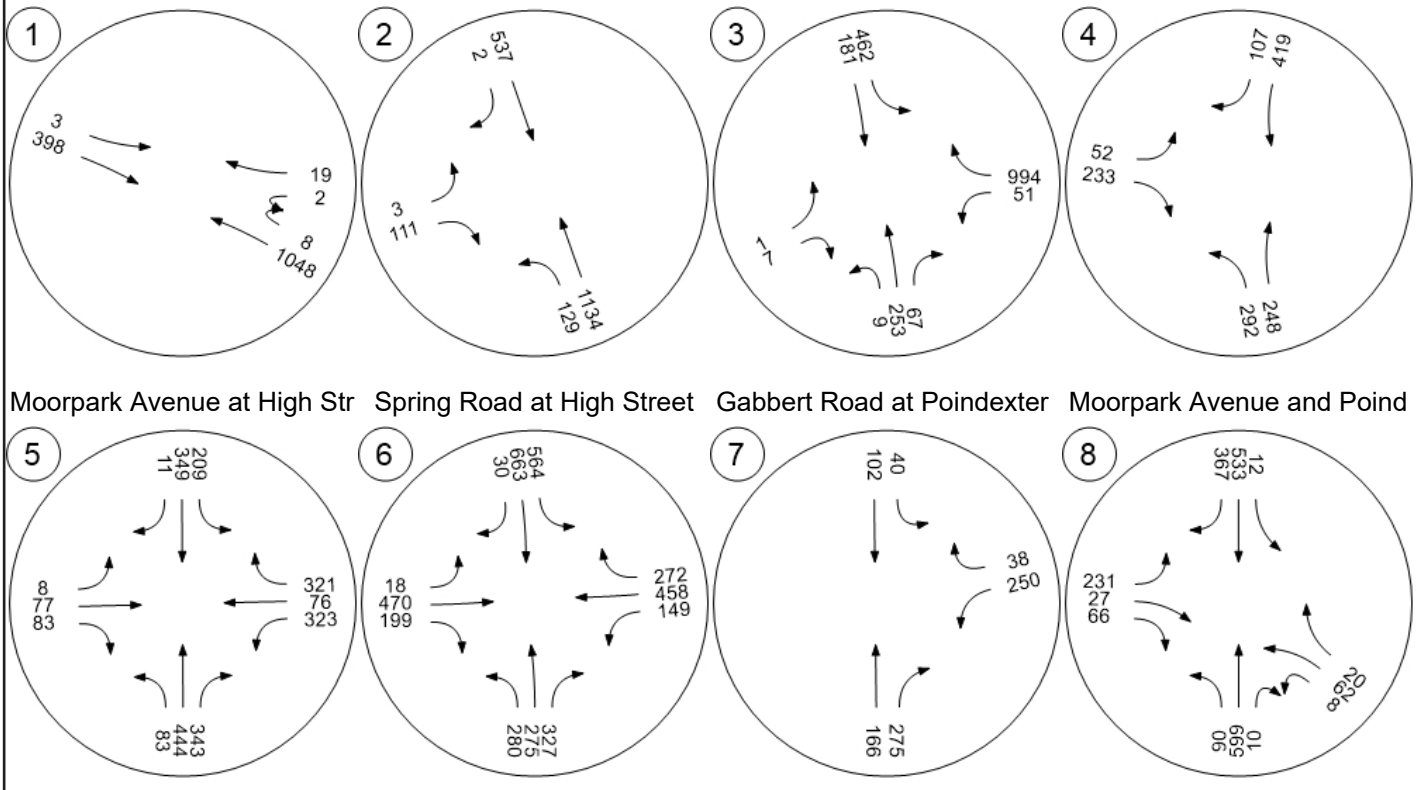
SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-12e**

IMPACT SCIENCES

Future + Project Traffic Volume - Weekday AM Peak Hour





SOURCE: PTV VISTRO, Stantec, 2021.

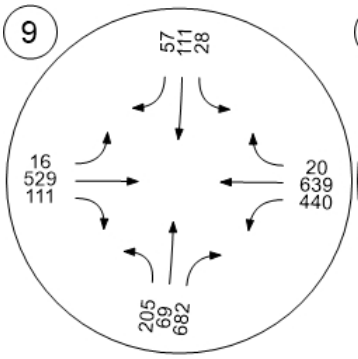
FIGURE **3.10-13a**

IMPACT SCIENCES

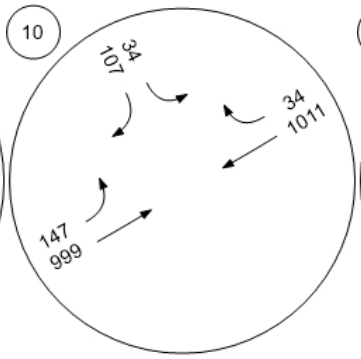
Future + Project Traffic Volume - Weekday PM Peak Hour



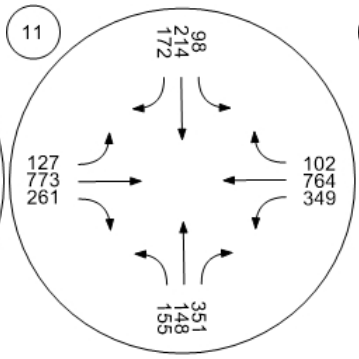
Somis Road and Los Angeles



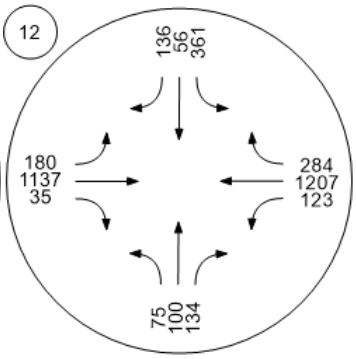
Grimes Canyon Road and Lo



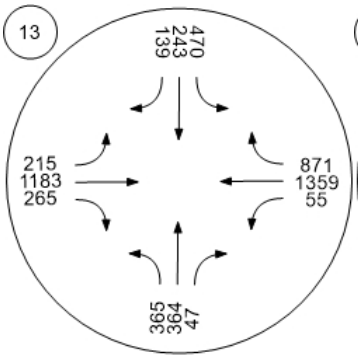
Tierra Rejada Road and Los



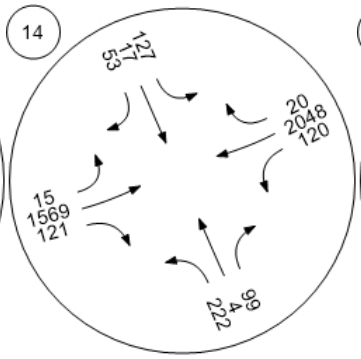
Moorpark Avenue and Los A



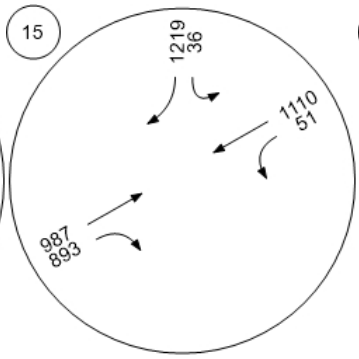
Spring Road and Los Angele



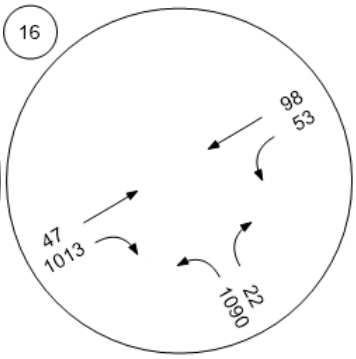
Miller Parkway/Science Drive



SR□23 SB ramps and Los An



SR□23 NB ramps and Los An



SOURCE: PTV VISTRO, Stantec, 2021.

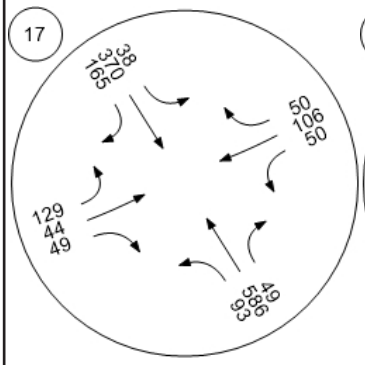
FIGURE **3.10-13b**

IMPACT SCIENCES

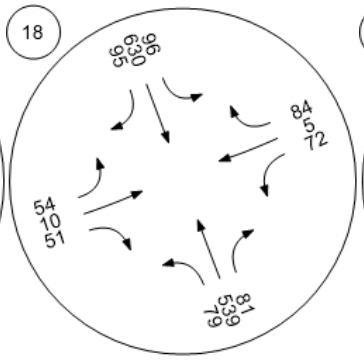
Future + Project Traffic Volume - Weekday PM Peak Hour



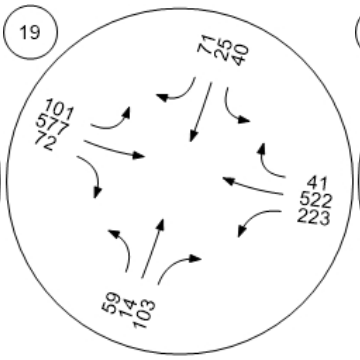
Spring Road and Peach Hill



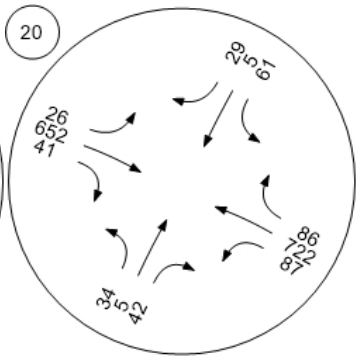
Tierra Rejada Road and Cou



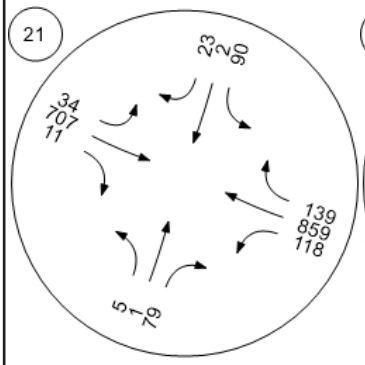
Mountain Trail Street and Tie



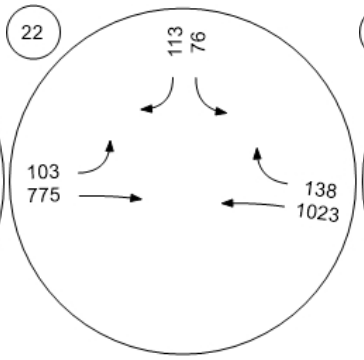
Mountain Meadow Drive and



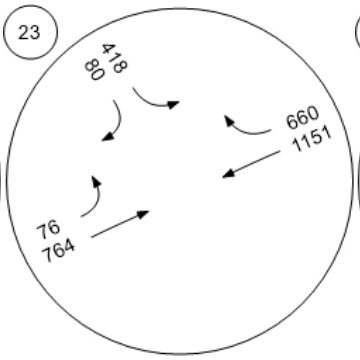
Walnut Creek Road and Tierr



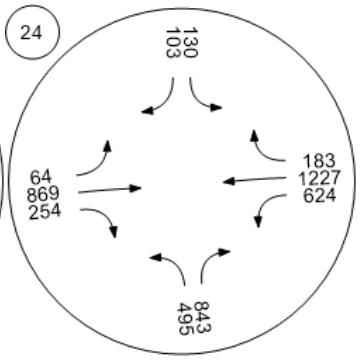
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Moorpark Road and Tierra R



SOURCE: PTV VISTRO, Stantec, 2021.

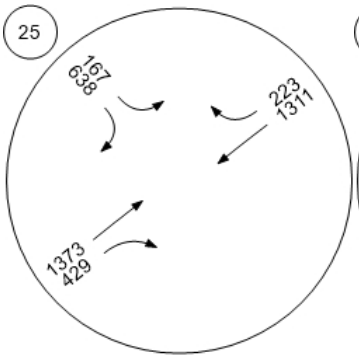
FIGURE **3.10-13c**

IMPACT SCIENCES

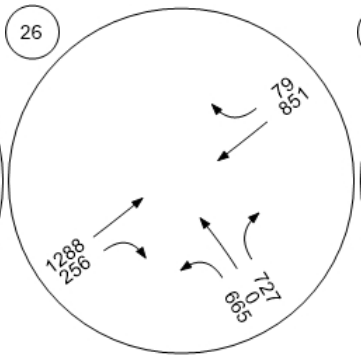
Future + Project Traffic Volume - Weekday PM Peak Hour



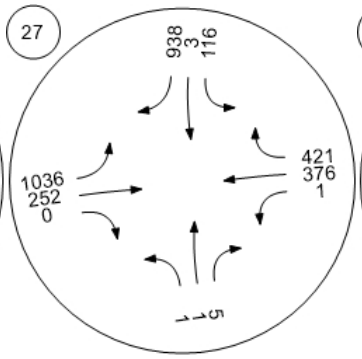
SR□23 SB ramps and Tierra



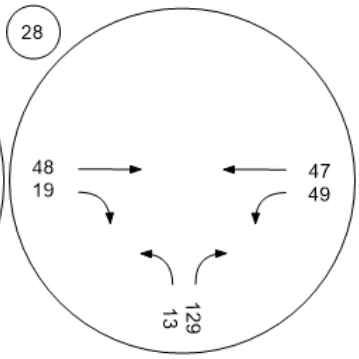
SB□23 NB ramps and Tierra



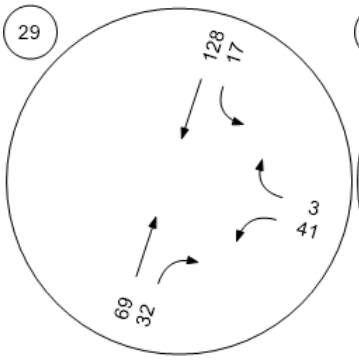
Moorpark Road and Santa R



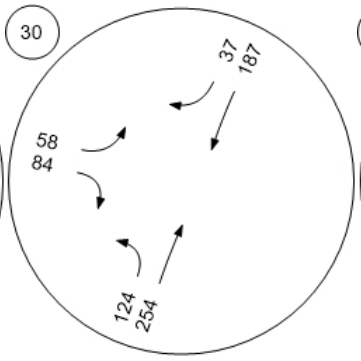
Broadway Road and Grimes



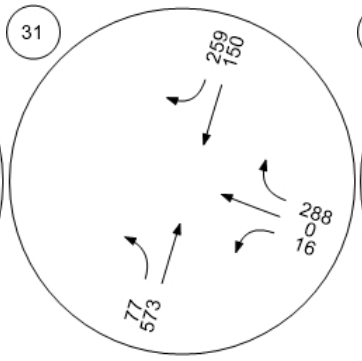
Championship Drive and Gri



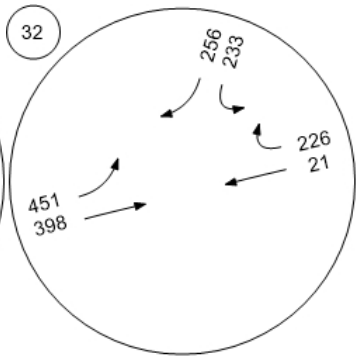
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



SR 118 EB and Collins Drive



SOURCE: PTV VISTRO, Stantec, 2021.

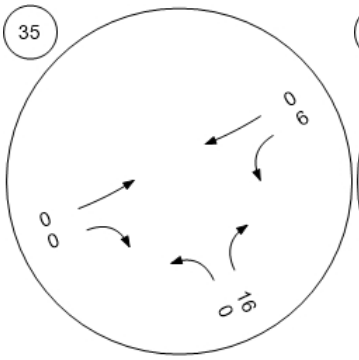
FIGURE **3.10-13d**

IMPACT SCIENCES

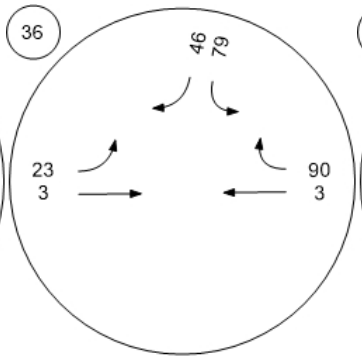
Future + Project Traffic Volume - Weekday PM Peak Hour



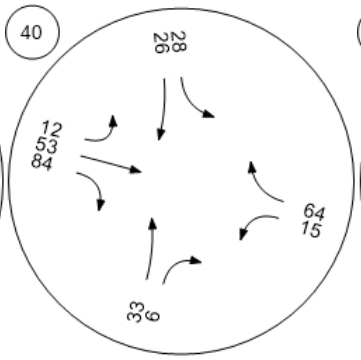
Future Road - Meridian Hills



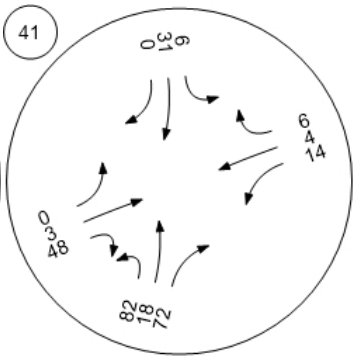
Future Road - Street "A" at Hi



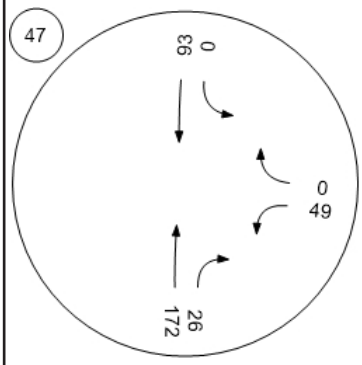
Future Road - Casey Road at



Future Road - Gabbert Road



Future Road - Gabbert Road



SOURCE: PTV VISTRO, Stantec, 2021.

FIGURE **3.10-13e**

IMPACT SCIENCES

Future + Project Traffic Volume - Weekday PM Peak Hour

Table 3.10-9
Future + Project Traffic Conditions (AM Peak Hour)

No.	Intersection	Future Cumulative Conditions			Future Cumulative Conditions with Project			
		V/C	Delay	LOS	V/C	Delay	LOS	Exceed Performance Objective?
1	Walnut Canyon Rd & Broadway Rd		23.2	C		23.5	C	No
2	Walnut Canyon Rd & Championship Dr		45.4	E		46.1	E	No
3	Walnut Canyon Rd & Spring Rd	1.058		F	1.064		F	No
4	Walnut Canyon Rd & Casey Rd	0.811		D	0.902		**E**	**Yes**
5	Moorpark Ave & High St	0.700		C	0.841		**D**	**Yes**
6	Spring Rd & High St	0.970		E	1.016		**F**	**Yes**
7	Gabbert Rd at Poindexter Ave		11.2	B		11.7	B	No
8	Moorpark Ave & Poindexter Ave/1st St	0.836		D	0.896		D	No
9	Somis Rd & Los Angeles Ave	0.918		E	0.932		E	No
10	Grimes Canyon Rd & Los Angeles Ave	0.834		D	0.839		D	No
11	Tierra Rejada Rd & Los Angeles Ave	0.803		D	0.820		D	No
12	Moorpark Ave & Los Angeles Ave	0.673		B	0.707		C	No
13	Spring Rd & Los Angeles Ave	0.815		D	0.848		D	No
14	Miller Pkwy/Science Dr/Los Angeles Ave	0.576		A	0.594		A	No
15	SR-23 SB ramps & Los Angeles Ave	0.530		A	0.550		A	No
16	SR-23 NB ramps & Los Angeles Ave	0.616		B	0.634		B	No
17	Spring Rd & Peach Hill Rd	0.703		C	0.713		C	No
18	Tierra Rejada Rd & Countrywood Dr	0.609		B	0.620		B	No
19	Mountain Trail Rd & Tierra Rejada Rd	0.588		A	0.592		A	No
20	Mountain Meadow Dr & Tierra Rejada Rd	0.591		A	0.597		A	No
21	Walnut Creek Rd & Tierra Rejada Rd	0.658		B	0.661		B	No
22	Peach Hill Rd & Tierra Rejada Rd	0.605		B	0.606		B	No
23	Spring Rd and Tierra Rejada Rd	0.700		C	0.712		C	No
24	Moorpark Rd & Tierra Rejada Rd	1.078		F	1.088		F	No
25	SR-23 SB ramps & Tierra Rejada Rd	0.942		E	0.961		E	No
26	SB-23 NB ramps & Tierra Rejada Rd	0.968		E	0.968		E	No
27	Moorpark Rd & Santa Rosa Rd	0.832		D	0.834		D	No
28	Broadway Rd & Grimes Canyon Rd		11.3	B		11.3	B	No
29	Championship Dr & Grimes Canyon Rd		10.1	B		10.1	B	No
30	Meridian Hills Dr & Walnut Canyon Rd		16.1	C		16.1	C	No
31	SR 118 WB & Collins Dr	0.471		A	0.471		A	No
32	SR 118 EB & Collins Dr	0.787		C	0.787		C	No
33	Meridian Hills Dr & Street 'A' (future)		3.3	A		3.3	A	No
34	Street 'A' & High St (future)		8.4	A		9.6	A	No
35	Casey Rd & Street 'A'(future)		7.0	A		7.7	A	No
36	Gabbert Rd & North Hills Pkwy (future)		7.1	A		7.2	A	No
37	Gabbert Rd & High St (future)		9.8	A		10.4	B	No

Shading denotes exceedance of the performance objective based on City of Moorpark criteria.
Source: Stantec, December 2021, Impact Sciences, July 2021

Table 3.10-10
Future + Project Traffic Conditions (PM Peak Hour)

No.	Intersection	Future Cumulative Conditions			Future Cumulative Conditions with Project			
		V/C	Delay	LOS	V/C	Delay	LOS	Exceed Performance Objective?
1	Walnut Canyon Rd & Broadway Rd		31.2	D		31.6	D	No
2	Walnut Canyon Rd & Championship Dr		61.9	F		64.2	F	No
3	Walnut Canyon Rd & Spring Rd	1.223		F	1.233		F	No
4	Walnut Canyon Rd & Casey Rd	0.608		B	0.799		C	No
5	Moorpark Ave & High St	0.748		C	0.909		**E**	**Yes**
6	Spring Rd & High St	1.082		F	1.107		**F**	**Yes**
7	Gabbert Rd at Poindexter Ave		11.0	B		11.6	B	No
8	Moorpark Ave & Poindexter Ave/1st St	0.873		D	0.911		**E**	**Yes**
9	Somis Rd & Los Angeles Ave	1.058		F	1.070		F	No
10	Grimes Canyon Rd & Los Angeles Ave	0.909		E	0.918		E	No
11	Tierra Rejada Rd & Los Angeles Ave	0.699		B	0.709		C	No
12	Moorpark Ave & Los Angeles Ave	0.752		C	0.780		C	No
13	Spring Rd & Los Angeles Ave	0.829		D	0.867		D	No
14	Miller Pkwy/Science Dr/Los Angeles Ave	0.794		C	0.828		**D**	**Yes**
15	SR-23 SB ramps & Los Angeles Ave	0.780		C	0.816		**D**	**Yes**
16	SR-23 NB ramps & Los Angeles Ave	0.837		D	0.869		D	No
17	Spring Rd & Peach Hill Rd	0.640		B	0.675		B	No
18	Tierra Rejada Rd & Countrywood Dr	0.461		A	0.471		A	No
19	Mountain Trail Rd & Tierra Rejada Rd	0.546		A	0.551		A	No
20	Mountain Meadow Dr & Tierra Rejada Rd	0.443		A	0.445		A	No
21	Walnut Creek Rd & Tierra Rejada Rd	0.540		A	0.545		C	No
22	Peach Hill Rd & Tierra Rejada Rd	0.598		A	0.607		B	No
23	Spring Rd and Tierra Rejada Rd	0.659		B	0.671		B	No
24	Moorpark Rd & Tierra Rejada Rd	1.016		F	1.022		F	No
25	SR-23 SB ramps & Tierra Rejada Rd	0.946		E	0.954		E	No
26	SB-23 NB ramps & Tierra Rejada Rd	0.986		E	0.987		E	No
27	Moorpark Rd & Santa Rosa Rd	1.006		F	1.010		F	No
28	Broadway Rd & Grimes Canyon Rd		10.4	B		10.4	B	No
29	Championship Dr & Grimes Canyon Rd		10.1	B		10.1	B	No
30	Meridian Hills Dr & Walnut Canyon Rd		15.5	C		16.4	C	No
31	SR 118 WB & Collins Dr	0.408		A	0.408		A	No
32	SR 118 EB & Collins Dr	0.687		B	0.687		B	No
33	Meridian Hills Dr & Street 'A' (future)		3.3	A		3.3	A	No
34	Street 'A' & High St (future)		8.4	A		9.6	A	No
35	Casey Rd & Street 'A'(future)		7.0	A		7.4	A	No
36	Gabbert Rd & North Hills Pkwy (future)		7.5	A		7.7	A	No
37	Gabbert Rd & High St (future)		9.6	A		10.4	B	No

Shading denotes exceedance of the performance objective based on City of Moorpark criteria.
Source: Stantec, December 2021, Impact Sciences, July 2021

As shown in **Tables 3.10-9** and **3.10-10** under the "Future Cumulative + Project" conditions six intersections would exceed the performance objective:

1. Walnut Canyon Road and Casey Road
2. Moorpark Avenue and High Street
3. Spring Road and High Street
4. Moorpark Road and Poindexter Avenue
5. Miller Parkway/Science Drive/Los Angeles Avenue
6. SR-23 SB Ramps and Los Angeles Avenue

3.10.8 Project's Condition of Approval under City of Moorpark Criteria

When analyzed against existing conditions, the change in traffic flow generated by the proposed project exceeds the performance objective at up to three intersections in the morning and/or afternoon peak hours. The intersections for each project scenario are listed below

1. Walnut Canyon Road and Casey Road
2. Walnut Canyon Road at Spring Road
3. Moorpark Avenue at High Street

When analyzed against future (cumulative) conditions, the following six intersections would exceed the performance objective in the morning and/or afternoon peak hours:

1. Walnut Canyon Road and Casey Road
2. Moorpark Avenue and High Street
3. Spring Road and High Street
4. Moorpark Road and Poindexter Avenue
5. Miller Parkway/Science Drive/Los Angeles Avenue
6. SR-23 SB Ramps and Los Angeles Avenue

As shown, the project contributes to intersections that require improvements due to cumulative growth in the area. As a result, the following **Condition of Approval** would be required to be consistent with the Goals and Policies identified in the City of Moorpark General Plan – Circulation Element:

Area of Contribution (AOC) Fees

Project Applicant shall pay an **Area of Contribution** (**AOC**) fee based upon the City's currently adopted **AOC** fee schedule (as indicated in the Development Agreement for the Project). The **AOC** fee for each individual dwelling unit shall be paid prior to issuance of a certificate of occupancy for that unit. With the payment of the **AOC** fees, which are intended to be used by the City to fund roadway improvements as

identified in the City's Capital Improvement Program (CIP) list, the Project would be consistent with the Goals and Policies identified in the City of Moorpark General Plan – Circulation Element[1].

Timing/Implementation: Prior to issuance of certificates of occupancy.

Enforcement/Monitoring: City of Moorpark Engineering Department

With the payment of the AOC fees, the Project would be consistent with the Goals and Policies identified in the City of Moorpark General Plan – Circulation Element.

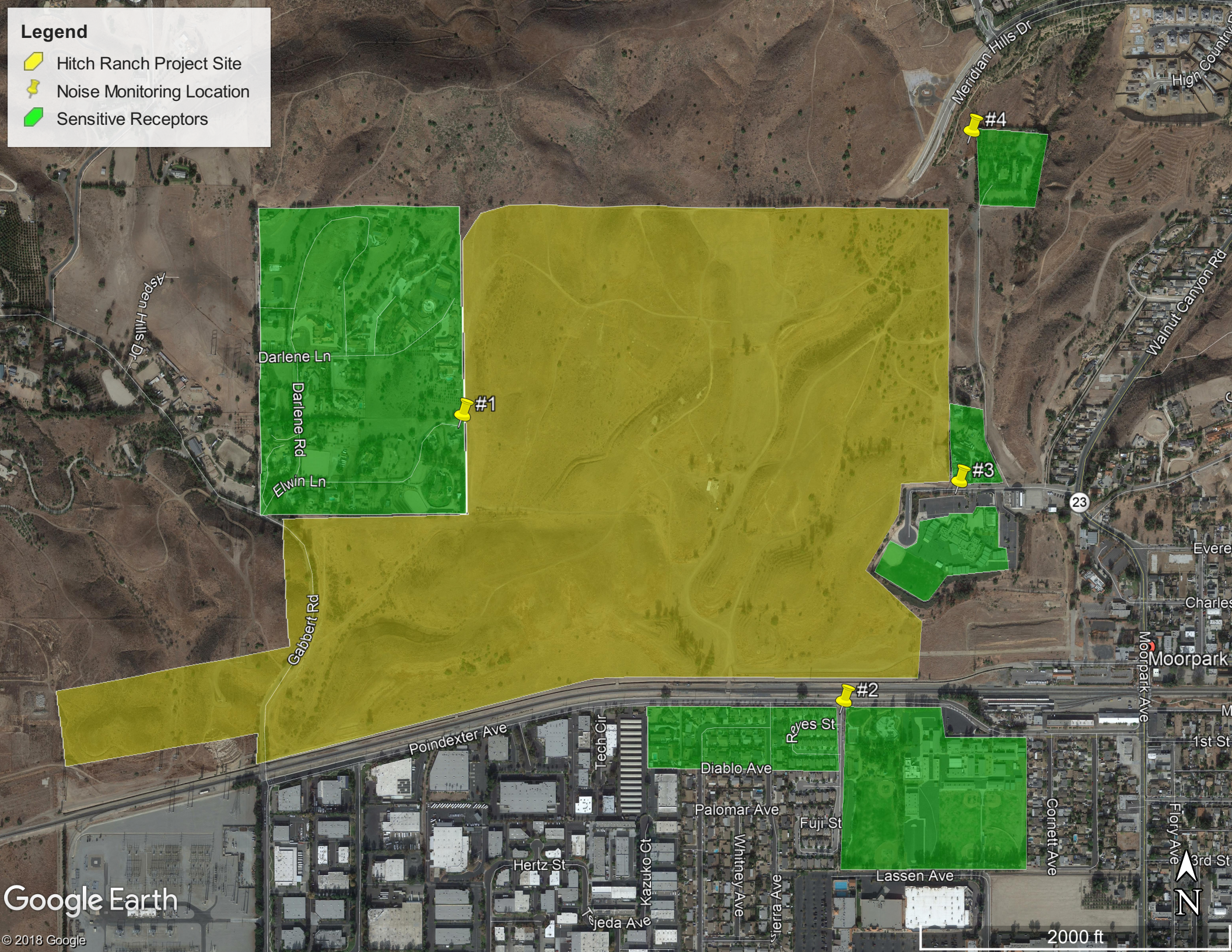
1 The City would update the current Capital Improvement Program (CIP) list to include and address the specific improvements identified in the TIA and STA for implementation of the Proposed Project.

APPENDIX 3.11

Noise

A

Noise Monitoring Locations


Legend
Hitch Ranch Project Site
Noise Monitoring Location
Sensitive Receptors
#1
#2
#3
#4
Darlene Ln
Darlene Rd
Elwin Ln
Aspen Hills Dr
Gabbert Rd
Meridian Hills Dr
High Country
Walnut Canyon Rd
23
Moorpark
Moorpark Ave
Poindexter Ave
Tech Cir
Reyes St
Diablo Ave
Palomar Ave
Fuji St
Whitney Ave
Sierra Ave
Hertz St
Kazuko Ct
Tejeda Ave
Lassen Ave
Cornett Ave
Flory Ave
1st St
3rd St
N
2000 ft
Google Earth
© 2018 Google

B

ADT CNEL Calculations

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1)	dB(A)	Trucks	Trucks	CNEL																										
Somis n/o Los Angeles																																					
Existing 2019		2	0	2,778	40	75	0	0	1.8%	0.7%	57.2	2,158	353	267	44	17	3	1	4	2	67.4	76.3	81.2	-1.8	56.6	48.8	49.6	58.0	53.7	41.2	39.4	54.0	40.5	39.3	40.4	44.9
Existing w/ P		2	0	2,778	40	75	0	0	1.8%	0.7%	57.2	2,158	353	267	44	17	3	1	4	2	67.4	76.3	81.2	-1.8	56.6	48.8	49.6	58.0	53.7	41.2	39.4	54.0	40.5	39.3	40.4	44.9
2026 w/o P		2	0	2,981	40	75	0	0	1.8%	0.7%	57.5	2,316	379	286	47	19	3	1	4	2	67.4	76.3	81.2	-1.8	56.9	49.1	49.9	58.3	54.0	41.5	39.7	54.4	40.8	39.6	40.7	45.2
2026 w/ P		2	0	2,981	40	75	0	0	1.8%	0.7%	57.5	2,316	379	286	47	19	3	1	4	2	67.4	76.3	81.2	-1.8	56.9	49.1	49.9	58.3	54.0	41.5	39.7	54.4	40.8	39.6	40.7	45.2
Somis s/o Los Angeles																																					
Existing 2019		2	0	14,735	40	75	0	0	1.8%	0.7%	64.5	11,449	1,871	1,415	232	92	13	3	20	8	67.4	76.3	81.2	-1.8	63.9	56.0	56.9	65.2	60.9	48.4	46.7	61.3	47.7	46.6	47.6	52.1
Existing w/ P		2	0	15,032	40	75	0	0	1.8%	0.7%	64.6	11,679	1,909	1,443	237	94	14	3	20	8	67.4	76.3	81.2	-1.8	64.0	56.1	56.9	65.3	61.0	48.5	46.8	61.4	47.8	46.7	47.7	52.2
2026 w/o P		2	0	16,550	40	75	0	0	1.8%	0.7%	65.0	12,859	2,102	1,589	260	103	15	3	22	9	67.4	76.3	81.2	-1.8	64.4	56.5	57.4	65.7	61.4	48.9	47.2	61.8	48.2	47.1	48.1	52.6
2026 w/ P		2	0	16,847	40	75	0	0	1.8%	0.7%	65.1	13,090	2,140	1,617	265	105	15	3	23	10	67.4	76.3	81.2	-1.8	64.5	56.6	57.4	65.8	61.5	49.0	47.3	61.9	48.3	47.2	48.2	52.7
Los Angeles e/o Somis																																					
Existing 2019		2	0	20,581	45	75	0	0	1.8%	0.7%	67.2	15,991	2,614	1,976	324	128	19	4	28	12	69.3	77.6	82.1	-1.8	66.8	58.3	58.8	67.9	63.8	50.7	48.6	64.2	50.6	48.8	49.5	54.5
Existing w/ P		2	0	20,994	45	75	0	0	1.8%	0.7%	67.2	16,312	2,666	2,015	330	131	19	4	28	12	69.3	77.6	82.1	-1.8	66.9	58.4	58.9	68.0	63.9	50.8	48.7	64.2	50.7	48.9	49.6	54.6
2026 w/o P		2	0	22,974	45	75	0	0	1.8%	0.7%	67.6	17,850	2,918	2,205	362	143	21	5	31	13	69.3	77.6	82.1	-1.8	67.3	58.8	59.3	68.4	64.3	51.2	49.1	64.6	51.1	49.3	50.0	55.0
2026 w/ P		2	0	23,386	45	75	0	0	1.8%	0.7%	67.7	18,171	2,970	2,245	368	146	21	5	32	13	69.3	77.6	82.1	-1.8	67.4	58.8	59.3	68.5	64.4	51.2	49.2	64.7	51.2	49.4	50.1	55.1
Los Angeles w/o Somis																																					
Existing 2019		2	0	13,728	45	75	0	0	1.8%	0.7%	65.4	10,667	1,743	1,318	216	86	12	3	19	8	69.3	77.6	82.1	-1.8	65.0	56.5	57.0	66.2	62.1	48.9	46.8	62.4	48.9	47.1	47.8	52.7
Existing w/ P		2	0	13,844	45	75	0	0	1.8%	0.7%	65.4	10,756	1,758	1,329	218	86	13	3	19	8	69.3	77.6	82.1	-1.8	65.1	56.6	57.1	66.2	62.1	49.0	46.9	62.4	48.9	47.1	47.8	52.8
2026 w/o P		2	0	14,872	45	75	0	0	1.8%	0.7%	65.7	11,556	1,889	1,428	234	93	14	3	20	8	69.3	77.6	82.1	-1.8	65.4	56.9	57.4	66.5	62.4	49.3	47.2	62.7	49.2	47.4	48.1	53.1
2026 w/ P		2	0	14,988	45	75	0	0	1.8%	0.7%	65.8	11,645	1,903	1,439	236	93	14	3	20	8	69.3	77.6	82.1	-1.8	65.4	56.9	57.4	66.6	62.4	49.3	47.2	62.8	49.3	47.4	48.2	53.1

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR

Weekday AM/PM Peak Hour Volumes

Intersection: 1

Walnut Canyon Rd. & Broadway Rd.

Walnut Canyon Rd.

Southbound

	right	through	left

Eastbound

	left	through	right

Broadway Rd.

N

W E

S

Westbound

	right	through	left

Northbound

	left	through	right

Road	Walnut Canyon Rd.		Broadway Rd.	
Leg	North of	South of	East of	West of
Cross Street	Broadway Rd.		Walnut Canyon Rd.	
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land Use	Lanes	Width	Volume	(mph)	Receptor	Factor (1	dB(A)	Trucks	Trucks	CNEL																										
Walnut Cyn n/o Broadway																																					
		2	0	748	40	75	0	0	1.8%	0.7%	51.5	581	95	72	12	5	1	0	1	0	67.4	76.3	81.2	-1.8	50.9	43.1	43.9	52.3	48.0	35.5	33.7	48.4	34.8	33.6	34.7	39.2
		2	0	858	40	75	0	0	1.8%	0.7%	52.1	667	109	82	14	5	1	0	1	0	67.4	76.3	81.2	-1.8	51.5	43.7	44.5	52.9	48.6	36.1	34.3	48.9	35.4	34.2	35.3	39.8
		2	0	880	40	75	0	0	1.8%	0.7%	52.2	684	112	84	14	5	1	0	1	0	67.4	76.3	81.2	-1.8	51.6	43.8	44.6	53.0	48.7	36.2	34.4	49.1	35.5	34.3	35.4	39.9
		2	0	963	40	75	0	0	1.8%	0.7%	52.6	748	122	92	15	6	1	0	1	1	67.4	76.3	81.2	-1.8	52.0	44.2	45.0	53.4	49.1	36.6	34.8	49.4	35.9	34.7	35.8	40.2
		2	0	1,023	40	75	0	0	1.8%	0.7%	52.9	795	130	98	16	6	1	0	1	1	67.4	76.3	81.2	-1.8	52.3	44.4	45.3	53.6	49.3	36.9	35.1	49.7	36.1	35.0	36.0	40.5
		2	0	974	40	75	0	0	1.8%	0.7%	52.7	756	124	93	15	6	1	0	1	1	67.4	76.3	81.2	-1.8	52.1	44.2	45.1	53.4	49.1	36.6	34.9	49.5	35.9	34.8	35.8	40.3
		2	0	1,034	40	75	0	0	1.8%	0.7%	52.9	803	131	99	16	6	1	0	1	1	67.4	76.3	81.2	-1.8	52.3	44.5	45.3	53.7	49.4	36.9	35.1	49.8	36.2	35.0	36.1	40.6
Walnut Cyn s/o Broadway																																					
		2	0	8,338	40	75	0	0	1.8%	0.7%	62.0	6,479	1,059	800	131	52	8	2	11	5	67.4	76.3	81.2	-1.8	61.4	53.6	54.4	62.8	58.4	46.0	44.2	58.8	45.2	44.1	45.1	49.6
		2	0	9,526	40	75	0	0	1.8%	0.7%	62.6	7,402	1,210	914	150	59	9	2	13	5	67.4	76.3	81.2	-1.8	62.0	54.1	55.0	63.3	59.0	46.5	44.8	59.4	45.8	44.7	45.7	50.2
		2	0	9,279	40	75	0	0	1.8%	0.7%	62.5	7,209	1,178	891	146	58	8	2	13	5	67.4	76.3	81.2	-1.8	61.9	54.0	54.8	63.2	58.9	46.4	44.7	59.3	45.7	44.6	45.6	50.1
		2	0	10,665	40	75	0	0	1.8%	0.7%	63.1	8,286	1,354	1,024	168	67	10	2	14	6	67.4	76.3	81.2	-1.8	62.5	54.6	55.4	63.8	59.5	47.0	45.3	59.9	46.3	45.2	46.2	50.7
		2	0	10,846	40	75	0	0	1.8%	0.7%	63.1	8,427	1,377	1,041	171	68	10	2	15	6	67.4	76.3	81.2	-1.8	62.6	54.7	55.5	63.9	59.6	47.1	45.4	60.0	46.4	45.2	46.3	50.8
		2	0	5,819	40	75	0	0	1.8%	0.7%	60.4	4,521	739	559	92	36	5	1	8	3	67.4	76.3	81.2	-1.8	59.8	52.0	52.8	61.2	56.9	44.4	42.7	57.3	43.7	42.5	43.6	48.1
		2	0	6,001	40	75	0	0	1.8%	0.7%	60.6	4,662	762	576	94	37	5	1	8	3	67.4	76.3	81.2	-1.8	60.0	52.1	53.0	61.3	57.0	44.5	42.8	57.4	43.8	42.7	43.7	48.2
Broadway e/o Walnut Cyn																																					
		2	0	61	40	75	0	0	1.8%	0.7%	40.6	47	8	6	1	0	0	0	0	0	67.4	76.3	81.2	-1.8	40.0	32.2	33.0	41.4	37.0	24.6	22.8	37.4	23.8	22.7	23.8	28.2
		2	0	66	40	75	0	0	1.8%	0.7%	41.0	51	8	6	1	0	0	0	0	0	67.4	76.3	81.2	-1.8	40.4	32.5	33.4	41.7	37.4	25.0	23.2	37.8	24.2	23.1	24.1	28.6
		2	0	127	40	75	0	0	1.8%	0.7%	43.8	98	16	12	2	1	0	0	0	0	67.4	76.3	81.2	-1.8	43.2	35.4	36.2	44.6	40.2	27.8	26.0	40.6	27.0	25.9	27.0	31.4
		2	0	77	40	75	0	0	1.8%	0.7%	41.7	60	10	7	1	0	0	0	0	0	67.4	76.3	81.2	-1.8	41.1	33.2	34.0	42.4	38.1	25.6	23.9	38.5	24.9	23.8	24.8	29.3
		2	0	138	40	75	0	0	1.8%	0.7%	44.2	107	17	13	2	1	0	0	0	0	67.4	76.3	81.2	-1.8	43.6	35.7	36.6	44.9	40.6	28.1	26.4	41.0	27.4	26.3	27.3	31.8
		2	0	5,049	40	75	0	0	1.8%	0.7%	59.8	3,923	641	485	79	31	5	1	7	3	67.4	76.3	81.2	-1.8	59.2	51.4	52.2	60.6	56.3	43.8	42.0	56.6	43.1	41.9	43.0	47.4
		2	0	4,945	40	75	0	0	1.8%	0.7%	59.7	3,842	628	475	78	31	4	1	7	3	67.4	76.3	81.2	-1.8	59.1	51.3	52.1	60.5	56.2	43.7	41.9	56.6	43.0	41.8	42.9	47.4
Broadway w/o Walnut Cyn																																					
		2	0	7,981	40	75	0	0	1.8%	0.7%	61.8	6,201	1,014	766	126	50	7	2	11	5	67.4	76.3	81.2	-1.8	61.2	53.4	54.2	62.6	58.2	45.8	44.0	58.6	45.0	43.9	45.0	49.4
		2	0	9,086	40	75	0	0	1.8%	0.7%	62.4	7,060	1,154	872	143	57	8	2	12	5	67.4	76.3	81.2	-1.8	61.8	53.9	54.8	63.1	58.8	46.3	44.6	59.2	45.6	44.5	45.5	50.0
		2	0	8,745	40	75	0	0	1.8%	0.7%	62.2	6,795	1,111	840	138	55	8	2	12	5	67.4	76.3	81.2	-1.8	61.6	53.8	54.6	63.0	58.6	46.2	44.4	59.0	45.4	44.3	45.4	49.8
		2	0	10,208	40	75	0	0	1.8%	0.7%	62.9	7,932	1,296	980	161	64	9	2	14	6	67.4	76.3	81.2	-1.8	62.3	54.4	55.3	63.6	59.3	46.8	45.1	59.7	46.1	45.0	46.0	50.5
		2	0	10,269	40	75	0	0	1.8%	0.7%	62.9	7,979	1,304	986	162	64	9	2	14	6	67.4	76.3	81.2	-1.8	62.3	54.5	55.3	63.7	59.3	46.9	45.1	59.7	46.1	45.0	46.0	50.5
		2	0	10,335	40	75	0	0	1.8%	0.7%	62.9	8,030	1,312	992	163	64	9	2	14	6	67.4	76.3	81.2	-1.8	62.3	54.5	55.3	63.7	59.4	46.9	45.1	59.8	46.2	45.0	46.1	50.6
		2	0	10,230	40	75	0	0	1.8%	0.7%	62.9	7,949	1,299	982	161	64	9	2	14	6	67.4	76.3	81.2	-1.8	62.3	54.4	55.3	63.6	59.3	46.9	45.1	59.7	46.1	45.0	46.0	50.5

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 2
Walnut Canyon Rd. & Championship Dr.

Walnut Canyon Rd.

Southbound

	right	through	left
Existing	5	1,103	0
Existing w/ P	5	1,091	0
2026 w/o P	5	1,515	0
2026 w/ P	5	1,540	0

Eastbound

Championship Dr.

	left	through	right
Existing 2019	5	0	217
Existing W/P	5	0	217
2026 w/o P	5	0	232
2026 w/ P	5	0	232

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Westbound

	right	through	left
Existing	0	0	0
Existing W/P	0	0	0
2026 w/o P	0	0	0
2026 w/ P	0	0	0

Northbound

	left	through	right
Existing	216	1,153	0
Existing W/P	216	1,186	0
2026 w/o P	232	1,586	0
2026 w/ P	232	1,597	0

Road	Walnut Canyon Rd.		Championship Dr.	
Leg	North of	South of	East of	West of
Cross Street	Championship Dr.		Walnut Canyon Rd.	
Existing 2019	12,463.0	14,789.5	0.0	2,436.5
Existing W/P	12,578.5	14,905.0	0.0	2,436.5
2026 w/o P	17,110.5	19,607.5	0.0	2,607.0
2026 w/ P	17,308.5	19,805.5	0.0	2,607.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1	dB(A)	Trucks	Trucks	CNEL																										
Walnut Cyn n/o Championship																																					
Existing		2	0	12,298	40	75	0	0	1.8%	0.7%	63.7	9,556	#####	#####	194	77	11	2	17	7	67.4	76.3	81.2	-1.8	63.1	55.2	56.1	64.4	60.1	47.7	45.9	60.5	46.9	45.8	46.8	51.3
Existing W/P		2	0	12,535	40	75	0	0	1.8%	0.7%	63.8	9,739	#####	#####	197	78	11	2	17	7	67.4	76.3	81.2	-1.8	63.2	55.3	56.1	64.5	60.2	47.7	46.0	60.6	47.0	45.9	46.9	51.4
2026 w/o P		2	0	13,519	40	75	0	0	1.8%	0.7%	64.1	10,504	#####	#####	213	84	12	3	18	8	67.4	76.3	81.2	-1.8	63.5	55.7	56.5	64.8	60.5	48.1	46.3	60.9	47.3	46.2	47.2	51.7
2026 w/ P		2	0	13,756	40	75	0	0	1.8%	0.7%	64.2	10,688	#####	#####	216	86	13	3	19	8	67.4	76.3	81.2	-1.8	63.6	55.7	56.6	64.9	60.6	48.1	46.4	61.0	47.4	46.3	47.3	51.8
Walnut Cyn s/o Championship																																					
Existing		2	0	14,625	40	75	0	0	1.8%	0.7%	64.4	11,363	#####	#####	230	91	13	3	20	8	67.4	76.3	81.2	-1.8	63.8	56.0	56.8	65.2	60.9	48.4	46.7	61.3	47.7	46.5	47.6	52.1
Existing w/ P		2	0	14,861	40	75	0	0	1.8%	0.7%	64.5	11,547	#####	#####	234	93	14	3	20	8	67.4	76.3	81.2	-1.8	63.9	56.1	56.9	65.3	60.9	48.5	46.7	61.3	47.7	46.6	47.7	52.1
2026 W/o P		2	0	16,016	40	75	0	0	1.8%	0.7%	64.8	12,444	#####	#####	252	100	15	3	22	9	67.4	76.3	81.2	-1.8	64.2	56.4	57.2	65.6	61.3	48.8	47.0	61.7	48.1	46.9	48.0	52.5
2026 w/ P		2	0	16,253	40	75	0	0	1.8%	0.7%	64.9	12,628	#####	#####	256	101	15	3	22	9	67.4	76.3	81.2	-1.8	64.3	56.5	57.3	65.6	61.3	48.9	47.1	61.7	48.1	47.0	48.0	52.5
Championship e/o Walnut Cyn																																					
		2	0	0	45	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	69.3	77.6	82.1	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
		2	0	0	45	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	69.3	77.6	82.1	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
		2	0	0	45	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	69.3	77.6	82.1	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
		2	0	0	45	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	69.3	77.6	82.1	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
		2	0	0	45	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	69.3	77.6	82.1	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
		2	0	0	45	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	69.3	77.6	82.1	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
		2	0	0	45	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	69.3	77.6	82.1	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Championship w/o Walnut Cyn																																					
Existing		2	0	2,437	45	75	0	0	1.8%	0.7%	57.9	1,893	309	234	38	15	2	0	3	1	69.3	77.6	82.1	-1.8	57.5	49.0	49.5	58.7	54.6	41.4	39.3	54.9	41.4	39.6	40.3	45.2
Existing w/ P		2	0	2,437	45	75	0	0	1.8%	0.7%	57.9	1,894	309	234	38	15	2	0	3	1	69.3	77.6	82.1	-1.8	57.5	49.0	49.5	58.7	54.6	41.4	39.3	54.9	41.4	39.6	40.3	45.2
2026 W/o P		2	0	2,607	45	75	0	0	1.8%	0.7%	58.2	2,026	331	250	41	16	2	1	4	1	69.3	77.6	82.1	-1.8	57.8	49.3	49.8	59.0	54.9	41.7	39.6	55.2	41.7	39.8	40.6	45.5
2026 w/ P		2	0	2,607	45	75	0	0	1.8%	0.7%	58.2	2,026	331	250	41	16	2	1	4	1	69.3	77.6	82.1	-1.8	57.8	49.3	49.8	59.0	54.9	41.7	39.6	55.2	41.7	39.8	40.6	45.5

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 3
Walnut Canyon Rd. & Spring Rd.

Walnut Canyon Rd.

Southbound

	right	through	left
Existing	0	347	955
Existing w/ P	0	377	955
2026 w/o P	0	429	1,332
2026 w/ P	0	454	1,332

Eastbound

	left	through	right
Existing	2	3	0
Existing w/ P	2	7	1
2026 w/o P	3	3	3
2026 w/ P	3	3	7

Spring Rd.

Westbound

	right	through	left
Existing	1,039	0	86
Existing w/ P	1,039	0	86
2026 w/o P	1,414	0	92
2026 w/ P	1,414	4	92

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Northbound

	left	through	right
Existing	3	315	60
Existing w/ P	9	360	60
2026 w/o P	12	393	121
2026 w/ P	18	416	121

Road	Walnut Canyon Rd.		Spring Rd.	
Leg	North of	South of	East of	West of
Cross Street	Spring Rd.		Walnut Canyon Rd.	
Existing 2019	14,619.0	4,460.5	11,786.5	44.0
Existing w/ P	15,031.5	4,911.5	11,808.5	104.5
2026 w/o P	19,640.5	5,775.0	16,291.0	115.5
2026 w/ P	19,904.5	6,094.0	16,313.0	192.5
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1	dB(A)	Trucks	Trucks	CNEL																										
Walnut Cyn n/o Spring																																					
Existing 2019		2	0	14,619	40	75	0	0	1.8%	0.7%	64.4	11,359	1,857	1,403	230	91	13	3	20	8	67.4	76.3	81.2	-1.8	63.8	56.0	56.8	65.2	60.9	48.4	46.7	61.3	47.7	46.5	47.6	52.1
Existing w/ P		2	0	15,032	40	75	0	0	1.8%	0.7%	64.6	11,679	1,909	1,443	237	94	14	3	20	8	67.4	76.3	81.2	-1.8	64.0	56.1	56.9	65.3	61.0	48.5	46.8	61.4	47.8	46.7	47.7	52.2
2026 w/o P		2	0	19,641	40	75	0	0	1.8%	0.7%	65.7	15,261	2,494	1,885	309	122	18	4	27	11	67.4	76.3	81.2	-1.8	65.1	57.3	58.1	66.5	62.2	49.7	47.9	62.5	49.0	47.8	48.9	53.3
2026 w/ P		2	0	19,905	40	75	0	0	1.8%	0.7%	65.8	15,466	2,528	1,911	313	124	18	4	27	11	67.4	76.3	81.2	-1.8	65.2	57.3	58.2	66.5	62.2	49.7	48.0	62.6	49.0	47.9	48.9	53.4
Walnut Cyn s/o Spring																																					
Existing 2019		2	0	3,394	40	75	0	0	1.8%	0.7%	58.1	2,637	431	326	53	21	3	1	5	2	67.4	76.3	81.2	-1.8	57.5	49.6	50.5	58.8	54.5	42.1	40.3	54.9	41.3	40.2	41.2	45.7
Existing w/ P		2	0	3,861	40	75	0	0	1.8%	0.7%	58.7	3,000	490	371	61	24	4	1	5	2	67.4	76.3	81.2	-1.8	58.1	50.2	51.0	59.4	55.1	42.6	40.9	55.5	41.9	40.8	41.8	46.3
2026 w/o P		2	0	4,224	40	75	0	0	1.8%	0.7%	59.1	3,282	536	406	66	26	4	1	6	2	67.4	76.3	81.2	-1.8	58.5	50.6	51.4	59.8	55.5	43.0	41.3	55.9	42.3	41.1	42.2	46.7
2026 w/ P		2	0	3,432	40	75	0	0	1.8%	0.7%	58.2	2,667	436	329	54	21	3	1	5	2	67.4	76.3	81.2	-1.8	57.6	49.7	50.5	58.9	54.6	42.1	40.4	55.0	41.4	40.2	41.3	45.8
Spring e/o Walnut Cyn																																					
Existing 2019		4	10	11,787	40	75	0	0	1.8%	0.7%	63.7	9,158	1,497	1,132	185	74	11	2	16	7	67.4	76.3	81.2	-1.6	63.1	55.3	56.1	64.5	60.1	47.7	45.9	60.5	46.9	45.8	46.8	51.3
Existing w/ P		4	10	11,809	40	75	0	0	1.8%	0.7%	63.7	9,175	1,500	1,134	186	74	11	2	16	7	67.4	76.3	81.2	-1.6	63.1	55.3	56.1	64.5	60.1	47.7	45.9	60.5	46.9	45.8	46.9	51.3
2026 w/o P		4	10	16,291	40	75	0	0	1.8%	0.7%	65.1	12,658	2,069	1,564	256	102	15	3	22	9	67.4	76.3	81.2	-1.6	64.5	56.7	57.5	65.9	61.5	49.1	47.3	61.9	48.3	47.2	48.3	52.7
2026 w/ P		4	10	16,313	40	75	0	0	1.8%	0.7%	65.1	12,675	2,072	1,566	257	102	15	3	22	9	67.4	76.3	81.2	-1.6	64.5	56.7	57.5	65.9	61.5	49.1	47.3	61.9	48.3	47.2	48.3	52.7
Spring w/o Walnut Cyn																																					
Existing 2019		4	10	17	40	75	0	0	1.8%	0.7%	35.2	13	2	2	0	0	0	0	0	0	67.4	76.3	81.2	-1.6	34.6	26.7	27.5	35.9	31.6	19.1	17.4	32.0	18.4	17.3	18.3	22.8
Existing w/ P		4	10	17	40	75	0	0	1.8%	0.7%	35.2	13	2	2	0	0	0	0	0	0	67.4	76.3	81.2	-1.6	34.6	26.7	27.5	35.9	31.6	19.1	17.4	32.0	18.4	17.3	18.3	22.8
2026 w/o P		4	10	17	40	75	0	0	1.8%	0.7%	35.2	13	2	2	0	0	0	0	0	0	67.4	76.3	81.2	-1.6	34.6	26.7	27.5	35.9	31.6	19.1	17.4	32.0	18.4	17.3	18.3	22.8
2026 w/ P		4	10	22	40	75	0	0	1.8%	0.7%	36.4	17	3	2	0	0	0	0	0	0	67.4	76.3	81.2	-1.6	35.8	28.0	28.8	37.2	32.8	20.4	18.6	33.2	19.6	18.5	19.6	24.0

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 4
Walnut Canyon Rd. & Casey Rd.

Walnut Canyon Rd.

Southbound

	right	through	left
Existing 2019	148	696	0
Existing w/ P	183	696	0
2026 w/o P	167	838	0
2026 w/ P	197	838	0

Eastbound

	left	through	right
Existing 2019	68	0	329
Existing w/ P	100	0	547
2026 w/o P	104	0	501
2026 w/ P	116	0	648

Casey Rd.

N
W E
S

Westbound

	right	through	left
Existing 2019	0	0	0
Existing w/ P	0	0	0
2026 w/o P	0	0	0
2026 w/ P	0	0	0

Northbound

	left	through	right
Existing 2019	324	344	0
Existing w/ P	550	344	0
2026 w/o P	405	499	0
2026 w/ P	629	499	0

Road	Walnut Canyon Rd.		Casey Rd.	
Leg	North of	South of	East of	West of
Cross Street	Casey Rd.		Walnut Canyon Rd.	
Existing 2019	6,908.0	9,311.5	0.0	4,779.5
Existing w/ P	7,276.5	11,753.5	0.0	7,590.0
2026 w/o P	8,844.0	12,336.5	0.0	6,473.5
2026 w/ P	9,075.0	14,377.0	0.0	8,745.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1	dB(A)	Trucks	Trucks	CNEL																										
Walnut Cyn n/o Casey																																					
Existing 2019		2	0	6,908	40	75	0	0	1.8%	0.7%	61.2	5,368	877	663	109	43	6	1	9	4	67.4	76.3	81.2	-1.8	60.6	52.7	53.6	61.9	57.6	45.2	43.4	58.0	44.4	43.3	44.3	48.8
Existing w/ P		2	0	7,277	40	75	0	0	1.8%	0.7%	61.4	5,654	924	699	115	45	7	1	10	4	67.4	76.3	81.2	-1.8	60.8	53.0	53.8	62.2	57.8	45.4	43.6	58.2	44.6	43.5	44.6	49.0
2026 w/o P		2	0	8,844	40	75	0	0	1.8%	0.7%	62.3	6,872	####	849	139	55	8	2	12	5	67.4	76.3	81.2	-1.8	61.7	53.8	54.6	63.0	58.7	46.2	44.5	59.1	45.5	44.4	45.4	49.9
2026 w/ P		2	0	9,075	40	75	0	0	1.8%	0.7%	62.4	7,051	####	871	143	57	8	2	12	5	67.4	76.3	81.2	-1.8	61.8	53.9	54.7	63.1	58.8	46.3	44.6	59.2	45.6	44.5	45.5	50.0
Walnut Cyn s/o Casey																																					
Existing 2019		2	0	9,312	40	75	0	0	1.8%	0.7%	62.5	7,235	####	894	147	58	8	2	13	5	67.4	76.3	81.2	-1.8	61.9	54.0	54.9	63.2	58.9	46.4	44.7	59.3	45.7	44.6	45.6	50.1
Existing w/ P		2	0	11,754	40	75	0	0	1.8%	0.7%	63.5	9,132	####	####	185	73	11	2	16	7	67.4	76.3	81.2	-1.8	62.9	55.0	55.9	64.2	59.9	47.5	45.7	60.3	46.7	45.6	46.6	51.1
2026 w/o P		2	0	12,337	40	75	0	0	1.8%	0.7%	63.7	9,585	####	####	194	77	11	2	17	7	67.4	76.3	81.2	-1.8	63.1	55.3	56.1	64.5	60.1	47.7	45.9	60.5	46.9	45.8	46.8	51.3
2026 w/ P		2	0	14,377	40	75	0	0	1.8%	0.7%	64.4	11,171	####	####	226	90	13	3	19	8	67.4	76.3	81.2	-1.8	63.8	55.9	56.7	65.1	60.8	48.3	46.6	61.2	47.6	46.5	47.5	52.0
Casey e/o Walnut Cyn																																					
		2	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.8	####	####	####	####	####	####	####	####	####	####	####	####
		2	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.8	####	####	####	####	####	####	####	####	####	####	####	####
		2	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.8	####	####	####	####	####	####	####	####	####	####	####	####
		2	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.8	####	####	####	####	####	####	####	####	####	####	####	####
		2	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.8	####	####	####	####	####	####	####	####	####	####	####	####
		2	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.8	####	####	####	####	####	####	####	####	####	####	####	####
		2	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.8	####	####	####	####	####	####	####	####	####	####	####	####
Casey w/o Walnut Cyn																																					
Existing 2019		2	0	4,747	25	75	0	0	1.8%	0.7%	55.6	3,688	603	456	75	30	4	1	6	3	59.4	71.1	78.7	-1.8	53.1	47.9	51.6	56.1	50.1	40.3	41.4	51.0	36.9	38.5	42.3	44.6
Existing w/ P		2	0	7,722	25	75	0	0	1.8%	0.7%	57.7	6,000	981	741	122	48	7	2	10	4	59.4	71.1	78.7	-1.8	55.2	50.0	53.7	58.2	52.2	42.5	43.5	53.2	39.0	40.6	44.4	46.7
2026 w/o P		2	0	9,840	25	75	0	0	1.8%	0.7%	58.8	7,645	####	945	155	61	9	2	13	6	59.4	71.1	78.7	-1.8	56.2	51.1	54.7	59.3	53.3	43.5	44.6	54.2	40.1	41.6	45.5	47.8
2026 w/ P		2	0	8,388	25	75	0	0	1.8%	0.7%	58.1	6,517	####	805	132	52	8	2	11	5	59.4	71.1	78.7	-1.8	55.6	50.4	54.0	58.6	52.6	42.8	43.9	53.5	39.4	40.9	44.8	47.1

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 5
Moorpark Ave. & High St.

Moorpark Ave.

Southbound

	right	through	left
Existing 2019	11	617	261
Existing w/ P	11	692	403
2026 w/o P	21	839	421
2026 w/ P	21	899	509

High St.

Eastbound

	left	through	right
Existing 2019	12	34	50
Existing w/ P	12	120	116
2026 w/o P	13	69	76
2026 w/ P	13	179	175

Westbound

	right	through	left
Existing 2019	259	34	472
Existing w/ P	412	91	472
2026 w/o P	431	66	565
2026 w/ P	586	123	565

N
W E
S

Northbound

	left	through	right
Existing 2019	39	554	475
Existing w/ P	97	628	475
2026 w/o P	65	729	573
2026 w/ P	123	799	573

Road	Moorpark Ave.		High St.	
Leg	North of	South of	East of	West of
Cross Street	High St.		Moorpark Ave.	
Existing 2019	9,427.0	12,138.5	8,442.5	990.0
Existing w/ P	11,869.0	13,640.0	10,851.5	2,458.5
2026 w/o P	13,497.0	15,658.5	11,687.5	1,705.0
2026 w/ P	15,548.5	17,237.0	13,942.5	3,487.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1	dB(A)	Trucks	Trucks	CNEL																										
Moorpark n/o High																																					
Existing 2019		2	0	9,427	30	75	0	0	1.8%	0.7%	60.1	7,325	####	905	148	59	9	2	13	5	62.5	73.1	80.3	-1.8	58.3	52.1	55.3	60.7	55.4	44.6	45.1	56.1	42.2	42.7	46.0	48.8
Existing w/ P		2	0	11,869	30	75	0	0	1.8%	0.7%	61.1	9,222	####	####	187	74	11	2	16	7	62.5	73.1	80.3	-1.8	59.3	53.1	56.3	61.7	56.4	45.6	46.1	57.1	43.2	43.7	47.0	49.8
2026 w/o P		2	0	13,497	30	75	0	0	1.8%	0.7%	61.7	#####	####	####	212	84	12	3	18	8	62.5	73.1	80.3	-1.8	59.9	53.7	56.8	62.3	56.9	46.1	46.7	57.6	43.7	44.2	47.6	50.3
2026 w/ P		2	0	15,549	30	75	0	0	1.8%	0.7%	62.3	#####	####	####	245	97	14	3	21	9	62.5	73.1	80.3	-1.8	60.5	54.3	57.4	62.9	57.5	46.7	47.3	58.2	44.3	44.9	48.2	50.9
Moorpark s/o High																																					
Existing 2019		2	0	12,139	30	75	0	0	1.8%	0.7%	61.2	9,432	####	####	191	76	11	2	16	7	62.5	73.1	80.3	-1.8	59.4	53.2	56.4	61.8	56.5	45.6	46.2	57.2	43.3	43.8	47.1	49.9
Existing w/ P		2	0	13,640	30	75	0	0	1.8%	0.7%	61.7	#####	####	####	215	85	12	3	18	8	62.5	73.1	80.3	-1.8	59.9	53.7	56.9	62.3	57.0	46.2	46.7	57.7	43.8	44.3	47.6	50.4
2026 w/o P		2	0	15,659	30	75	0	0	1.8%	0.7%	62.3	#####	####	####	246	98	14	3	21	9	62.5	73.1	80.3	-1.8	60.5	54.3	57.5	62.9	57.6	46.8	47.3	58.3	44.4	44.9	48.2	51.0
2026 w/ P		2	0	17,237	30	75	0	0	1.8%	0.7%	62.8	#####	####	####	271	108	16	3	23	10	62.5	73.1	80.3	-1.8	61.0	54.8	57.9	63.3	58.0	47.2	47.7	58.7	44.8	45.3	48.6	51.4
High e/o Moorpark																																					
Existing 2019		2	0	8,443	30	75	0	0	1.8%	0.7%	59.7	6,560	####	810	133	53	8	2	11	5	62.5	73.1	80.3	-1.8	57.9	51.7	54.8	60.2	54.9	44.1	44.6	55.6	41.7	42.2	45.5	48.3
Existing w/ P		2	0	10,852	30	75	0	0	1.8%	0.7%	60.8	8,432	####	####	171	68	10	2	15	6	62.5	73.1	80.3	-1.8	59.0	52.7	55.9	61.3	56.0	45.2	45.7	56.7	42.8	43.3	46.6	49.4
2026 w/o P		2	0	11,688	30	75	0	0	1.8%	0.7%	61.1	9,081	####	####	184	73	11	2	16	7	62.5	73.1	80.3	-1.8	59.3	53.1	56.2	61.7	56.3	45.5	46.0	57.0	43.1	43.6	47.0	49.7
2026 w/ P		2	0	13,943	30	75	0	0	1.8%	0.7%	61.8	#####	####	####	219	87	13	3	19	8	62.5	73.1	80.3	-1.8	60.0	53.8	57.0	62.4	57.1	46.3	46.8	57.8	43.9	44.4	47.7	50.5
High w/o Moorpark																																					
Existing 2019		2	0	990	30	75	0	0	1.8%	0.7%	50.4	769	126	95	16	6	1	0	1	1	62.5	73.1	80.3	-1.8	48.6	42.3	45.5	50.9	45.6	34.8	35.3	46.3	32.4	32.9	36.2	39.0
Existing w/ P		2	0	2,459	30	75	0	0	1.8%	0.7%	54.3	1,910	312	236	39	15	2	0	3	1	62.5	73.1	80.3	-1.8	52.5	46.3	49.4	54.9	49.5	38.7	39.3	50.2	36.3	36.8	40.2	42.9
2026 w/o P		2	0	1,705	30	75	0	0	1.8%	0.7%	52.7	1,325	217	164	27	11	2	0	2	1	62.5	73.1	80.3	-1.8	50.9	44.7	47.8	53.3	47.9	37.1	37.7	48.6	34.7	35.3	38.6	41.3
2026 w/ P		2	0	3,487	30	75	0	0	1.8%	0.7%	55.8	2,709	443	335	55	22	3	1	5	2	62.5	73.1	80.3	-1.8	54.0	47.8	50.9	56.4	51.0	40.2	40.8	51.8	37.9	38.4	41.7	44.4

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 6
Spring Rd. & High St.

Spring Rd.

Southbound

	right	through	left
Existing 2019	44	1,134	808
Existing w/ P	44	1,134	808
2026 w/o P	60	1,327	1,128
2026 w/ P	60	1,327	1,128

Eastbound

	left	through	right
Existing 2019	24	562	302
Existing w/ P	24	656	407
2026 w/o P	37	832	364
2026 w/ P	37	888	427

Westbound

	right	through	left
Existing 2019	324	516	183
Existing w/ P	324	604	183
2026 w/o P	544	735	266
2026 w/ P	544	827	266

Northbound

	left	through	right
Existing 2019	296	410	489
Existing w/ P	394	410	489
2026 w/o P	363	550	602
2026 w/ P	457	550	602

Road	Spring Rd.		High St.	
Leg	North of	South of	East of	West of
Cross Street	High St.		Spring Rd.	
Existing 2019	15,092.0	15,477.0	15,851.0	9,592.0
Existing w/ P	15,092.0	16,593.5	16,852.0	11,709.5
2026 w/o P	20,053.0	19,096.0	22,588.5	13,150.5
2026 w/ P	20,053.0	19,959.5	23,402.5	14,828.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1	dB(A)	Trucks	Trucks	CNEL																										
Spring n/o High																																					
Existing 2019		4	10	15,092	40	75	0	0	1.8%	0.7%	64.8	11,726	####	####	238	94	14	3	20	9	67.4	76.3	81.2	-1.6	64.2	56.3	57.2	65.5	61.2	48.7	47.0	61.6	48.0	46.9	47.9	52.4
Existing w/ P		4	10	15,092	40	75	0	0	1.8%	0.7%	64.8	11,726	####	####	238	94	14	3	20	9	67.4	76.3	81.2	-1.6	64.2	56.3	57.2	65.5	61.2	48.7	47.0	61.6	48.0	46.9	47.9	52.4
2026 w/o P		4	10	20,053	40	75	0	0	1.8%	0.7%	66.0	15,581	####	####	316	125	18	4	27	11	67.4	76.3	81.2	-1.6	65.4	57.6	58.4	66.8	62.4	50.0	48.2	62.8	49.2	48.1	49.2	53.6
2026 w/ P		4	10	20,053	40	75	0	0	1.8%	0.7%	66.0	15,581	####	####	316	125	18	4	27	11	67.4	76.3	81.2	-1.6	65.4	57.6	58.4	66.8	62.4	50.0	48.2	62.8	49.2	48.1	49.2	53.6
Spring s/o High																																					
Existing 2019		4	0	15,477	40	75	0	0	1.8%	0.7%	64.8	12,026	####	####	244	97	14	3	21	9	67.4	76.3	81.2	-1.7	64.2	56.4	57.2	65.6	61.2	48.8	47.0	61.6	48.0	46.9	47.9	52.4
Existing w/ P		4	0	16,594	40	75	0	0	1.8%	0.7%	65.1	12,893	####	####	261	103	15	3	22	9	67.4	76.3	81.2	-1.7	64.5	56.7	57.5	65.9	61.5	49.1	47.3	61.9	48.3	47.2	48.2	52.7
2026 w/o P		4	0	19,096	40	75	0	0	1.8%	0.7%	65.7	14,838	####	####	301	119	17	4	26	11	67.4	76.3	81.2	-1.7	65.1	57.3	58.1	66.5	62.1	49.7	47.9	62.5	48.9	47.8	48.9	53.3
2026 w/ P		4	0	19,960	40	75	0	0	1.8%	0.7%	65.9	15,509	####	####	314	124	18	4	27	11	67.4	76.3	81.2	-1.7	65.3	57.5	58.3	66.7	62.3	49.9	48.1	62.7	49.1	48.0	49.0	53.5
High e/o Spring																																					
Existing 2019		2	0	15,851	30	75	0	0	1.8%	0.7%	62.4	12,316	####	####	249	99	14	3	21	9	62.5	73.1	80.3	-1.8	60.6	54.4	57.5	63.0	57.6	46.8	47.4	58.3	44.4	44.9	48.3	51.0
Existing w/ P		2	0	16,852	30	75	0	0	1.8%	0.7%	62.7	13,094	####	####	265	105	15	3	23	10	62.5	73.1	80.3	-1.8	60.9	54.7	57.8	63.3	57.9	47.1	47.6	58.6	44.7	45.2	48.5	51.3
2026 w/o P		2	0	22,589	30	75	0	0	1.8%	0.7%	63.9	17,551	####	####	355	141	21	4	31	13	62.5	73.1	80.3	-1.8	62.1	55.9	59.1	64.5	59.2	48.3	48.9	59.9	46.0	46.5	49.8	52.6
2026 w/ P		2	0	23,403	30	75	0	0	1.8%	0.7%	64.1	18,184	####	####	368	146	21	5	32	13	62.5	73.1	80.3	-1.8	62.3	56.1	59.2	64.7	59.3	48.5	49.0	60.0	46.1	46.6	50.0	52.7
High w/o Spring																																					
Existing 2019		2	0	9,592	30	75	0	0	1.8%	0.7%	60.2	7,453	####	921	151	60	9	2	13	5	62.5	73.1	80.3	-1.8	58.4	52.2	55.3	60.8	55.4	44.6	45.2	56.1	42.2	42.8	46.1	48.8
Existing w/ P		2	0	11,710	30	75	0	0	1.8%	0.7%	61.1	9,098	####	####	184	73	11	2	16	7	62.5	73.1	80.3	-1.8	59.3	53.1	56.2	61.7	56.3	45.5	46.0	57.0	43.1	43.6	47.0	49.7
2026 w/o P		2	0	13,151	30	75	0	0	1.8%	0.7%	61.6	10,218	####	####	207	82	12	3	18	7	62.5	73.1	80.3	-1.8	59.8	53.6	56.7	62.2	56.8	46.0	46.5	57.5	43.6	44.1	47.5	50.2
2026 w/ P		2	0	14,828	30	75	0	0	1.8%	0.7%	62.1	11,521	####	####	233	92	13	3	20	8	62.5	73.1	80.3	-1.8	60.3	54.1	57.2	62.7	57.3	46.5	47.1	58.0	44.1	44.6	48.0	50.7

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 7
Gabbert Rd. & Poindexter Ave.

Gabbert Rd.

Southbound

	right	through	left
Existing 2019		26	38
Existing w/ P		128	42
2026 w/o P		127	85
2026 w/ P		247	89

Eastbound

	left	through	right
Existing 2019			
Existing w/ P			
2026 w/o P			
2026 w/ P			

Poindexter Ave.

Westbound

	right	through	left
Existing 2019	12		462
Existing w/ P	15		462
2026 w/o P	50		499
2026 w/ P	53		499

N
W E
S

Northbound

	left	through	right
Existing 2019		29	512
Existing w/ P		138	512
2026 w/o P		125	550
2026 w/ P		234	550

Road	Gabbert Rd.		Poindexter Ave.	
Leg	North of	South of	East of	West of
Cross Street	Poindexter Ave.		Gabbert Rd.	
Existing 2019	577.5	5,659.5	5,632.0	0.0
Existing w/ P	1,776.5	6,820.0	5,670.5	0.0
2026 w/o P	2,128.5	7,155.5	6,512.0	0.0
2026 w/ P	3,426.5	8,415.0	6,550.5	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1	dB(A)	Trucks	Trucks	CNEL																										
Gabbert n/o Poindexter																																					
Existing 2019		2	0	578	40	75	0	0	1.8%	0.7%	50.4	449	73	55	9	4	1	0	1	0	67.4	76.3	81.2	-1.8	49.8	42.0	42.8	51.2	46.8	34.4	32.6	47.2	33.6	32.5	33.5	38.0
Existing w/ P		2	0	1,777	40	75	0	0	1.8%	0.7%	55.3	1,380	226	171	28	11	2	0	2	1	67.4	76.3	81.2	-1.8	54.7	46.8	47.7	56.0	51.7	39.3	37.5	52.1	38.5	37.4	38.4	42.9
2026 w/o P		2	0	2,129	40	75	0	0	1.8%	0.7%	56.1	1,654	270	204	33	13	2	0	3	1	67.4	76.3	81.2	-1.8	55.5	47.6	48.4	56.8	52.5	40.0	38.3	52.9	39.3	38.2	39.2	43.7
2026 w/ P		2	0	3,427	40	75	0	0	1.8%	0.7%	58.1	2,662	435	329	54	21	3	1	5	2	67.4	76.3	81.2	-1.8	57.5	49.7	50.5	58.9	54.6	42.1	40.4	55.0	41.4	40.2	41.3	45.8
Gabbert s/o Poindexter																																					
Existing 2019		2	0	5,660	40	75	0	0	1.8%	0.7%	60.3	4,397	719	543	89	35	5	1	8	3	67.4	76.3	81.2	-1.8	59.7	51.9	52.7	61.1	56.7	44.3	42.5	57.1	43.6	42.4	43.5	47.9
Existing w/ P		2	0	6,820	40	75	0	0	1.8%	0.7%	61.1	5,299	866	655	107	43	6	1	9	4	67.4	76.3	81.2	-1.8	60.5	52.7	53.5	61.9	57.6	45.1	43.3	57.9	44.4	43.2	44.3	48.8
2026 w/o P		2	0	7,156	40	75	0	0	1.8%	0.7%	61.3	5,560	909	687	113	45	7	1	10	4	67.4	76.3	81.2	-1.8	60.7	52.9	53.7	62.1	57.8	45.3	43.5	58.2	44.6	43.4	44.5	49.0
2026 w/ P		2	0	8,415	40	75	0	0	1.8%	0.7%	62.0	6,538	1,069	808	132	52	8	2	11	5	67.4	76.3	81.2	-1.8	61.4	53.6	54.4	62.8	58.5	46.0	44.3	58.9	45.3	44.1	45.2	49.7
Poindexter e/o Gabbert																																					
Existing 2019		2	0	5,632	30	75	0	0	1.8%	0.7%	57.9	4,376	715	541	89	35	5	1	8	3	62.5	73.1	80.3	-1.8	56.1	49.9	53.0	58.5	53.1	42.3	42.9	53.8	39.9	40.4	43.8	46.5
Existing w/ P		2	0	5,671	30	75	0	0	1.8%	0.7%	57.9	4,406	720	544	89	35	5	1	8	3	62.5	73.1	80.3	-1.8	56.1	49.9	53.1	58.5	53.2	42.3	42.9	53.9	40.0	40.5	43.8	46.5
2026 w/o P		2	0	6,512	30	75	0	0	1.8%	0.7%	58.5	5,060	827	625	102	41	6	1	9	4	62.5	73.1	80.3	-1.8	56.7	50.5	53.7	59.1	53.8	42.9	43.5	54.5	40.6	41.1	44.4	47.1
2026 w/ P		2	0	6,551	30	75	0	0	1.8%	0.7%	58.6	5,090	832	629	103	41	6	1	9	4	62.5	73.1	80.3	-1.8	56.8	50.6	53.7	59.1	53.8	43.0	43.5	54.5	40.6	41.1	44.4	47.2
Poindexter w/o Gabbert																																					
		2	0	0	30	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	62.5	73.1	80.3	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
		2	0	0	30	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	62.5	73.1	80.3	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
		2	0	0	30	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	62.5	73.1	80.3	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
		2	0	0	30	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	62.5	73.1	80.3	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 8
Moorpark Ave. & Poindexter Ave.

Moorpark Ave.

Southbound

	right	through	left
Existing 2019	630	632	20
Existing w/ P	634	771	20
2026 w/o P	713	896	25
2026 w/ P	717	1,052	25

Eastbound

	left	through	right
Existing 2019	396	50	124
Existing w/ P	399	50	124
2026 w/o P	465	54	132
2026 w/ P	469	54	132

Poindexter Ave.

Westbound

	right	through	left
Existing 2019	34	116	6
Existing w/ P	34	116	6
2026 w/o P	39	124	15
2026 w/ P	39	124	15

N
W E
S

Northbound

	left	through	right
Existing 2019	168	642	8
Existing w/ P	168	771	8
2026 w/o P	180	866	18
2026 w/ P	180	982	18

Road	Moorpark Ave.		Poindexter Ave.	
Leg	North of	South of	East of	West of
Cross Street	Poindexter Ave.		Moorpark Ave.	
Existing 2019	12,947.0	8,690.0	1,287.0	8,162.0
Existing w/ P	14,459.5	10,164.0	1,287.0	8,200.5
2026 w/o P	16,522.0	11,588.5	1,512.5	9,174.0
2026 w/ P	18,062.0	13,084.5	1,512.5	9,218.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1	dB(A)	Trucks	Trucks	CNEL																										
Moorpark n/o Poindexter																																					
Existing 2019		2	0	12,947	40	75	0	0	1.8%	0.7%	63.9	10,060	####	####	204	81	12	3	18	7	67.4	76.3	81.2	-1.8	63.3	55.5	56.3	64.7	60.3	47.9	46.1	60.7	47.1	46.0	47.1	51.5
Existing w/ P		2	0	14,460	40	75	0	0	1.8%	0.7%	64.4	11,235	####	####	228	90	13	3	20	8	67.4	76.3	81.2	-1.8	63.8	55.9	56.8	65.1	60.8	48.4	46.6	61.2	47.6	46.5	47.5	52.0
2026 w/o P		2	0	16,522	40	75	0	0	1.8%	0.7%	65.0	12,838	####	####	260	103	15	3	22	9	67.4	76.3	81.2	-1.8	64.4	56.5	57.3	65.7	61.4	48.9	47.2	61.8	48.2	47.1	48.1	52.6
2026 w/ P		2	0	18,062	40	75	0	0	1.8%	0.7%	65.4	14,034	####	####	284	113	16	4	24	10	67.4	76.3	81.2	-1.8	64.8	56.9	57.7	66.1	61.8	49.3	47.6	62.2	48.6	47.5	48.5	53.0
Moorpark s/o Poindexter																																					
Existing 2019		2	0	8,690	40	75	0	0	1.8%	0.7%	62.2	6,752	####	834	137	54	8	2	12	5	67.4	76.3	81.2	-1.8	61.6	53.7	54.6	62.9	58.6	46.1	44.4	59.0	45.4	44.3	45.3	49.8
Existing w/ P		2	0	10,164	40	75	0	0	1.8%	0.7%	62.9	7,897	####	976	160	63	9	2	14	6	67.4	76.3	81.2	-1.8	62.3	54.4	55.2	63.6	59.3	46.8	45.1	59.7	46.1	45.0	46.0	50.5
2026 w/o P		2	0	11,589	40	75	0	0	1.8%	0.7%	63.4	9,004	####	####	182	72	11	2	16	7	67.4	76.3	81.2	-1.8	62.8	55.0	55.8	64.2	59.9	47.4	45.6	60.3	46.7	45.5	46.6	51.1
2026 w/ P		2	0	13,085	40	75	0	0	1.8%	0.7%	64.0	10,167	####	####	206	82	12	3	18	7	67.4	76.3	81.2	-1.8	63.4	55.5	56.3	64.7	60.4	47.9	46.2	60.8	47.2	46.1	47.1	51.6
Poindexter e/o Moorpark																																					
Existing 2019		2	0	1,287	40	75	0	0	1.8%	0.7%	53.9	1,000	163	124	20	8	1	0	2	1	67.4	76.3	81.2	-1.8	53.3	45.4	46.3	54.6	50.3	37.9	36.1	50.7	37.1	36.0	37.0	41.5
Existing w/ P		2	0	1,287	40	75	0	0	1.8%	0.7%	53.9	1,000	163	124	20	8	1	0	2	1	67.4	76.3	81.2	-1.8	53.3	45.4	46.3	54.6	50.3	37.9	36.1	50.7	37.1	36.0	37.0	41.5
2026 w/o P		2	0	1,513	40	75	0	0	1.8%	0.7%	54.6	1,175	192	145	24	9	1	0	2	1	67.4	76.3	81.2	-1.8	54.0	46.1	47.0	55.3	51.0	38.6	36.8	51.4	37.8	36.7	37.7	42.2
2026 w/ P		2	0	1,513	40	75	0	0	1.8%	0.7%	54.6	1,175	192	145	24	9	1	0	2	1	67.4	76.3	81.2	-1.8	54.0	46.1	47.0	55.3	51.0	38.6	36.8	51.4	37.8	36.7	37.7	42.2
Poindexter w/o Moorpark																																					
Existing 2019		2	0	8,162	40	75	0	0	1.8%	0.7%	61.9	6,342	####	784	128	51	7	2	11	5	67.4	76.3	81.2	-1.8	61.3	53.5	54.3	62.7	58.3	45.9	44.1	58.7	45.1	44.0	45.1	49.5
Existing w/ P		2	0	8,201	40	75	0	0	1.8%	0.7%	61.9	6,372	####	787	129	51	7	2	11	5	67.4	76.3	81.2	-1.8	61.3	53.5	54.3	62.7	58.4	45.9	44.1	58.7	45.2	44.0	45.1	49.6
2026 w/o P		2	0	9,174	40	75	0	0	1.8%	0.7%	62.4	7,128	####	881	144	57	8	2	12	5	67.4	76.3	81.2	-1.8	61.8	54.0	54.8	63.2	58.8	46.4	44.6	59.2	45.6	44.5	45.6	50.0
2026 w/ P		2	0	9,218	40	75	0	0	1.8%	0.7%	62.4	7,162	####	885	145	57	8	2	12	5	67.4	76.3	81.2	-1.8	61.8	54.0	54.8	63.2	58.9	46.4	44.6	59.3	45.7	44.5	45.6	50.1

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 9
Somis Rd. & Los Angeles Ave.

Somis Rd.

Southbound

	right	through	left
Existing 2019	82	211	50
Existing w/ P	82	211	50
2026 w/o P	88	226	54
2026 w/ P	88	226	54

Eastbound

	left	through	right
Existing 2019	30	819	285
Existing w/ P	30	829	285
2026 w/o P	32	891	305
2026 w/ P	32	901	305

Westbound

	right	through	left
Existing 2019	33	1,018	760
Existing w/ P	33	1,029	789
2026 w/o P	35	1,107	885
2026 w/ P	35	1,118	914

Los Angeles Ave.

N
W E
S

Northbound

	left	through	right
Existing 2019	262	99	1,062
Existing w/ P	262	99	1,087
2026 w/o P	281	107	1,205
2026 w/ P	281	107	1,230

Road	Somis Rd.		Los Angeles Ave.	
Leg	North of	South of	East of	West of
Cross Street	Los Angeles Ave.		Somis Rd.	
Existing 2019	2,777.5	14,734.5	20,581.0	13,728.0
Existing w/ P	2,777.5	15,031.5	20,993.5	13,843.5
2026 w/o P	2,981.0	16,549.5	22,973.5	14,872.0
2026 w/ P	2,981.0	16,846.5	23,386.0	14,987.5
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 10
Grimes Canyon Rd./Hitch Blvd. & Los Angeles Ave.

Grimes Canyon Rd./Hitch Blvd.

Southbound

	right	through	left
Existing 2019	222		92
Existing w/ P	222		92
2026 w/o P	238		98
2026 w/ P	238		98

Eastbound

	left	through	right
Existing 2019	219	1,747	
Existing w/ P	219	1,782	
2026 w/o P	235	1,952	
2026 w/ P	235	1,987	

Los Angeles Ave.

N
W E
S

Westbound

	right	through	left
Existing 2019	52	1,666	
Existing w/ P	52	1,706	
2026 w/o P	55	1,872	
2026 w/ P	55	1,912	

Northbound

	left	through	right
Existing 2019			
Existing w/ P			
2026 w/o P			
2026 w/ P			

Road	Grimes Canyon Rd./Hitch Blvd.		Los Angeles Ave.	
Leg	North of	South of	East of	West of
Cross Street	Los Angeles Ave.		Grimes Canyon Rd./Hitch Blvd.	
Existing 2019	3,217.5	0.0	19,563.5	21,197.0
Existing w/ P	3,217.5	0.0	19,976.0	21,609.5
2026 w/o P	3,443.0	0.0	21,873.5	23,633.5
2026 w/ P	3,443.0	0.0	22,286.0	24,046.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

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NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
ROADWAY NAME			Median	ADT	Design Speed	Dist. from Center to	Alpha	Barrier Attn.	Vehicle Mix: Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1)	dB(A)	Trucks	Trucks	CNEL																										
Grimes/Hitch n/o Los Angeles																																					
Existing 2019		2	0	3,218	50	75	0	0	1.8%	0.7%	60.2	2,500	409	309	51	20	3	1	4	2	71.1	78.8	83.0	-1.8	60.1	50.9	51.1	61.0	57.1	43.3	41.0	57.4	43.9	41.5	41.9	47.3
Existing w/ P		2	0	3,218	50	75	0	0	1.8%	0.7%	60.2	2,500	409	309	51	20	3	1	4	2	71.1	78.8	83.0	-1.8	60.1	50.9	51.1	61.0	57.1	43.3	41.0	57.4	43.9	41.5	41.9	47.3
2026 w/o P		2	0	3,443	50	75	0	0	1.8%	0.7%	60.5	2,675	437	331	54	21	3	1	5	2	71.1	78.8	83.0	-1.8	60.4	51.2	51.4	61.3	57.4	43.6	41.3	57.7	44.2	41.8	42.2	47.6
2026 w/ P		2	0	3,443	50	75	0	0	1.8%	0.7%	60.5	2,675	437	331	54	21	3	1	5	2	71.1	78.8	83.0	-1.8	60.4	51.2	51.4	61.3	57.4	43.6	41.3	57.7	44.2	41.8	42.2	47.6
Grimes/Hitch s/o Los Angeles																																					
		2	0	0	50	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	71.1	78.8	83.0	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
		2	0	0	50	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	71.1	78.8	83.0	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
		2	0	0	50	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	71.1	78.8	83.0	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
		2	0	0	50	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	71.1	78.8	83.0	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Los Angeles e/o Grimes/Hitch																																					
Existing 2019		3	0	19,564	45	75	0	0	1.8%	0.7%	67.0	15,201	2,485	1,878	308	122	18	4	26	11	69.3	77.6	82.1	-1.8	66.6	58.1	58.6	67.8	63.6	50.5	48.4	64.0	50.5	48.6	49.4	54.3
Existing w/ P		3	0	19,976	45	75	0	0	1.8%	0.7%	67.1	15,521	2,537	1,918	314	125	18	4	27	11	69.3	77.6	82.1	-1.8	66.7	58.2	58.7	67.9	63.7	50.6	48.5	64.1	50.5	48.7	49.5	54.4
2026 w/o P		3	0	21,874	45	75	0	0	1.8%	0.7%	67.5	16,996	2,778	2,100	344	136	20	4	30	12	69.3	77.6	82.1	-1.8	67.1	58.6	59.1	68.2	64.1	51.0	48.9	64.5	50.9	49.1	49.8	54.8
2026 w/ P		3	0	22,286	45	75	0	0	1.8%	0.7%	67.5	17,316	2,830	2,139	351	139	20	4	30	13	69.3	77.6	82.1	-1.8	67.2	58.7	59.2	68.3	64.2	51.1	49.0	64.5	51.0	49.2	49.9	54.9
Los Angeles w/o Grimes/Hitch																																					
Existing 2019		2	0	21,197	45	75	0	0	1.8%	0.7%	67.3	16,470	2,692	2,035	334	132	19	4	29	12	69.3	77.6	82.1	-1.8	66.9	58.4	58.9	68.1	64.0	50.8	48.7	64.3	50.8	48.9	49.7	54.6
Existing w/ P		2	0	21,610	45	75	0	0	1.8%	0.7%	67.4	16,791	2,744	2,075	340	135	20	4	29	12	69.3	77.6	82.1	-1.8	67.0	58.5	59.0	68.1	64.0	50.9	48.8	64.4	50.8	49.0	49.7	54.7
2026 w/o P		2	0	23,634	45	75	0	0	1.8%	0.7%	67.8	18,363	3,001	2,269	372	147	21	5	32	13	69.3	77.6	82.1	-1.8	67.4	58.9	59.4	68.5	64.4	51.3	49.2	64.8	51.2	49.4	50.1	55.1
2026 w/ P		2	0	24,046	45	75	0	0	1.8%	0.7%	67.8	18,684	3,054	2,308	378	150	22	5	33	14	69.3	77.6	82.1	-1.8	67.5	58.9	59.4	68.6	64.5	51.4	49.3	64.8	51.3	49.5	50.2	55.2

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 11
Tierra Rejada Rd. & Los Angeles Ave.

Tierra Rejada Rd.

Southbound

	right	through	left
Existing 2019	207	361	108
Existing w/ P	247	405	126
2026 w/o P	268	410	170
2026 w/ P	308	454	186

Eastbound

	left	through	right
Existing 2019	168	1,391	470
Existing w/ P	203	1,391	470
2026 w/o P	216	1,542	504
2026 w/ P	251	1,542	504

Los Angeles Ave.

W N E S

Westbound

	right	through	left
Existing 2019	87	1,258	608
Existing w/ P	114	1,258	608
2026 w/o P	142	1,398	682
2026 w/ P	169	1,398	682

Northbound

	left	through	right
Existing 2019	354	281	759
Existing w/ P	354	328	759
2026 w/o P	379	312	846
2026 w/ P	379	359	846

Road	Tierra Rejada Rd.		Los Angeles Ave.	
Leg	North of	South of	East of	West of
Cross Street	Los Angeles Ave.		Tierra Rejada Rd.	
Existing 2019	6,666.0	15,581.5	23,160.5	21,164.0
Existing w/ P	7,826.5	16,082.0	23,408.0	21,576.5
2026 w/o P	8,349.0	17,231.5	26,290.0	23,688.5
2026 w/ P	9,498.5	17,732.0	26,526.5	24,101.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

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NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1	dB(A)	Trucks	Trucks	CNEL																										
Tierra Rejada n/o Los Angeles																																					
Existing 2019		4	10	6,666	45	75	0	0	1.8%	0.7%	62.5	5,179	847	640	105	42	6	1	9	4	69.3	77.6	82.1	-1.6	62.1	53.6	54.1	63.2	59.1	46.0	43.9	59.5	45.9	44.1	44.8	49.8
Existing w/ P		4	10	7,827	45	75	0	0	1.8%	0.7%	63.2	6,081	994	751	123	49	7	2	11	4	69.3	77.6	82.1	-1.6	62.8	54.3	54.8	63.9	59.8	46.7	44.6	60.2	46.6	44.8	45.5	50.5
2026 w/o P		4	10	8,349	45	75	0	0	1.8%	0.7%	63.4	6,487	####	802	131	52	8	2	11	5	69.3	77.6	82.1	-1.6	63.1	54.6	55.1	64.2	60.1	47.0	44.9	60.4	46.9	45.1	45.8	50.8
2026 w/ P		4	10	9,499	45	75	0	0	1.8%	0.7%	64.0	7,380	####	912	149	59	9	2	13	5	69.3	77.6	82.1	-1.6	63.6	55.1	55.6	64.8	60.7	47.5	45.5	61.0	47.5	45.7	46.4	51.3
Tierra Rejada s/o Los Angeles																																					
Existing 2019		4	10	15,582	45	75	0	0	1.8%	0.7%	66.1	12,107	####	####	245	97	14	3	21	9	69.3	77.6	82.1	-1.6	65.8	57.3	57.8	66.9	62.8	49.7	47.6	63.1	49.6	47.8	48.5	53.5
Existing w/ P		4	10	16,082	45	75	0	0	1.8%	0.7%	66.3	12,496	####	####	253	100	15	3	22	9	69.3	77.6	82.1	-1.6	65.9	57.4	57.9	67.1	63.0	49.8	47.7	63.3	49.8	47.9	48.7	53.6
2026 w/o P		4	10	17,232	45	75	0	0	1.8%	0.7%	66.6	13,389	####	####	271	107	16	3	23	10	69.3	77.6	82.1	-1.6	66.2	57.7	58.2	67.4	63.3	50.1	48.0	63.6	50.1	48.2	49.0	53.9
2026 w/ P		4	10	17,732	45	75	0	0	1.8%	0.7%	66.7	13,778	####	####	279	111	16	4	24	10	69.3	77.6	82.1	-1.6	66.4	57.8	58.3	67.5	63.4	50.2	48.2	63.7	50.2	48.4	49.1	54.1
Los Angeles e/o Tierra Rejada																																					
Existing 2019		5	0	23,161	45	75	0	0	1.8%	0.7%	67.9	17,996	####	####	364	144	21	5	31	13	69.3	77.6	82.1	-1.6	67.5	59.0	59.5	68.7	64.6	51.4	49.3	64.9	51.4	49.6	50.3	55.2
Existing w/ P		5	0	23,408	45	75	0	0	1.8%	0.7%	67.9	18,188	####	####	368	146	21	5	32	13	69.3	77.6	82.1	-1.6	67.6	59.1	59.6	68.7	64.6	51.5	49.4	64.9	51.4	49.6	50.3	55.3
2026 w/o P		5	0	26,290	45	75	0	0	1.8%	0.7%	68.4	20,427	####	####	414	164	24	5	36	15	69.3	77.6	82.1	-1.6	68.1	59.6	60.1	69.2	65.1	52.0	49.9	65.4	51.9	50.1	50.8	55.8
2026 w/ P		5	0	26,527	45	75	0	0	1.8%	0.7%	68.5	20,611	####	####	417	165	24	5	36	15	69.3	77.6	82.1	-1.6	68.1	59.6	60.1	69.3	65.1	52.0	49.9	65.5	52.0	50.1	50.9	55.8
Los Angeles w/o Tierra Rejada																																					
Existing 2019		3	0	21,164	45	75	0	0	1.8%	0.7%	67.3	16,444	####	####	333	132	19	4	29	12	69.3	77.6	82.1	-1.8	67.0	58.4	58.9	68.1	64.0	50.9	48.8	64.3	50.8	49.0	49.7	54.7
Existing w/ P		3	0	21,577	45	75	0	0	1.8%	0.7%	67.4	16,765	####	####	340	135	20	4	29	12	69.3	77.6	82.1	-1.8	67.1	58.5	59.0	68.2	64.1	50.9	48.9	64.4	50.9	49.1	49.8	54.7
2026 w/o P		3	0	23,689	45	75	0	0	1.8%	0.7%	67.8	18,406	####	####	373	148	22	5	32	13	69.3	77.6	82.1	-1.8	67.5	58.9	59.4	68.6	64.5	51.3	49.3	64.8	51.3	49.5	50.2	55.2
2026 w/ P		3	0	24,101	45	75	0	0	1.8%	0.7%	67.9	18,726	####	####	379	150	22	5	33	14	69.3	77.6	82.1	-1.8	67.5	59.0	59.5	68.7	64.6	51.4	49.3	64.9	51.4	49.5	50.3	55.2

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 12
Moorpark Ave. & Los Angeles Ave.

Moorpark Ave.

Southbound

	right	through	left
Existing 2019	205	96	372
Existing w/ P	205	104	503
2026 w/o P	279	105	565
2026 w/ P	279	113	713

Eastbound

	left	through	right
Existing 2019	276	1,822	62
Existing w/ P	276	1,840	62
2026 w/o P	343	2,237	68
2026 w/ P	343	2,253	68

Los Angeles Ave.

W N E S

Westbound

	right	through	left
Existing 2019	228	1,793	202
Existing w/ P	350	1,820	202
2026 w/o P	382	2,205	238
2026 w/ P	499	2,232	238

Northbound

	left	through	right
Existing 2019	138	174	232
Existing w/ P	138	181	232
2026 w/o P	151	190	272
2026 w/ P	151	197	272

Road	Moorpark Ave.		Los Angeles Ave.	
Leg	North of	South of	East of	West of
Cross Street	Los Angeles Ave.		Moorpark Ave.	
Existing 2019	7,430.5	4,972.0	25,569.5	23,628.0
Existing w/ P	8,904.5	5,054.5	27,208.5	23,875.5
2026 w/o P	10,252.0	5,632.0	32,444.5	29,056.5
2026 w/ P	11,792.0	5,714.5	34,138.5	29,293.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

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NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1	dB(A)	Trucks	Trucks	CNEL																										
Moorpark n/o Los Angeles																																					
Existing 2019		2	0	7,431	30	75	0	0	1.8%	0.7%	59.1	5,773	944	713	117	46	7	1	10	4	62.5	73.1	80.3	-1.8	57.3	51.1	54.2	59.7	54.3	43.5	44.1	55.0	41.1	41.6	45.0	47.7
Existing w/ P		2	0	8,905	30	75	0	0	1.8%	0.7%	59.9	6,919	####	855	140	56	8	2	12	5	62.5	73.1	80.3	-1.8	58.1	51.9	55.0	60.5	55.1	44.3	44.8	55.8	41.9	42.4	45.8	48.5
2026 w/o P		2	0	10,252	30	75	0	0	1.8%	0.7%	60.5	7,966	####	984	161	64	9	2	14	6	62.5	73.1	80.3	-1.8	58.7	52.5	55.6	61.1	55.7	44.9	45.5	56.4	42.5	43.0	46.4	49.1
2026 w/ P		2	0	11,792	30	75	0	0	1.8%	0.7%	61.1	9,162	####	####	186	74	11	2	16	7	62.5	73.1	80.3	-1.8	59.3	53.1	56.2	61.7	56.3	45.5	46.1	57.0	43.1	43.7	47.0	49.7
Moorpark s/o Los Angeles																																					
Existing 2019		2	0	4,972	30	75	0	0	1.8%	0.7%	57.4	3,863	631	477	78	31	5	1	7	3	62.5	73.1	80.3	-1.8	55.6	49.4	52.5	57.9	52.6	41.8	42.3	53.3	39.4	39.9	43.2	46.0
Existing w/ P		2	0	5,055	30	75	0	0	1.8%	0.7%	57.4	3,927	642	485	80	32	5	1	7	3	62.5	73.1	80.3	-1.8	55.6	49.4	52.6	58.0	52.7	41.8	42.4	53.4	39.5	40.0	43.3	46.0
2026 w/o P		2	0	5,632	30	75	0	0	1.8%	0.7%	57.9	4,376	715	541	89	35	5	1	8	3	62.5	73.1	80.3	-1.8	56.1	49.9	53.0	58.5	53.1	42.3	42.9	53.8	39.9	40.4	43.8	46.5
2026 w/ P		2	0	5,715	30	75	0	0	1.8%	0.7%	58.0	4,440	726	549	90	36	5	1	8	3	62.5	73.1	80.3	-1.8	56.2	50.0	53.1	58.6	53.2	42.4	42.9	53.9	40.0	40.5	43.9	46.6
Los Angeles e/o Moorpark																																					
Existing 2019		6	0	25,570	45	75	0	0	1.8%	0.7%	68.5	19,868	####	####	402	159	23	5	35	14	69.3	77.6	82.1	-1.5	68.1	59.6	60.1	69.2	65.1	52.0	49.9	65.5	51.9	50.1	50.8	55.8
Existing w/ P		6	0	27,209	45	75	0	0	1.8%	0.7%	68.7	21,141	####	####	428	170	25	5	37	15	69.3	77.6	82.1	-1.5	68.4	59.9	60.4	69.5	65.4	52.3	50.2	65.7	52.2	50.4	51.1	56.1
2026 w/o P		6	0	32,445	45	75	0	0	1.8%	0.7%	69.5	25,209	####	####	511	202	29	6	44	18	69.3	77.6	82.1	-1.5	69.1	60.6	61.1	70.3	66.2	53.0	50.9	66.5	53.0	51.2	51.9	56.8
2026 w/ P		6	0	34,139	45	75	0	0	1.8%	0.7%	69.7	26,526	####	####	537	213	31	7	46	19	69.3	77.6	82.1	-1.5	69.4	60.8	61.3	70.5	66.4	53.3	51.2	66.7	53.2	51.4	52.1	57.1
Los Angeles w/o Moorpark																																					
Existing 2019		4	0	23,628	45	75	0	0	1.8%	0.7%	67.9	18,359	####	####	372	147	21	5	32	13	69.3	77.6	82.1	-1.7	67.5	59.0	59.5	68.7	64.5	51.4	49.3	64.9	51.3	49.5	50.3	55.2
Existing w/ P		4	0	23,876	45	75	0	0	1.8%	0.7%	67.9	18,551	####	####	376	149	22	5	32	13	69.3	77.6	82.1	-1.7	67.6	59.0	59.5	68.7	64.6	51.4	49.4	64.9	51.4	49.6	50.3	55.3
2026 w/o P		4	0	29,057	45	75	0	0	1.8%	0.7%	68.8	22,577	####	####	457	181	26	6	39	16	69.3	77.6	82.1	-1.7	68.4	59.9	60.4	69.6	65.4	52.3	50.2	65.8	52.2	50.4	51.2	56.1
2026 w/ P		4	0	29,293	45	75	0	0	1.8%	0.7%	68.8	22,761	####	####	461	183	27	6	40	17	69.3	77.6	82.1	-1.7	68.5	59.9	60.4	69.6	65.5	52.3	50.3	65.8	52.3	50.5	51.2	56.1

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 13
Spring Rd. & Los Angeles Ave.

Spring Rd.

Southbound

	right	through	left
Existing 2019	189	530	938
Existing w/ P	189	555	1,019
2026 w/o P	273	575	1,150
2026 w/ P	273	592	1,196

Eastbound

	left	through	right
Existing 2019	301	1,801	367
Existing w/ P	301	1,914	503
2026 w/o P	401	2,261	484
2026 w/ P	401	2,380	528

Los Angeles Ave.

W E
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Westbound

	right	through	left
Existing 2019	938	1,812	87
Existing w/ P	1,007	1,917	87
2026 w/o P	1,152	2,216	94
2026 w/ P	1,218	2,315	94

Northbound

	left	through	right
Existing 2019	455	608	105
Existing w/ P	500	637	105
2026 w/o P	609	661	112
2026 w/ P	654	690	112

Road	Spring Rd.		Los Angeles Ave.	
Leg	North of	South of	East of	West of
Cross Street	Los Angeles Ave.		Spring Rd.	
Existing 2019	19,272.0	11,836.0	31,245.5	27,087.5
Existing w/ P	20,394.0	13,128.5	33,269.5	29,282.0
2026 w/o P	23,166.0	13,942.5	38,417.5	34,342.0
2026 w/ P	24,035.0	14,685.0	40,232.5	36,030.5
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1	dB(A)	Trucks	Trucks	CNEL																										
Spring n/o Los Angeles																																					
Existing 2019		4	0	19,272	40	75	0	0	1.8%	0.7%	65.8	14,974	####	####	303	120	18	4	26	11	67.4	76.3	81.2	-1.7	65.2	57.3	58.1	66.5	62.2	49.7	48.0	62.6	49.0	47.9	48.9	53.4
Existing w/ P		4	0	20,394	40	75	0	0	1.8%	0.7%	66.0	15,846	####	####	321	127	19	4	28	12	67.4	76.3	81.2	-1.7	65.4	57.6	58.4	66.7	62.4	50.0	48.2	62.8	49.2	48.1	49.1	53.6
2026 w/o P		4	0	23,166	40	75	0	0	1.8%	0.7%	66.6	18,000	####	####	365	144	21	5	31	13	67.4	76.3	81.2	-1.7	66.0	58.1	58.9	67.3	63.0	50.5	48.8	63.4	49.8	48.7	49.7	54.2
2026 w/ P		4	0	24,035	40	75	0	0	1.8%	0.7%	66.7	18,675	####	####	378	150	22	5	33	14	67.4	76.3	81.2	-1.7	66.1	58.3	59.1	67.5	63.1	50.7	48.9	63.5	49.9	48.8	49.9	54.3
Spring s/o Los Angeles																																					
Existing 2019		2	0	11,836	40	75	0	0	1.8%	0.7%	63.5	9,197	####	####	186	74	11	2	16	7	67.4	76.3	81.2	-1.8	62.9	55.1	55.9	64.3	60.0	47.5	45.7	60.3	46.8	45.6	46.7	51.1
Existing w/ P		2	0	13,129	40	75	0	0	1.8%	0.7%	64.0	10,201	####	####	207	82	12	3	18	7	67.4	76.3	81.2	-1.8	63.4	55.5	56.4	64.7	60.4	47.9	46.2	60.8	47.2	46.1	47.1	51.6
2026 w/o P		2	0	13,943	40	75	0	0	1.8%	0.7%	64.2	10,833	####	####	219	87	13	3	19	8	67.4	76.3	81.2	-1.8	63.6	55.8	56.6	65.0	60.7	48.2	46.4	61.1	47.5	46.3	47.4	51.9
2026 w/ P		2	0	14,685	40	75	0	0	1.8%	0.7%	64.5	11,410	####	####	231	92	13	3	20	8	67.4	76.3	81.2	-1.8	63.9	56.0	56.8	65.2	60.9	48.4	46.7	61.3	47.7	46.6	47.6	52.1
Los Angeles e/o Spring																																					
Existing 2019		6	0	31,246	45	75	0	0	1.8%	0.7%	69.3	24,278	####	####	492	195	28	6	42	18	69.3	77.6	82.1	-1.5	69.0	60.5	61.0	70.1	66.0	52.9	50.8	66.3	52.8	51.0	51.7	56.7
Existing w/ P		6	0	33,270	45	75	0	0	1.8%	0.7%	69.6	25,850	####	####	524	208	30	7	45	19	69.3	77.6	82.1	-1.5	69.3	60.7	61.2	70.4	66.3	53.1	51.1	66.6	53.1	51.3	52.0	56.9
2026 w/o P		6	0	38,418	45	75	0	0	1.8%	0.7%	70.2	29,850	####	####	605	240	35	8	52	22	69.3	77.6	82.1	-1.5	69.9	61.3	61.8	71.0	66.9	53.8	51.7	67.2	53.7	51.9	52.6	57.6
2026 w/ P		6	0	40,233	45	75	0	0	1.8%	0.7%	70.4	31,261	####	####	633	251	37	8	54	23	69.3	77.6	82.1	-1.5	70.1	61.5	62.0	71.2	67.1	54.0	51.9	67.4	53.9	52.1	52.8	57.8
Los Angeles w/o Spring																																					
Existing 2019		6	0	27,088	45	75	0	0	1.8%	0.7%	68.7	21,047	####	####	426	169	25	5	37	15	69.3	77.6	82.1	-1.5	68.4	59.8	60.3	69.5	65.4	52.2	50.2	65.7	52.2	50.4	51.1	56.1
Existing w/ P		6	0	29,282	45	75	0	0	1.8%	0.7%	69.1	22,752	####	####	461	183	27	6	40	17	69.3	77.6	82.1	-1.5	68.7	60.2	60.7	69.8	65.7	52.6	50.5	66.1	52.5	50.7	51.4	56.4
2026 w/o P		6	0	34,342	45	75	0	0	1.8%	0.7%	69.7	26,684	####	####	540	214	31	7	46	19	69.3	77.6	82.1	-1.5	69.4	60.9	61.4	70.5	66.4	53.3	51.2	66.7	53.2	51.4	52.1	57.1
2026 w/ P		6	0	36,031	45	75	0	0	1.8%	0.7%	70.0	27,996	####	####	567	225	33	7	49	20	69.3	77.6	82.1	-1.5	69.6	61.1	61.6	70.7	66.6	53.5	51.4	67.0	53.4	51.6	52.3	57.3

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 14
Miller Pkwy/Science Dr. & Los Angeles Ave.

Miller Pkwy/Science Dr.

Southbound

	right	through	left
Existing 2019	66	17	129
Existing w/ P	66	17	129
2026 w/o P	71	18	139
2026 w/ P	71	18	139

Eastbound

	left	through	right
Existing 2019	78	2,579	228
Existing w/ P	78	2,773	228
2026 w/o P	401	2,261	484
2026 w/ P	401	2,380	528

Los Angeles Ave.

Westbound

	right	through	left
Existing 2019	137	2,640	190
Existing w/ P	137	2,806	190
2026 w/o P	147	3,240	209
2026 w/ P	147	3,397	209

N
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Northbound

	left	through	right
Existing 2019	261	18	159
Existing w/ P	269	18	159
2026 w/o P	290	19	176
2026 w/ P	298	19	176

Road	Miller Pkwy/Science Dr.		Los Angeles Ave.	
Leg	North of	South of	East of	West of
Cross Street	Los Angeles Ave.		Miller Pkwy/Science Dr.	
Existing 2019	2,447.5	4,801.5	32,087.0	32,186.0
Existing w/ P	2,447.5	4,845.5	34,067.0	34,210.0
2026 w/o P	4,372.5	6,578.0	33,946.0	37,108.5
2026 w/ P	4,372.5	6,864.0	35,464.0	38,912.5
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
ROADWAY NAME			Median	ADT	Design	Dist. from		Barrier	Vehicle Mix		dB(A)																									
Segment	Land U	Lanes	Width	Volume	Speed (mph)	Center to Receptor	Alpha Factor (1)	Attn. dB(A)	Medium Trucks	Heavy Trucks	CNEL	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Miller/Science n/o Los Angeles																																				
Existing 2019		4	10	2,448	40	75	0	0	1.8%	0.7%	56.9	1,902	311	235	39	15	2	0	3	1	67.4	76.3	81.2	-1.6	56.3	48.4	49.3	57.6	53.3	40.8	39.1	53.7	40.1	39.0	40.0	44.5
Existing w/ P		4	10	2,448	40	75	0	0	1.8%	0.7%	56.9	1,902	311	235	39	15	2	0	3	1	67.4	76.3	81.2	-1.6	56.3	48.4	49.3	57.6	53.3	40.8	39.1	53.7	40.1	39.0	40.0	44.5
2026 w/o P		4	10	4,373	40	75	0	0	1.8%	0.7%	59.4	3,397	555	420	69	27	4	1	6	2	67.4	76.3	81.2	-1.6	58.8	50.9	51.8	60.1	55.8	43.4	41.6	56.2	42.6	41.5	42.5	47.0
2026 w/ P		4	10	4,373	40	75	0	0	1.8%	0.7%	59.4	3,397	555	420	69	27	4	1	6	2	67.4	76.3	81.2	-1.6	58.8	50.9	51.8	60.1	55.8	43.4	41.6	56.2	42.6	41.5	42.5	47.0
Miller/Science s/o Los Angeles																																				
Existing 2019		4	0	4,802	40	75	0	0	1.8%	0.7%	59.7	3,731	610	461	76	30	4	1	6	3	67.4	76.3	81.2	-1.7	59.1	51.3	52.1	60.5	56.1	43.7	41.9	56.5	43.0	41.8	42.9	47.3
Existing w/ P		4	0	4,846	40	75	0	0	1.8%	0.7%	59.8	3,765	615	465	76	30	4	1	7	3	67.4	76.3	81.2	-1.7	59.2	51.3	52.1	60.5	56.2	43.7	42.0	56.6	43.0	41.9	42.9	47.4
2026 w/o P		4	0	6,578	40	75	0	0	1.8%	0.7%	61.1	5,111	835	631	104	41	6	1	9	4	67.4	76.3	81.2	-1.7	60.5	52.6	53.5	61.8	57.5	45.1	43.3	57.9	44.3	43.2	44.2	48.7
2026 w/ P		4	0	6,864	40	75	0	0	1.8%	0.7%	61.3	5,333	872	659	108	43	6	1	9	4	67.4	76.3	81.2	-1.7	60.7	52.8	53.6	62.0	57.7	45.2	43.5	58.1	44.5	43.4	44.4	48.9
Los Angeles e/o Miller/Science																																				
Existing 2019		4	0	32,087	45	75	0	0	1.8%	0.7%	69.2	24,932	4,075	3,080	505	200	29	6	43	18	69.3	77.6	82.1	-1.7	68.8	60.3	60.8	70.0	65.9	52.7	50.7	66.2	52.7	50.9	51.6	56.5
Existing w/ P		4	0	34,067	45	75	0	0	1.8%	0.7%	69.5	26,470	4,327	3,270	536	212	31	7	46	19	69.3	77.6	82.1	-1.7	69.1	60.6	61.1	70.2	66.1	53.0	50.9	66.5	52.9	51.1	51.8	56.8
2026 w/o P		4	0	33,946	45	75	0	0	1.8%	0.7%	69.4	26,376	4,311	3,259	534	212	31	7	46	19	69.3	77.6	82.1	-1.7	69.1	60.6	61.1	70.2	66.1	53.0	50.9	66.4	52.9	51.1	51.8	56.8
2026 w/ P		4	0	35,464	45	75	0	0	1.8%	0.7%	69.6	27,556	4,504	3,405	558	221	32	7	48	20	69.3	77.6	82.1	-1.7	69.3	60.8	61.3	70.4	66.3	53.2	51.1	66.6	53.1	51.3	52.0	57.0
Los Angeles w/o Miller/Science																																				
Existing 2019		4	0	32,186	45	75	0	0	1.8%	0.7%	69.2	25,009	4,088	3,090	507	201	29	6	44	18	69.3	77.6	82.1	-1.7	68.9	60.3	60.8	70.0	65.9	52.7	50.7	66.2	52.7	50.9	51.6	56.6
Existing w/ P		4	0	34,210	45	75	0	0	1.8%	0.7%	69.5	26,581	4,345	3,284	538	213	31	7	46	19	69.3	77.6	82.1	-1.7	69.1	60.6	61.1	70.3	66.1	53.0	50.9	66.5	53.0	51.1	51.9	56.8
2026 w/o P		4	0	37,109	45	75	0	0	1.8%	0.7%	69.8	28,833	4,713	3,562	584	231	34	7	50	21	69.3	77.6	82.1	-1.7	69.5	60.9	61.4	70.6	66.5	53.4	51.3	66.8	53.3	51.5	52.2	57.2
2026 w/ P		4	0	38,913	45	75	0	0	1.8%	0.7%	70.0	30,235	4,942	3,736	612	243	35	8	53	22	69.3	77.6	82.1	-1.7	69.7	61.2	61.7	70.8	66.7	53.6	51.5	67.0	53.5	51.7	52.4	57.4

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 15
SR - 23 SB ramps & Los Angeles Ave.

SR - 23 SB ramps

Southbound

	right	through	left
Existing 2019	1,798		49
Existing w/ P	1,820		49
2026 w/o P	2,228		73
2026 w/ P	2,250		73

Eastbound

	left	through	right
Existing 2019		1,543	1,475
Existing w/ P		1,643	1,569
2026 w/o P		1,887	1,821
2026 w/ P		1,959	1,915

Los Angeles Ave.

W N E S

Westbound

	right	through	left
Existing 2019		1,446	40
Existing w/ P		1,527	40
2026 w/o P		1,655	66
2026 w/ P		1,727	66

Northbound

	left	through	right
Existing 2019			
Existing w/ P			
2026 w/o P			
2026 w/ P			

Road	SR - 23 SB ramps		Los Angeles Ave.	
Leg	North of	South of	East of	West of
Cross Street	Los Angeles Ave.		SR - 23 SB ramps	
Existing 2019	10,158.5	8,332.5	16,929.0	34,441.0
Existing w/ P	10,279.5	8,849.5	17,924.5	36,074.5
2026 w/o P	12,655.5	10,378.5	20,245.5	41,750.5
2026 w/ P	12,776.5	10,895.5	21,037.5	43,180.5
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
ROADWAY NAME			Median	ADT	Design	Dist. from		Barrier	Vehicle Mix		dB(A)																									
Segment	Land U	Lanes	Width	Volume	Speed (mph)	Center to Receptor	Alpha Factor (1)	Attn. dB(A)	Medium Trucks	Heavy Trucks	CNEL	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
SR-23 SB ramps n/o Los Angeles																																				
Existing 2019		2	0	10,159	40	75	0	0	1.8%	0.7%	62.9	7,893	1,290	975	160	63	9	2	14	6	67.4	76.3	81.2	-1.8	62.3	54.4	55.2	63.6	59.3	46.8	45.1	59.7	46.1	45.0	46.0	50.5
Existing w/ P		2	0	10,280	40	75	0	0	1.8%	0.7%	62.9	7,987	1,305	987	162	64	9	2	14	6	67.4	76.3	81.2	-1.8	62.3	54.5	55.3	63.7	59.3	46.9	45.1	59.7	46.1	45.0	46.1	50.5
2026 w/o P		2	0	12,656	40	75	0	0	1.8%	0.7%	63.8	9,833	1,607	1,215	199	79	12	3	17	7	67.4	76.3	81.2	-1.8	63.2	55.4	56.2	64.6	60.2	47.8	46.0	60.6	47.0	45.9	47.0	51.4
2026 w/ P		2	0	12,777	40	75	0	0	1.8%	0.7%	63.9	9,927	1,623	1,227	201	80	12	3	17	7	67.4	76.3	81.2	-1.8	63.3	55.4	56.2	64.6	60.3	47.8	46.1	60.7	47.1	46.0	47.0	51.5
SR-23 SB ramps s/o Los Angeles																																				
Existing 2019		2	0	8,333	40	75	0	0	1.8%	0.7%	62.0	6,474	1,058	800	131	52	8	2	11	5	67.4	76.3	81.2	-1.8	61.4	53.5	54.4	62.7	58.4	46.0	44.2	58.8	45.2	44.1	45.1	49.6
Existing w/ P		2	0	8,850	40	75	0	0	1.8%	0.7%	62.3	6,876	1,124	850	139	55	8	2	12	5	67.4	76.3	81.2	-1.8	61.7	53.8	54.6	63.0	58.7	46.2	44.5	59.1	45.5	44.4	45.4	49.9
2026 w/o P		2	0	10,379	40	75	0	0	1.8%	0.7%	63.0	8,064	1,318	996	163	65	9	2	14	6	67.4	76.3	81.2	-1.8	62.4	54.5	55.3	63.7	59.4	46.9	45.2	59.8	46.2	45.0	46.1	50.6
2026 w/ P		2	0	10,896	40	75	0	0	1.8%	0.7%	63.2	8,466	1,384	1,046	171	68	10	2	15	6	67.4	76.3	81.2	-1.8	62.6	54.7	55.5	63.9	59.6	47.1	45.4	60.0	46.4	45.3	46.3	50.8
Los Angeles e/o SR-23 SB ramps																																				
Existing 2019		6	0	16,929	45	75	0	0	1.8%	0.7%	66.7	13,154	2,150	1,625	266	106	15	3	23	10	69.3	77.6	82.1	-1.5	66.3	57.8	58.3	67.5	63.3	50.2	48.1	63.7	50.1	48.3	49.1	54.0
Existing w/ P		6	0	17,925	45	75	0	0	1.8%	0.7%	66.9	13,927	2,276	1,721	282	112	16	4	24	10	69.3	77.6	82.1	-1.5	66.6	58.0	58.5	67.7	63.6	50.5	48.4	63.9	50.4	48.6	49.3	54.3
2026 w/o P		6	0	20,246	45	75	0	0	1.8%	0.7%	67.4	15,731	2,571	1,944	319	126	18	4	27	11	69.3	77.6	82.1	-1.5	67.1	58.6	59.1	68.2	64.1	51.0	48.9	64.4	50.9	49.1	49.8	54.8
2026 w/ P		6	0	21,038	45	75	0	0	1.8%	0.7%	67.6	16,346	2,672	2,020	331	131	19	4	28	12	69.3	77.6	82.1	-1.5	67.3	58.7	59.2	68.4	64.3	51.2	49.1	64.6	51.1	49.3	50.0	55.0
Los Angeles w/o SR-23 SB ramps																																				
Existing 2019		6	0	34,441	45	75	0	0	1.8%	0.7%	69.8	26,761	4,374	3,306	542	215	31	7	47	19	69.3	77.6	82.1	-1.5	69.4	60.9	61.4	70.5	66.4	53.3	51.2	66.8	53.2	51.4	52.1	57.1
Existing w/ P		6	0	36,075	45	75	0	0	1.8%	0.7%	70.0	28,030	4,581	3,463	568	225	33	7	49	20	69.3	77.6	82.1	-1.5	69.6	61.1	61.6	70.7	66.6	53.5	51.4	67.0	53.4	51.6	52.3	57.3
2026 w/o P		6	0	41,751	45	75	0	0	1.8%	0.7%	70.6	32,440	5,302	4,008	657	260	38	8	57	24	69.3	77.6	82.1	-1.5	70.2	61.7	62.2	71.4	67.3	54.1	52.0	67.6	54.1	52.3	53.0	57.9
2026 w/ P		6	0	43,181	45	75	0	0	1.8%	0.7%	70.7	33,551	5,484	4,145	680	269	39	9	58	24	69.3	77.6	82.1	-1.5	70.4	61.9	62.4	71.5	67.4	54.3	52.2	67.7	54.2	52.4	53.1	58.1

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 17
Spring Rd. & Peach Hill Rd.

Spring Rd.

Southbound

	right	through	left
Existing 2019	263	600	147
Existing w/ P	263	661	147
2026 w/o P	282	739	161
2026 w/ P	282	799	161

Eastbound

	left	through	right
Existing 2019	276	166	144
Existing w/ P	276	166	144
2026 w/o P	296	178	154
2026 w/ P	296	178	154

Peach Hill Rd.

Westbound

	right	through	left
Existing 2019	248	162	137
Existing w/ P	248	162	137
2026 w/o P	270	174	149
2026 w/ P	270	174	149

W E N S

Northbound

	left	through	right
Existing 2019	116	713	128
Existing w/ P	116	786	128
2026 w/o P	124	898	141
2026 w/ P	124	970	141

Road	Spring Rd.		Peach Hill Rd.	
Leg	North of	South of	East of	West of
Cross Street	Peach Hill Rd.		Spring Rd.	
Existing 2019	12,358.5	10,109.0	5,434.0	6,198.5
Existing w/ P	13,095.5	10,846.0	5,434.0	6,198.5
2026 w/o P	14,553.0	12,127.5	5,901.5	6,644.0
2026 w/ P	15,279.0	12,853.5	5,901.5	6,644.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1	dB(A)	Trucks	Trucks	CNEL																										
Spring n/o Peach Hill																																					
Existing 2019		2	10	12,359	40	75	0	0	1.8%	0.7%	63.7	####	####	####	194	77	11	2	17	7	67.4	76.3	81.2	-1.8	63.2	55.3	56.1	64.5	60.2	47.7	46.0	60.6	47.0	45.8	46.9	51.4
Existing w/ P		2	10	13,096	40	75	0	0	1.8%	0.7%	64.0	####	####	####	206	82	12	3	18	7	67.4	76.3	81.2	-1.8	63.4	55.5	56.4	64.7	60.4	48.0	46.2	60.8	47.2	46.1	47.1	51.6
2026 w/o P		2	10	14,553	40	75	0	0	1.8%	0.7%	64.5	####	####	####	229	91	13	3	20	8	67.4	76.3	81.2	-1.8	63.9	56.0	56.8	65.2	60.9	48.4	46.7	61.3	47.7	46.5	47.6	52.1
2026 w/ P		2	10	15,279	40	75	0	0	1.8%	0.7%	64.7	####	####	####	240	95	14	3	21	9	67.4	76.3	81.2	-1.8	64.1	56.2	57.0	65.4	61.1	48.6	46.9	61.5	47.9	46.8	47.8	52.3
Spring s/o Peach Hill																																					
Existing 2019		2	10	10,109	40	75	0	0	1.8%	0.7%	62.9	####	####	970	159	63	9	2	14	6	67.4	76.3	81.2	-1.8	62.3	54.4	55.2	63.6	59.3	46.8	45.1	59.7	46.1	45.0	46.0	50.5
Existing w/ P		2	10	10,846	40	75	0	0	1.8%	0.7%	63.2	####	####	####	171	68	10	2	15	6	67.4	76.3	81.2	-1.8	62.6	54.7	55.6	63.9	59.6	47.1	45.4	60.0	46.4	45.3	46.3	50.8
2026 w/o P		2	10	12,128	40	75	0	0	1.8%	0.7%	63.7	####	####	####	191	76	11	2	16	7	67.4	76.3	81.2	-1.8	63.1	55.2	56.0	64.4	60.1	47.6	45.9	60.5	46.9	45.8	46.8	51.3
2026 w/ P		2	10	12,854	40	75	0	0	1.8%	0.7%	63.9	####	####	####	202	80	12	3	17	7	67.4	76.3	81.2	-1.8	63.3	55.5	56.3	64.7	60.3	47.9	46.1	60.7	47.1	46.0	47.1	51.5
Peach Hill e/o Spring																																					
Existing 2019		2	0	5,434	35	75	0	0	1.8%	0.7%	58.8	####	690	522	86	34	5	1	7	3	65.1	74.8	80.0	-1.8	57.9	50.8	52.0	59.5	54.9	43.2	41.8	55.4	41.7	41.3	42.8	46.7
Existing w/ P		2	0	5,434	35	75	0	0	1.8%	0.7%	58.8	####	690	522	86	34	5	1	7	3	65.1	74.8	80.0	-1.8	57.9	50.8	52.0	59.5	54.9	43.2	41.8	55.4	41.7	41.3	42.8	46.7
2026 w/o P		2	0	5,902	35	75	0	0	1.8%	0.7%	59.2	####	749	567	93	37	5	1	8	3	65.1	74.8	80.0	-1.8	58.2	51.1	52.3	59.9	55.3	43.6	42.2	55.7	42.1	41.7	43.1	47.1
2026 w/ P		2	0	5,902	35	75	0	0	1.8%	0.7%	59.2	####	749	567	93	37	5	1	8	3	65.1	74.8	80.0	-1.8	58.2	51.1	52.3	59.9	55.3	43.6	42.2	55.7	42.1	41.7	43.1	47.1
Peach Hill w/o Spring																																					
Existing 2019		2	0	6,199	35	75	0	0	1.8%	0.7%	59.4	####	787	595	98	39	6	1	8	3	65.1	74.8	80.0	-1.8	58.5	51.4	52.6	60.1	55.5	43.8	42.4	56.0	42.3	41.9	43.3	47.3
Existing w/ P		2	0	6,199	35	75	0	0	1.8%	0.7%	59.4	####	787	595	98	39	6	1	8	3	65.1	74.8	80.0	-1.8	58.5	51.4	52.6	60.1	55.5	43.8	42.4	56.0	42.3	41.9	43.3	47.3
2026 w/o P		2	0	6,644	35	75	0	0	1.8%	0.7%	59.7	####	844	638	105	41	6	1	9	4	65.1	74.8	80.0	-1.8	58.8	51.7	52.9	60.4	55.8	44.1	42.7	56.3	42.6	42.2	43.6	47.6
2026 w/ P		2	0	6,644	35	75	0	0	1.8%	0.7%	59.7	####	844	638	105	41	6	1	9	4	65.1	74.8	80.0	-1.8	58.8	51.7	52.9	60.4	55.8	44.1	42.7	56.3	42.6	42.2	43.6	47.6

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 18
Tierra Rejada Rd. & Countrywood Dr.

Tierra Rejada Rd.

Southbound

	right	through	left
Existing 2019	266	1,135	170
Existing w/ P	266	1,162	187
2026 w/o P	285	1,241	212
2026 w/ P	285	1,268	229

Eastbound

	left	through	right
Existing 2019	242	22	146
Existing w/ P	242	22	146
2026 w/o P	260	24	156
2026 w/ P	260	24	156

Countrywood Dr.

N
W E
S

Westbound

	right	through	left
Existing 2019	121	11	95
Existing w/ P	135	11	95
2026 w/o P	155	11	102
2026 w/ P	169	11	102

Northbound

	left	through	right
Existing 2019	109	1,073	164
Existing w/ P	109	1,106	164
2026 w/o P	117	1,170	175
2026 w/ P	117	1,203	175

Road	Tierra Rejada Rd.		Countrywood Dr.	
Leg	North of	South of	East of	West of
Cross Street	Countrywood Dr.		Tierra Rejada Rd.	
Existing 2019	16,538.5	14,971.0	3,206.5	4,378.0
Existing w/ P	17,039.0	15,301.0	3,377.0	4,378.0
2026 w/o P	18,276.5	16,285.5	3,734.5	4,691.5
2026 w/ P	18,777.0	16,615.5	3,905.0	4,691.5
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

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NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME / Segment	Land U	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	dB(A) CNEL	Traffic Volumes: Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels: A	MT	HT	Dist Adj	Ld: A	MT	HT	Total	Le: A	MT	HT	Total	Ln: A	MT	HT	Total
Tierra Rejada n/o Countrywood																																				
Existing 2019		4	10	16,539	45	75	0	0	1.8%	0.7%	66.4	12,850	2,100	1,588	260	103	15	3	22	9	69.3	77.6	82.1	-1.6	66.1	57.5	58.0	67.2	63.1	49.9	47.9	63.4	49.9	48.1	48.8	53.7
Existing w/ P		4	10	17,039	45	75	0	0	1.8%	0.7%	66.5	13,239	2,164	1,636	268	106	15	3	23	10	69.3	77.6	82.1	-1.6	66.2	57.7	58.2	67.3	63.2	50.1	48.0	63.5	50.0	48.2	48.9	53.9
2026 w/o P		4	10	18,277	45	75	0	0	1.8%	0.7%	66.8	14,201	2,321	1,755	288	114	17	4	25	10	69.3	77.6	82.1	-1.6	66.5	58.0	58.5	67.6	63.5	50.4	48.3	63.8	50.3	48.5	49.2	54.2
2026 w/ P		4	10	18,777	45	75	0	0	1.8%	0.7%	67.0	14,590	2,385	1,803	296	117	17	4	25	11	69.3	77.6	82.1	-1.6	66.6	58.1	58.6	67.7	63.6	50.5	48.4	64.0	50.4	48.6	49.3	54.3
Tierra Rejada s/o Countrywood																																				
Existing 2019		4	10	14,971	45	75	0	0	1.8%	0.7%	66.0	11,632	1,901	1,437	236	93	14	3	20	8	69.3	77.6	82.1	-1.6	65.6	57.1	57.6	66.8	62.6	49.5	47.4	63.0	49.5	47.6	48.4	53.3
Existing w/ P		4	10	15,301	45	75	0	0	1.8%	0.7%	66.1	11,889	1,943	1,469	241	95	14	3	21	9	69.3	77.6	82.1	-1.6	65.7	57.2	57.7	66.9	62.7	49.6	47.5	63.1	49.5	47.7	48.5	53.4
2026 w/o P		4	10	16,286	45	75	0	0	1.8%	0.7%	66.3	12,654	2,068	1,563	256	102	15	3	22	9	69.3	77.6	82.1	-1.6	66.0	57.5	58.0	67.1	63.0	49.9	47.8	63.3	49.8	48.0	48.7	53.7
2026 w/ P		4	10	16,616	45	75	0	0	1.8%	0.7%	66.4	12,910	2,110	1,595	261	104	15	3	22	9	69.3	77.6	82.1	-1.6	66.1	57.5	58.0	67.2	63.1	50.0	47.9	63.4	49.9	48.1	48.8	53.8
Countrywood e/o Tierra Rejada																																				
Existing 2019		2	0	3,207	35	75	0	0	1.8%	0.7%	56.5	2,491	407	308	50	20	3	1	4	2	65.1	74.8	80.0	-1.8	55.6	48.5	49.7	57.2	52.6	40.9	39.5	53.1	39.4	39.0	40.5	44.5
Existing w/ P		2	0	3,377	35	75	0	0	1.8%	0.7%	56.7	2,624	429	324	53	21	3	1	5	2	65.1	74.8	80.0	-1.8	55.8	48.7	49.9	57.4	52.8	41.1	39.8	53.3	39.6	39.3	40.7	44.7
2026 w/o P		2	0	3,735	35	75	0	0	1.8%	0.7%	57.2	2,902	474	359	59	23	3	1	5	2	65.1	74.8	80.0	-1.8	56.3	49.2	50.4	57.9	53.3	41.6	40.2	53.8	40.1	39.7	41.1	45.1
2026 w/ P		2	0	3,905	35	75	0	0	1.8%	0.7%	57.4	3,034	496	375	61	24	4	1	5	2	65.1	74.8	80.0	-1.8	56.4	49.4	50.6	58.1	53.5	41.8	40.4	53.9	40.3	39.9	41.3	45.3
Countrywood w/o Tierra Rejada																																				
Existing 2019		2	0	4,378	35	75	0	0	1.8%	0.7%	57.9	3,402	556	420	69	27	4	1	6	2	65.1	74.8	80.0	-1.8	56.9	49.8	51.0	58.6	54.0	42.3	40.9	54.4	40.8	40.4	41.8	45.8
Existing w/ P		2	0	4,378	35	75	0	0	1.8%	0.7%	57.9	3,402	556	420	69	27	4	1	6	2	65.1	74.8	80.0	-1.8	56.9	49.8	51.0	58.6	54.0	42.3	40.9	54.4	40.8	40.4	41.8	45.8
2026 w/o P		2	0	4,692	35	75	0	0	1.8%	0.7%	58.2	3,645	596	450	74	29	4	1	6	3	65.1	74.8	80.0	-1.8	57.2	50.1	51.3	58.9	54.3	42.6	41.2	54.7	41.1	40.7	42.1	46.1
2026 w/ P		2	0	4,692	35	75	0	0	1.8%	0.7%	58.2	3,645	596	450	74	29	4	1	6	3	65.1	74.8	80.0	-1.8	57.2	50.1	51.3	58.9	54.3	42.6	41.2	54.7	41.1	40.7	42.1	46.1

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 19
Mountain Trail Rd. & Tierra Rejada Rd.

Mountain Trail Rd.

Southbound

	right	through	left
Existing 2019	215	62	127
Existing w/ P	220	62	127
2026 w/o P	233	67	136
2026 w/ P	238	67	136

Eastbound

	left	through	right
Existing 2019	151	1,034	112
Existing w/ P	157	1,055	112
2026 w/o P	166	1,128	120
2026 w/ P	172	1,149	120

Tierra Rejada Rd.

N
W E
S

Westbound

	right	through	left
Existing 2019	102	922	338
Existing w/ P	102	950	338
2026 w/o P	110	1,004	362
2026 w/ P	110	1,032	362

Northbound

	left	through	right
Existing 2019	148	37	295
Existing w/ P	148	37	295
2026 w/o P	159	40	316
2026 w/ P	159	40	316

Road	Mountain Trail Rd.		Tierra Rejada Rd.	
Leg	North of	South of	East of	West of
Cross Street	Tierra Rejada Rd.		Mountain Trail Rd.	
Existing 2019	3,817.0	5,456.0	15,499.0	14,201.0
Existing w/ P	3,877.5	5,456.0	15,768.5	14,531.0
2026 w/o P	4,136.0	5,852.0	16,808.0	15,455.0
2026 w/ P	4,196.5	5,852.0	17,077.5	15,785.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
ROADWAY NAME			Median	ADT	Design Speed	Dist. from Center to	Alpha	Barrier Attn.	Vehicle Mix Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1)	dB(A)	Trucks	Trucks	CNEL																										
Mountain Trail n/o Tierra																																					
Existing 2019		2	0	3,817	30	75	0	0	1.8%	0.7%	56.2	2,966	485	366	60	24	3	1	5	2	62.5	73.1	80.3	-1.8	54.4	48.2	51.3	56.8	51.4	40.6	41.2	52.1	38.2	38.8	42.1	44.8
Existing w/ P		2	0	3,878	30	75	0	0	1.8%	0.7%	56.3	3,013	492	372	61	24	4	1	5	2	62.5	73.1	80.3	-1.8	54.5	48.3	51.4	56.9	51.5	40.7	41.2	52.2	38.3	38.8	42.2	44.9
2026 w/o P		2	0	4,136	30	75	0	0	1.8%	0.7%	56.6	3,214	525	397	65	26	4	1	6	2	62.5	73.1	80.3	-1.8	54.8	48.6	51.7	57.1	51.8	41.0	41.5	52.5	38.6	39.1	42.4	45.2
2026 w/ P		2	0	4,197	30	75	0	0	1.8%	0.7%	56.6	3,261	533	403	66	26	4	1	6	2	62.5	73.1	80.3	-1.8	54.8	48.6	51.7	57.2	51.8	41.0	41.6	52.6	38.7	39.2	42.5	45.2
Mountain Trail s/o Tierra																																					
Existing 2019		4	0	5,456	30	75	0	0	1.8%	0.7%	57.9	4,239	693	524	86	34	5	1	7	3	62.5	73.1	80.3	-1.7	56.1	49.9	53.0	58.5	53.1	42.3	42.8	53.8	39.9	40.4	43.8	46.5
Existing w/ P		4	0	5,456	30	75	0	0	1.8%	0.7%	57.9	4,239	693	524	86	34	5	1	7	3	62.5	73.1	80.3	-1.7	56.1	49.9	53.0	58.5	53.1	42.3	42.8	53.8	39.9	40.4	43.8	46.5
2026 w/o P		4	0	5,852	30	75	0	0	1.8%	0.7%	58.2	4,547	743	562	92	36	5	1	8	3	62.5	73.1	80.3	-1.7	56.4	50.2	53.3	58.8	53.4	42.6	43.1	54.1	40.2	40.7	44.1	46.8
2026 w/ P		4	0	5,852	30	75	0	0	1.8%	0.7%	58.2	4,547	743	562	92	36	5	1	8	3	62.5	73.1	80.3	-1.7	56.4	50.2	53.3	58.8	53.4	42.6	43.1	54.1	40.2	40.7	44.1	46.8
Tierra Rejada e/o Mountain																																					
Existing 2019		4	10	15,499	45	75	0	0	1.8%	0.7%	66.1	12,043	1,968	1,488	244	97	14	3	21	9	69.3	77.6	82.1	-1.6	65.8	57.2	57.7	66.9	62.8	49.7	47.6	63.1	49.6	47.8	48.5	53.5
Existing w/ P		4	10	15,769	45	75	0	0	1.8%	0.7%	66.2	12,252	2,003	1,514	248	98	14	3	21	9	69.3	77.6	82.1	-1.6	65.9	57.3	57.8	67.0	62.9	49.7	47.7	63.2	49.7	47.9	48.6	53.5
2026 w/o P		4	10	16,808	45	75	0	0	1.8%	0.7%	66.5	13,060	2,135	1,614	265	105	15	3	23	9	69.3	77.6	82.1	-1.6	66.1	57.6	58.1	67.3	63.1	50.0	47.9	63.5	50.0	48.1	48.9	53.8
2026 w/ P		4	10	17,078	45	75	0	0	1.8%	0.7%	66.5	13,269	2,169	1,639	269	107	16	3	23	10	69.3	77.6	82.1	-1.6	66.2	57.7	58.2	67.3	63.2	50.1	48.0	63.5	50.0	48.2	48.9	53.9
Tierra Rejada w/o Mountain																																					
Existing 2019		4	10	14,201	45	75	0	0	1.8%	0.7%	65.7	11,034	1,804	1,363	223	89	13	3	19	8	69.3	77.6	82.1	-1.6	65.4	56.9	57.4	66.5	62.4	49.3	47.2	62.7	49.2	47.4	48.1	53.1
Existing w/ P		4	10	14,531	45	75	0	0	1.8%	0.7%	65.8	11,291	1,845	1,395	229	91	13	3	20	8	69.3	77.6	82.1	-1.6	65.5	57.0	57.5	66.6	62.5	49.4	47.3	62.8	49.3	47.5	48.2	53.2
2026 w/o P		4	10	15,455	45	75	0	0	1.8%	0.7%	66.1	12,009	1,963	1,484	243	96	14	3	21	9	69.3	77.6	82.1	-1.6	65.8	57.2	57.7	66.9	62.8	49.6	47.6	63.1	49.6	47.8	48.5	53.5
2026 w/ P		4	10	15,785	45	75	0	0	1.8%	0.7%	66.2	12,265	2,005	1,515	248	98	14	3	21	9	69.3	77.6	82.1	-1.6	65.9	57.3	57.8	67.0	62.9	49.7	47.7	63.2	49.7	47.9	48.6	53.5

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR

Weekday AM/PM Peak Hour Volumes

Intersection: 20

Mountain Meadow Dr. & Tierra Rejada Rd.

Mountain Meadow Dr.

Southbound

	right	through	left
Existing 2019	59	29	176
Existing w/ P	67	29	176
2026 w/o P	74	31	189
2026 w/ P	82	31	189

Eastbound

	left	through	right
Existing 2019	130	1,258	57
Existing w/ P	139	1,270	57
2026 w/o P	151	1,355	61
2026 w/ P	160	1,367	61

Tierra Rejada Rd.

Westbound

	right	through	left
Existing 2019	236	1,234	107
Existing w/ P	236	1,254	107
2026 w/o P	253	1,328	115
2026 w/ P	253	1,348	115

N

W E

S

Northbound

	left	through	right
Existing 2019	69	50	105
Existing w/ P	69	50	105
2026 w/o P	74	53	113
2026 w/ P	74	53	113

Road	Mountain Meadow Dr.		Tierra Rejada Rd.	
Leg	North of	South of	East of	West of
Cross Street	Tierra Rejada Rd.		Mountain Meadow Dr.	
Existing 2019	3,740.0	2,293.5	17,138.0	15,438.5
Existing w/ P	3,833.5	2,293.5	17,314.0	15,708.0
2026 w/o P	4,130.5	2,458.5	18,441.5	16,736.5
2026 w/ P	4,224.0	2,458.5	18,617.5	17,006.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
					Design	Dist. from		Barrier	Vehicle Mix																											
ROADWAY NAME			Median	ADT	Speed	Center to	Alpha	Attn.	Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1)	dB(A)	Trucks	Trucks	CNEL																										
Mountain Meadow n/o Tierra																																					
Existing 2019		2	0	3,740	30	75	0	0	1.8%	0.7%	56.1	2,906	475	359	59	23	3	1	5	2	62.5	73.1	80.3	-1.8	54.3	48.1	51.2	56.7	51.3	40.5	41.1	52.1	38.2	38.7	42.0	44.7
Existing w/ P		2	0	3,834	30	75	0	0	1.8%	0.7%	56.2	2,979	487	368	60	24	3	1	5	2	62.5	73.1	80.3	-1.8	54.4	48.2	51.4	56.8	51.5	40.6	41.2	52.2	38.3	38.8	42.1	44.8
2026 w/o P		2	0	4,131	30	75	0	0	1.8%	0.7%	56.6	3,209	525	397	65	26	4	1	6	2	62.5	73.1	80.3	-1.8	54.8	48.6	51.7	57.1	51.8	41.0	41.5	52.5	38.6	39.1	42.4	45.2
2026 w/ P		2	0	4,224	30	75	0	0	1.8%	0.7%	56.7	3,282	536	406	66	26	4	1	6	2	62.5	73.1	80.3	-1.8	54.9	48.6	51.8	57.2	51.9	41.1	41.6	52.6	38.7	39.2	42.5	45.3
Mountain Meadow s/o Tierra																																					
Existing 2019		2	0	2,294	30	75	0	0	1.8%	0.7%	54.0	1,782	291	220	36	14	2	0	3	1	62.5	73.1	80.3	-1.8	52.2	46.0	49.1	54.6	49.2	38.4	39.0	49.9	36.0	36.5	39.9	42.6
Existing w/ P		2	0	2,294	30	75	0	0	1.8%	0.7%	54.0	1,782	291	220	36	14	2	0	3	1	62.5	73.1	80.3	-1.8	52.2	46.0	49.1	54.6	49.2	38.4	39.0	49.9	36.0	36.5	39.9	42.6
2026 w/o P		2	0	2,459	30	75	0	0	1.8%	0.7%	54.3	1,910	312	236	39	15	2	0	3	1	62.5	73.1	80.3	-1.8	52.5	46.3	49.4	54.9	49.5	38.7	39.3	50.2	36.3	36.8	40.2	42.9
2026 w/ P		2	0	2,459	30	75	0	0	1.8%	0.7%	54.3	1,910	312	236	39	15	2	0	3	1	62.5	73.1	80.3	-1.8	52.5	46.3	49.4	54.9	49.5	38.7	39.3	50.2	36.3	36.8	40.2	42.9
Tierra Rejada e/o Mountain																																					
Existing 2019		4	10	17,138	45	75	0	0	1.8%	0.7%	66.6	13,316	2,177	1,645	270	107	16	3	23	10	69.3	77.6	82.1	-1.6	66.2	57.7	58.2	67.3	63.2	50.1	48.0	63.6	50.0	48.2	48.9	53.9
Existing w/ P		4	10	17,314	45	75	0	0	1.8%	0.7%	66.6	13,453	2,199	1,662	272	108	16	3	23	10	69.3	77.6	82.1	-1.6	66.3	57.7	58.2	67.4	63.3	50.1	48.1	63.6	50.1	48.3	49.0	53.9
2026 w/o P		4	10	18,442	45	75	0	0	1.8%	0.7%	66.9	14,329	2,342	1,770	290	115	17	4	25	10	69.3	77.6	82.1	-1.6	66.5	58.0	58.5	67.7	63.6	50.4	48.3	63.9	50.4	48.5	49.3	54.2
2026 w/ P		4	10	18,618	45	75	0	0	1.8%	0.7%	66.9	14,466	2,364	1,787	293	116	17	4	25	11	69.3	77.6	82.1	-1.6	66.6	58.0	58.5	67.7	63.6	50.5	48.4	63.9	50.4	48.6	49.3	54.3
Tierra Rejada w/o Mountain																																					
Existing 2019		4	10	15,439	45	75	0	0	1.8%	0.7%	66.1	11,996	1,961	1,482	243	96	14	3	21	9	69.3	77.6	82.1	-1.6	65.8	57.2	57.7	66.9	62.8	49.6	47.6	63.1	49.6	47.8	48.5	53.5
Existing w/ P		4	10	15,708	45	75	0	0	1.8%	0.7%	66.2	12,205	1,995	1,508	247	98	14	3	21	9	69.3	77.6	82.1	-1.6	65.8	57.3	57.8	67.0	62.9	49.7	47.6	63.2	49.7	47.8	48.6	53.5
2026 w/o P		4	10	16,737	45	75	0	0	1.8%	0.7%	66.5	13,004	2,126	1,607	263	104	15	3	23	9	69.3	77.6	82.1	-1.6	66.1	57.6	58.1	67.2	63.1	50.0	47.9	63.5	49.9	48.1	48.8	53.8
2026 w/ P		4	10	17,006	45	75	0	0	1.8%	0.7%	66.5	13,214	2,160	1,633	268	106	15	3	23	10	69.3	77.6	82.1	-1.6	66.2	57.6	58.1	67.3	63.2	50.1	48.0	63.5	50.0	48.2	48.9	53.9

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 21
Walnut Creek Rd. & Tierra Rejada Rd.

Walnut Creek Rd.

Southbound

	right	through	left
Existing 2019	51	9	289
Existing w/ P	51	9	289
2026 w/o P	55	10	310
2026 w/ P	55	10	310

Eastbound

	left	through	right
Existing 2019	49	1,464	19
Existing w/ P	49	1,476	19
2026 w/o P	52	1,577	21
2026 w/ P	52	1,589	21

Tierra Rejada Rd.

Westbound

	right	through	left
Existing 2019	186	1,503	134
Existing w/ P	186	1,523	134
2026 w/o P	199	1,617	144
2026 w/ P	199	1,637	144

N
W E
S

Northbound

	left	through	right
Existing 2019	15	2	249
Existing w/ P	15	2	249
2026 w/o P	16	2	267
2026 w/ P	16	2	267

Road	Walnut Creek Rd.		Tierra Rejada Rd.	
Leg	North of	South of	East of	West of
Cross Street	Tierra Rejada Rd.		Walnut Creek Rd.	
Existing 2019	3,223.0	2,354.0	21,037.5	17,055.5
Existing w/ P	3,223.0	2,354.0	21,213.5	17,231.5
2026 w/o P	3,454.0	2,530.0	22,627.0	18,359.0
2026 w/ P	3,454.0	2,530.0	22,803.0	18,535.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
ROADWAY NAME			Median	ADT	Design Speed	Dist. from Center to	Alpha	Barrier Attn.	Vehicle Mix Medium	Heavy	dB(A)																									
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1)	dB(A)	Trucks	Trucks	CNEL	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Walnut Creek n/o Tierra Rejada																																				
Existing 2019		2	0	3,223	30	75	0	0	1.8%	0.7%	55.5	2,504	409	309	51	20	3	1	4	2	62.5	73.1	80.3	-1.8	53.7	47.5	50.6	56.1	50.7	39.9	40.4	51.4	37.5	38.0	41.4	44.1
Existing w/ P		2	0	3,223	30	75	0	0	1.8%	0.7%	55.5	2,504	409	309	51	20	3	1	4	2	62.5	73.1	80.3	-1.8	53.7	47.5	50.6	56.1	50.7	39.9	40.4	51.4	37.5	38.0	41.4	44.1
2026 w/o P		2	0	3,454	30	75	0	0	1.8%	0.7%	55.8	2,684	439	332	54	22	3	1	5	2	62.5	73.1	80.3	-1.8	54.0	47.8	50.9	56.4	51.0	40.2	40.7	51.7	37.8	38.3	41.7	44.4
2026 w/ P		2	0	3,454	30	75	0	0	1.8%	0.7%	55.8	2,684	439	332	54	22	3	1	5	2	62.5	73.1	80.3	-1.8	54.0	47.8	50.9	56.4	51.0	40.2	40.7	51.7	37.8	38.3	41.7	44.4
Walnut Creek s/o Tierra Rejada																																				
Existing 2019		2	0	2,354	30	75	0	0	1.8%	0.7%	54.1	1,829	299	226	37	15	2	0	3	1	62.5	73.1	80.3	-1.8	52.3	46.1	49.2	54.7	49.3	38.5	39.1	50.0	36.1	36.7	40.0	42.7
Existing w/ P		2	0	2,354	30	75	0	0	1.8%	0.7%	54.1	1,829	299	226	37	15	2	0	3	1	62.5	73.1	80.3	-1.8	52.3	46.1	49.2	54.7	49.3	38.5	39.1	50.0	36.1	36.7	40.0	42.7
2026 w/o P		2	0	2,530	30	75	0	0	1.8%	0.7%	54.4	1,966	321	243	40	16	2	1	3	1	62.5	73.1	80.3	-1.8	52.6	46.4	49.5	55.0	49.7	38.8	39.4	50.4	36.5	37.0	40.3	43.0
2026 w/ P		2	0	2,530	30	75	0	0	1.8%	0.7%	54.4	1,966	321	243	40	16	2	1	3	1	62.5	73.1	80.3	-1.8	52.6	46.4	49.5	55.0	49.7	38.8	39.4	50.4	36.5	37.0	40.3	43.0
Tierra Rejada e/o Walnut Creek																																				
Existing 2019		4	10	21,038	45	75	0	0	1.8%	0.7%	67.5	16,346	2,672	2,020	331	131	19	4	28	12	69.3	77.6	82.1	-1.6	67.1	58.6	59.1	68.2	64.1	51.0	48.9	64.5	50.9	49.1	49.8	54.8
Existing w/ P		4	10	21,214	45	75	0	0	1.8%	0.7%	67.5	16,483	2,694	2,036	334	132	19	4	29	12	69.3	77.6	82.1	-1.6	67.1	58.6	59.1	68.3	64.2	51.0	48.9	64.5	51.0	49.2	49.9	54.8
2026 w/o P		4	10	22,627	45	75	0	0	1.8%	0.7%	67.8	17,581	2,874	2,172	356	141	21	4	31	13	69.3	77.6	82.1	-1.6	67.4	58.9	59.4	68.5	64.4	51.3	49.2	64.8	51.2	49.4	50.2	55.1
2026 w/ P		4	10	22,803	45	75	0	0	1.8%	0.7%	67.8	17,718	2,896	2,189	359	142	21	5	31	13	69.3	77.6	82.1	-1.6	67.5	58.9	59.4	68.6	64.5	51.3	49.3	64.8	51.3	49.5	50.2	55.1
Tierra Rejada w/o Walnut Creek																																				
Existing 2019		4	10	17,056	45	75	0	0	1.8%	0.7%	66.5	13,252	2,166	1,637	268	106	16	3	23	10	69.3	77.6	82.1	-1.6	66.2	57.7	58.2	67.3	63.2	50.1	48.0	63.5	50.0	48.2	48.9	53.9
Existing w/ P		4	10	17,232	45	75	0	0	1.8%	0.7%	66.6	13,389	2,188	1,654	271	107	16	3	23	10	69.3	77.6	82.1	-1.6	66.2	57.7	58.2	67.4	63.3	50.1	48.0	63.6	50.1	48.2	49.0	53.9
2026 w/o P		4	10	18,359	45	75	0	0	1.8%	0.7%	66.9	14,265	2,332	1,762	289	115	17	4	25	10	69.3	77.6	82.1	-1.6	66.5	58.0	58.5	67.6	63.5	50.4	48.3	63.9	50.3	48.5	49.2	54.2
2026 w/ P		4	10	18,535	45	75	0	0	1.8%	0.7%	66.9	14,402	2,354	1,779	292	116	17	4	25	10	69.3	77.6	82.1	-1.6	66.6	58.0	58.5	67.7	63.6	50.4	48.4	63.9	50.4	48.6	49.3	54.2

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR rev. 1/7/99

Weekday AM/PM Peak Hour Volumes

Intersection: 22

Peach Hill Rd. & Tierra Rejada Rd.

Peach Hill Rd.

Southbound

	right	through	left
Existing 2019	255		241
Existing w/ P	263		241
2026 w/o P	278		263
2026 w/ P	286		263

Eastbound

	left	through	right
Existing 2019	188	1,857	
Existing w/ P	197	1,860	
2026 w/o P	208	1,991	
2026 w/ P	217	1,994	

Tierra Rejada Rd.

W N E S

Westbound

	right	through	left
Existing 2019	179	1,580	
Existing w/ P	179	1,592	
2026 w/o P	197	1,694	
2026 w/ P	197	1,706	

Northbound

	left	through	right
Existing 2019			
Existing w/ P			
2026 w/o P			
2026 w/ P			

Road	Peach Hill Rd.		Tierra Rejada Rd.	
Leg	North of	South of	East of	West of
Cross Street	Tierra Rejada Rd.		Peach Hill Rd.	
Existing 2019	4,746.5	0.0	21,213.5	21,340.0
Existing w/ P	4,840.0	0.0	21,296.0	21,516.0
2026 w/o P	5,203.0	0.0	22,797.5	22,940.5
2026 w/ P	5,296.5	0.0	22,880.0	23,116.5
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME / Segment	Land U	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	dB(A) CNEL	Traffic Volumes: Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels: A	MT	HT	Dist Adj	Ld: A	MT	HT	Total	Le: A	MT	HT	Total	Ln: A	MT	HT	Total
Peach Hill n/o Tierra Rejada																																				
Existing 2019		2	0	4,747	35	75	0	0	1.8%	0.7%	58.2	3,688	603	456	75	30	4	1	6	3	65.1	74.8	80.0	-1.8	57.3	50.2	51.4	58.9	54.3	42.6	41.2	54.8	41.1	40.7	42.2	46.2
Existing w/ P		2	0	4,840	35	75	0	0	1.8%	0.7%	58.3	3,761	615	465	76	30	4	1	7	3	65.1	74.8	80.0	-1.8	57.4	50.3	51.5	59.0	54.4	42.7	41.3	54.9	41.2	40.8	42.2	46.2
2026 w/o P		2	0	5,203	35	75	0	0	1.8%	0.7%	58.6	4,043	661	499	82	32	5	1	7	3	65.1	74.8	80.0	-1.8	57.7	50.6	51.8	59.3	54.7	43.0	41.6	55.2	41.5	41.1	42.6	46.6
2026 w/ P		2	0	5,297	35	75	0	0	1.8%	0.7%	58.7	4,115	673	508	83	33	5	1	7	3	65.1	74.8	80.0	-1.8	57.8	50.7	51.9	59.4	54.8	43.1	41.7	55.3	41.6	41.2	42.6	46.6
Peach Hill s/o Tierra Rejada																																				
Existing 2019		2	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Existing w/ P		2	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
2026 w/o P		2	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
2026 w/ P		2	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.8	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Tierra Rejada e/o Peach Hill																																				
Existing 2019		4	10	21,214	45	75	0	0	1.8%	0.7%	67.5	16,483	2,694	2,036	334	132	19	4	29	12	69.3	77.6	82.1	-1.6	67.1	58.6	59.1	68.3	64.2	51.0	48.9	64.5	51.0	49.2	49.9	54.8
Existing w/ P		4	10	21,296	45	75	0	0	1.8%	0.7%	67.5	16,547	2,705	2,044	335	133	19	4	29	12	69.3	77.6	82.1	-1.6	67.2	58.6	59.1	68.3	64.2	51.0	49.0	64.5	51.0	49.2	49.9	54.8
2026 w/o P		4	10	22,798	45	75	0	0	1.8%	0.7%	67.8	17,714	2,895	2,189	359	142	21	5	31	13	69.3	77.6	82.1	-1.6	67.5	58.9	59.4	68.6	64.5	51.3	49.3	64.8	51.3	49.5	50.2	55.1
2026 w/ P		4	10	22,880	45	75	0	0	1.8%	0.7%	67.8	17,778	2,906	2,196	360	143	21	5	31	13	69.3	77.6	82.1	-1.6	67.5	58.9	59.4	68.6	64.5	51.4	49.3	64.8	51.3	49.5	50.2	55.2
Tierra Rejada w/o Peach Hill																																				
Existing 2019		4	10	21,340	45	75	0	0	1.8%	0.7%	67.5	16,581	2,710	2,049	336	133	19	4	29	12	69.3	77.6	82.1	-1.6	67.2	58.6	59.1	68.3	64.2	51.0	49.0	64.5	51.0	49.2	49.9	54.9
Existing w/ P		4	10	21,516	45	75	0	0	1.8%	0.7%	67.5	16,718	2,733	2,066	339	134	20	4	29	12	69.3	77.6	82.1	-1.6	67.2	58.7	59.2	68.3	64.2	51.1	49.0	64.5	51.0	49.2	49.9	54.9
2026 w/o P		4	10	22,941	45	75	0	0	1.8%	0.7%	67.8	17,825	2,913	2,202	361	143	21	5	31	13	69.3	77.6	82.1	-1.6	67.5	58.9	59.4	68.6	64.5	51.4	49.3	64.8	51.3	49.5	50.2	55.2
2026 w/ P		4	10	23,117	45	75	0	0	1.8%	0.7%	67.9	17,962	2,936	2,219	364	144	21	5	31	13	69.3	77.6	82.1	-1.6	67.5	59.0	59.5	68.6	64.5	51.4	49.3	64.9	51.3	49.5	50.2	55.2

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 23
Spring Rd. & Tierra Rejada Rd.

Spring Hill Rd.

Southbound

	right	through	left
Existing 2019	141		871
Existing w/ P	141		932
2026 w/o P	154		1,029
2026 w/ P	154		1,089

Eastbound

	left	through	right
Existing 2019	175	1,911	
Existing w/ P	175	1,914	
2026 w/o P	193	2,048	
2026 w/ P	193	2,051	

Tierra Rejada Rd.

Westbound

	right	through	left
Existing 2019	765	1,696	
Existing w/ P	838	1,708	
2026 w/o P	952	1,821	
2026 w/ P	1,024	1,833	

N
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Northbound

	left	through	right
Existing 2019			
Existing w/ P			
2026 w/o P			
2026 w/ P			

Road	Spring Hill Rd.		Tierra Rejada Rd.	
Leg	North of	South of	East of	West of
Cross Street	Tierra Rejada Rd.		Spring Hill Rd.	
Existing 2019	10,736.0	0.0	28,836.5	21,576.5
Existing w/ P	11,473.0	0.0	29,656.0	21,659.0
2026 w/o P	12,804.0	0.0	32,175.0	23,188.0
2026 w/ P	13,530.0	0.0	32,983.5	23,270.5
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
ROADWAY NAME			Median	ADT	Design	Dist. from		Barrier	Vehicle Mix																											
Segment	Land U	Lanes	Width	Volume	Speed (mph)	Center to Receptor	Alpha Factor (1)	Attn. dB(A)	Medium Trucks	Heavy Trucks	dB(A) CNEL	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Spring n/o Tierra Rejada																																				
Existing 2019		4	10	10,736	45	75	0	0	1.8%	0.7%	64.5	8,342	1,363	1,031	169	67	10	2	15	6	69.3	77.6	82.1	-1.6	64.2	55.6	56.1	65.3	61.2	48.1	46.0	61.5	48.0	46.2	46.9	51.9
Existing w/ P		4	10	11,473	45	75	0	0	1.8%	0.7%	64.8	8,915	1,457	1,101	181	72	10	2	16	6	69.3	77.6	82.1	-1.6	64.5	55.9	56.4	65.6	61.5	48.4	46.3	61.8	48.3	46.5	47.2	52.2
2026 w/o P		4	10	12,804	45	75	0	0	1.8%	0.7%	65.3	9,949	1,626	1,229	202	80	12	3	17	7	69.3	77.6	82.1	-1.6	64.9	56.4	56.9	66.1	62.0	48.8	46.7	62.3	48.8	47.0	47.7	52.6
2026 w/ P		4	10	13,530	45	75	0	0	1.8%	0.7%	65.5	10,513	1,718	1,299	213	84	12	3	18	8	69.3	77.6	82.1	-1.6	65.2	56.7	57.2	66.3	62.2	49.1	47.0	62.5	49.0	47.2	47.9	52.9
Spring s/o Tierra Rejada																																				
Existing 2019		4	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.7	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Existing w/ P		4	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.7	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
2026 w/o P		4	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.7	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
2026 w/ P		4	0	0	40	75	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	67.4	76.3	81.2	-1.7	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
Tierra Rejada e/o Spring																																				
Existing 2019		4	10	28,837	45	75	0	0	1.8%	0.7%	68.8	22,406	3,662	2,768	454	180	26	6	39	16	69.3	77.6	82.1	-1.6	68.5	59.9	60.4	69.6	65.5	52.4	50.3	65.8	52.3	50.5	51.2	56.2
Existing w/ P		4	10	29,656	45	75	0	0	1.8%	0.7%	68.9	23,043	3,766	2,847	467	185	27	6	40	17	69.3	77.6	82.1	-1.6	68.6	60.1	60.6	69.7	65.6	52.5	50.4	65.9	52.4	50.6	51.3	56.3
2026 w/o P		4	10	32,175	45	75	0	0	1.8%	0.7%	69.3	25,000	4,086	3,089	506	201	29	6	44	18	69.3	77.6	82.1	-1.6	68.9	60.4	60.9	70.1	66.0	52.8	50.7	66.3	52.8	51.0	51.7	56.6
2026 w/ P		4	10	32,984	45	75	0	0	1.8%	0.7%	69.4	25,628	4,189	3,166	519	206	30	7	45	19	69.3	77.6	82.1	-1.6	69.1	60.5	61.0	70.2	66.1	52.9	50.9	66.4	52.9	51.1	51.8	56.7
Tierra Rejada w/o Spring																																				
Existing 2019		4	10	21,577	45	75	0	0	1.8%	0.7%	67.6	16,765	2,740	2,071	340	135	20	4	29	12	69.3	77.6	82.1	-1.6	67.2	58.7	59.2	68.3	64.2	51.1	49.0	64.6	51.0	49.2	49.9	54.9
Existing w/ P		4	10	21,659	45	75	0	0	1.8%	0.7%	67.6	16,829	2,751	2,079	341	135	20	4	29	12	69.3	77.6	82.1	-1.6	67.2	58.7	59.2	68.4	64.2	51.1	49.0	64.6	51.1	49.2	50.0	54.9
2026 w/o P		4	10	23,188	45	75	0	0	1.8%	0.7%	67.9	18,017	2,945	2,226	365	145	21	5	31	13	69.3	77.6	82.1	-1.6	67.5	59.0	59.5	68.7	64.5	51.4	49.3	64.9	51.4	49.5	50.3	55.2
2026 w/ P		4	10	23,271	45	75	0	0	1.8%	0.7%	67.9	18,081	2,955	2,234	366	145	21	5	31	13	69.3	77.6	82.1	-1.6	67.5	59.0	59.5	68.7	64.6	51.4	49.3	64.9	51.4	49.6	50.3	55.2

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 24
Moorpark Rd. & Tierra Rejada Rd.

Moorpark Rd.

Southbound

	right	through	left
Existing 2019	193		257
Existing w/ P	193		257
2026 w/o P	209		289
2026 w/ P	209		289

Eastbound

	left	through	right
Existing 2019	127	1,826	847
Existing w/ P	127	1,878	859
2026 w/o P	136	2,037	924
2026 w/ P	136	2,088	936

Tierra Rejada Rd.

N
W E
S

Westbound

	right	through	left
Existing 2019	240	1,629	1,311
Existing w/ P	248	1,704	1,311
2026 w/o P	272	1,866	1,406
2026 w/ P	280	1,940	1,406

Northbound

	left	through	right
Existing 2019	650		1,271
Existing w/ P	660		1,271
2026 w/o P	709		1,363
2026 w/ P	717		1,363

Road	Moorpark Rd.		Tierra Rejada Rd.	
Leg	North of	South of	East of	West of
Cross Street	Tierra Rejada Rd.		Moorpark Rd.	
Existing 2019	4,493.5	22,434.5	35,937.0	28,996.0
Existing w/ P	4,537.5	22,555.5	36,679.5	29,815.5
2026 w/o P	4,983.0	24,211.0	39,781.5	32,345.5
2026 w/ P	5,027.0	24,321.0	40,513.0	33,143.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
ROADWAY NAME			Median	ADT	Design	Dist. from		Barrier	Vehicle Mix		dB(A)																									
Segment	Land U	Lanes	Width	Volume	Speed (mph)	Center to Receptor	Alpha Factor (1)	Attn. dB(A)	Medium Trucks	Heavy Trucks	CNEL	Day	Eve	Night	MTd	HTd	MTd	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Moorpark n/o Tierra Rejada																																				
Existing 2019		2	0	4,494	40	75	0	0	1.8%	0.7%	59.3	3,491	571	431	71	28	4	1	6	3	67.4	76.3	81.2	-1.8	58.7	50.9	51.7	60.1	55.7	43.3	41.5	56.1	42.5	41.4	42.5	46.9
Existing w/ P		2	0	4,538	40	75	0	0	1.8%	0.7%	59.4	3,526	576	436	71	28	4	1	6	3	67.4	76.3	81.2	-1.8	58.8	50.9	51.7	60.1	55.8	43.3	41.6	56.2	42.6	41.5	42.5	47.0
2026 w/o P		2	0	4,983	40	75	0	0	1.8%	0.7%	59.8	3,872	633	478	78	31	5	1	7	3	67.4	76.3	81.2	-1.8	59.2	51.3	52.1	60.5	56.2	43.7	42.0	56.6	43.0	41.9	42.9	47.4
2026 w/ P		2	0	5,027	40	75	0	0	1.8%	0.7%	59.8	3,906	638	483	79	31	5	1	7	3	67.4	76.3	81.2	-1.8	59.2	51.4	52.2	60.6	56.2	43.8	42.0	56.6	43.0	41.9	42.9	47.4
Moorpark s/o Tierra Rejada																																				
Existing 2019		2	0	22,435	40	75	0	0	1.8%	0.7%	66.3	17,432	2,849	2,154	353	140	20	4	30	13	67.4	76.3	81.2	-1.8	65.7	57.9	58.7	67.0	62.7	50.3	48.5	63.1	49.5	48.4	49.4	53.9
Existing w/ P		2	0	22,556	40	75	0	0	1.8%	0.7%	66.3	17,526	2,865	2,165	355	141	21	4	31	13	67.4	76.3	81.2	-1.8	65.7	57.9	58.7	67.1	62.8	50.3	48.5	63.1	49.6	48.4	49.5	53.9
2026 w/o P		2	0	24,211	40	75	0	0	1.8%	0.7%	66.6	18,812	3,075	2,324	381	151	22	5	33	14	67.4	76.3	81.2	-1.8	66.0	58.2	59.0	67.4	63.1	50.6	48.8	63.5	49.9	48.7	49.8	54.3
2026 w/ P		2	0	24,321	40	75	0	0	1.8%	0.7%	66.7	18,897	3,089	2,335	383	152	22	5	33	14	67.4	76.3	81.2	-1.8	66.1	58.2	59.0	67.4	63.1	50.6	48.9	63.5	49.9	48.7	49.8	54.3
Tierra Rejada e/o Moorpark																																				
Existing 2019		4	0	35,937	45	75	0	0	1.8%	0.7%	69.7	27,923	4,564	3,450	566	224	33	7	49	20	69.3	77.6	82.1	-1.7	69.3	60.8	61.3	70.5	66.4	53.2	51.1	66.7	53.2	51.4	52.1	57.0
Existing w/ P		4	0	36,680	45	75	0	0	1.8%	0.7%	69.8	28,500	4,658	3,521	577	229	33	7	50	21	69.3	77.6	82.1	-1.7	69.4	60.9	61.4	70.6	66.5	53.3	51.2	66.8	53.3	51.4	52.2	57.1
2026 w/o P		4	0	39,782	45	75	0	0	1.8%	0.7%	70.1	30,910	5,052	3,819	626	248	36	8	54	22	69.3	77.6	82.1	-1.7	69.8	61.3	61.8	70.9	66.8	53.7	51.6	67.1	53.6	51.8	52.5	57.5
2026 w/ P		4	0	40,513	45	75	0	0	1.8%	0.7%	70.2	31,479	5,145	3,889	638	253	37	8	55	23	69.3	77.6	82.1	-1.7	69.9	61.3	61.8	71.0	66.9	53.7	51.7	67.2	53.7	51.9	52.6	57.6
Tierra Rejada w/o Moorpark																																				
Existing 2019		4	0	28,996	45	75	0	0	1.8%	0.7%	68.8	22,530	3,682	2,784	456	181	26	6	39	16	69.3	77.6	82.1	-1.7	68.4	59.9	60.4	69.5	65.4	52.3	50.2	65.8	52.2	50.4	51.1	56.1
Existing w/ P		4	0	29,816	45	75	0	0	1.8%	0.7%	68.9	23,167	3,787	2,862	469	186	27	6	40	17	69.3	77.6	82.1	-1.7	68.5	60.0	60.5	69.7	65.6	52.4	50.3	65.9	52.4	50.5	51.3	56.2
2026 w/o P		4	0	32,346	45	75	0	0	1.8%	0.7%	69.2	25,132	4,108	3,105	509	202	29	6	44	18	69.3	77.6	82.1	-1.7	68.9	60.4	60.9	70.0	65.9	52.8	50.7	66.2	52.7	50.9	51.6	56.6
2026 w/ P		4	0	33,143	45	75	0	0	1.8%	0.7%	69.3	25,752	4,209	3,182	522	207	30	7	45	19	69.3	77.6	82.1	-1.7	69.0	60.5	61.0	70.1	66.0	52.9	50.8	66.3	52.8	51.0	51.7	56.7

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR
Weekday AM/PM Peak Hour Volumes

Intersection: 25
SR - 23 SB ramps & Tierra Rejada Rd.

SR - 23 SB ramps

Southbound

	right	through	left
Existing 2019	952		196
Existing w/ P	966		196
2026 w/o P	1,078		210
2026 w/ P	1,092		210

Eastbound

	left	through	right
Existing 2019		2,280	1,113
Existing w/ P		2,286	1,159
2026 w/o P		2,454	1,277
2026 w/ P		2,460	1,323

Tierra Rejada Rd.

N
W E
S

Westbound

	right	through	left
Existing 2019	762	2,158	
Existing w/ P	762	2,193	
2026 w/o P	817	2,379	
2026 w/ P	817	2,414	

Northbound

	left	through	right
Existing 2019	0	0	0
Existing w/ P	0	0	0
2026 w/o P	0	0	0
2026 w/ P	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0

Road	SR - 23 SB ramps		Tierra Rejada Rd.	
Leg	North of	South of	East of	West of
Cross Street	Tierra Rejada Rd.		SR - 23 SB ramps	
Existing 2019	10,505.0	6,121.5	29,678.0	35,766.5
Existing w/ P	10,582.0	6,374.5	29,903.5	36,322.0
2026 w/o P	11,577.5	7,023.5	32,230.0	39,534.0
2026 w/ P	11,654.5	7,276.5	32,455.5	40,089.5
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME / Segment	Land U	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	dB(A) CNEL	Traffic Volumes: Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels: A	MT	HT	Dist Adj	Ld: A	MT	HT	Total	Le: A	MT	HT	Total	Ln: A	MT	HT	Total
SR-23 SB ramps n/o Tierra																																				
Existing 2019		2	0	10,505	40	75	0	0	1.8%	0.7%	63.0	8,162	1,334	1,008	165	66	10	2	14	6	67.4	76.3	81.2	-1.8	62.4	54.6	55.4	63.8	59.4	47.0	45.2	59.8	46.2	45.1	46.1	50.6
Existing w/ P		2	0	10,582	40	75	0	0	1.8%	0.7%	63.0	8,222	1,344	1,016	167	66	10	2	14	6	67.4	76.3	81.2	-1.8	62.4	54.6	55.4	63.8	59.5	47.0	45.2	59.9	46.3	45.1	46.2	50.7
2026 w/o P		2	0	11,578	40	75	0	0	1.8%	0.7%	63.4	8,996	1,470	1,111	182	72	11	2	16	7	67.4	76.3	81.2	-1.8	62.8	55.0	55.8	64.2	59.9	47.4	45.6	60.2	46.7	45.5	46.6	51.1
2026 w/ P		2	0	11,655	40	75	0	0	1.8%	0.7%	63.5	9,056	1,480	1,119	183	73	11	2	16	7	67.4	76.3	81.2	-1.8	62.9	55.0	55.8	64.2	59.9	47.4	45.7	60.3	46.7	45.6	46.6	51.1
SR-23 SB ramps s/o Tierra																																				
Existing 2019		2	0	6,122	40	75	0	0	1.8%	0.7%	60.7	4,756	777	588	96	38	6	1	8	3	67.4	76.3	81.2	-1.8	60.1	52.2	53.0	61.4	57.1	44.6	42.9	57.5	43.9	42.8	43.8	48.3
Existing w/ P		2	0	6,375	40	75	0	0	1.8%	0.7%	60.8	4,953	810	612	100	40	6	1	9	4	67.4	76.3	81.2	-1.8	60.2	52.4	53.2	61.6	57.3	44.8	43.0	57.7	44.1	42.9	44.0	48.5
2026 w/o P		2	0	7,024	40	75	0	0	1.8%	0.7%	61.3	5,457	892	674	111	44	6	1	10	4	67.4	76.3	81.2	-1.8	60.7	52.8	53.6	62.0	57.7	45.2	43.5	58.1	44.5	43.4	44.4	48.9
2026 w/ P		2	0	7,277	40	75	0	0	1.8%	0.7%	61.4	5,654	924	699	115	45	7	1	10	4	67.4	76.3	81.2	-1.8	60.8	53.0	53.8	62.2	57.8	45.4	43.6	58.2	44.6	43.5	44.6	49.0
Tierra Rejada e/o SR-23 SB																																				
Existing 2019		4	0	29,678	55	75	0	0	1.8%	0.7%	71.0	23,060	3,769	2,849	467	185	27	6	40	17	72.7	79.9	83.8	-1.7	71.0	61.3	61.3	71.9	68.0	53.8	51.1	68.3	54.8	51.9	52.0	57.9
Existing w/ P		4	0	29,904	55	75	0	0	1.8%	0.7%	71.1	23,235	3,798	2,871	471	187	27	6	40	17	72.7	79.9	83.8	-1.7	71.1	61.4	61.3	71.9	68.1	53.8	51.1	68.3	54.9	51.9	52.1	58.0
2026 w/o P		4	0	32,230	55	75	0	0	1.8%	0.7%	71.4	25,043	4,093	3,094	507	201	29	6	44	18	72.7	79.9	83.8	-1.7	71.4	61.7	61.6	72.2	68.4	54.1	51.5	68.6	55.2	52.2	52.4	58.3
2026 w/ P		4	0	32,456	55	75	0	0	1.8%	0.7%	71.4	25,218	4,122	3,116	511	202	30	6	44	18	72.7	79.9	83.8	-1.7	71.4	61.7	61.7	72.3	68.4	54.1	51.5	68.7	55.2	52.3	52.4	58.3
Tierra Rejada w/o SR-23 SB																																				
Existing 2019		4	10	35,767	45	75	0	0	1.8%	0.7%	69.8	27,791	4,542	3,434	563	223	33	7	48	20	69.3	77.6	82.1	-1.6	69.4	60.9	61.4	70.5	66.4	53.3	51.2	66.8	53.2	51.4	52.1	57.1
Existing w/ P		4	10	36,322	45	75	0	0	1.8%	0.7%	69.8	28,222	4,613	3,487	572	227	33	7	49	20	69.3	77.6	82.1	-1.6	69.5	60.9	61.4	70.6	66.5	53.4	51.3	66.8	53.3	51.5	52.2	57.2
2026 w/o P		4	10	39,534	45	75	0	0	1.8%	0.7%	70.2	30,718	5,021	3,795	622	247	36	8	54	22	69.3	77.6	82.1	-1.6	69.8	61.3	61.8	71.0	66.9	53.7	51.6	67.2	53.7	51.9	52.6	57.5
2026 w/ P		4	10	40,090	45	75	0	0	1.8%	0.7%	70.3	31,150	5,091	3,849	631	250	36	8	54	23	69.3	77.6	82.1	-1.6	69.9	61.4	61.9	71.0	66.9	53.8	51.7	67.3	53.7	51.9	52.6	57.6

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Hitch Ranch EIR

Weekday AM/PM Peak Hour Volumes

Intersection: 27

Marvella Ct./Moorpark Rd. & Santa Rosa Rd./Moorpark Rd.

Marvella Ct./Moorpark Rd.

Southbound

	right	through	left
Existing 2019	1,746	4	508
Existing w/ P	1,752	4	514
2026 w/o P	1,879	4	553
2026 w/ P	1,885	4	559

Santa Rosa Rd./Moorpark Rd.

Eastbound

	left	through	right
Existing 2019	1,532	612	3
Existing w/ P	1,537	612	3
2026 w/o P	1,647	656	3
2026 w/ P	1,652	656	3

N

W E

S

Westbound

	right	through	left
Existing 2019	485	495	2
Existing w/ P	490	495	2
2026 w/o P	527	530	2
2026 w/ P	532	530	2

Northbound

	left	through	right
Existing 2019	4	3	10
Existing w/ P	4	3	10
2026 w/o P	4	3	10
2026 w/ P	4	3	10

Road	Marvella Ct./Moorpark Rd.		Santa Rosa Rd./Moorpark Rd.	
Leg	North of	South of	East of	West of
Cross Street	Santa Rosa Rd./Moorpark Rd.		Marvella Ct./Moorpark Rd.	
Existing 2019	23,529.0	143.0	11,616.0	24,156.0
Existing w/ P	23,650.0	143.0	11,676.5	24,216.5
2026 w/o P	25,371.5	143.0	12,529.0	25,954.5
2026 w/ P	25,492.5	143.0	12,589.5	26,015.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes									Ref. Energy Levels			Dist	Ld				Le				Ln			
ROADWAY NAME			Median	ADT	Design Speed	Dist. from Center to	Alpha	Barrier Attn.	Vehicle Mix Medium	Heavy	dB(A)	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Segment	Land U	Lanes	Width	Volume	(mph)	Receptor	Factor (1)	dB(A)	Trucks	Trucks	CNEL																										
Marvella/Moorpark n/o Santa																																					
Existing 2019		2	0	23,529	40	75	0	0	1.8%	0.7%	66.5	18,282	2,988	2,259	370	147	21	5	32	13	67.4	76.3	81.2	-1.8	65.9	58.1	58.9	67.3	62.9	50.5	48.7	63.3	49.7	48.6	49.6	54.1
Existing w/ P		2	0	23,650	40	75	0	0	1.8%	0.7%	66.5	18,376	3,004	2,270	372	148	21	5	32	13	67.4	76.3	81.2	-1.8	65.9	58.1	58.9	67.3	63.0	50.5	48.7	63.3	49.8	48.6	49.7	54.2
2026 w/o P		2	0	25,372	40	75	0	0	1.8%	0.7%	66.8	19,714	3,222	2,436	399	158	23	5	34	14	67.4	76.3	81.2	-1.8	66.2	58.4	59.2	67.6	63.3	50.8	49.0	63.7	50.1	48.9	50.0	54.5
2026 w/ P		2	0	25,493	40	75	0	0	1.8%	0.7%	66.9	19,808	3,238	2,447	401	159	23	5	35	14	67.4	76.3	81.2	-1.8	66.3	58.4	59.2	67.6	63.3	50.8	49.1	63.7	50.1	49.0	50.0	54.5
Marvella/Moorpark s/o Santa																																					
Existing 2019		2	0	143	40	75	0	0	1.8%	0.7%	44.3	111	18	14	2	1	0	0	0	0	67.4	76.3	81.2	-1.8	43.8	35.9	36.7	45.1	40.8	28.3	26.6	41.2	27.6	26.4	27.5	32.0
Existing w/ P		2	0	143	40	75	0	0	1.8%	0.7%	44.3	111	18	14	2	1	0	0	0	0	67.4	76.3	81.2	-1.8	43.8	35.9	36.7	45.1	40.8	28.3	26.6	41.2	27.6	26.4	27.5	32.0
2026 w/o P		2	0	143	40	75	0	0	1.8%	0.7%	44.3	111	18	14	2	1	0	0	0	0	67.4	76.3	81.2	-1.8	43.8	35.9	36.7	45.1	40.8	28.3	26.6	41.2	27.6	26.4	27.5	32.0
2026 w/ P		2	0	143	40	75	0	0	1.8%	0.7%	44.3	111	18	14	2	1	0	0	0	0	67.4	76.3	81.2	-1.8	43.8	35.9	36.7	45.1	40.8	28.3	26.6	41.2	27.6	26.4	27.5	32.0
Santa Rosa/Moorpark e/o																																					
Existing 2019		2	0	11,616	45	75	0	0	1.8%	0.7%	64.7	9,026	1,475	1,115	183	72	11	2	16	7	69.3	77.6	82.1	-1.8	64.3	55.8	56.3	65.5	61.3	48.2	46.1	61.7	48.1	46.3	47.1	52.0
Existing w/ P		2	0	11,677	45	75	0	0	1.8%	0.7%	64.7	9,073	1,483	1,121	184	73	11	2	16	7	69.3	77.6	82.1	-1.8	64.3	55.8	56.3	65.5	61.4	48.2	46.1	61.7	48.2	46.4	47.1	52.0
2026 w/o P		2	0	12,529	45	75	0	0	1.8%	0.7%	65.0	9,735	1,591	1,203	197	78	11	2	17	7	69.3	77.6	82.1	-1.8	64.7	56.1	56.6	65.8	61.7	48.5	46.5	62.0	48.5	46.7	47.4	52.3
2026 w/ P		2	0	12,590	45	75	0	0	1.8%	0.7%	65.0	9,782	1,599	1,209	198	79	11	3	17	7	69.3	77.6	82.1	-1.8	64.7	56.1	56.6	65.8	61.7	48.6	46.5	62.0	48.5	46.7	47.4	52.4
Santa Rosa/Moorpark w/o																																					
Existing 2019		2	0	24,156	45	75	0	0	1.8%	0.7%	67.9	18,769	3,068	2,319	380	151	22	5	33	14	69.3	77.6	82.1	-1.8	67.5	59.0	59.5	68.6	64.5	51.4	49.3	64.9	51.3	49.5	50.2	55.2
Existing w/ P		2	0	24,217	45	75	0	0	1.8%	0.7%	67.9	18,816	3,075	2,325	381	151	22	5	33	14	69.3	77.6	82.1	-1.8	67.5	59.0	59.5	68.6	64.5	51.4	49.3	64.9	51.3	49.5	50.2	55.2
2026 w/o P		2	0	25,955	45	75	0	0	1.8%	0.7%	68.2	20,167	3,296	2,492	408	162	24	5	35	15	69.3	77.6	82.1	-1.8	67.8	59.3	59.8	68.9	64.8	51.7	49.6	65.2	51.6	49.8	50.5	55.5
2026 w/ P		2	0	26,015	45	75	0	0	1.8%	0.7%	68.2	20,214	3,304	2,497	409	162	24	5	35	15	69.3	77.6	82.1	-1.8	67.8	59.3	59.8	69.0	64.8	51.7	49.6	65.2	51.6	49.8	50.6	55.5

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

C

Construction Vibration Modeling

(Project Name)
Construction Vibration Model
(Phase)

Equipment		Pieces of Equipment	PPV at 25 feet (in/sec)	Distance from Equipment	PPV at adjusted distance	RMS velocity amplitude in in/sec at adjusted distance[a]	RMS Vibration level in VdB at adjusted distance
Air Compressor		0	0.090	25	0.000	0.000	0.0
Backhoe		0	0.040	25	0.000	0.000	0.0
Caisson drilling		0	0.089	25	0.000	0.000	0.0
Clam shovel drop (slurry wall)		0	0.202	25	0.000	0.000	0.0
Compactor		0	0.050	25	0.000	0.000	0.0
Compressor		0	0.045	25	0.000	0.000	0.0
Concrete Mixer		0	0.040	25	0.000	0.000	0.0
Concrete Pump		0	0.028	25	0.000	0.000	0.0
Concrete Vibrator		0	0.014	25	0.000	0.000	0.0
Crane (Derrick)		0	0.057	25	0.000	0.000	0.0
Crane (Mobile)		0	0.057	25	0.000	0.000	0.0
Generator		0	0.018	25	0.000	0.000	0.0
Excavator		1	0.040	25	0.040	0.010	80.0
Hydromill (slurry wall)	in soil	0	0.008	25	0.000	0.000	0.0
	in rock	0	0.017	25	0.000	0.000	0.0
Jackhammer		0	0.035	25	0.000	0.000	0.0
Large bulldozer		0	0.089	25	0.000	0.000	0.0
Loaded trucks		1	0.076	25	0.076	0.019	85.6
Water trucks		1	0.076	25	0.076	0.019	85.6
Loader		1	0.071	25	0.071	0.018	85.0
Pavement Breaker		0	0.100	25	0.000	0.000	0.0
Paver		0	0.063	25	0.000	0.000	0.0
Pile Driver (impact)	upper rang	0	1.518	25	0.000	0.000	0.0
	typical	0	0.644	25	0.000	0.000	0.0
Pile Driver (sonic)	upper rang	0	0.734	25	0.000	0.000	0.0
	typical	0	0.170	25	0.000	0.000	0.0
Pneumatic Tool		0	0.040	25	0.000	0.000	0.0
Pump		0	0.014	25	0.000	0.000	0.0
Roller		0	0.020	25	0.000	0.000	0.0
Saw		0	0.018	25	0.000	0.000	0.0
Scraper		0	0.057	25	0.000	0.000	0.0
Shovel		0	0.028	25	0.000	0.000	0.0
Tub Grinder		0	0.252	25	0.000	0.000	0.0
Small bulldozer		0	0.003	25	0.000	0.000	0.0

*** Suggested Vibration Thresholds per the Federal Transit Administration, United States Department of Transportation, Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06), May 2006, pg. 12-12.**

-Fragile Buildings- 0.20 in/sec

(Project Name)
Construction Vibration Model
(Phase)

Equipment		Pieces of Equipment	PPV at 25 feet (in/sec)	Distance from Equipment	PPV at adjusted distance	RMS velocity amplitude in in/sec at adjusted distance[a]	RMS Vibration level in VdB at adjusted distance
Air Compressor		0	0.090	50	0.000	0.000	0.0
Backhoe		0	0.040	50	0.000	0.000	0.0
Caisson drilling		0	0.089	50	0.000	0.000	0.0
Clam shovel drop (slurry wall)		0	0.202	50	0.000	0.000	0.0
Compactor		0	0.050	50	0.000	0.000	0.0
Compressor		0	0.045	50	0.000	0.000	0.0
Concrete Mixer		0	0.040	50	0.000	0.000	0.0
Concrete Pump		0	0.028	50	0.000	0.000	0.0
Concrete Vibrator		0	0.014	50	0.000	0.000	0.0
Crane (Derrick)		0	0.057	50	0.000	0.000	0.0
Crane (Mobile)		0	0.057	50	0.000	0.000	0.0
Generator		0	0.018	50	0.000	0.000	0.0
Excavator		1	0.040	50	0.014	0.004	71.0
Hydromill (slurry wall)	in soil	0	0.008	50	0.000	0.000	0.0
	in rock	0	0.017	50	0.000	0.000	0.0
Jackhammer		0	0.035	50	0.000	0.000	0.0
Large bulldozer		0	0.089	50	0.000	0.000	0.0
Loaded trucks		1	0.076	50	0.027	0.007	76.5
Water trucks		1	0.076	50	0.027	0.007	76.5
Loader		1	0.071	50	0.025	0.006	76.0
Pavement Breaker		0	0.100	50	0.000	0.000	0.0
Paver		0	0.063	50	0.000	0.000	0.0
Pile Driver (impact)	upper range	0	1.518	50	0.000	0.000	0.0
	typical	0	0.644	50	0.000	0.000	0.0
Pile Driver (sonic)	upper range	0	0.734	50	0.000	0.000	0.0
	typical	0	0.170	50	0.000	0.000	0.0
Pneumatic Tool		0	0.040	50	0.000	0.000	0.0
Pump		0	0.014	50	0.000	0.000	0.0
Roller		0	0.020	50	0.000	0.000	0.0
Saw		0	0.018	50	0.000	0.000	0.0
Scraper		0	0.057	50	0.000	0.000	0.0
Shovel		0	0.028	50	0.000	0.000	0.0
Tub Grinder		0	0.252	50	0.000	0.000	0.0
Small bulldozer		0	0.003	50	0.000	0.000	0.0

*** Suggested Vibration Thresholds per the Federal Transit Administration, United States Department of Transportation, Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06), May 2006, pg. 12-12.**

-Fragile Buildings- 0.20 in/sec

-Extremely Fragile Buildings- 0.12 in/sec

a. PPV is typically a factor of 1.7 to 6 times greater than RMS vibration velocity. In this analysis a factor of 4 has been used to caulculate the apprxoimate RMS vibration velocity levels above.

(Project Name)
Construction Vibration Model
(Phase)

Equipment		Pieces of Equipment	PPV at 25 feet (in/sec)	Distance from Equipment	PPV at adjusted distance	RMS velocity amplitude in in/sec at adjusted distance[a]	RMS Vibration level in VdB at adjusted distance
Air Compressor		0	0.090	100	0.000	0.000	0.0
Backhoe		0	0.040	100	0.000	0.000	0.0
Caisson drilling		0	0.089	100	0.000	0.000	0.0
Clam shovel drop (slurry wall)		0	0.202	100	0.000	0.000	0.0
Compactor		0	0.050	100	0.000	0.000	0.0
Compressor		0	0.045	100	0.000	0.000	0.0
Concrete Mixer		0	0.040	100	0.000	0.000	0.0
Concrete Pump		0	0.028	100	0.000	0.000	0.0
Concrete Vibrator		0	0.014	100	0.000	0.000	0.0
Crane (Derrick)		0	0.057	100	0.000	0.000	0.0
Crane (Mobile)		0	0.057	100	0.000	0.000	0.0
Generator		0	0.018	100	0.000	0.000	0.0
Excavator		0	0.040	100	0.000	0.000	0.0
Hydromill (slurry wall)	in soil	0	0.008	100	0.000	0.000	0.0
	in rock	0	0.017	100	0.000	0.000	0.0
Jackhammer		0	0.035	100	0.000	0.000	0.0
Large bulldozer		0	0.089	100	0.000	0.000	0.0
Loaded trucks		0	0.076	100	0.000	0.000	0.0
Water trucks		0	0.076	100	0.000	0.000	0.0
Loader		0	0.071	100	0.000	0.000	0.0
Pavement Breaker		0	0.100	100	0.000	0.000	0.0
Paver		0	0.063	100	0.000	0.000	0.0
Pile Driver (impact)	upper range	0	1.518	100	0.000	0.000	0.0
	typical	0	0.644	100	0.000	0.000	0.0
Pile Driver (sonic)	upper range	0	0.734	100	0.000	0.000	0.0
	typical	0	0.170	100	0.000	0.000	0.0
Pneumatic Tool		0	0.040	100	0.000	0.000	0.0
Pump		0	0.014	100	0.000	0.000	0.0
Roller		0	0.020	100	0.000	0.000	0.0
Saw		0	0.018	100	0.000	0.000	0.0
Scraper		0	0.057	100	0.000	0.000	0.0
Shovel		0	0.028	100	0.000	0.000	0.0
Tub Grinder		0	0.252	100	0.000	0.000	0.0
Small bulldozer		0	0.003	100	0.000	0.000	0.0

*** Suggested Vibration Thresholds per the Federal Transit Administration, United States Department of Transportation, Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06), May 2006, pg. 12-12.**

-Fragile Buildings- 0.20 in/sec

(Project Name)
Construction Vibration Model
(Phase)

Equipment		Pieces of Equipment	PPV at 25 feet (in/sec)	Distance from Equipment	PPV at adjusted distance	RMS velocity amplitude in in/sec at adjusted distance[a]	RMS Vibration level in VdB at adjusted distance
Air Compressor		0	0.090	200	0.000	0.000	0.0
Backhoe		0	0.040	200	0.000	0.000	0.0
Caisson drilling		0	0.089	200	0.000	0.000	0.0
Clam shovel drop (slurry wall)		0	0.202	200	0.000	0.000	0.0
Compactor		0	0.050	200	0.000	0.000	0.0
Compressor		0	0.045	200	0.000	0.000	0.0
Concrete Mixer		0	0.040	200	0.000	0.000	0.0
Concrete Pump		0	0.028	200	0.000	0.000	0.0
Concrete Vibrator		0	0.014	200	0.000	0.000	0.0
Crane (Derrick)		0	0.057	200	0.000	0.000	0.0
Crane (Mobile)		0	0.057	200	0.000	0.000	0.0
Generator		0	0.018	200	0.000	0.000	0.0
Excavator		0	0.040	200	0.000	0.000	0.0
Hydromill (slurry wall)	in soil	0	0.008	200	0.000	0.000	0.0
	in rock	0	0.017	200	0.000	0.000	0.0
Jackhammer		0	0.035	200	0.000	0.000	0.0
Large bulldozer		0	0.089	200	0.000	0.000	0.0
Loaded trucks		0	0.076	200	0.000	0.000	0.0
Water trucks		0	0.076	200	0.000	0.000	0.0
Loader		0	0.071	200	0.000	0.000	0.0
Pavement Breaker		0	0.100	200	0.000	0.000	0.0
Paver		0	0.063	200	0.000	0.000	0.0
Pile Driver (impact)	upper range	0	1.518	200	0.000	0.000	0.0
	typical	0	0.644	200	0.000	0.000	0.0
Pile Driver (sonic)	upper range	0	0.734	200	0.000	0.000	0.0
	typical	0	0.170	200	0.000	0.000	0.0
Pneumatic Tool		0	0.040	200	0.000	0.000	0.0
Pump		0	0.014	200	0.000	0.000	0.0
Roller		0	0.020	200	0.000	0.000	0.0
Saw		0	0.018	200	0.000	0.000	0.0
Scraper		0	0.057	200	0.000	0.000	0.0
Shovel		0	0.028	200	0.000	0.000	0.0
Tub Grinder		0	0.252	200	0.000	0.000	0.0
Small bulldozer		0	0.003	200	0.000	0.000	0.0

*** Suggested Vibration Thresholds per the Federal Transit Administration, United States Department of Transportation, Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06), May 2006, pg. 12-12.**

-Fragile Buildings- 0.20 in/sec

APPENDIX 3.13

Public Services - Fire Protection

A

2019 WREA Hitch Ranch Water Usage Evaluation and Hydraulic Analysis

PRELIMINARY WATER USAGE EVALUATION & HYDRAULIC ANALYSIS

Hitch Ranch (Tract 5708)
Moorpark, CA 93021

Developer:
Comstock Homes

Published: June 5, 2019

Prepared by:

WREA

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BACKGROUND

The purpose of this hydraulic analysis is to:

1) Demonstrate that Ventura County Waterworks District 1 (VCWWD1) water facilities can serve the Hitch Ranch (HR) project area with potable water at required pressures and demands

2) Size the Tract water distribution system infrastructure.

All results and conclusions are preliminary and should be verified during final design phase.

HR is located in southeastern Ventura County, within the incorporated area of the City of Moorpark. Boundaries of the project site include north of Poindexter Avenue, approximately 1,600 feet west of Moorpark Avenue (State Route 23), approximately 4,500 feet south of Championship Drive, and approximately 1,400 feet west of Gabbert Road. It is proposed that the development be served by a network of pipes supplied by the VCWWD1 system at four points of connection. Three connections (POC 1-3) will be to the 757 zone and one connection (POC 4) will be to the 944 zone.

Development of the entire HR project as planned will include a maximum of 755 residential units [261 single-family dwelling units (SFDU) and 494 multiple-family dwelling units (MFDU)] on approximately 270.64 acres. Also included in this development is recreational space, open space, manufactured slopes, and public facilities (streets, detention basins, easements, etc.).

Lot 264, which is not a part of the HR project, will include 110 MFDU in an area of 6.66 acres. Although lot 264 is not a part of the HR project, the mainline that will eventually supply the lot 264 development will be provided by the HR project. Therefore, domestic demands for lot 264 are considered in this study.

The HR site plan is attached (Exhibit A, System Schematic for Hydraulic Analysis) providing general statistical data.

Project Breakdown – Site Summary

Planning Area	Land Use	Acres	DU	Irrigated Land (Acres)
1: Lots 1-77, 255-261, A-H	SFD Units	25.86		
	Natural Open Space	19.69		
	Manufactured Slopes	19.41		
	Subtotal	**64.96**	**84**	**19.41**
2: Lots 78-254, J-N, T, U, W	SFD Units	34.08		
	Natural Open Space	7.56		
	Manufactured Slopes	14.91		
	Recreation Lot	2.65		
	Passive Rec Lot	1.32		
	Subtotal	**60.52**	**177**	**16.90**
3: Lots 262 & I	MFD Units	23.46		
	Manufactured Slopes	5.40		
	Recreation Lot	4.10		
	Subtotal	**32.96**	**253**	**7.45**
4: Lots 263 & Z	MFD Units	10.87		
	Manufactured Slopes	5.40		
	Subtotal	**16.27**	**241**	**5.40**
5: Lot V	**Open Space**	**3.37**		**3.37**
6: Lots P-R	**Open Space**	**29.10**		**29.10**
Public Facilities	North Hills Pkwy	11.97		
	"A" Street	4.36		
	Meridian Hills Dr.	3.03		
	Casey Rd.	1.37		
	High St.	6.64		
	Gabbert Rd.	2.86		
	VCWPD Easement	2.70		
	Det. Basin 2	5.96		
	Det. Basin 2B	6.30		
	Det. Basin 3	12.27		
	Park	6.00		
	Subtotal	**63.46**		**37.25**
	TOTAL	**270.64**	**755**	**118.88**

Note: A 50% reduction in acres is applied to all recreation lots for irrigation/landscape calculations. Natural open space is assumed to have no irrigation.

Lot 264	MFD Units	6.66	110	-

TOTAL (including Lot 264)	**277.3**	**865**	**118.88**

WATER DEMANDS

Domestic water demands of the HR project are calculated in accordance with Ventura County Waterworks Manual (VCWWM). The potable water demands for the HR project fall into three categories: domestic/residential, landscape/irrigation and fire flow.

Domestic/Residential: Potable domestic water usage was calculated based on the proposed number of dwelling units. VCWWM Compliance Check calculations (Exhibit B) were performed for planning areas 1-4 with 84 SFDU, 177 SFDU, 253 MFDU and 241 MFDU respectively. The overall domestic water maximum day average demand, for this project, was calculated to be 660 GPM.

Planning Area	# of DU's	Demand (GPM)	# of Junctions	Demand per Junction (GPM)
1	84 (SF)	109	9	12.11
2	177 (SF)	230	16	14.38
3	253 (MF)	164	6	27.33
4	241 (MF)	157	6	21.17
Total	**757**	**660**		

Note: Total demands for each planning area were divided by number of junctions in each planning area. That value was then used at each junction in its respective area.

Lot 264	110 (MF)	72	1	72

Landscape Irrigation: Irrigation usage per residential lot was assumed to be included in the Compliance Check calculations provided for each SFDU and MFDU. Landscape irrigation quantities for each planning area reflect the manufactured slopes, recreation lots, portions of the open space, and public facilities which include irrigated medians in the road, parks, detention basins, easements, etc.

In accordance with California Irrigation Management Information System (CIMIS), July 2018 was used as the peak demand month, with an evapotranspiration rate (Et_o) of 7.07 inches/month. For calculating consumptive use, K_c = .5 (crop coefficient for turf grass) was multiplied by Et_o, the area being irrigated (acres), and divided by an irrigation efficiency factor of .75, then converted to gpm. Results for the demands are as follows:

Demand (GPM): $\frac{(K_c) \times (Et_o) \times (\text{irrigated area})}{0.75}$

Planning Area	Irrigated Acres	Demand (GPM)
1	19.41	55.7
2	16.90	48.5
3	7.45	21.4
4	5.40	15.5
5	3.37	9.7
6	29.10	83.4
Public Facilities	37.25	106.8
Total	**118.88**	**341.0**

Note: When determining the irrigated acres for roads in public facilities, the length of the road multiplied by an assumed 10 ft wide median, where landscaping will occur, was used.

Public Facilities demands were prorated and added to the demands of Planning Area's 1-4 for the simplicity of modeling purposes. To get the prorated value, each planning area was divided by the total area of planning areas 1-4, then multiplied by the irrigation demand for public facilities.

[(P.A. 1) / (P. A. 1-4)] x Irr. >> (64.96 / 174.71) x (106.8) = 39.7

Planning Area	Area (Acres)	Prorated Percentage	Prorated Irrigation Demand at Most Remote Junction (GPM)
1	64.96	37.2%	39.7
2	60.52	34.6%	37.0
3	32.96	18.9%	20.2
4	16.27	9.3%	9.9
Total	**174.71**	**100%**	**106.8**

Fire Flow: Ventura County Fire Protection Division (VCFD) provides fire services for the City of Moorpark. Calculations were performed in accordance with VCFD Standard requirements, using 2016 California Fire Code Table B105.1, *Minimum Required Fire Flow and Flow Duration for Buildings*, and assuming Type V-B construction.

The VCFD allows a 50% reduction in fire flow criteria with the installation of fire sprinklers in a structure.

At this time, proposed building sizes have yet to be determined. Building sizes are estimated based on information provided by the developer's consultant team.

For all the SFDU (Planning Area 1 & 2) which have fire sprinklers, the estimated fire flow demand of 1,000 GPM was used.

Planning Area 3 is a combination of 2 and 3 story units in attached housing types ranging from 1400 to 2300 square feet. An average size of 1900 square feet for the 253 units was used.

253 units / 41 bldg = 6.17 units/bldg.

6.17 x 1900 sf = 11,724 sf << say 12,000 square feet, which requires a flow rate of 3,000 gpm. With fire sprinklers installed the required flow rate is 1,500 gpm.

Planning Area 4 is a 3-story walkup apartment building with an average unit size of 900 square feet for 241 units.

241 units / 11 bldg = 21.9 units/bldg.

21.9 x 900 sf = 19,718 sf << say 20,000 square feet, which requires a flow rate of 3,750 gpm. With fire sprinklers installed the required flow rate is 1,875 gpm.

For the purposes of this preliminary study, it is was assumed that the max building size will be approximately 20,000 SF (see calculations above).The governing scenario is dictated by Planning Area 4: Lot 263, the largest sized MFDU, therefore the fire flow demand is estimated to be 1,875 gpm. For this study 2,500 gpm was used to provide a buffer as final building sizes are determined.

MODEL ASSUMPTIONS

Haestad Methods WaterCAD, Version 7.0, hydraulic modeling software was utilized to evaluate the system (Exhibit C). A Hazen Williams friction coefficient of C=140 was used for the new PVC mainlines. The proposed pipelines will be C900 pressure class 305 DR14 PVC sizes 8" (I.D. = 7.68"), 10" (I.D. = 9.42"), and 12" (I.D. = 11.2"). The hydraulic model contains a basic pipe network laid out in accordance with typical infrastructure improvements within public right-of-ways.

Water supply to the proposed 850 zone is entirely provided by storage in the 944 zone through a PR station. For the purposes of this analysis, water supply to the Project's 757 zone is only considered from point-of-connections to the 757 zone. This is accomplished by "closing" the valve at the proposed PR station between 850 and 757 zones to neglect the interconnect during high flow scenarios occurring in 757 zone. Actual contribution through the 850/757 PR station will be determined by VCWWD1 at a future time but should improve performance in the 757 zone over the modeling assumption of zero flow.

The water system requirements for each planning area of the HR project are addressed in 5 different scenarios, as summarized below:

- Scenario 1: Base = (Domestic + Irrigation for all planning areas), No Fire Flow w/ 850/757 PR Station closed
- Scenario 2: Base + Planning Area 1 Fire Flow (1,000 GPM) w/ 850/757 PR Station open
- Scenario 3: Base + Planning Area 2 Fire Flow (1,000 GPM) w/ 850/757 PR Station closed
- Scenario 4: Base + Planning Area 3 Fire Flow (2,500 GPM) w/ 850/757 PR Station open
- Scenario 5: Base + Planning Area 4 Fire Flow (2,500 GPM) w/ 850/757 PR Station closed

General static pressures at points of connection (POC) were provided by VCWWD1 via email:

POC	Pressure Zone	Location	Elevation (ft)	Static Pressure at POC (psi)
1	757	Gabbert Rd.	515	91
2	757	Casey Rd.	565	72
3	757	Poindexter Ave.	493	112
4	944	Meridian Hills Dr.	765	77

Maximum Allowable Pipe Velocities:

- 5 feet per second under normal (Base) conditions
- 15 feet per second during fire flow

ANAYLSIS METHOD

Flow attributed to domestic use was incorporated into the model at network junctions, grouped according to lot configurations and proposed mainline locations.

Fire flow demands at hydrants were simulated at each individual planning area, as indicated on Exhibit A. The highest elevation and/or furthest lot was evaluated in each planning area.

The Title 22 California Waterworks Standards require a minimum system pressure of 40 psi at each point in the distribution system (excluding fire flow). During fire flow Fire Code requirements dictate the conditioned flow rate shall be attained at greater than 20 psi minimum residual pressure throughout the system.

The HR development is located between the 757 and 944 service zones. Based on the varied site elevations, VCWWD recommends the creation of a new pressure zone, with 850' HGL. This requires connections to the 944 zone by way of offsite POC to Meridian Hills Drive. Two pressure reducing stations will be required; one for reducing from 944' HGL to 850' HGL and one from 850' HGL to 757' HGL. The approximate locations of proposed pressure reducing (PR) stations are shown on the schematic. The following table outlines each HR area and project component that will be incorporated into each pressure zone.

Planning Area Pressure Zone and Demand Data

Project Component	# / Type of Units and/or Land Use	Pressure Zone	Domestic Max Day Average Demand (GPM)	Irrigation Demand (GPM)	Fire Flow (GPM)	Total Demand per Planning Area (GPM)
Planning Area 1	84 SFDU & 19.41 Irrigated Acres	850	109	55.7	1,000	1,164.7
Planning Area 2	177 SFDU & 16.90 Irrigated Acres	757	230	48.5	1,000	1,278.5
Planning Area 3	253 MFDU & 7.45 Irrigated Acres	850	164	21.4	2,500	2,685.4
Planning Area 4	241 MFDU & 5.40 Irrigated Acres	757	157	15.5	2,500	2,672.5
Planning Area 5	3.37 Irrigated Acres	757	-	9.7	-	9.7
Planning Area 6	29.10 Irrigated Acres	757	-	83.4	-	83.4
Public Facilities	37.25 Irrigated Acres	757 & 850	-	106.8	-	106.8
Lot 264	110 MFDU	757	72	-	-	72

Total Base Demand (Domestic + Irrigation) = 1,073 GPM

Flow from one fire hydrant within each specific area being evaluated was included during each of the flow scenarios. Additionally, domestic demand for the entire development and irrigation demand was included simultaneously with each evaluation in order to reflect a peak demand scenario.

MINIMUM STORAGE REQUIREMENTS

Water in storage performs the function of supplying higher rates of flow during extraordinary demands on a water system and ensures reliability of service during supply outages. This report utilizes Ventura County Waterworks Manual, Ventura County Fire Protection District standards, and input from Ventura County Water and Sanitation staff to estimate the following storage requirements for the HR development (755 DU):

Emergency Storage: Storage that is required to meet demands during extended periods of service disruption. At a minimum the emergency storage should equal the volume necessary to provide service for a one-hour interruption of electrical power to all system pumps, or a four day "out of service" condition of any one pump in the system at one time. Emergency storage is calculated as follows:

From Compliance Check Calculations (Exhibit B)

V_{E1} = 125,675 gallons
V_{E2} = **385,601 gallons** << Governs

Operational Storage: Storage that is provided to equalize fluctuation in demand that exceeds the capacity of the system. This is assumed to equal 30% of the total maximum day withdrawals (V_0) plus irrigation demands (I). Operational storage is calculated as follows:

From Compliance Check Calculations (Exhibit B)

V_0 = 273,101 gallons

Irrigation Storage Calculation

$$\frac{(7.07\text{ in})(118.88\text{ acres})(43{,}560\text{ ft}^2)(7.48\text{ gal})(0.5)(1\text{ ft})}{(12\text{ in})(31\text{ days})(.75)(1\text{ acre})(1\text{ ft}^3)}$$

= 490,776 gallons/day

Operational Storage

$0.3(V_o + I) = 0.3(273{,}101 + 490{,}776)$ = **229,163 gallons**

Fire Fighting Storage: Storage that provides water supplies for fire protection. Duration of fire flow is established by the Waterworks Manual. Each pressure zone must provide firefighting storage in accordance with the land use and required fire flows within the zone. Using a required fire flow of 2,500 gpm for 2 hours, the firefighting storage is calculated as follows

(2,500 gal/min)(2 hours)(60 min/hr) = **300,000 gallons**

Total Storage Required: The combination of emergency storage, operational storage and firefighting storage. The overall total storage required for HR project is calculated as follows:

385,601 gal + 229,163 gal + 300,000 gal = **914,764 gallons**

RESULTS

The Model Schematic, available fire flow, junction residual pressure, and pipe flow calculation sets are presented for reference, as previously outlined. Examination of individual flow scenarios throughout the system (as preliminarily configured) indicates that none of the domestic junctions or fire hydrants have less than 20 psi residual pressure.

Lots 262 and 263 used a fire flow of 2,500 gpm for calculation purposes. Based on the model assumptions, flow calibrations and pressure zones, the required fire flow can be obtained at greater than 20 psi residual pressure. The following table shows the pressures at the most hydraulically remote junctions during fire flow for each planning area.

Planning Area	Junction at Hydraulically Remote Location	Demand at Junction (GPM)[1]	Pressure at Junction (psi)
1	J-64	1,107.51	89.36
2	J-26	1,099.88	62.55
3	J-52	2,568.93	71.54
4	J-44	2,546.57	60.62
5	J-14	24.08[2]	80.08
6	J-2	83.40	99.07

Lot 264	J-43	72	66.65

CONCLUSION

The water system for each of the planning areas as configured in the preliminary model, and shown on the Schematic, will supply the maximum day average domestic demand and irrigation demands, as well as the assumed fire protection for the project.

Prior to the HR Final Design Phase, VCWWD1 will need to provide direction on how the PR station interconnect between 850 & 757 zones is intended to operate so that it can be properly designed. The newly created 850 zone is fully dependent on supply from the existing 944 zone. However, water supply contribution from the 850 zone (via 944 zone) to the 757 zone must be determined and confirmed through District Master Plan. Possible options for the 850/757 PR station may include:

1. Eliminate interconnect if not required.
2. Emergency interconnect only (manually operated).
3. Interconnect contributes water supply from 850 (944) zone to 757 zone under **normal** operating conditions.
4. Interconnect contributes water supply from 850 (944) zone to 757 zone under **high-flow** operating conditions.

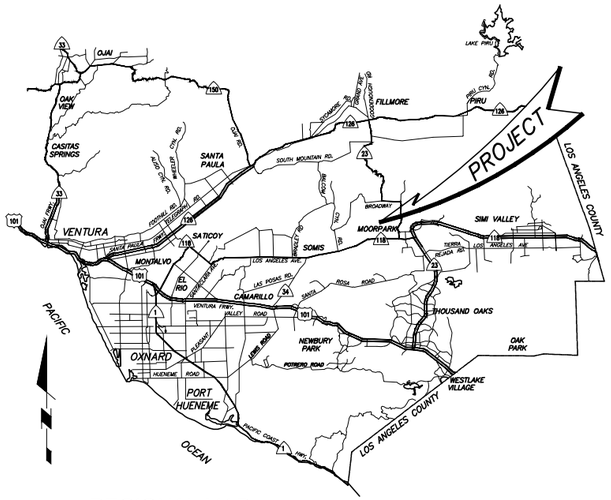
[1] For calculation purposes Planning Area's 1-4 have combined flows of domestic demand + irrigation demand + fire flow demand + prorated irrigation demand (public facilities) at the most remote junction for each respective planning area.

[2] Due to location, the demand at J-14 is the demand per junction of planning area 2 (14.38 gpm) + Irrigation for planning area 5 (9.7 gpm).

HITCH RANCH
City of Moorpark, CA

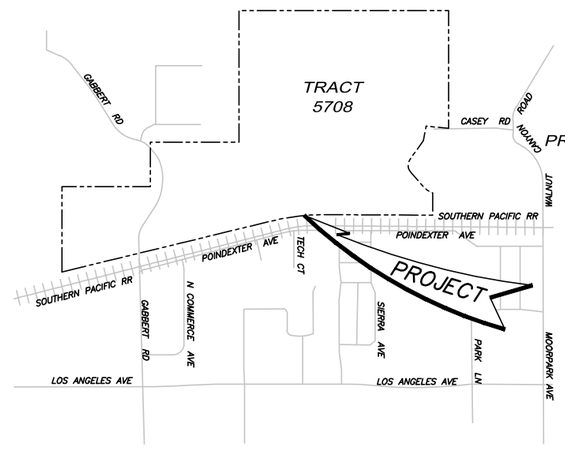
EXHIBIT A

System Schematic for Hydraulic Analysis



REGIONAL MAP

NOT TO SCALE



LOCATION MAP

NOT TO SCALE

LEGEND

- P-35 / 925'/8" — PIPE NUMBER, PIPE LENGTH/SIZE
- POC 1 — POINT OF CONNECTION AND CONNECTION NUMBER
- 1 — JUNCTION AND JUNCTION NUMBER
- (E) — EXISTING
- (P) — PROPOSED
- —W— — (P) PIPE
- — — — PROPERTY LINE
- PR — PRESSURE REDUCING STATION

CALCULATION SET NUMBER

TRIAL NO. 1 DATA		
FLOW	R. PRES.	JUNCTION
1071	61.02	J-13

HYDRANT

- JUNCTION LABEL
- RESIDUAL PRESSURE IN PSI AT TRIAL FLOW RATE
- TRIAL FLOW RATE IN GPM
- REQUIRED FEATURE

NOTE ON PIPE LENGTHS: THE EXACT "ON PAPER" PIPE LENGTH IS LISTED HERE TO BE CONSISTENT WITH THE CALCULATIONS. THE "IN FIELD" PIPE LENGTHS COULD BE LONGER OR SHORTER DEPENDING ON ACTUAL LAYOUT CONDITIONS

PROJECT DATA	FIRE FLOW
SFDU – 261 DU.	1,000 gpm
MFDU – 494 DU.	3,000 gpm

PLANNING AREA 6 DATA		
FLOW	R. PRES.	JUNCTION
83.40	99.07	J-2

PLANNING AREA 5 DATA		
FLOW	R. PRES.	JUNCTION
24.08	80.08	J-14

PLANNING AREA 1 DATA		
FLOW	R. PRES.	JUNCTION
1,107.51	89.36	J-64

PLANNING AREA 2 DATA		
FLOW	R. PRES.	JUNCTION
1,099.88	62.55	J-26

PLANNING AREA 3 DATA		
FLOW	R. PRES.	JUNCTION
2,568.93	71.54	J-52

PLANNING AREA 4 DATA		
FLOW	R. PRES.	JUNCTION
2,546.57	60.62	J-44

PRESSURE ZONE 944

PRESSURE ZONE 850

PRESSURE ZONE 757

LOTS 1-77, 255-261, A-H 84 SINGLE FAMILY D.U.

LOTS 262 & I 253 MULTI-FAMILY D.U.

LOTS 263 & Z 88 MULTI-FAMILY D.U.

LOTS 78-254 J-N, T, U, W 177 SINGLE FAMILY D.U.

LOT 264

P.A. 1 P.A. 2 P.A. 3 P.A. 4 P.A. 5 P.A. 6

(POC 1) (POC 2) (POC 3) (POC 4)

(E) 12" PIPELINE FROM GABBERT RESERVOIR (2 M.G.–757 ZONE)

(E) 12" PIPELINE (757 ZONE)

(E) 8" PIPELINE

(E) 12" PIPELINE (757 ZONE)

MERIDIAN HILLS DRIVE

NORTH HILLS PARKWAY

CASEY ROAD

HIGH STREET

POINDEXTER AVENUE

GABBERT ROAD

SCALE: 1"=200'

CONSTRUCTION NOTES

(A) OFFSITE POC TO (E) 12" 944 ZONE LINE AT THE INTERSECTION OF MERIDIAN HILLS DRIVE AND RIDGEMARK DRIVE.

HYDRAULIC ANALYSIS EXHIBIT PLAN

SCALE: 1" = 200'

200' 100' 0' 200' 400'

GRAPHIC SCALE: 1"=200'

REGISTERED PROFESSIONAL ENGINEER BENJAMIN T. FISCHETTI NO 69360 CIVIL STATE OF CALIFORNIA

Know what's below. Call before you dig.

REVISIONS	BY	DATE

PROGRESS	BY	DATE
PRELIMINARY PLOT	SC	04/24/19

PREPARED BY:

WREA

WATER RESOURCE ENGINEERING ASSOCIATES

2300 ALESSANDRO DR, SUITE 215, VENTURA, CA 93001 • 805.653.7900 • 800-25-WATER • FAX: 805.653.0610

LOUIS M. NAGY R.C.E. NO. 047648 EXP. 12-31-19 DATE

SYSTEM SCHEMATIC FOR HYDRAULIC ANALYSIS

HITCH RANCH (TRACT 5708)

POINDEXTER AVE, MOORPARK

SHEET 1 OF 1

JOB NO. 3209

HITCH RANCH
City of Moorpark, CA

EXHIBIT B

Ventura County Waterworks Manual: Compliance Check Calculations

County of Ventura Waterworks Manual Compliance Check

Water Purveyor:

System or Zone: (Overall) Hitch Ranch no lot 264

1. Determine Number of Service Connections (N)

Category	Qty	Value	Total	Section	Comments
a. Number of single residential homes or lots =	261	1.0	261.0		
b. Number of 2nd residential units ≤ 1,200 sf =	0	0.5	0.0		
c. Number of 2nd residential units > 1,200 sf =		1.0	0.0		
d. Number of mobile home spaces < 3,000 sf =		0.5	0.0		
e. Number of mobile home spaces ≥ 3,000 sf =		1.0	0.0		
f. Number of multifamily housing units =	494	0.5	247.0		
g. Number of trailer or trailer park spaces =	0	0.3	0.0		
h. Number of commercial and industrial acres =	0	5.0	0.0		
i. Number of agricultural acres =	0	2.0	0.0		
		Maximum Service Connections (N) =	**508**		
		Actual Service Connections Issued =	**0**		
		Connections Available =	**508**		

2. Determine Maximum Day Demand (Q_0) and Storage (V_0) from N

				Section	Comments
a. Temerature in °F =	70	degrees			
b. The System is metered.	TRUE				
b. Maximum Day Average Demand (Q_0) =	660	GPM			
c. Required Storage Volume (V_0) =	273,101	Gal			

3. Determine Minimum Required Fire Flow (F) and Duration (D_F)

				Section	Comments
a. Minimum Fire Flow (F) =	2,500	GPM			
b. Minimum Fire Flow Duration (D_F) =	2	Hours			

4. Determine Required Minimum Total Storage (V_M)

				Section	Comments
a. Domestic Storage Required (V_0) =	273,101	Gal			
b. Fire Storage Required (V_F) = 60 * F * D_F =	300,000	Gal			
c. Total Storage Required (V_M) = V_o + V_F =	573,101	Gal			
d. Actual Storage Available (V_1) =	0	Gal	NG	N/A	

5. Determine Minimum Required Total Supply (Q_M)

				Section	Comments
a. Actual Supply Available in the System (Q_1) =	0	GPD	NG	N/A	
b. Storage Factor (S) =	2.5				
c. Domestic Supply Required (Q_D) = 1440 * S * Q_0 =	2,377,440	GPD			
d. Fire Supply Required (Q_F) =	62,500	GPD			
e. Total Supply Required (Q_M) = Q_D + Q_F =	2,439,940	GPD			

6. Determine Minimum Required Peak Hour Demand (PHD_M)

				Section	Comments
a. Peak Hour Demand Multiplier (M) =	1.3				
b. P_A = (M * Q_0 / 2) + F =	2,939	GPM			
c. P_B = M * Q_0 =	878	GPM			
d. PHD_M = greater of P_A and P_B =	2,939	GPM			
e. Actual Peak Flow Rate (PHD_1) =	0	GPM	NG	N/A	

7. Determine Emergency Requirements (P_E, VE_1 and VE_2)				Section	Comments
a. $P_{ED} = M * Q_0 / 2 =$	439				
b. $P_{EF} = (M * Q_0 / 4) + 0.75 * F =$	2,095	GPM			
c. P_E = the greater of P_{ED} and P_{EF} =	2,095	GPM			
d. $V_{E1} = 60 * P_E =$	125,675	Gal			
e. $V_{E2} = V_0 + 0.75 * 60 * F =$	385,601	Gal			
f. Power Interuption of 1 Hour					
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A	
Volume (must be ≥ V_{E1}) =	0	Gal	NG	N/A	
g. Pump Out of Service					
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A	
Volume (must be ≥ V_{E2}) =	0	Gal	NG	N/A	
h. Source Interruption					
Peak Hour Demand (must be ≥ P_E) =	0		NG	N/A	
Volume (must be ≥ V_{E2}) =	0		NG	N/A	

8. Comments

Results vary slightly from hand calculations.

This spreadsheet was used to calculate storage and Max Day Average Demand, all other values are N/A

Water Purveyor

Prepared By: _____ **Title:** _____ **Date:** _____

Approve By: _____ **Title:** _____ **Date:** _____

County Use Only

Accepted By: _____ **Date:** _____

County of Ventura Waterworks Manual Compliance Check

Water Purveyor:

System or Zone: (Overall) Hitch Ranch with lot 264

1. Determine Number of Service Connections (N)

Category	Qty	Value	Total	Section	Comments
a. Number of single residential homes or lots =	261	1.0	261.0		
b. Number of 2nd residential units ≤ 1,200 sf =	0	0.5	0.0		
c. Number of 2nd residential units > 1,200 sf =		1.0	0.0		
d. Number of mobile home spaces < 3,000 sf =		0.5	0.0		
e. Number of mobile home spaces ≥ 3,000 sf =		1.0	0.0		
f. Number of multifamily housing units =	604	0.5	302.0		
g. Number of trailer or trailer park spaces =	0	0.3	0.0		
h. Number of commercial and industrial acres =	0	5.0	0.0		
i. Number of agricultural acres =	0	2.0	0.0		
		Maximum Service Connections (N) =	**563**		
		Actual Service Connections Issued =	**0**		
		Connections Available =	**563**		

2. Determine Maximum Day Demand (Q_0) and Storage (V_0) from N

				Section	Comments
a. Temerature in °F =	70	degrees			
b. The System is metered.	TRUE				
b. Maximum Day Average Demand (Q_0) =	732	GPM			
c. Required Storage Volume (V_0) =	302,669	Gal			

3. Determine Minimum Required Fire Flow (F) and Duration (D_F)

				Section	Comments
a. Minimum Fire Flow (F) =	2,500	GPM			
b. Minimum Fire Flow Duration (D_F) =	2	Hours			

4. Determine Required Minimum Total Storage (V_M)

				Section	Comments
a. Domestic Storage Required (V_0) =	302,669	Gal			
b. Fire Storage Required (V_F) = 60 * F * D_F =	300,000	Gal			
c. Total Storage Required (V_M) = V_o + V_F =	602,669	Gal			
d. Actual Storage Available (V_1) =	0	Gal	NG	N/A	

5. Determine Minimum Required Total Supply (Q_M)

				Section	Comments
a. Actual Supply Available in the System (Q_1) =	0	GPD	NG	N/A	
b. Storage Factor (S) =	2.5				
c. Domestic Supply Required (Q_D) = 1440 * S * Q_0 =	2,634,840	GPD			
d. Fire Supply Required (Q_F) =	62,500	GPD			
e. Total Supply Required (Q_M) = Q_D + Q_F =	2,697,340	GPD			

6. Determine Minimum Required Peak Hour Demand (PHD_M)

				Section	Comments
a. Peak Hour Demand Multiplier (M) =	1.3				
b. P_A = (M * Q_0 / 2) + F =	2,987	GPM			
c. P_B = M * Q_0 =	973	GPM			
d. PHD_M = greater of P_A and P_B =	2,987	GPM			
e. Actual Peak Flow Rate (PHD_1) =	0	GPM	NG	N/A	

7. Determine Emergency Requirements (P_E, VE_1 and VE_2)				Section	Comments
a. $P_{ED} = M * Q_0 / 2 =$	487				
b. $P_{EF} = (M * Q_0 / 4) + 0.75 * F =$	2,118	GPM			
c. P_E = the greater of P_{ED} and P_{EF} =	2,118	GPM			
d. $V_{E1} = 60 * P_E =$	127,101	Gal			
e. $V_{E2} = V_0 + 0.75 * 60 * F =$	415,169	Gal			
f. Power Interuption of 1 Hour					
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A	
Volume (must be ≥ V_{E1}) =	0	Gal	NG	N/A	
g. Pump Out of Service					
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A	
Volume (must be ≥ V_{E2}) =	0	Gal	NG	N/A	
h. Source Interruption					
Peak Hour Demand (must be ≥ P_E) =	0		NG	N/A	
Volume (must be ≥ V_{E2}) =	0		NG	N/A	

8. Comments

Results vary slightly from hand calculations.

This spreadsheet was used to calculate Max Day Average Demand, all other values are N/A

Water Purveyor

Prepared By: _____ **Title:** _____ **Date:** _____

Approve By: _____ **Title:** _____ **Date:** _____

County Use Only

Accepted By: _____ **Date:** _____

County of Ventura Waterworks Manual Compliance Check

Water Purveyor:

System or Zone: Planninng Area 1: **Note: This spreadsheet was only used to calculate Max Day Average Demand**

1. Determine Number of Service Connections (N)

Category	Qty	Value	Total	Section	Comments
a. Number of single residential homes or lots =	84	1.0	84.0		
b. Number of 2nd residential units ≤ 1,200 sf =	0	0.5	0.0		
c. Number of 2nd residential units > 1,200 sf =		1.0	0.0		
d. Number of mobile home spaces < 3,000 sf =		0.5	0.0		
e. Number of mobile home spaces ≥ 3,000 sf =		1.0	0.0		
f. Number of multifamily housing units =	0	0.5	0.0		
g. Number of trailer or trailer park spaces =	0	0.3	0.0		
h. Number of commercial and industrial acres =	0	5.0	0.0		
i. Number of agricultural acres =	0	2.0	0.0		

Maximum Service Connections (N) =	**84**
Actual Service Connections Issued =	**0**
Connections Available =	**84**

2. Determine Maximum Day Demand (Q_0) and Storage (V_0) from N

			Section	Comments
a. Temerature in °F =	70	degrees		
b. The System is metered.	TRUE			
b. Maximum Day Average Demand (Q_0) =	109	GPM		
c. Required Storage Volume (V_0) =	59,816	Gal		

3. Determine Minimum Required Fire Flow (F) and Duration (D_F)

			Section	Comments
a. Minimum Fire Flow (F) =	1,000	GPM		
b. Minimum Fire Flow Duration (D_F) =	2	Hours		

4. Determine Required Minimum Total Storage (V_M)

				Section	Comments
a. Domestic Storage Required (V_0) =	59,816	Gal			
b. Fire Storage Required (V_F) = 60 * F * D_F =	120,000	Gal			
c. Total Storage Required (V_M) = V_o + V_F =	179,816	Gal			
d. Actual Storage Available (V_1) =	0	Gal	NG	N/A	

5. Determine Minimum Required Total Supply (Q_M)

				Section	Comments
a. Actual Supply Available in the System (Q_1) =	0	GPD	NG	N/A	
b. Storage Factor (S) =	2.5				
c. Domestic Supply Required (Q_D) = 1440 * S * Q_0 =	393,120	GPD			
d. Fire Supply Required (Q_F) =	25,000	GPD			
e. Total Supply Required (Q_M) = Q_D + Q_F =	418,120	GPD			

6. Determine Minimum Required Peak Hour Demand (PHD_M)

				Section	Comments
a. Peak Hour Demand Multiplier (M) =	2.4				
b. P_A = (M * Q_0 / 2) + F =	1,132	GPM			
c. P_B = M * Q_0 =	264	GPM			
d. PHD_M = greater of P_A and P_B =	1,132	GPM			
e. Actual Peak Flow Rate (PHD_1) =	0	GPM	NG	N/A	

7. Determine Emergency Requirements (P_E, VE_1 and VE_2)				Section	Comments
a. $P_{ED} = M * Q_0 / 2 =$	132				
b. $P_{EF} = (M * Q_0 / 4) + 0.75 * F =$	816	GPM			
c. P_E = the greater of P_{ED} and P_{EF} =	816	GPM			
d. $V_{E1} = 60 * P_E =$	48,955	Gal			
e. $V_{E2} = V_0 + 0.75 * 60 * F =$	104,816	Gal			
f. Power Interuption of 1 Hour					
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A	
Volume (must be ≥ V_{E1}) =	0	Gal	NG	N/A	
g. Pump Out of Service					
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A	
Volume (must be ≥ V_{E2}) =	0	Gal	NG	N/A	
h. Source Interruption					
Peak Hour Demand (must be ≥ P_E) =	0		NG	N/A	
Volume (must be ≥ V_{E2}) =	0		NG	N/A	

8. Comments

Results vary slightly from hand calculations.

Note: This spreadsheet was only used to calculate Max Day Average Demand, all other values are N/A

Water Purveyor

Prepared By: _____ **Title:** _____ **Date:** _____

Approve By: _____ **Title:** _____ **Date:** _____

County Use Only

Accepted By: _____ **Date:** _____

County of Ventura Waterworks Manual Compliance Check

Water Purveyor:

System or Zone: Planninng Area 2 **Note: This spreadsheet was only used to calculate Max Day Average Demand**

1. Determine Number of Service Connections (N)

Category	Qty	Value	Total	Section	Comments
a. Number of single residential homes or lots =	177	1.0	177.0		
b. Number of 2nd residential units ≤ 1,200 sf =	0	0.5	0.0		
c. Number of 2nd residential units > 1,200 sf =		1.0	0.0		
d. Number of mobile home spaces < 3,000 sf =		0.5	0.0		
e. Number of mobile home spaces ≥ 3,000 sf =		1.0	0.0		
f. Number of multifamily housing units =	0	0.5	0.0		
g. Number of trailer or trailer park spaces =	0	0.3	0.0		
h. Number of commercial and industrial acres =	0	5.0	0.0		
i. Number of agricultural acres =	0	2.0	0.0		
		Maximum Service Connections (N) =	**177**		
		Actual Service Connections Issued =	**0**		
		Connections Available =	**177**		

2. Determine Maximum Day Demand (Q_0) and Storage (V_0) from N

				Section	Comments
a. Temerature in °F =	70	degrees			
b. The System is metered.	TRUE				
b. Maximum Day Average Demand (Q_0) =	230	GPM			
c. Required Storage Volume (V_0) =	107,213	Gal			

3. Determine Minimum Required Fire Flow (F) and Duration (D_F)

				Section	Comments
a. Minimum Fire Flow (F) =	1,000	GPM			
b. Minimum Fire Flow Duration (D_F) =	2	Hours			

4. Determine Required Minimum Total Storage (V_M)

				Section	Comments
a. Domestic Storage Required (V_0) =	107,213	Gal			
b. Fire Storage Required (V_F) = 60 * F * D_F =	120,000	Gal			
c. Total Storage Required (V_M) = V_o + V_F =	227,213	Gal			
d. Actual Storage Available (V_1) =	0	Gal	NG	N/A	

5. Determine Minimum Required Total Supply (Q_M)

				Section	Comments
a. Actual Supply Available in the System (Q_1) =	0	GPD	NG	N/A	
b. Storage Factor (S) =	2.5				
c. Domestic Supply Required (Q_D) = 1440 * S * Q_0 =	828,360	GPD			
d. Fire Supply Required (Q_F) =	25,000	GPD			
e. Total Supply Required (Q_M) = Q_D + Q_F =	853,360	GPD			

6. Determine Minimum Required Peak Hour Demand (PHD_M)

				Section	Comments
a. Peak Hour Demand Multiplier (M) =	1.9				
b. P_A = (M * Q_0 / 2) + F =	1,217	GPM			
c. P_B = M * Q_0 =	434	GPM			
d. PHD_M = greater of P_A and P_B =	1,217	GPM			
e. Actual Peak Flow Rate (PHD_1) =	0	GPM	NG	N/A	

7. Determine Emergency Requirements (P_E, VE_1 and VE_2)				Section	Comments
a. $P_{ED} = M * Q_0 / 2 =$	217				
b. $P_{EF} = (M * Q_0 / 4) + 0.75 * F =$	858	GPM			
c. P_E = the greater of P_{ED} and P_{EF} =	858	GPM			
d. $V_{E1} = 60 * P_E =$	51,503	Gal			
e. $V_{E2} = V_0 + 0.75 * 60 * F =$	152,213	Gal			
f. Power Interuption of 1 Hour					
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A	
Volume (must be ≥ V_{E1}) =	0	Gal	NG	N/A	
g. Pump Out of Service					
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A	
Volume (must be ≥ V_{E2}) =	0	Gal	NG	N/A	
h. Source Interruption					
Peak Hour Demand (must be ≥ P_E) =	0		NG	N/A	
Volume (must be ≥ V_{E2}) =	0		NG	N/A	

8. Comments

Results vary slightly from hand calculations.

Note: This spreadsheet was only used to calculate Max Day Average Demand, all other values are N/A

Water Purveyor

Prepared By: _____ **Title:** _____ **Date:** _____

Approve By: _____ **Title:** _____ **Date:** _____

County Use Only

Accepted By: _____ **Date:** _____

County of Ventura Waterworks Manual Compliance Check

Water Purveyor:

System or Zone: Planninng Area 3: **Note: This spreadsheet was only used to calculate Max Day Average Demand**

1. Determine Number of Service Connections (N)

Category	Qty	Value	Total	Section	Comments
a. Number of single residential homes or lots =	0	1.0	0.0		
b. Number of 2nd residential units ≤ 1,200 sf =	0	0.5	0.0		
c. Number of 2nd residential units > 1,200 sf =		1.0	0.0		
d. Number of mobile home spaces < 3,000 sf =		0.5	0.0		
e. Number of mobile home spaces ≥ 3,000 sf =		1.0	0.0		
f. Number of multifamily housing units =	253	0.5	126.5		
g. Number of trailer or trailer park spaces =	0	0.3	0.0		
h. Number of commercial and industrial acres =	0	5.0	0.0		
i. Number of agricultural acres =	0	2.0	0.0		
		Maximum Service Connections (N) =	**127**		
		Actual Service Connections Issued =	**0**		
		Connections Available =	**127**		

2. Determine Maximum Day Demand (Q_0) and Storage (V_0) from N

				Section	Comments
a. Temerature in °F =	70	degrees			
b. The System is metered.	TRUE				
b. Maximum Day Average Demand (Q_0) =	164	GPM			
c. Required Storage Volume (V_0) =	81,572	Gal			

3. Determine Minimum Required Fire Flow (F) and Duration (D_F)

				Section	Comments
a. Minimum Fire Flow (F) =	3,000	GPM			
b. Minimum Fire Flow Duration (D_F) =	2	Hours			

4. Determine Required Minimum Total Storage (V_M)

				Section	Comments
a. Domestic Storage Required (V_0) =	81,572	Gal			
b. Fire Storage Required (V_F) = 60 * F * D_F =	360,000	Gal			
c. Total Storage Required (V_M) = V_o + V_F =	441,572	Gal			
d. Actual Storage Available (V_1) =	0	Gal	NG	N/A	

5. Determine Minimum Required Total Supply (Q_M)

				Section	Comments
a. Actual Supply Available in the System (Q_1) =	0	GPD	NG	N/A	
b. Storage Factor (S) =	2.5				
c. Domestic Supply Required (Q_D) = 1440 * S * Q_0 =	592,020	GPD			
d. Fire Supply Required (Q_F) =	75,000	GPD			
e. Total Supply Required (Q_M) = Q_D + Q_F =	667,020	GPD			

6. Determine Minimum Required Peak Hour Demand (PHD_M)

				Section	Comments
a. Peak Hour Demand Multiplier (M) =	2.1				
b. P_A = (M * Q_0 / 2) + F =	3,173	GPM			
c. P_B = M * Q_0 =	346	GPM			
d. PHD_M = greater of P_A and P_B =	3,173	GPM			
e. Actual Peak Flow Rate (PHD_1) =	0	GPM	NG	N/A	

7. Determine Emergency Requirements (P_E, VE_1 and VE_2)				Section Comments
a. $P_{ED} = M * Q_0 / 2 =$	173			
b. $P_{EF} = (M * Q_0 / 4) + 0.75 * F =$	2,337	GPM		
c. P_E = the greater of P_{ED} and P_{EF} =	2,337	GPM		
d. $V_{E1} = 60 * P_E =$	140,197	Gal		
e. $V_{E2} = V_0 + 0.75 * 60 * F =$	216,572	Gal		
f. Power Interuption of 1 Hour				
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A
Volume (must be ≥ V_{E1}) =	0	Gal	NG	N/A
g. Pump Out of Service				
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A
Volume (must be ≥ V_{E2}) =	0	Gal	NG	N/A
h. Source Interruption				
Peak Hour Demand (must be ≥ P_E) =	0		NG	N/A
Volume (must be ≥ V_{E2}) =	0		NG	N/A

8. Comments

Results vary slightly from hand calculations.

Note: This spreadsheet was only used to calculate Max Day Average Demand, all other values are N/A

Water Purveyor

Prepared By: _____ **Title:** _____ **Date:** _____

Approve By: _____ **Title:** _____ **Date:** _____

County Use Only

Accepted By: _____ **Date:** _____

County of Ventura Waterworks Manual Compliance Check

Water Purveyor:

System or Zone: Planninng Area 4: **Note: This spreadsheet was only used to calculate Max Day Average Demand**

1. Determine Number of Service Connections (N)

Category	Qty	Value	Total	Section	Comments
a. Number of single residential homes or lots =	0	1.0	0.0		
b. Number of 2nd residential units ≤ 1,200 sf =	0	0.5	0.0		
c. Number of 2nd residential units > 1,200 sf =		1.0	0.0		
d. Number of mobile home spaces < 3,000 sf =		0.5	0.0		
e. Number of mobile home spaces ≥ 3,000 sf =		1.0	0.0		
f. Number of multifamily housing units =	241	0.5	120.5		
g. Number of trailer or trailer park spaces =	0	0.3	0.0		
h. Number of commercial and industrial acres =	0	5.0	0.0		
i. Number of agricultural acres =	0	2.0	0.0		

Maximum Service Connections (N) =	**121**
Actual Service Connections Issued =	**0**
Connections Available =	**121**

2. Determine Maximum Day Demand (Q_0) and Storage (V_0) from N

			Section	Comments
a. Temerature in °F =	70	degrees		
b. The System is metered.	TRUE			
b. Maximum Day Average Demand (Q_0) =	157	GPM		
c. Required Storage Volume (V_0) =	78,515	Gal		

3. Determine Minimum Required Fire Flow (F) and Duration (D_F)

			Section	Comments
a. Minimum Fire Flow (F) =	3,000	GPM		
b. Minimum Fire Flow Duration (D_F) =	2	Hours		

4. Determine Required Minimum Total Storage (V_M)

				Section	Comments
a. Domestic Storage Required (V_0) =	78,515	Gal			
b. Fire Storage Required (V_F) = 60 * F * D_F =	360,000	Gal			
c. Total Storage Required (V_M) = V_o + V_F =	438,515	Gal			
d. Actual Storage Available (V_1) =	0	Gal	NG	N/A	

5. Determine Minimum Required Total Supply (Q_M)

				Section	Comments
a. Actual Supply Available in the System (Q_1) =	0	GPD	NG	N/A	
b. Storage Factor (S) =	2.5				
c. Domestic Supply Required (Q_D) = 1440 * S * Q_0 =	563,940	GPD			
d. Fire Supply Required (Q_F) =	75,000	GPD			
e. Total Supply Required (Q_M) = Q_D + Q_F =	638,940	GPD			

6. Determine Minimum Required Peak Hour Demand (PHD_M)

				Section	Comments
a. Peak Hour Demand Multiplier (M) =	2.1				
b. P_A = (M * Q_0 / 2) + F =	3,168	GPM			
c. P_B = M * Q_0 =	335	GPM			
d. PHD_M = greater of P_A and P_B =	3,168	GPM			
e. Actual Peak Flow Rate (PHD_1) =	0	GPM	NG	N/A	

7. Determine Emergency Requirements (P_E, VE_1 and VE_2)				Section Comments
a. $P_{ED} = M * Q_0 / 2 =$	168			
b. $P_{EF} = (M * Q_0 / 4) + 0.75 * F =$	2,334	GPM		
c. P_E = the greater of P_{ED} and P_{EF} =	2,334	GPM		
d. $V_{E1} = 60 * P_E =$	140,032	Gal		
e. $V_{E2} = V_0 + 0.75 * 60 * F =$	213,515	Gal		
f. Power Interuption of 1 Hour				
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A
Volume (must be ≥ V_{E1}) =	0	Gal	NG	N/A
g. Pump Out of Service				
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A
Volume (must be ≥ V_{E2}) =	0	Gal	NG	N/A
h. Source Interruption				
Peak Hour Demand (must be ≥ P_E) =	0		NG	N/A
Volume (must be ≥ V_{E2}) =	0		NG	N/A

8. Comments

Results vary slightly from hand calculations.

Note: This spreadsheet was only used to calculate Max Day Average Demand, all other values are N/A

Water Purveyor

Prepared By: _____ **Title:** _____ **Date:** _____

Approve By: _____ **Title:** _____ **Date:** _____

County Use Only

Accepted By: _____ **Date:** _____

County of Ventura Waterworks Manual Compliance Check

Water Purveyor:

System or Zone: Lot 264 Moorpark Housing Project: **Note: This spreadsheet was only used to calculate Max Day Average Demand**

1. Determine Number of Service Connections (N)

Category	Qty	Value	Total	Section	Comments
a. Number of single residential homes or lots =	0	1.0	0.0		
b. Number of 2nd residential units ≤ 1,200 sf =	0	0.5	0.0		
c. Number of 2nd residential units > 1,200 sf =		1.0	0.0		
d. Number of mobile home spaces < 3,000 sf =		0.5	0.0		
e. Number of mobile home spaces ≥ 3,000 sf =		1.0	0.0		
f. Number of multifamily housing units =	110	0.5	55.0		
g. Number of trailer or trailer park spaces =	0	0.3	0.0		
h. Number of commercial and industrial acres =	0	5.0	0.0		
i. Number of agricultural acres =	0	2.0	0.0		
Maximum Service Connections (N) =			**55**		
Actual Service Connections Issued =			**0**		
Connections Available =			**55**		

2. Determine Maximum Day Demand (Q_0) and Storage (V_0) from N

				Section	Comments
a. Temerature in °F =	70	degrees			
b. The System is metered.	TRUE				
b. Maximum Day Average Demand (Q_0) =	72	GPM			
c. Required Storage Volume (V_0) =	44,673	Gal			

3. Determine Minimum Required Fire Flow (F) and Duration (D_F)

				Section	Comments
a. Minimum Fire Flow (F) =	2,500	GPM			
b. Minimum Fire Flow Duration (D_F) =	2	Hours			

4. Determine Required Minimum Total Storage (V_M)

				Section	Comments
a. Domestic Storage Required (V_0) =	44,673	Gal			
b. Fire Storage Required (V_F) = 60 * F * D_F =	300,000	Gal			
c. Total Storage Required (V_M) = V_o + V_F =	344,673	Gal			
d. Actual Storage Available (V_1) =	0	Gal	NG	N/A	

5. Determine Minimum Required Total Supply (Q_M)

				Section	Comments
a. Actual Supply Available in the System (Q_1) =	0	GPD	NG	N/A	
b. Storage Factor (S) =	2.5				
c. Domestic Supply Required (Q_D) = 1440 * S * Q_0 =	257,400	GPD			
d. Fire Supply Required (Q_F) =	62,500	GPD			
e. Total Supply Required (Q_M) = Q_D + Q_F =	319,900	GPD			

6. Determine Minimum Required Peak Hour Demand (PHD_M)

				Section	Comments
a. Peak Hour Demand Multiplier (M) =	2.8				
b. P_A = (M * Q_0 / 2) + F =	2,599	GPM			
c. P_B = M * Q_0 =	199	GPM			
d. PHD_M = greater of P_A and P_B =	2,599	GPM			
e. Actual Peak Flow Rate (PHD_1) =	0	GPM	NG	N/A	

7. Determine Emergency Requirements (P_E, VE_1 and VE_2)				Section	Comments
a. $P_{ED} = M * Q_0 / 2 =$	99				
b. $P_{EF} = (M * Q_0 / 4) + 0.75 * F =$	1,925	GPM			
c. P_E = the greater of P_{ED} and P_{EF} =	1,925	GPM			
d. $V_{E1} = 60 * P_E =$	115,482	Gal			
e. $V_{E2} = V_0 + 0.75 * 60 * F =$	157,173	Gal			
f. Power Interuption of 1 Hour					
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A	
Volume (must be ≥ V_{E1}) =	0	Gal	NG	N/A	
g. Pump Out of Service					
Peak Hour Demand (must be ≥ P_E) =	0	GPM	NG	N/A	
Volume (must be ≥ V_{E2}) =	0	Gal	NG	N/A	
h. Source Interruption					
Peak Hour Demand (must be ≥ P_E) =	0		NG	N/A	
Volume (must be ≥ V_{E2}) =	0		NG	N/A	

8. Comments

Results vary slightly from hand calculations.

This spreadsheet was only used to calculate Max Day Average Demand

Water Purveyor

Prepared By: _____ **Title:** _____ **Date:** _____

Approve By: _____ **Title:** _____ **Date:** _____

County Use Only

Accepted By: _____ **Date:** _____

HITCH RANCH
City of Moorpark, CA

EXHIBIT C

WaterCAD Model Results

Scenario: Base
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Base Flow (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)
J-46	602.00	Demand	0.00	Fixed	0.00	754.60	66.02	152.60
J-26	590.00	Demand	99.88	Fixed	99.88	749.03	68.81	159.03
J-21	582.00	Demand	14.38	Fixed	14.37	749.12	72.30	167.12
J-45	580.00	Demand	0.00	Fixed	0.00	750.61	73.82	170.61
J-19	577.00	Demand	14.38	Fixed	14.37	749.10	74.46	172.10
J-20	572.00	Demand	14.38	Fixed	14.37	749.09	76.62	177.09
J-17	570.00	Demand	14.38	Fixed	14.37	749.09	77.48	179.09
J-11	569.00	Demand	14.38	Fixed	14.37	749.07	77.91	180.07
J-22	568.00	Demand	0.00	Fixed	0.00	749.52	78.54	181.52
J-23	568.00	Demand	0.00	Fixed	0.00	749.52	78.54	181.52
J-10	566.00	Demand	14.38	Fixed	14.37	749.07	79.21	183.07
J-12	566.00	Demand	14.38	Fixed	14.37	749.07	79.21	183.07
J-9	566.00	Demand	14.38	Fixed	14.37	749.08	79.21	183.08
J-5	566.00	Demand	14.38	Fixed	14.37	749.09	79.21	183.09
J-43	566.00	Demand	72.00	Fixed	72.00	749.96	79.59	183.96
J-4	565.00	Demand	0.00	Fixed	0.00	749.04	79.63	184.04
J-16	565.00	Demand	14.38	Fixed	14.37	749.08	79.64	184.08
J-8	565.00	Demand	14.38	Fixed	14.37	749.08	79.64	184.08
J-44	565.00	Demand	46.57	Fixed	46.57	749.95	80.02	184.95
J-42	565.00	Demand	0.00	Fixed	0.00	749.96	80.02	184.96
J-15	564.00	Demand	14.38	Fixed	14.37	749.06	80.06	185.06
J-13	563.00	Demand	14.38	Fixed	14.37	749.06	80.50	186.06
J-18	563.00	Demand	14.38	Fixed	14.37	749.08	80.51	186.08
J-37	563.00	Demand	21.17	Fixed	21.17	749.64	80.75	186.64
J-36	561.00	Demand	0.00	Fixed	0.00	749.64	81.61	188.64
J-39	561.00	Demand	21.17	Fixed	21.17	749.67	81.63	188.67
J-14	560.00	Demand	24.08	Fixed	24.08	749.05	81.79	189.05
J-33	560.00	Demand	21.17	Fixed	21.17	749.55	82.01	189.55
J-38	560.00	Demand	0.00	Fixed	0.00	749.67	82.06	189.67
J-40	560.00	Demand	0.00	Fixed	0.00	749.73	82.09	189.73
J-35	559.00	Demand	21.17	Fixed	21.17	749.52	82.43	190.52
J-32	559.00	Demand	0.00	Fixed	0.00	749.55	82.44	190.55
J-41	559.00	Demand	0.00	Fixed	0.00	749.73	82.52	190.73
J-31	558.00	Demand	0.00	Fixed	0.00	749.52	82.86	191.52
J-28	557.00	Demand	21.17	Fixed	21.17	749.48	83.28	192.48
J-27	555.00	Demand	0.00	Fixed	0.00	749.48	84.14	194.48
J-24	534.00	Demand	0.00	Fixed	0.00	749.45	93.22	215.45
J-60	630.00	Demand	12.11	Fixed	12.11	849.75	95.08	219.75
J-57	628.00	Demand	12.11	Fixed	12.11	849.95	96.03	221.95
J-58	628.00	Demand	12.11	Fixed	12.11	850.04	96.07	222.04
J-52	627.00	Demand	68.93	Fixed	68.93	849.66	96.34	222.66
J-6	525.00	Demand	0.00	Fixed	0.00	749.41	97.09	224.41
J-3	523.00	Demand	0.00	Fixed	0.00	748.61	97.61	225.61
J-51	623.00	Demand	27.33	Fixed	27.33	849.67	98.07	226.67
J-56	618.00	Demand	12.11	Fixed	12.11	849.95	100.35	231.95
J-61	617.00	Demand	12.11	Fixed	12.11	849.70	100.68	232.70
J-2	515.00	Demand	83.40	Fixed	83.40	748.61	101.07	233.61
J-55	616.00	Demand	12.11	Fixed	12.11	849.94	101.22	233.94
J-64	612.00	Demand	107.51	Fixed	107.51	849.42	102.72	237.42
J-62	608.00	Demand	12.11	Fixed	12.11	849.57	104.52	241.57
J-50	607.00	Demand	27.33	Fixed	27.33	849.67	104.99	242.67
J-53	606.00	Demand	27.33	Fixed	27.33	849.75	105.46	243.75
J-7	505.00	Demand	0.00	Fixed	0.00	749.39	105.74	244.39
J-49	605.00	Demand	27.33	Fixed	27.33	849.67	105.86	244.67

Scenario: Base
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Base Flow (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)
J-63	604.00	Demand	12.11	Fixed	12.11	849.57	106.25	245.57
J-48	604.00	Demand	27.33	Fixed	27.33	849.68	106.29	245.68
J-54	600.00	Demand	0.00	Fixed	0.00	849.85	108.10	249.85

Scenario: Base
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Check Valve?	Minor Loss Coefficient	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-1	1,132.00	11.2	PVC	140.0	true	0.00	Closed	0.00	0.00	0.00	0.00
P-2	545.00	11.2	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-3	2,196.00	7.7	PVC	140.0	false	0.00	Open	-83.40	0.58	0.43	0.20
P-4	236.00	7.7	PVC	140.0	false	0.00	Open	-83.40	0.58	0.05	0.20
P-5	788.00	7.7	PVC	140.0	false	0.00	Open	-125.72	0.87	0.33	0.42
P-6	400.00	11.2	PVC	140.0	false	0.00	Open	106.30	0.35	0.02	0.05
P-7	1,035.00	7.7	PVC	140.0	false	0.00	Open	106.30	0.74	0.32	0.31
P-8	61.00	7.7	PVC	140.0	false	0.00	Open	39.10	0.27	0.00	0.05
P-9	187.00	7.7	PVC	140.0	false	0.00	Open	15.50	0.11	0.00	0.01
P-10	524.00	7.7	PVC	140.0	false	0.00	Open	1.12	0.01	0.00	0.00
P-11	433.00	7.7	PVC	140.0	false	0.00	Open	-1.33	0.01	0.00	0.00
P-12	491.00	7.7	PVC	140.0	false	0.00	Open	-9.22	0.06	0.00	0.00
P-13	239.00	7.7	PVC	140.0	false	0.00	Open	52.83	0.37	0.02	0.08
P-14	322.00	7.7	PVC	140.0	false	0.00	Open	24.08	0.17	0.01	0.02
P-15	309.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-16	279.00	7.7	PVC	140.0	false	0.00	Open	-11.92	0.08	0.00	0.01
P-17	850.00	7.7	PVC	140.0	false	0.00	Open	6.49	0.04	0.00	0.00
P-18	297.00	7.7	PVC	140.0	false	0.00	Open	-32.78	0.23	0.01	0.03
P-19	257.00	7.7	PVC	140.0	false	0.00	Open	-4.83	0.03	0.00	0.00
P-20	559.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-21	256.00	7.7	PVC	140.0	false	0.00	Open	-33.58	0.23	0.01	0.04
P-22	467.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-23	188.00	7.7	PVC	140.0	false	0.00	Open	-62.33	0.43	0.02	0.11
P-24	516.00	7.7	PVC	140.0	false	0.00	Open	-176.59	1.22	0.40	0.78
P-25	3.00	11.2	PVC	140.0	false	0.00	Open	-176.59	0.58	0.00	0.14
P-26	679.00	11.2	PVC	140.0	false	0.00	Open	157.74	0.51	0.07	0.10
P-27	183.00	11.2	PVC	140.0	false	0.00	Open	232.02	0.76	0.04	0.21
P-28	597.00	11.2	PVC	140.0	true	0.00	Closed	0.00	0.00	0.00	0.00
P-29	300.00	7.7	PVC	140.0	false	0.00	Open	99.88	0.69	0.08	0.27
P-30	169.00	7.7	PVC	140.0	false	0.00	Open	-74.28	0.51	0.03	0.16
P-31	75.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-32	169.00	7.7	PVC	140.0	false	0.00	Open	-95.45	0.66	0.04	0.25
P-35	74.00	7.7	PVC	140.0	false	0.00	Open	-116.62	0.81	0.03	0.36
P-36	75.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-38	50.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-39	179.00	7.7	PVC	140.0	false	0.00	Open	-137.78	0.95	0.09	0.49
P-40	66.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-41	54.00	7.7	PVC	140.0	false	0.00	Open	-158.95	1.10	0.03	0.64
P-42	74.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.01
P-43	76.00	7.7	PVC	140.0	false	0.00	Open	-180.12	1.25	0.06	0.81
P-44	20.00	7.7	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-45	280.00	7.7	PVC	140.0	false	0.00	Open	-180.12	1.25	0.23	0.81
P-46	20.00	7.7	PVC	140.0	false	0.00	Open	72.00	0.50	0.00	0.15
P-47	368.00	9.4	PVC	140.0	false	0.00	Open	46.57	0.21	0.01	0.02
P-48	314.00	7.7	PVC	140.0	false	0.00	Open	-298.69	2.07	0.65	2.07
P-49	427.00	7.7	PVC	140.0	false	0.00	Open	-334.33	2.32	1.09	2.55
P-50	479.00	7.7	PVC	140.0	false	0.00	Open	-633.02	4.38	3.99	8.33
P-51	288.00	7.7	PVC	140.0	true	0.00	Open	633.02	4.38	2.40	8.33
P-53	82.00	9.4	PVC	140.0	false	0.00	Open	53.46	0.25	0.00	0.03
P-54	99.00	9.4	PVC	140.0	false	0.00	Open	27.33	0.13	0.00	0.01
P-55	1,086.00	9.4	PVC	140.0	false	0.00	Open	-1.20	0.01	0.00	0.00
P-56	165.00	9.4	PVC	140.0	false	0.00	Open	68.93	0.32	0.01	0.05
P-57	1,086.00	9.4	PVC	140.0	false	0.00	Open	-80.80	0.37	0.07	0.07

Scenario: Base
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Check Valve?	Minor Loss Coefficient	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-58	794.00	9.4	PVC	140.0	false	0.00	Open	97.46	0.45	0.08	0.10
P-59	266.00	9.4	PVC	140.0	false	0.00	Open	-205.60	0.95	0.10	0.38
P-61	544.00	11.2	PVC	140.0	false	0.00	Open	-205.60	0.67	0.09	0.17
P-62	29.00	11.2	PVC	140.0	false	0.00	Open	-290.95	0.95	0.01	0.31
P-63	360.00	7.7	PVC	140.0	false	0.00	Open	12.11	0.08	0.00	0.01
P-64	254.00	11.2	PVC	140.0	false	0.00	Open	-315.17	1.03	0.09	0.36
P-66	1,511.00	7.7	PVC	140.0	false	0.00	Open	82.71	0.57	0.29	0.19
P-67	351.00	7.7	PVC	140.0	false	0.00	Open	70.60	0.49	0.05	0.14
P-68	291.00	7.7	PVC	140.0	false	0.00	Open	131.73	0.91	0.13	0.46
P-69	63.00	7.7	PVC	140.0	false	0.00	Open	12.11	0.08	0.00	0.00
P-70	470.00	7.7	PVC	140.0	false	0.00	Open	107.51	0.74	0.15	0.31
P-71	1,558.00	7.7	PVC	140.0	false	0.00	Open	-73.24	0.51	0.24	0.15
P-72	61.00	11.2	PVC	140.0	false	0.00	Open	-409.99	1.34	0.04	0.59
P-74	464.00	11.2	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-75	179.00	11.2	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-76	1,640.00	11.2	PVC	140.0	true	0.00	Open	409.99	1.34	0.97	0.59

Scenario: Base
Steady State Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Calculated Hydraulic Grade (ft)
R-1	724.00	Zone	0.00	724.00
R-2	757.00	Zone	633.02	757.00
R-3	749.00	Zone	0.00	749.00
R-4	944.00	Zone	409.99	944.00

Scenario: Base
Steady State Analysis
Valve Report

Label	Elevation (ft)	Diameter (in)	Minor Loss Coefficient	Control Status	Discharge (gpm)	From HGL (ft)	To HGL (ft)	Headloss (ft)
PRV-1	630.00	6.0	0.00	Throttling	409.99	943.03	850.08	92.95
PRV-2	575.00	6.0	0.00	Closed	0.00	849.85	749.52	0.00

Scenario: PA1_FF: Lots 1-77, 255-261, A-H
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Base Flow (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)
J-46	602.00	Demand	0.00	Fixed	0.00	756.94	67.03	154.94
J-26	590.00	Demand	99.88	Fixed	99.88	756.33	71.96	166.33
J-21	582.00	Demand	14.38	Fixed	14.37	756.41	75.46	174.41
J-45	580.00	Demand	0.00	Fixed	0.00	756.83	76.51	176.83
J-19	577.00	Demand	14.38	Fixed	14.37	756.38	77.61	179.38
J-20	572.00	Demand	14.38	Fixed	14.37	756.38	79.77	184.38
J-17	570.00	Demand	14.38	Fixed	14.37	756.36	80.63	186.36
J-11	569.00	Demand	14.38	Fixed	14.37	756.34	81.05	187.34
J-23	568.00	Demand	0.00	Fixed	0.00	756.88	81.72	188.88
J-22	568.00	Demand	0.00	Fixed	0.00	756.89	81.72	188.89
J-10	566.00	Demand	14.38	Fixed	14.37	756.34	82.35	190.34
J-12	566.00	Demand	14.38	Fixed	14.37	756.34	82.35	190.34
J-9	566.00	Demand	14.38	Fixed	14.37	756.34	82.35	190.34
J-5	566.00	Demand	14.38	Fixed	14.37	756.36	82.36	190.36
J-43	566.00	Demand	72.00	Fixed	72.00	756.64	82.48	190.64
J-4	565.00	Demand	0.00	Fixed	0.00	756.31	82.77	191.31
J-16	565.00	Demand	14.38	Fixed	14.37	756.34	82.78	191.34
J-8	565.00	Demand	14.38	Fixed	14.37	756.34	82.78	191.34
J-44	565.00	Demand	46.57	Fixed	46.57	756.64	82.91	191.64
J-42	565.00	Demand	0.00	Fixed	0.00	756.65	82.92	191.65
J-15	564.00	Demand	14.38	Fixed	14.37	756.32	83.21	192.32
J-13	563.00	Demand	14.38	Fixed	14.37	756.32	83.64	193.32
J-18	563.00	Demand	14.38	Fixed	14.37	756.36	83.66	193.36
J-37	563.00	Demand	21.17	Fixed	21.17	756.63	83.78	193.63
J-39	561.00	Demand	21.17	Fixed	21.17	756.63	84.64	195.63
J-36	561.00	Demand	0.00	Fixed	0.00	756.63	84.64	195.63
J-14	560.00	Demand	24.08	Fixed	24.08	756.32	84.94	196.32
J-33	560.00	Demand	21.17	Fixed	21.17	756.63	85.07	196.63
J-38	560.00	Demand	0.00	Fixed	0.00	756.63	85.07	196.63
J-40	560.00	Demand	0.00	Fixed	0.00	756.64	85.08	196.64
J-32	559.00	Demand	0.00	Fixed	0.00	756.63	85.51	197.63
J-35	559.00	Demand	21.17	Fixed	21.17	756.64	85.51	197.64
J-41	559.00	Demand	0.00	Fixed	0.00	756.64	85.51	197.64
J-31	558.00	Demand	0.00	Fixed	0.00	756.64	85.94	198.64
J-28	557.00	Demand	21.17	Fixed	21.17	756.65	86.38	199.65
J-27	555.00	Demand	0.00	Fixed	0.00	756.65	87.24	201.65
J-64	612.00	Demand	1,107.51	Fixed	1,107.51	818.54	89.36	206.54
J-60	630.00	Demand	12.11	Fixed	12.11	839.00	90.43	209.00
J-61	617.00	Demand	12.11	Fixed	12.11	836.68	95.04	219.68
J-52	627.00	Demand	68.93	Fixed	68.93	846.69	95.05	219.69
J-57	628.00	Demand	12.11	Fixed	12.11	848.02	95.19	220.02
J-58	628.00	Demand	12.11	Fixed	12.11	849.43	95.80	221.43
J-62	608.00	Demand	12.11	Fixed	12.11	829.57	95.86	221.57
J-24	534.00	Demand	0.00	Fixed	0.00	756.67	96.34	222.67
J-51	623.00	Demand	27.33	Fixed	27.33	846.70	96.78	223.70
J-63	604.00	Demand	12.11	Fixed	12.11	829.57	97.59	225.57
J-56	618.00	Demand	12.11	Fixed	12.11	848.02	99.52	230.02
J-6	525.00	Demand	0.00	Fixed	0.00	756.64	100.22	231.64
J-55	616.00	Demand	12.11	Fixed	12.11	847.86	100.32	231.86
J-3	523.00	Demand	0.00	Fixed	0.00	755.88	100.76	232.88
J-50	607.00	Demand	27.33	Fixed	27.33	846.69	103.70	239.69
J-53	606.00	Demand	27.33	Fixed	27.33	846.77	104.17	240.77
J-2	515.00	Demand	83.40	Fixed	83.40	755.88	104.22	240.88
J-49	605.00	Demand	27.33	Fixed	27.33	846.70	104.57	241.70

Scenario: PA1_FF: Lots 1-77, 255-261, A-H
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Base Flow (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)
J-48	604.00	Demand	27.33	Fixed	27.33	846.70	105.00	242.70
J-54	600.00	Demand	0.00	Fixed	0.00	846.87	106.81	246.87
J-7	505.00	Demand	0.00	Fixed	0.00	756.62	108.87	251.62

Scenario: PA1_FF: Lots 1-77, 255-261, A-H
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Check Valve?	Minor Loss Coefficient	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-1	1,132.00	11.2	PVC	140.0	true	0.00	Closed	0.00	0.00	0.00	0.00
P-2	545.00	11.2	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-3	2,196.00	7.7	PVC	140.0	false	0.00	Open	-83.40	0.58	0.43	0.20
P-4	236.00	7.7	PVC	140.0	false	0.00	Open	-83.40	0.58	0.05	0.20
P-5	788.00	7.7	PVC	140.0	false	0.00	Open	-116.35	0.81	0.28	0.36
P-6	400.00	11.2	PVC	140.0	false	0.00	Open	99.80	0.32	0.02	0.04
P-7	1,035.00	7.7	PVC	140.0	false	0.00	Open	99.80	0.69	0.28	0.27
P-8	61.00	7.7	PVC	140.0	false	0.00	Open	32.59	0.23	0.00	0.03
P-9	187.00	7.7	PVC	140.0	false	0.00	Open	11.83	0.08	0.00	0.01
P-10	524.00	7.7	PVC	140.0	false	0.00	Open	-2.54	0.02	0.00	0.00
P-11	433.00	7.7	PVC	140.0	false	0.00	Open	-0.82	0.01	0.00	0.00
P-12	491.00	7.7	PVC	140.0	false	0.00	Open	-6.38	0.04	0.00	0.00
P-13	239.00	7.7	PVC	140.0	false	0.00	Open	52.83	0.37	0.02	0.08
P-14	322.00	7.7	PVC	140.0	false	0.00	Open	24.08	0.17	0.01	0.02
P-15	309.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-16	279.00	7.7	PVC	140.0	false	0.00	Open	-16.10	0.11	0.00	0.01
P-17	850.00	7.7	PVC	140.0	false	0.00	Open	8.81	0.06	0.00	0.00
P-18	297.00	7.7	PVC	140.0	false	0.00	Open	-39.28	0.27	0.01	0.05
P-19	257.00	7.7	PVC	140.0	false	0.00	Open	-20.71	0.14	0.00	0.01
P-20	559.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-21	256.00	7.7	PVC	140.0	false	0.00	Open	-49.46	0.34	0.02	0.07
P-22	467.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-23	188.00	7.7	PVC	140.0	false	0.00	Open	-78.21	0.54	0.03	0.17
P-24	516.00	7.7	PVC	140.0	false	0.00	Open	-192.46	1.33	0.47	0.92
P-25	3.00	11.2	PVC	140.0	false	0.00	Open	352.24	1.15	0.00	0.45
P-26	679.00	11.2	PVC	140.0	false	0.00	Open	288.32	0.94	0.21	0.31
P-27	183.00	11.2	PVC	140.0	false	0.00	Open	216.15	0.70	0.03	0.18
P-28	597.00	11.2	PVC	140.0	true	0.00	Closed	0.00	0.00	0.00	0.00
P-29	300.00	7.7	PVC	140.0	false	0.00	Open	99.88	0.69	0.08	0.27
P-30	169.00	7.7	PVC	140.0	false	0.00	Open	72.17	0.50	0.03	0.15
P-31	75.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-32	169.00	7.7	PVC	140.0	false	0.00	Open	51.00	0.35	0.01	0.08
P-35	74.00	7.7	PVC	140.0	false	0.00	Open	29.83	0.21	0.00	0.03
P-36	75.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-38	50.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.01
P-39	179.00	7.7	PVC	140.0	false	0.00	Open	8.67	0.06	0.00	0.00
P-40	66.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.01
P-41	54.00	7.7	PVC	140.0	false	0.00	Open	-12.50	0.09	0.00	0.01
P-42	74.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-43	76.00	7.7	PVC	140.0	false	0.00	Open	-33.67	0.23	0.00	0.04
P-44	20.00	7.7	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-45	280.00	7.7	PVC	140.0	false	0.00	Open	-33.67	0.23	0.01	0.04
P-46	20.00	7.7	PVC	140.0	false	0.00	Open	72.00	0.50	0.00	0.15
P-47	368.00	9.4	PVC	140.0	false	0.00	Open	46.57	0.21	0.01	0.02
P-48	314.00	7.7	PVC	140.0	false	0.00	Open	-152.24	1.05	0.19	0.59
P-49	427.00	7.7	PVC	140.0	false	0.00	Open	63.92	0.44	0.05	0.12
P-50	479.00	7.7	PVC	140.0	false	0.00	Open	-88.32	0.61	0.10	0.22
P-51	288.00	7.7	PVC	140.0	true	0.00	Open	88.32	0.61	0.06	0.22
P-53	82.00	9.4	PVC	140.0	false	0.00	Open	53.46	0.25	0.00	0.03
P-54	99.00	9.4	PVC	140.0	false	0.00	Open	27.33	0.13	0.00	0.01
P-55	1,086.00	9.4	PVC	140.0	false	0.00	Open	-1.20	0.01	0.00	0.00
P-56	165.00	9.4	PVC	140.0	false	0.00	Open	68.93	0.32	0.01	0.05
P-57	1,086.00	9.4	PVC	140.0	false	0.00	Open	-80.80	0.37	0.07	0.07

Scenario: PA1_FF: Lots 1-77, 255-261, A-H
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Check Valve?	Minor Loss Coefficient	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-58	794.00	9.4	PVC	140.0	false	0.00	Open	97.46	0.45	0.08	0.10
P-59	266.00	9.4	PVC	140.0	false	0.00	Open	-205.60	0.95	0.10	0.38
P-61	544.00	11.2	PVC	140.0	false	0.00	Open	-750.29	2.44	0.99	1.82
P-62	29.00	11.2	PVC	140.0	false	0.00	Open	-1,346.62	4.39	0.16	5.36
P-63	360.00	7.7	PVC	140.0	false	0.00	Open	12.11	0.08	0.00	0.01
P-64	254.00	11.2	PVC	140.0	false	0.00	Open	-1,370.85	4.46	1.41	5.55
P-66	1,511.00	7.7	PVC	140.0	false	0.00	Open	571.73	3.96	10.42	6.90
P-67	351.00	7.7	PVC	140.0	false	0.00	Open	559.62	3.88	2.33	6.63
P-68	291.00	7.7	PVC	140.0	false	0.00	Open	1,131.73	7.84	7.11	24.43
P-69	63.00	7.7	PVC	140.0	false	0.00	Open	12.11	0.08	0.00	0.00
P-70	470.00	7.7	PVC	140.0	false	0.00	Open	1,107.51	7.67	11.03	23.47
P-71	1,558.00	7.7	PVC	140.0	false	0.00	Open	-584.22	4.05	11.19	7.18
P-72	61.00	11.2	PVC	140.0	false	0.00	Open	-1,954.69	6.37	0.65	10.70
P-74	464.00	11.2	PVC	140.0	false	0.00	Open	544.70	1.77	0.47	1.00
P-75	179.00	11.2	PVC	140.0	false	0.00	Open	544.70	1.77	0.18	1.00
P-76	1,640.00	11.2	PVC	140.0	true	0.00	Open	1,954.69	6.37	17.55	10.70

Scenario: PA1_FF: Lots 1-77, 255-261, A-H
Steady State Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Calculated Hydraulic Grade (ft)
R-1	724.00	Zone	0.00	724.00
R-2	757.00	Zone	-88.32	757.00
R-3	749.00	Zone	0.00	749.00
R-4	944.00	Zone	1,954.69	944.00

Scenario: PA1_FF: Lots 1-77, 255-261, A-H
Steady State Analysis
Valve Report

Label	Elevation (ft)	Diameter (in)	Minor Loss Coefficient	Control Status	Discharge (gpm)	From HGL (ft)	To HGL (ft)	Headloss (ft)
PRV-1	630.00	6.0	0.00	Throttling	1,954.69	926.45	850.08	76.38
PRV-2	575.00	6.0	0.00	Throttling	544.70	846.41	757.07	89.34

Scenario: PA2_FF: Lots 78-254, J-N, T, U, W
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Base Flow (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)
J-26	590.00	Demand	1,099.88	Fixed	1,099.88	734.57	62.55	144.57
J-46	602.00	Demand	0.00	Fixed	0.00	753.79	65.67	151.79
J-21	582.00	Demand	14.38	Fixed	14.37	741.52	69.02	159.52
J-19	577.00	Demand	14.38	Fixed	14.37	742.21	71.48	165.21
J-45	580.00	Demand	0.00	Fixed	0.00	748.46	72.89	168.46
J-20	572.00	Demand	14.38	Fixed	14.37	742.20	73.64	170.20
J-17	570.00	Demand	14.38	Fixed	14.37	743.27	74.96	173.27
J-11	569.00	Demand	14.38	Fixed	14.37	744.81	76.07	175.81
J-5	566.00	Demand	14.38	Fixed	14.37	744.47	77.21	178.47
J-22	568.00	Demand	0.00	Fixed	0.00	746.81	77.36	178.81
J-23	568.00	Demand	0.00	Fixed	0.00	746.82	77.37	178.82
J-12	566.00	Demand	14.38	Fixed	14.37	744.83	77.37	178.83
J-10	566.00	Demand	14.38	Fixed	14.37	744.95	77.43	178.95
J-9	566.00	Demand	14.38	Fixed	14.37	745.02	77.45	179.02
J-4	565.00	Demand	0.00	Fixed	0.00	744.42	77.63	179.42
J-16	565.00	Demand	14.38	Fixed	14.37	744.70	77.75	179.70
J-8	565.00	Demand	14.38	Fixed	14.37	745.11	77.93	180.11
J-18	563.00	Demand	14.38	Fixed	14.37	743.26	77.99	180.26
J-15	564.00	Demand	14.38	Fixed	14.38	745.09	78.35	181.09
J-43	566.00	Demand	72.00	Fixed	72.00	747.71	78.62	181.71
J-13	563.00	Demand	14.38	Fixed	14.37	745.09	78.78	182.09
J-44	565.00	Demand	46.57	Fixed	46.57	747.70	79.05	182.70
J-42	565.00	Demand	0.00	Fixed	0.00	747.71	79.05	182.71
J-37	563.00	Demand	21.17	Fixed	21.17	747.30	79.74	184.30
J-14	560.00	Demand	24.08	Fixed	24.08	745.08	80.08	185.08
J-36	561.00	Demand	0.00	Fixed	0.00	747.30	80.60	186.30
J-39	561.00	Demand	21.17	Fixed	21.17	747.34	80.62	186.34
J-33	560.00	Demand	21.17	Fixed	21.17	747.18	80.98	187.18
J-38	560.00	Demand	0.00	Fixed	0.00	747.34	81.06	187.34
J-40	560.00	Demand	0.00	Fixed	0.00	747.42	81.09	187.42
J-35	559.00	Demand	21.17	Fixed	21.17	747.14	81.40	188.14
J-32	559.00	Demand	0.00	Fixed	0.00	747.18	81.42	188.18
J-41	559.00	Demand	0.00	Fixed	0.00	747.42	81.52	188.42
J-31	558.00	Demand	0.00	Fixed	0.00	747.14	81.83	189.14
J-28	557.00	Demand	21.17	Fixed	21.17	747.08	82.24	190.08
J-27	555.00	Demand	0.00	Fixed	0.00	747.08	83.10	192.08
J-24	534.00	Demand	0.00	Fixed	0.00	747.03	92.17	213.03
J-60	630.00	Demand	12.11	Fixed	12.11	849.75	95.08	219.75
J-3	523.00	Demand	0.00	Fixed	0.00	743.99	95.61	220.99
J-57	628.00	Demand	12.11	Fixed	12.11	849.95	96.03	221.95
J-58	628.00	Demand	12.11	Fixed	12.11	850.04	96.07	222.04
J-6	525.00	Demand	0.00	Fixed	0.00	747.06	96.07	222.06
J-52	627.00	Demand	68.93	Fixed	68.93	849.66	96.34	222.66
J-51	623.00	Demand	27.33	Fixed	27.33	849.67	98.07	226.67
J-2	515.00	Demand	83.40	Fixed	83.40	743.99	99.07	228.99
J-56	618.00	Demand	12.11	Fixed	12.11	849.95	100.35	231.95
J-61	617.00	Demand	12.11	Fixed	12.11	849.70	100.68	232.70
J-55	616.00	Demand	12.11	Fixed	12.11	849.94	101.22	233.94
J-64	612.00	Demand	107.51	Fixed	107.51	849.42	102.72	237.42
J-62	608.00	Demand	12.11	Fixed	12.11	849.57	104.52	241.57
J-7	505.00	Demand	0.00	Fixed	0.00	747.50	104.92	242.50
J-50	607.00	Demand	27.33	Fixed	27.33	849.67	104.99	242.67
J-53	606.00	Demand	27.33	Fixed	27.33	849.75	105.46	243.75
J-49	605.00	Demand	27.33	Fixed	27.33	849.67	105.86	244.67

Scenario: PA2_FF: Lots 78-254, J-N, T, U, W
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Base Flow (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)
J-63	604.00	Demand	12.11	Fixed	12.11	849.57	106.25	245.57
J-48	604.00	Demand	27.33	Fixed	27.33	849.68	106.29	245.68
J-54	600.00	Demand	0.00	Fixed	0.00	849.85	108.10	249.85

Scenario: PA2_FF: Lots 78-254, J-N, T, U, W
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Check Valve?	Minor Loss Coefficient	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-1	1,132.00	11.2	PVC	140.0	true	0.00	Closed	0.00	0.00	0.00	0.00
P-2	545.00	11.2	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-3	2,196.00	7.7	PVC	140.0	false	0.00	Open	-83.40	0.58	0.43	0.20
P-4	236.00	7.7	PVC	140.0	false	0.00	Open	-83.40	0.58	0.05	0.20
P-5	788.00	7.7	PVC	140.0	false	0.00	Open	-383.20	2.65	2.59	3.29
P-6	400.00	11.2	PVC	140.0	false	0.00	Open	-575.82	1.88	0.45	1.11
P-7	1,035.00	7.7	PVC	140.0	false	0.00	Open	316.90	2.19	2.39	2.31
P-8	61.00	7.7	PVC	140.0	false	0.00	Open	249.69	1.73	0.09	1.49
P-9	187.00	7.7	PVC	140.0	false	0.00	Open	114.24	0.79	0.07	0.35
P-10	524.00	7.7	PVC	140.0	false	0.00	Open	99.87	0.69	0.14	0.27
P-11	433.00	7.7	PVC	140.0	false	0.00	Open	-35.14	0.24	0.02	0.04
P-12	491.00	7.7	PVC	140.0	false	0.00	Open	-121.07	0.84	0.19	0.39
P-13	239.00	7.7	PVC	140.0	false	0.00	Open	52.83	0.37	0.02	0.08
P-14	322.00	7.7	PVC	140.0	false	0.00	Open	24.08	0.17	0.01	0.02
P-15	309.00	7.7	PVC	140.0	false	0.00	Open	14.38	0.10	0.00	0.01
P-16	279.00	7.7	PVC	140.0	false	0.00	Open	120.63	0.84	0.11	0.39
P-17	850.00	7.7	PVC	140.0	false	0.00	Open	-71.55	0.50	0.12	0.15
P-18	297.00	7.7	PVC	140.0	false	0.00	Open	177.81	1.23	0.24	0.79
P-19	257.00	7.7	PVC	140.0	false	0.00	Open	463.24	3.21	1.20	4.67
P-20	559.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-21	256.00	7.7	PVC	140.0	false	0.00	Open	434.49	3.01	1.06	4.15
P-22	467.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-23	188.00	7.7	PVC	140.0	false	0.00	Open	405.74	2.81	0.69	3.65
P-24	516.00	7.7	PVC	140.0	false	0.00	Open	-708.51	4.91	5.30	10.26
P-25	3.00	11.2	PVC	140.0	false	0.00	Open	-708.51	2.31	0.00	1.63
P-26	679.00	11.2	PVC	140.0	false	0.00	Open	-291.21	0.95	0.21	0.31
P-27	183.00	11.2	PVC	140.0	false	0.00	Open	-192.62	0.63	0.03	0.15
P-28	597.00	11.2	PVC	140.0	true	0.00	Open	892.72	2.91	1.50	2.51
P-29	300.00	7.7	PVC	140.0	false	0.00	Open	1,099.88	7.62	6.95	23.17
P-30	169.00	7.7	PVC	140.0	false	0.00	Open	-98.59	0.68	0.04	0.27
P-31	75.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-32	169.00	7.7	PVC	140.0	false	0.00	Open	-119.76	0.83	0.06	0.38
P-35	74.00	7.7	PVC	140.0	false	0.00	Open	-140.93	0.98	0.04	0.52
P-36	75.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-38	50.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-39	179.00	7.7	PVC	140.0	false	0.00	Open	-162.09	1.12	0.12	0.67
P-40	66.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.01
P-41	54.00	7.7	PVC	140.0	false	0.00	Open	-183.26	1.27	0.05	0.84
P-42	74.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.01
P-43	76.00	7.7	PVC	140.0	false	0.00	Open	-204.43	1.42	0.08	1.03
P-44	20.00	7.7	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-45	280.00	7.7	PVC	140.0	false	0.00	Open	-204.43	1.42	0.29	1.03
P-46	20.00	7.7	PVC	140.0	false	0.00	Open	72.00	0.50	0.00	0.15
P-47	368.00	9.4	PVC	140.0	false	0.00	Open	46.57	0.21	0.01	0.02
P-48	314.00	7.7	PVC	140.0	false	0.00	Open	-323.00	2.24	0.75	2.40
P-49	427.00	7.7	PVC	140.0	false	0.00	Open	-417.30	2.89	1.64	3.85
P-50	479.00	7.7	PVC	140.0	false	0.00	Open	-740.30	5.13	5.33	11.13
P-51	288.00	7.7	PVC	140.0	true	0.00	Open	740.30	5.13	3.21	11.13
P-53	82.00	9.4	PVC	140.0	false	0.00	Open	53.46	0.25	0.00	0.03
P-54	99.00	9.4	PVC	140.0	false	0.00	Open	27.33	0.13	0.00	0.01
P-55	1,086.00	9.4	PVC	140.0	false	0.00	Open	-1.20	0.01	0.00	0.00
P-56	165.00	9.4	PVC	140.0	false	0.00	Open	68.93	0.32	0.01	0.05
P-57	1,086.00	9.4	PVC	140.0	false	0.00	Open	-80.80	0.37	0.07	0.07

Scenario: PA2_FF: Lots 78-254, J-N, T, U, W
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Check Valve?	Minor Loss Coefficient	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-58	794.00	9.4	PVC	140.0	false	0.00	Open	97.46	0.45	0.08	0.10
P-59	266.00	9.4	PVC	140.0	false	0.00	Open	-205.60	0.95	0.10	0.38
P-61	544.00	11.2	PVC	140.0	false	0.00	Open	-205.60	0.67	0.09	0.17
P-62	29.00	11.2	PVC	140.0	false	0.00	Open	-290.95	0.95	0.01	0.31
P-63	360.00	7.7	PVC	140.0	false	0.00	Open	12.11	0.08	0.00	0.01
P-64	254.00	11.2	PVC	140.0	false	0.00	Open	-315.17	1.03	0.09	0.36
P-66	1,511.00	7.7	PVC	140.0	false	0.00	Open	82.71	0.57	0.29	0.19
P-67	351.00	7.7	PVC	140.0	false	0.00	Open	70.60	0.49	0.05	0.14
P-68	291.00	7.7	PVC	140.0	false	0.00	Open	131.73	0.91	0.13	0.46
P-69	63.00	7.7	PVC	140.0	false	0.00	Open	12.11	0.08	0.00	0.00
P-70	470.00	7.7	PVC	140.0	false	0.00	Open	107.51	0.74	0.15	0.31
P-71	1,558.00	7.7	PVC	140.0	false	0.00	Open	-73.24	0.51	0.24	0.15
P-72	61.00	11.2	PVC	140.0	false	0.00	Open	-409.99	1.34	0.04	0.59
P-74	464.00	11.2	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-75	179.00	11.2	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-76	1,640.00	11.2	PVC	140.0	true	0.00	Open	409.99	1.34	0.97	0.59

Scenario: PA2_FF: Lots 78-254, J-N, T, U, W
Steady State Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Calculated Hydraulic Grade (ft)
R-1	724.00	Zone	0.00	724.00
R-2	757.00	Zone	740.30	757.00
R-3	749.00	Zone	892.72	749.00
R-4	944.00	Zone	409.99	944.00

Scenario: PA2_FF: Lots 78-254, J-N, T, U, W
Steady State Analysis
Valve Report

Label	Elevation (ft)	Diameter (in)	Minor Loss Coefficient	Control Status	Discharge (gpm)	From HGL (ft)	To HGL (ft)	Headloss (ft)
PRV-1	630.00	6.0	0.00	Throttling	409.99	943.03	850.08	92.95
PRV-2	575.00	6.0	0.00	Closed	0.00	849.85	746.81	0.00

Scenario: PA3_FF: Lots 262 & I
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Base Flow (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)
J-46	602.00	Demand	0.00	Fixed	0.00	756.94	67.03	154.94
J-52	627.00	Demand	2,568.93	Fixed	2,568.93	792.36	71.54	165.36
J-26	590.00	Demand	99.88	Fixed	99.88	756.33	71.96	166.33
J-21	582.00	Demand	14.38	Fixed	14.37	756.41	75.46	174.41
J-51	623.00	Demand	27.33	Fixed	27.33	799.17	76.22	176.17
J-45	580.00	Demand	0.00	Fixed	0.00	756.83	76.51	176.83
J-19	577.00	Demand	14.38	Fixed	14.37	756.38	77.61	179.38
J-20	572.00	Demand	14.38	Fixed	14.37	756.38	79.77	184.38
J-17	570.00	Demand	14.38	Fixed	14.37	756.36	80.63	186.36
J-11	569.00	Demand	14.38	Fixed	14.37	756.34	81.05	187.34
J-23	568.00	Demand	0.00	Fixed	0.00	756.88	81.72	188.88
J-22	568.00	Demand	0.00	Fixed	0.00	756.89	81.72	188.89
J-10	566.00	Demand	14.38	Fixed	14.37	756.34	82.35	190.34
J-12	566.00	Demand	14.38	Fixed	14.37	756.34	82.35	190.34
J-9	566.00	Demand	14.38	Fixed	14.37	756.34	82.35	190.34
J-5	566.00	Demand	14.38	Fixed	14.37	756.36	82.36	190.36
J-43	566.00	Demand	72.00	Fixed	72.00	756.64	82.48	190.64
J-4	565.00	Demand	0.00	Fixed	0.00	756.31	82.77	191.31
J-16	565.00	Demand	14.38	Fixed	14.37	756.34	82.78	191.34
J-8	565.00	Demand	14.38	Fixed	14.37	756.34	82.78	191.34
J-44	565.00	Demand	46.57	Fixed	46.57	756.64	82.91	191.64
J-42	565.00	Demand	0.00	Fixed	0.00	756.65	82.92	191.65
J-15	564.00	Demand	14.38	Fixed	14.37	756.32	83.21	192.32
J-13	563.00	Demand	14.38	Fixed	14.37	756.32	83.64	193.32
J-18	563.00	Demand	14.38	Fixed	14.37	756.36	83.66	193.36
J-37	563.00	Demand	21.17	Fixed	21.17	756.63	83.78	193.63
J-39	561.00	Demand	21.17	Fixed	21.17	756.63	84.64	195.63
J-36	561.00	Demand	0.00	Fixed	0.00	756.63	84.64	195.63
J-14	560.00	Demand	24.08	Fixed	24.08	756.32	84.94	196.32
J-33	560.00	Demand	21.17	Fixed	21.17	756.63	85.07	196.63
J-38	560.00	Demand	0.00	Fixed	0.00	756.63	85.07	196.63
J-40	560.00	Demand	0.00	Fixed	0.00	756.64	85.08	196.64
J-32	559.00	Demand	0.00	Fixed	0.00	756.63	85.51	197.63
J-35	559.00	Demand	21.17	Fixed	21.17	756.64	85.51	197.64
J-41	559.00	Demand	0.00	Fixed	0.00	756.64	85.51	197.64
J-31	558.00	Demand	0.00	Fixed	0.00	756.64	85.94	198.64
J-50	607.00	Demand	27.33	Fixed	27.33	805.78	86.00	198.78
J-28	557.00	Demand	21.17	Fixed	21.17	756.65	86.38	199.65
J-49	605.00	Demand	27.33	Fixed	27.33	805.78	86.87	200.78
J-27	555.00	Demand	0.00	Fixed	0.00	756.65	87.24	201.65
J-48	604.00	Demand	27.33	Fixed	27.33	806.34	87.54	202.34
J-53	606.00	Demand	27.33	Fixed	27.33	814.10	90.03	208.10
J-60	630.00	Demand	12.11	Fixed	12.11	843.70	92.46	213.70
J-57	628.00	Demand	17.80	Fixed	17.80	841.80	92.50	213.80
J-58	628.00	Demand	17.80	Fixed	17.80	848.18	95.26	220.18
J-24	534.00	Demand	0.00	Fixed	0.00	756.67	96.34	222.67
J-56	618.00	Demand	17.80	Fixed	17.80	841.81	96.83	223.81
J-55	616.00	Demand	17.80	Fixed	17.80	841.10	97.39	225.10
J-61	617.00	Demand	12.11	Fixed	12.11	842.73	97.66	225.73
J-54	600.00	Demand	0.00	Fixed	0.00	826.17	97.85	226.17
J-64	612.00	Demand	107.51	Fixed	107.51	842.45	99.70	230.45
J-6	525.00	Demand	0.00	Fixed	0.00	756.64	100.22	231.64
J-3	523.00	Demand	0.00	Fixed	0.00	755.88	100.76	232.88
J-62	608.00	Demand	12.11	Fixed	12.11	842.59	101.50	234.59

Scenario: PA3_FF: Lots 262 & I
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Base Flow (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)
J-63	604.00	Demand	12.11	Fixed	12.11	842.59	103.23	238.59
J-2	515.00	Demand	83.40	Fixed	83.40	755.88	104.22	240.88
J-7	505.00	Demand	0.00	Fixed	0.00	756.62	108.87	251.62

Scenario: PA3_FF: Lots 262 & I
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Check Valve?	Minor Loss Coefficient	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-1	1,132.00	11.2	PVC	140.0	true	0.00	Closed	0.00	0.00	0.00	0.00
P-2	545.00	11.2	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-3	2,196.00	7.7	PVC	140.0	false	0.00	Open	-83.40	0.58	0.43	0.20
P-4	236.00	7.7	PVC	140.0	false	0.00	Open	-83.40	0.58	0.05	0.20
P-5	788.00	7.7	PVC	140.0	false	0.00	Open	-116.33	0.81	0.28	0.36
P-6	400.00	11.2	PVC	140.0	false	0.00	Open	99.82	0.33	0.02	0.04
P-7	1,035.00	7.7	PVC	140.0	false	0.00	Open	99.82	0.69	0.28	0.27
P-8	61.00	7.7	PVC	140.0	false	0.00	Open	32.62	0.23	0.00	0.03
P-9	187.00	7.7	PVC	140.0	false	0.00	Open	12.26	0.08	0.00	0.01
P-10	524.00	7.7	PVC	140.0	false	0.00	Open	-2.12	0.01	0.00	0.00
P-11	433.00	7.7	PVC	140.0	false	0.00	Open	-0.12	0.00	0.00	0.00
P-12	491.00	7.7	PVC	140.0	false	0.00	Open	-5.99	0.04	0.00	0.00
P-13	239.00	7.7	PVC	140.0	false	0.00	Open	52.83	0.37	0.02	0.08
P-14	322.00	7.7	PVC	140.0	false	0.00	Open	24.08	0.17	0.01	0.02
P-15	309.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-16	279.00	7.7	PVC	140.0	false	0.00	Open	-16.37	0.11	0.00	0.01
P-17	850.00	7.7	PVC	140.0	false	0.00	Open	8.51	0.06	0.00	0.00
P-18	297.00	7.7	PVC	140.0	false	0.00	Open	-39.26	0.27	0.01	0.05
P-19	257.00	7.7	PVC	140.0	false	0.00	Open	-20.70	0.14	0.00	0.01
P-20	559.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-21	256.00	7.7	PVC	140.0	false	0.00	Open	-49.45	0.34	0.02	0.07
P-22	467.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-23	188.00	7.7	PVC	140.0	false	0.00	Open	-78.20	0.54	0.03	0.17
P-24	516.00	7.7	PVC	140.0	false	0.00	Open	-192.45	1.33	0.47	0.92
P-25	3.00	11.2	PVC	140.0	false	0.00	Open	352.25	1.15	0.00	0.45
P-26	679.00	11.2	PVC	140.0	false	0.00	Open	288.32	0.94	0.21	0.31
P-27	183.00	11.2	PVC	140.0	false	0.00	Open	216.16	0.70	0.03	0.18
P-28	597.00	11.2	PVC	140.0	true	0.00	Closed	0.00	0.00	0.00	0.00
P-29	300.00	7.7	PVC	140.0	false	0.00	Open	99.88	0.69	0.08	0.27
P-30	169.00	7.7	PVC	140.0	false	0.00	Open	72.17	0.50	0.03	0.15
P-31	75.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-32	169.00	7.7	PVC	140.0	false	0.00	Open	51.00	0.35	0.01	0.08
P-35	74.00	7.7	PVC	140.0	false	0.00	Open	29.83	0.21	0.00	0.03
P-36	75.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-38	50.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.01
P-39	179.00	7.7	PVC	140.0	false	0.00	Open	8.67	0.06	0.00	0.00
P-40	66.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.01
P-41	54.00	7.7	PVC	140.0	false	0.00	Open	-12.50	0.09	0.00	0.01
P-42	74.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.01
P-43	76.00	7.7	PVC	140.0	false	0.00	Open	-33.67	0.23	0.00	0.04
P-44	20.00	7.7	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-45	280.00	7.7	PVC	140.0	false	0.00	Open	-33.67	0.23	0.01	0.04
P-46	20.00	7.7	PVC	140.0	false	0.00	Open	72.00	0.50	0.00	0.15
P-47	368.00	9.4	PVC	140.0	false	0.00	Open	46.57	0.21	0.01	0.02
P-48	314.00	7.7	PVC	140.0	false	0.00	Open	-152.24	1.05	0.19	0.59
P-49	427.00	7.7	PVC	140.0	false	0.00	Open	63.92	0.44	0.05	0.12
P-50	479.00	7.7	PVC	140.0	false	0.00	Open	-88.32	0.61	0.10	0.22
P-51	288.00	7.7	PVC	140.0	true	0.00	Open	88.32	0.61	0.06	0.22
P-53	82.00	9.4	PVC	140.0	false	0.00	Open	969.60	4.46	0.56	6.79
P-54	99.00	9.4	PVC	140.0	false	0.00	Open	27.33	0.13	0.00	0.01
P-55	1,086.00	9.4	PVC	140.0	false	0.00	Open	914.93	4.21	6.62	6.09
P-56	165.00	9.4	PVC	140.0	false	0.00	Open	2,568.93	11.83	6.80	41.23
P-57	1,086.00	9.4	PVC	140.0	false	0.00	Open	-996.93	4.59	7.76	7.14

Scenario: PA3_FF: Lots 262 & I
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Check Valve?	Minor Loss Coefficient	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-58	794.00	9.4	PVC	140.0	false	0.00	Open	1,681.33	7.74	14.93	18.81
P-59	266.00	9.4	PVC	140.0	false	0.00	Open	-2,705.59	12.46	12.07	45.39
P-61	544.00	11.2	PVC	140.0	false	0.00	Open	-3,250.29	10.58	14.93	27.44
P-62	29.00	11.2	PVC	140.0	false	0.00	Open	-3,061.66	9.97	0.71	24.56
P-63	360.00	7.7	PVC	140.0	false	0.00	Open	17.80	0.12	0.00	0.01
P-64	254.00	11.2	PVC	140.0	false	0.00	Open	-3,097.26	10.09	6.37	25.09
P-66	I,511.00	7.7	PVC	140.0	false	0.00	Open	362.38	2.51	4.48	2.96
P-67	351.00	7.7	PVC	140.0	false	0.00	Open	350.27	2.43	0.98	2.78
P-68	291.00	7.7	PVC	140.0	false	0.00	Open	131.73	0.91	0.13	0.45
P-69	63.00	7.7	PVC	140.0	false	0.00	Open	12.11	0.08	0.00	0.01
P-70	470.00	7.7	PVC	140.0	false	0.00	Open	107.51	0.74	0.15	0.31
P-71	I,558.00	7.7	PVC	140.0	false	0.00	Open	206.43	1.43	1.63	1.05
P-72	61.00	11.2	PVC	140.0	false	0.00	Open	-3,477.44	11.32	1.90	31.09
P-74	464.00	11.2	PVC	140.0	false	0.00	Open	544.70	1.77	0.47	1.00
P-75	179.00	11.2	PVC	140.0	false	0.00	Open	544.70	1.77	0.18	1.00
P-76	I,640.00	11.2	PVC	140.0	true	0.00	Open	3,477.48	11.32	50.99	31.09

Scenario: PA3_FF: Lots 262 & I
Steady State Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Calculated Hydraulic Grade (ft)
R-1	724.00	Zone	0.00	724.00
R-2	757.00	Zone	-88.32	757.00
R-3	749.00	Zone	0.00	749.00
R-4	944.00	Zone	3,477.48	944.00

Scenario: PA3_FF: Lots 262 & I
Steady State Analysis
Valve Report

Label	Elevation (ft)	Diameter (in)	Minor Loss Coefficient	Control Status	Discharge (gpm)	From HGL (ft)	To HGL (ft)	Headloss (ft)
PRV-1	630.00	6.0	0.00	Throttling	3,477.48	893.01	850.08	42.93
PRV-2	575.00	6.0	0.00	Throttling	544.70	825.71	757.07	68.64

Scenario: PA4_FF: Lots 263 & Z
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Base Flow (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)
J-44	565.00	Demand	2,546.57	Fixed	2,546.57	705.11	60.62	140.11
J-46	602.00	Demand	0.00	Fixed	0.00	749.16	63.67	147.16
J-26	590.00	Demand	99.88	Fixed	99.88	738.32	64.17	148.32
J-43	566.00	Demand	72.00	Fixed	72.00	720.04	66.65	154.04
J-42	565.00	Demand	0.00	Fixed	0.00	720.04	67.08	155.04
J-45	580.00	Demand	0.00	Fixed	0.00	736.11	67.54	156.11
J-21	582.00	Demand	14.38	Fixed	14.37	738.40	67.67	156.40
J-19	577.00	Demand	14.38	Fixed	14.37	738.59	69.91	161.59
J-37	563.00	Demand	21.17	Fixed	21.17	727.06	70.98	164.06
J-40	560.00	Demand	0.00	Fixed	0.00	724.81	71.31	164.81
J-39	561.00	Demand	21.17	Fixed	21.17	726.10	71.43	165.10
J-41	559.00	Demand	0.00	Fixed	0.00	724.81	71.74	165.81
J-36	561.00	Demand	0.00	Fixed	0.00	727.06	71.85	166.06
J-38	560.00	Demand	0.00	Fixed	0.00	726.10	71.87	166.10
J-20	572.00	Demand	14.38	Fixed	14.37	738.58	72.07	166.58
J-17	570.00	Demand	14.38	Fixed	14.37	738.91	73.08	168.91
J-23	568.00	Demand	0.00	Fixed	0.00	738.30	73.68	170.30
J-22	568.00	Demand	0.00	Fixed	0.00	738.30	73.68	170.30
J-33	560.00	Demand	21.17	Fixed	21.17	730.37	73.71	170.37
J-11	569.00	Demand	14.38	Fixed	14.37	739.72	73.86	170.72
J-32	559.00	Demand	0.00	Fixed	0.00	730.37	74.14	171.37
J-35	559.00	Demand	21.17	Fixed	21.17	731.80	74.76	172.80
J-5	566.00	Demand	14.38	Fixed	14.37	739.31	74.98	173.31
J-12	566.00	Demand	14.38	Fixed	14.37	739.74	75.17	173.74
J-31	558.00	Demand	0.00	Fixed	0.00	731.80	75.19	173.80
J-10	566.00	Demand	14.38	Fixed	14.37	739.89	75.23	173.89
J-9	566.00	Demand	14.38	Fixed	14.37	739.97	75.27	173.97
J-4	565.00	Demand	0.00	Fixed	0.00	739.26	75.40	174.26
J-16	565.00	Demand	14.38	Fixed	14.37	739.59	75.54	174.59
J-8	565.00	Demand	14.38	Fixed	14.37	740.07	75.74	175.07
J-18	563.00	Demand	14.38	Fixed	14.37	738.90	76.11	175.90
J-15	564.00	Demand	14.38	Fixed	14.37	740.05	76.17	176.05
J-13	563.00	Demand	14.38	Fixed	14.37	740.05	76.60	177.05
J-28	557.00	Demand	21.17	Fixed	21.17	735.18	77.09	178.18
J-14	560.00	Demand	24.08	Fixed	24.08	740.04	77.90	180.04
J-27	555.00	Demand	0.00	Fixed	0.00	735.18	77.95	180.18
J-24	534.00	Demand	0.00	Fixed	0.00	738.69	88.56	204.69
J-6	525.00	Demand	0.00	Fixed	0.00	739.80	92.93	214.80
J-3	523.00	Demand	0.00	Fixed	0.00	738.83	93.38	215.83
J-60	630.00	Demand	12.11	Fixed	12.11	849.75	95.08	219.75
J-57	628.00	Demand	12.11	Fixed	12.11	849.95	96.03	221.95
J-58	628.00	Demand	12.11	Fixed	12.11	850.04	96.07	222.04
J-52	627.00	Demand	68.93	Fixed	68.93	849.66	96.34	222.66
J-2	515.00	Demand	83.40	Fixed	83.40	738.83	96.84	223.83
J-51	623.00	Demand	27.33	Fixed	27.33	849.67	98.07	226.67
J-56	618.00	Demand	12.11	Fixed	12.11	849.95	100.35	231.95
J-61	617.00	Demand	12.11	Fixed	12.11	849.70	100.68	232.70
J-55	616.00	Demand	12.11	Fixed	12.11	849.94	101.22	233.94
J-64	612.00	Demand	107.51	Fixed	107.51	849.42	102.72	237.42
J-7	505.00	Demand	0.00	Fixed	0.00	742.74	102.86	237.74
J-62	608.00	Demand	12.11	Fixed	12.11	849.57	104.52	241.57
J-50	607.00	Demand	27.33	Fixed	27.33	849.67	104.99	242.67
J-53	606.00	Demand	27.33	Fixed	27.33	849.75	105.46	243.75
J-49	605.00	Demand	27.33	Fixed	27.33	849.67	105.86	244.67

Scenario: PA4_FF: Lots 263 & Z
Steady State Analysis
Junction Report

Label	Elevation (ft)	Type	Base Flow (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)	Pressure Head (ft)
J-63	604.00	Demand	12.11	Fixed	12.11	849.57	106.25	245.57
J-48	604.00	Demand	27.33	Fixed	27.33	849.68	106.29	245.68
J-54	600.00	Demand	0.00	Fixed	0.00	849.85	108.10	249.85

Scenario: PA4_FF: Lots 263 & Z
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Check Valve?	Minor Loss Coefficient	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-1	1,132.00	11.2	PVC	140.0	true	0.00	Closed	0.00	0.00	0.00	0.00
P-2	545.00	11.2	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-3	2,196.00	7.7	PVC	140.0	false	0.00	Open	-83.40	0.58	0.43	0.20
P-4	236.00	7.7	PVC	140.0	false	0.00	Open	-83.40	0.58	0.05	0.20
P-5	788.00	7.7	PVC	140.0	false	0.00	Open	-156.61	1.08	0.49	0.63
P-6	400.00	11.2	PVC	140.0	false	0.00	Open	-1,596.52	5.20	2.94	7.35
P-7	1,035.00	7.7	PVC	140.0	false	0.00	Open	336.41	2.33	2.67	2.58
P-8	61.00	7.7	PVC	140.0	false	0.00	Open	269.20	1.86	0.10	1.71
P-9	187.00	7.7	PVC	140.0	false	0.00	Open	123.29	0.85	0.08	0.40
P-10	524.00	7.7	PVC	140.0	false	0.00	Open	108.91	0.75	0.17	0.32
P-11	433.00	7.7	PVC	140.0	false	0.00	Open	-38.40	0.27	0.02	0.05
P-12	491.00	7.7	PVC	140.0	false	0.00	Open	-131.54	0.91	0.22	0.45
P-13	239.00	7.7	PVC	140.0	false	0.00	Open	52.83	0.37	0.02	0.08
P-14	322.00	7.7	PVC	140.0	false	0.00	Open	24.08	0.17	0.01	0.02
P-15	309.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-16	279.00	7.7	PVC	140.0	false	0.00	Open	132.94	0.92	0.13	0.46
P-17	850.00	7.7	PVC	140.0	false	0.00	Open	-78.76	0.55	0.15	0.18
P-18	297.00	7.7	PVC	140.0	false	0.00	Open	197.33	1.37	0.29	0.96
P-19	257.00	7.7	PVC	140.0	false	0.00	Open	256.16	1.77	0.40	1.56
P-20	559.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-21	256.00	7.7	PVC	140.0	false	0.00	Open	227.41	1.58	0.32	1.25
P-22	467.00	7.7	PVC	140.0	false	0.00	Open	14.37	0.10	0.00	0.01
P-23	188.00	7.7	PVC	140.0	false	0.00	Open	198.66	1.38	0.18	0.97
P-24	516.00	7.7	PVC	140.0	false	0.00	Open	84.41	0.58	0.10	0.20
P-25	3.00	11.2	PVC	140.0	false	0.00	Open	84.41	0.27	0.00	0.04
P-26	679.00	11.2	PVC	140.0	false	0.00	Open	-402.70	1.31	0.39	0.57
P-27	183.00	11.2	PVC	140.0	false	0.00	Open	-1,439.91	4.69	1.11	6.07
P-28	597.00	11.2	PVC	140.0	true	0.00	Open	1,932.92	6.29	6.26	10.48
P-29	300.00	7.7	PVC	140.0	false	0.00	Open	99.88	0.69	0.08	0.27
P-30	169.00	7.7	PVC	140.0	false	0.00	Open	1,037.21	7.18	3.51	20.79
P-31	75.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-32	169.00	7.7	PVC	140.0	false	0.00	Open	1,016.04	7.04	3.38	20.01
P-35	74.00	7.7	PVC	140.0	false	0.00	Open	994.88	6.89	1.42	19.24
P-36	75.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-38	50.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-39	179.00	7.7	PVC	140.0	false	0.00	Open	973.71	6.74	3.31	18.49
P-40	66.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.02
P-41	54.00	7.7	PVC	140.0	false	0.00	Open	952.54	6.60	0.96	17.75
P-42	74.00	7.7	PVC	140.0	false	0.00	Open	21.17	0.15	0.00	0.01
P-43	76.00	7.7	PVC	140.0	false	0.00	Open	931.38	6.45	1.29	17.03
P-44	20.00	7.7	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-45	280.00	7.7	PVC	140.0	false	0.00	Open	931.38	6.45	4.77	17.03
P-46	20.00	7.7	PVC	140.0	false	0.00	Open	72.00	0.50	0.00	0.15
P-47	368.00	9.4	PVC	140.0	false	0.00	Open	2,546.57	11.72	14.93	40.57
P-48	314.00	7.7	PVC	140.0	false	0.00	Open	-1,687.19	11.69	16.07	51.18
P-49	427.00	7.7	PVC	140.0	false	0.00	Open	487.10	3.37	2.19	5.13
P-50	479.00	7.7	PVC	140.0	false	0.00	Open	-1,200.09	8.31	13.04	27.23
P-51	288.00	7.7	PVC	140.0	true	0.00	Open	1,200.09	8.31	7.84	27.23
P-53	82.00	9.4	PVC	140.0	false	0.00	Open	53.46	0.25	0.00	0.03
P-54	99.00	9.4	PVC	140.0	false	0.00	Open	27.33	0.13	0.00	0.01
P-55	1,086.00	9.4	PVC	140.0	false	0.00	Open	-1.20	0.01	0.00	0.00
P-56	165.00	9.4	PVC	140.0	false	0.00	Open	68.93	0.32	0.01	0.05
P-57	1,086.00	9.4	PVC	140.0	false	0.00	Open	-80.80	0.37	0.07	0.07

Scenario: PA4_FF: Lots 263 & Z
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Check Valve?	Minor Loss Coefficient	Control Status	Discharge (gpm)	Velocity (ft/s)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-58	794.00	9.4	PVC	140.0	false	0.00	Open	97.46	0.45	0.08	0.10
P-59	266.00	9.4	PVC	140.0	false	0.00	Open	-205.60	0.95	0.10	0.38
P-61	544.00	11.2	PVC	140.0	false	0.00	Open	-205.60	0.67	0.09	0.17
P-62	29.00	11.2	PVC	140.0	false	0.00	Open	-290.95	0.95	0.01	0.31
P-63	360.00	7.7	PVC	140.0	false	0.00	Open	12.11	0.08	0.00	0.01
P-64	254.00	11.2	PVC	140.0	false	0.00	Open	-315.17	1.03	0.09	0.36
P-66	1,511.00	7.7	PVC	140.0	false	0.00	Open	82.71	0.57	0.29	0.19
P-67	351.00	7.7	PVC	140.0	false	0.00	Open	70.60	0.49	0.05	0.14
P-68	291.00	7.7	PVC	140.0	false	0.00	Open	131.73	0.91	0.13	0.46
P-69	63.00	7.7	PVC	140.0	false	0.00	Open	12.11	0.08	0.00	0.00
P-70	470.00	7.7	PVC	140.0	false	0.00	Open	107.51	0.74	0.15	0.31
P-71	1,558.00	7.7	PVC	140.0	false	0.00	Open	-73.24	0.51	0.24	0.15
P-72	61.00	11.2	PVC	140.0	false	0.00	Open	-409.99	1.34	0.04	0.59
P-74	464.00	11.2	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-75	179.00	11.2	PVC	140.0	false	0.00	Open	0.00	0.00	0.00	0.00
P-76	1,640.00	11.2	PVC	140.0	true	0.00	Open	409.99	1.34	0.97	0.59

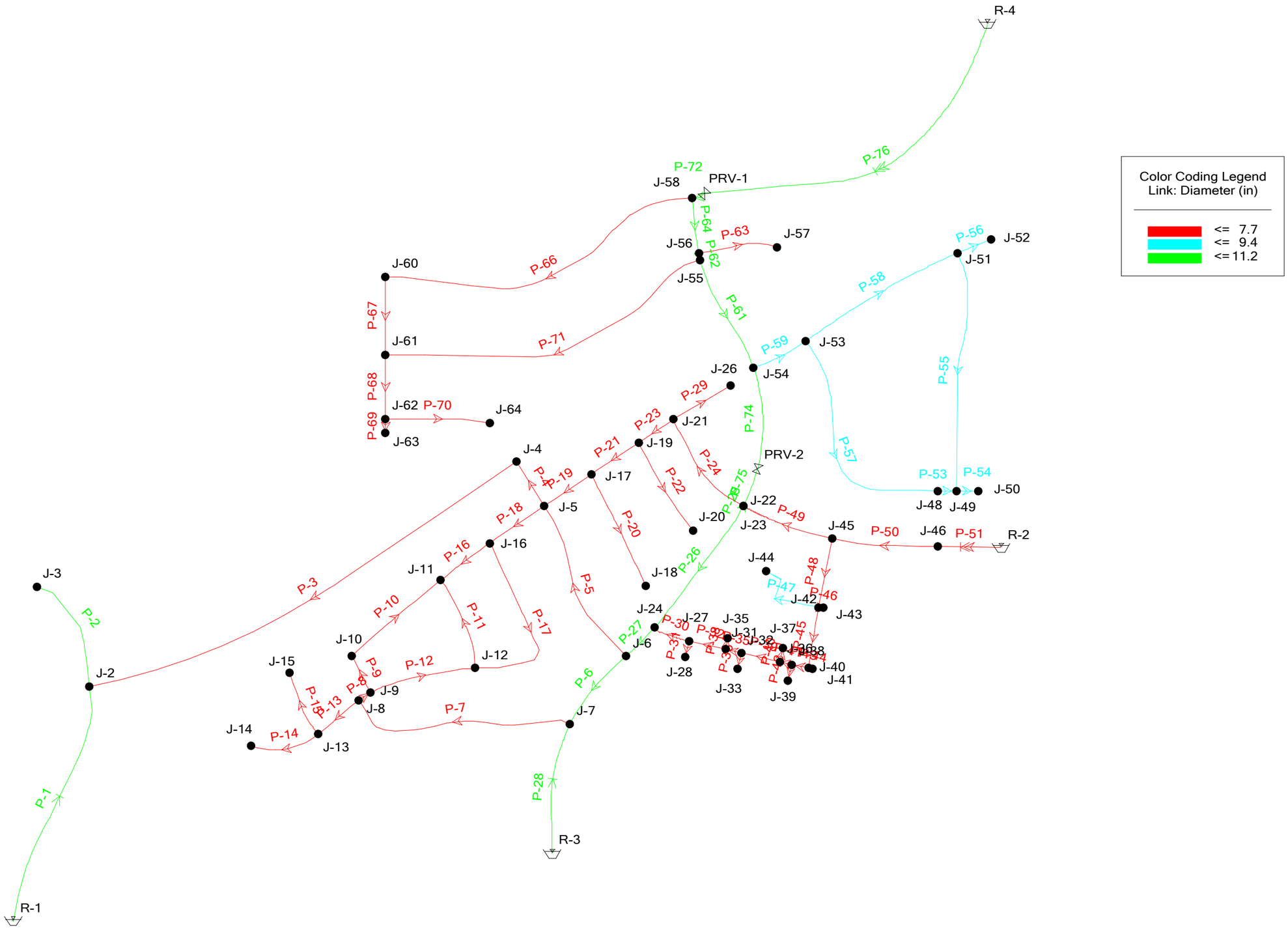
Scenario: PA4_FF: Lots 263 & Z
Steady State Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Calculated Hydraulic Grade (ft)
R-1	724.00	Zone	0.00	724.00
R-2	757.00	Zone	1,200.09	757.00
R-3	749.00	Zone	1,932.92	749.00
R-4	944.00	Zone	-409.99	944.00

Scenario: PA4_FF: Lots 263 & Z
Steady State Analysis
Valve Report

Label	Elevation (ft)	Diameter (in)	Minor Loss Coefficient	Control Status	Discharge (gpm)	From HGL (ft)	To HGL (ft)	Headloss (ft)
PRV-1	630.00	6.0	0.00	Throttling	409.99	943.03	850.08	92.95
PRV-2	575.00	6.0	0.00	Closed	0.00	849.85	738.30	0.00

Scenario: Base



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Scenario: Base



HITCH RANCH
City of Moorpark, CA

EXHIBIT D

CIMIS Report

California Irrigation Management Information System (CIMIS)

CIMIS Monthly Report

Rendered in ENGLISH Units.
May 2018 - April 2019
Printed on Friday, May 17, 2019

Moorpark - Central Coast Valleys - Station 217

Month Year	Total ETo (in)	Total Precip (in)	Avg Sol Rad (Ly/day)	Avg Vap Pres (mBars)	Avg Max Air Temp (°F)	Avg Min Air Temp (°F)	Avg Air Temp (°F)	Avg Max Rel Hum (%)	Avg Min Rel Hum (%)	Avg Rel Hum (%)	Avg Dew Point (°F)	Avg Wind Speed (mph)	Avg Soil Temp (°F)
May 2018	4.98 K	0.00	515	12.9	71.7	50.8	59.9	96	53	74	51.3	3.3 K	66.2
Jun 2018	6.38 K	0.00	638	14.7	79.0 K	53.4	64.9 K	97	48	70 K	54.8 K	3.3	69.9
Jul 2018	7.07 K	0.00	627	17.8 K	87.6 L	62.2 K	72.5 L	92 K	42 K	67 L	60.9 L	3.4 K	76.0
Aug 2018	6.67 K	0.00	581	17.9 K	86.1 L	60.3	72.1 K	96 K	42 K	70 L	60.7 L	3.5	77.6
Sep 2018	5.11	0.00	502	16.3	82.9	56.4	67.2	97	46	72	57.5	3.4	75.0
Oct 2018	4.32	0.00	383	12.1 K	80.3	54.5	65.8	87	34	58 K	47.5 K	3.9 K	70.6
Nov 2018	3.69	0.91	280	8.2 K	75.5	50.8 K	62.4 K	71	27	46 K	34.4 K	4.6 K	63.1
Dec 2018	2.62	1.69	239	8.0	67.9 K	46.2	55.9	81	31	52	37.1	4.4	59.0 K
Tots/Avgs	40.84	2.6	471	13.5	78.9	54.3	65.1	90	40	64	50.5	3.7	69.7

Moorpark - Central Coast Valleys - Station 217

Month Year	Total ETo (in)	Total Precip (in)	Avg Sol Rad (Ly/day)	Avg Vap Pres (mBars)	Avg Max Air Temp (°F)	Avg Min Air Temp (°F)	Avg Air Temp (°F)	Avg Max Rel Hum (%)	Avg Min Rel Hum (%)	Avg Rel Hum (%)	Avg Dew Point (°F)	Avg Wind Speed (mph)	Avg Soil Temp (°F)
Jan 2019	2.46	4.82	226	8.8 K	66.1	47.2 K	56.1	78	40	59 K	38.3 K	4.5	57.9 K
Feb 2019	2.09	5.25	296	8.9 K	60.0	40.9 K	49.5	94	48	72 K	40.3 K	3.9	55.8
Mar 2019	4.36 K	3.14	420	7.3 K	68.2	46.9	56.5	85 K	20 K	51 L	37.1 L	4.3 K	60.9
Apr 2019	4.74 K	1.67	496	11.6 K	73.9	50.0 K	60.4 K	96 K	42 K	68 L	48.6 L	3.5 K	64.8
Tots/Avgs	13.65	14.9	360	9.2	67.1	46.3	55.6	88	38	63	41.1	4.1	59.9

Flag Legend		
M - All Daily Values Missing	K - One or More Daily Values Flagged	
J - One or More Daily Values Missing	L - Missing and Flagged Daily Values	
Conversion Factors		
W/sq.m = Ly/day/2.065	inches * 25.4 = mm	(F-32) * 5/9 = c
	mBars * 0.1 = kPa	--

HITCH RANCH
City of Moorpark, CA

EXHIBIT E

Tentative Map: Tract 5708

TENTATIVE TRACT NO. 5708
HITCH RANCH
IN THE CITY OF MOORPARK
264 NUMBERED LOTS AND 28 LETTERED LOTS (LOTS A-BB)

PREPARER'S STATEMENT

THIS MAP WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION.

GLEN PACE, RCE 61468 DATE: 01/16/2019

REGISTERED PROFESSIONAL ENGINEER GLEN H. PACE NO 61468 CIVIL STATE OF CALIFORNIA

LAND USE / ZONING INFORMATION

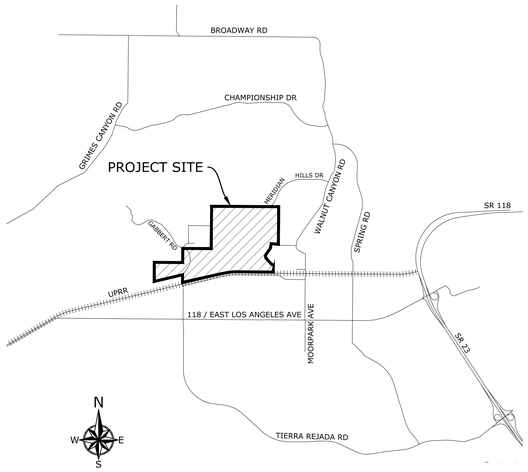
LAND USE	EXISTING:	VACANT	
	PROPOSED:	RESIDENTIAL, PUBLIC	
ZONING	EXISTING:	AE-40	
	PROPOSED:	RPD	
AREA	GROSS AREA:	277.30 ACRES ±	
FLOOD ZONE	NO SCREEN:	AREAS OF MINIMAL FLOOD HAZARD (ZONE X)	
LOTS	292 LOT DEVELOPMENT		277.30 ACRES ±
	- 261 SINGLE FAMILY DWELLING LOTS		59.94 ACRES ±
	- 1 MULTI-FAMILY DWELLING LOT (MED. DENSITY)		31.42 ACRES ±
	- 1 MULTI-FAMILY DWELLING LOT (HIGH DENSITY)		10.87 ACRES ±
	- 21 OPEN SPACE LOTS		103.68 ACRES ±
	- 4 DETENTION BASIN LOTS		24.53 ACRES ±
	- 2 RECREATION SPACE LOT		3.97 ACRES ±
	- 1 PUBLIC PARK LOT		6.00 ACRES ±
	- 1 LOT (NOT A PART - FUTURE)		6.66 ACRES ±
	- PUBLIC STREETS		30.23 ACRES ±
UNITS	755 UNITS		
	- 261 SFD DETACHED (LOW DENSITY)		
	- 253 MFD (MEDIUM DENSITY)		
	- 241 MFD (HIGH DENSITY)		

SITE SUMMARY

	LAND USE	ACRES	DU/AC	DU	%
PLANNING AREA 1 [LOTS 1-72, 255-261, A-H]	SFD UNITS	25.86		84	40
	NATURAL OPEN SPACE	19.69			30
	MANUFACTURED SLOPES	19.41			30
	SUBTOTAL	**64.96 ±**	1.29	**84**	**100**
PLANNING AREA 2 [LOTS 78-254, J-N, T, U, W]	SFD UNITS	34.08		177	56
	NATURAL OPEN SPACE	7.56			13
	MANUFACTURED SLOPES	14.91			25
	RECREATION LOT	2.65			4
	PASSIVE REC LOT	1.32			2
	SUBTOTAL	**60.52 ±**	2.92	**177**	**100**
PLANNING AREA 3 [LOTS 262 & I]	MFD UNITS	23.46		253	71
	MANUFACTURED SLOPES	5.40			16
	RECREATION LOT	4.10			13
	SUBTOTAL	**32.96 ±**	7.68	**253**	**100**
PLANNING AREA 4 [LOTS 263 & Z]	MFD UNITS	10.87		241	67
	MANUFACTURED SLOPES	5.40			33
	SUBTOTAL	**16.27 ±**	14.81	**241**	**100**
PLANNING AREA 5 [LOT V]	OPEN SPACE	**3.37 ±**			**100**
PLANNING AREA 6 [LOTS P-R]	OPEN SPACE	**29.10 ±**			**100**
PUBLIC FACILITIES	NORTH HILLS PKWY	11.97			19
	"A" STREET	4.36			7
	MERIDIAN HILLS DR.	3.03			5
	CASEY RD.	1.37			2
	HIGH ST.	6.64			10
	GABBERT RD.	2.86			5
	VCWPD EASEMENT [LOT Y]	2.70			4
	DET. BASIN 2 [LOT S]	5.96			9
	DET. BASIN 2B [LOT O]	6.30			10
	DET. BASIN 3 [LOTS X & AA]	12.27			19
	PARK [LOT BB]	6.00			10
	SUBTOTAL	**63.46 ±**			**100**
	TOTAL	**270.64 ±**	2.79	**755**	
LOT 264	NOT A PART	**6.66 ±**			**100**
	GRAND TOTAL	**277.30 ±**			

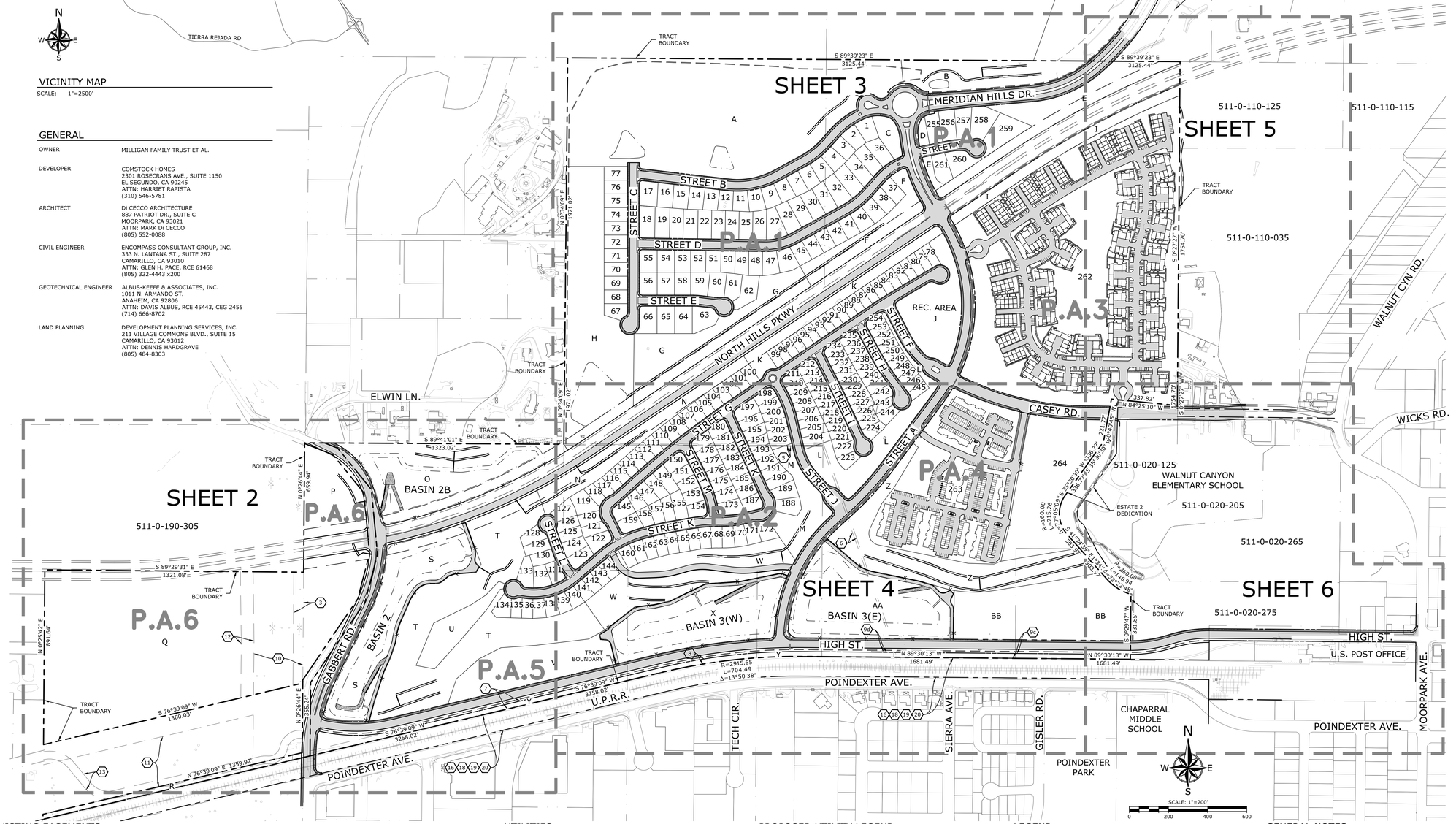
VICINITY MAP

SCALE: 1"=2500'



GENERAL

OWNER	MILLIGAN FAMILY TRUST ET AL.
DEVELOPER	COMSTOCK HOMES 2301 ROSECRANS AVE., SUITE 1150 EL SEGUNDO, CA 90245 ATTN: HARRIET RAPISTA (310) 546-5781
ARCHITECT	Di CECCO ARCHITECTURE 887 PATRIOT DR., SUITE C MOORPARK, CA 93021 ATTN: MARK Di CECCO (805) 552-0088
CIVIL ENGINEER	ENCOMPASS CONSULTANT GROUP, INC. 333 N. LANTANA ST., SUITE 287 CAMARILLO, CA 93010 ATTN: GLEN H. PACE, RCE 61468 (805) 322-4443 x200
GEOTECHNICAL ENGINEER	ALBUS-KEEFE & ASSOCIATES, INC. 1011 N. ARMANDO ST. ANAHEIM, CA 92806 ATTN: DAVIS ALBUS, RCE 45443, CEG 2455 (714) 666-8702
LAND PLANNING	DEVELOPMENT PLANNING SERVICES, INC. 211 VILLAGE COMMONS BLVD., SUITE 15 CAMARILLO, CA 93012 ATTN: DENNIS HARDGRAVE (805) 484-8303



LEGAL DESCRIPTION

ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE COUNTY OF VENTURA, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 1:

LOTS 14 AND 16 AND THAT PORTION OF LOTS 22 AND 23, FREMONT SUBDIVISION OF RANCHO SIMI, IN THE CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 3, PAGE 39 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, LYING NORTHERLY OF THE RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD 100 FEET WIDE, AS DESCRIBED IN DEED RECORDED IN BOOK 58, PAGE 590 OF DEEDS.

ASSESSOR'S PARCEL NO: 511-0-020-170

PARCEL 2:

PART OF TRACT "S" AND "T" OF PART OF TRACT "L" OF RANCHO SIMI, IN THE CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA, AS PER MAP SHOWING THE TOWNSITE OF MOORPARK AND LANDS OF MADELINE R. POINDEXTER, A RE-SUBDIVISION OF FREMONT TRACT, AS PER MAP RECORDED IN BOOK 5, PAGE 5 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT WHICH IS COMMON TO THE NORTHEAST CORNER OF LOT "S" AND THE NORTHWEST CORNER OF LOT "T"; THENCE, FROM SAID POINT OF BEGINNING;

1st: SOUTH 89°55' WEST 1320 FEET ALONG THE NORTH LINE OF SAID LOT "S" TO THE NORTHEAST CORNER OF THAT CERTAIN PARCEL OF LAND CONVEYED TO WILLIAM HEDGES, BY DEED DATED MARCH 3, 1909, RECORDED IN BOOK 117, PAGE 217 OF DEEDS; THENCE,

2nd: SOUTH 1964.16 FEET ALONG THE EAST LINE OF SAID LANDS OF WILLIAM HEDGES TO THE NORTHWEST CORNER OF LOT 14, AS SHOWN ON MAP ENTITLED "MAP OF FREMONT" A SUBDIVISION OF LOT "L" OF THE RANCHO SIMI, VENTURA CO., CAL." AND RECORDED IN BOOK 3, PAGE 39 OF MAPS; THENCE AT RIGHT ANGLES,

3rd: EAST 1320 FEET ALONG THE NORTH LINE OF SAID LOT 14, TO A POINT IN THE BOUNDARY LINE BETWEEN SAID LOTS "S" AND "T"; THENCE, AT RIGHT ANGLES,

4th: SOUTH 660 FEET ALONG THE BOUNDARY LINE BETWEEN LOTS 14 AND 16 OF SAID FREMONT TRACT, AND TRACT "T" ABOVE DESCRIBED TO THE SOUTHEAST CORNER OF SAID LOT 16 OF SAID FREMONT TRACT; THENCE AT RIGHT ANGLES,

5th: WEST 330 FEET ALONG THE SOUTH LINE OF SAID LOT 16 TO THE NORTHEAST CORNER OF LOT 23 OF SAID FREMONT TRACT; THENCE, AT RIGHT ANGLES;

6th: SOUTH 429.66 FEET ALONG THE EAST LINE OF LOT 23 TO A POINT IN THE NORTH LINE OF THE RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD; THENCE ALONG SAME;

7th: EASTERLY ALONG A CURVE TO THE RIGHT (THE LONG CHORD OF WHICH BEARS NORTH 88°37' EAST) 330.66 FEET TO A POINT; THENCE,

8th: EAST 990 FEET ALONG THE NORTH LINE OF SAID RAILROAD RIGHT OF WAY TO THE SOUTHWEST CORNER OF THAT CERTAIN PARCEL OF LAND CONVEYED TO ALICE N. GRAHAM, BY DEED DATED OCTOBER 25, 1911 AND RECORDED IN BOOK 130, PAGE 33 OF DEEDS; THENCE, STILL ALONG THE NORTH LINE OF THE RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD,

9th: EAST 588.06 FEET TO THE SOUTHWEST CORNER OF THAT CERTAIN PARCEL OF LAND AS CONVEYED TO LEONARD R. ELVER AND NELLIE B. ELVER, HIS WIFE, BY DEED DATED JANUARY 7, 1931, RECORDED IN BOOK 340, PAGE 198 OF OFFICIAL RECORDS; THENCE ALONG THE WEST AND NORTH LINES OF THE LANDS SO CONVEYED,

10th: NORTH 696.96 FEET TO A 1 ¼" X 6" PIPE; THENCE,

11th: NORTH 61°30' EAST 258.72 FEET TO A 2 X 66" PIPE; THENCE,

12th: NORTH 2230.14 FEET TO A POINT IN THE NORTH LINE OF SAID TRACT "T" IN THE SOUTH LINE OF LOT 32, AS THE SAME IS SHOWN ON MAP ENTITLED "MAP OF THE VALLETTE TRACT, BEING A SUBDIVISION OF LOT 2 OF BLOCK "L" OF RANCHO SIMI, VENTURA CO., CAL." AND RECORDED IN BOOK 3, PAGE 41 OF MAPS, AND AT THE NORTHWEST CORNER OF THE LANDS CONVEYED TO MAXWELL W. WRIGHT, BY DEED DATED SEPTEMBER 10, 1914 RECORDED IN BOOK 144, PAGE 283 OF DEEDS; THENCE,

13th: SOUTH 89°53' WEST 1805.166 FEET ALONG THE SOUTH LINE OF VALLETTE TRACT, AND ALONG THE NORTH LINE OF TRACT "T" TO THE POINT OF BEGINNING.

EXCEPT THOSE PORTIONS OF LAND DESCRIBED AS ESTATES 1, 2 AND 3 IN THE FINAL ORDER OF CONDEMNATION, CASE NO. SC 16973, SUPERIOR COURT OF CALIFORNIA, COUNTY OF VENTURA, A CERTIFIED COPY OF WHICH RECORDED DECEMBER 18, 1997 AS DOCUMENT NO. 97-172929 OF OFFICIAL RECORDS.

ASSESSOR'S PARCEL NO: 511-0-020-110, 130, 160, 180

PARCEL 3:

PORTIONS OF LOT "R" AND "S" AS SHOWN ON MAP OF A PART OF TRACT "L" OF THE RANCHO SIMI, IN THE CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 5, PAGE 5 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY DESCRIBED AS A WHOLE AS FOLLOWS:

BEGINNING AT A POINT ON THE WEST LINE OF SAID LOT "S" DISTANT NORTH THEREON 660 FEET FROM THE SOUTHWEST CORNER OF SAID LOT "S"" THENCE ALONG THE WEST LINE OF LOTS "S" AND "R",

1st: SOUTH 1617 FEET TO THE NORTH LINE OF THE 100-FOOT RIGHT OF WAY OF THE SOUTHERN PACIFIC RAILROAD; THENCE, ALONG SAID NORTH LINE,

2nd: NORTH 76°10' EAST 1703.46 FEET TO THE SOUTHEAST CORNER OF SAID LOT "R"; THENCE ALONG THE EAST LINE OF SAID LOT "R",

3rd: NORTH 551.76 FEET TO THE NORTHEAST CORNER OF SAID LOT "R"; THENCE,

4th: WEST ALONG THE NORTH LINES OF SAID LOT "R", 330 FEET TO THE SOUTHWEST CORNER OF LOT 16 OF FREMONT TRACT, AS PER MAP RECORDED IN BOOK 3, PAGE 39 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY; THENCE,

5th: NORTH ALONG THE WEST LINE OF LOTS 16 AND 14 OF SAID FREMONT TRACT, 660 FEET TO THE NORTHWEST CORNER OF SAID LOT 14; THENCE,

6th: WEST 1320 FEET TO THE POINT OF BEGINNING.

EXCEPT THE INTEREST IN A STRIP OF LAND 40 FEET WIDE, AS GRANTED TO VENTURA COUNTY FOR "ROAD PURPOSES" IN DEED RECORDED IN BOOK 127, PAGE 326 OF DEEDS.

ALSO EXCEPT ONE HALF OF ALL MINERAL, OIL, GAS AN OTHER HYDROCARBON SUBSTANCES IN AND UNDER SAID LAND WITHOUT, HOWEVER, ANY RIGHT OF SURFACE ENTRY OR ANY RIGHT OF ENTRY IN AND TO THE SUBSURFACE THEREOF AT A DEPTH OF LESS THAN 500 FEET BENEATH THE SURFACE OF OFFICIAL RECORDS THE DEVELOPMENT OR REMOVAL OF SAID SUBSTANCES, AS RESERVED BY SENA BAUER, A LIFE ESTATE, WALTER W. BAUER, CHARLES E. BAUER, ELLEN REGINA BAUER, FRANCES D. ARBOGAST MERICLE, WHO ACQUIRED TITLE AS FRANCES B. ARBOGAST AND SERENA H. BAUER COX, WHO ACQUIRED TITLE AS SERENA H. BAUER, IN DEED RECORDED SEPTEMBER 12, 1961 IN BOOK 2045, PAGE 334 OF OFFICIAL RECORDS.

ASSESSOR'S PARCEL NO: 511-0-020-195

PARCEL 4:

THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 6, TOWNSHIP 2 NORTH, RANGE 19 WEST, RANCHO SIMI, IN THE CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA, AS SHOWN ON MAP ENTITLED "MAP OF THE RANCHO OF RANCHO SIMI, IN VENTURA AND LOS ANGELES COUNTIES, CALIFORNIA", AND RECORDED IN BOOK 3, PAGE 7 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, AND PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE CENTERLINE OF THAT CERTAIN PUBLIC ROAD, 60 FEET WIDE, LOCALLY KNOWN AS AND CALLED "LOS ANGELES AVENUE" AT THE CORNER COMMON TO SECTIONS 5, 6, 7 AND 8 OF TOWNSHIP 2 NORTH, RANGE 19 WEST, RANCHO SIMI, AS SHOWN ON THE ABOVE DESCRIBED MAP, SAID POINT OF BEGINNING BEING THE SOUTHWEST CORNER OF TRACT "Q" AS SHOWN ON MAP ENTITLED "MAP OF PART OF TRACT "L" OF RANCHO SIMI, VENTURA COUNTY, CALIFORNIA, SHOWING THE TOWNSITE OF MOORPARK AND LANDS OF MADELEINE R. POINDEXTER, A RE-SUBDIVISION OF FREMONT TRACT" AND RECORDED IN BOOK 5, PAGE 5 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF VENTURA COUNTY; THENCE, FROM SAID POINT OF BEGINNING,

1st: NORTH 2640 FEET TO THE SOUTHEAST CORNER OF LOT 56 OF VALLETTE TRACT, AS PER MAP RECORDED IN BOOK 3, PAGE 41 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY; THENCE, AT RIGHT ANGLES,

2nd: WEST 1320 FEET TO THE SOUTHWEST CORNER OF SAID LOT 56 OF VALLETTE TRACT, AT THE NORTHEAST CORNER OF THAT CERTAIN PARCEL OF LAND, CONVEYED TO MARY FRANCES ESTES, BY DEED DATED OCTOBER 22, 1902 AND RECORDED IN BOOK 87, PAGE 120 OF DEEDS; THENCE AT RIGHT ANGLES,

3rd: SOUTH 2640 FEET ALONG THE EAST LINE OF SAID LANDS OF MARY FRANCES ESTATES TO A POINT IN THE CENTERLINE OF SAID LOS ANGELES AVENUE; THENCE, ALONG SAME,

4th: EAST 1320 FEET TO THE POINT OF BEGINNING.

EXCEPT THAT PORTION LYING SOUTHERLY OF THE NORTHERLY LINE OF THAT CERTAIN STRIP 100 FEET WIDE DESCRIBED IN THE DEED TO THE SOUTHERN PACIFIC RAILROAD COMPANY, RECORDED NOVEMBER 13, 1899 IN BOOK 58, PAGE 596 OF DEEDS.

ALSO EXCEPT THAT PORTION LYING WITHIN THAT CERTAIN STRIP 345 FEET WIDE DESCRIBED IN DEED TO SOUTHERN CALIFORNIA EDISON COMPANY, RECORDED OCTOBER 22, 2010 AS INSTRUMENT NO. 20101022-0015308 OF OFFICIAL RECORDS.

ASSESSOR'S PARCEL NO: 511-0-200-245

EXISTING EASEMENTS (SEE TITLE REPORT FOR FULL ITEM SUMMARY)

2. SIMI LAND & WATER COMPANY EASEMENT, OR ITS ASSIGNS, FOR ENTRY AND WATER COLLECTION AND DISTRIBUTION PER BOOK 29, PAGE 500 OF DEEDS.
3. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR PUBLIC UTILITIES PER BOOK 339, PAGE 109 OF OFFICIAL RECORDS.
4. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR PUBLIC UTILITIES PER BOOK 968, PAGE 442 OF OFFICIAL RECORDS.
5. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR PUBLIC UTILITIES PER BOOK 1001, PAGE 544 OF OFFICIAL RECORDS.
6. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR PUBLIC UTILITIES PER BOOK 1001, PAGE 550 OF OFFICIAL RECORDS.
7. VENTURA COUNTY FLOOD CONTROL DISTRICT EASEMENT FOR FLOOD CONTROL PER BOOK 2141, PAGE 551 OF OFFICIAL RECORDS.
8. VENTURA COUNTY FLOOD CONTROL DISTRICT EASEMENT FOR FLOOD CONTROL PER BOOK 2141, PAGE 556 OF OFFICIAL RECORDS.
9. VENTURA COUNTY FLOOD CONTROL DISTRICT EASEMENT FOR FLOOD CONTROL PER BOOK 2141, PAGE 558 OF OFFICIAL RECORDS.
10. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR PUBLIC UTILITIES AND ROADS PER BOOK 2347, PAGE 225 OF OFFICIAL RECORDS.
11. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR ROADS PER BOOK 3243, PAGE 379 OF OFFICIAL RECORDS.
12. SOUTHERN CALIFORNIA EDISON COMPANY EASEMENT FOR PUBLIC UTILITIES AND ROADS PER BOOK 3243, PAGE 387 OF OFFICIAL RECORDS.
13. A-B PROPERTIES, A CALIFORNIA GENERAL PARTNERSHIP, EASEMENT FOR ACCESS ROAD, UTILITIES, AND SLOPE PER AS INSTRUMENT NO. 2001-012562 OF OFFICIAL RECORDS.
16. AT&T EASEMENT FOR FIBER OPTIC CABLE ALONG RAILROAD CORRIDOR PER AS INSTRUMENT NO. 2009-106766 OF OFFICIAL RECORDS.
17. VENTURA COUNTY WATERSHED PROTECTION DISTRICT EASEMENT FOR FLOOD CONTROL PURPOSE OF PERIODIC INUNDATION WITH FLOOD AND/OR STORM DRAINAGE WATER PER AS INSTRUMENT NO. 2012-155707 OF OFFICIAL RECORDS.
18. LEVEL3 COMMUNICATION, LLC EASEMENT FOR TELECOMMUNICATIONS AND INCIDENTAL PURPOSES PER AS INSTRUMENT NO. 2013-146419 OF OFFICIAL RECORDS.
19. SPRINT COMMUNICATIONS COMPANY, LP EASEMENT FOR TELECOMMUNICATIONS AND INCIDENTAL PURPOSES PER AS INSTRUMENT NO. 2013-205739 OF OFFICIAL RECORDS.
20. QUEST COMMUNICATIONS INTERNATIONAL INC., ET AL. EASEMENT FOR TELECOMMUNICATIONS AND INCIDENTAL PURPOSES PER AS INSTRUMENT NO. 2014-011258 OF OFFICIAL RECORDS.

PROPOSED EASEMENTS

1. VARIABLE WIDTH UTILITY AND ACCESS EASEMENT TO VENTURA COUNTY WATERWORKS DISTRICT NO. 1. (CURB-TO-CURB ALONG ALL PRIVATE STREETS/ALLEYS/DRIVES AND ALL OTHER LOCATIONS SPECIFIED ON THE PLANS).
2. VARIABLE WIDTH UTILITY AND ACCESS EASEMENT TO HOA.
3. VARIABLE WIDTH ACCESS EASEMENT TO CITY OF MOORPARK.

UTILITIES

WATER	VENTURA COUNTY WATERWORKS DISTRICT NO. 1
SEWER	VENTURA COUNTY WATERWORKS DISTRICT NO. 1
STORM DRAIN	CITY OF MOORPARK VENTURA COUNTY WATERSHED PROTECTION DISTRICT
ELECTRIC	SOUTHERN CALIFORNIA EDISON
GAS	SOUTHERN CALIFORNIA GAS COMPANY
TELEPHONE	FRONTIER COMMUNICATIONS
CABLE TELEVISION	SPECTRUM CABLE
SOLID WASTE	SIMI VALLEY LANDFILL & RECYCLING CENTER c/o WASTE MANAGEMENT / G.I. INDUSTRIES
FIRE PROTECTION	VENTURA COUNTY FIRE DEPARTMENT

EXISTING UTILITY LEGEND

- W — POTABLE WATER LINE
- RW — RECYCLED WATER LINE
- S — SEWER LINE
- E — ELECTRICAL LINE
- G — NATURAL GAS LINE
- COMM — COMMUNICATION LINE
- OHW — OVERHEAD WIRE
- FOC — FIBER OPTIC LINE

PROPOSED UTILITY LEGEND

- W — POTABLE WATER LINE
- RW — RECYCLED WATER LINE
- S — SEWER LINE
- SD — STORM DRAIN LINE
- SEWER MANHOLE
- STORM DRAIN MANHOLE

EARTHWORK

EARTHWORK ESTIMATES:

CUT: 2,730,000 CUBIC YARDS
FILL: 2,730,000 CUBIC YARDS
IMPORT: 0 CUBIC YARDS
EXPORT: 0 CUBIC YARDS (NOTE: EARTHWORK IS INTENDED TO BALANCE ON-SITE)

THE ABOVE QUANTITIES ARE APPROXIMATE IN PLACE VOLUMES CALCULATED FROM THE EXISTING GROUND TO THE PROPOSED FINISH GRADE OR SUBGRADE. EXISTING GROUND IS DEFINED BY THE CONTOURS ON THE PLAN. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF EARTH TO BE CONSTRUCTED. PROPOSED SUBGRADE ELEVATION IS DEFINED AS THE DESIGN SURFACE ELEVATION OF EARTH TO BE CONSTRUCTED BENEATH PAVEMENTS OR STRUCTURES.

THE EARTHWORK QUANTITIES ABOVE ARE FOR PERMIT PURPOSES ONLY. THEY HAVE NOT BEEN FACTORED TO ACCOUNT FOR CHANGES IN VOLUME DUE TO BULKING, SHRINKAGE, CLEARING AND GRUBBING, OVER EXCAVATION AND RE-COMPACTION, AND OTHER REMEDIAL GRADING CONSTRUCTION METHODS.

LEGEND

- TRACT BOUNDARY
- RIGHT-OF-WAY
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED LOT LINE / PROPERTY LINE
- STREET CENTER LINE
- DAYLIGHT LINE
- C / F — CUT/FILL LINE
- RETAINING WALL
- ASPHALT CONCRETE PAVING
- PORTLAND CEMENT CONCRETE PAVING
- 235.50 / FS — SURFACE ELEVATION CALLOUT
- MULTI-PURPOSE TRAIL

SHEET INDEX

1. TITLE SHEET
2. PRELIMINARY GRADING, DRAINAGE, & UTILITIES
3. PRELIMINARY GRADING, DRAINAGE, & UTILITIES
4. PRELIMINARY GRADING, DRAINAGE, & UTILITIES
5. PRELIMINARY GRADING, DRAINAGE, & UTILITIES
6. PRELIMINARY GRADING, DRAINAGE, & UTILITIES

GENERAL NOTES

GENERAL:

1. ALL DIMENSIONS AND AREAS SHOWN ARE APPROXIMATE ONLY.
2. PROJECT SITE IS WITHIN THE MOORPARK UNIFIED SCHOOL DISTRICT.
3. STREETS B-N SHALL BE PRIVATE AND MAINTAINED BY THE HOA.
4. STREETS SHOWN ON THIS TENTATIVE TRACT MAP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF MOORPARK PUBLIC WORKS AND COMMUNITY DEVELOPMENT DEPARTMENTS.
5. MULTIPLE FINAL MAPS MAY BE RECORDED FROM THIS TENTATIVE TRACT MAP IN ACCORDANCE WITH THE STATE OF CALIFORNIA SUBDIVISION MAP ACT.

UTILITIES:

6. ALL NEW UTILITIES WILL BE UNDERGROUND.
7. NEW UTILITY LOCATIONS AND EASEMENTS ARE APPROXIMATE.
8. NEW STORM DRAINAGE IMPROVEMENTS ON PRIVATE STREETS ARE TO BE PRIVATE AND MAINTAINED BY THE HOA. NEW STORM DRAINAGE IMPROVEMENTS WITHIN THE PUBLIC RIGHT-OF-WAY ARE TO BE PUBLIC AND MAINTAINED BY THE CITY OF MOORPARK OR VCWPD.
9. SURFACE STORMWATER QUALITY TREATMENT FACILITIES SHALL BE PRIVATE AND MAINTAINED BY THE HOA.
10. NEW SEWER MAINS ARE TO BE PUBLIC AND TO BE DEDICATED TO VENTURA COUNTY WATERWORKS DISTRICT (VCWWD) NO. 1. NEW SEWER MAINS SHALL BE PER VCWWD NO. 1 STANDARDS.
11. NEW WATER MAINS ARE TO BE PUBLIC AND TO BE DEDICATED TO TO VCWWD NO. 1. NEW WATER MAINS SHALL BE PER VCWWD NO. 1 STANDARDS.
12. FIRE HYDRANT LOCATIONS TO BE DETERMINED BY VENTURA COUNTY FIRE DEPARTMENT.

SURVEY NOTES

BASIS OF BEARINGS: THE BASIS OF BEARINGS FOR THIS MAP IS THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE 5, EPOCH 2017.50 AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS GLOBAL POSITIONING STATIONS (CGPS) AND/OR CONTINUOUS OPERATING REFERENCE STATIONS (CORS) MPWD & TOST BEING SOUTH 35°20'10" EAST AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC).

COORDINATES AND DISTANCES SHOWN HEREON HAVE BEEN SCALED AND TRANSLATED TO A LOCAL GROUND COORDINATE SYSTEM BASED UPON THE FOLLOWING CALCULATED VALUES AT POINT 204:

COMBINED SCALE FACTOR - 0.9999332300
CCS83 GRID COORDINATE - N 1928392.48, E 6290311.15
LOCAL GROUND COORDINATE - N 928392.48, E 290311.15

BENCHMARK: THE VERTICAL DATUM OF THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88); PER GEOID MODELING (GEOID12B) AND LEVEL TIES TO POINTS 23 AND 24 FROM VENTURA COUNTY BENCHMARK (VCPD 139), BEING A 3-1/2" BC STAMPED "VENTURA COUNTY SURVEYOR 1965 BM 37-13" IN A HEADWALL ON THE WESTERLY SIDE OF GABBERT ROAD, SOUTHERLY OF THE UNION PACIFIC RAILROAD.

LOT 262 FOR CONDOMINIUM PURPOSES

ECG Encompass Consultant Group
333 N. LANTANA ST, SUITE 287, CAMARILLO, CA 93010
PHONE: 805.322.4443 WEBSITE: WWW.ECGCIVIL.COM

GLEN H. PACE
PROJECT ENGINEER
R.C.E. 61468
DATE: 01/16/2019

HITCH RANCH
TENTATIVE TRACT MAP NO. 5708
TITLE SHEET
CITY OF MOORPARK, COUNTY OF VENTURA, STATE OF CALIFORNIA

SCALE: HORIZ. AS NOTED VERT. N/A
WORK ORDER 0047
DRAWN BY: GJM
CHECKED BY: GHP
SHEET NO. 1 OF 6

DRAWING: n:\projects\0047\02 hrch ranch - comstock\engineering\acad\tentative map\0047-02_ttm.dwg

APPENDIX 3.15

Transportation Impact Analysis

Stantec

Memo

To:	Harriet Rapista Comstock Homes	From:	Daryl Zerfass & Eric Mazzella Stantec
File:	2042629800	Date:	February 1, 2022

Reference: Supplemental Traffic Analysis for the Hitch Ranch Project in the City of Moorpark

Stantec has prepared a supplemental traffic analysis for the proposed Hitch Ranch project (Project) in the City of Moorpark. A comprehensive traffic impact analysis was previously completed for the Project by Impact Sciences in July 2021. The purpose of this supplemental study is to update the cumulative year analysis to include additional new planned development projects in the cumulative horizon. The analysis of two additional future intersections that are associated with the project site has also been included in this supplemental analysis.

Since completion of the July 2021 Traffic Study, the following five additional cumulative projects have been identified by the City and added to the Future (2026) Cumulative Conditions scenario:

1. Oakmont Senior Living
2. High Street Depot
3. Beltramo Ranch
4. Moorpark 67
5. Amazon Distribution Center

A complete listing of all cumulative projects included in this supplemental analysis is provided in the attached Table A-1.

This supplemental analysis has been conducted using the PTV Vistro traffic operations modeling software consistent with the July 2021 Traffic Study. The Vistro model network was updated to incorporate the new cumulative projects, and a desktop review of existing condition traffic signal configurations was performed using Google Streetview imagery to update the operational input assumptions. Additionally, the study area was expanded to include the following two new future intersections:

1. Gabbert Road & North Hills Parkway *(Future)*
2. Gabbert Road & High Street *(Future)*

Refer to the attached Exhibit A-1 for a map showing all the study area intersections.

IMPACT CRITERIA

Consistent with the July 2021 Traffic Study, the City of Moorpark's General Plan Policy criteria are used to identify a project impact to a roadway intersection as follows:

1. Degrades the LOS at an intersection to an unacceptable level of service (LOS) of LOS D or worse.
2. Increases volume-to-capacity (V/C) ratio at a signalized intersection operating at LOS F by 0.020 or more.

3. Increases delay at an unsignalized intersection operating at an unacceptable LOS by 5 or more seconds.

4. Results in satisfying the most recent California Manual on Uniform Traffic Control Devices (CA MUTCD) peak hour volume warrant or other warrants for traffic signal installation at an unsignalized intersection.

For consistency between this supplemental analysis and the July 2021 Traffic Study, Intersection Capacity Utilization (ICU) and Highway Capacity Manual 2010 (HCM 2010) methodologies are used to analyze signalized intersections and unsignalized intersections, respectively.

IMPACT ANALYSIS

The Project's impact on roadway intersections has been recalculated for existing and cumulative conditions to include additional study locations, updates to signal timing inputs, and—for cumulative conditions—to include the additional cumulative projects noted above.

Existing Conditions Traffic Analysis

The Existing Conditions scenario was analyzed with and without the Project generated traffic to identify the Project's impact on study area intersections (refer to the July 2021 Traffic Study for analysis of the Project's trip generation). Consistent with the July 2021 Traffic Study, Project traffic is incrementally added to the Existing Conditions setting using the PTV Vistro software. The base traffic volumes used in the Existing Conditions scenario represent the same 2019 traffic counts used in the July 2021 Traffic Study. The Project's impacts were then assessed using the impact thresholds provided by the City of Moorpark as noted above.

A complete list of Existing Conditions without Project and with Project V/C ratios, delay (if applicable), and LOS for study area intersections in the AM and PM peak hours is shown in the attached Table A-2. **Table 1**, below, summarizes operations of study area intersections where the Project has a direct impact in the Existing Conditions scenario.

Table 1 Project Impacts – Existing Conditions Setting

ID	Intersection	Peak Hour	Existing Conditions No-Project		Existing Conditions With-Project		Project Increment
			V/C	LOS	V/C	LOS	
3	Walnut Canyon & Spring	PM	0.899	D	0.912	E	0.013
4	Walnut Canyon & Casey	AM	0.668	B	0.801	D	0.133
6	Spring & High	PM	0.782	C	0.805	D	0.023

As shown above, there are three intersections in the Existing Conditions scenario that are impacted by Project traffic. One impact occurs in the AM peak hour, and two impacts occur in the PM peak hour. Intersection improvements to offset the Project's impact are discussed in a later section.

Future (2026) Cumulative Conditions Traffic Analysis

The Future (2026) Cumulative Conditions scenario has been updated from the July 2021 Study to include five additional cumulative projects as discussed above. The Future (2026) Cumulative Conditions scenario is

representative of the Project's anticipated buildout year of 2026. Along with the traffic to be generated by the identified cumulative projects, the Future (2026) Cumulative Conditions scenario also accounts for traffic generated by additional growth with the use of a one percent ambient annual growth factor (a total of approximately seven percent growth applied to the 2019 traffic counts), consistent with the July 2021 Traffic Study. In addition, the traffic signal timing and lane configuration assumptions noted above have been carried over to the Future (2026) Cumulative Conditions scenario.

Trip generation estimates for each new cumulative project were prepared using either the ITE Trip Generation Manual, 10th Edition, or where available, rates from completed traffic studies approved by the City of Moorpark. Regarding the High Street Depot project, where the latest description for retail use is unclear, the uses that make up the approximately 13.656 TSF of retail space were proportionately scaled down from the now outdated 15.018 TSF of retail (including a brewery, restaurant, and retail commercial space) found in the Initial Study/Mitigated Negative Declaration (ISMND). A summary of trip generation can be found in **Table 2** for both new and revised projects.

Trip generation rates for the Project and for the cumulative projects analyzed in the July 2021 Traffic Study have not been changed as part of this supplemental analysis.

Table 2 New and Revised Cumulative Project Trip Generation Summary

Category	Amount	Units	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Cumulative Projects Added for Supplemental Analysis								
7. Oakmont Senior Living	77	Beds	9	5	14	8	12	20
10. High Street Depot	79	DU	9	28	37	28	17	45
	3.477	TSF	-	-	-	21	13	34
	2.541	TSF	14	11	25	15	9	24
	7.638	TSF	4	3	7	14	15	29
	Project Total		*27*	*42*	*69*	*78*	*54*	*132*
	Internal Capture		*3*	*4*	*7*	*28*	*19*	*48*
	External Transit		*3*	*4*	*7*	*8*	*5*	*13*
	Net External Trips		22	34	55	42	29	71
13. Beltramo Ranch	52	DU	10	29	39	32	19	51
16. Moorpark 67	139	DU	26	78	104	86	51	137
17. Amazon Distribution Center[1]	189.364	DU	-6	-11	-17	29	-17	12
Cumulative Projects Revised for Supplemental Analysis								
1. Casey Road City Parcel	333 (+133)	DU	31	82	113	38	104	142
9. Aldersgate Senior Housing	390 (+132)	DU	68	68	136	94	95	189
11. Grand Moorpark	63 (-3)	DU	14	14	28	16	16	32
[1]The Amazon Distribution Center is a replacement of an existing use.								

Reference: **Supplemental Traffic Analysis for the Hitch Ranch Project in the City of Moorpark**

New cumulative project trips were distributed based on project location and land use. For residential projects, trips were distributed to State Route 118 (SR 118), State Route 23 (SR 23), schools, and other local uses. Trips to and from the only industrial use, the Amazon Distribution Center, were primarily distributed to SR 118 given its proximity to the Princeton Avenue ramps. Where available, trip distribution from prior traffic studies approved by the City of Moorpark was used. Trip distribution assumptions for the Project and for cumulative projects analyzed in the July 2021 Traffic Study have not been changed as part of this supplemental analysis.

The Cumulative Conditions scenario was analyzed with and without the Project to identify the Project's impact on study area intersections. Consistent with the July 2021 Traffic Study, Project traffic is incrementally added to the Cumulative Conditions setting using PTV Vistro software. The Project's impacts were then assessed using the impact thresholds provided by the City of Moorpark as noted above.

A complete list of Cumulative Conditions without Project and with Project volume-to-capacity (V/C) ratios, delay (if applicable), and level of service (LOS) for study area intersections in the AM and PM peak hours is shown in the attached Table A-3. **Table 3**, below, summarizes operations of study area intersections where the Project has a direct impact in the Cumulative Conditions scenario. In total, impacts at six study area intersections were found to be attributable to the Project.

Table 3 Future (2026) Cumulative Conditions Impacts

ID	intersection	Peak Hour	Cumulative Conditions No-Project		Cumulative Conditions With-Project		Project Increment
			V/C	LOS	V/C	LOS	
4	Walnut Canyon & Casey	AM	0.811	D	0.902	E	0.091
5	Moorpark & High	AM	0.700	C	0.841	D	0.141
		PM	0.748	C	0.909	E	0.161
6	Spring & High	AM	0.970	E	1.016	F	0.046
		PM	1.082	F	1.107	F	0.025
8	Moorpark & Poindexter	PM	0.873	D	0.911	E	0.038
14	Miller & Los Angeles	PM	0.794	C	0.828	D	0.034
15	SR 23 SB Ramps & Los Angeles	PM	0.780	C	0.816	D	0.036

As shown above, six intersections are impacted by the Project in the Cumulative Conditions scenario, with two of the intersections impacted in both peak hours. Intersection improvements to offset the Project's impact are discussed in a later section.

INTERSECTION IMPROVEMENTS

Intersection improvements that address the impacts caused by the Project have been identified for each of the impacted intersections identified above in the Existing Conditions and Future (2026) Cumulative Conditions scenarios. The improvements are generally consistent with those identified in the July 2021 Traffic Study, with some modifications to address the updated conditions.

Reference: **Supplemental Traffic Analysis for the Hitch Ranch Project in the City of Moorpark**

Intersection Improvements for Existing plus Project Conditions

Intersection improvements and the resulting LOS for the three intersections identified as impacted by the Project in the Existing Conditions scenario are described below:

3. Walnut Canyon Road & Spring Road – Add a westbound right-turn signal overlap phase. This reduces V/C to 0.733 (LOS C) in the impacted PM peak hour.

4. Walnut Canyon Road & Casey Road – Add an eastbound right-turn signal overlap phase. This reduces V/C to 0.618 (LOS B) in the impacted AM peak hour.

6. Spring Road & High Street – Add a second eastbound through lane (unchanged from the July 2021 Traffic Study). This reduces V/C to 0.738 (LOS C) in the impacted PM peak hour.

The above improvements fully address the Project impacts in the Existing Conditions scenario.

Intersection Improvements for Future (2026) Cumulative Conditions

Intersection improvements and the resulting LOS for the six intersections identified as impacted by the Project in the Future (2026) Cumulative Conditions scenario are described below:

4. Walnut Canyon Road & Casey Road – Same as for existing conditions, above. This reduces V/C to 0.683 (LOS B) in the impacted AM peak hour.

5. Moorpark Avenue & High Street – Add a northbound left-turn lane and convert the existing northbound shared left-turn/through lane into an exclusive through lane. Also, add an eastbound right-turn lane and convert the existing eastbound shared left-turn/through/right-turn lane into a shared left-turn/through lane. This reduces V/C to 0.729 (LOS C) and 0.758 (LOS C) in the impacted AM peak hour and PM peak hour, respectively.

6. Spring Road & High Street – Same as for existing conditions, above (unchanged from the July 2021 Study). This reduces V/C to 0.903 (LOS E) and 0.992 (LOS E) in the impacted AM peak hour and PM peak hour, respectively.

8. Moorpark Avenue & Poindexter Avenue – Convert the existing southbound shared through/right-turn lane into one exclusive through lane and one exclusive right-turn lane. This reduces V/C to 0.703 (LOS C) in the impacted PM peak hour.

14. Miller Parkway & Los Angeles Avenue – Add a southbound right-turn lane (unchanged from the July 2021 Study). This reduces V/C to 0.784 (LOS C) in the impacted PM peak hour.

15. SR 23 SB Ramps & Los Angeles Avenue – Add a second westbound through lane. This reduces V/C to 0.639 (LOS B) in the impacted PM peak hour.

The above improvements fully address the Project impacts in the Future (2026) Cumulative Conditions scenario.

Reference: **Supplemental Traffic Analysis for the Hitch Ranch Project in the City of Moorpark**

CONCLUSION

Stantec has prepared this technical memorandum as a supplemental update to the traffic analysis included in the July 2021 comprehensive traffic study prepared by Impact Sciences. Subsequent to the July 2021 Traffic Study, the following changes have been incorporated into this supplemental analysis:

1. Five new cumulative projects have been identified within the study area
2. Updated land use for three prior cumulative projects, including the Casey Road City Parcel adjacent to the Hitch Ranch site
3. Two new future study area intersections have been included in the analysis
4. Refinements to the traffic signal timing and lane configuration assumptions for some study area locations

The above changes have been accounted for in this supplemental analysis and the intersection LOS results have been updated for the Existing Conditions and Future (2026) Cumulative Conditions scenarios accordingly. In the Existing Conditions scenario, three intersections are identified as impacted by the Project. In the Future (2026) Cumulative Conditions Scenario, six intersections are identified as impacted by the Project. Potential intersection improvements that fully address each of the Project-related impacts in both scenarios are identified as shown in the above sections. Attachment B includes exhibits such as intersection lane configurations and intersection volumes used in the analysis. Attachment C consists of PTV Vistro data worksheets.

As discussed in the July 2021 Traffic Study, the Project would be subject to the following Condition of Approval to address the Project's effect on intersection LOS:

> **Area of Contribution (AOC) Fees**
>
> The Project Applicant shall pay the City AOC fee based upon the current City of Moorpark AOC Fees in effect at the time of issuance of a certificate of occupancy for each dwelling unit. The AOC fee shall be paid prior to issuance of a certificate of occupancy for each unit of the project.

Please feel free to contact us if you have any questions or would like to discuss this analysis in further detail.

Stantec Consulting Services Inc.

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Attachment: Exhibit A-1
Table A-1
Table A-2
Table A-3

Reference: **Supplemental Traffic Analysis for the Hitch Ranch Project in the City of Moorpark**

Attachment B
Attachment C

c. Dennis Hardgrave, Development Planning Services

Exhibit A-1: Study Area Intersection Location Map

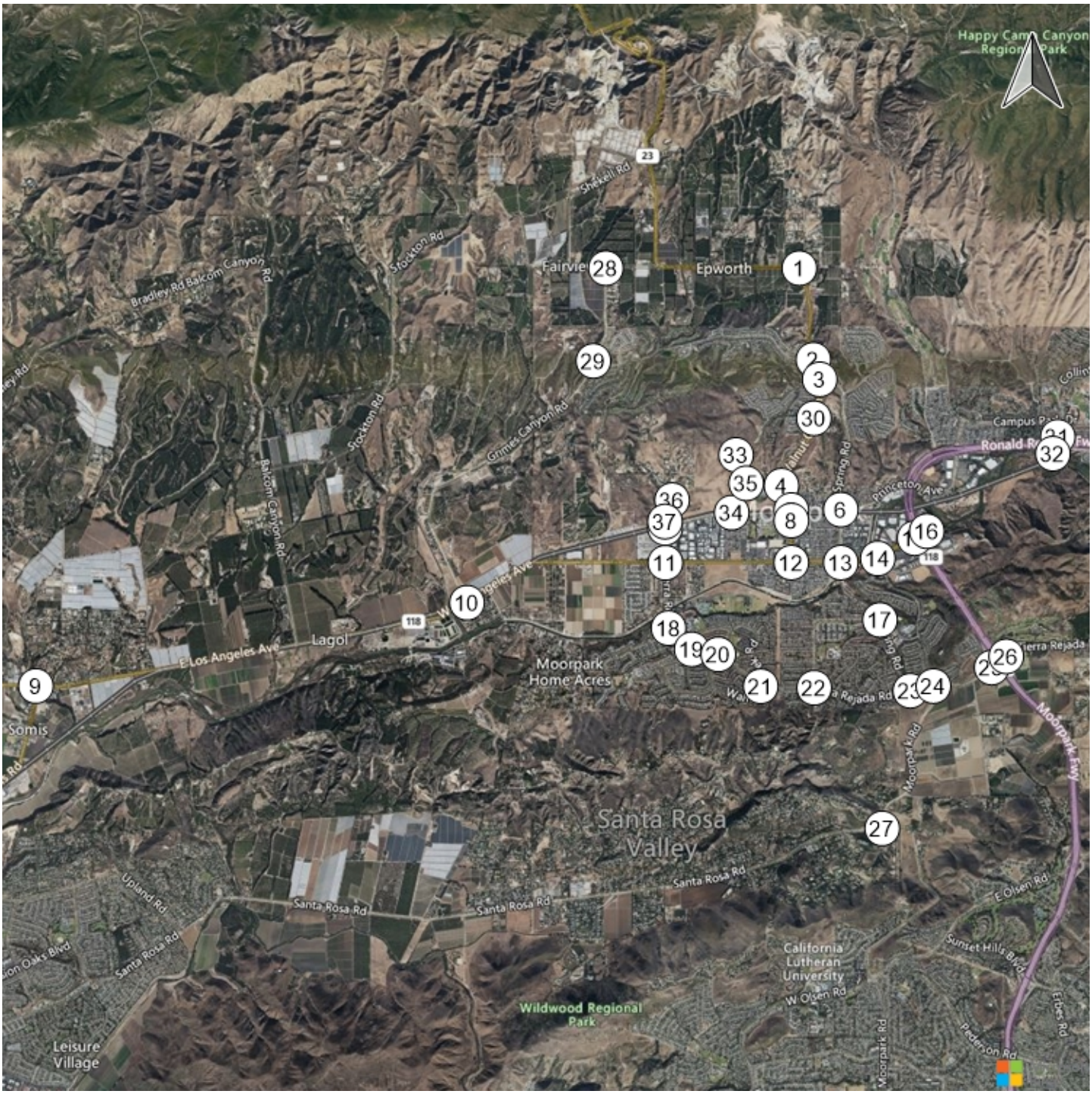


Table A-1

Cumulative Development Projects Trip Generation (As of November 12, 2021)						
Project	**Land Use**	**Size**	**ADT**	**AM Peak Hour**	**PM Peak Hour**	**Note**
1. Casey Road City Parcel	Multi-Family Residential	333 units	1,813	113	142	Conceptual
2. Triliad Development	Moviie Studio	37 acres	100	10	10	Approved
3. Pacific Communities	Single Family Residential	283 units	2,694	212	283	Approved
4. Essex Moorpark, LLC	Multi-Family Residential	200 units	1,318	92	57	Approved
5. Spring Road, LLC	Condominiums	95 units	552	42	49	Approved
6. City Ventures	Single Family Residential	110 units	1,047	82	110	Approved
7. Oakmont Senior Living	Senior Residential	77 beds	200	14	12	Approved/Under Construction
8. Birdsall Group, LLC	Single Family Residential	21 units	200	16	12	Approved
9. Aldersgate Senior Housing	Senior Residential	390 units	Approx. 1,800	136	189	Approved
10. High Street Depot/ Daly Group	Downtown Mixed-Use (retail & apartments)	13.656 TSF 79 units	1,541	55	71	Approved
11. Grand Moorpark/Kozar	Condominiums	63 units	383	29	34	Approved
12. John C Chiu, FLP-N	Condominiums	60 units	349	26	31	Proposed
13. Beltramo Ranch	Single Family Residential	52 units	491	39	51	Proposed
14. AHA Scattered Sites	Multi-Family Residential	56 units	410		42	Proposed
15. Hitch Ranch	Single and Multi-Family Residential	755 units	6,436	467	608	Proposed
16. Moorpark 67/Rasmussen	Single Family Residential	139 units	1,312	104	138	Proposed
17. **Amazon Distribution Center	Industrial	189.364 TSF	994	-17	12	Under construction
18. *National Ready Mix	Batch Plant	10 acres	600	20	20	Unknown
19. ***CEMEX	Quarry	N/A	980	276	148	Unknown
20. ***Wayne J. Sand & Gravel	Quarry	N/A	504	92	34	Unknown
21. ***Grimes Rock	Quarry	N/A	480	35	14	Unknown
Total Trips			22,404	1843	2067	

*No proposal to change or expand operations. Existing use creates significant truck traffic through Moorpark.
**Trip Calculations include baseline of existing industrial use (site is developed). ADT is gross figure and AM/PM are net figures based on previous use.
***Operations under County jurisdiction but bring significant truck traffic through Moorpark. Please condact Ventura County to determine whether any active permits for expansion are being reviewed or processed.

Table A-2

Existing Conditions AM Peak Hour LOS Summary								
		AM without Project			AM with Project			
ID	Name	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS	with Mitigation
1	Walnut & Broadway		18.5	C		18.8	C	
2	Walnut & Championship		25.4	D		26.3	D	
3	Walnut & Spring	0.747		C	0.764		C	0.630 (LOS B)
4	Walnut & Casey	0.668		B	**0.801**		**D**	**0.677 (LOS B)**
5	Moorpark & High	0.538		A	0.676		B	
6	Spring & High	0.694		B	0.730		C	0.691 (LOS B)
7	Gabbert & Poindexter		10.4	B		10.6	B	
8	Moorpark & Poindexter	0.705		C	0.756		C	
9	Somis & Los Angeles	0.821		D	0.834		D	
10	Grimes Cyn & Los Angeles	0.767		C	0.773		C	
11	Tierra Rejada & Los Angeles	0.717		C	0.734		C	
12	Moorpark & Los Angeles	0.571		A	0.582		A	
13	Spring & Los Angeles	0.696		B	0.736		C	
14	Miller & Los Angeles	0.478		A	0.503		A	
15	SR 23 SB Ramps & Los Angeles	0.441		A	0.466		A	
16	SR 23 NB Ramps & Los Angeles	0.496		A	0.519		A	
17	Spring & Peach Hill	0.614		B	0.624		B	
18	Tierra Rajada & Countrywood	0.547		A	0.558		A	
19	Mountain Trl & Tierra Rejada	0.536		A	0.540		A	
20	Mountain Meadow & Tierra Rejada	0.544		A	0.549		A	
21	Walnut Crk & Tierra Rejada	0.610		B	0.612		B	
22	Peach Hill & Tierra Rejada	0.562		A	0.563		A	
23	Spring & Tierra Rejada	0.646		B	0.658		B	
24	Moorpark & Tierra Rejada	0.904		E	0.914		E	
25	SR 23 SB Ramps & Tierra Rejada	0.829		D	0.848		D	
26	SR 23 NB Ramps & Tierra Rejada	0.875		D	0.876		D	
27	Moorpark & Santa Rosa	0.745		C	0.747		C	
28	Broadway & Grimes Cyn		11.0	B		11.0	B	
29	Championship & Grimes Cyn		10.0	A		10.0	A	
30	Meridian Hills & Walnut Cyn		12.2	B		12.7	B	
31	SR 118 WB & Collins	0.444		A	0.444		A	
32	SR 118 EB & Collins	0.719		C	0.719		C	
33	Future - Meridian Hills & Street "A"		3.2	A		3.3	A	
34	Future - Street "A" & High		-	-		9.1	A	
35	Future - Casey & Street "A"		-	-		7.9	A	
36	Future - Gabbert & North Hills		-	-		7.0	A	
37	Future - Gabbert & High		-	-		9.2	A	
Indicates a location with an impact in the Existing Conditions scenario								

Table A-2

Existing Conditions PM Peak Hour LOS Summary								
		PM without Project			PM with Project			
ID	Name	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS	with Mitigation
1	Walnut & Broadway		23.6	C		23.9	C	
2	Walnut & Championship		33.2	D		34.5	D	
3	Walnut & Spring	0.899		D	**0.912**		**E**	**0.733 (LOS C)**
4	Walnut & Casey	0.468		A	0.634		B	0.587 (LOS A)
5	Moorpark & High	0.563		A	0.726		C	
6	Spring & High	0.782		C	**0.805**		**D**	**0.738 (LOS C)**
7	Gabbert & Poindexter		10.3	B		10.5	B	
8	Moorpark & Poindexter	0.719		C	0.758		C	
9	Somis & Los Angeles	0.953		E	0.964		E	
10	Grimes Cyn & Los Angeles	0.824		D	0.834		D	
11	Tierra Rejada & Los Angeles	0.618		B	0.628		B	
12	Moorpark & Los Angeles	0.602		B	0.630		B	
13	Spring & Los Angeles	0.695		B	0.735		C	
14	Miller & Los Angeles	0.611		B	0.640		B	
15	SR 23 SB Ramps & Los Angeles	0.694		B	0.732		C	
16	SR 23 NB Ramps & Los Angeles	0.667		B	0.695		B	
17	Spring & Peach Hill	0.553		A	0.588		A	
18	Tierra Rajada & Countrywood	0.428		A	0.432		A	
19	Mountain Trl & Tierra Rejada	0.501		A	0.506		A	
20	Mountain Meadow & Tierra Rejada	0.413		A	0.415		A	
21	Walnut Crk & Tierra Rejada	0.505		A	0.510		A	
22	Peach Hill & Tierra Rejada	0.552		A	0.561		A	
23	Spring & Tierra Rejada	0.577		A	0.588		A	
24	Moorpark & Tierra Rejada	0.834		D	0.840		D	
25	SR 23 SB Ramps & Tierra Rejada	0.846		D	0.853		D	
26	SR 23 NB Ramps & Tierra Rejada	0.897		D	0.898		D	
27	Moorpark & Santa Rosa	0.888		D	0.892		D	
28	Broadway & Grimes Cyn		10.2	B		10.2	B	
29	Championship & Grimes Cyn		10.0	A		10.0	A	
30	Meridian Hills & Walnut Cyn		12.1	B		12.6	B	
31	SR 118 WB & Collins	0.385		A	0.385		A	
32	SR 118 EB & Collins	0.629		B	0.629		B	
33	Future - Meridian Hills & Street "A"		3.2	A		3.3	A	
34	Future - Street "A" & High		-	-		9.4	A	
35	Future - Casey & Street "A"		-	-		7.3	A	
36	Future - Gabbert & North Hills		-	-		7.0	A	
37	Future - Gabbert & High		-	-		9.3	A	
Indicates a location with an impact in the Existing Conditions scenario								

Table A-3

Future (2026) Cumulative Conditions AM Peak Hour LOS Summary								
		AM without Project			AM with Project			
ID	Name	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS	with Mitigation
1	Walnut & Broadway		23.2	C		23.5	C	
2	Walnut & Championship		45.4	E		46.1	E	
3	Walnut & Spring	1.058		F	1.064		F	
4	Walnut & Casey	0.811		D	**0.902**		**E**	**0.683 (LOS B)**
5	Moorpark & High	0.700		C	**0.841**		**D**	**0.729 (LOS C)**
6	Spring & High	0.970		E	**1.016**		**F**	**0.903 (LOS E)**
7	Gabbert & Poindexter		11.2	B		11.7	B	
8	Moorpark & Poindexter	0.836		D	0.896		D	0.698 (LOS B)
9	Somis & Los Angeles	0.918		E	0.932		E	
10	Grimes Cyn & Los Angeles	0.834		D	0.839		D	
11	Tierra Rejada & Los Angeles	0.803		D	0.820		D	
12	Moorpark & Los Angeles	0.673		B	0.707		C	
13	Spring & Los Angeles	0.815		D	0.848		D	
14	Miller & Los Angeles	0.573		A	0.594		A	0.584 (LOS A)
15	SR 23 SB Ramps & Los Angeles	0.530		A	0.550		A	0.550 (LOS A)
16	SR 23 NB Ramps & Los Angeles	0.616		B	0.634		B	
17	Spring & Peach Hill	0.703		C	0.713		C	
18	Tierra Rajada & Countrywood	0.609		B	0.620		B	
19	Mountain Trl & Tierra Rejada	0.588		A	0.592		A	
20	Mountain Meadow & Tierra Rejada	0.591		A	0.597		A	
21	Walnut Crk & Tierra Rejada	0.658		B	0.661		B	
22	Peach Hill & Tierra Rejada	0.605		B	0.606		B	
23	Spring & Tierra Rejada	0.700		C	0.712		C	
24	Moorpark & Tierra Rejada	1.078		F	1.088		F	
25	SR 23 SB Ramps & Tierra Rejada	0.942		E	0.961		E	
26	SR 23 NB Ramps & Tierra Rejada	0.968		E	0.968		E	
27	Moorpark & Santa Rosa	0.832		D	0.834		D	
28	Broadway & Grimes Cyn		11.3	B		11.3	B	
29	Championship & Grimes Cyn		10.1	B		10.1	B	
30	Meridian Hills & Walnut Cyn		16.1	C		16.6	C	
31	SR 118 WB & Collins	0.471		A	0.471		A	
32	SR 118 EB & Collins	0.787		C	0.787		C	
33	Future - Meridian Hills & Street "A"		3.3	A		3.3	A	
34	Future - Street "A" & High		8.4	A		9.6	A	
35	Future - Casey & Street "A"		7.0	A		7.7	A	
36	Future - Gabbert & North Hills		7.1	A		7.2	A	
37	Future - Gabbert & High		9.8	A		10.4	B	
Indicates a location with an impact in the Future (2026) Cumulative Conditions scenario								

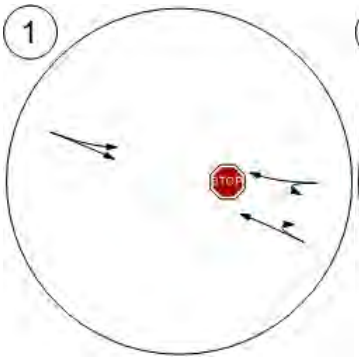
Table A-3

Future (2026) Cumulative Conditions PM Peak Hour LOS Summary								
		PM without Project			PM with Project			
ID	Name	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS	with Mitigation
1	Walnut & Broadway		31.2	D		31.6	D	
2	Walnut & Championship		61.9	F		64.2	F	
3	Walnut & Spring	1.223		F	1.233		F	
4	Walnut & Casey	0.608		B	0.779		C	0.658 (LOS B)
5	Moorpark & High	0.748		C	**0.909**		**E**	**0.758 (LOS C)**
6	Spring & High	1.082		F	**1.107**		**F**	**0.992 (LOS E)**
7	Gabbert & Poindexter		11.0	B		11.6	B	
8	Moorpark & Poindexter	0.873		D	**0.911**		**E**	**0.703 (LOS C)**
9	Somis & Los Angeles	1.058		F	1.070		F	
10	Grimes Cyn & Los Angeles	0.909		E	0.918		E	
11	Tierra Rejada & Los Angeles	0.699		B	0.709		C	
12	Moorpark & Los Angeles	0.752		C	0.780		C	
13	Spring & Los Angeles	0.829		D	0.867		D	
14	Miller & Los Angeles	0.794		C	**0.828**		**D**	**0.784 (LOS C)**
15	SR 23 SB Ramps & Los Angeles	0.780		C	**0.816**		**D**	**0.639 (LOS B)**
16	SR 23 NB Ramps & Los Angeles	0.837		D	0.869		D	
17	Spring & Peach Hill	0.640		B	0.675		B	
18	Tierra Rajada & Countrywood	0.461		A	0.471		A	
19	Mountain Trl & Tierra Rejada	0.546		A	0.551		A	
20	Mountain Meadow & Tierra Rejada	0.443		A	0.445		A	
21	Walnut Crk & Tierra Rejada	0.540		A	0.545		C	
22	Peach Hill & Tierra Rejada	0.598		A	0.607		B	
23	Spring & Tierra Rejada	0.659		B	0.671		B	
24	Moorpark & Tierra Rejada	1.016		F	1.022		F	
25	SR 23 SB Ramps & Tierra Rejada	0.946		E	0.954		E	
26	SR 23 NB Ramps & Tierra Rejada	0.986		E	0.987		E	
27	Moorpark & Santa Rosa	1.006		F	1.010		F	
28	Broadway & Grimes Cyn		10.4	B		10.4	B	
29	Championship & Grimes Cyn		10.1	B		10.1	B	
30	Meridian Hills & Walnut Cyn		15.5	C		16.4	C	
31	SR 118 WB & Collins	0.408		A	0.408		A	
32	SR 118 EB & Collins	0.687		B	0.687		B	
33	Future - Meridian Hills & Street "A"		3.3	A		3.3	A	
34	Future - Street "A" & High		8.4	A		9.6	A	
35	Future - Casey & Street "A"		7.0	A		7.4	A	
36	Future - Gabbert & North Hills		7.5	A		7.7	A	
37	Future - Gabbert & High		9.6	A		10.4	B	
Indicates a location with an impact in the Future (2026) Cumulative Conditions scenario								

Report Figure 1: Lane Configuration and Traffic Control



Walnut Canyon Road at Broa



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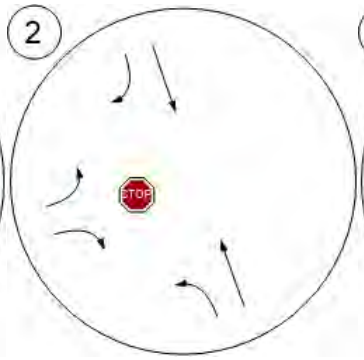
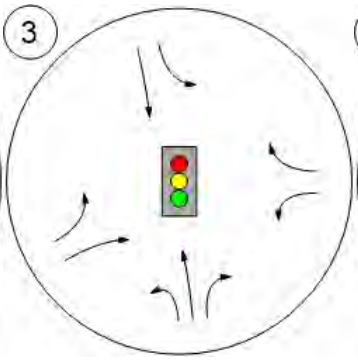


Walnut Canyon Road at Spri



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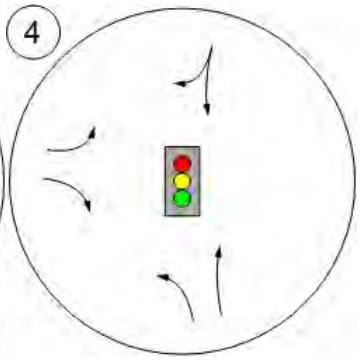
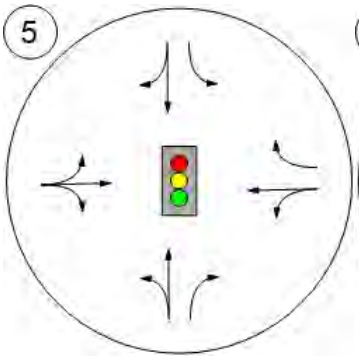
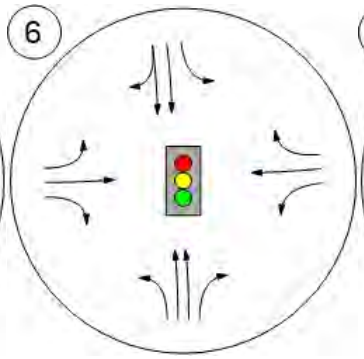


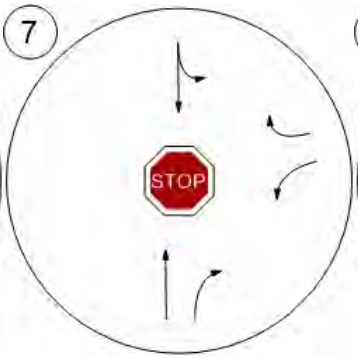
Moorpark Avenue at High Str



Spring Road at High Street



Gabbert Road at Poindexter



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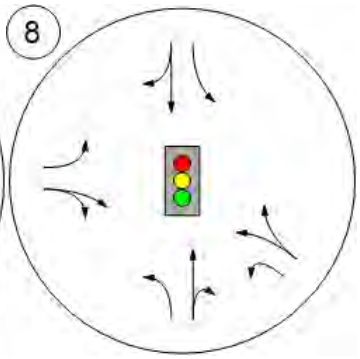
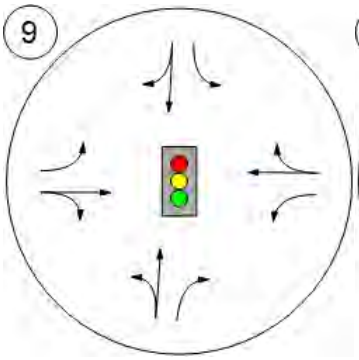


Report Figure 1: Lane Configuration and Traffic Control



Somis Road and Los Angeles



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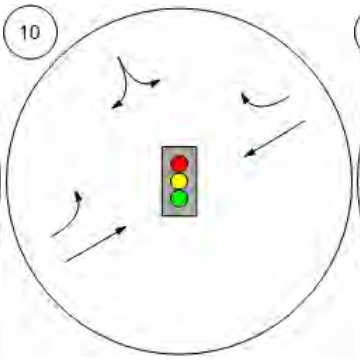
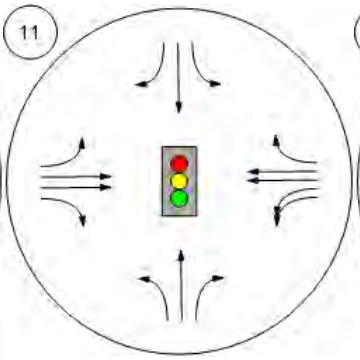
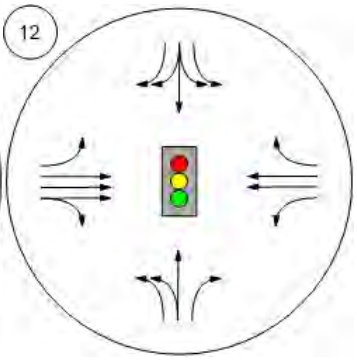


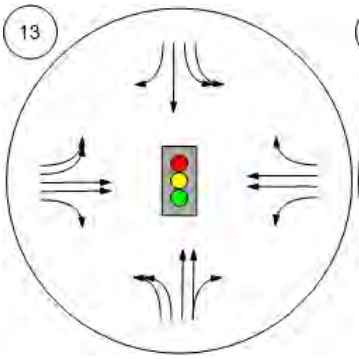
Tierra Rejada Road and Los



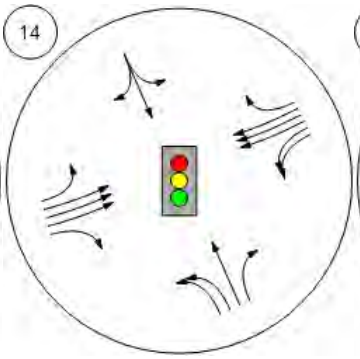
Moorpark Avenue and Los A



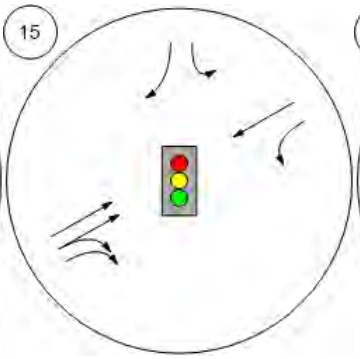
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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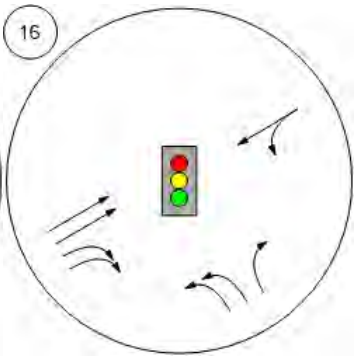
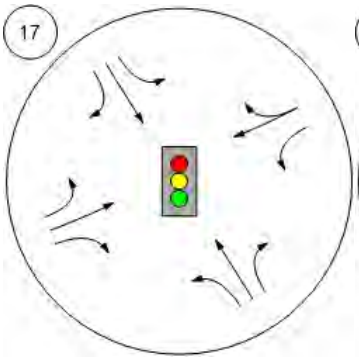


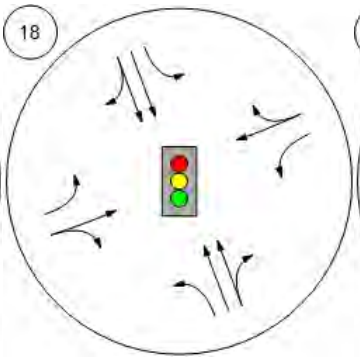
Report Figure 1: Lane Configuration and Traffic Control



Spring Road and Peach Hill



Tierra Rejada Road and Cou



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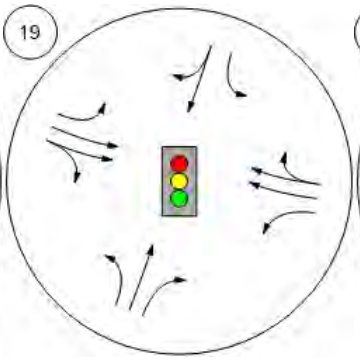

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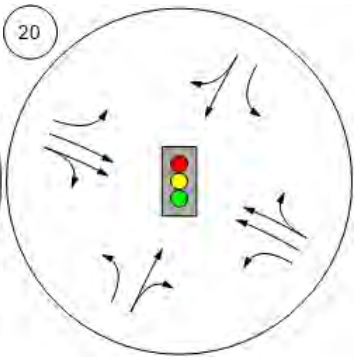

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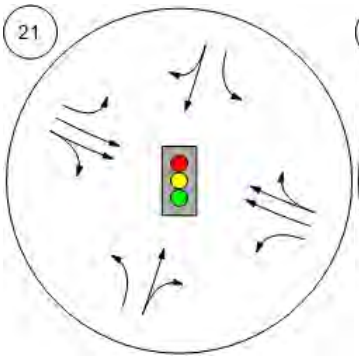

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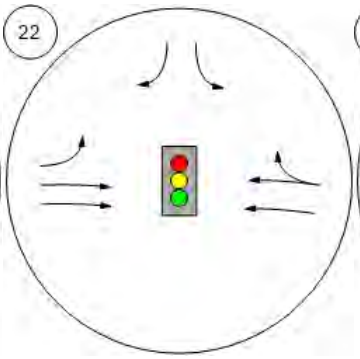
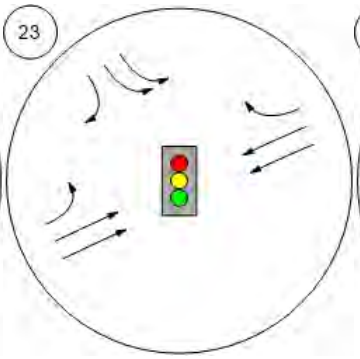
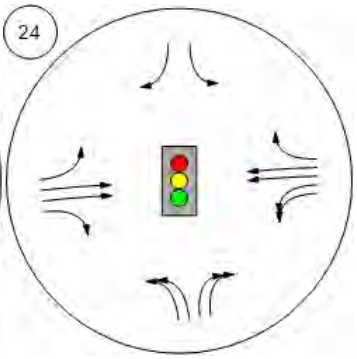


Spring Road and Tierra Reja



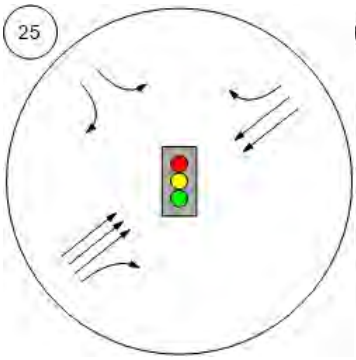
Moorpark Road and Tierra R



Report Figure 1: Lane Configuration and Traffic Control



SR□23 SB ramps and Tierra



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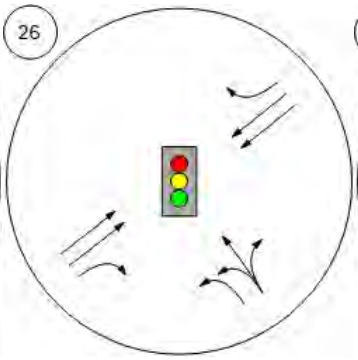

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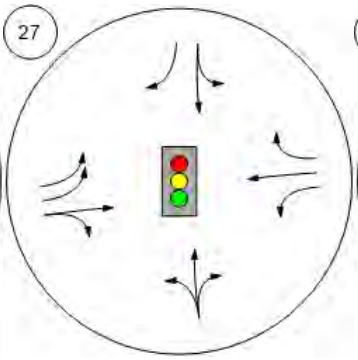

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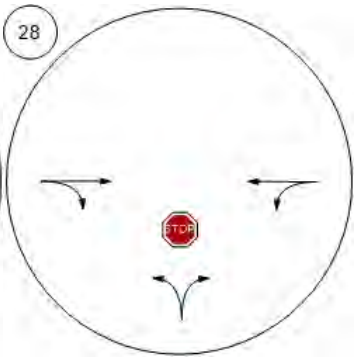

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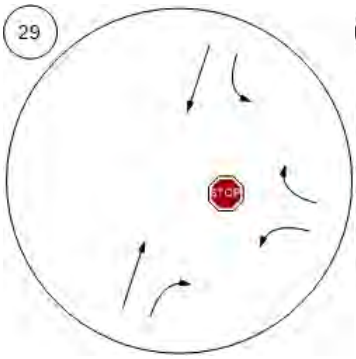
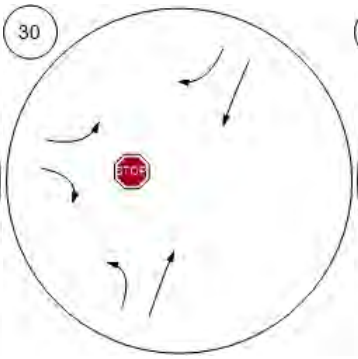
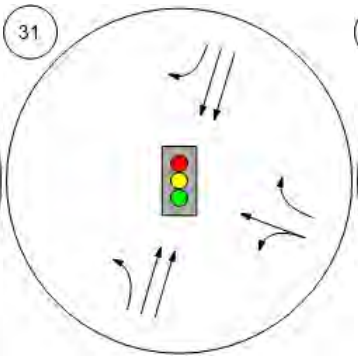


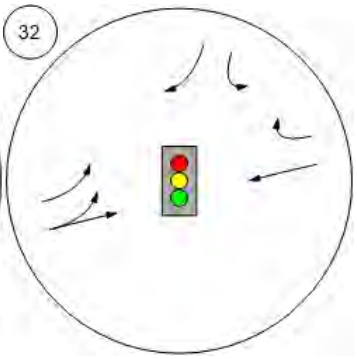
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



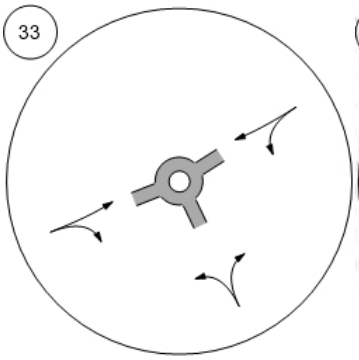
SR 118 EB and Collins Drive



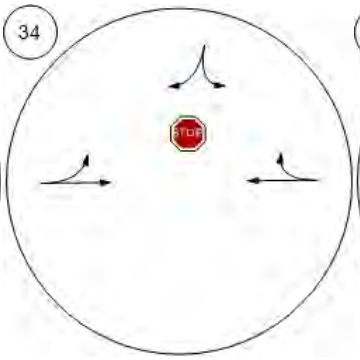
Report Figure 1: Lane Configuration and Traffic Control



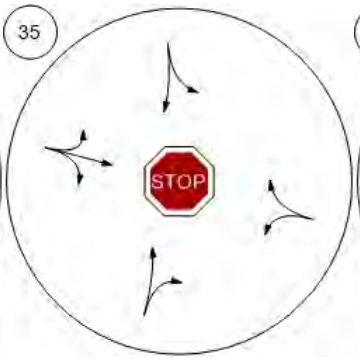
Future Road - Meridian Hills



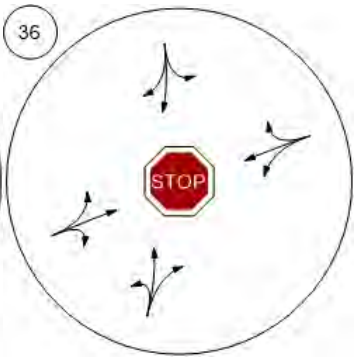
Future Road - Street "A" at Hi



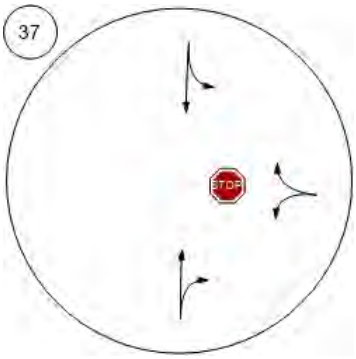
Future Road - Casey Road at



Future Road - Gabbert Road



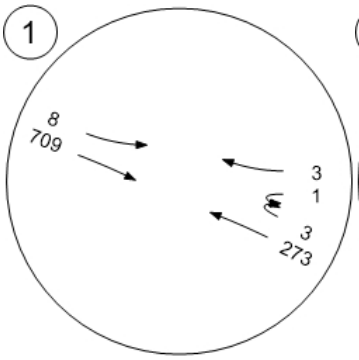
Future Road - Gabbert Road



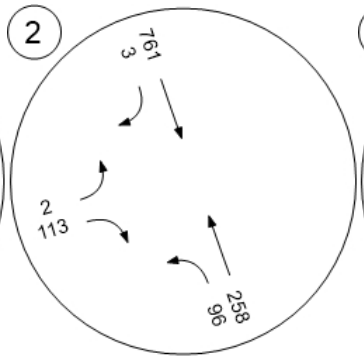
Report Figure 3a: Traffic Volume - Base Volume



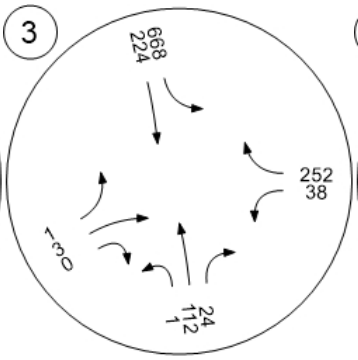
Walnut Canyon Road at Broa



Walnut Canyon Road at Cha



Walnut Canyon Road at Spri



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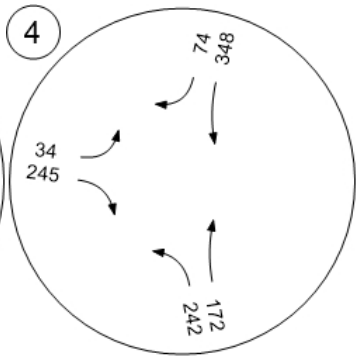
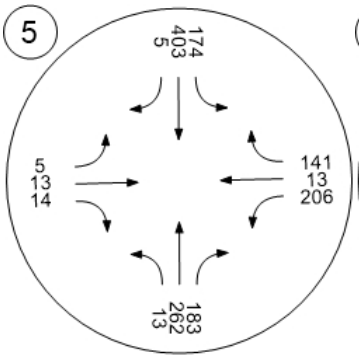
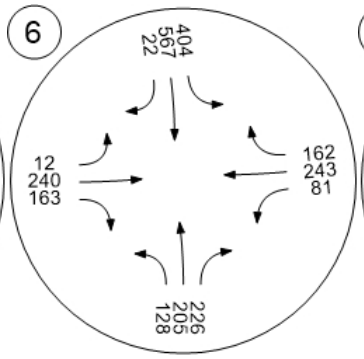


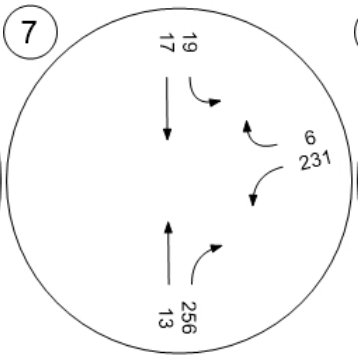
Moorpark Avenue at High Str



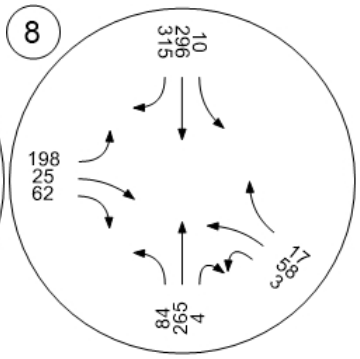
Spring Road at High Street



Gabbert Road at Poindexter



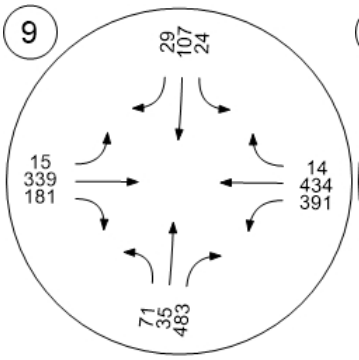
Moorpark Avenue and Poind



Report Figure 3a: Traffic Volume - Base Volume



Somis Road and Los Angeles



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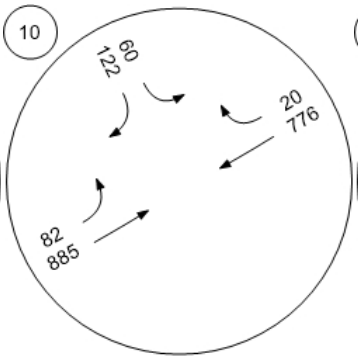
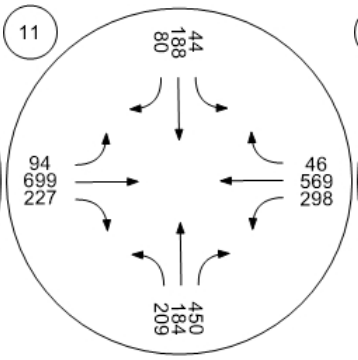


Tierra Rejada Road and Los



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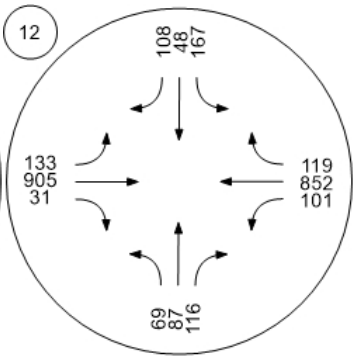
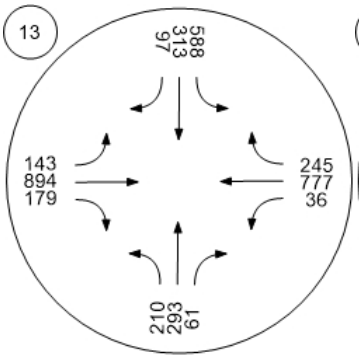
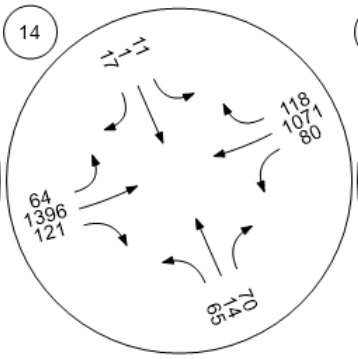


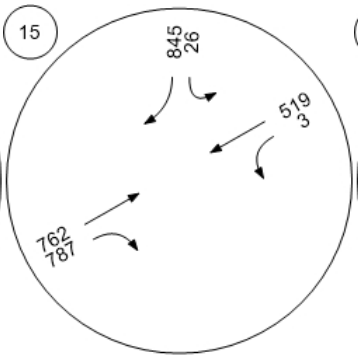
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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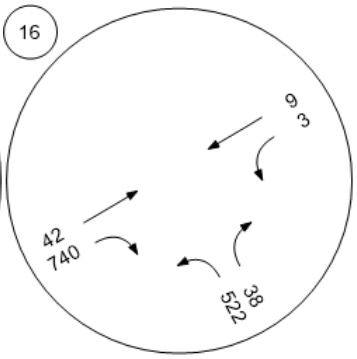
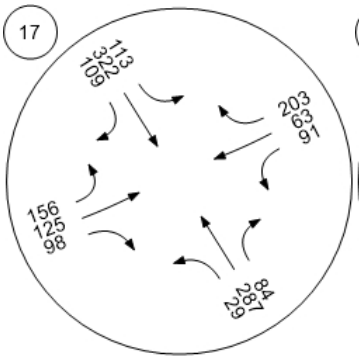


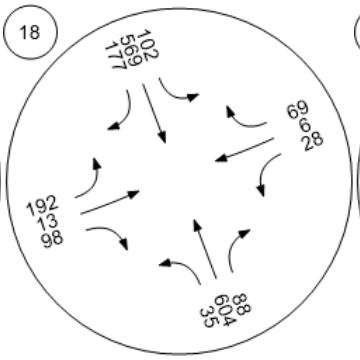
Report Figure 3a: Traffic Volume - Base Volume



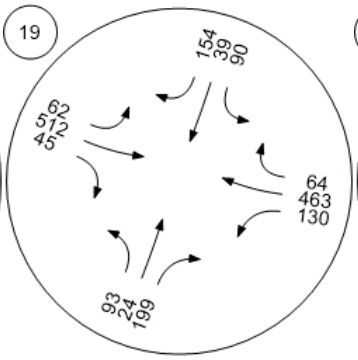
Spring Road and Peach Hill



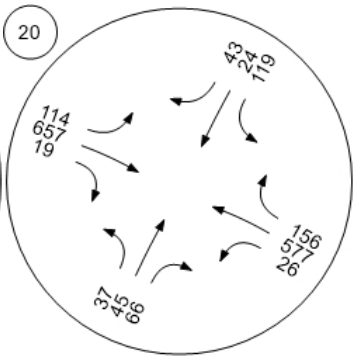
Tierra Rejada Road and Cou



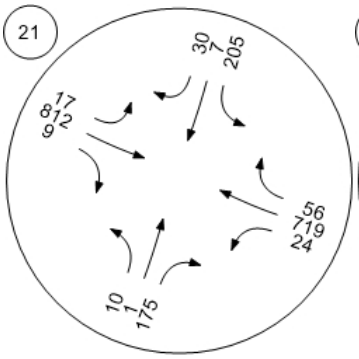
Mountain Trail Street and Tie



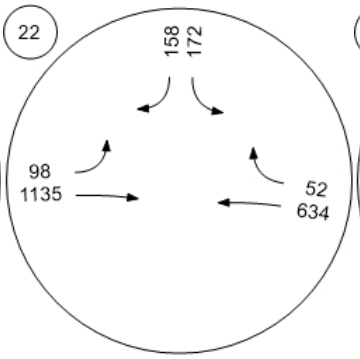
Mountain Meadow Drive and



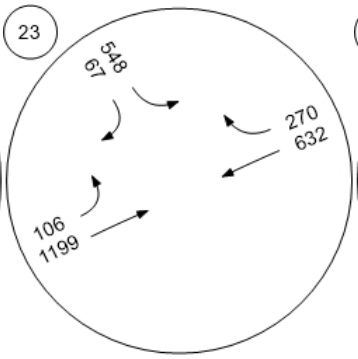
Walnut Creek Road and Tierr



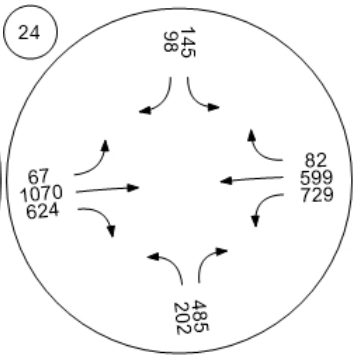
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



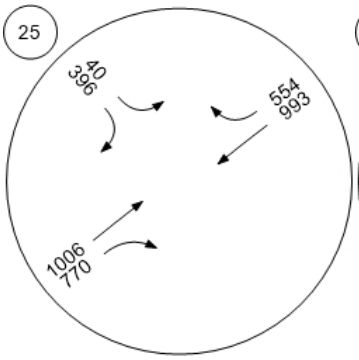
Moorpark Road and Tierra R



Report Figure 3a: Traffic Volume - Base Volume



SR□23 SB ramps and Tierra



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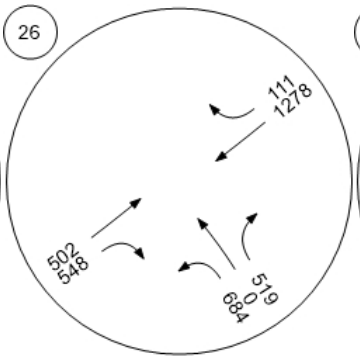
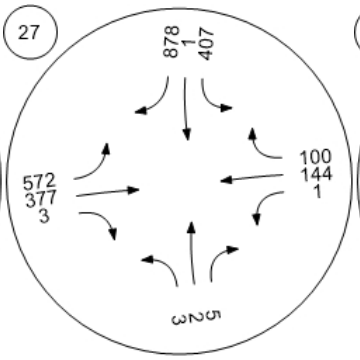


Moorpark Road and Santa R



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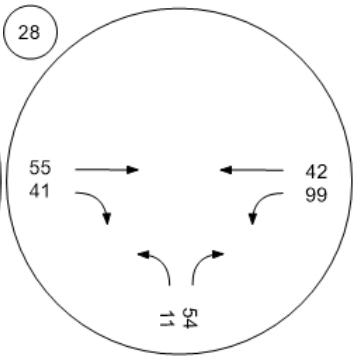

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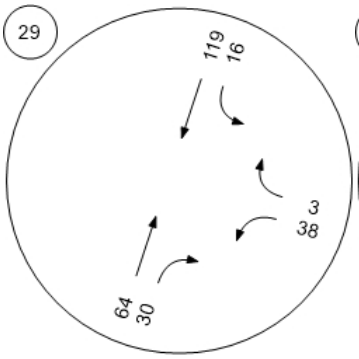
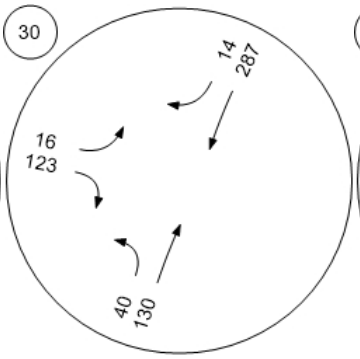
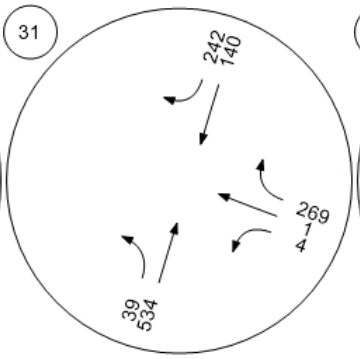


Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



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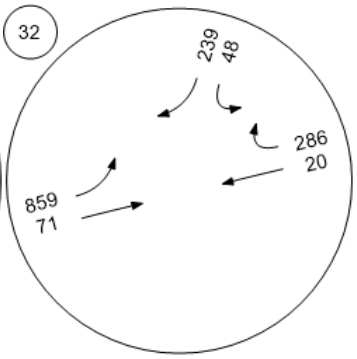

Report Figure 3a: Traffic Volume - Base Volume



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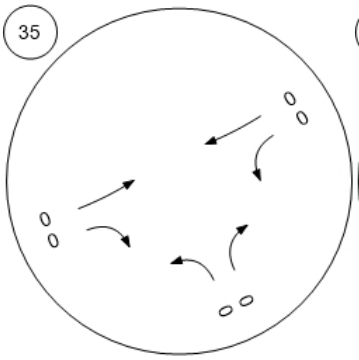
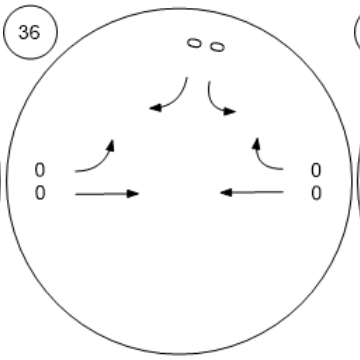


Future Road - Street "A" at Hi



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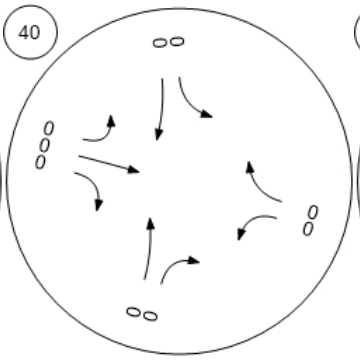
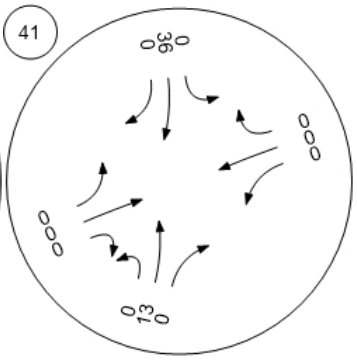
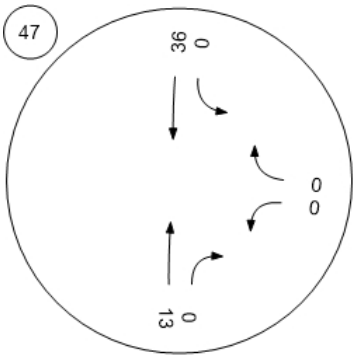


Future Road - Gabbert Road



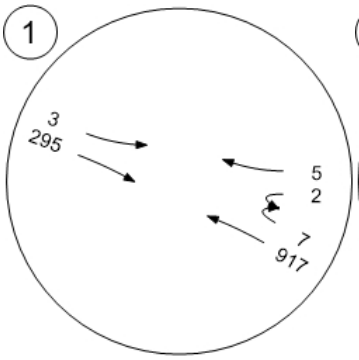
Future Road - Gabbert Road



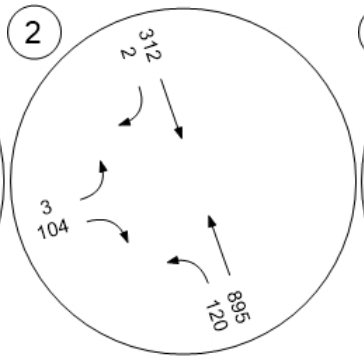
Report Figure 4a: Traffic Volume - Base Volume



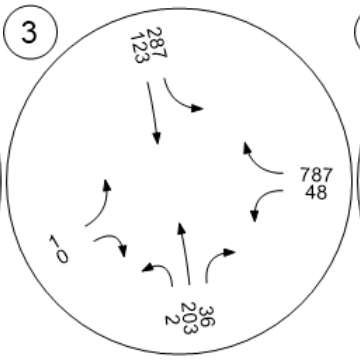
Walnut Canyon Road at Broa



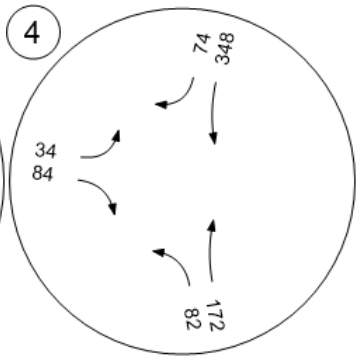
Walnut Canyon Road at Cha



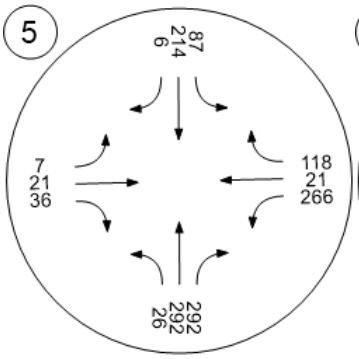
Walnut Canyon Road at Spri



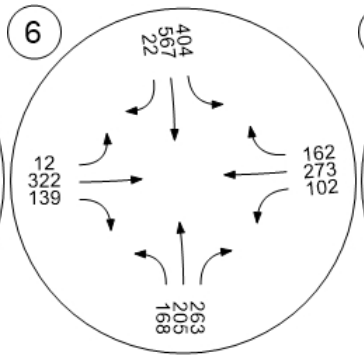
Walnut Canyon Road at Cas



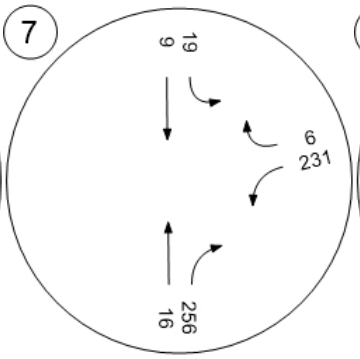
Moorpark Avenue at High Str



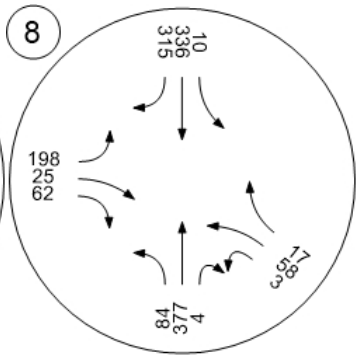
Spring Road at High Street



Gabbert Road at Poindexter



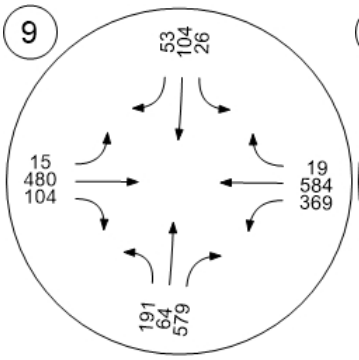
Moorpark Avenue and Poind



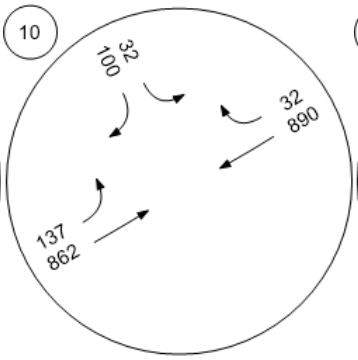
Report Figure 4a: Traffic Volume - Base Volume



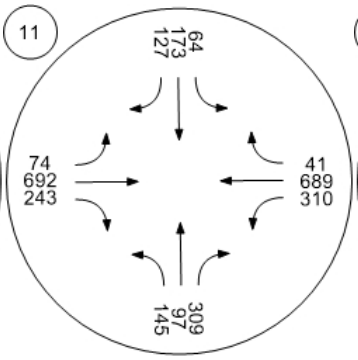
Somis Road and Los Angeles



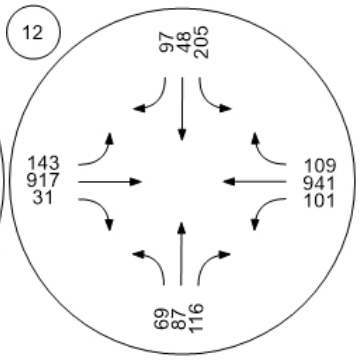
Grimes Canyon Road and Lo



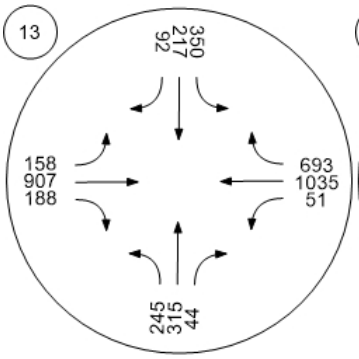
Tierra Rejada Road and Los



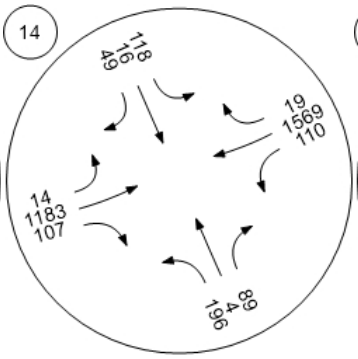
Moorpark Avenue and Los A



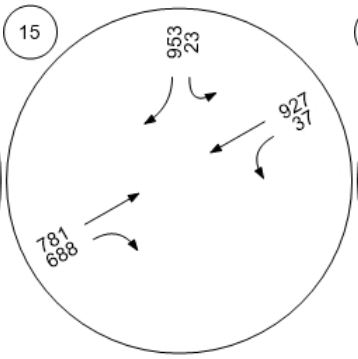
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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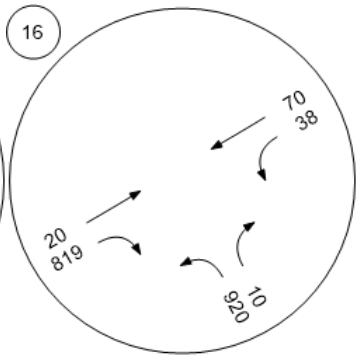
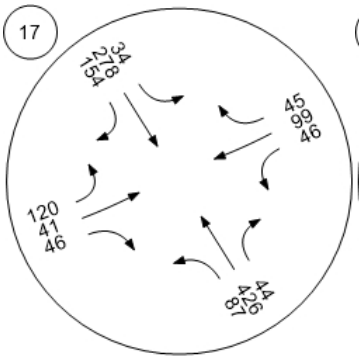


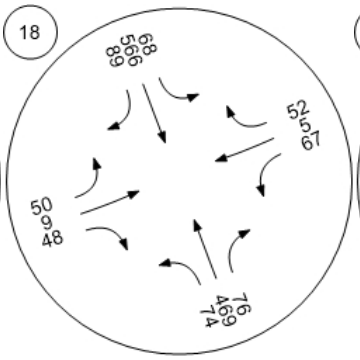
Report Figure 4a: Traffic Volume - Base Volume



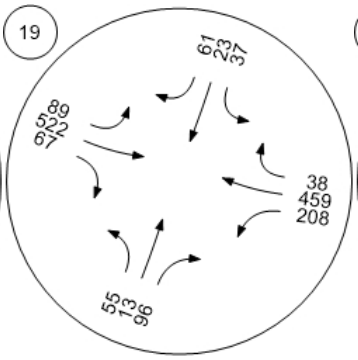
Spring Road and Peach Hill



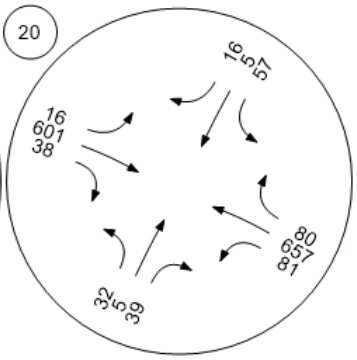
Tierra Rejada Road and Cou



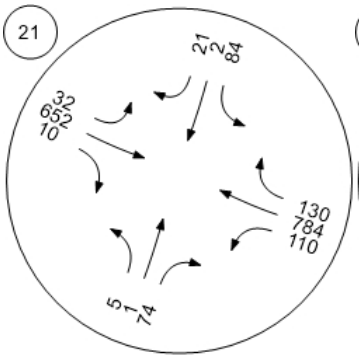
Mountain Trail Street and Tie



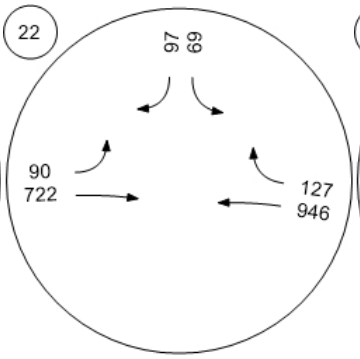
Mountain Meadow Drive and



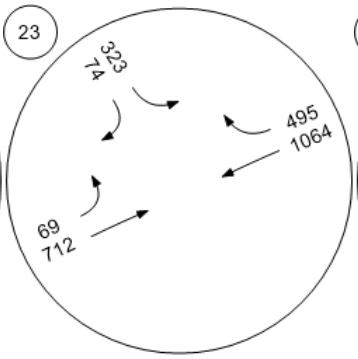
Walnut Creek Road and Tierr



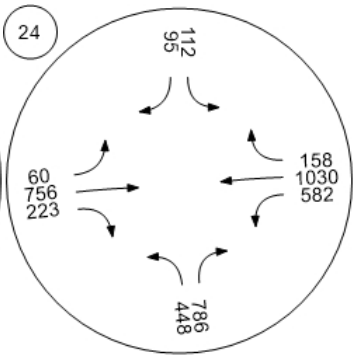
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



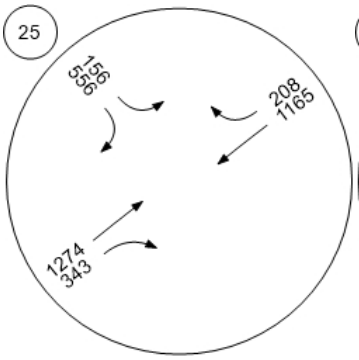
Moorpark Road and Tierra R



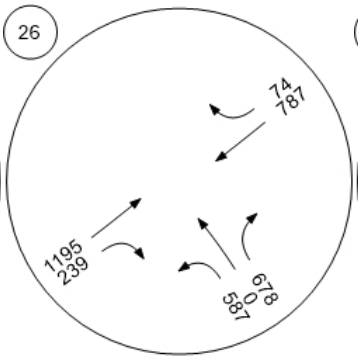
Report Figure 4a: Traffic Volume - Base Volume



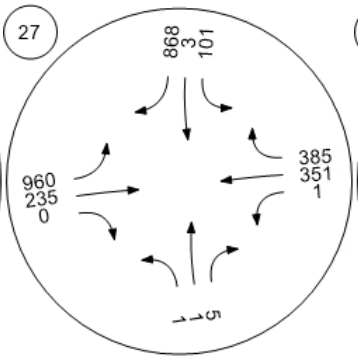
SR□23 SB ramps and Tierra



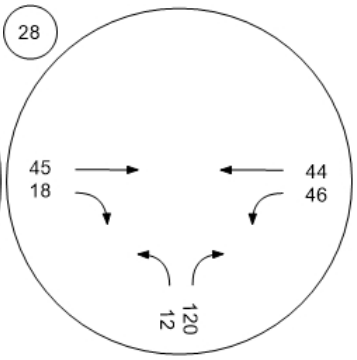
SB□23 NB ramps and Tierra



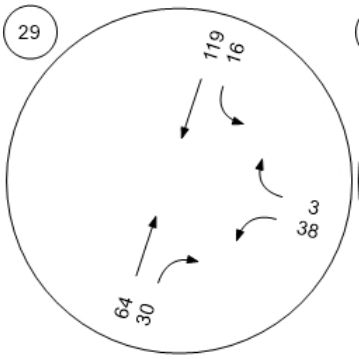
Moorpark Road and Santa R



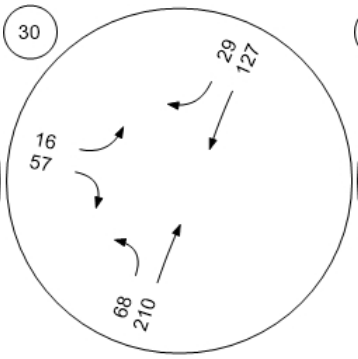
Broadway Road and Grimes



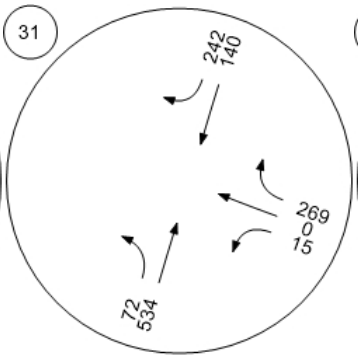
Championship Drive and Gri



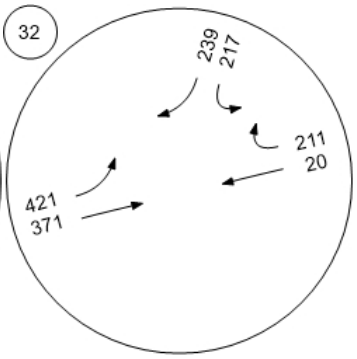
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



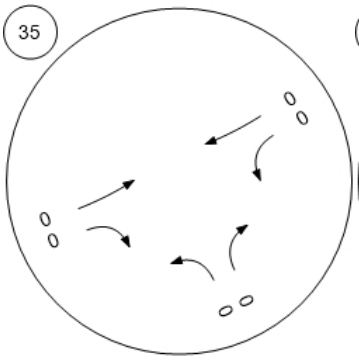
SR 118 EB and Collins Drive



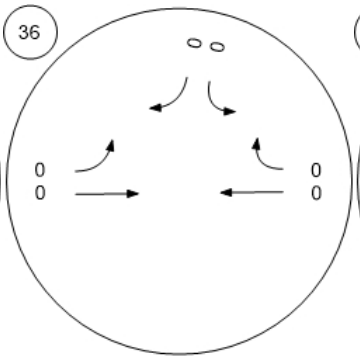
Report Figure 4a: Traffic Volume - Base Volume



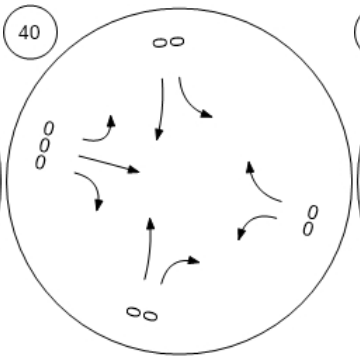
Future Road - Meridian Hills



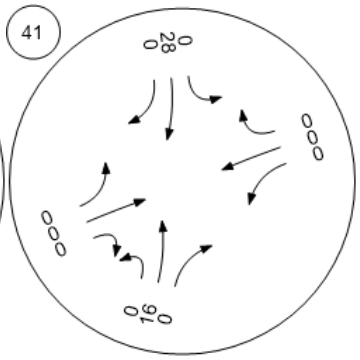
Future Road - Street "A" at Hi



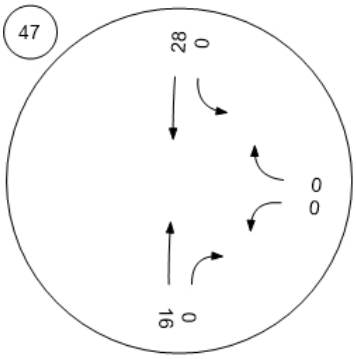
Future Road - Casey Road at



Future Road - Gabbert Road



Future Road - Gabbert Road



Report Figure 5d: Traffic Volume - Net New Site Trips



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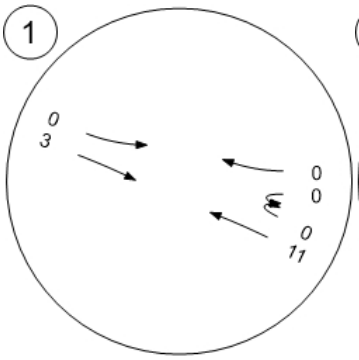
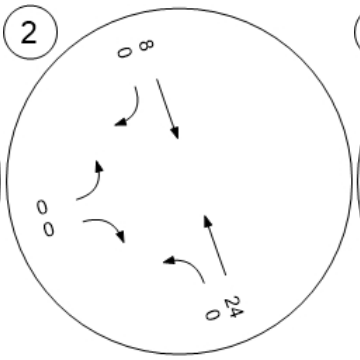
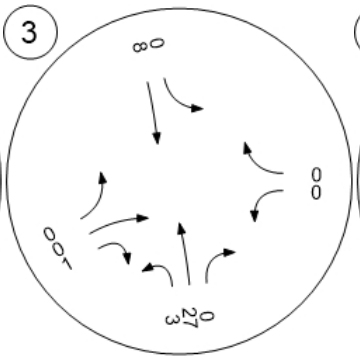


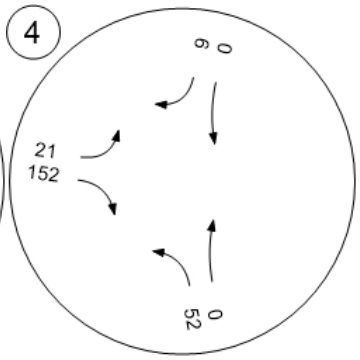
Walnut Canyon Road at Cha



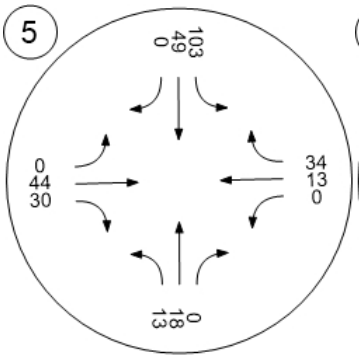
Walnut Canyon Road at Spri



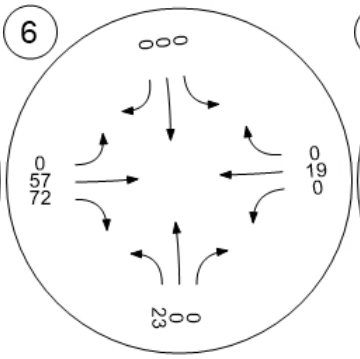
Walnut Canyon Road at Cas



Moorpark Avenue at High Str



Spring Road at High Street



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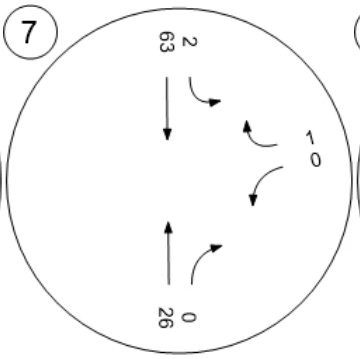
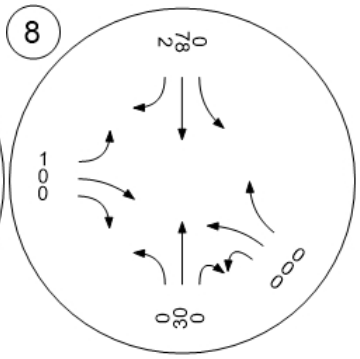


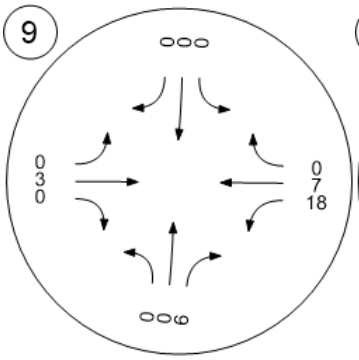
Moorpark Avenue and Poind



Report Figure 5d: Traffic Volume - Net New Site Trips



Somis Road and Los Angeles



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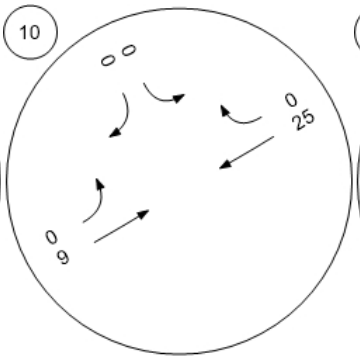

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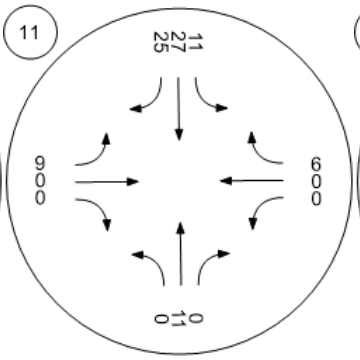
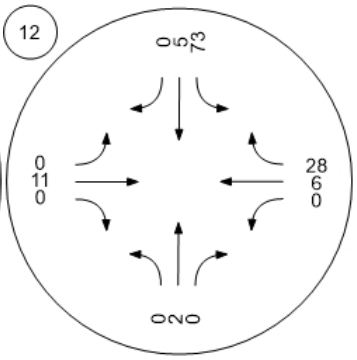


Moorpark Avenue and Los A



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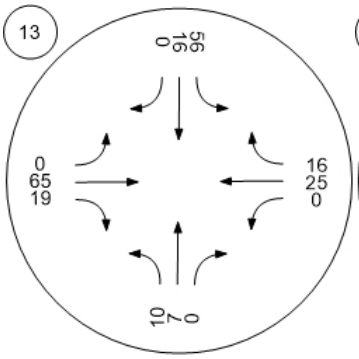

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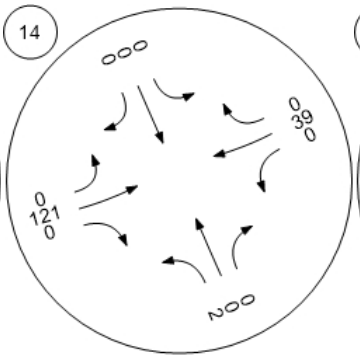
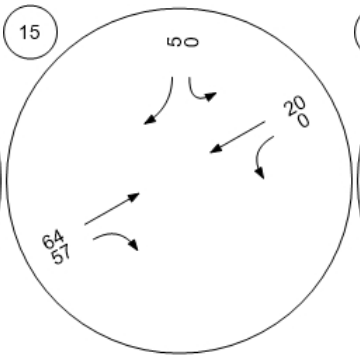


SR□23 SB ramps and Los An



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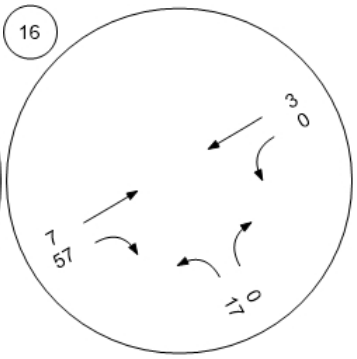

Report Figure 5d: Traffic Volume - Net New Site Trips



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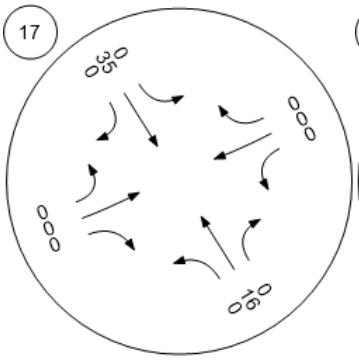

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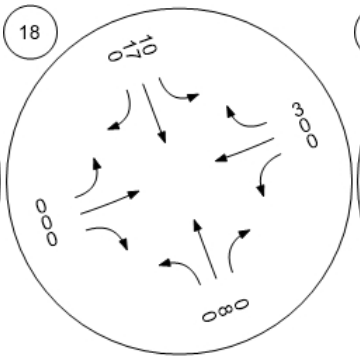

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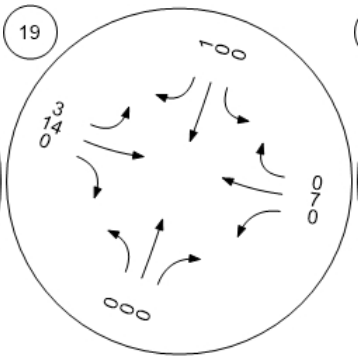

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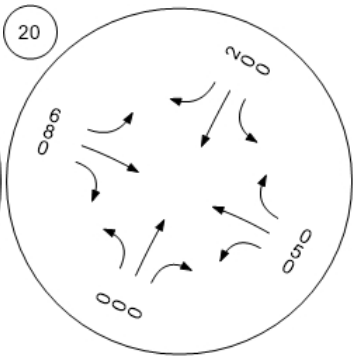

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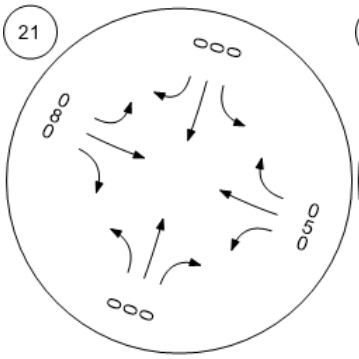

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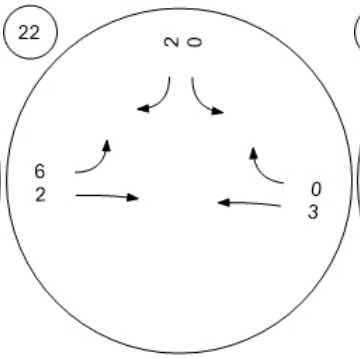

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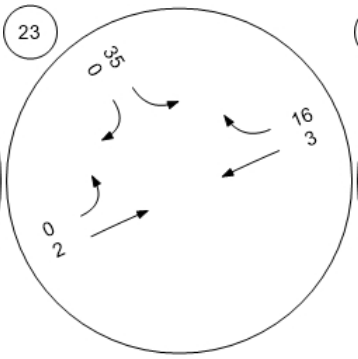

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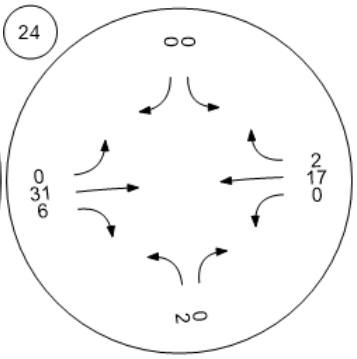

Report Figure 5d: Traffic Volume - Net New Site Trips



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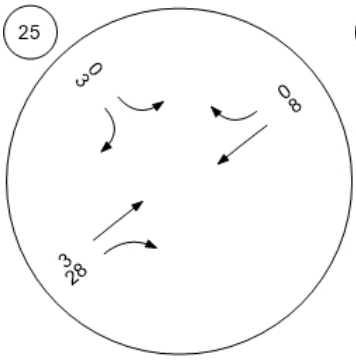
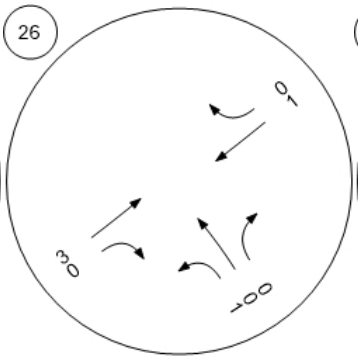


SB□23 NB ramps and Tierra



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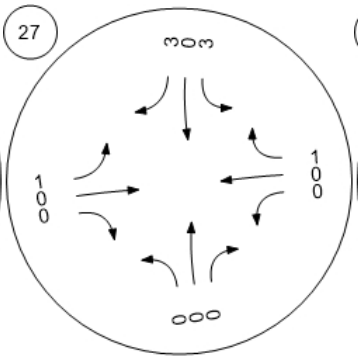

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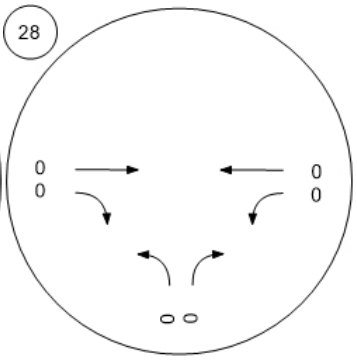

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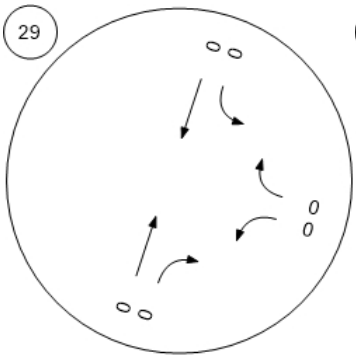

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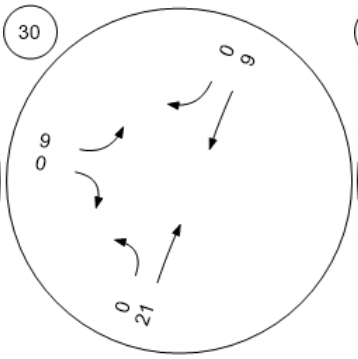
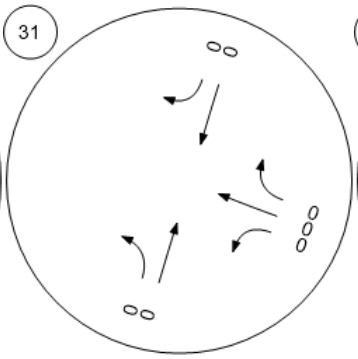


SR 118 WB and Collins Drive



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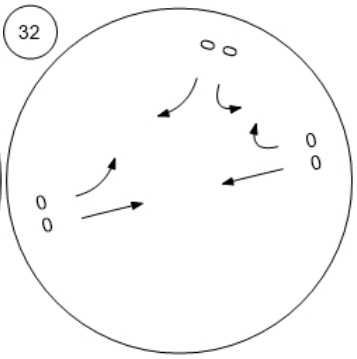
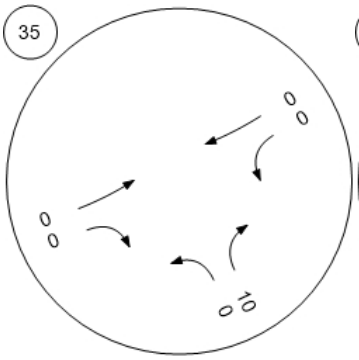


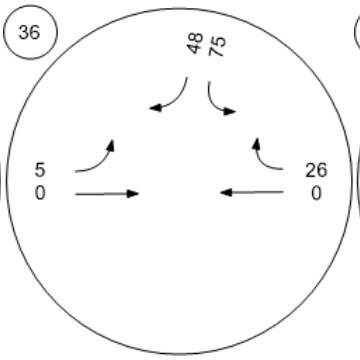
Report Figure 5d: Traffic Volume - Net New Site Trips



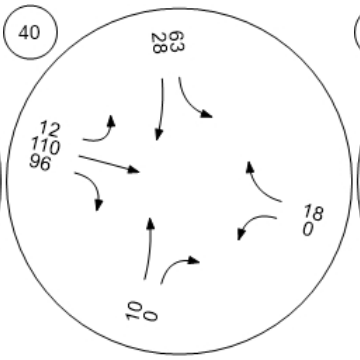
Future Road - Meridian Hills



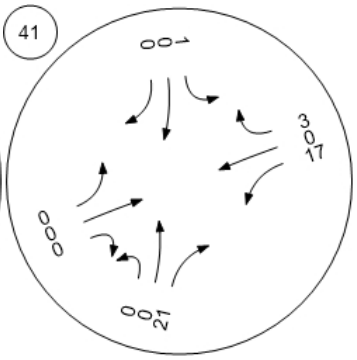
Future Road - Street "A" at Hi



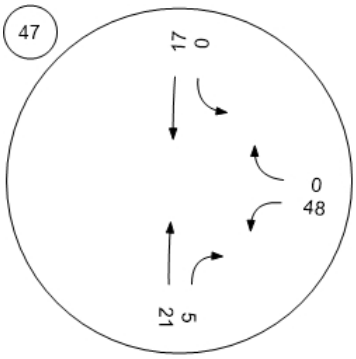
Future Road - Casey Road at



Future Road - Gabbert Road



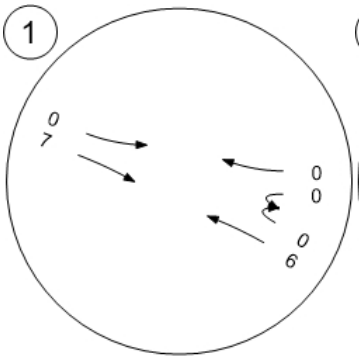
Future Road - Gabbert Road



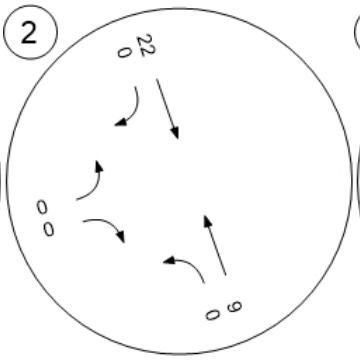
Report Figure 6d: Traffic Volume - Net New Site Trips



Walnut Canyon Road at Broa



Walnut Canyon Road at Cha



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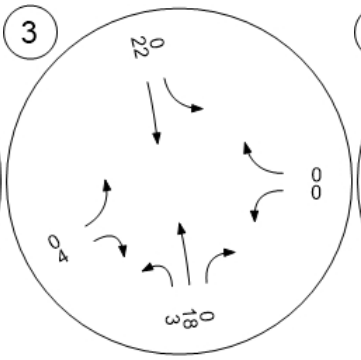

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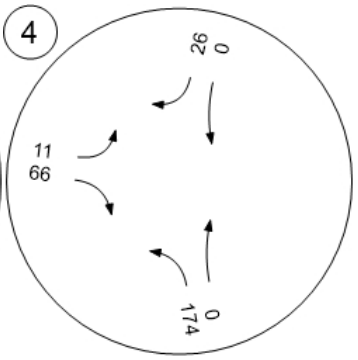
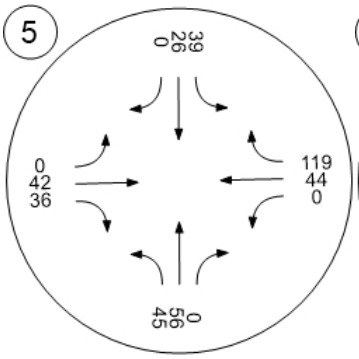
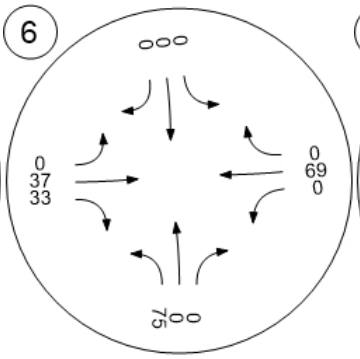


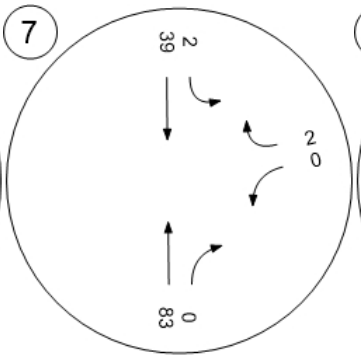
Moorpark Avenue at High Str



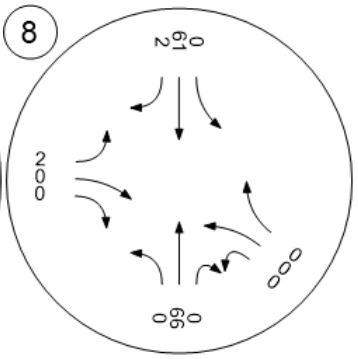
Spring Road at High Street



Gabbert Road at Poindexter



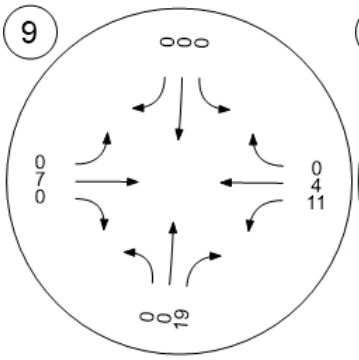
Moorpark Avenue and Poind



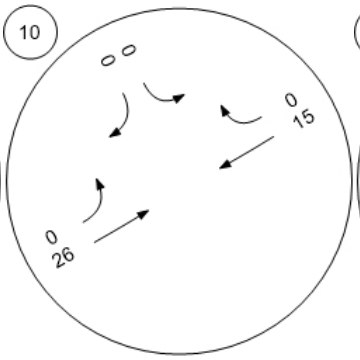
Report Figure 6d: Traffic Volume - Net New Site Trips



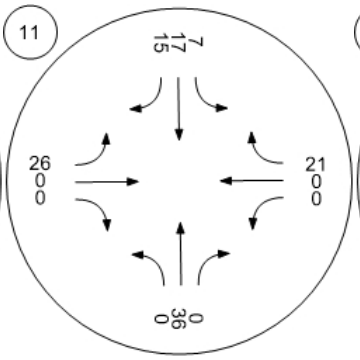
Somis Road and Los Angeles



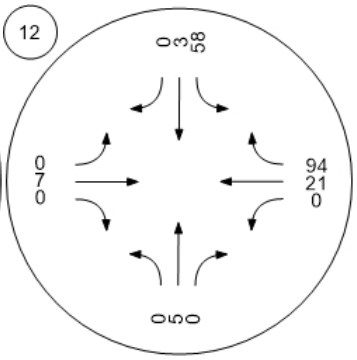
Grimes Canyon Road and Lo



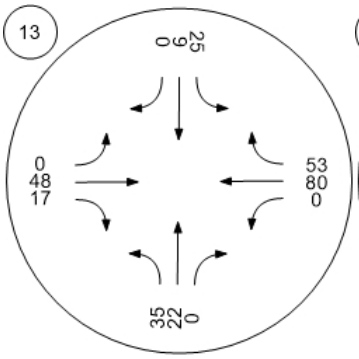
Tierra Rejada Road and Los



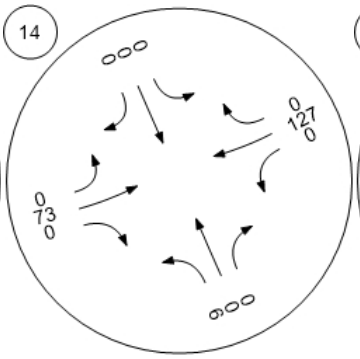
Moorpark Avenue and Los A



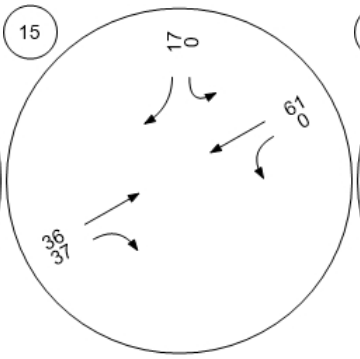
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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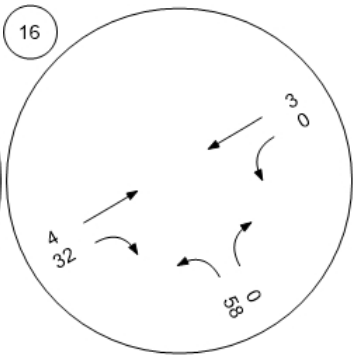
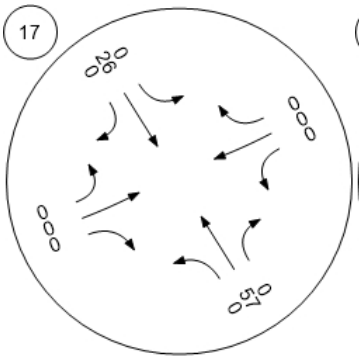


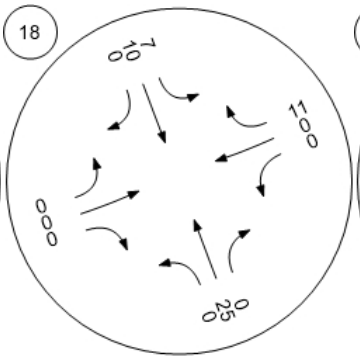
Report Figure 6d: Traffic Volume - Net New Site Trips



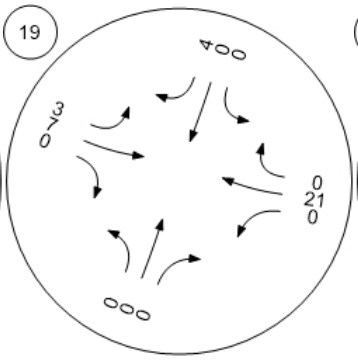
Spring Road and Peach Hill



Tierra Rejada Road and Cou



Mountain Trail Street and Tie



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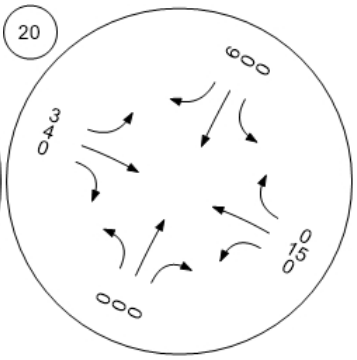

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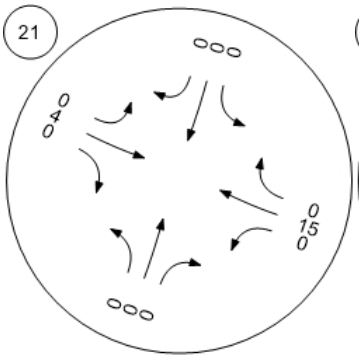
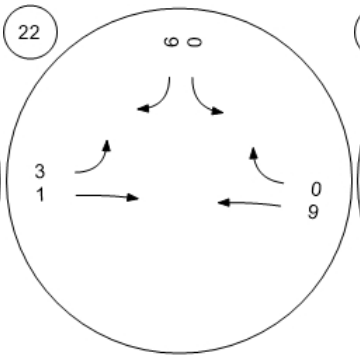
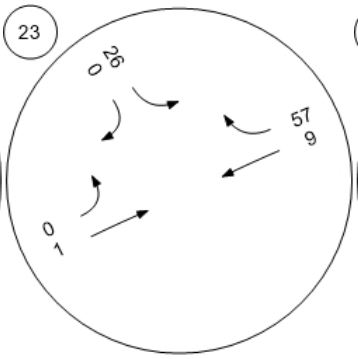


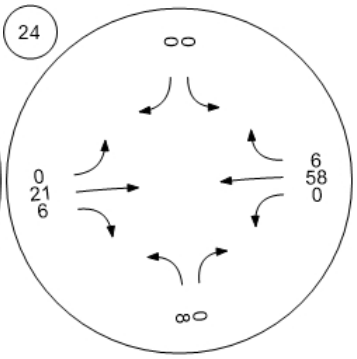
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



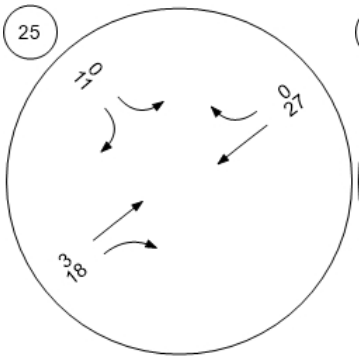
Moorpark Road and Tierra R



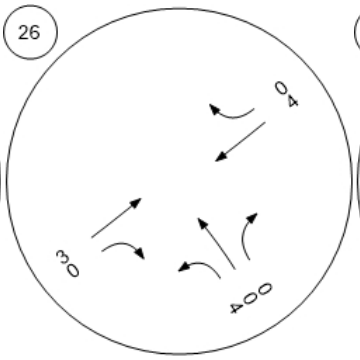
Report Figure 6d: Traffic Volume - Net New Site Trips



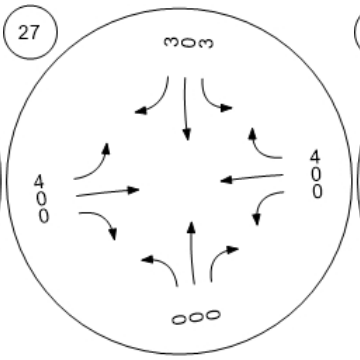
SR□23 SB ramps and Tierra



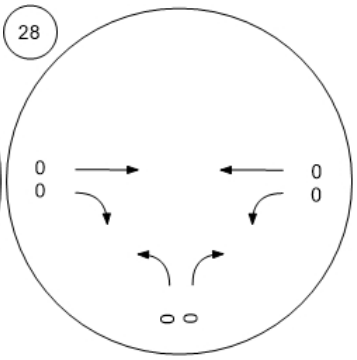
SB□23 NB ramps and Tierra



Moorpark Road and Santa R



Broadway Road and Grimes



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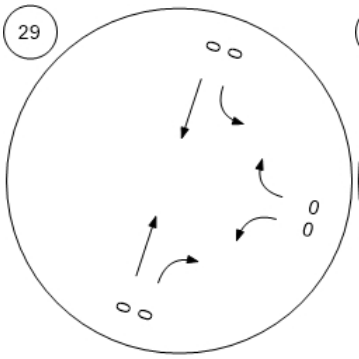

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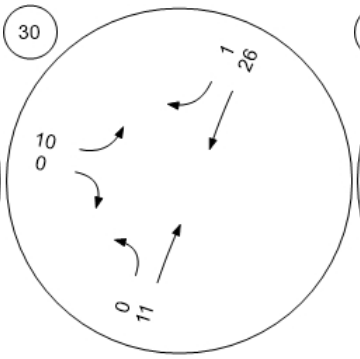
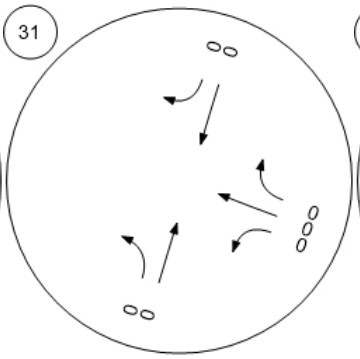


SR 118 WB and Collins Drive



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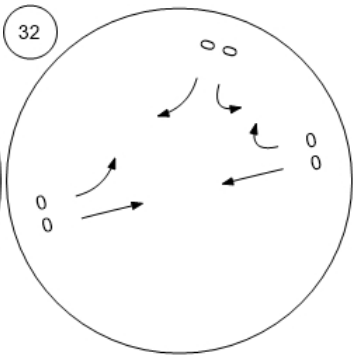
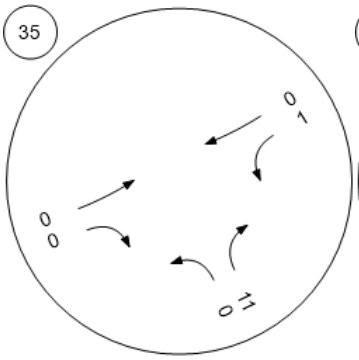


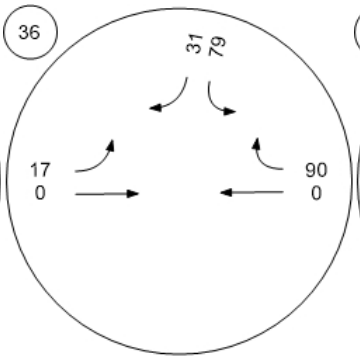
Report Figure 6d: Traffic Volume - Net New Site Trips



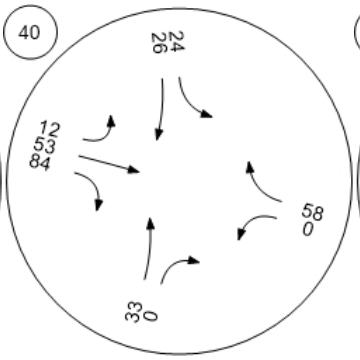
Future Road - Meridian Hills



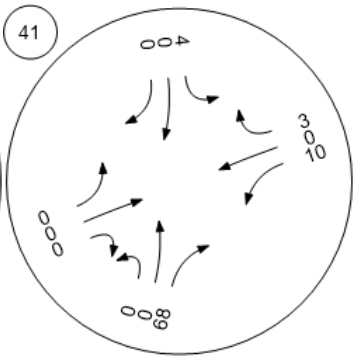
Future Road - Street "A" at Hi



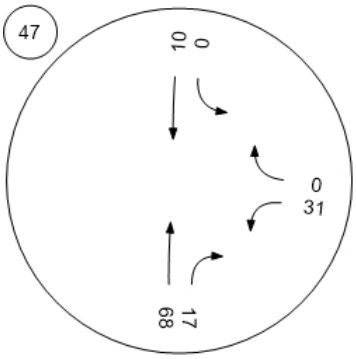
Future Road - Casey Road at



Future Road - Gabbert Road



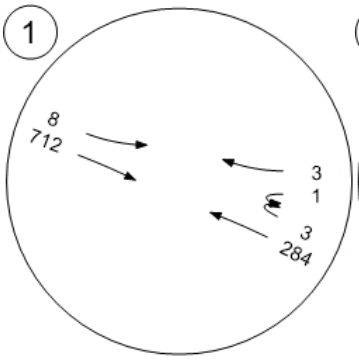
Future Road - Gabbert Road



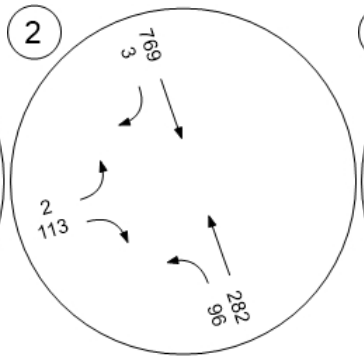
Report Figure 7f: Traffic Volume - Future Total Volume



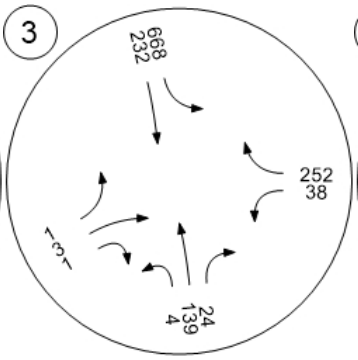
Walnut Canyon Road at Broa



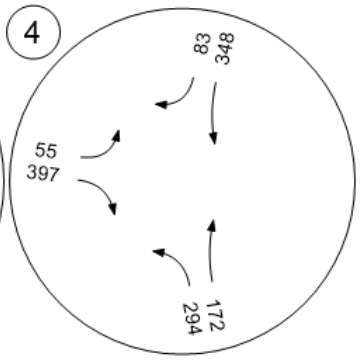
Walnut Canyon Road at Cha



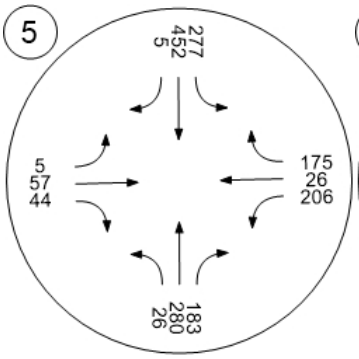
Walnut Canyon Road at Spri



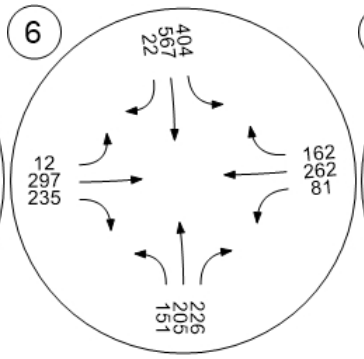
Walnut Canyon Road at Cas



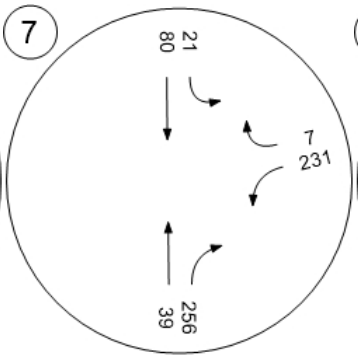
Moorpark Avenue at High Str



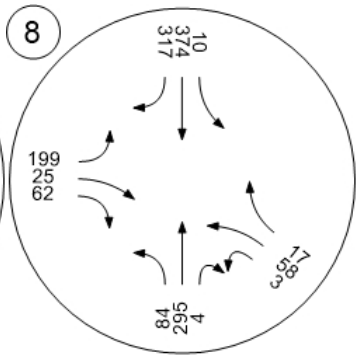
Spring Road at High Street



Gabbert Road at Poindexter



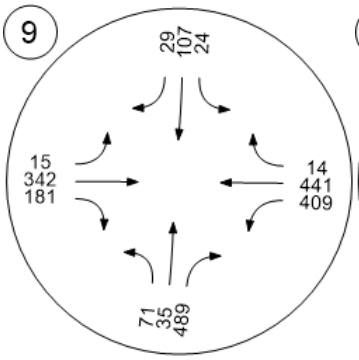
Moorpark Avenue and Poind



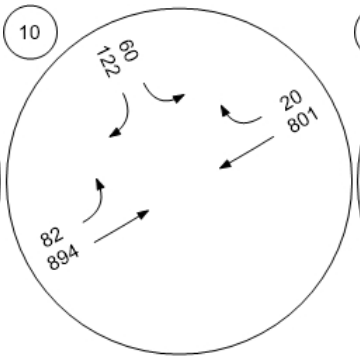
Report Figure 7f: Traffic Volume - Future Total Volume



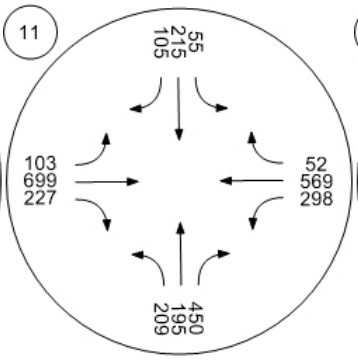
Somis Road and Los Angeles



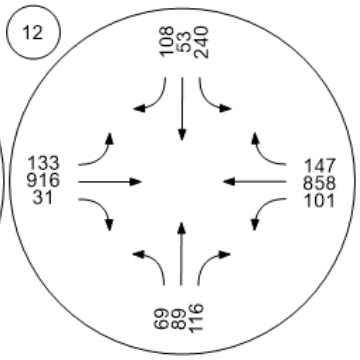
Grimes Canyon Road and Lo



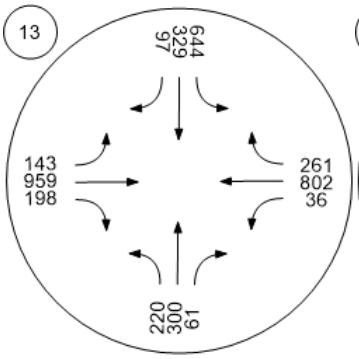
Tierra Rejada Road and Los



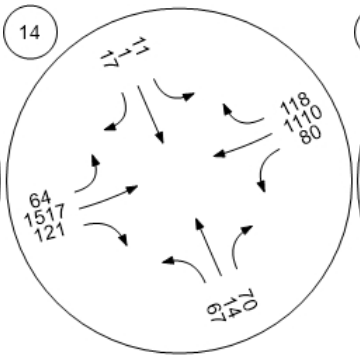
Moorpark Avenue and Los A



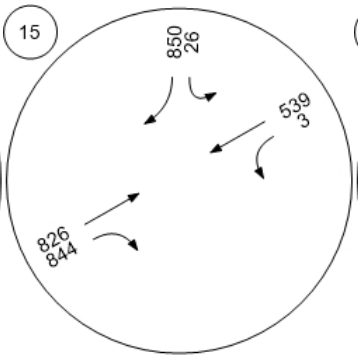
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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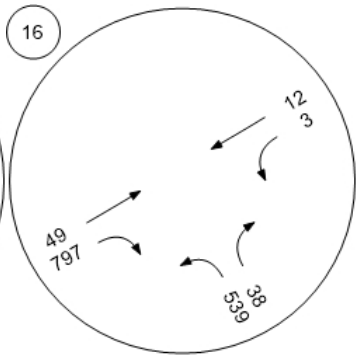
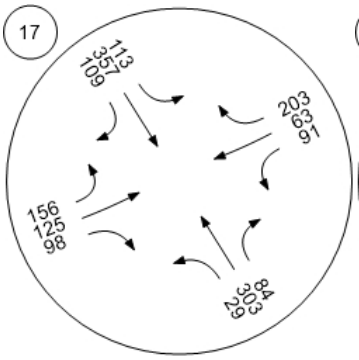


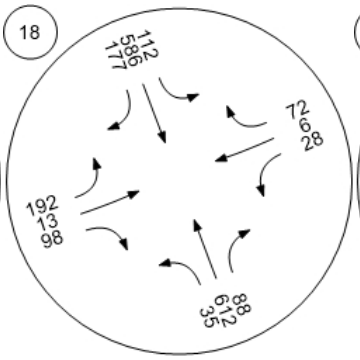
Report Figure 7f: Traffic Volume - Future Total Volume



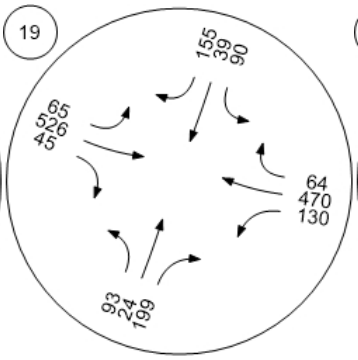
Spring Road and Peach Hill



Tierra Rejada Road and Cou



Mountain Trail Street and Tie



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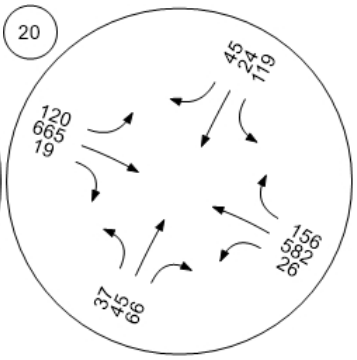
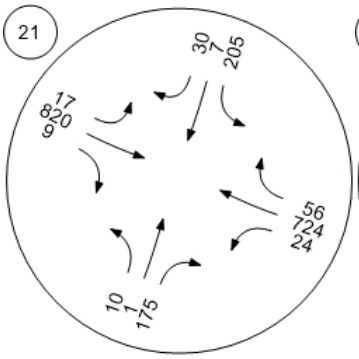


Walnut Creek Road and Tierr



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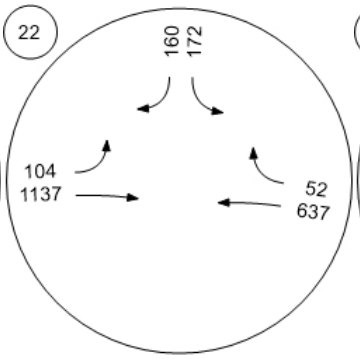

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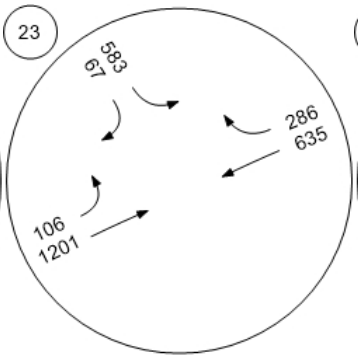
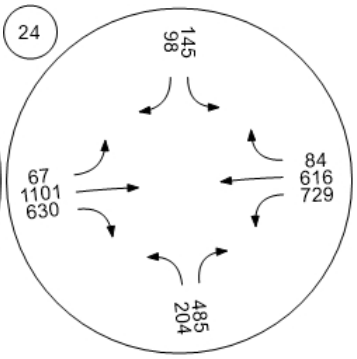
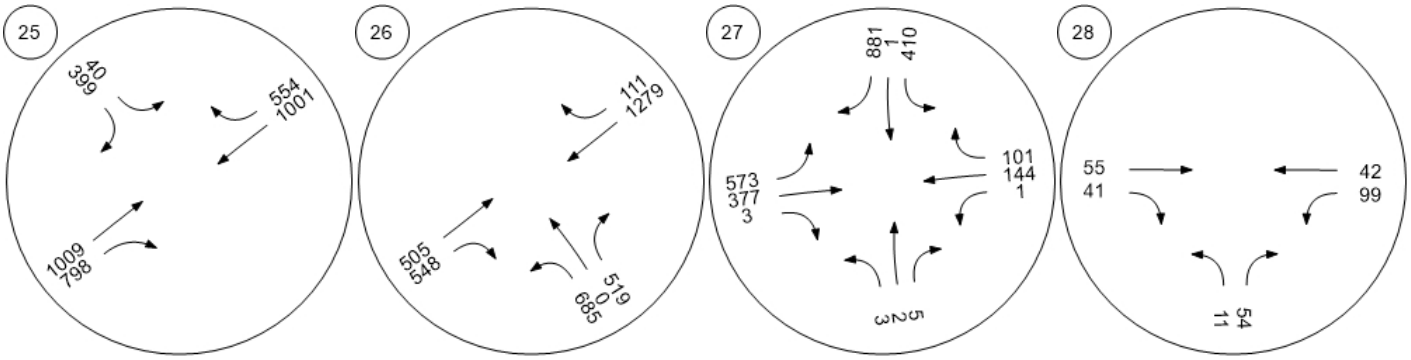


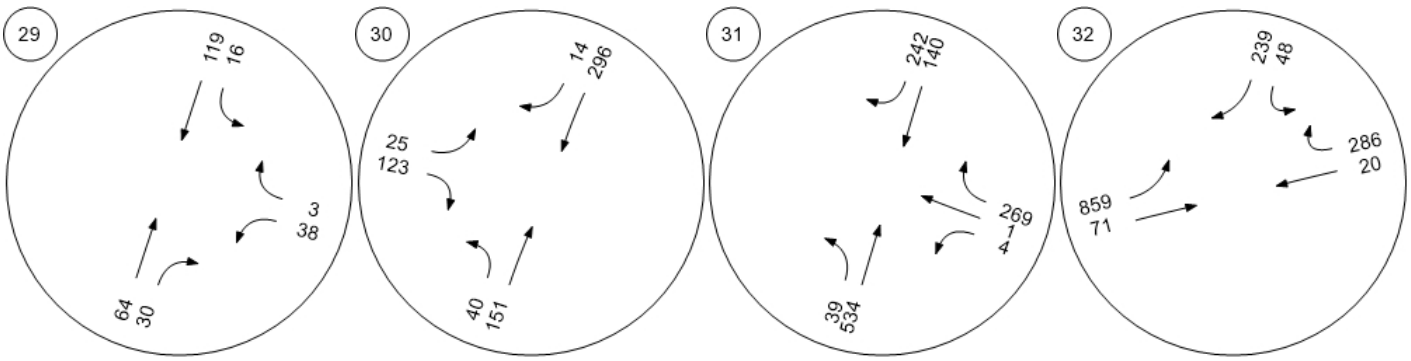
Moorpark Road and Tierra R



Report Figure 7f: Traffic Volume - Future Total Volume



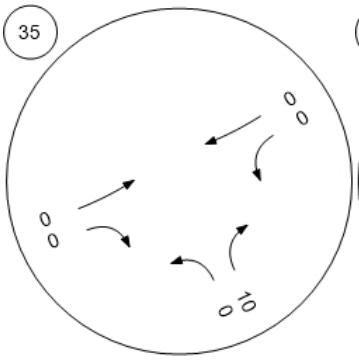




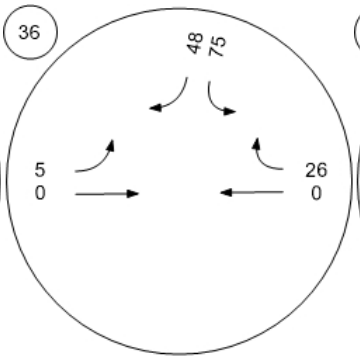
Report Figure 7f: Traffic Volume - Future Total Volume



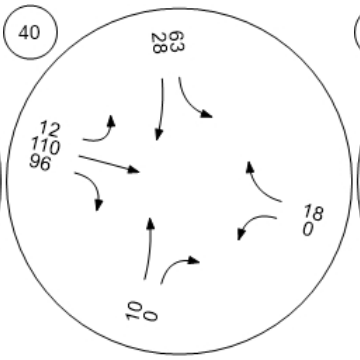
Future Road - Meridian Hills



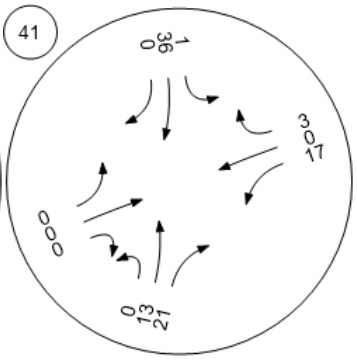
Future Road - Street "A" at Hi



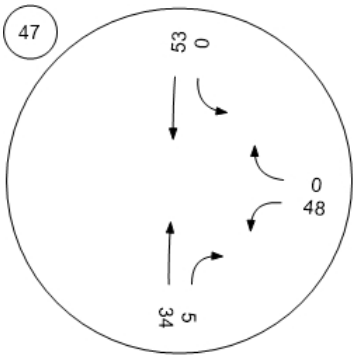
Future Road - Casey Road at



Future Road - Gabbert Road



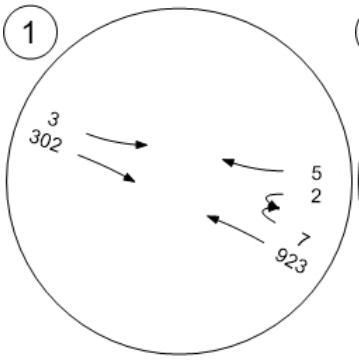
Future Road - Gabbert Road



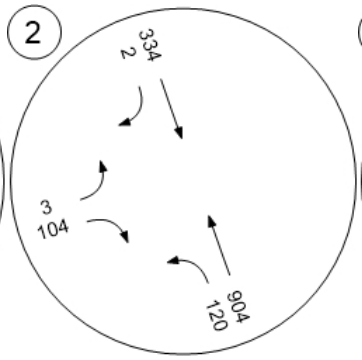
Report Figure 8f: Traffic Volume - Future Total Volume



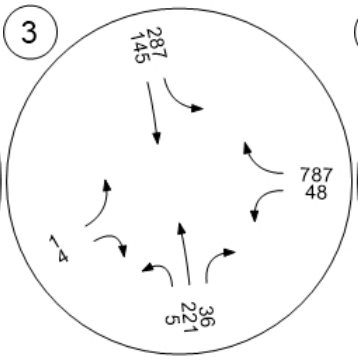
Walnut Canyon Road at Broa



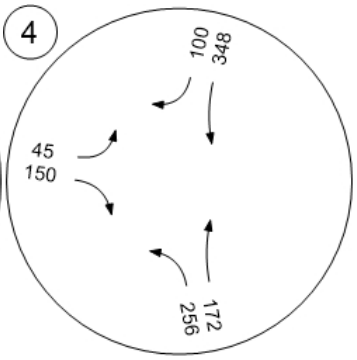
Walnut Canyon Road at Cha



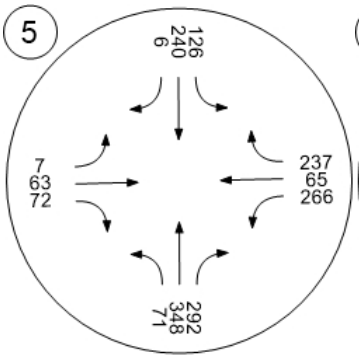
Walnut Canyon Road at Spri



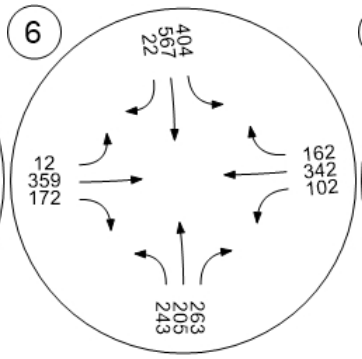
Walnut Canyon Road at Cas



Moorpark Avenue at High Str



Spring Road at High Street



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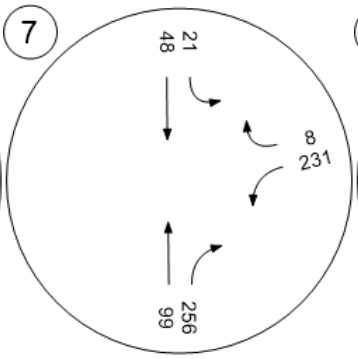
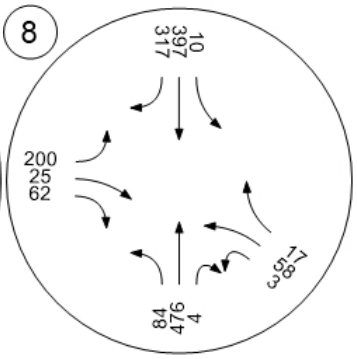


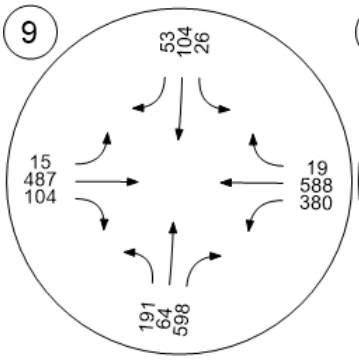
Moorpark Avenue and Poind



Report Figure 8f: Traffic Volume - Future Total Volume



Somis Road and Los Angeles



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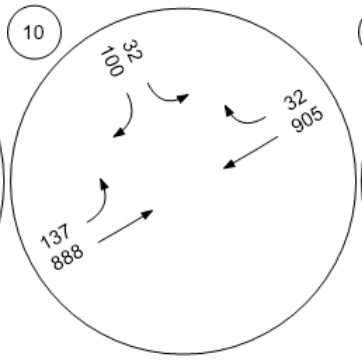

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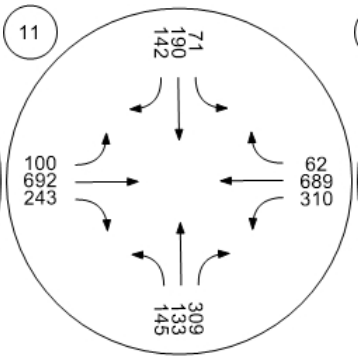
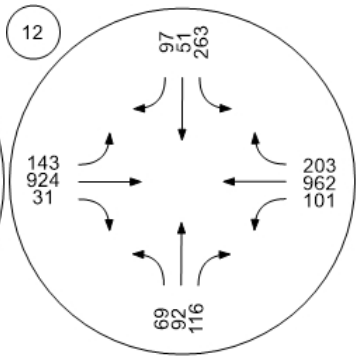
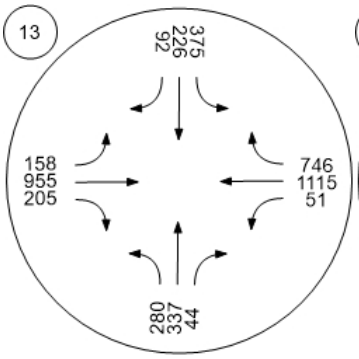


Moorpark Avenue and Los A



Spring Road and Los Angele



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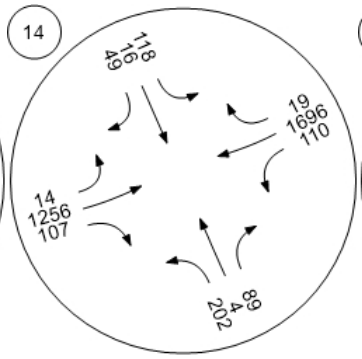
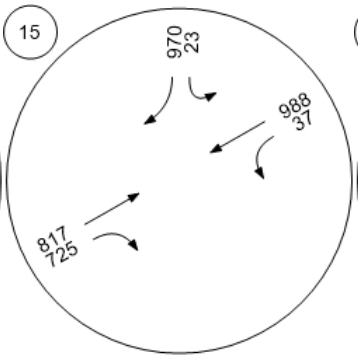


SR□23 SB ramps and Los An



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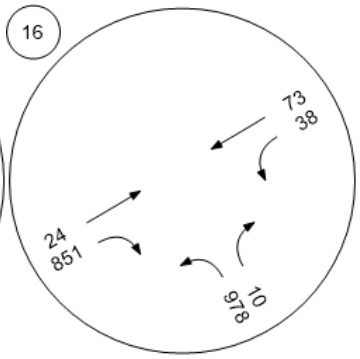

Report Figure 8f: Traffic Volume - Future Total Volume



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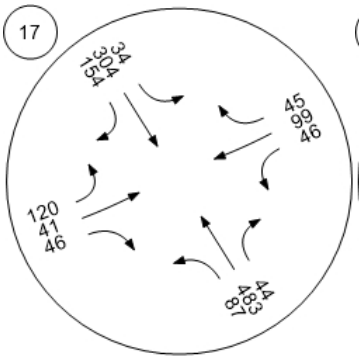

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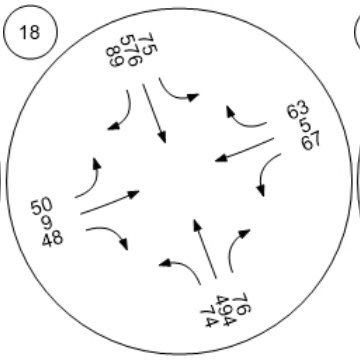

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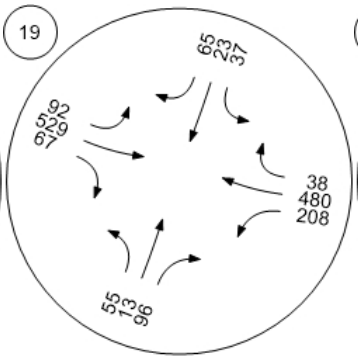

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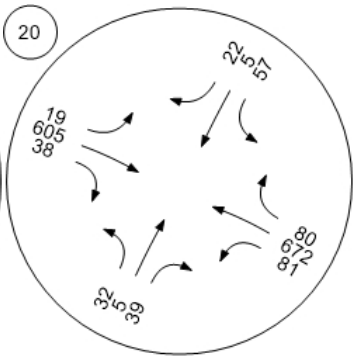
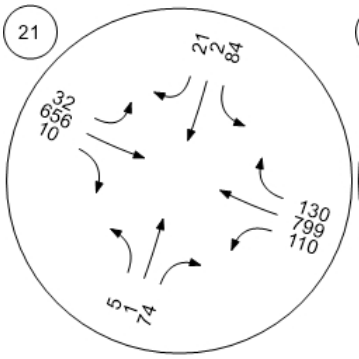


Walnut Creek Road and Tierr



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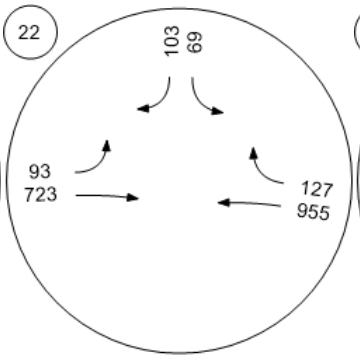

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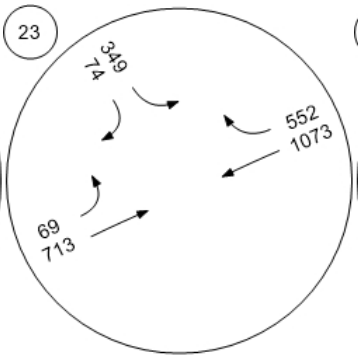

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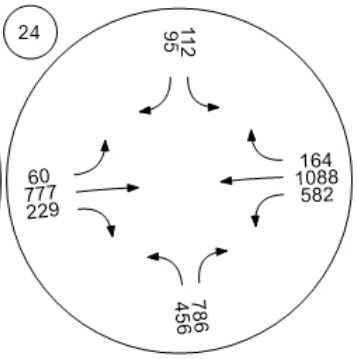

Report Figure 8f: Traffic Volume - Future Total Volume



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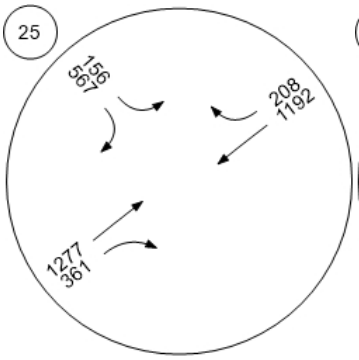

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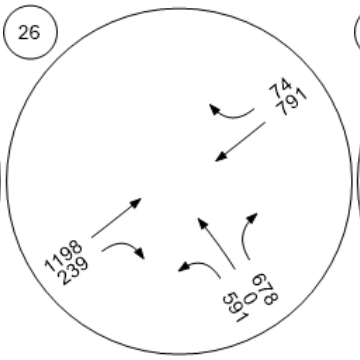

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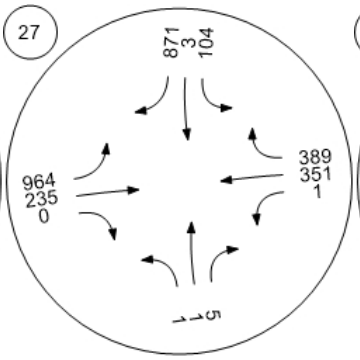

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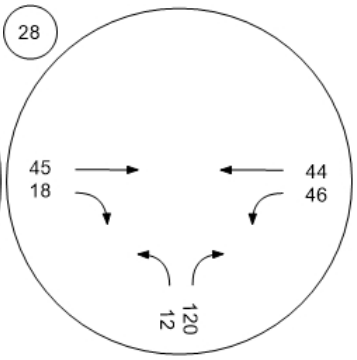

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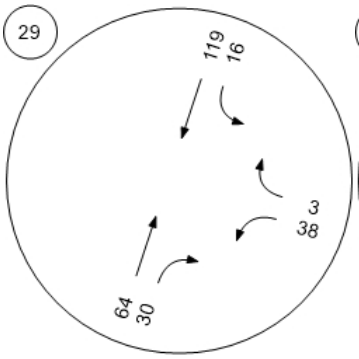

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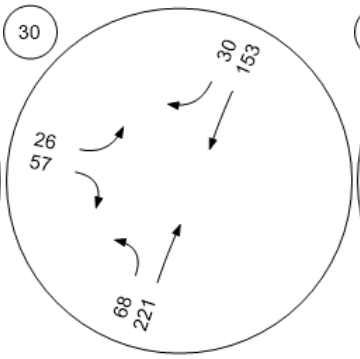
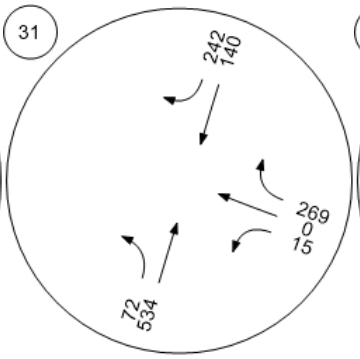


SR 118 WB and Collins Drive



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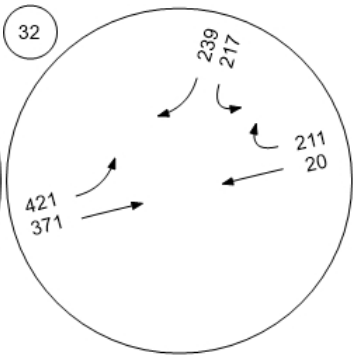
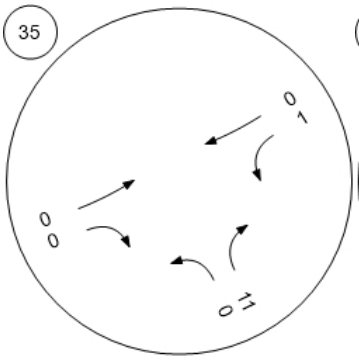


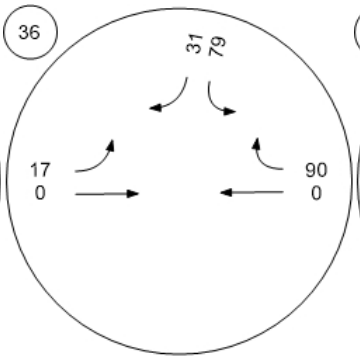
Report Figure 8f: Traffic Volume - Future Total Volume



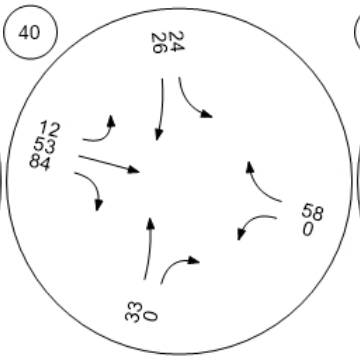
Future Road - Meridian Hills



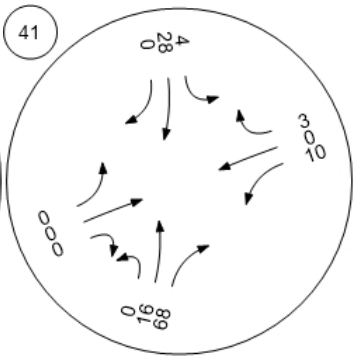
Future Road - Street "A" at Hi



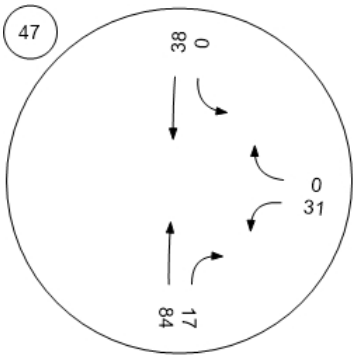
Future Road - Casey Road at



Future Road - Gabbert Road



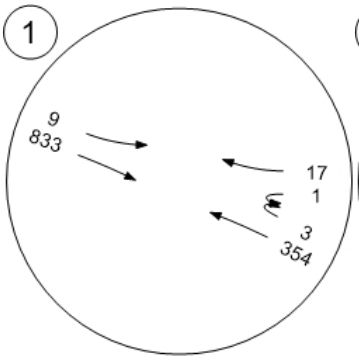
Future Road - Gabbert Road



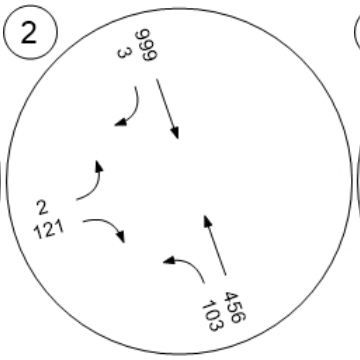
Report Figure 9f: Traffic Volume - Future Total Volume



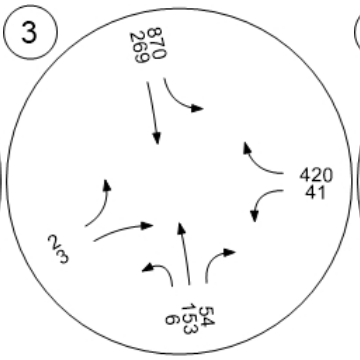
Walnut Canyon Road at Broa



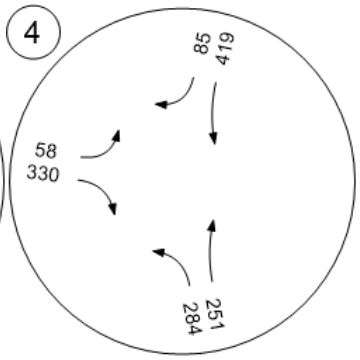
Walnut Canyon Road at Cha



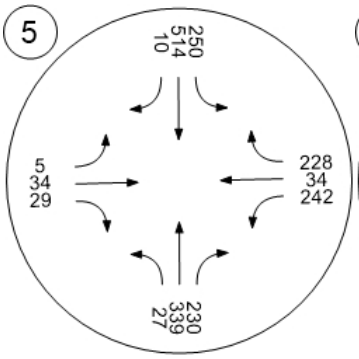
Walnut Canyon Road at Spri



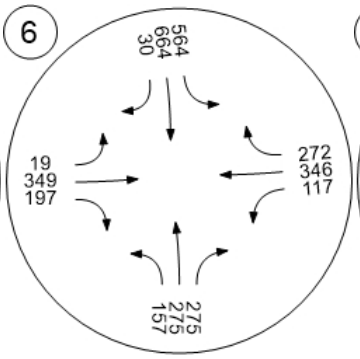
Walnut Canyon Road at Cas



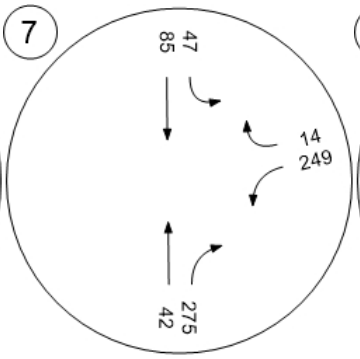
Moorpark Avenue at High Str



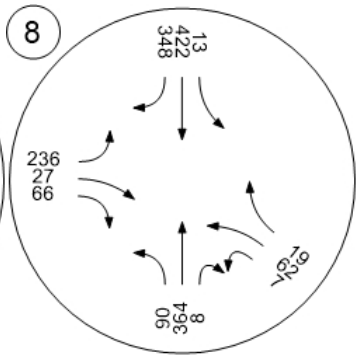
Spring Road at High Street



Gabbert Road at Poindexter



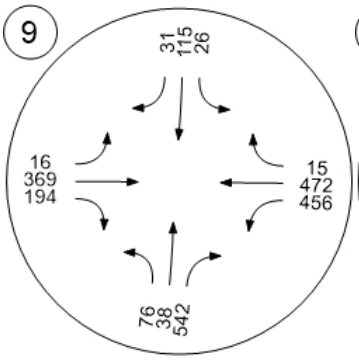
Moorpark Avenue and Poind



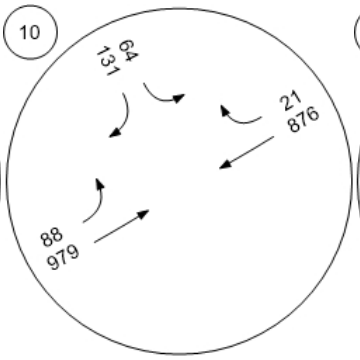
Report Figure 9f: Traffic Volume - Future Total Volume



Somis Road and Los Angeles



Grimes Canyon Road and Lo



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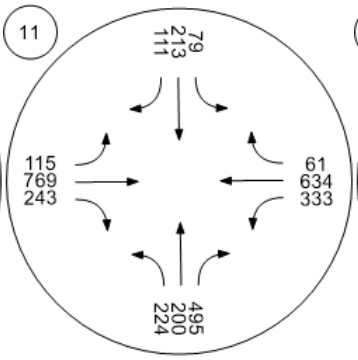

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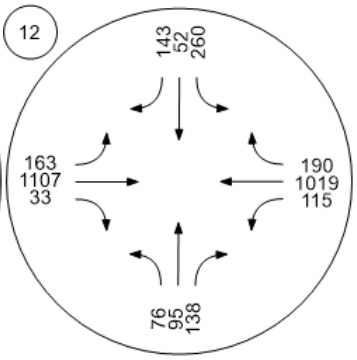
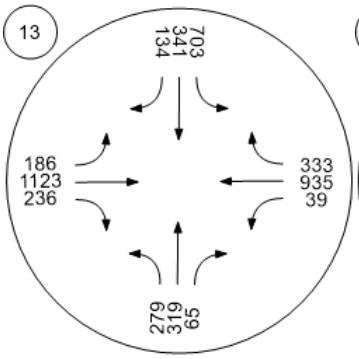
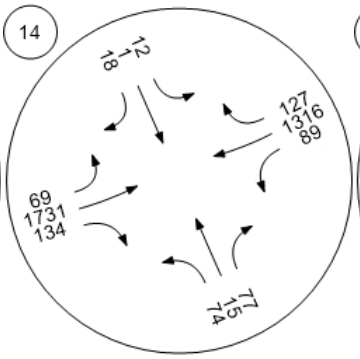


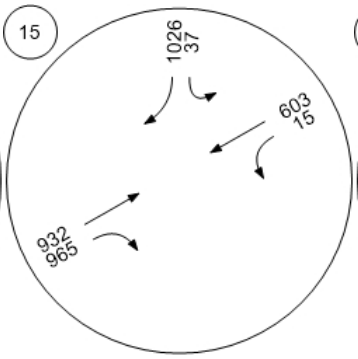
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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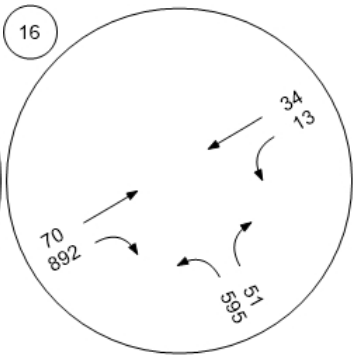
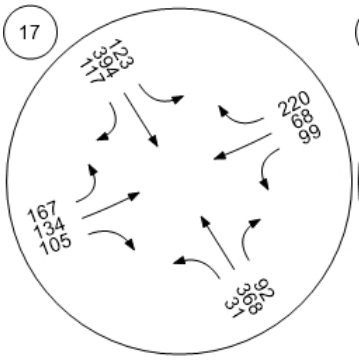


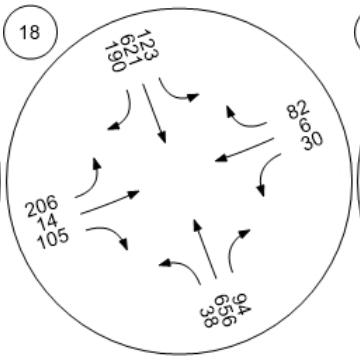
Report Figure 9f: Traffic Volume - Future Total Volume



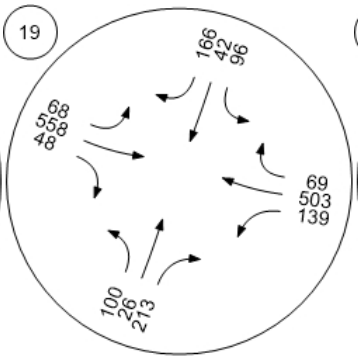
Spring Road and Peach Hill



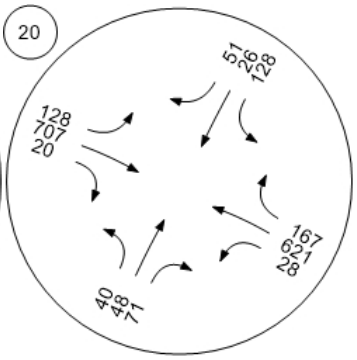
Tierra Rejada Road and Cou



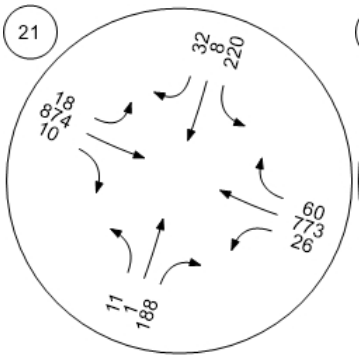
Mountain Trail Street and Tie



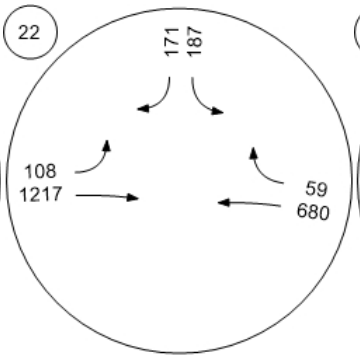
Mountain Meadow Drive and



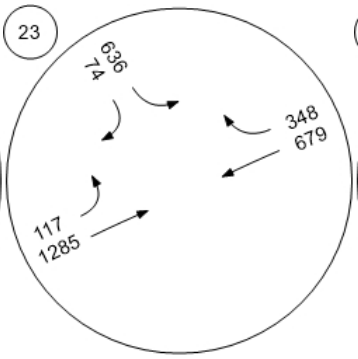
Walnut Creek Road and Tierr



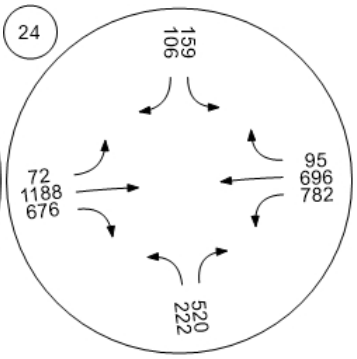
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



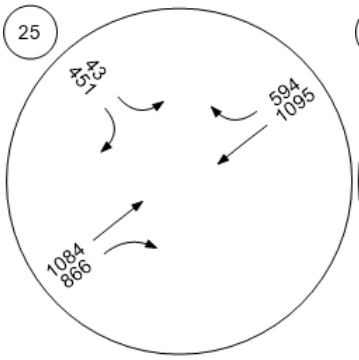
Moorpark Road and Tierra R



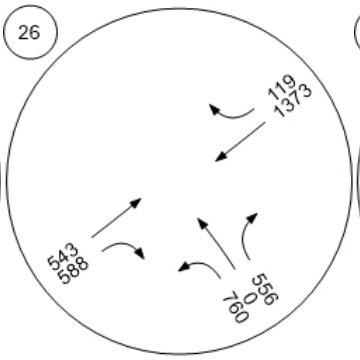
Report Figure 9f: Traffic Volume - Future Total Volume



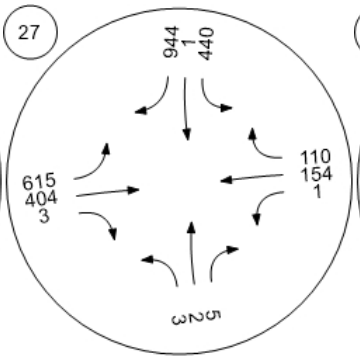
SR□23 SB ramps and Tierra



SB□23 NB ramps and Tierra



Moorpark Road and Santa R



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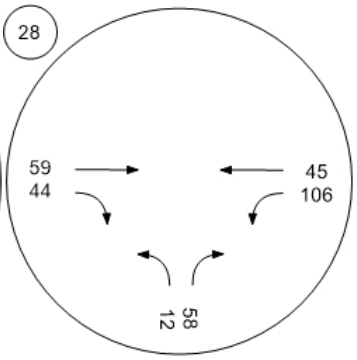

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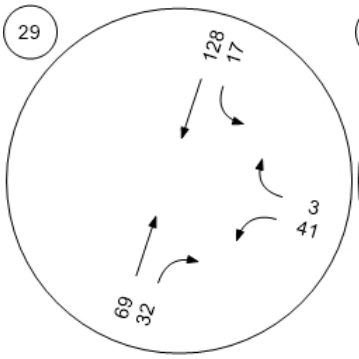
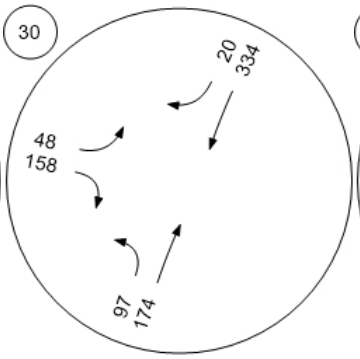
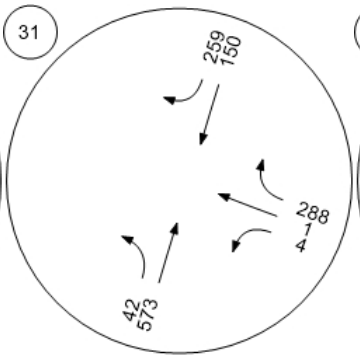


Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



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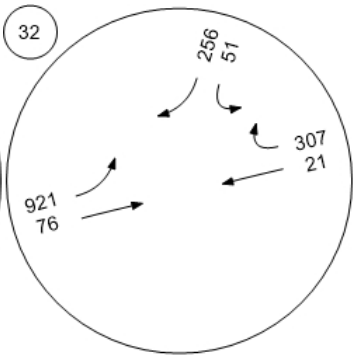
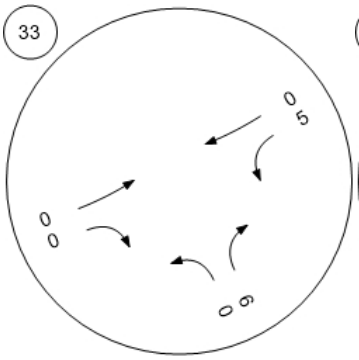


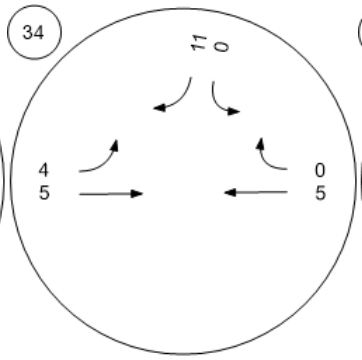
Report Figure 9f: Traffic Volume - Future Total Volume



Future Road - Meridian Hills



Future Road - Street "A" at Hi



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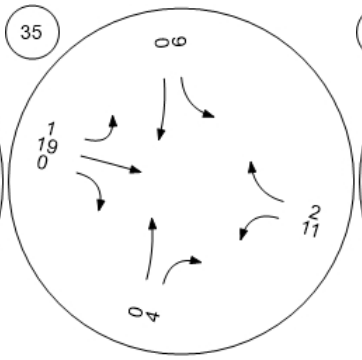
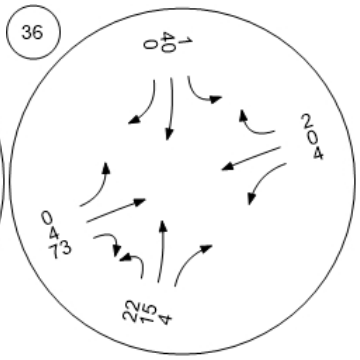
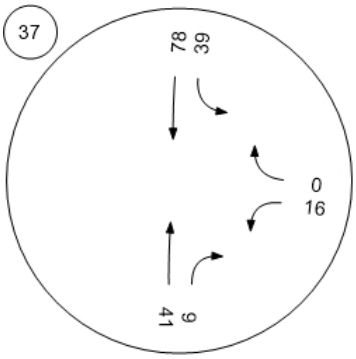


Future Road - Gabbert Road



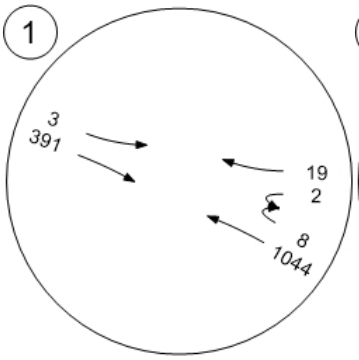
Future Road - Gabbert Road



Report Figure 12f: Traffic Volume - Future Total Volume



Walnut Canyon Road at Broa



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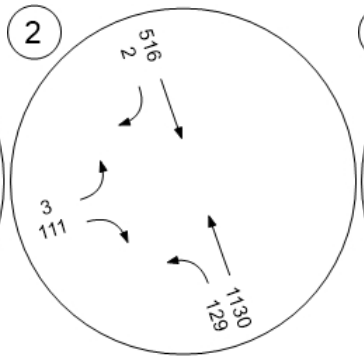

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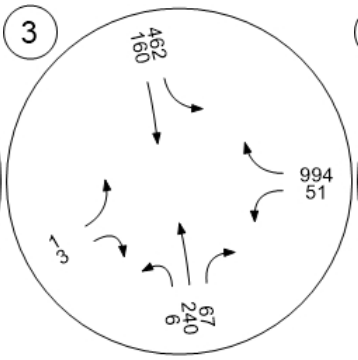

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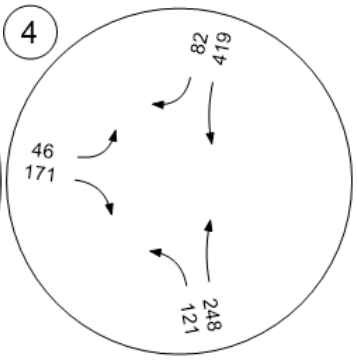
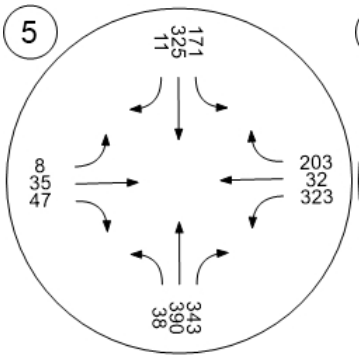
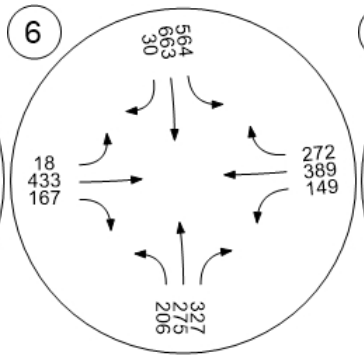


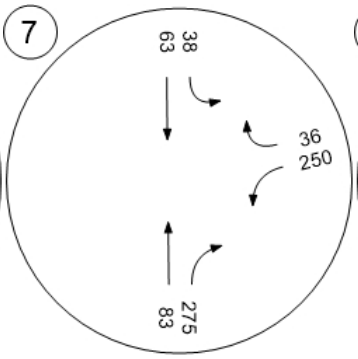
Moorpark Avenue at High Str



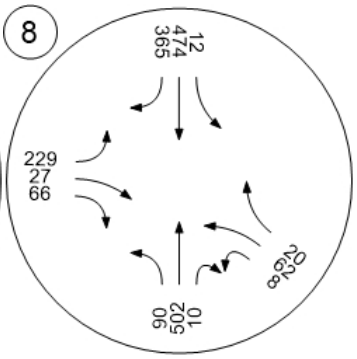
Spring Road at High Street



Gabbert Road at Poindexter



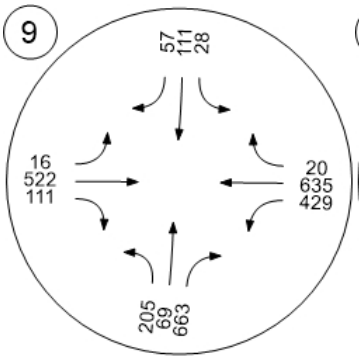
Moorpark Avenue and Poind



Report Figure 12f: Traffic Volume - Future Total Volume



Somis Road and Los Angeles



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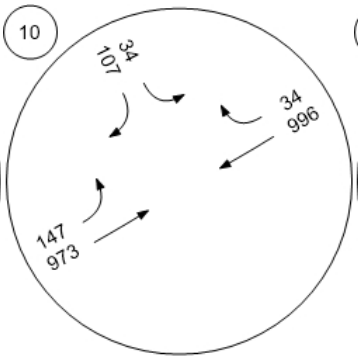
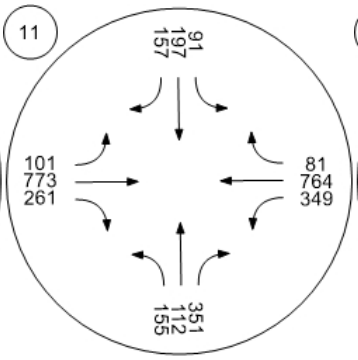
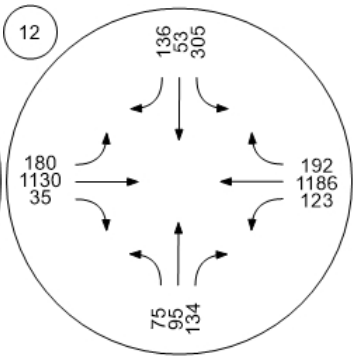


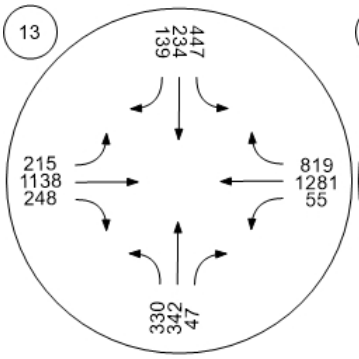
Tierra Rejada Road and Los



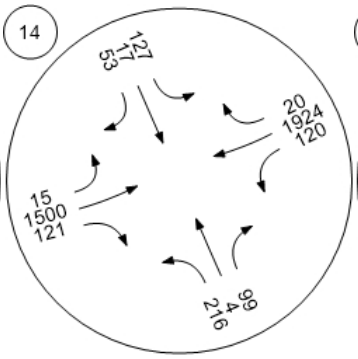
Moorpark Avenue and Los A



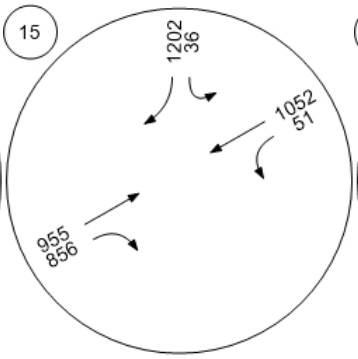
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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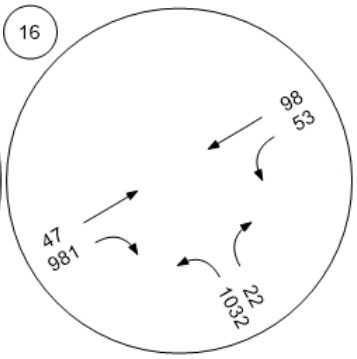
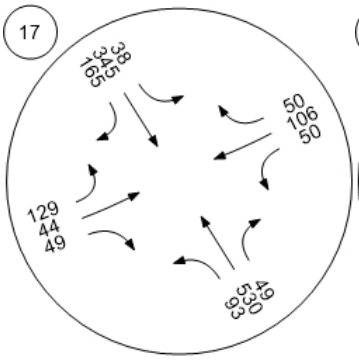


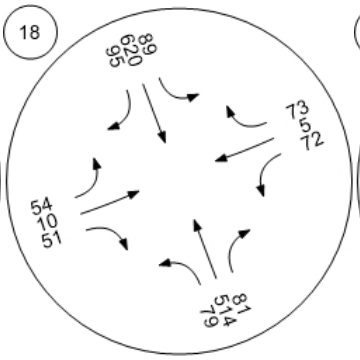
Report Figure 12f: Traffic Volume - Future Total Volume



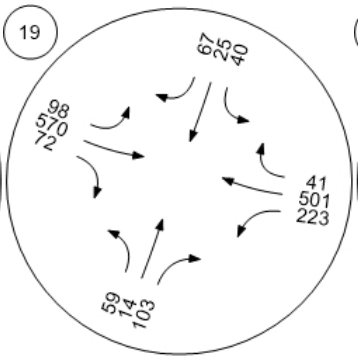
Spring Road and Peach Hill



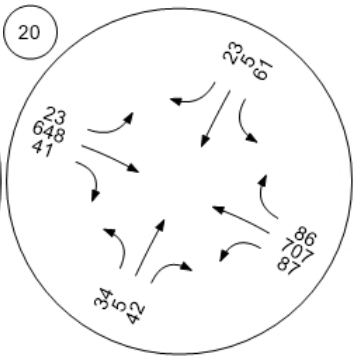
Tierra Rejada Road and Cou



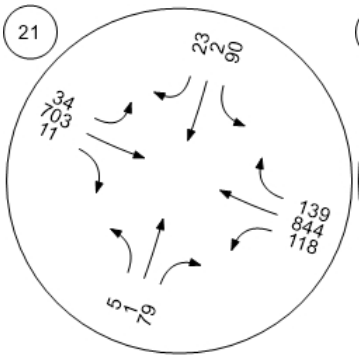
Mountain Trail Street and Tie



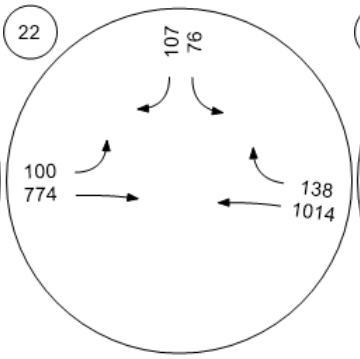
Mountain Meadow Drive and



Walnut Creek Road and Tierr



Peach Hill Road and Tierra R



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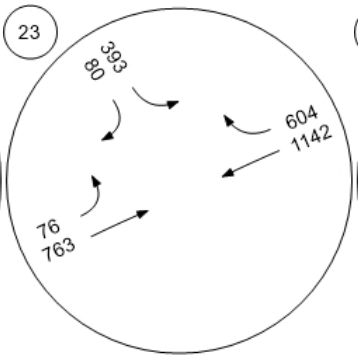

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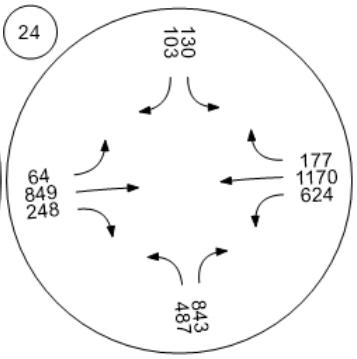

Report Figure 12f: Traffic Volume - Future Total Volume



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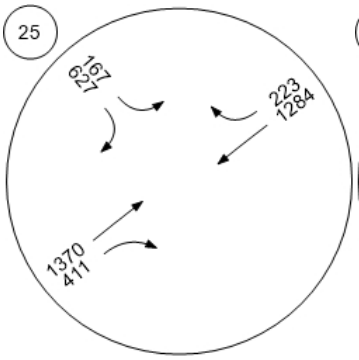

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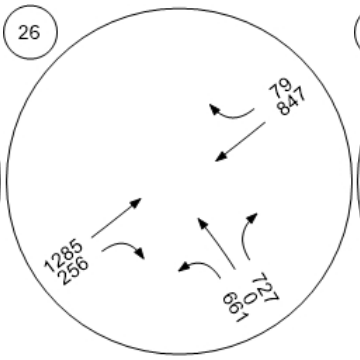

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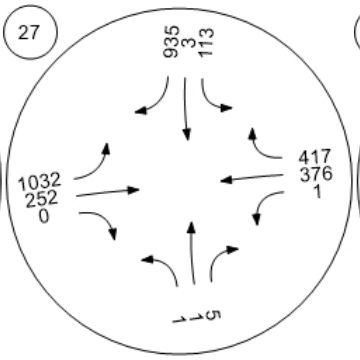
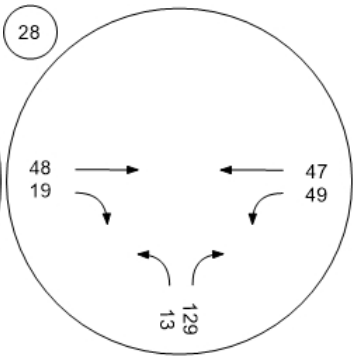
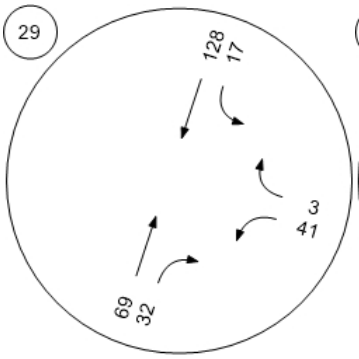


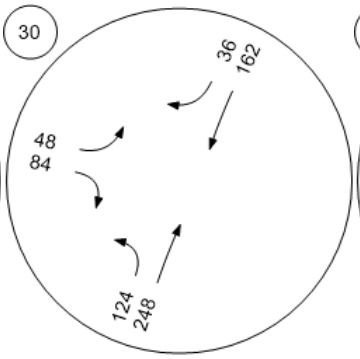
Broadway Road and Grimes



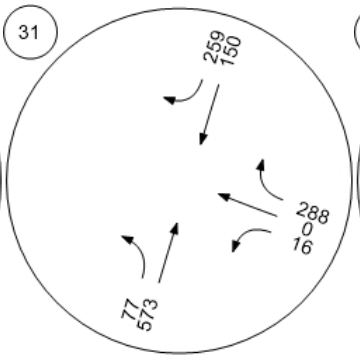
Championship Drive and Gri



Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



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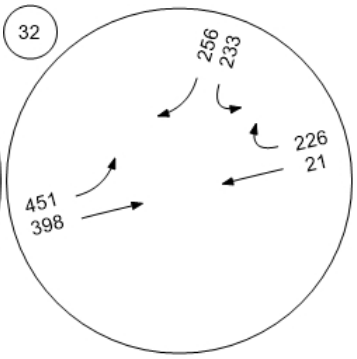
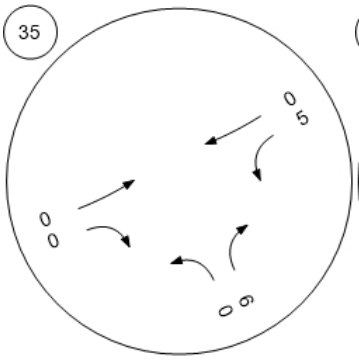


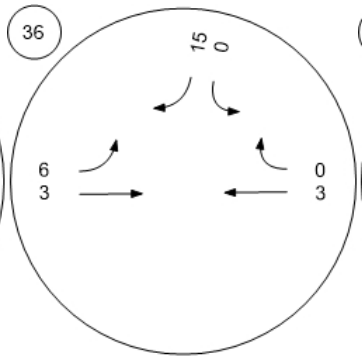
Report Figure 12f: Traffic Volume - Future Total Volume



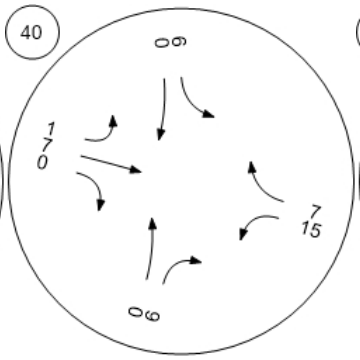
Future Road - Meridian Hills



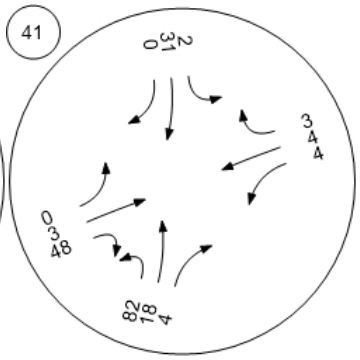
Future Road - Street "A" at Hi



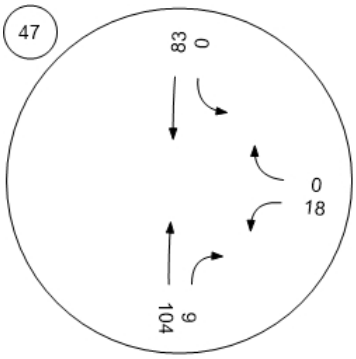
Future Road - Casey Road at



Future Road - Gabbert Road



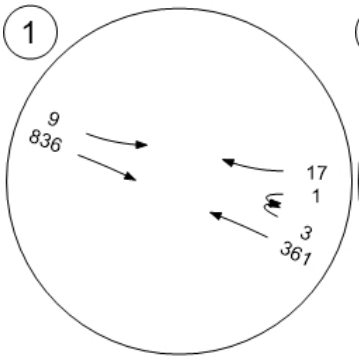
Future Road - Gabbert Road



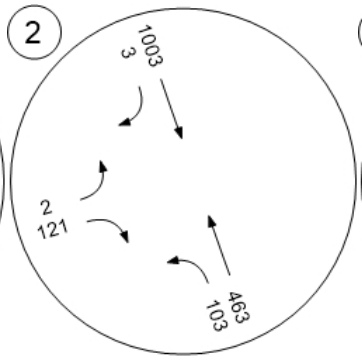
Report Figure 11f: Traffic Volume - Future Total Volume



Walnut Canyon Road at Broa



Walnut Canyon Road at Cha



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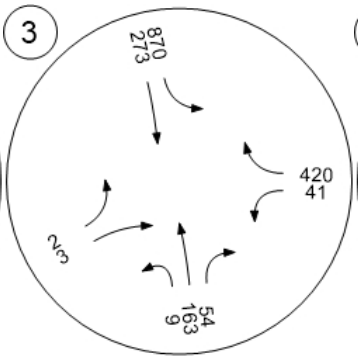

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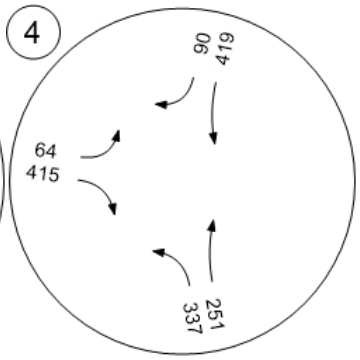
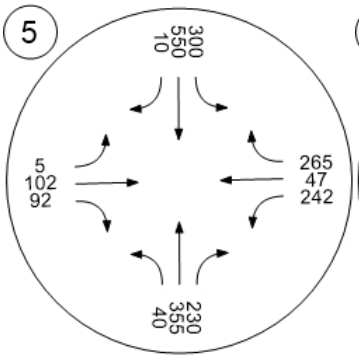
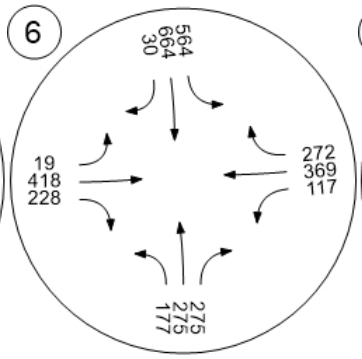


Moorpark Avenue at High Str



Spring Road at High Street



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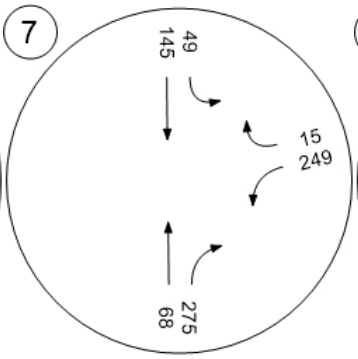
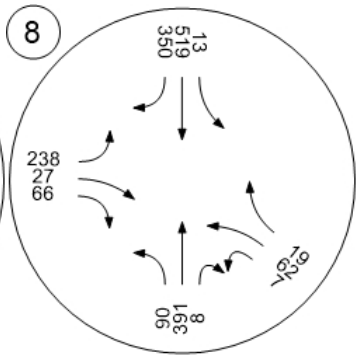


Moorpark Avenue and Poind



Report Figure 11f: Traffic Volume - Future Total Volume



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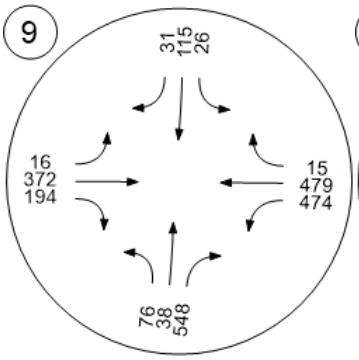

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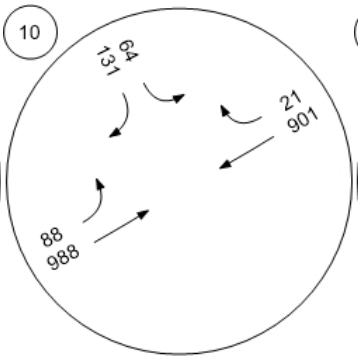

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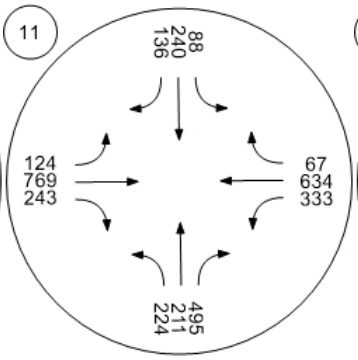
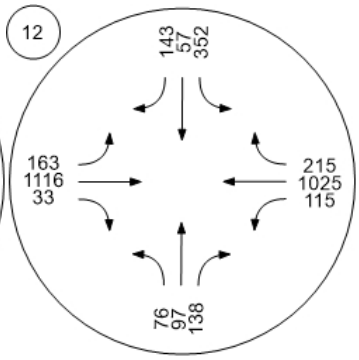
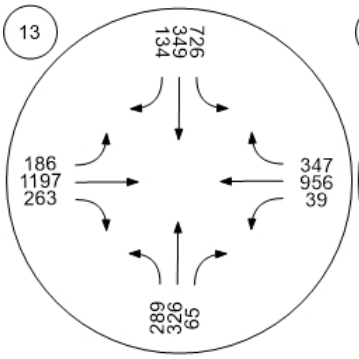


Moorpark Avenue and Los A



Spring Road and Los Angele



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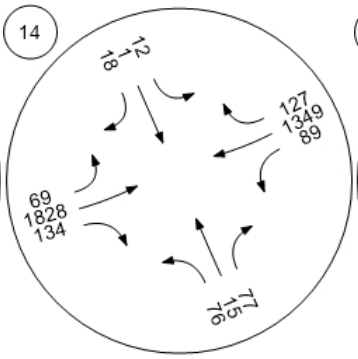
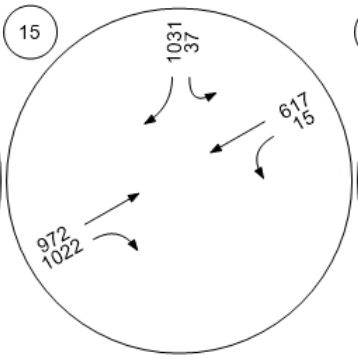


SR□23 SB ramps and Los An



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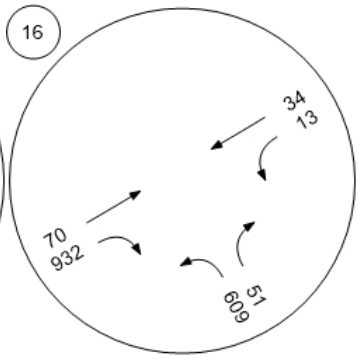
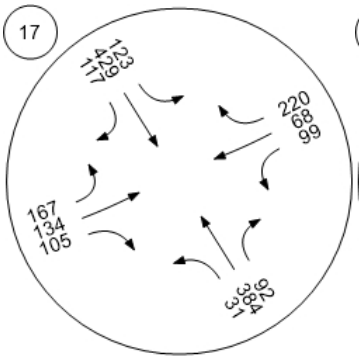


Report Figure 11f: Traffic Volume - Future Total Volume



Spring Road and Peach Hill



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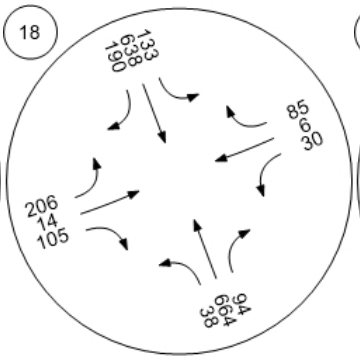

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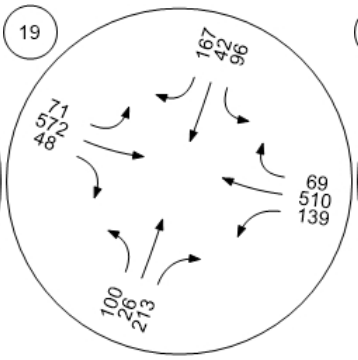

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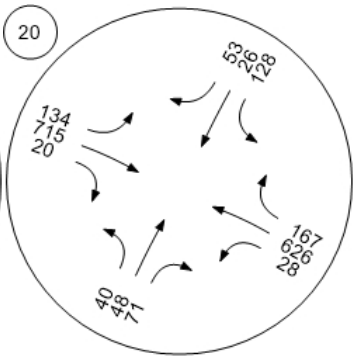

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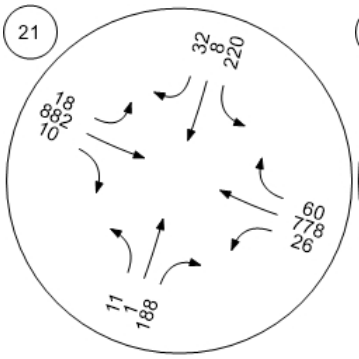

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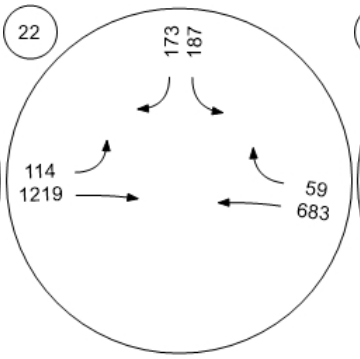

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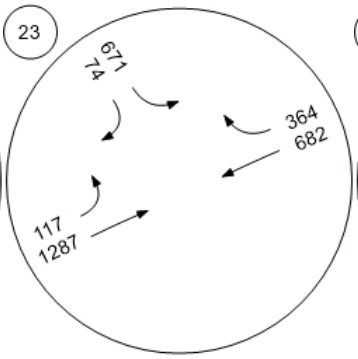

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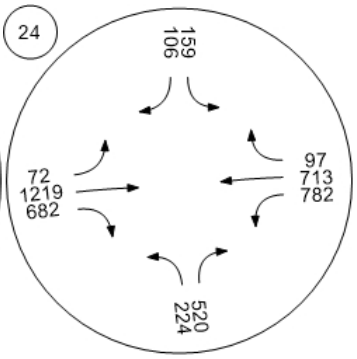

Report Figure 11f: Traffic Volume - Future Total Volume



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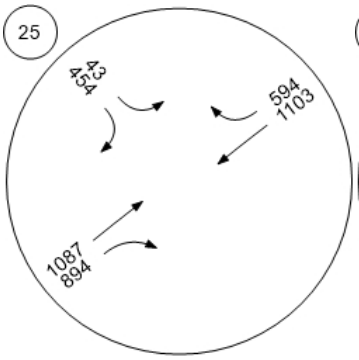

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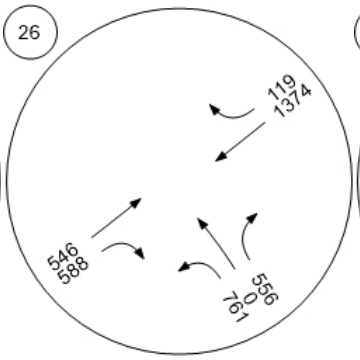

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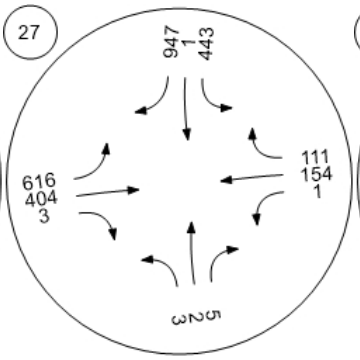
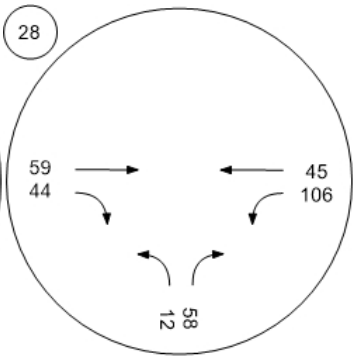


Broadway Road and Grimes



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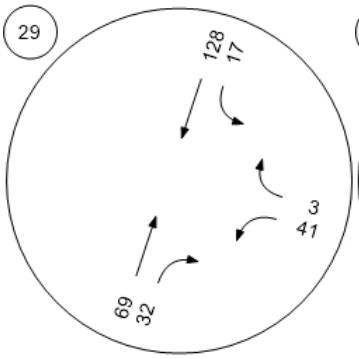

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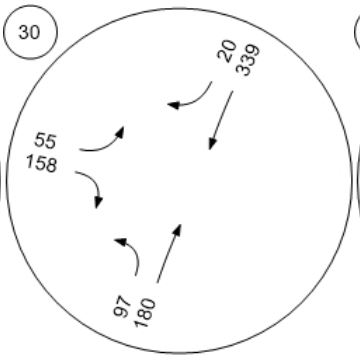

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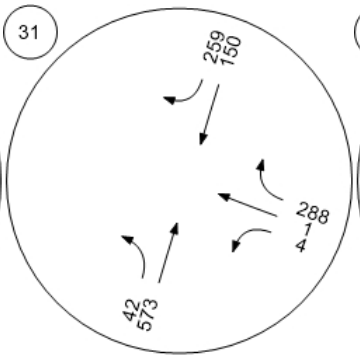

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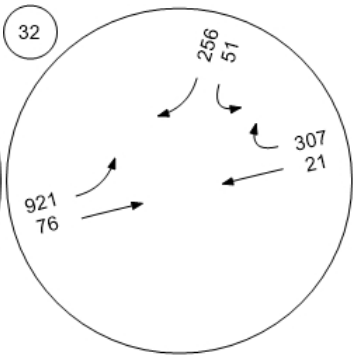
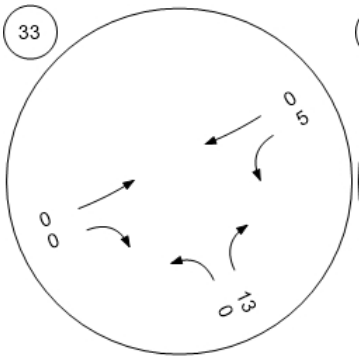


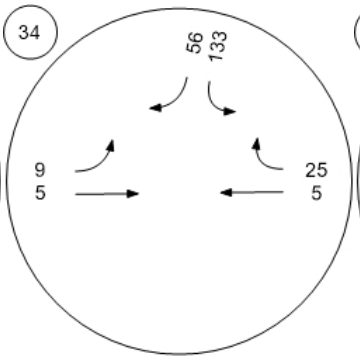
Report Figure 11f: Traffic Volume - Future Total Volume



Future Road - Meridian Hills



Future Road - Street "A" at Hi



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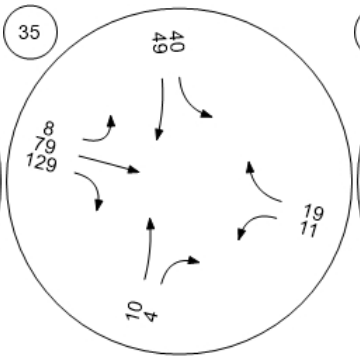
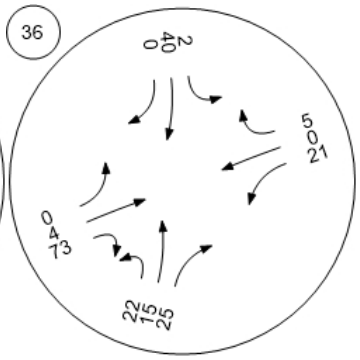
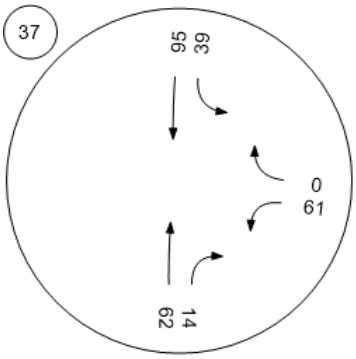


Future Road - Gabbert Road



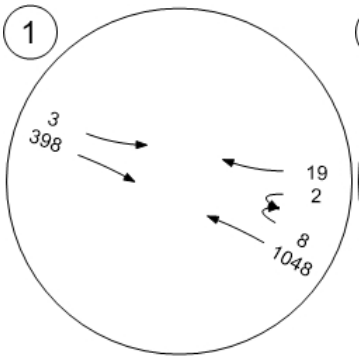
Future Road - Gabbert Road



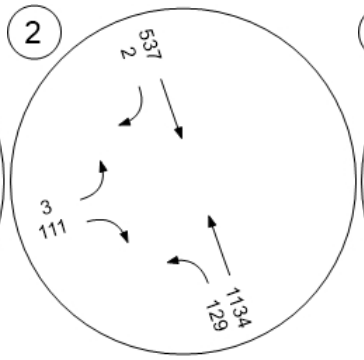
Report Figure 13f: Traffic Volume - Future Total Volume



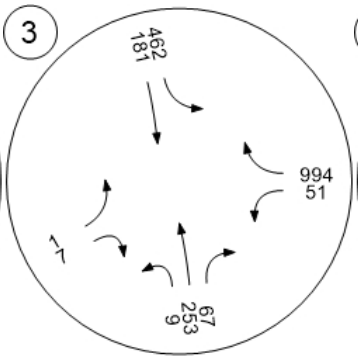
Walnut Canyon Road at Broa



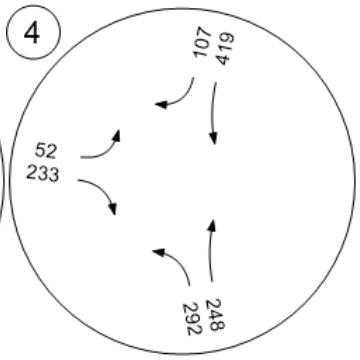
Walnut Canyon Road at Cha



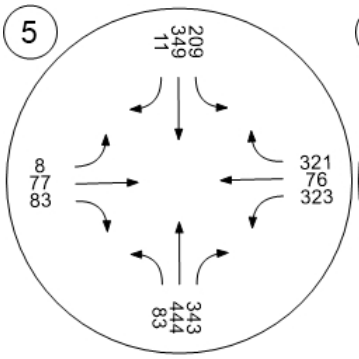
Walnut Canyon Road at Spri



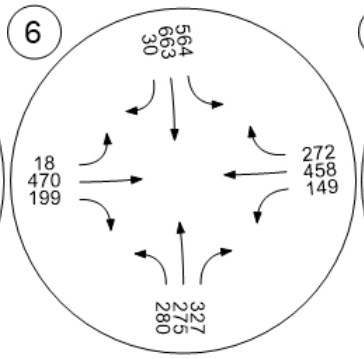
Walnut Canyon Road at Cas



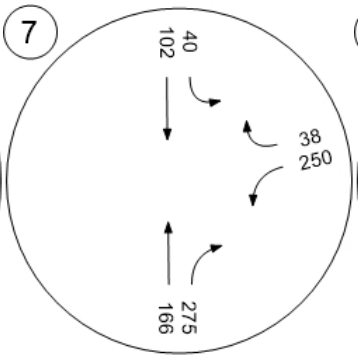
Moorpark Avenue at High Str



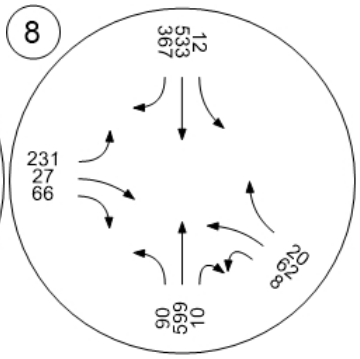
Spring Road at High Street



Gabbert Road at Poindexter



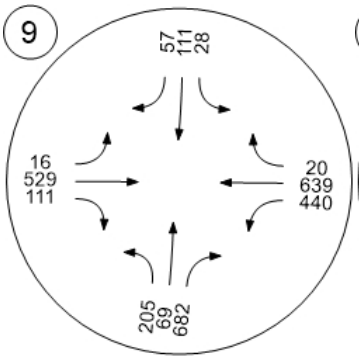
Moorpark Avenue and Poind



Report Figure 13f: Traffic Volume - Future Total Volume



Somis Road and Los Angeles



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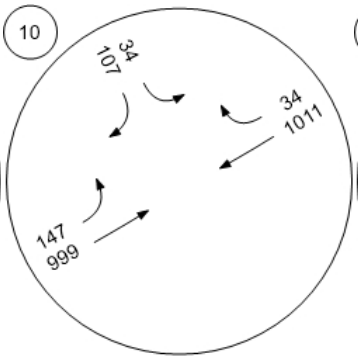
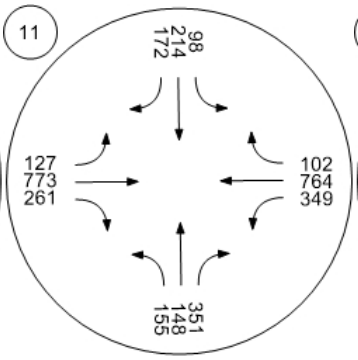
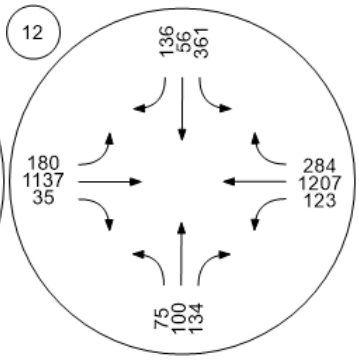


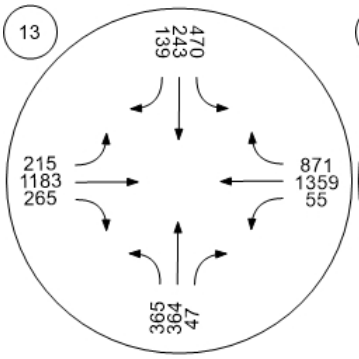
Tierra Rejada Road and Los



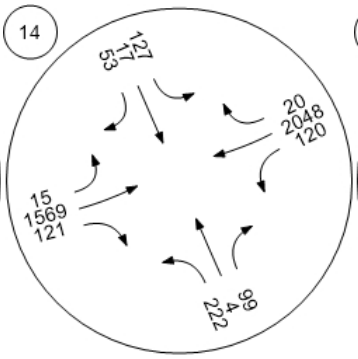
Moorpark Avenue and Los A



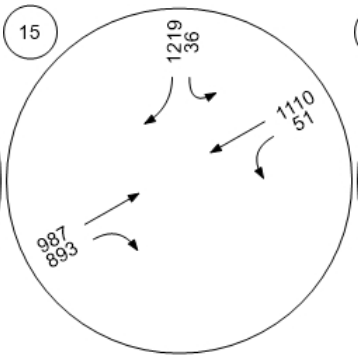
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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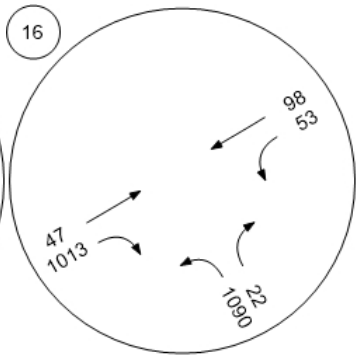
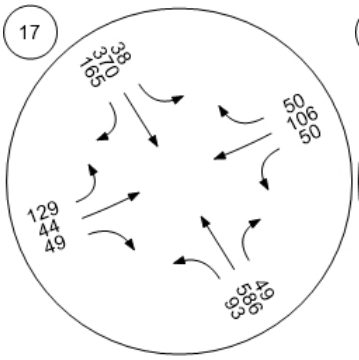


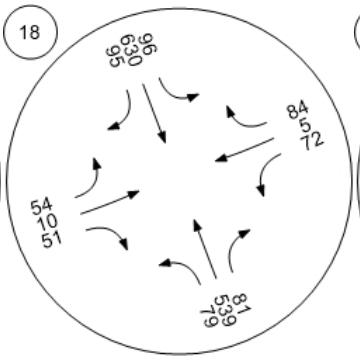
Report Figure 13f: Traffic Volume - Future Total Volume



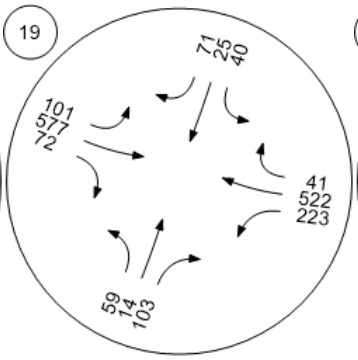
Spring Road and Peach Hill



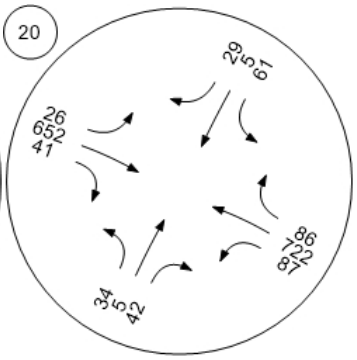
Tierra Rejada Road and Cou



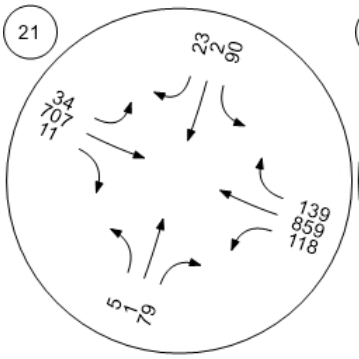
Mountain Trail Street and Tie



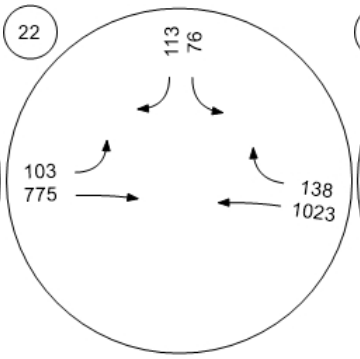
Mountain Meadow Drive and



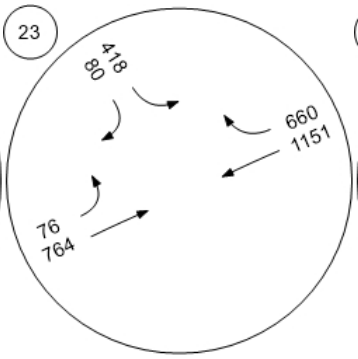
Walnut Creek Road and Tierr



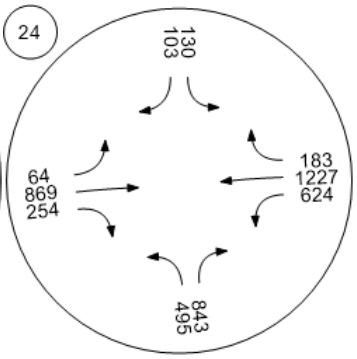
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



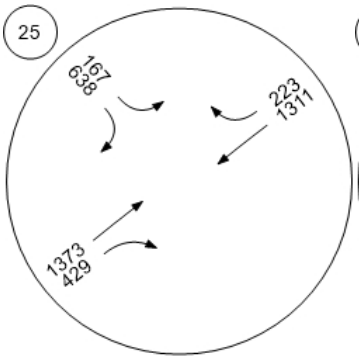
Moorpark Road and Tierra R



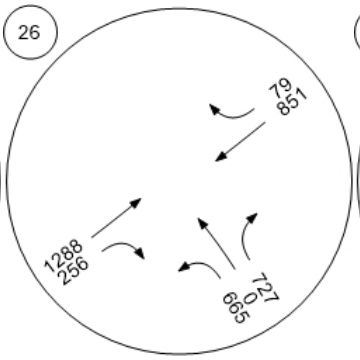
Report Figure 13f: Traffic Volume - Future Total Volume



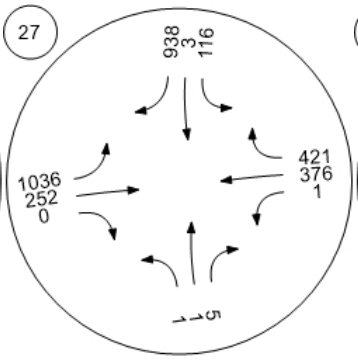
SR□23 SB ramps and Tierra



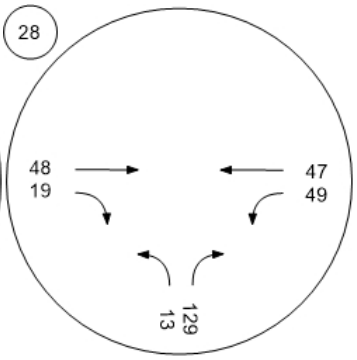
SB□23 NB ramps and Tierra



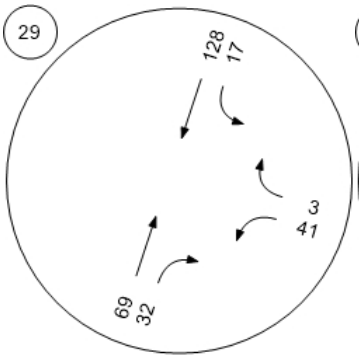
Moorpark Road and Santa R



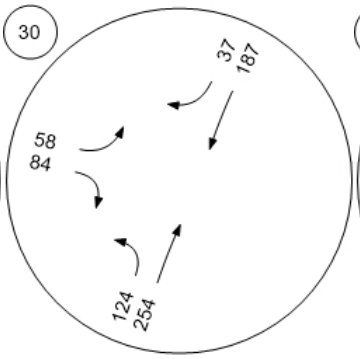
Broadway Road and Grimes



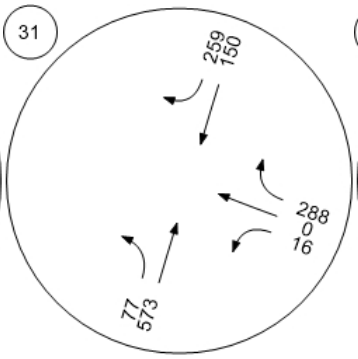
Championship Drive and Gri



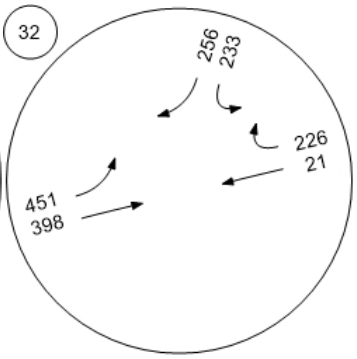
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



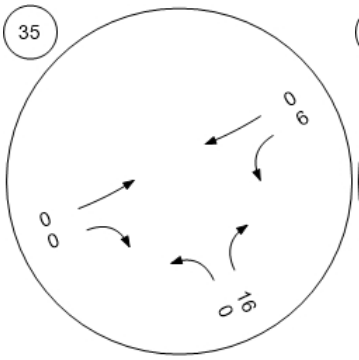
SR 118 EB and Collins Drive



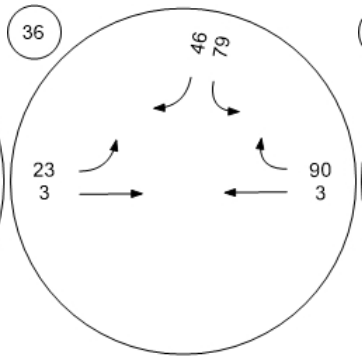
Report Figure 13f: Traffic Volume - Future Total Volume



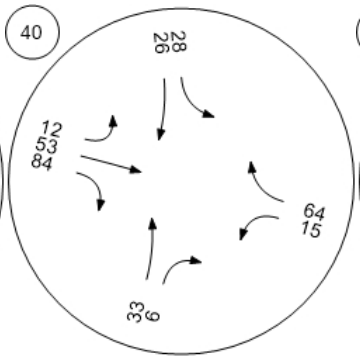
Future Road - Meridian Hills



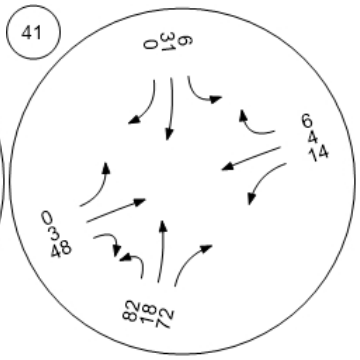
Future Road - Street "A" at Hi



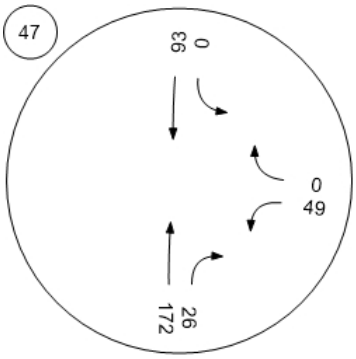
Future Road - Casey Road at



Future Road - Gabbert Road



Future Road - Gabbert Road



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Hitch Ranch Traffic Analysis Update

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Scenario 12 9 9 AM Existing 4.0

Report File: U:\...\exist_am.pdf

12/3/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.004	18.5	C
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.011	25.4	D
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	SB Left	0.647	-	B
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.568	-	A
5	Moorpark Avenue at High Street	Signalized	ICU 1	NB Thru	0.438	-	A
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.594	-	A
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.369	10.4	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Thru	0.605	-	B
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.721	-	C
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.667	-	B
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.617	-	B
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.471	-	A
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.596	-	A
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.378	-	A
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.341	-	A
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	EB Right	0.396	-	A
17	Spring Road and Peach Hill Road	Signalized	ICU 1	SB Thru	0.514	-	A
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Thru	0.447	-	A

19	Mountain Trail Street and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.436	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	WB Right	0.444	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	EB Right	0.510	-	A
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.462	-	A
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.546	-	A
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.804	-	D
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	EB Right	0.729	-	C
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.775	-	C
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	SB Right	0.645	-	B
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.017	11.0	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.050	10.0	A
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.031	12.2	B
31	SR 118 WB and Collins Drive	Signalized	ICU 1	WB Right	0.344	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.619	-	B
35	Future Road - Meridian Hills Drive at Street "A"	Roundabout	HCM 2010	NB Left		3.2	A
36	Future Road - Street "A" at High Street	Two-way stop	HCM 2010		0.000	0.0	
40	Future Road - Casey Road at Street "A"	All-way stop	HCM 2010	WB Left	0.000	0.0	A
41	Future Road - Gabbert Road at North Hills Parkway	All-way stop	HCM 2010	SB Thru	0.039	7.1	A
47	Future Road - Gabbert Road at High Street	Two-way stop	HCM 2010	SB Thru	0.000	0.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: Walnut Canyon Road at Broadway Road

Control Type:	Two-way stop	Delay (sec / veh):	18.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	273	3	8	709	1	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	273	3	8	709	1	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	1	2	177	0	1
Total Analysis Volume [veh/h]	273	3	8	709	1	3
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.81	0.00	18.54	9.76
Movement LOS	A	A	A	A	C	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.47	0.47	0.58	0.58
d_A, Approach Delay [s/veh]	0.00		0.09		11.96	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	C					

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Intersection Level Of Service Report
Intersection 2: Walnut Canyon Road at Championship Drive

Control Type:	Two-way stop	Delay (sec / veh):	25.4
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	300.00	100.00	100.00	400.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	96	258	761	3	2	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	258	761	3	2	113
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	65	190	1	1	28
Total Analysis Volume [veh/h]	96	258	761	3	2	113
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.01	0.00	0.01	0.28
d_M, Delay for Movement [s/veh]	9.78	0.00	0.00	0.00	25.38	17.28
Movement LOS	A	A	A	A	D	C
95th-Percentile Queue Length [veh/ln]	0.38	0.00	0.00	0.00	0.03	1.12
95th-Percentile Queue Length [ft/ln]	9.53	0.00	0.00	0.00	0.85	28.12
d_A, Approach Delay [s/veh]	2.65		0.00		17.42	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	2.39					
Intersection LOS	D					

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Intersection Level Of Service Report
Intersection 3: Walnut Canyon Road at Spring Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	112	24	668	224	1	1	3	0	38	2	252
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	112	24	668	224	1	1	3	0	38	2	252
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	28	6	167	56	0	0	1	0	10	1	63
Total Analysis Volume [veh/h]	1	112	24	668	224	1	1	3	0	38	2	252
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Permiss	Split
Signal Group	0	2	0	1	6	0	0	7	0	3	8	1
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.07	0.02	0.42	0.14	0.00	0.00	0.00	0.00	0.02	0.00	0.16
Intersection LOS	B											
Intersection V/C	0.647											

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Intersection Level Of Service Report
Intersection 4: Walnut Canyon Road at Casey Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.568

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	242	172	348	74	34	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	172	348	74	34	245
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	43	87	19	9	61
Total Analysis Volume [veh/h]	242	172	348	74	34	245
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	7	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.11	0.26	0.26	0.02	0.15
Intersection LOS	A					
Intersection V/C	0.568					

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Intersection Level Of Service Report
Intersection 5: Moorpark Avenue at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.438

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	13	262	183	174	403	5	5	13	14	206	13	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	262	183	174	403	5	5	13	14	206	13	141
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	66	46	44	101	1	1	3	4	52	3	35
Total Analysis Volume [veh/h]	13	262	183	174	403	5	5	13	14	206	13	141
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.36	0.11	0.11	0.26	0.26	0.00	0.02	0.02	0.13	0.14	0.09
Intersection LOS	A											
Intersection V/C	0.438											

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Intersection Level Of Service Report
Intersection 6: Spring Road at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.594

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	128	205	226	404	567	22	12	240	163	81	243	162
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	128	205	226	404	567	22	12	240	163	81	243	162
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	51	57	101	142	6	3	60	41	20	61	41
Total Analysis Volume [veh/h]	128	205	226	404	567	22	12	240	163	81	243	162
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.06	0.14	0.25	0.18	0.18	0.01	0.15	0.10	0.05	0.15	0.10
Intersection LOS	A											
Intersection V/C	0.594											

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Intersection Level Of Service Report
Intersection 7: Gabbert Road at Poindexter Avenue

Control Type:	All-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.369

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	180.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		30.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	13	256	19	17	231	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	256	19	17	231	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	64	5	4	58	2
Total Analysis Volume [veh/h]	13	256	19	17	231	6
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	681	785	654	625	790
Degree of Utilization, x	0.02	0.33	0.05	0.37	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06	1.42	0.17	1.70	0.02
95th-Percentile Queue Length [ft]	1.46	35.54	4.35	42.48	0.57
Approach Delay [s/veh]	9.42		8.82	11.68	
Approach LOS	A		A	B	
Intersection Delay [s/veh]	10.37				
Intersection LOS	B				

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Intersection Level Of Service Report
Intersection 8: Moorpark Avenue and Poindexter Avenue/1st Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.605

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	84	265	4	10	296	315	198	25	62	3	58	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	265	4	10	296	315	198	25	62	3	58	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	66	1	3	74	79	50	6	16	1	15	4
Total Analysis Volume [veh/h]	84	265	4	10	296	315	198	25	62	3	58	17
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.17	0.17	0.01	0.38	0.38	0.12	0.05	0.05	0.00	0.05	0.05
Intersection LOS	B											
Intersection V/C	0.605											

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Intersection Level Of Service Report

Intersection 9: Somis Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.721

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	370.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	71	35	483	24	107	29	15	339	181	391	434	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	35	483	24	107	29	15	339	181	391	434	14
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	9	121	6	27	7	4	85	45	98	109	4
Total Analysis Volume [veh/h]	71	35	483	24	107	29	15	339	181	391	434	14
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	230
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.07	0.06	0.02	0.09	0.09	0.01	0.33	0.33	0.24	0.28	0.28
Intersection LOS	C											
Intersection V/C	0.721											

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Intersection Level Of Service Report

Intersection 10: Grimes Canyon Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.667

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	500.00	100.00	100.00	500.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	60	122	82	885	776	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	122	82	885	776	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	31	21	221	194	5
Total Analysis Volume [veh/h]	60	122	82	885	776	20
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.11	0.05	0.55	0.49	0.01
Intersection LOS	B					
Intersection V/C	0.667					

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Intersection Level Of Service Report
Intersection 11: Tierra Rejada Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	2	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	200.00	250.00	100.00	100.00	450.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	209	184	450	44	188	80	94	699	227	298	569	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	209	184	450	44	188	80	94	699	227	298	569	46
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	46	113	11	47	20	24	175	57	75	142	12
Total Analysis Volume [veh/h]	209	184	450	44	188	80	94	699	227	298	569	46
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.12	0.19	0.03	0.12	0.05	0.06	0.22	0.14	0.09	0.18	0.03
Intersection LOS	B											
Intersection V/C	0.617											

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Intersection Level Of Service Report
Intersection 12: Moorpark Avenue and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.471

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	69	87	116	167	48	108	133	905	31	101	852	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	87	116	167	48	108	133	905	31	101	852	119
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	22	29	42	12	27	33	226	8	25	213	30
Total Analysis Volume [veh/h]	69	87	116	167	48	108	133	905	31	101	852	119
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	8	8	0	4	4	5	2	0	1	6	6
Auxiliary Signal Groups			1,8			4,5						6,8
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.05	0.01	0.05	0.07	0.00	0.08	0.20	0.20	0.06	0.27	0.07
Intersection LOS	A											
Intersection V/C	0.471											

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Intersection Level Of Service Report

Intersection 13: Spring Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.596

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	1	2	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	500.00	400.00	100.00	200.00	250.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	210	293	61	588	313	97	143	894	179	36	777	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	293	61	588	313	97	143	894	179	36	777	245
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	73	15	147	78	24	36	224	45	9	194	61
Total Analysis Volume [veh/h]	210	293	61	588	313	97	143	894	179	36	777	245
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	70
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	0	7	4	4	5	2	0	1	6	6
Auxiliary Signal Groups						4,5						6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.11	0.11	0.18	0.20	0.02	0.04	0.28	0.11	0.02	0.24	0.00
Intersection LOS	A											
Intersection V/C	0.596											

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Intersection Level Of Service Report
Intersection 14: Miller Parkway/Science Drive/Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.378

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	320.00	100.00	100.00	100.00	100.00	100.00	450.00	100.00	450.00	450.00	100.00	450.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	49.21
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	65	14	70	11	1	17	64	1396	121	80	1071	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	14	70	11	1	17	64	1396	121	80	1071	118
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	4	18	3	0	4	16	349	30	20	268	30
Total Analysis Volume [veh/h]	65	14	70	11	1	17	64	1396	121	80	1071	118
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.04	0.01	0.02	0.02	0.04	0.29	0.08	0.03	0.22	0.07
Intersection LOS	A											
Intersection V/C	0.378											

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Intersection Level Of Service Report

Intersection 15: SR□23 SB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.341

Intersection Setup

Name											
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	26	0	845	0	762	787	3	519	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	845	0	762	787	3	519	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	211	0	191	197	1	130	0	0	0	0
Total Analysis Volume [veh/h]	26	0	845	0	762	787	3	519	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	7	0	0	0	2	0	1	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.32	0.32	0.00	0.32	0.00	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.341											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report

Intersection 16: SR□23 NB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.396

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	1	2	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	522	38	42	740	3	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	522	38	42	740	3	9
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	131	10	11	185	1	2
Total Analysis Volume [veh/h]	522	38	42	740	3	9
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	3	0	2	0	0	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.02	0.01	0.23	0.00	0.01
Intersection LOS	A					
Intersection V/C	0.396					

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Intersection Level Of Service Report
Intersection 17: Spring Road and Peach Hill Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.514

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	29	287	84	113	322	109	156	125	98	91	63	203
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	287	84	113	322	109	156	125	98	91	63	203
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	72	21	28	81	27	39	31	25	23	16	51
Total Analysis Volume [veh/h]	29	287	84	113	322	109	156	125	98	91	63	203
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.18	0.05	0.07	0.20	0.07	0.10	0.08	0.06	0.06	0.17	0.17
Intersection LOS	A											
Intersection V/C	0.514											

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Intersection Level Of Service Report
Intersection 18: Tierra Rejada Road and Countrywood Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.447

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	35	604	88	102	569	177	192	13	98	28	6	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	604	88	102	569	177	192	13	98	28	6	69
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	151	22	26	142	44	48	3	25	7	2	17
Total Analysis Volume [veh/h]	35	604	88	102	569	177	192	13	98	28	6	69
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.22	0.22	0.06	0.23	0.23	0.12	0.07	0.07	0.02	0.05	0.05
Intersection LOS	A											
Intersection V/C	0.447											

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Intersection Level Of Service Report

Intersection 19: Mountain Trail Street and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.436

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	93	24	199	90	39	154	62	512	45	130	463	64
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	93	24	199	90	39	154	62	512	45	130	463	64
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	6	50	23	10	39	16	128	11	33	116	16
Total Analysis Volume [veh/h]	93	24	199	90	39	154	62	512	45	130	463	64
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.02	0.12	0.06	0.12	0.12	0.04	0.17	0.17	0.08	0.16	0.16
Intersection LOS	A											
Intersection V/C	0.436											

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Intersection Level Of Service Report
Intersection 20: Mountain Meadow Drive and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.444

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	37	45	66	119	24	43	114	657	19	26	577	156
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	45	66	119	24	43	114	657	19	26	577	156
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	11	17	30	6	11	29	164	5	7	144	39
Total Analysis Volume [veh/h]	37	45	66	119	24	43	114	657	19	26	577	156
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.07	0.07	0.07	0.04	0.04	0.07	0.21	0.21	0.02	0.23	0.23
Intersection LOS	A											
Intersection V/C	0.444											

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Intersection Level Of Service Report
Intersection 21: Walnut Creek Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.510

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	10	1	175	205	7	30	17	812	9	24	719	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	1	175	205	7	30	17	812	9	24	719	56
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	44	51	2	8	4	203	2	6	180	14
Total Analysis Volume [veh/h]	10	1	175	205	7	30	17	812	9	24	719	56
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	70
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.11	0.11	0.13	0.02	0.02	0.01	0.26	0.26	0.02	0.24	0.24
Intersection LOS	A											
Intersection V/C	0.510											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 22: Peach Hill Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	172	158	98	1135	634	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	172	158	98	1135	634	52
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	40	25	284	159	13
Total Analysis Volume [veh/h]	172	158	98	1135	634	52
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.10	0.06	0.35	0.21	0.21
Intersection LOS	A					
Intersection V/C	0.462					

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Intersection Level Of Service Report
Intersection 23: Spring Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	548	67	106	1199	632	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	548	67	106	1199	632	270
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	137	17	27	300	158	68
Total Analysis Volume [veh/h]	548	67	106	1199	632	270
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Overlap
Signal Group	7	0	5	2	6	6
Auxiliary Signal Groups						6,7
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.04	0.07	0.37	0.20	0.00
Intersection LOS	A					
Intersection V/C	0.546					

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Intersection Level Of Service Report
Intersection 24: Moorpark Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.804

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	100.00	100.00	350.00	250.00	100.00	100.00	200.00	100.00	200.00	380.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	202	0	485	145	0	98	67	1070	624	729	599	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	202	0	485	145	0	98	67	1070	624	729	599	82
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	0	121	36	0	25	17	268	156	182	150	21
Total Analysis Volume [veh/h]	202	0	485	145	0	98	67	1070	624	729	599	82
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	230
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	3	0	8	7	0	0	5	2	2	1	6	6
Auxiliary Signal Groups									2,3			6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.15	0.09	0.00	0.06	0.04	0.33	0.33	0.23	0.19	0.00
Intersection LOS	D											
Intersection V/C	0.804											

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Intersection Level Of Service Report

Intersection 25: SR□23 SB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.729

Intersection Setup

Name												
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	40	0	396	0	1006	770	0	993	554	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	0	396	0	1006	770	0	993	554	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	99	0	252	193	0	248	139	0	0	0
Total Analysis Volume [veh/h]	40	0	396	0	1006	770	0	993	554	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	4	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.25	0.00	0.21	0.48	0.00	0.31	0.35	0.00	0.00	0.00
Intersection LOS	C											
Intersection V/C	0.729											

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Intersection Level Of Service Report

Intersection 26: SB 23 NB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.775

Intersection Setup

Name												
Approach	Northbound			Eastbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	300.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	684	0	519	0	502	548	0	1278	111	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	684	0	519	0	502	548	0	1278	111	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	171	0	130	0	126	137	0	320	28	0	0	0
Total Analysis Volume [veh/h]	684	0	519	0	502	548	0	1278	111	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	7	0	0	3	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.00	0.38	0.00	0.16	0.34	0.00	0.40	0.07	0.00	0.00	0.00
Intersection LOS	C											
Intersection V/C	0.775											

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Intersection Level Of Service Report
Intersection 27: Moorpark Road and Santa Rosa Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	3	2	5	407	1	878	572	377	3	1	144	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	2	5	407	1	878	572	377	3	1	144	100
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	102	0	220	143	94	1	0	36	25
Total Analysis Volume [veh/h]	3	2	5	407	1	878	572	377	3	1	144	100
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	4	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.25	0.26	0.37	0.18	0.24	0.24	0.00	0.09	0.06
Intersection LOS	B											
Intersection V/C	0.645											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 28: Broadway Road and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	11	54	55	41	99	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	54	55	41	99	42
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	14	14	10	25	11
Total Analysis Volume [veh/h]	11	54	55	41	99	42
Pedestrian Volume [ped/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.05	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	11.01	8.96	0.00	0.00	7.57	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.23	0.23	0.00	0.00	0.21	0.21
95th-Percentile Queue Length [ft/ln]	5.82	5.82	0.00	0.00	5.30	5.30
d_A, Approach Delay [s/veh]	9.31		0.00		5.32	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.49					
Intersection LOS	B					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 29: Championship Drive and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	200.00	400.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	64	30	16	119	38	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	30	16	119	38	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	8	4	30	10	1
Total Analysis Volume [veh/h]	64	30	16	119	38	3
Pedestrian Volume [ped/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.43	0.00	9.95	8.61
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.00	0.16	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.81	0.00	3.91	0.23
d_A, Approach Delay [s/veh]	0.00		0.88		9.85	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.94					
Intersection LOS	A					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report

Intersection 30: Meridian Hills Drive and Walnut Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	250.00	200.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	40	130	287	14	16	123
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	130	287	14	16	123
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	33	72	4	4	31
Total Analysis Volume [veh/h]	40	130	287	14	16	123
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.03	0.16
d_M, Delay for Movement [s/veh]	7.95	0.00	0.00	0.00	12.21	10.72
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.10	0.00	0.00	0.00	0.10	0.58
95th-Percentile Queue Length [ft/ln]	2.46	0.00	0.00	0.00	2.40	14.56
d_A, Approach Delay [s/veh]	1.87		0.00		10.89	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.00					
Intersection LOS	B					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 31: SR 118 WB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.344

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	534	0	0	140	242	0	0	0	4	1	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	534	0	0	140	242	0	0	0	4	1	269
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	134	0	0	35	61	0	0	0	1	0	67
Total Analysis Volume [veh/h]	39	534	0	0	140	242	0	0	0	4	1	269
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.17	0.00	0.00	0.04	0.15	0.00	0.00	0.00	0.00	0.00	0.17
Intersection LOS	A											
Intersection V/C	0.344											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 32: SR 118 EB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.619

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	48	239	859	71	20	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	239	859	71	20	286
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	60	215	18	5	72
Total Analysis Volume [veh/h]	48	239	859	71	20	286
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Split	Split
Signal Group	7	0	0	2	8	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.15	0.27	0.29	0.01	0.18
Intersection LOS	B					
Intersection V/C	0.619					

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Intersection Level Of Service Report
Intersection 35: Future Road - Meridian Hills Drive at Street "A"

Control Type:	Roundabout	Delay (sec / veh):	3.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	0		0		0	
Exiting Flow Rate [veh/h]	0		0		0	
Demand Flow Rate [veh/h]	0	0	0	0	0	0
Adjusted Demand Flow Rate [veh/h]	0	0	0	0	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1130.00	1130.00	1130.00
B (coefficient)	0.00100	0.00100	0.00100
HV Adjustment Factor	0.98	0.98	0.98
Entry Flow Rate [veh/h]	0	0	0
Capacity of Entry and Bypass Lanes [veh/h]	1130	1130	1130
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1108	1108	1108
X, volume / capacity	0.00	0.00	0.00

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00
Approach Delay [s/veh]	3.25	3.25	3.25
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.25		
Intersection LOS	A		

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Intersection Level Of Service Report
Intersection 36: Future Road - Street "A" at High Street

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 2010	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.52	8.32	7.22	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.42		3.61		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

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Intersection Level Of Service Report
Intersection 40: Future Road - Casey Road at Street "A"

Control Type:	All-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	915	915	915	915
Degree of Utilization, x	0.00	0.00	0.00	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00
Approach Delay [s/veh]	0.00	0.00	0.00	0.00
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	0.00			
Intersection LOS	A			

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Intersection Level Of Service Report
Intersection 41: Future Road - Gabbert Road at North Hills Parkway

Control Type:	All-way stop	Delay (sec / veh):	7.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	13	0	0	36	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	13	0	0	36	0	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	0	0	9	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	13	0	0	36	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	908	913	892	892
Degree of Utilization, x	0.01	0.04	0.00	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.04	0.12	0.00	0.00
95th-Percentile Queue Length [ft]	1.09	3.08	0.00	0.00
Approach Delay [s/veh]	7.02	7.11	0.00	0.00
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.09			
Intersection LOS	A			

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Intersection Level Of Service Report
Intersection 47: Future Road - Gabbert Road at High Street

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	13	0	0	36	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	0	0	36	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	9	0	0
Total Analysis Volume [veh/h]	13	0	0	36	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.24	0.00	8.75	8.37
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		8.56	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Hitch Ranch Traffic Analysis Update

Vistro File: \...\new_Hitch Ranch_FINAL High-v3-w-unknown -prjs.vistro

Scenario 13 10 10 PM Existing 4.0

Report File: U:\...\exist_pm.pdf

12/3/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.010	23.6	C
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.023	33.2	D
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	WB Right	0.799	-	C
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.368	-	A
5	Moorpark Avenue at High Street	Signalized	ICU 1	NB Thru	0.463	-	A
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.682	-	B
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.368	10.3	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Thru	0.619	-	B
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.853	-	D
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.724	-	C
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.518	-	A
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.502	-	A
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	WB Right	0.595	-	A
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.511	-	A
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.594	-	A
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	NB Left	0.567	-	A
17	Spring Road and Peach Hill Road	Signalized	ICU 1	NB Thru	0.453	-	A
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Right	0.328	-	A

19	Mountain Trail Street and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.401	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.313	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.405	-	A
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.452	-	A
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.477	-	A
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.734	-	C
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.746	-	C
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NB Right	0.797	-	C
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	EB Left	0.788	-	C
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.015	10.2	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.050	10.0	A
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.031	12.1	B
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.285	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.529	-	A
35	Future Road - Meridian Hills Drive at Street "A"	Roundabout	HCM 2010	NB Left		3.2	A
36	Future Road - Street "A" at High Street	Two-way stop	HCM 2010		0.000	0.0	
40	Future Road - Casey Road at Street "A"	All-way stop	HCM 2010	WB Left	0.000	0.0	A
41	Future Road - Gabbert Road at North Hills Parkway	All-way stop	HCM 2010	SB Thru	0.031	7.1	A
47	Future Road - Gabbert Road at High Street	Two-way stop	HCM 2010	SB Thru	0.000	0.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: Walnut Canyon Road at Broadway Road

Control Type:	Two-way stop	Delay (sec / veh):	23.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	917	7	3	295	2	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	917	7	3	295	2	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	229	2	1	74	1	1
Total Analysis Volume [veh/h]	917	7	3	295	2	5
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	9.89	0.00	23.57	16.31
Movement LOS	A	A	A	A	C	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.31	0.31	1.95	1.95
d_A, Approach Delay [s/veh]	0.00		0.10		18.38	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	C					

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Intersection Level Of Service Report

Intersection 2: Walnut Canyon Road at Championship Drive

Control Type:	Two-way stop	Delay (sec / veh):	33.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	300.00	100.00	100.00	400.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	120	895	312	2	3	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	895	312	2	3	104
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	224	78	1	1	26
Total Analysis Volume [veh/h]	120	895	312	2	3	104
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.00	0.00	0.02	0.14
d_M, Delay for Movement [s/veh]	8.20	0.00	0.00	0.00	33.16	10.77
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.32	0.00	0.00	0.00	0.07	0.50
95th-Percentile Queue Length [ft/ln]	7.97	0.00	0.00	0.00	1.75	12.42
d_A, Approach Delay [s/veh]	0.97		0.00		11.39	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.53					
Intersection LOS	D					

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Intersection Level Of Service Report

Intersection 3: Walnut Canyon Road at Spring Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.799

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2	203	36	287	123	1	1	2	0	48	2	787
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	203	36	287	123	1	1	2	0	48	2	787
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	51	9	72	31	0	0	1	0	12	1	197
Total Analysis Volume [veh/h]	2	203	36	287	123	1	1	2	0	48	2	787
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	240
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Permiss	Split	Split	Permiss	Split
Signal Group	0	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.13	0.02	0.18	0.08	0.00	0.00	0.00	0.00	0.03	0.00	0.49
Intersection LOS	C											
Intersection V/C	0.799											

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Intersection Level Of Service Report
Intersection 4: Walnut Canyon Road at Casey Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	82	172	348	74	34	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	172	348	74	34	84
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	43	87	19	9	21
Total Analysis Volume [veh/h]	82	172	348	74	34	84
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	7	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.11	0.26	0.26	0.02	0.05
Intersection LOS	A					
Intersection V/C	0.368					

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Intersection Level Of Service Report

Intersection 5: Moorpark Avenue at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.463

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	26	292	292	87	214	6	7	21	36	266	21	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	292	292	87	214	6	7	21	36	266	21	118
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	69	73	22	51	2	2	5	9	67	5	30
Total Analysis Volume [veh/h]	26	277	292	87	203	6	7	21	36	266	21	118
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.40	0.18	0.05	0.13	0.13	0.00	0.04	0.04	0.17	0.18	0.07
Intersection LOS	A											
Intersection V/C	0.463											

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Intersection Level Of Service Report
Intersection 6: Spring Road at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.682

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	168	205	263	404	567	22	12	322	139	102	273	162
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	168	205	263	404	567	22	12	322	139	102	273	162
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	51	66	101	142	6	3	81	35	26	68	41
Total Analysis Volume [veh/h]	168	205	263	404	567	22	12	322	139	102	273	162
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.06	0.16	0.25	0.18	0.18	0.01	0.20	0.09	0.06	0.17	0.10
Intersection LOS	B											
Intersection V/C	0.682											

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Intersection Level Of Service Report

Intersection 7: Gabbert Road at Poindexter Avenue

Control Type:	All-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	180.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		30.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	16	256	19	9	231	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	256	19	9	231	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	64	5	2	58	2
Total Analysis Volume [veh/h]	16	256	19	9	231	6
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	682	787	652	627	792
Degree of Utilization, x	0.02	0.33	0.04	0.37	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.07	1.42	0.13	1.69	0.02
95th-Percentile Queue Length [ft]	1.80	35.41	3.36	42.32	0.57
Approach Delay [s/veh]	9.39		8.78	11.64	
Approach LOS	A		A	B	
Intersection Delay [s/veh]	10.35				
Intersection LOS	B				

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Intersection Level Of Service Report

Intersection 8: Moorpark Avenue and Poindexter Avenue/1st Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.619

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	84	377	4	10	336	315	198	25	62	3	58	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	377	4	10	336	315	198	25	62	3	58	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	90	1	3	80	79	50	6	16	1	15	4
Total Analysis Volume [veh/h]	84	358	4	10	319	315	198	25	62	3	58	17
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.23	0.23	0.01	0.40	0.40	0.12	0.05	0.05	0.00	0.05	0.05
Intersection LOS	B											
Intersection V/C	0.619											

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Intersection Level Of Service Report

Intersection 9: Somis Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.853

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	370.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	191	64	579	26	104	53	15	480	104	369	584	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	191	64	579	26	104	53	15	480	104	369	584	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	16	145	7	26	13	4	120	26	92	146	5
Total Analysis Volume [veh/h]	191	64	579	26	104	53	15	480	104	369	584	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	240
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.16	0.13	0.02	0.10	0.10	0.01	0.37	0.37	0.23	0.38	0.38
Intersection LOS	D											
Intersection V/C	0.853											

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Intersection Level Of Service Report
Intersection 10: Grimes Canyon Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.724

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	500.00	100.00	100.00	500.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	32	100	137	862	890	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	100	137	862	890	32
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	25	34	216	223	8
Total Analysis Volume [veh/h]	32	100	137	862	890	32
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.08	0.09	0.54	0.56	0.02
Intersection LOS	C					
Intersection V/C	0.724					

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Intersection Level Of Service Report

Intersection 11: Tierra Rejada Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	200.00	250.00	100.00	180.00	450.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	145	97	309	64	173	127	74	692	243	310	689	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	97	309	64	173	127	74	692	243	310	689	41
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	24	77	16	43	32	19	173	61	78	172	10
Total Analysis Volume [veh/h]	145	97	309	64	173	127	74	692	243	310	689	41
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.06	0.10	0.04	0.11	0.08	0.05	0.22	0.15	0.10	0.22	0.03
Intersection LOS	A											
Intersection V/C	0.518											

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Intersection Level Of Service Report
Intersection 12: Moorpark Avenue and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.502

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	69	87	116	205	48	97	143	917	31	101	941	109
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	87	116	205	48	97	143	917	31	101	941	109
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	22	29	51	12	24	36	229	8	25	235	27
Total Analysis Volume [veh/h]	69	87	116	205	48	97	143	917	31	101	941	109
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	8	1	0	4	4	5	2	0	1	6	6
Auxiliary Signal Groups			1,8			4,5						4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.05	0.01	0.06	0.00	0.00	0.09	0.20	0.20	0.06	0.29	0.00
Intersection LOS	A											
Intersection V/C	0.502											

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Intersection Level Of Service Report

Intersection 13: Spring Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.595

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	500.00	400.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	245	315	44	350	217	92	158	907	188	51	1035	693
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	245	315	44	350	217	92	158	907	188	51	1035	693
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	79	11	88	54	23	40	227	47	13	259	173
Total Analysis Volume [veh/h]	245	315	44	350	217	92	158	907	188	51	1035	693
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	1	7	4	4	5	2	0	1	6	6
Auxiliary Signal Groups						4,5						6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.11	0.11	0.11	0.14	0.01	0.05	0.28	0.12	0.03	0.32	0.32
Intersection LOS	A											
Intersection V/C	0.595											

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Intersection Level Of Service Report
Intersection 14: Miller Parkway/Science Drive/Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.511

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	320.00	100.00	100.00	100.00	100.00	100.00	450.00	100.00	450.00	450.00	100.00	450.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	49.21
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	196	4	89	118	16	49	14	1183	107	110	1569	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	196	4	89	118	16	49	14	1183	107	110	1569	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	1	22	30	4	12	4	296	27	28	392	5
Total Analysis Volume [veh/h]	196	4	89	118	16	49	14	1183	107	110	1569	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	140
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.06	0.07	0.11	0.11	0.01	0.25	0.07	0.03	0.33	0.01
Intersection LOS	A											
Intersection V/C	0.511											

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Intersection Level Of Service Report

Intersection 15: SR□23 SB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.594

Intersection Setup

Name											
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	23	0	953	0	781	688	37	927	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	0	953	0	781	688	37	927	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	238	0	195	172	9	232	0	0	0	0
Total Analysis Volume [veh/h]	23	0	953	0	781	688	37	927	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	7	0	0	0	2	0	1	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.31	0.31	0.02	0.58	0.00	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.594											

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Intersection Level Of Service Report

Intersection 16: SR□23 NB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.567

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	1	2	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	920	10	20	819	38	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	920	10	20	819	38	70
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	230	3	5	205	10	18
Total Analysis Volume [veh/h]	920	10	20	819	38	70
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	3	0	2	0	0	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.29	0.01	0.01	0.26	0.02	0.07
Intersection LOS	A					
Intersection V/C	0.567					

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Intersection Level Of Service Report

Intersection 17: Spring Road and Peach Hill Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	87	426	44	34	278	154	120	41	46	46	99	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	87	426	44	34	278	154	120	41	46	46	99	45
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	107	11	9	70	39	30	10	12	12	25	11
Total Analysis Volume [veh/h]	87	426	44	34	278	154	120	41	46	46	99	45
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.27	0.03	0.02	0.17	0.10	0.08	0.03	0.03	0.03	0.09	0.09
Intersection LOS	A											
Intersection V/C	0.453											

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Intersection Level Of Service Report

Intersection 18: Tierra Rejada Road and Countrywood Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.328

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	74	469	76	68	566	89	50	9	48	67	5	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	469	76	68	566	89	50	9	48	67	5	52
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	117	19	17	142	22	13	2	12	17	1	13
Total Analysis Volume [veh/h]	74	469	76	68	566	89	50	9	48	67	5	52
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.17	0.17	0.04	0.20	0.20	0.03	0.04	0.04	0.04	0.04	0.04
Intersection LOS	A											
Intersection V/C	0.328											

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Intersection Level Of Service Report

Intersection 19: Mountain Trail Street and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.401

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	55	13	96	37	23	61	89	522	67	208	459	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	55	13	96	37	23	61	89	522	67	208	459	38
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	3	24	9	6	15	22	131	17	52	115	10
Total Analysis Volume [veh/h]	55	13	96	37	23	61	89	522	67	208	459	38
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.06	0.02	0.05	0.05	0.06	0.18	0.18	0.13	0.16	0.16
Intersection LOS	A											
Intersection V/C	0.401											

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Intersection Level Of Service Report

Intersection 20: Mountain Meadow Drive and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.313

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	32	5	39	57	5	16	16	601	38	81	657	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	5	39	57	5	16	16	601	38	81	657	80
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	1	10	14	1	4	4	150	10	20	164	20
Total Analysis Volume [veh/h]	32	5	39	57	5	16	16	601	38	81	657	80
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.03	0.03	0.04	0.01	0.01	0.01	0.20	0.20	0.05	0.23	0.23
Intersection LOS	A											
Intersection V/C	0.313											

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Intersection Level Of Service Report

Intersection 21: Walnut Creek Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.405

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	5	1	74	84	2	21	32	652	10	110	784	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	74	84	2	21	32	652	10	110	784	130
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	19	21	1	5	8	163	3	28	196	33
Total Analysis Volume [veh/h]	5	1	74	84	2	21	32	652	10	110	784	130
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	70
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.05	0.05	0.01	0.01	0.02	0.21	0.21	0.07	0.29	0.29
Intersection LOS	A											
Intersection V/C	0.405											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 22: Peach Hill Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	69	97	90	722	946	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	97	90	722	946	127
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	24	23	181	237	32
Total Analysis Volume [veh/h]	69	97	90	722	946	127
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.06	0.06	0.23	0.34	0.34
Intersection LOS	A					
Intersection V/C	0.452					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 23: Spring Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.477

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	323	74	69	712	1064	495
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	323	74	69	712	1064	495
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	19	17	178	266	124
Total Analysis Volume [veh/h]	323	74	69	712	1064	495
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Overlap
Signal Group	7	0	5	2	6	6
Auxiliary Signal Groups						6,7
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.05	0.04	0.22	0.33	0.21
Intersection LOS	A					
Intersection V/C	0.477					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 24: Moorpark Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	100.00	100.00	350.00	250.00	100.00	100.00	200.00	100.00	200.00	380.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	448	0	786	112	0	95	60	756	223	582	1030	158
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	448	0	786	112	0	95	60	756	223	582	1030	158
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	112	0	197	28	0	24	15	189	56	146	258	40
Total Analysis Volume [veh/h]	448	0	786	112	0	95	60	756	223	582	1030	158
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	240
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	3	0	8	7	0	0	5	2	2	1	6	6
Auxiliary Signal Groups									2,3			6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.25	0.07	0.00	0.06	0.04	0.24	0.00	0.18	0.32	0.03
Intersection LOS	C											
Intersection V/C	0.734											

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Intersection Level Of Service Report

Intersection 25: SR□23 SB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.746

Intersection Setup

Name												
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	156	0	556	0	1274	343	0	1165	208	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	156	0	556	0	1274	343	0	1165	208	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	0	139	0	319	86	0	291	52	0	0	0
Total Analysis Volume [veh/h]	156	0	556	0	1274	343	0	1165	208	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	4	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.00	0.35	0.00	0.40	0.21	0.00	0.36	0.13	0.00	0.00	0.00
Intersection LOS	C											
Intersection V/C	0.746											

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Intersection Level Of Service Report

Intersection 26: SB 23 NB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.797

Intersection Setup

Name												
Approach	Northbound			Eastbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	300.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	587	0	678	0	1195	239	0	787	74	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	587	0	678	0	1195	239	0	787	74	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	147	0	170	0	299	60	0	197	19	0	0	0
Total Analysis Volume [veh/h]	587	0	678	0	1195	239	0	787	74	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	7	0	0	3	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.00	0.40	0.00	0.37	0.15	0.00	0.25	0.05	0.00	0.00	0.00
Intersection LOS	C											
Intersection V/C	0.797											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 27: Moorpark Road and Santa Rosa Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.788

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	1	5	101	3	868	960	235	0	1	351	385
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	5	101	3	868	960	235	0	1	351	385
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	25	1	217	240	59	0	0	88	96
Total Analysis Volume [veh/h]	1	1	5	101	3	868	960	235	0	1	351	385
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	130
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	4	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.06	0.07	0.24	0.30	0.15	0.00	0.00	0.22	0.24
Intersection LOS	C											
Intersection V/C	0.788											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report

Intersection 28: Broadway Road and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	12	120	45	18	46	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	120	45	18	46	44
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	30	11	5	12	11
Total Analysis Volume [veh/h]	12	120	45	18	46	44
Pedestrian Volume [ped/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.12	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	10.21	9.12	0.00	0.00	7.41	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.46	0.46	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	11.55	11.55	0.00	0.00	2.31	2.31
d_A, Approach Delay [s/veh]	9.22		0.00		3.79	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.46					
Intersection LOS	B					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report

Intersection 29: Championship Drive and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	200.00	400.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	64	30	16	119	38	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	30	16	119	38	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	8	4	30	10	1
Total Analysis Volume [veh/h]	64	30	16	119	38	3
Pedestrian Volume [ped/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.43	0.00	9.95	8.61
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.00	0.16	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.81	0.00	3.91	0.23
d_A, Approach Delay [s/veh]	0.00		0.88		9.85	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.94					
Intersection LOS	A					

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Intersection Level Of Service Report

Intersection 30: Meridian Hills Drive and Walnut Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	250.00	200.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	68	210	127	29	16	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	210	127	29	16	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	53	32	7	4	14
Total Analysis Volume [veh/h]	68	210	127	29	16	57
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.00	0.00	0.03	0.06
d_M, Delay for Movement [s/veh]	7.65	0.00	0.00	0.00	12.09	9.16
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.15	0.00	0.00	0.00	0.09	0.20
95th-Percentile Queue Length [ft/ln]	3.76	0.00	0.00	0.00	2.36	4.93
d_A, Approach Delay [s/veh]	1.87		0.00		9.80	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.44					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 31: SR 118 WB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.285

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	72	534	0	0	140	242	0	0	0	15	0	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	534	0	0	140	242	0	0	0	15	0	269
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	134	0	0	35	61	0	0	0	4	0	67
Total Analysis Volume [veh/h]	72	534	0	0	140	242	0	0	0	15	0	269
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.17	0.00	0.00	0.04	0.15	0.00	0.00	0.00	0.01	0.00	0.09
Intersection LOS	A											
Intersection V/C	0.285											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 32: SR 118 EB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.529

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	217	239	421	371	20	211
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	217	239	421	371	20	211
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	60	105	93	5	53
Total Analysis Volume [veh/h]	217	239	421	371	20	211
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Split	Split
Signal Group	7	0	0	2	8	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.15	0.13	0.25	0.01	0.13
Intersection LOS	A					
Intersection V/C	0.529					

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Intersection Level Of Service Report
Intersection 35: Future Road - Meridian Hills Drive at Street "A"

Control Type:	Roundabout	Delay (sec / veh):	3.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	0		0		0	
Exiting Flow Rate [veh/h]	0		0		0	
Demand Flow Rate [veh/h]	0	0	0	0	0	0
Adjusted Demand Flow Rate [veh/h]	0	0	0	0	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1130.00	1130.00	1130.00
B (coefficient)	0.00100	0.00100	0.00100
HV Adjustment Factor	0.98	0.98	0.98
Entry Flow Rate [veh/h]	0	0	0
Capacity of Entry and Bypass Lanes [veh/h]	1130	1130	1130
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1108	1108	1108
X, volume / capacity	0.00	0.00	0.00

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00
Approach Delay [s/veh]	3.25	3.25	3.25
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.25		
Intersection LOS	A		

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Intersection Level Of Service Report
Intersection 36: Future Road - Street "A" at High Street

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 2010	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.52	8.32	7.22	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.42		3.61		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

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Intersection Level Of Service Report

Intersection 40: Future Road - Casey Road at Street "A"

Control Type:	All-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	915	915	915	915
Degree of Utilization, x	0.00	0.00	0.00	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00
Approach Delay [s/veh]	0.00	0.00	0.00	0.00
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	0.00			
Intersection LOS	A			

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Intersection Level Of Service Report
Intersection 41: Future Road - Gabbert Road at North Hills Parkway

Control Type:	All-way stop	Delay (sec / veh):	7.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	16	0	0	28	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	16	0	0	28	0	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	0	7	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	16	0	0	28	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	909	912	894	894
Degree of Utilization, x	0.02	0.03	0.00	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.05	0.09	0.00	0.00
95th-Percentile Queue Length [ft]	1.34	2.37	0.00	0.00
Approach Delay [s/veh]	7.03	7.07	0.00	0.00
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.06			
Intersection LOS	A			

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Intersection Level Of Service Report

Intersection 47: Future Road - Gabbert Road at High Street

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	16	0	0	28	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	0	0	28	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	0	7	0	0
Total Analysis Volume [veh/h]	16	0	0	28	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.25	0.00	8.72	8.39
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		8.56	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Hitch Ranch Traffic Analysis Update

Vistro File: \...\new_Hitch Ranch_FINAL High-v3-w-unknown -prjs.vistro

Scenario 12 9 9 AM Existing 4.0

Report File: U:\...\exist_plus_prj_am.pdf

12/3/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.004	18.8	C
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.012	26.3	D
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	SB Left	0.664	-	B
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Right	0.701	-	C
5	Moorpark Avenue at High Street	Signalized	ICU 1	NB Thru	0.576	-	A
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.630	-	B
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.384	10.6	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Right	0.656	-	B
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	EB Right	0.734	-	C
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.673	-	B
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.634	-	B
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.482	-	A
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.636	-	B
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.403	-	A
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.366	-	A
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	EB Right	0.419	-	A
17	Spring Road and Peach Hill Road	Signalized	ICU 1	SB Thru	0.524	-	A
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Thru	0.458	-	A

19	Mountain Trail Street and Tierra Rejada Road	Signalized	ICU 1	EB Right	0.440	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.449	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.512	-	A
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.463	-	A
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.558	-	A
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.814	-	D
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	EB Right	0.748	-	C
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.776	-	C
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	SB Right	0.647	-	B
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.017	11.0	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.050	10.0	A
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.050	12.7	B
31	SR 118 WB and Collins Drive	Signalized	ICU 1	WB Right	0.344	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.619	-	B
35	Future Road - Meridian Hills Drive at Street "A"	Roundabout	HCM 2010	NB Right		3.3	A
36	Future Road - Street "A" at High Street	Two-way stop	HCM 2010	SB Left	0.076	9.1	A
40	Future Road - Casey Road at Street "A"	All-way stop	HCM 2010	EB Thru	0.237	7.9	A
41	Future Road - Gabbert Road at North Hills Parkway	All-way stop	HCM 2010	WB Left	0.041	7.0	A
47	Future Road - Gabbert Road at High Street	Two-way stop	HCM 2010	WB Left	0.053	9.2	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: Walnut Canyon Road at Broadway Road

Control Type:	Two-way stop	Delay (sec / veh):	18.8
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	273	3	8	709	1	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	0	0	3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	284	3	8	712	1	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	71	1	2	178	0	1
Total Analysis Volume [veh/h]	284	3	8	712	1	3
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.84	0.00	18.81	9.83
Movement LOS	A	A	A	A	C	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.47	0.47	0.59	0.59
d_A, Approach Delay [s/veh]	0.00		0.09		12.08	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	C					

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Intersection Level Of Service Report
Intersection 2: Walnut Canyon Road at Championship Drive

Control Type:	Two-way stop	Delay (sec / veh):	26.3
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	300.00	100.00	100.00	400.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	96	258	761	3	2	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	8	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	282	769	3	2	113
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	71	192	1	1	28
Total Analysis Volume [veh/h]	96	282	769	3	2	113
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.01	0.00	0.01	0.28
d_M, Delay for Movement [s/veh]	9.82	0.00	0.00	0.00	26.34	17.46
Movement LOS	A	A	A	A	D	C
95th-Percentile Queue Length [veh/ln]	0.38	0.00	0.00	0.00	0.04	1.14
95th-Percentile Queue Length [ft/ln]	9.60	0.00	0.00	0.00	0.89	28.51
d_A, Approach Delay [s/veh]	2.49		0.00		17.61	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	2.35					
Intersection LOS	D					

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Intersection Level Of Service Report
Intersection 3: Walnut Canyon Road at Spring Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	112	24	668	224	1	1	3	0	38	2	252
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	27	0	0	8	0	0	0	1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	139	24	668	232	1	1	3	1	38	2	252
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	35	6	167	58	0	0	1	0	10	1	63
Total Analysis Volume [veh/h]	4	139	24	668	232	1	1	3	1	38	2	252
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Permiss	Split
Signal Group	0	2	0	1	6	0	0	7	0	3	8	1
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.02	0.42	0.15	0.00	0.00	0.00	0.00	0.02	0.00	0.16
Intersection LOS	B											
Intersection V/C	0.664											

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Intersection Level Of Service Report
Intersection 4: Walnut Canyon Road at Casey Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	242	172	348	74	34	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	52	0	0	9	21	152
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	294	172	348	83	55	397
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	43	87	21	14	99
Total Analysis Volume [veh/h]	294	172	348	83	55	397
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	7	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.11	0.27	0.27	0.03	0.25
Intersection LOS	C					
Intersection V/C	0.701					

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Intersection Level Of Service Report
Intersection 5: Moorpark Avenue at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	13	262	183	174	403	5	5	13	14	206	13	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	18	0	103	49	0	0	44	30	0	13	34
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	280	183	277	452	5	5	57	44	206	26	175
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	70	46	69	113	1	1	14	11	52	7	44
Total Analysis Volume [veh/h]	26	280	183	277	452	5	5	57	44	206	26	175
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.40	0.11	0.17	0.29	0.29	0.00	0.07	0.07	0.13	0.15	0.11
Intersection LOS	A											
Intersection V/C	0.576											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 6: Spring Road at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.630

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	128	205	226	404	567	22	12	240	163	81	243	162
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	23	0	0	0	0	0	0	57	72	0	19	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	205	226	404	567	22	12	297	235	81	262	162
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	51	57	101	142	6	3	74	59	20	66	41
Total Analysis Volume [veh/h]	151	205	226	404	567	22	12	297	235	81	262	162
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.06	0.14	0.25	0.18	0.18	0.01	0.19	0.15	0.05	0.16	0.10
Intersection LOS	B											
Intersection V/C	0.630											

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Intersection Level Of Service Report
Intersection 7: Gabbert Road at Poindexter Avenue

Control Type:	All-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.384

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	180.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		30.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	13	256	19	17	231	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	0	2	63	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	256	21	80	231	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	64	5	20	58	2
Total Analysis Volume [veh/h]	39	256	21	80	231	7
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	667	766	656	601	752
Degree of Utilization, x	0.06	0.33	0.15	0.38	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.19	1.47	0.54	1.80	0.03
95th-Percentile Queue Length [ft]	4.65	36.76	13.56	45.08	0.70
Approach Delay [s/veh]	9.56		9.49	12.24	
Approach LOS	A		A	B	
Intersection Delay [s/veh]	10.56				
Intersection LOS	B				

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Intersection Level Of Service Report

Intersection 8: Moorpark Avenue and Poindexter Avenue/1st Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.656

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	84	265	4	10	296	315	198	25	62	3	58	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	30	0	0	78	2	1	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	295	4	10	374	317	199	25	62	3	58	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	74	1	3	94	79	50	6	16	1	15	4
Total Analysis Volume [veh/h]	84	295	4	10	374	317	199	25	62	3	58	17
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.19	0.19	0.01	0.43	0.43	0.12	0.05	0.05	0.00	0.05	0.05
Intersection LOS	B											
Intersection V/C	0.656											

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Intersection Level Of Service Report

Intersection 9: Somis Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	370.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	71	35	483	24	107	29	15	339	181	391	434	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	6	0	0	0	0	3	0	18	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	35	489	24	107	29	15	342	181	409	441	14
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	9	122	6	27	7	4	86	45	102	110	4
Total Analysis Volume [veh/h]	71	35	489	24	107	29	15	342	181	409	441	14
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	230
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.07	0.05	0.02	0.09	0.09	0.01	0.33	0.33	0.26	0.28	0.28
Intersection LOS	C											
Intersection V/C	0.734											

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Intersection Level Of Service Report
Intersection 10: Grimes Canyon Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.673

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	500.00	100.00	100.00	500.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	60	122	82	885	776	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	9	25	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	122	82	894	801	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	31	21	224	200	5
Total Analysis Volume [veh/h]	60	122	82	894	801	20
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.11	0.05	0.56	0.50	0.01
Intersection LOS	B					
Intersection V/C	0.673					

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Intersection Level Of Service Report
Intersection 11: Tierra Rejada Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.634

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	2	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	200.00	250.00	100.00	100.00	450.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	209	184	450	44	188	80	94	699	227	298	569	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	0	11	27	25	9	0	0	0	0	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	209	195	450	55	215	105	103	699	227	298	569	52
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	49	113	14	54	26	26	175	57	75	142	13
Total Analysis Volume [veh/h]	209	195	450	55	215	105	103	699	227	298	569	52
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.12	0.19	0.03	0.13	0.07	0.06	0.22	0.14	0.09	0.18	0.03
Intersection LOS	B											
Intersection V/C	0.634											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 12: Moorpark Avenue and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	69	87	116	167	48	108	133	905	31	101	852	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	73	5	0	0	11	0	0	6	28
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	89	116	240	53	108	133	916	31	101	858	147
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	22	29	60	13	27	33	229	8	25	215	37
Total Analysis Volume [veh/h]	69	89	116	240	53	108	133	916	31	101	858	147
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	8	8	0	4	4	5	2	0	1	6	6
Auxiliary Signal Groups			1,8			4,5						6,8
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.06	0.01	0.08	0.00	0.00	0.08	0.20	0.20	0.06	0.27	0.09
Intersection LOS	A											
Intersection V/C	0.482											

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Intersection Level Of Service Report
Intersection 13: Spring Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.636

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	1	2	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	500.00	400.00	100.00	200.00	250.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	210	293	61	588	313	97	143	894	179	36	777	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	7	0	56	16	0	0	65	19	0	25	16
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	220	300	61	644	329	97	143	959	198	36	802	261
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	75	15	161	82	24	36	240	50	9	201	65
Total Analysis Volume [veh/h]	220	300	61	644	329	97	143	959	198	36	802	261
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	70
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	0	7	4	4	5	2	0	1	6	6
Auxiliary Signal Groups						4,5						6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.11	0.11	0.20	0.21	0.02	0.04	0.30	0.12	0.02	0.25	0.00
Intersection LOS	B											
Intersection V/C	0.636											

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Intersection Level Of Service Report
Intersection 14: Miller Parkway/Science Drive/Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.403

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	320.00	100.00	100.00	100.00	100.00	100.00	450.00	100.00	450.00	450.00	100.00	450.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	49.21
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	65	14	70	11	1	17	64	1396	121	80	1071	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	121	0	0	39	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	14	70	11	1	17	64	1517	121	80	1110	118
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	4	18	3	0	4	16	379	30	20	278	30
Total Analysis Volume [veh/h]	67	14	70	11	1	17	64	1517	121	80	1110	118
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.04	0.01	0.02	0.02	0.04	0.32	0.08	0.03	0.23	0.07
Intersection LOS	A											
Intersection V/C	0.403											

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Intersection Level Of Service Report

Intersection 15: SR□23 SB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.366

Intersection Setup

Name											
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	26	0	845	0	762	787	3	519	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	5	0	64	57	0	20	0	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	850	0	826	844	3	539	0	14	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	213	0	207	211	1	135	0	4	0	0
Total Analysis Volume [veh/h]	26	0	850	0	826	844	3	539	0	14	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	7	0	0	0	2	0	1	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.35	0.35	0.00	0.34	0.00	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.366											

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Intersection Level Of Service Report
Intersection 16: SR 23 NB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.419

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	1	2	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	522	38	42	740	3	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	0	7	57	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	539	38	49	797	3	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	135	10	12	199	1	3
Total Analysis Volume [veh/h]	539	38	49	797	3	12
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	3	0	2	0	0	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.02	0.02	0.25	0.00	0.01
Intersection LOS	A					
Intersection V/C	0.419					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 17: Spring Road and Peach Hill Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.524

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	29	287	84	113	322	109	156	125	98	91	63	203
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	0	0	35	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	303	84	113	357	109	156	125	98	91	63	203
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	76	21	28	89	27	39	31	25	23	16	51
Total Analysis Volume [veh/h]	29	303	84	113	357	109	156	125	98	91	63	203
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.19	0.05	0.07	0.22	0.07	0.10	0.08	0.06	0.06	0.17	0.17
Intersection LOS	A											
Intersection V/C	0.524											

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Intersection Level Of Service Report
Intersection 18: Tierra Rejada Road and Countrywood Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.458

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	35	604	88	102	569	177	192	13	98	28	6	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	10	17	0	0	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	612	88	112	586	177	192	13	98	28	6	72
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	153	22	28	147	44	48	3	25	7	2	18
Total Analysis Volume [veh/h]	35	612	88	112	586	177	192	13	98	28	6	72
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.22	0.22	0.07	0.24	0.24	0.12	0.07	0.07	0.02	0.05	0.05
Intersection LOS	A											
Intersection V/C	0.458											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 19: Mountain Trail Street and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	93	24	199	90	39	154	62	512	45	130	463	64
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	1	3	14	0	0	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	93	24	199	90	39	155	65	526	45	130	470	64
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	6	50	23	10	39	16	132	11	33	118	16
Total Analysis Volume [veh/h]	93	24	199	90	39	155	65	526	45	130	470	64
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.02	0.12	0.06	0.12	0.12	0.04	0.18	0.18	0.08	0.17	0.17
Intersection LOS	A											
Intersection V/C	0.440											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 20: Mountain Meadow Drive and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.449

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	37	45	66	119	24	43	114	657	19	26	577	156
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	2	6	8	0	0	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	45	66	119	24	45	120	665	19	26	582	156
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	11	17	30	6	11	30	166	5	7	146	39
Total Analysis Volume [veh/h]	37	45	66	119	24	45	120	665	19	26	582	156
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.07	0.07	0.07	0.04	0.04	0.08	0.21	0.21	0.02	0.23	0.23
Intersection LOS	A											
Intersection V/C	0.449											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 21: Walnut Creek Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.512

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	10	1	175	205	7	30	17	812	9	24	719	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	8	0	0	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	1	175	205	7	30	17	820	9	24	724	56
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	44	51	2	8	4	205	2	6	181	14
Total Analysis Volume [veh/h]	10	1	175	205	7	30	17	820	9	24	724	56
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	70
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.11	0.11	0.13	0.02	0.02	0.01	0.26	0.26	0.02	0.24	0.24
Intersection LOS	A											
Intersection V/C	0.512											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 22: Peach Hill Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.463

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	172	158	98	1135	634	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	6	2	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	172	160	104	1137	637	52
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	40	26	284	159	13
Total Analysis Volume [veh/h]	172	160	104	1137	637	52
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.10	0.07	0.36	0.22	0.22
Intersection LOS	A					
Intersection V/C	0.463					

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Intersection Level Of Service Report
Intersection 23: Spring Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.558

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	548	67	106	1199	632	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	0	0	2	3	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	583	67	106	1201	635	286
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	146	17	27	300	159	72
Total Analysis Volume [veh/h]	583	67	106	1201	635	286
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Overlap
Signal Group	7	0	5	2	6	6
Auxiliary Signal Groups						6,7
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.04	0.07	0.38	0.20	0.00
Intersection LOS	A					
Intersection V/C	0.558					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 24: Moorpark Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.814

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	100.00	100.00	350.00	250.00	100.00	100.00	200.00	100.00	200.00	380.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	202	0	485	145	0	98	67	1070	624	729	599	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	31	6	0	17	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	204	0	485	145	0	98	67	1101	630	729	616	84
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	0	121	36	0	25	17	275	158	182	154	21
Total Analysis Volume [veh/h]	204	0	485	145	0	98	67	1101	630	729	616	84
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	230
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	3	0	8	7	0	0	5	2	2	1	6	6
Auxiliary Signal Groups									2,3			6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.15	0.09	0.00	0.06	0.04	0.34	0.33	0.23	0.19	0.00
Intersection LOS	D											
Intersection V/C	0.814											

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Intersection Level Of Service Report
Intersection 25: SR□23 SB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.748

Intersection Setup

Name												
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	40	0	396	0	1006	770	0	993	554	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	3	0	3	28	0	8	0	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	0	399	0	1009	798	0	1001	554	8	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	100	0	252	200	0	250	139	2	0	0
Total Analysis Volume [veh/h]	40	0	399	0	1009	798	0	1001	554	8	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	4	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.25	0.00	0.21	0.50	0.00	0.31	0.35	0.00	0.00	0.00
Intersection LOS	C											
Intersection V/C	0.748											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 26: SB 23 NB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.776

Intersection Setup

Name											
Approach	Northbound			Eastbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	300.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	684	0	519	0	502	548	0	1278	111	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	0	3	0	0	1	0	0	0	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	685	0	519	0	505	548	0	1279	111	0	0	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	171	0	130	0	126	137	0	320	28	0	0	2
Total Analysis Volume [veh/h]	685	0	519	0	505	548	0	1279	111	0	0	6
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	7	0	0	3	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.00	0.38	0.00	0.16	0.34	0.00	0.40	0.07	0.00	0.00	0.00
Intersection LOS	C											
Intersection V/C	0.776											

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Intersection Level Of Service Report
Intersection 27: Moorpark Road and Santa Rosa Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	3	2	5	407	1	878	572	377	3	1	144	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	3	0	3	1	0	0	0	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	2	5	410	1	881	573	377	3	1	144	101
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	103	0	220	143	94	1	0	36	25
Total Analysis Volume [veh/h]	3	2	5	410	1	881	573	377	3	1	144	101
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	4	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.26	0.26	0.37	0.18	0.24	0.24	0.00	0.09	0.06
Intersection LOS	B											
Intersection V/C	0.647											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 28: Broadway Road and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	11	54	55	41	99	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	54	55	41	99	42
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	14	14	10	25	11
Total Analysis Volume [veh/h]	11	54	55	41	99	42
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.05	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	11.01	8.96	0.00	0.00	7.57	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.23	0.23	0.00	0.00	0.21	0.21
95th-Percentile Queue Length [ft/ln]	5.82	5.82	0.00	0.00	5.30	5.30
d_A, Approach Delay [s/veh]	9.31		0.00		5.32	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.49					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 29: Championship Drive and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	200.00	400.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	64	30	16	119	38	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	30	16	119	38	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	8	4	30	10	1
Total Analysis Volume [veh/h]	64	30	16	119	38	3
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.43	0.00	9.95	8.61
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.00	0.16	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.81	0.00	3.91	0.23
d_A, Approach Delay [s/veh]	0.00		0.88		9.85	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.94					
Intersection LOS	A					

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Intersection Level Of Service Report

Intersection 30: Meridian Hills Drive and Walnut Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	250.00	200.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	40	130	287	14	16	123
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	21	9	0	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	151	296	14	25	123
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	38	74	4	6	31
Total Analysis Volume [veh/h]	40	151	296	14	25	123
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.05	0.17
d_M, Delay for Movement [s/veh]	7.97	0.00	0.00	0.00	12.66	10.80
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.10	0.00	0.00	0.00	0.16	0.59
95th-Percentile Queue Length [ft/ln]	2.48	0.00	0.00	0.00	3.98	14.76
d_A, Approach Delay [s/veh]	1.67		0.00		11.11	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.03					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 31: SR 118 WB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.344

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	534	0	0	140	242	0	0	0	4	1	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	534	0	0	140	242	0	0	0	4	1	269
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	134	0	0	35	61	0	0	0	1	0	67
Total Analysis Volume [veh/h]	39	534	0	0	140	242	0	0	0	4	1	269
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.17	0.00	0.00	0.04	0.15	0.00	0.00	0.00	0.00	0.00	0.17
Intersection LOS	A											
Intersection V/C	0.344											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 32: SR 118 EB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.619

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	48	239	859	71	20	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	239	859	71	20	286
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	60	215	18	5	72
Total Analysis Volume [veh/h]	48	239	859	71	20	286
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Split	Split
Signal Group	7	0	0	2	8	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.15	0.27	0.29	0.01	0.18
Intersection LOS	B					
Intersection V/C	0.619					

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Intersection Level Of Service Report
Intersection 35: Future Road - Meridian Hills Drive at Street "A"

Control Type:	Roundabout	Delay (sec / veh):	3.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	10	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	0	0	0	0
Total Analysis Volume [veh/h]	0	10	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	0		0		0	
Exiting Flow Rate [veh/h]	0		0		10	
Demand Flow Rate [veh/h]	0	10	0	0	0	0
Adjusted Demand Flow Rate [veh/h]	0	10	0	0	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1130.00	1130.00	1130.00
B (coefficient)	0.00100	0.00100	0.00100
HV Adjustment Factor	0.98	0.98	0.98
Entry Flow Rate [veh/h]	11	0	0
Capacity of Entry and Bypass Lanes [veh/h]	1130	1130	1130
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1108	1108	1108
X, volume / capacity	0.01	0.00	0.00

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.00	0.00
95th-Percentile Queue Length [ft]	0.68	0.00	0.00
Approach Delay [s/veh]	3.32	3.25	3.25
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.32		
Intersection LOS	A		

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Intersection Level Of Service Report
Intersection 36: Future Road - Street "A" at High Street

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.076

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	75	48	5	0	0	26
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	48	5	0	0	26
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	12	1	0	0	7
Total Analysis Volume [veh/h]	75	48	5	0	0	26
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.04	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.12	8.86	7.27	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.41	0.41	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	10.26	10.26	0.24	0.24	0.00	0.00
d_A, Approach Delay [s/veh]	9.02		7.27		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.44					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 40: Future Road - Casey Road at Street "A"

Control Type:	All-way stop	Delay (sec / veh):	7.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.237

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	10	0	63	28	3	12	110	96	0	10	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	10	0	63	28	3	12	110	96	0	10	18
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	3	0	16	7	1	3	28	24	0	3	5
Total Analysis Volume [veh/h]	22	10	0	63	28	3	12	110	96	0	10	18
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	888	875	919	1014
Degree of Utilization, x	0.01	0.10	0.24	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.35	0.92	0.05
95th-Percentile Queue Length [ft]	0.85	8.68	23.09	1.36
Approach Delay [s/veh]	7.10	7.59	8.13	6.62
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.88			
Intersection LOS	A			

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Intersection Level Of Service Report
Intersection 41: Future Road - Gabbert Road at North Hills Parkway

Control Type:	All-way stop	Delay (sec / veh):	7.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.041

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	13	0	0	36	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	21	1	0	0	0	0	0	17	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	13	21	1	36	0	0	0	0	17	0	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	5	0	9	0	0	0	0	4	0	1
Total Analysis Volume [veh/h]	0	13	21	1	36	0	0	0	0	17	0	3
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	989	897	879	866
Degree of Utilization, x	0.03	0.04	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.11	0.13	0.00	0.07
95th-Percentile Queue Length [ft]	2.67	3.22	0.00	1.77
Approach Delay [s/veh]	6.77	7.19	0.00	7.26
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.05			
Intersection LOS	A			

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Intersection Level Of Service Report
Intersection 47: Future Road - Gabbert Road at High Street

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.053

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	13	0	0	36	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	5	0	17	48	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	5	0	53	48	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	1	0	13	12	0
Total Analysis Volume [veh/h]	34	5	0	53	48	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.29	0.00	9.17	8.69
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.17	0.17
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	4.16	4.16
d_A, Approach Delay [s/veh]	0.00		0.00		9.17	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.14					
Intersection LOS	A					

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Hitch Ranch Traffic Analysis Update

Vistro File: \...\new_Hitch Ranch_FINAL High-v3-w-unknown -prjs.vistro

Scenario 13 10 10 PM Existing 4.0

Report File: U:\...\exist_plus_prj_pm.pdf

12/3/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.010	23.9	C
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.024	34.5	D
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	WB Right	0.812	-	D
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.534	-	A
5	Moorpark Avenue at High Street	Signalized	ICU 1	NB Thru	0.626	-	B
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.705	-	C
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.387	10.5	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Thru	0.658	-	B
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.864	-	D
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.734	-	C
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.528	-	A
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.530	-	A
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	WB Right	0.635	-	B
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.540	-	A
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.632	-	B
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	NB Left	0.595	-	A
17	Spring Road and Peach Hill Road	Signalized	ICU 1	NB Thru	0.488	-	A
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Thru	0.332	-	A

19	Mountain Trail Street and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.406	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.315	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.410	-	A
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.461	-	A
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.488	-	A
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.740	-	C
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.753	-	C
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NB Right	0.798	-	C
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	EB Left	0.792	-	C
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.015	10.2	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.050	10.0	A
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.052	12.6	B
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.285	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.529	-	A
35	Future Road - Meridian Hills Drive at Street "A"	Roundabout	HCM 2010	NB Right		3.3	A
36	Future Road - Street "A" at High Street	Two-way stop	HCM 2010	SB Left	0.087	9.4	A
40	Future Road - Casey Road at Street "A"	All-way stop	HCM 2010	EB Right	0.159	7.3	A
41	Future Road - Gabbert Road at North Hills Parkway	All-way stop	HCM 2010	WB Left	0.082	7.0	A
47	Future Road - Gabbert Road at High Street	Two-way stop	HCM 2010	WB Left	0.036	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: Walnut Canyon Road at Broadway Road

Control Type:	Two-way stop	Delay (sec / veh):	23.9
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	917	7	3	295	2	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	0	7	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	923	7	3	302	2	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	231	2	1	76	1	1
Total Analysis Volume [veh/h]	923	7	3	302	2	5
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	9.91	0.00	23.91	16.41
Movement LOS	A	A	A	A	C	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.31	0.31	1.97	1.97
d_A, Approach Delay [s/veh]	0.00		0.10		18.55	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	C					

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Intersection Level Of Service Report
Intersection 2: Walnut Canyon Road at Championship Drive

Control Type:	Two-way stop	Delay (sec / veh):	34.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	300.00	100.00	100.00	400.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	120	895	312	2	3	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	22	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	904	334	2	3	104
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	226	84	1	1	26
Total Analysis Volume [veh/h]	120	904	334	2	3	104
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.00	0.00	0.02	0.15
d_M, Delay for Movement [s/veh]	8.26	0.00	0.00	0.00	34.50	10.96
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.33	0.00	0.00	0.00	0.07	0.51
95th-Percentile Queue Length [ft/ln]	8.14	0.00	0.00	0.00	1.84	12.83
d_A, Approach Delay [s/veh]	0.97		0.00		11.62	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.52					
Intersection LOS	D					

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Intersection Level Of Service Report
Intersection 3: Walnut Canyon Road at Spring Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.812

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2	203	36	287	123	1	1	2	0	48	2	787
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	18	0	0	22	0	0	0	4	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	221	36	287	145	1	1	2	4	48	2	787
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	55	9	72	36	0	0	1	1	12	1	197
Total Analysis Volume [veh/h]	5	221	36	287	145	1	1	2	4	48	2	787
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	240
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Permiss	Split	Split	Permiss	Split
Signal Group	0	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.14	0.02	0.18	0.09	0.00	0.00	0.00	0.00	0.03	0.00	0.49
Intersection LOS	D											
Intersection V/C	0.812											

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Intersection Level Of Service Report
Intersection 4: Walnut Canyon Road at Casey Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	82	172	348	74	34	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	174	0	0	26	11	66
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	256	172	348	100	45	150
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	43	87	25	11	38
Total Analysis Volume [veh/h]	256	172	348	100	45	150
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	7	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.11	0.28	0.28	0.03	0.09
Intersection LOS	A					
Intersection V/C	0.534					

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Intersection Level Of Service Report
Intersection 5: Moorpark Avenue at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.626

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	26	292	292	87	214	6	7	21	36	266	21	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	56	0	39	26	0	0	42	36	0	44	119
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	348	292	126	240	6	7	63	72	266	65	237
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	83	73	32	57	2	2	16	18	67	16	59
Total Analysis Volume [veh/h]	71	331	292	126	228	6	7	63	72	266	65	237
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.51	0.18	0.08	0.15	0.15	0.00	0.09	0.09	0.17	0.21	0.15
Intersection LOS	B											
Intersection V/C	0.626											

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Intersection Level Of Service Report
Intersection 6: Spring Road at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.705

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	168	205	263	404	567	22	12	322	139	102	273	162
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	75	0	0	0	0	0	0	37	33	0	69	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	243	205	263	404	567	22	12	359	172	102	342	162
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	51	66	101	142	6	3	90	43	26	86	41
Total Analysis Volume [veh/h]	243	205	263	404	567	22	12	359	172	102	342	162
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.06	0.16	0.25	0.18	0.18	0.01	0.22	0.11	0.06	0.21	0.10
Intersection LOS	C											
Intersection V/C	0.705											

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Intersection Level Of Service Report
Intersection 7: Gabbert Road at Poindexter Avenue

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.387

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	180.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		30.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	16	256	19	9	231	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	83	0	2	39	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	99	256	21	48	231	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	64	5	12	58	2
Total Analysis Volume [veh/h]	99	256	21	48	231	8
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	671	772	646	596	745
Degree of Utilization, x	0.15	0.33	0.11	0.39	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.52	1.46	0.36	1.82	0.03
95th-Percentile Queue Length [ft]	12.90	36.42	8.92	45.61	0.81
Approach Delay [s/veh]	9.48		9.24	12.34	
Approach LOS	A		A	B	
Intersection Delay [s/veh]	10.49				
Intersection LOS	B				

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Intersection Level Of Service Report
Intersection 8: Moorpark Avenue and Poindexter Avenue/1st Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.658

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	84	377	4	10	336	315	198	25	62	3	58	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	99	0	0	61	2	2	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	476	4	10	397	317	200	25	62	3	58	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	113	1	3	94	79	50	6	16	1	15	4
Total Analysis Volume [veh/h]	84	452	4	10	377	317	200	25	62	3	58	17
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.29	0.29	0.01	0.43	0.43	0.13	0.05	0.05	0.00	0.05	0.05
Intersection LOS	B											
Intersection V/C	0.658											

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Intersection Level Of Service Report
Intersection 9: Somis Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.864

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	370.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	191	64	579	26	104	53	15	480	104	369	584	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	19	0	0	0	0	7	0	11	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	191	64	598	26	104	53	15	487	104	380	588	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	16	150	7	26	13	4	122	26	95	147	5
Total Analysis Volume [veh/h]	191	64	598	26	104	53	15	487	104	380	588	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	240
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.16	0.14	0.02	0.10	0.10	0.01	0.37	0.37	0.24	0.38	0.38
Intersection LOS	D											
Intersection V/C	0.864											

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Intersection Level Of Service Report
Intersection 10: Grimes Canyon Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	500.00	100.00	100.00	500.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	32	100	137	862	890	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	26	15	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	100	137	888	905	32
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	25	34	222	226	8
Total Analysis Volume [veh/h]	32	100	137	888	905	32
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.08	0.09	0.56	0.57	0.02
Intersection LOS	C					
Intersection V/C	0.734					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 11: Tierra Rejada Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.528

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	200.00	250.00	100.00	180.00	450.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	145	97	309	64	173	127	74	692	243	310	689	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	36	0	7	17	15	26	0	0	0	0	21
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	133	309	71	190	142	100	692	243	310	689	62
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	33	77	18	48	36	25	173	61	78	172	16
Total Analysis Volume [veh/h]	145	133	309	71	190	142	100	692	243	310	689	62
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.08	0.10	0.04	0.12	0.09	0.06	0.22	0.15	0.10	0.22	0.04
Intersection LOS	A											
Intersection V/C	0.528											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 12: Moorpark Avenue and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.530

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	69	87	116	205	48	97	143	917	31	101	941	109
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	0	58	3	0	0	7	0	0	21	94
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	92	116	263	51	97	143	924	31	101	962	203
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	23	29	66	13	24	36	231	8	25	241	51
Total Analysis Volume [veh/h]	69	92	116	263	51	97	143	924	31	101	962	203
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	8	1	0	4	4	5	2	0	1	6	6
Auxiliary Signal Groups			1,8			4,5						4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.06	0.01	0.08	0.00	0.00	0.09	0.20	0.20	0.06	0.30	0.04
Intersection LOS	A											
Intersection V/C	0.530											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 13: Spring Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.635

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	500.00	400.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	245	315	44	350	217	92	158	907	188	51	1035	693
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	22	0	25	9	0	0	48	17	0	80	53
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	280	337	44	375	226	92	158	955	205	51	1115	746
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	70	84	11	94	57	23	40	239	51	13	279	187
Total Analysis Volume [veh/h]	280	337	44	375	226	92	158	955	205	51	1115	746
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	1	7	4	4	5	2	0	1	6	6
Auxiliary Signal Groups						4,5						6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.12	0.12	0.12	0.14	0.01	0.05	0.30	0.13	0.03	0.35	0.35
Intersection LOS	B											
Intersection V/C	0.635											

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Intersection Level Of Service Report
Intersection 14: Miller Parkway/Science Drive/Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	320.00	100.00	100.00	100.00	100.00	100.00	450.00	100.00	450.00	450.00	100.00	450.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	49.21
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	196	4	89	118	16	49	14	1183	107	110	1569	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	0	0	0	0	0	73	0	0	127	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	202	4	89	118	16	49	14	1256	107	110	1696	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	1	22	30	4	12	4	314	27	28	424	5
Total Analysis Volume [veh/h]	202	4	89	118	16	49	14	1256	107	110	1696	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	140
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.06	0.07	0.11	0.11	0.01	0.26	0.07	0.03	0.35	0.01
Intersection LOS	A											
Intersection V/C	0.540											

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Intersection Level Of Service Report

Intersection 15: SR□23 SB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.632

Intersection Setup

Name												
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	23	0	953	0	781	688	37	927	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	17	0	36	37	0	61	0	50	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	0	970	0	817	725	37	988	0	50	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	243	0	204	181	9	247	0	13	0	0
Total Analysis Volume [veh/h]	23	0	970	0	817	725	37	988	0	50	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	7	0	0	0	2	0	1	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.32	0.32	0.02	0.62	0.00	0.00	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.632											

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Intersection Level Of Service Report
Intersection 16: SR□23 NB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.595

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	1	2	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	920	10	20	819	38	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	58	0	4	32	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	978	10	24	851	38	73
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	245	3	6	213	10	18
Total Analysis Volume [veh/h]	978	10	24	851	38	73
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	3	0	2	0	0	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.31	0.01	0.01	0.27	0.02	0.07
Intersection LOS	A					
Intersection V/C	0.595					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 17: Spring Road and Peach Hill Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.488

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	87	426	44	34	278	154	120	41	46	46	99	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	57	0	0	26	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	87	483	44	34	304	154	120	41	46	46	99	45
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	121	11	9	76	39	30	10	12	12	25	11
Total Analysis Volume [veh/h]	87	483	44	34	304	154	120	41	46	46	99	45
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.30	0.03	0.02	0.19	0.10	0.08	0.03	0.03	0.03	0.09	0.09
Intersection LOS	A											
Intersection V/C	0.488											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 18: Tierra Rejada Road and Countrywood Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.332

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	74	469	76	68	566	89	50	9	48	67	5	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	0	7	10	0	0	0	0	0	0	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	494	76	75	576	89	50	9	48	67	5	63
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	124	19	19	144	22	13	2	12	17	1	16
Total Analysis Volume [veh/h]	74	494	76	75	576	89	50	9	48	67	5	63
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.18	0.18	0.05	0.21	0.21	0.03	0.04	0.04	0.04	0.04	0.04
Intersection LOS	A											
Intersection V/C	0.332											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 19: Mountain Trail Street and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	55	13	96	37	23	61	89	522	67	208	459	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	4	3	7	0	0	21	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	55	13	96	37	23	65	92	529	67	208	480	38
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	3	24	9	6	16	23	132	17	52	120	10
Total Analysis Volume [veh/h]	55	13	96	37	23	65	92	529	67	208	480	38
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.06	0.02	0.06	0.06	0.06	0.19	0.19	0.13	0.16	0.16
Intersection LOS	A											
Intersection V/C	0.406											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 20: Mountain Meadow Drive and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.315

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	32	5	39	57	5	16	16	601	38	81	657	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	6	3	4	0	0	15	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	5	39	57	5	22	19	605	38	81	672	80
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	1	10	14	1	6	5	151	10	20	168	20
Total Analysis Volume [veh/h]	32	5	39	57	5	22	19	605	38	81	672	80
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.03	0.03	0.04	0.02	0.02	0.01	0.20	0.20	0.05	0.24	0.24
Intersection LOS	A											
Intersection V/C	0.315											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 21: Walnut Creek Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.410

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	5	1	74	84	2	21	32	652	10	110	784	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	4	0	0	15	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	74	84	2	21	32	656	10	110	799	130
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	19	21	1	5	8	164	3	28	200	33
Total Analysis Volume [veh/h]	5	1	74	84	2	21	32	656	10	110	799	130
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	70
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.05	0.05	0.01	0.01	0.02	0.21	0.21	0.07	0.29	0.29
Intersection LOS	A											
Intersection V/C	0.410											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 22: Peach Hill Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.461

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	69	97	90	722	946	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	3	1	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	103	93	723	955	127
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	26	23	181	239	32
Total Analysis Volume [veh/h]	69	103	93	723	955	127
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.06	0.06	0.23	0.34	0.34
Intersection LOS	A					
Intersection V/C	0.461					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 23: Spring Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.488

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	323	74	69	712	1064	495
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	0	0	1	9	57
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	349	74	69	713	1073	552
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	19	17	178	268	138
Total Analysis Volume [veh/h]	349	74	69	713	1073	552
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Overlap
Signal Group	7	0	5	2	6	6
Auxiliary Signal Groups						6,7
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.05	0.04	0.22	0.34	0.24
Intersection LOS	A					
Intersection V/C	0.488					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 24: Moorpark Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.740

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	100.00	100.00	350.00	250.00	100.00	100.00	200.00	100.00	200.00	380.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	448	0	786	112	0	95	60	756	223	582	1030	158
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	0	0	0	0	21	6	0	58	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	456	0	786	112	0	95	60	777	229	582	1088	164
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	114	0	197	28	0	24	15	194	57	146	272	41
Total Analysis Volume [veh/h]	456	0	786	112	0	95	60	777	229	582	1088	164
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	240
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	3	0	8	7	0	0	5	2	2	1	6	6
Auxiliary Signal Groups									2,3			6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.25	0.07	0.00	0.06	0.04	0.24	0.00	0.18	0.34	0.03
Intersection LOS	C											
Intersection V/C	0.740											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 25: SR□23 SB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.753

Intersection Setup

Name												
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	156	0	556	0	1274	343	0	1165	208	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	11	0	3	18	0	27	0	26	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	156	0	567	0	1277	361	0	1192	208	26	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	0	142	0	319	90	0	298	52	7	0	0
Total Analysis Volume [veh/h]	156	0	567	0	1277	361	0	1192	208	26	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	4	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.00	0.35	0.00	0.40	0.23	0.00	0.37	0.13	0.00	0.00	0.00
Intersection LOS	C											
Intersection V/C	0.753											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 26: SB□23 NB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.798

Intersection Setup

Name												
Approach	Northbound			Eastbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	300.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	587	0	678	0	1195	239	0	787	74	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	0	3	0	0	4	0	0	0	19
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	591	0	678	0	1198	239	0	791	74	0	0	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	148	0	170	0	300	60	0	198	19	0	0	5
Total Analysis Volume [veh/h]	591	0	678	0	1198	239	0	791	74	0	0	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	7	0	0	3	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.00	0.40	0.00	0.37	0.15	0.00	0.25	0.05	0.00	0.00	0.00
Intersection LOS	C											
Intersection V/C	0.798											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 27: Moorpark Road and Santa Rosa Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.792

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	1	5	101	3	868	960	235	0	1	351	385
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	3	0	3	4	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	5	104	3	871	964	235	0	1	351	389
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	26	1	218	241	59	0	0	88	97
Total Analysis Volume [veh/h]	1	1	5	104	3	871	964	235	0	1	351	389
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	130
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	4	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.07	0.07	0.24	0.30	0.15	0.00	0.00	0.22	0.24
Intersection LOS	C											
Intersection V/C	0.792											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 28: Broadway Road and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	12	120	45	18	46	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	120	45	18	46	44
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	30	11	5	12	11
Total Analysis Volume [veh/h]	12	120	45	18	46	44
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.12	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	10.21	9.12	0.00	0.00	7.41	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.46	0.46	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	11.55	11.55	0.00	0.00	2.31	2.31
d_A, Approach Delay [s/veh]	9.22		0.00		3.79	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.46					
Intersection LOS	B					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 29: Championship Drive and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	200.00	400.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	64	30	16	119	38	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	30	16	119	38	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	8	4	30	10	1
Total Analysis Volume [veh/h]	64	30	16	119	38	3
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.43	0.00	9.95	8.61
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.00	0.16	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.81	0.00	3.91	0.23
d_A, Approach Delay [s/veh]	0.00		0.88		9.85	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.94					
Intersection LOS	A					

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Intersection Level Of Service Report

Intersection 30: Meridian Hills Drive and Walnut Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.052

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	250.00	200.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	68	210	127	29	16	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	26	1	10	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	221	153	30	26	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	55	38	8	7	14
Total Analysis Volume [veh/h]	68	221	153	30	26	57
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.00	0.00	0.05	0.06
d_M, Delay for Movement [s/veh]	7.72	0.00	0.00	0.00	12.63	9.31
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.15	0.00	0.00	0.00	0.16	0.20
95th-Percentile Queue Length [ft/ln]	3.85	0.00	0.00	0.00	4.12	5.10
d_A, Approach Delay [s/veh]	1.82		0.00		10.35	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.49					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 31: SR 118 WB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.285

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	72	534	0	0	140	242	0	0	0	15	0	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	534	0	0	140	242	0	0	0	15	0	269
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	134	0	0	35	61	0	0	0	4	0	67
Total Analysis Volume [veh/h]	72	534	0	0	140	242	0	0	0	15	0	269
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.17	0.00	0.00	0.04	0.15	0.00	0.00	0.00	0.01	0.00	0.09
Intersection LOS	A											
Intersection V/C	0.285											

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Intersection Level Of Service Report
Intersection 32: SR 118 EB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.529

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	217	239	421	371	20	211
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	217	239	421	371	20	211
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	60	105	93	5	53
Total Analysis Volume [veh/h]	217	239	421	371	20	211
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Split	Split
Signal Group	7	0	0	2	8	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.15	0.13	0.25	0.01	0.13
Intersection LOS	A					
Intersection V/C	0.529					

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Intersection Level Of Service Report
Intersection 35: Future Road - Meridian Hills Drive at Street "A"

Control Type:	Roundabout	Delay (sec / veh):	3.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	0	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	11	0	0	1	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	0	0	0	0
Total Analysis Volume [veh/h]	0	11	0	0	1	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	0		1		0	
Exiting Flow Rate [veh/h]	1		0		11	
Demand Flow Rate [veh/h]	0	11	0	0	1	0
Adjusted Demand Flow Rate [veh/h]	0	11	0	0	1	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1130.00	1130.00	1130.00
B (coefficient)	0.00100	0.00100	0.00100
HV Adjustment Factor	0.98	0.98	0.98
Entry Flow Rate [veh/h]	12	0	2
Capacity of Entry and Bypass Lanes [veh/h]	1130	1129	1130
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1108	1107	1108
X, volume / capacity	0.01	0.00	0.00

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.00	0.00
95th-Percentile Queue Length [ft]	0.75	0.00	0.07
Approach Delay [s/veh]	3.33	3.25	3.26
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.33		
Intersection LOS	A		

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Intersection Level Of Service Report
Intersection 36: Future Road - Street "A" at High Street

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.087

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	79	31	17	0	0	90
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	31	17	0	0	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	8	4	0	0	23
Total Analysis Volume [veh/h]	79	31	17	0	0	90
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.03	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.45	9.02	7.42	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.40	0.40	0.03	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	9.88	9.88	0.86	0.86	0.00	0.00
d_A, Approach Delay [s/veh]	9.33		7.42		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.31					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 40: Future Road - Casey Road at Street "A"

Control Type:	All-way stop	Delay (sec / veh):	7.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.159

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	75	33	0	24	26	9	12	53	84	0	31	58
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	33	0	24	26	9	12	53	84	0	31	58
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	8	0	6	7	2	3	13	21	0	8	15
Total Analysis Volume [veh/h]	75	33	0	24	26	9	12	53	84	0	31	58
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	880	863	937	1024
Degree of Utilization, x	0.04	0.06	0.16	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.12	0.18	0.56	0.18
95th-Percentile Queue Length [ft]	2.92	4.60	14.10	4.50
Approach Delay [s/veh]	7.25	7.43	7.57	6.73
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.34			
Intersection LOS	A			

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Intersection Level Of Service Report
Intersection 41: Future Road - Gabbert Road at North Hills Parkway

Control Type:	All-way stop	Delay (sec / veh):	7.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.082

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	16	0	0	28	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	68	4	0	0	0	0	0	10	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	16	68	4	28	0	0	0	0	10	0	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	17	1	7	0	0	0	0	3	0	1
Total Analysis Volume [veh/h]	0	16	68	4	28	0	0	0	0	10	0	3
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	1026	888	863	862
Degree of Utilization, x	0.08	0.04	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.27	0.11	0.00	0.05
95th-Percentile Queue Length [ft]	6.67	2.80	0.00	1.15
Approach Delay [s/veh]	6.82	7.21	0.00	7.24
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.96			
Intersection LOS	A			

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Intersection Level Of Service Report
Intersection 47: Future Road - Gabbert Road at High Street

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.036

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	16	0	0	28	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	68	17	0	10	31	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	17	0	38	31	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	4	0	10	8	0
Total Analysis Volume [veh/h]	84	17	0	38	31	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.41	0.00	9.32	8.89
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	2.79	2.79
d_A, Approach Delay [s/veh]	0.00		0.00		9.32	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.70					
Intersection LOS	A					

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Hitch Ranch Traffic Analysis Update

Vistro File: \...\new_Hitch Ranch_FINAL High-v3-w-unknown -prjs.vistro

Scenario 7 7 7 AM Future 2.0

Report File: U:\...\future_np_am.pdf

12/3/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.005	23.2	C
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.022	45.4	E
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	SB Left	0.958	-	E
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.711	-	C
5	Moorpark Avenue at High Street	Signalized	ICU 1	NB Thru	0.600	-	A
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.870	-	D
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.425	11.2	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Thru	0.736	-	C
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.818	-	D
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.734	-	C
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.703	-	C
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.573	-	A
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.715	-	C
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.473	-	A
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.430	-	A
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	EB Right	0.516	-	A
17	Spring Road and Peach Hill Road	Signalized	ICU 1	SB Thru	0.603	-	B
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Thru	0.509	-	A

19	Mountain Trail Street and Tierra Rejada Road	Signalized	ICU 1	EB Right	0.488	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.491	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.558	-	A
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.505	-	A
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.600	-	B
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.978	-	E
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	EB Right	0.842	-	D
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NB Right	0.868	-	D
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	SB Right	0.732	-	C
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.020	11.3	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.055	10.1	B
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.129	16.1	C
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.371	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.687	-	B
33	Future Road - Meridian Hills Drive at Street "A"	Roundabout	HCM 2010	NB Right		3.3	A
34	Future Road - Street "A" at High Street	Two-way stop	HCM 2010	SB Right	0.010	8.4	A
35	Future Road - Casey Road at Street "A"	All-way stop	HCM 2010	SB Left	0.022	7.0	A
36	Future Road - Gabbert Road at North Hills Parkway	All-way stop	HCM 2010	NB Left	0.076	7.1	A
37	Future Road - Gabbert Road at High Street	Two-way stop	HCM 2010	WB Left	0.021	9.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: Walnut Canyon Road at Broadway Road

Control Type:	Two-way stop	Delay (sec / veh):	23.2
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	273	3	8	709	1	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	61	0	0	73	0	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	354	3	9	833	1	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	1	2	208	0	4
Total Analysis Volume [veh/h]	354	3	9	833	1	17
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.01	0.01	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	8.02	0.00	23.20	10.41
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.57	0.57	2.29	2.29
d_A, Approach Delay [s/veh]	0.00		0.09		11.12	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	C					

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Intersection Level Of Service Report
Intersection 2: Walnut Canyon Road at Championship Drive

Control Type:	Two-way stop	Delay (sec / veh):	45.4
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	300.00	100.00	100.00	400.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	96	258	761	3	2	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	179	183	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	103	456	999	3	2	121
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	114	250	1	1	30
Total Analysis Volume [veh/h]	103	456	999	3	2	121
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.00	0.01	0.00	0.02	0.41
d_M, Delay for Movement [s/veh]	11.12	0.00	0.00	0.00	45.43	25.38
Movement LOS	B	A	A	A	E	D
95th-Percentile Queue Length [veh/ln]	0.52	0.00	0.00	0.00	0.07	1.91
95th-Percentile Queue Length [ft/ln]	13.04	0.00	0.00	0.00	1.67	47.82
d_A, Approach Delay [s/veh]	2.05		0.00		25.71	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	2.56					
Intersection LOS	E					

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Intersection Level Of Service Report
Intersection 3: Walnut Canyon Road at Spring Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.958

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	112	24	668	224	1	1	3	0	38	2	252
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	33	28	154	29	0	1	0	2	0	0	150
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	153	54	870	269	1	2	3	2	41	2	420
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	38	14	218	67	0	1	1	1	10	1	105
Total Analysis Volume [veh/h]	6	153	54	870	269	1	2	3	2	41	2	420
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Permiss	Split
Signal Group	0	2	0	1	6	0	0	7	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.10	0.04	0.58	0.18	0.00	0.00	0.00	0.00	0.03	0.00	0.28
Intersection LOS	E											
Intersection V/C	0.958											

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Intersection Level Of Service Report

Intersection 4: Walnut Canyon Road at Casey Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.711

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	242	172	348	74	34	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	67	46	6	22	67
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	284	251	419	85	58	330
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	71	63	105	21	15	83
Total Analysis Volume [veh/h]	284	251	419	85	58	330
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	7	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.16	0.32	0.32	0.04	0.21
Intersection LOS	C					
Intersection V/C	0.711					

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Intersection Level Of Service Report

Intersection 5: Moorpark Avenue at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	13	262	183	174	403	5	5	13	14	206	13	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	58	34	63	82	5	0	20	14	21	20	77
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	339	230	250	514	10	5	34	29	242	34	228
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	81	58	63	122	3	1	9	7	61	9	57
Total Analysis Volume [veh/h]	27	322	230	250	488	10	5	34	29	242	34	228
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.46	0.15	0.17	0.31	0.31	0.00	0.04	0.04	0.15	0.17	0.14
Intersection LOS	A											
Intersection V/C	0.600											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 6: Spring Road at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.870

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	128	205	226	404	567	22	12	240	163	81	243	162
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	55	33	131	56	6	6	92	22	30	85	98
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	275	275	564	664	30	19	349	197	117	346	272
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	69	69	141	166	8	5	87	49	29	87	68
Total Analysis Volume [veh/h]	157	275	275	564	664	30	19	349	197	117	346	272
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.09	0.18	0.38	0.22	0.22	0.01	0.23	0.13	0.08	0.22	0.18
Intersection LOS	D											
Intersection V/C	0.870											

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Intersection Level Of Service Report

Intersection 7: Gabbert Road at Poindexter Avenue

Control Type:	All-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	180.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		30.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	13	256	19	17	231	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	1	27	67	1	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	275	47	85	249	14
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	69	12	21	62	4
Total Analysis Volume [veh/h]	42	275	47	85	249	14
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	650	745	637	586	729
Degree of Utilization, x	0.06	0.37	0.21	0.42	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.21	1.71	0.77	2.11	0.06
95th-Percentile Queue Length [ft]	5.17	42.66	19.36	52.77	1.47
Approach Delay [s/veh]	10.11		10.12	13.01	
Approach LOS	B		B	B	
Intersection Delay [s/veh]	11.18				
Intersection LOS	B				

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Intersection Level Of Service Report
Intersection 8: Moorpark Avenue and Poindexter Avenue/1st Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.736

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	84	265	4	10	296	315	198	25	62	3	58	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	80	4	2	105	10	24	0	0	4	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	364	8	13	422	348	236	27	66	7	62	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	86	2	3	100	87	59	7	17	2	16	5
Total Analysis Volume [veh/h]	90	346	8	13	401	348	236	27	66	7	62	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.22	0.22	0.01	0.47	0.47	0.16	0.06	0.06	0.00	0.05	0.05
Intersection LOS	C											
Intersection V/C	0.736											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 9: Somis Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.818

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	370.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	71	35	483	24	107	29	15	339	181	391	434	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	24	0	0	0	0	6	0	37	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	38	542	26	115	31	16	369	194	456	472	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	10	136	7	29	8	4	92	49	114	118	4
Total Analysis Volume [veh/h]	76	38	542	26	115	31	16	369	194	456	472	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	230
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.07	0.06	0.02	0.09	0.09	0.01	0.35	0.35	0.30	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.818											

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Intersection Level Of Service Report

Intersection 10: Grimes Canyon Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	500.00	100.00	100.00	500.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	60	122	82	885	776	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	30	44	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	131	88	979	876	21
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	33	22	245	219	5
Total Analysis Volume [veh/h]	64	131	88	979	876	21
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.12	0.06	0.61	0.44	0.01
Intersection LOS	C					
Intersection V/C	0.734					

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Intersection Level Of Service Report

Intersection 11: Tierra Rejada Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.703

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	2	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	200.00	250.00	100.00	100.00	450.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	209	184	450	44	188	80	94	699	227	298	569	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	13	32	11	25	14	20	0	14	24	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	224	200	495	79	213	111	115	769	243	333	634	61
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	50	124	20	53	28	29	192	61	83	159	15
Total Analysis Volume [veh/h]	224	200	495	79	213	111	115	769	243	333	634	61
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.13	0.23	0.05	0.13	0.07	0.08	0.24	0.16	0.10	0.20	0.04
Intersection LOS	C											
Intersection V/C	0.703											

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Intersection Level Of Service Report
Intersection 12: Moorpark Avenue and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.573

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	69	87	116	167	48	108	133	905	31	101	852	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	14	81	1	27	20	137	0	7	106	62
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	95	138	260	52	143	163	1107	33	115	1019	190
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	24	35	65	13	36	41	277	8	29	255	48
Total Analysis Volume [veh/h]	76	95	138	260	52	143	163	1107	33	115	1019	190
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	8	8	0	4	4	5	2	0	1	6	6
Auxiliary Signal Groups			1,8			4,5						6,8
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.06	0.02	0.09	0.00	0.00	0.11	0.24	0.24	0.08	0.32	0.13
Intersection LOS	A											
Intersection V/C	0.573											

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Intersection Level Of Service Report
Intersection 13: Spring Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.715

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	1	2	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	500.00	400.00	100.00	200.00	250.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	210	293	61	588	313	97	143	894	179	36	777	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	54	5	0	73	5	30	33	165	44	0	102	70
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	279	319	65	703	341	134	186	1123	236	39	935	333
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	70	80	16	176	85	34	47	281	59	10	234	83
Total Analysis Volume [veh/h]	279	319	65	703	341	134	186	1123	236	39	935	333
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	70
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	0	7	4	4	5	2	0	1	6	6
Auxiliary Signal Groups						4,5						6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.12	0.12	0.22	0.21	0.03	0.06	0.35	0.15	0.02	0.29	0.00
Intersection LOS	C											
Intersection V/C	0.715											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 14: Miller Parkway/Science Drive/Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.473

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	320.00	100.00	100.00	100.00	100.00	100.00	450.00	100.00	450.00	450.00	100.00	450.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	49.21
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	65	14	70	11	1	17	64	1396	121	80	1071	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	2	0	0	0	0	234	4	3	168	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	15	77	12	1	18	69	1731	134	89	1316	127
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	4	19	3	0	5	17	433	34	22	329	32
Total Analysis Volume [veh/h]	74	15	77	12	1	18	69	1731	134	89	1316	127
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.06	0.01	0.02	0.02	0.00	0.36	0.09	0.03	0.34	0.10
Intersection LOS	A											
Intersection V/C	0.473											

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Intersection Level Of Service Report

Intersection 15: SR□23 SB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.430

Intersection Setup

Name											
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	26	0	845	0	762	787	3	519	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	120	0	115	121	12	47	0	4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	0	1026	0	932	965	15	603	0	4	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	257	0	233	241	4	151	0	1	0	0
Total Analysis Volume [veh/h]	37	0	1026	0	932	965	15	603	0	4	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	7	0	0	0	2	0	1	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.40	0.40	0.01	0.38	0.00	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.430											

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Intersection Level Of Service Report

Intersection 16: SR□23 NB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	1	2	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	522	38	42	740	3	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	10	25	99	10	24
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	595	51	70	892	13	34
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	149	13	18	223	3	9
Total Analysis Volume [veh/h]	595	51	70	892	13	34
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	3	0	2	0	0	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.03	0.02	0.28	0.01	0.03
Intersection LOS	A					
Intersection V/C	0.516					

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Intersection Level Of Service Report

Intersection 17: Spring Road and Peach Hill Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	29	287	84	113	322	109	156	125	98	91	63	203
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	60	2	2	49	0	0	0	0	1	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	368	92	123	394	117	167	134	105	99	68	220
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	92	23	31	99	29	42	34	26	25	17	55
Total Analysis Volume [veh/h]	31	368	92	123	394	117	167	134	105	99	68	220
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.23	0.06	0.08	0.25	0.08	0.11	0.08	0.07	0.06	0.18	0.18
Intersection LOS	B											
Intersection V/C	0.603											

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Intersection Level Of Service Report
Intersection 18: Tierra Rejada Road and Countrywood Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.509

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	35	604	88	102	569	177	192	13	98	28	6	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	14	11	0	0	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	656	94	123	621	190	206	14	105	30	6	82
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	164	24	31	155	48	52	4	26	8	2	21
Total Analysis Volume [veh/h]	38	656	94	123	621	190	206	14	105	30	6	82
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.23	0.23	0.08	0.27	0.27	0.14	0.08	0.08	0.02	0.06	0.06
Intersection LOS	A											
Intersection V/C	0.509											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 19: Mountain Trail Street and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.488

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	93	24	199	90	39	154	62	512	45	130	463	64
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	1	2	9	0	0	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	26	213	96	42	166	68	558	48	139	503	69
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	7	53	24	11	42	17	140	12	35	126	17
Total Analysis Volume [veh/h]	100	26	213	96	42	166	68	558	48	139	503	69
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.02	0.14	0.06	0.13	0.13	0.05	0.19	0.19	0.09	0.18	0.18
Intersection LOS	A											
Intersection V/C	0.488											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report

Intersection 20: Mountain Meadow Drive and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.491

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	37	45	66	119	24	43	114	657	19	26	577	156
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	5	6	3	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	48	71	128	26	51	128	707	20	28	621	167
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	12	18	32	7	13	32	177	5	7	155	42
Total Analysis Volume [veh/h]	40	48	71	128	26	51	128	707	20	28	621	167
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.07	0.07	0.09	0.05	0.05	0.09	0.23	0.23	0.02	0.25	0.25
Intersection LOS	A											
Intersection V/C	0.491											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 21: Walnut Creek Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.558

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	10	1	175	205	7	30	17	812	9	24	719	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	3	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	1	188	220	8	32	18	874	10	26	773	60
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	47	55	2	8	5	219	3	7	193	15
Total Analysis Volume [veh/h]	11	1	188	220	8	32	18	874	10	26	773	60
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	70
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.12	0.12	0.15	0.03	0.03	0.01	0.28	0.28	0.02	0.26	0.26
Intersection LOS	A											
Intersection V/C	0.558											

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Intersection Level Of Service Report
Intersection 22: Peach Hill Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.505

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	172	158	98	1135	634	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	2	3	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	187	171	108	1217	680	59
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	43	27	304	170	15
Total Analysis Volume [veh/h]	187	171	108	1217	680	59
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.11	0.07	0.38	0.23	0.23
Intersection LOS	A					
Intersection V/C	0.505					

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Intersection Level Of Service Report

Intersection 23: Spring Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	548	67	106	1199	632	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	48	2	3	0	1	59
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	636	74	117	1285	679	348
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	159	19	29	321	170	87
Total Analysis Volume [veh/h]	636	74	117	1285	679	348
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Overlap
Signal Group	7	0	5	2	6	6
Auxiliary Signal Groups						6,7
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.05	0.08	0.40	0.21	0.03
Intersection LOS	B					
Intersection V/C	0.600					

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Intersection Level Of Service Report
Intersection 24: Moorpark Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.978

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	100.00	100.00	350.00	250.00	100.00	100.00	200.00	100.00	200.00	380.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	202	0	485	145	0	98	67	1070	624	729	599	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	4	0	1	0	41	7	0	54	7
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	222	0	520	159	0	106	72	1188	676	782	696	95
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	0	130	40	0	27	18	297	169	196	174	24
Total Analysis Volume [veh/h]	222	0	520	159	0	106	72	1188	676	782	696	95
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	230
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	3	0	8	7	0	0	5	2	2	1	6	6
Auxiliary Signal Groups									2,3			6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.20	0.11	0.00	0.07	0.05	0.37	0.37	0.30	0.22	0.00
Intersection LOS	E											
Intersection V/C	0.978											

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Intersection Level Of Service Report

Intersection 25: SR□23 SB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.842

Intersection Setup

Name												
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	40	0	396	0	1006	770	0	993	554	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	26	0	5	40	0	30	0	5	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	0	451	0	1084	866	0	1095	594	5	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	0	113	0	271	217	0	274	149	1	0	0
Total Analysis Volume [veh/h]	43	0	451	0	1084	866	0	1095	594	5	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	4	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.30	0.00	0.23	0.54	0.00	0.34	0.40	0.00	0.00	0.00
Intersection LOS	D											
Intersection V/C	0.842											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report

Intersection 26: SB 23 NB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.868

Intersection Setup

Name												
Approach	Northbound			Eastbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	300.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	684	0	519	0	502	548	0	1278	111	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	0	0	0	5	0	0	3	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	760	0	556	0	543	588	0	1373	119	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	190	0	139	0	136	147	0	343	30	0	0	0
Total Analysis Volume [veh/h]	760	0	556	0	543	588	0	1373	119	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	7	0	0	3	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.25	0.00	0.44	0.00	0.17	0.39	0.00	0.43	0.08	0.00	0.00	0.00
Intersection LOS	D											
Intersection V/C	0.868											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 27: Moorpark Road and Santa Rosa Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	3	2	5	407	1	878	572	377	3	1	144	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	4	0	3	2	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	2	5	440	1	944	615	404	3	1	154	110
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	110	0	236	154	101	1	0	39	28
Total Analysis Volume [veh/h]	3	2	5	440	1	944	615	404	3	1	154	110
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	4	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.28	0.28	0.39	0.24	0.25	0.25	0.00	0.10	0.07
Intersection LOS	C											
Intersection V/C	0.732											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 28: Broadway Road and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	11	54	55	41	99	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	58	59	44	106	45
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	15	15	11	27	11
Total Analysis Volume [veh/h]	12	58	59	44	106	45
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.06	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	11.25	9.03	0.00	0.00	7.60	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.00	0.00	0.23	0.23
95th-Percentile Queue Length [ft/ln]	6.41	6.41	0.00	0.00	5.74	5.74
d_A, Approach Delay [s/veh]	9.41		0.00		5.34	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.52					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 29: Championship Drive and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.055

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	200.00	400.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	64	30	16	119	38	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	32	17	128	41	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	8	4	32	10	1
Total Analysis Volume [veh/h]	69	32	17	128	41	3
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.44	0.00	10.09	8.63
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.00	0.17	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.86	0.00	4.34	0.23
d_A, Approach Delay [s/veh]	0.00		0.87		9.99	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.95					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 30: Meridian Hills Drive and Walnut Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.129

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	250.00	200.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	40	130	287	14	16	123
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	54	35	26	5	31	26
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	174	334	20	48	158
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	44	84	5	12	40
Total Analysis Volume [veh/h]	97	174	334	20	48	158
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.13	0.22
d_M, Delay for Movement [s/veh]	8.25	0.00	0.00	0.00	16.11	11.54
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.26	0.00	0.00	0.00	0.44	0.85
95th-Percentile Queue Length [ft/ln]	6.56	0.00	0.00	0.00	11.00	21.29
d_A, Approach Delay [s/veh]	2.95		0.00		12.61	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	4.09					
Intersection LOS	C					

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Intersection Level Of Service Report
Intersection 31: SR 118 WB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.371

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	534	0	0	140	242	0	0	0	4	1	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	573	0	0	150	259	0	0	0	4	1	288
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	143	0	0	38	65	0	0	0	1	0	72
Total Analysis Volume [veh/h]	42	573	0	0	150	259	0	0	0	4	1	288
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.19	0.00	0.00	0.05	0.16	0.00	0.00	0.00	0.00	0.00	0.18
Intersection LOS	A											
Intersection V/C	0.371											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 32: SR 118 EB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.687

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	48	239	859	71	20	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	256	921	76	21	307
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	64	230	19	5	77
Total Analysis Volume [veh/h]	51	256	921	76	21	307
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Split	Split
Signal Group	7	0	0	2	8	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.17	0.29	0.31	0.01	0.20
Intersection LOS	B					
Intersection V/C	0.687					

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Intersection Level Of Service Report
Intersection 33: Future Road - Meridian Hills Drive at Street "A"

Control Type:	Roundabout	Delay (sec / veh):	3.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	0	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	0	0	5	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	0	1	0
Total Analysis Volume [veh/h]	0	6	0	0	5	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	0		5		0	
Exiting Flow Rate [veh/h]	5		0		6	
Demand Flow Rate [veh/h]	0	6	0	0	5	0
Adjusted Demand Flow Rate [veh/h]	0	6	0	0	5	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1130.00	1130.00	1130.00
B (coefficient)	0.00100	0.00100	0.00100
HV Adjustment Factor	0.98	0.98	0.98
Entry Flow Rate [veh/h]	7	0	6
Capacity of Entry and Bypass Lanes [veh/h]	1130	1125	1130
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1108	1103	1108
X, volume / capacity	0.01	0.00	0.00

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.00	0.01
95th-Percentile Queue Length [ft]	0.41	0.00	0.34
Approach Delay [s/veh]	3.29	3.27	3.29
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.29		
Intersection LOS	A		

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Intersection Level Of Service Report

Intersection 34: Future Road - Street "A" at High Street

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	4	5	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	11	4	5	5	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	1	1	1	0
Total Analysis Volume [veh/h]	0	11	4	5	5	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.64	8.37	7.23	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.77	0.77	0.19	0.19	0.00	0.00
d_A, Approach Delay [s/veh]	8.37		3.21		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.84					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 35: Future Road - Casey Road at Street "A"

Control Type:	All-way stop	Delay (sec / veh):	7.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0721	1.0721	1.0721	1.0721	1.0000	1.0721	1.0721	1.0721	1.0721	1.0000	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	9	0	0	1	19	0	11	2	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	4	9	0	0	1	19	0	11	2	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	2	0	0	0	5	0	3	1	1
Total Analysis Volume [veh/h]	0	0	4	9	0	0	1	19	0	11	2	2
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	1067	865	904	891
Degree of Utilization, x	0.00	0.01	0.02	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.01	0.03	0.07	0.04
95th-Percentile Queue Length [ft]	0.28	0.79	1.70	1.11
Approach Delay [s/veh]	6.38	7.21	7.07	7.10
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.05			
Intersection LOS	A			

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Intersection Level Of Service Report
Intersection 36: Future Road - Gabbert Road at North Hills Parkway

Control Type:	All-way stop	Delay (sec / veh):	7.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.076

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	13	0	0	36	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	1	4	1	1	0	0	4	73	4	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	15	4	1	40	0	0	4	73	4	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	4	1	0	10	0	0	1	18	1	0	1
Total Analysis Volume [veh/h]	22	15	4	1	40	0	0	4	73	4	0	2
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	861	870	1014	875
Degree of Utilization, x	0.05	0.05	0.08	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.15	0.15	0.25	0.02
95th-Percentile Queue Length [ft]	3.74	3.70	6.15	0.52
Approach Delay [s/veh]	7.39	7.34	6.84	7.14
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.11			
Intersection LOS	A			

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Intersection Level Of Service Report

Intersection 37: Future Road - Gabbert Road at High Street

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	13	0	36	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	9	0	78	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	9	39	78	16	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	2	10	20	4	0
Total Analysis Volume [veh/h]	41	9	39	78	16	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.37	0.00	9.80	8.62
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.08	0.08	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.93	1.93	1.60	1.60
d_A, Approach Delay [s/veh]	0.00		2.46		9.80	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.43					
Intersection LOS	A					

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Hitch Ranch Traffic Analysis Update

Vistro File: \...\new_Hitch Ranch_FINAL High-v3-w-unknown -prjs.vistro

Scenario 8 8 8 PM Future 2.0

Report File: U:\...\future_np_pm.pdf

12/3/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.014	31.2	D
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.045	61.9	F
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	WB Right	1.123	-	F
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.508	-	A
5	Moorpark Avenue at High Street	Signalized	ICU 1	NB Thru	0.648	-	B
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.982	-	E
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.428	11.0	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Right	0.773	-	C
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.958	-	E
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.809	-	D
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.599	-	A
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.652	-	B
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.729	-	C
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.694	-	B
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.680	-	B
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	NB Left	0.737	-	C
17	Spring Road and Peach Hill Road	Signalized	ICU 1	NB Thru	0.540	-	A
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Thru	0.361	-	A

19	Mountain Trail Street and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.446	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.343	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.440	-	A
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.498	-	A
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.559	-	A
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.916	-	E
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.846	-	D
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NB Right	0.886	-	D
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	EB Left	0.906	-	E
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.017	10.4	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.055	10.1	B
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.123	15.5	C
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.308	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.587	-	A
35	Future Road - Meridian Hills Drive at Street "A"	Roundabout	HCM 2010	NB Right		3.3	A
36	Future Road - Street "A" at High Street	Two-way stop	HCM 2010	SB Right	0.014	8.4	A
40	Future Road - Casey Road at Street "A"	All-way stop	HCM 2010	SB Left	0.024	7.0	A
41	Future Road - Gabbert Road at North Hills Parkway	All-way stop	HCM 2010	NB Left	0.122	7.5	A
47	Future Road - Gabbert Road at High Street	Two-way stop	HCM 2010	WB Left	0.023	9.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: Walnut Canyon Road at Broadway Road

Control Type:	Two-way stop	Delay (sec / veh):	31.2
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	917	7	3	295	2	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	61	0	0	75	0	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1044	8	3	391	2	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	261	2	1	98	1	5
Total Analysis Volume [veh/h]	1044	8	3	391	2	19
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.07
d_M, Delay for Movement [s/veh]	0.00	0.00	10.47	0.00	31.20	19.28
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.27	0.27
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.34	0.34	6.68	6.68
d_A, Approach Delay [s/veh]	0.00		0.08		20.41	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.31					
Intersection LOS	D					

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Intersection Level Of Service Report

Intersection 2: Walnut Canyon Road at Championship Drive

Control Type:	Two-way stop	Delay (sec / veh):	61.9
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.045

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	300.00	100.00	100.00	400.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	120	895	312	2	3	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	170	182	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	1130	516	2	3	111
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	283	129	1	1	28
Total Analysis Volume [veh/h]	129	1130	516	2	3	111
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.01	0.01	0.00	0.05	0.20
d_M, Delay for Movement [s/veh]	8.92	0.00	0.00	0.00	61.87	13.03
Movement LOS	A	A	A	A	F	B
95th-Percentile Queue Length [veh/ln]	0.42	0.00	0.00	0.00	0.14	0.73
95th-Percentile Queue Length [ft/ln]	10.49	0.00	0.00	0.00	3.49	18.34
d_A, Approach Delay [s/veh]	0.91		0.00		14.31	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.47					
Intersection LOS	F					

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Intersection Level Of Service Report
Intersection 3: Walnut Canyon Road at Spring Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.123

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2	203	36	287	123	1	1	2	0	48	2	787
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	22	28	154	28	0	0	0	3	0	0	150
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	240	67	462	160	1	1	2	3	51	2	994
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	60	17	116	40	0	0	1	1	13	1	249
Total Analysis Volume [veh/h]	6	240	67	462	160	1	1	2	3	51	2	994
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	240
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Permiss	Split	Split	Permiss	Split
Signal Group	0	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.15	0.04	0.31	0.11	0.00	0.00	0.00	0.00	0.03	0.00	0.66
Intersection LOS	F											
Intersection V/C	1.123											

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Intersection Level Of Service Report
Intersection 4: Walnut Canyon Road at Casey Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.508

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	82	172	348	74	34	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	33	64	46	3	10	81
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	121	248	419	82	46	171
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	62	105	21	12	43
Total Analysis Volume [veh/h]	121	248	419	82	46	171
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	7	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.16	0.31	0.31	0.03	0.11
Intersection LOS	A					
Intersection V/C	0.508					

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Intersection Level Of Service Report
Intersection 5: Moorpark Avenue at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.648

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	26	292	292	87	214	6	7	21	36	266	21	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	77	30	78	96	5	0	12	8	38	9	76
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	390	343	171	325	11	8	35	47	323	32	203
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	93	86	43	77	3	2	9	12	81	8	51
Total Analysis Volume [veh/h]	38	371	343	171	309	11	8	35	47	323	32	203
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.53	0.23	0.11	0.20	0.20	0.01	0.06	0.06	0.20	0.22	0.13
Intersection LOS	B											
Intersection V/C	0.648											

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Intersection Level Of Service Report
Intersection 6: Spring Road at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.982

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	168	205	263	404	567	22	12	322	139	102	273	162
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	55	45	131	55	6	5	88	18	40	96	98
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	206	275	327	564	663	30	18	433	167	149	389	272
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	69	82	141	166	8	5	108	42	37	97	68
Total Analysis Volume [veh/h]	206	275	327	564	663	30	18	433	167	149	389	272
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.09	0.22	0.38	0.22	0.22	0.01	0.29	0.11	0.10	0.24	0.18
Intersection LOS	E											
Intersection V/C	0.982											

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Intersection Level Of Service Report
Intersection 7: Gabbert Road at Poindexter Avenue

Control Type:	All-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.428

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	180.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		30.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	16	256	19	9	231	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	66	1	18	53	2	30
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	275	38	63	250	36
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	69	10	16	63	9
Total Analysis Volume [veh/h]	83	275	38	63	250	36
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	649	744	628	585	726
Degree of Utilization, x	0.13	0.37	0.16	0.43	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.44	1.71	0.57	2.13	0.16
95th-Percentile Queue Length [ft]	10.93	42.79	14.25	53.29	3.90
Approach Delay [s/veh]	10.06		9.83	12.69	
Approach LOS	B		A	B	
Intersection Delay [s/veh]	11.04				
Intersection LOS	B				

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Intersection Level Of Service Report

Intersection 8: Moorpark Avenue and Poindexter Avenue/1st Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.773

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	84	377	4	10	336	315	198	25	62	3	58	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	98	6	1	114	27	17	0	0	5	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	502	10	12	474	365	229	27	66	8	62	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	119	3	3	113	91	57	7	17	2	16	5
Total Analysis Volume [veh/h]	90	477	10	12	450	365	229	27	66	8	62	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.30	0.30	0.01	0.51	0.51	0.15	0.06	0.06	0.01	0.05	0.05
Intersection LOS	C											
Intersection V/C	0.773											

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Intersection Level Of Service Report
Intersection 9: Somis Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.958

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	370.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	191	64	579	26	104	53	15	480	104	369	584	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	42	0	0	0	0	7	0	33	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	205	69	663	28	111	57	16	522	111	429	635	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	17	166	7	28	14	4	131	28	107	159	5
Total Analysis Volume [veh/h]	205	69	663	28	111	57	16	522	111	429	635	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	240
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.17	0.16	0.02	0.11	0.11	0.01	0.40	0.40	0.29	0.41	0.41
Intersection LOS	E											
Intersection V/C	0.958											

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Intersection Level Of Service Report

Intersection 10: Grimes Canyon Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.809

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	500.00	100.00	100.00	500.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	32	100	137	862	890	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	49	42	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	107	147	973	996	34
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	27	37	243	249	9
Total Analysis Volume [veh/h]	34	107	147	973	996	34
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.09	0.10	0.61	0.62	0.02
Intersection LOS	D					
Intersection V/C	0.809					

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Intersection Level Of Service Report
Intersection 11: Tierra Rejada Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.599

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	200.00	250.00	100.00	180.00	450.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	145	97	309	64	173	127	74	692	243	310	689	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	20	22	12	21	22	31	0	17	25	37
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	112	351	91	197	157	101	773	261	349	764	81
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	28	88	23	49	39	25	193	65	87	191	20
Total Analysis Volume [veh/h]	155	112	351	91	197	157	101	773	261	349	764	81
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.07	0.12	0.06	0.12	0.10	0.07	0.24	0.17	0.11	0.24	0.05
Intersection LOS	A											
Intersection V/C	0.599											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 12: Moorpark Avenue and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.652

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	69	87	116	205	48	97	143	917	31	101	941	109
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	2	10	85	2	32	27	147	2	15	177	75
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	95	134	305	53	136	180	1130	35	123	1186	192
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	24	34	76	13	34	45	283	9	31	297	48
Total Analysis Volume [veh/h]	75	95	134	305	53	136	180	1130	35	123	1186	192
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	8	1	0	4	5	5	2	0	1	6	6
Auxiliary Signal Groups			1,8			4,5						6,8
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.06	0.01	0.10	0.00	0.00	0.12	0.24	0.24	0.08	0.37	0.13
Intersection LOS	B											
Intersection V/C	0.652											

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Intersection Level Of Service Report
Intersection 13: Spring Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.729

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	500.00	400.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	245	315	44	350	217	92	158	907	188	51	1035	693
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	67	4	0	72	1	40	46	166	46	0	171	76
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	330	342	47	447	234	139	215	1138	248	55	1281	819
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	86	12	112	59	35	54	285	62	14	320	205
Total Analysis Volume [veh/h]	330	342	47	447	234	139	215	1138	248	55	1281	819
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	1	7	4	4	5	2	0	1	6	6
Auxiliary Signal Groups						4,5						6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.12	0.12	0.14	0.15	0.02	0.07	0.36	0.16	0.03	0.40	0.37
Intersection LOS	C											
Intersection V/C	0.729											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 14: Miller Parkway/Science Drive/Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.694

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	320.00	100.00	100.00	100.00	100.00	100.00	450.00	100.00	450.00	450.00	100.00	450.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	49.21
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	196	4	89	118	16	49	14	1183	107	110	1569	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	4	0	0	0	0	232	6	2	242	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	216	4	99	127	17	53	15	1500	121	120	1924	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	1	25	32	4	13	4	375	30	30	481	5
Total Analysis Volume [veh/h]	216	4	99	127	17	53	15	1500	121	120	1924	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	140
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.00	0.07	0.08	0.12	0.12	0.01	0.31	0.08	0.05	0.49	0.02
Intersection LOS	B											
Intersection V/C	0.694											

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Intersection Level Of Service Report

Intersection 15: SR□23 SB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.680

Intersection Setup

Name											
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	23	0	953	0	781	688	37	927	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	0	180	0	118	118	11	58	0	6	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	1202	0	955	856	51	1052	0	6	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	301	0	239	214	13	263	0	2	0	0
Total Analysis Volume [veh/h]	36	0	1202	0	955	856	51	1052	0	6	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	7	0	0	0	2	0	1	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.38	0.38	0.03	0.66	0.00	0.00	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.680											

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Intersection Level Of Service Report

Intersection 16: SR□23 NB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.737

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	1	2	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	920	10	20	819	38	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	46	11	26	103	12	23
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1032	22	47	981	53	98
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	258	6	12	245	13	25
Total Analysis Volume [veh/h]	1032	22	47	981	53	98
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	3	0	2	0	0	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.40	0.01	0.01	0.31	0.03	0.09
Intersection LOS	C					
Intersection V/C	0.737					

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Intersection Level Of Service Report
Intersection 17: Spring Road and Peach Hill Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	87	426	44	34	278	154	120	41	46	46	99	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	73	2	2	47	0	0	0	0	1	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	93	530	49	38	345	165	129	44	49	50	106	50
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	133	12	10	86	41	32	11	12	13	27	13
Total Analysis Volume [veh/h]	93	530	49	38	345	165	129	44	49	50	106	50
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.33	0.03	0.03	0.22	0.11	0.09	0.03	0.03	0.03	0.10	0.10
Intersection LOS	A											
Intersection V/C	0.540											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 18: Tierra Rejada Road and Countrywood Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.361

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	74	469	76	68	566	89	50	9	48	67	5	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	0	16	13	0	0	0	0	0	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	514	81	89	620	95	54	10	51	72	5	73
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	129	20	22	155	24	14	3	13	18	1	18
Total Analysis Volume [veh/h]	79	514	81	89	620	95	54	10	51	72	5	73
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.19	0.19	0.06	0.22	0.22	0.04	0.04	0.04	0.05	0.05	0.05
Intersection LOS	A											
Intersection V/C	0.361											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 19: Mountain Trail Street and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.446

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	55	13	96	37	23	61	89	522	67	208	459	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	2	3	10	0	0	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	14	103	40	25	67	98	570	72	223	501	41
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	4	26	10	6	17	25	143	18	56	125	10
Total Analysis Volume [veh/h]	59	14	103	40	25	67	98	570	72	223	501	41
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.01	0.07	0.03	0.06	0.06	0.07	0.20	0.20	0.15	0.17	0.17
Intersection LOS	A											
Intersection V/C	0.446											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 20: Mountain Meadow Drive and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.343

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	32	5	39	57	5	16	16	601	38	81	657	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	6	6	4	0	0	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	5	42	61	5	23	23	648	41	87	707	86
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	1	11	15	1	6	6	162	10	22	177	22
Total Analysis Volume [veh/h]	34	5	42	61	5	23	23	648	41	87	707	86
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.03	0.03	0.04	0.02	0.02	0.01	0.22	0.22	0.06	0.25	0.25
Intersection LOS	A											
Intersection V/C	0.343											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 21: Walnut Creek Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	5	1	74	84	2	21	32	652	10	110	784	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	4	0	0	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	79	90	2	23	34	703	11	118	844	139
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	20	23	1	6	9	176	3	30	211	35
Total Analysis Volume [veh/h]	5	1	79	90	2	23	34	703	11	118	844	139
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	70
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.05	0.06	0.02	0.02	0.02	0.22	0.22	0.08	0.31	0.31
Intersection LOS	A											
Intersection V/C	0.440											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report

Intersection 22: Peach Hill Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.498

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	69	97	90	722	946	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	3	4	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	107	100	774	1014	138
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	27	25	194	254	35
Total Analysis Volume [veh/h]	76	107	100	774	1014	138
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.07	0.07	0.24	0.36	0.36
Intersection LOS	A					
Intersection V/C	0.498					

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Intersection Level Of Service Report

Intersection 23: Spring Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.559

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	323	74	69	712	1064	495
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	47	1	2	0	1	73
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	393	80	76	763	1142	604
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	98	20	19	191	286	151
Total Analysis Volume [veh/h]	393	80	76	763	1142	604
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Overlap
Signal Group	7	0	5	2	6	6
Auxiliary Signal Groups						6,7
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.05	0.05	0.24	0.36	0.25
Intersection LOS	A					
Intersection V/C	0.559					

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Intersection Level Of Service Report
Intersection 24: Moorpark Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.916

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	100.00	100.00	350.00	250.00	100.00	100.00	200.00	100.00	200.00	380.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	448	0	786	112	0	95	60	756	223	582	1030	158
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	10	0	1	0	38	9	0	66	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	487	0	843	130	0	103	64	849	248	624	1170	177
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	122	0	211	33	0	26	16	212	62	156	293	44
Total Analysis Volume [veh/h]	487	0	843	130	0	103	64	849	248	624	1170	177
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	240
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	3	0	8	7	0	0	5	2	2	1	6	6
Auxiliary Signal Groups									2,3			6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.00	0.32	0.09	0.00	0.07	0.04	0.27	0.00	0.24	0.37	0.03
Intersection LOS	E											
Intersection V/C	0.916											

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Intersection Level Of Service Report
Intersection 25: SR□23 SB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.846

Intersection Setup

Name												
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	156	0	556	0	1274	343	0	1165	208	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	31	0	4	43	0	35	0	7	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	167	0	627	0	1370	411	0	1284	223	7	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	0	157	0	343	103	0	321	56	2	0	0
Total Analysis Volume [veh/h]	167	0	627	0	1370	411	0	1284	223	7	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	4	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.42	0.00	0.43	0.27	0.00	0.40	0.15	0.00	0.00	0.00
Intersection LOS	D											
Intersection V/C	0.846											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 26: SB 23 NB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.886

Intersection Setup

Name											
Approach	Northbound			Eastbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	300.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	587	0	678	0	1195	239	0	787	74	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	0	0	0	4	0	0	3	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	661	0	727	0	1285	256	0	847	79	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	165	0	182	0	321	64	0	212	20	0	0	0
Total Analysis Volume [veh/h]	661	0	727	0	1285	256	0	847	79	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	7	0	0	3	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.00	0.46	0.00	0.40	0.16	0.00	0.26	0.05	0.00	0.00	0.00
Intersection LOS	D											
Intersection V/C	0.886											

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Intersection Level Of Service Report
Intersection 27: Moorpark Road and Santa Rosa Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.906

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	1	5	101	3	868	960	235	0	1	351	385
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	5	0	4	3	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	5	113	3	935	1032	252	0	1	376	417
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	28	1	234	258	63	0	0	94	104
Total Analysis Volume [veh/h]	1	1	5	113	3	935	1032	252	0	1	376	417
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	130
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	4	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.07	0.07	0.23	0.40	0.16	0.00	0.00	0.24	0.28
Intersection LOS	E											
Intersection V/C	0.906											

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Intersection Level Of Service Report

Intersection 28: Broadway Road and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	12	120	45	18	46	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	129	48	19	49	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	32	12	5	12	12
Total Analysis Volume [veh/h]	13	129	48	19	49	47
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.13	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	10.36	9.19	0.00	0.00	7.42	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.51	0.51	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	12.66	12.66	0.00	0.00	2.47	2.47
d_A, Approach Delay [s/veh]	9.30		0.00		3.79	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.52					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 29: Championship Drive and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.055

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	200.00	400.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	64	30	16	119	38	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	32	17	128	41	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	8	4	32	10	1
Total Analysis Volume [veh/h]	69	32	17	128	41	3
Pedestrian Volume [ped/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.44	0.00	10.09	8.63
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.00	0.17	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.86	0.00	4.34	0.23
d_A, Approach Delay [s/veh]	0.00		0.87		9.99	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.95					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 30: Meridian Hills Drive and Walnut Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.123

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	250.00	200.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	68	210	127	29	16	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	51	23	26	5	31	23
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	124	248	162	36	48	84
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	62	41	9	12	21
Total Analysis Volume [veh/h]	124	248	162	36	48	84
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.00	0.00	0.12	0.10
d_M, Delay for Movement [s/veh]	7.88	0.00	0.00	0.00	15.51	9.51
Movement LOS	A	A	A	A	C	A
95th-Percentile Queue Length [veh/ln]	0.30	0.00	0.00	0.00	0.42	0.31
95th-Percentile Queue Length [ft/ln]	7.42	0.00	0.00	0.00	10.41	7.86
d_A, Approach Delay [s/veh]	2.63		0.00		11.69	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.59					
Intersection LOS	C					

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Intersection Level Of Service Report
Intersection 31: SR 118 WB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.308

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	72	534	0	0	140	242	0	0	0	15	0	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	573	0	0	150	259	0	0	0	16	0	288
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	143	0	0	38	65	0	0	0	4	0	72
Total Analysis Volume [veh/h]	77	573	0	0	150	259	0	0	0	16	0	288
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.19	0.00	0.00	0.05	0.16	0.00	0.00	0.00	0.01	0.00	0.10
Intersection LOS	A											
Intersection V/C	0.308											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 32: SR 118 EB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.587

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	217	239	421	371	20	211
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	233	256	451	398	21	226
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	64	113	100	5	57
Total Analysis Volume [veh/h]	233	256	451	398	21	226
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Split	Split
Signal Group	7	0	0	2	8	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.17	0.14	0.27	0.01	0.15
Intersection LOS	A					
Intersection V/C	0.587					

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Intersection Level Of Service Report
Intersection 35: Future Road - Meridian Hills Drive at Street "A"

Control Type:	Roundabout	Delay (sec / veh):	3.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	0	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	0	0	5	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	0	1	0
Total Analysis Volume [veh/h]	0	6	0	0	5	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	0		5		0	
Exiting Flow Rate [veh/h]	5		0		6	
Demand Flow Rate [veh/h]	0	6	0	0	5	0
Adjusted Demand Flow Rate [veh/h]	0	6	0	0	5	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1130.00	1130.00	1130.00
B (coefficient)	0.00100	0.00100	0.00100
HV Adjustment Factor	0.98	0.98	0.98
Entry Flow Rate [veh/h]	7	0	6
Capacity of Entry and Bypass Lanes [veh/h]	1130	1125	1130
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1108	1103	1108
X, volume / capacity	0.01	0.00	0.00

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.00	0.01
95th-Percentile Queue Length [ft]	0.41	0.00	0.34
Approach Delay [s/veh]	3.29	3.27	3.29
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.29		
Intersection LOS	A		

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Intersection Level Of Service Report
Intersection 36: Future Road - Street "A" at High Street

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	15	6	3	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	15	6	3	3	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	2	1	1	0
Total Analysis Volume [veh/h]	0	15	6	3	3	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.66	8.38	7.23	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.06	1.06	0.28	0.28	0.00	0.00
d_A, Approach Delay [s/veh]	8.38		4.82		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.26					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 40: Future Road - Casey Road at Street "A"

Control Type:	All-way stop	Delay (sec / veh):	7.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0721	1.0721	1.0721	1.0721	1.0000	1.0721	1.0721	1.0721	1.0721	1.0000	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	6	6	0	0	1	7	0	15	2	7
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	6	6	0	0	1	7	0	15	2	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	2	0	0	0	2	0	4	1	2
Total Analysis Volume [veh/h]	0	0	6	6	0	0	1	7	0	15	2	7
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	1063	860	899	923
Degree of Utilization, x	0.01	0.01	0.01	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.02	0.02	0.03	0.07
95th-Percentile Queue Length [ft]	0.43	0.53	0.67	1.83
Approach Delay [s/veh]	6.41	7.22	7.04	7.00
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.95			
Intersection LOS	A			

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Intersection Level Of Service Report
Intersection 41: Future Road - Gabbert Road at North Hills Parkway

Control Type:	All-way stop	Delay (sec / veh):	7.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.122

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	16	0	0	28	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	82	1	4	2	1	0	0	3	48	4	4	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	18	4	2	31	0	0	3	48	4	4	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	5	1	1	8	0	0	1	12	1	1	1
Total Analysis Volume [veh/h]	82	18	4	2	31	0	0	3	48	4	4	3
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	853	863	977	859
Degree of Utilization, x	0.12	0.04	0.05	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.42	0.12	0.16	0.04
95th-Percentile Queue Length [ft]	10.38	2.98	4.12	0.97
Approach Delay [s/veh]	7.81	7.34	6.89	7.25
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.46			
Intersection LOS	A			

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Intersection Level Of Service Report

Intersection 47: Future Road - Gabbert Road at High Street

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	16	0	0	28	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	87	9	0	53	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	104	9	0	83	18	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	2	0	21	5	0
Total Analysis Volume [veh/h]	104	9	0	83	18	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.44	0.00	9.62	8.91
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	1.73	1.73
d_A, Approach Delay [s/veh]	0.00		0.00		9.62	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.81					
Intersection LOS	A					

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Hitch Ranch Traffic Analysis Update

Vistro File: \...\new_Hitch Ranch_FINAL High-v3-w-unknown -prjs.vistro

Scenario 7 7 7 AM Future 2.0

Report File: U:\...\future_wp_am.pdf

12/3/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.005	23.5	C
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.022	46.1	E
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	SB Left	0.964	-	E
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.802	-	D
5	Moorpark Avenue at High Street	Signalized	ICU 1	NB Thru	0.741	-	C
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.916	-	E
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.442	11.7	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Thru	0.796	-	C
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.832	-	D
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.739	-	C
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.720	-	C
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.607	-	B
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.748	-	C
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.494	-	A
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.450	-	A
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	EB Right	0.534	-	A
17	Spring Road and Peach Hill Road	Signalized	ICU 1	SB Thru	0.613	-	B
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Thru	0.520	-	A

19	Mountain Trail Street and Tierra Rejada Road	Signalized	ICU 1	EB Right	0.492	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.497	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.561	-	A
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.506	-	A
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.612	-	B
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.988	-	E
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	EB Right	0.861	-	D
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NB Right	0.868	-	D
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	SB Right	0.734	-	C
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.020	11.3	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.055	10.1	B
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.150	16.6	C
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.371	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.687	-	B
33	Future Road - Meridian Hills Drive at Street "A"	Roundabout	HCM 2010	NB Right		3.3	A
34	Future Road - Street "A" at High Street	Two-way stop	HCM 2010	SB Left	0.138	9.6	A
35	Future Road - Casey Road at Street "A"	All-way stop	HCM 2010	EB Right	0.230	7.7	A
36	Future Road - Gabbert Road at North Hills Parkway	All-way stop	HCM 2010	SB Thru	0.077	7.2	A
37	Future Road - Gabbert Road at High Street	Two-way stop	HCM 2010	WB Left	0.084	10.4	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: Walnut Canyon Road at Broadway Road

Control Type:	Two-way stop	Delay (sec / veh):	23.5
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	273	3	8	709	1	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	68	0	0	76	0	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	361	3	9	836	1	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	1	2	209	0	4
Total Analysis Volume [veh/h]	361	3	9	836	1	17
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.01	0.01	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	8.04	0.00	23.46	10.46
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.57	0.57	2.32	2.32
d_A, Approach Delay [s/veh]	0.00		0.09		11.18	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	C					

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Intersection Level Of Service Report
Intersection 2: Walnut Canyon Road at Championship Drive

Control Type:	Two-way stop	Delay (sec / veh):	46.1
Analysis Method:	HCM 2010	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	300.00	100.00	100.00	400.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	96	258	761	3	2	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	186	187	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	103	463	1003	3	2	121
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	116	251	1	1	30
Total Analysis Volume [veh/h]	103	463	1003	3	2	121
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.00	0.01	0.00	0.02	0.41
d_M, Delay for Movement [s/veh]	11.14	0.00	0.00	0.00	46.10	25.56
Movement LOS	B	A	A	A	E	D
95th-Percentile Queue Length [veh/ln]	0.52	0.00	0.00	0.00	0.07	1.93
95th-Percentile Queue Length [ft/ln]	13.10	0.00	0.00	0.00	1.70	48.19
d_A, Approach Delay [s/veh]	2.03		0.00		25.89	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	2.56					
Intersection LOS	E					

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Intersection Level Of Service Report
Intersection 3: Walnut Canyon Road at Spring Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.964

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	112	24	668	224	1	1	3	0	38	2	252
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	43	28	154	33	0	1	0	3	0	0	150
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	163	54	870	273	1	2	3	3	41	2	420
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	41	14	218	68	0	1	1	1	10	1	105
Total Analysis Volume [veh/h]	9	163	54	870	273	1	2	3	3	41	2	420
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Permiss	Split
Signal Group	0	2	0	1	6	0	0	7	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.10	0.04	0.58	0.18	0.00	0.00	0.00	0.00	0.03	0.00	0.28
Intersection LOS	E											
Intersection V/C	0.964											

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Intersection Level Of Service Report
Intersection 4: Walnut Canyon Road at Casey Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.802

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	242	172	348	74	34	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	78	67	46	11	28	152
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	337	251	419	90	64	415
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	63	105	23	16	104
Total Analysis Volume [veh/h]	337	251	419	90	64	415
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	7	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.16	0.32	0.32	0.04	0.26
Intersection LOS	D					
Intersection V/C	0.802					

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Intersection Level Of Service Report
Intersection 5: Moorpark Avenue at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.741

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	13	262	183	174	403	5	5	13	14	206	13	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	74	34	113	118	5	0	88	77	21	33	114
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	355	230	300	550	10	5	102	92	242	47	265
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	84	58	75	131	3	1	26	23	61	12	66
Total Analysis Volume [veh/h]	40	337	230	300	523	10	5	102	92	242	47	265
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.49	0.15	0.20	0.33	0.33	0.00	0.12	0.12	0.15	0.18	0.17
Intersection LOS	C											
Intersection V/C	0.741											

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Intersection Level Of Service Report
Intersection 6: Spring Road at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.916

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	128	205	226	404	567	22	12	240	163	81	243	162
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	40	55	33	131	56	6	6	161	53	30	108	98
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	177	275	275	564	664	30	19	418	228	117	369	272
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	69	69	141	166	8	5	105	57	29	92	68
Total Analysis Volume [veh/h]	177	275	275	564	664	30	19	418	228	117	369	272
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.09	0.18	0.38	0.22	0.22	0.01	0.28	0.15	0.08	0.23	0.18
Intersection LOS	E											
Intersection V/C	0.916											

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Intersection Level Of Service Report
Intersection 7: Gabbert Road at Poindexter Avenue

Control Type:	All-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.442

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	180.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		30.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	13	256	19	17	231	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	54	1	29	127	1	9
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	275	49	145	249	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	69	12	36	62	4
Total Analysis Volume [veh/h]	68	275	49	145	249	15
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	634	724	630	563	695
Degree of Utilization, x	0.11	0.38	0.31	0.44	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.36	1.78	1.30	2.25	0.07
95th-Percentile Queue Length [ft]	8.97	44.52	32.59	56.19	1.65
Approach Delay [s/veh]	10.36		11.24	13.71	
Approach LOS	B		B	B	
Intersection Delay [s/veh]	11.68				
Intersection LOS	B				

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Intersection Level Of Service Report
Intersection 8: Moorpark Avenue and Poindexter Avenue/1st Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.796

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	84	265	4	10	296	315	198	25	62	3	58	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	107	4	2	202	12	26	0	0	4	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	391	8	13	519	350	238	27	66	7	62	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	93	2	3	123	88	60	7	17	2	16	5
Total Analysis Volume [veh/h]	90	371	8	13	493	350	238	27	66	7	62	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.24	0.24	0.01	0.53	0.53	0.16	0.06	0.06	0.00	0.05	0.05
Intersection LOS	C											
Intersection V/C	0.796											

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Intersection Level Of Service Report
Intersection 9: Somis Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.832

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	370.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	71	35	483	24	107	29	15	339	181	391	434	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	30	0	0	0	0	9	0	55	14	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	38	548	26	115	31	16	372	194	474	479	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	10	137	7	29	8	4	93	49	119	120	4
Total Analysis Volume [veh/h]	76	38	548	26	115	31	16	372	194	474	479	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	230
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.07	0.05	0.02	0.09	0.09	0.01	0.35	0.35	0.32	0.31	0.31
Intersection LOS	D											
Intersection V/C	0.832											

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Intersection Level Of Service Report
Intersection 10: Grimes Canyon Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.739

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	500.00	100.00	100.00	500.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	60	122	82	885	776	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	39	69	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	131	88	988	901	21
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	33	22	247	225	5
Total Analysis Volume [veh/h]	64	131	88	988	901	21
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.12	0.06	0.62	0.45	0.01
Intersection LOS	C					
Intersection V/C	0.739					

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Intersection Level Of Service Report
Intersection 11: Tierra Rejada Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.720

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	2	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	200.00	250.00	100.00	100.00	450.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	209	184	450	44	188	80	94	699	227	298	569	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	13	41	38	50	23	20	0	14	24	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	224	211	495	88	240	136	124	769	243	333	634	67
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	53	124	22	60	34	31	192	61	83	159	17
Total Analysis Volume [veh/h]	224	211	495	88	240	136	124	769	243	333	634	67
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.14	0.23	0.06	0.15	0.09	0.08	0.24	0.16	0.10	0.20	0.04
Intersection LOS	C											
Intersection V/C	0.720											

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Intersection Level Of Service Report
Intersection 12: Moorpark Avenue and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.607

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	69	87	116	167	48	108	133	905	31	101	852	119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	4	14	173	6	27	20	146	0	7	112	87
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	97	138	352	57	143	163	1116	33	115	1025	215
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	24	35	88	14	36	41	279	8	29	256	54
Total Analysis Volume [veh/h]	76	97	138	352	57	143	163	1116	33	115	1025	215
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	8	8	0	4	4	5	2	0	1	6	6
Auxiliary Signal Groups			1,8			4,5						6,8
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.06	0.02	0.12	0.00	0.00	0.11	0.24	0.24	0.08	0.32	0.14
Intersection LOS	B											
Intersection V/C	0.607											

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Intersection Level Of Service Report
Intersection 13: Spring Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.748

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	1	2	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	500.00	400.00	100.00	200.00	250.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	210	293	61	588	313	97	143	894	179	36	777	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	64	12	0	96	13	30	33	239	71	0	123	84
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	289	326	65	726	349	134	186	1197	263	39	956	347
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	82	16	182	87	34	47	299	66	10	239	87
Total Analysis Volume [veh/h]	289	326	65	726	349	134	186	1197	263	39	956	347
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	70
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	0	7	4	4	5	2	0	1	6	6
Auxiliary Signal Groups						4,5						6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.12	0.12	0.23	0.22	0.03	0.06	0.37	0.16	0.02	0.30	0.00
Intersection LOS	C											
Intersection V/C	0.748											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 14: Miller Parkway/Science Drive/Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.494

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	320.00	100.00	100.00	100.00	100.00	100.00	450.00	100.00	450.00	450.00	100.00	450.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	49.21
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	65	14	70	11	1	17	64	1396	121	80	1071	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	2	0	0	0	0	331	4	3	201	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	15	77	12	1	18	69	1828	134	89	1349	127
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	4	19	3	0	5	17	457	34	22	337	32
Total Analysis Volume [veh/h]	76	15	77	12	1	18	69	1828	134	89	1349	127
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.06	0.01	0.02	0.02	0.00	0.38	0.09	0.03	0.35	0.10
Intersection LOS	A											
Intersection V/C	0.494											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 15: SR□23 SB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.450

Intersection Setup

Name											
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	26	0	845	0	762	787	3	519	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	125	0	155	178	12	61	0	18	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	0	1031	0	972	1022	15	617	0	18	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	258	0	243	256	4	154	0	5	0	0
Total Analysis Volume [veh/h]	37	0	1031	0	972	1022	15	617	0	18	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	7	0	0	0	2	0	1	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.42	0.42	0.01	0.39	0.00	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.450											

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Intersection Level Of Service Report

Intersection 16: SR□23 NB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	1	2	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	522	38	42	740	3	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	49	10	25	139	10	24
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	609	51	70	932	13	34
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	152	13	18	233	3	9
Total Analysis Volume [veh/h]	609	51	70	932	13	34
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	3	0	2	0	0	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.03	0.02	0.29	0.01	0.03
Intersection LOS	A					
Intersection V/C	0.534					

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Intersection Level Of Service Report
Intersection 17: Spring Road and Peach Hill Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.613

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	29	287	84	113	322	109	156	125	98	91	63	203
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	76	2	2	84	0	0	0	0	1	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	384	92	123	429	117	167	134	105	99	68	220
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	96	23	31	107	29	42	34	26	25	17	55
Total Analysis Volume [veh/h]	31	384	92	123	429	117	167	134	105	99	68	220
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.24	0.06	0.08	0.27	0.08	0.11	0.08	0.07	0.06	0.18	0.18
Intersection LOS	B											
Intersection V/C	0.613											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 18: Tierra Rejada Road and Countrywood Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.520

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	35	604	88	102	569	177	192	13	98	28	6	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	0	24	28	0	0	0	0	0	0	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	664	94	133	638	190	206	14	105	30	6	85
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	166	24	33	160	48	52	4	26	8	2	21
Total Analysis Volume [veh/h]	38	664	94	133	638	190	206	14	105	30	6	85
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.24	0.24	0.09	0.28	0.28	0.14	0.08	0.08	0.02	0.06	0.06
Intersection LOS	A											
Intersection V/C	0.520											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 19: Mountain Trail Street and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.492

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	93	24	199	90	39	154	62	512	45	130	463	64
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	2	5	23	0	0	14	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	26	213	96	42	167	71	572	48	139	510	69
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	7	53	24	11	42	18	143	12	35	128	17
Total Analysis Volume [veh/h]	100	26	213	96	42	167	71	572	48	139	510	69
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.02	0.14	0.06	0.13	0.13	0.05	0.19	0.19	0.09	0.18	0.18
Intersection LOS	A											
Intersection V/C	0.492											

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Intersection Level Of Service Report
Intersection 20: Mountain Meadow Drive and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	37	45	66	119	24	43	114	657	19	26	577	156
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	7	12	11	0	0	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	48	71	128	26	53	134	715	20	28	626	167
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	12	18	32	7	13	34	179	5	7	157	42
Total Analysis Volume [veh/h]	40	48	71	128	26	53	134	715	20	28	626	167
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.07	0.07	0.09	0.05	0.05	0.09	0.23	0.23	0.02	0.25	0.25
Intersection LOS	A											
Intersection V/C	0.497											

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Intersection Level Of Service Report
Intersection 21: Walnut Creek Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.561

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	10	1	175	205	7	30	17	812	9	24	719	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	11	0	0	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	1	188	220	8	32	18	882	10	26	778	60
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	47	55	2	8	5	221	3	7	195	15
Total Analysis Volume [veh/h]	11	1	188	220	8	32	18	882	10	26	778	60
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	70
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.12	0.12	0.15	0.03	0.03	0.01	0.28	0.28	0.02	0.26	0.26
Intersection LOS	A											
Intersection V/C	0.561											

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Intersection Level Of Service Report
Intersection 22: Peach Hill Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	172	158	98	1135	634	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	4	9	2	3	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	187	173	114	1219	683	59
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	43	29	305	171	15
Total Analysis Volume [veh/h]	187	173	114	1219	683	59
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.12	0.08	0.38	0.23	0.23
Intersection LOS	A					
Intersection V/C	0.506					

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Intersection Level Of Service Report
Intersection 23: Spring Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.612

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	548	67	106	1199	632	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	83	2	3	2	4	75
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	671	74	117	1287	682	364
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	168	19	29	322	171	91
Total Analysis Volume [veh/h]	671	74	117	1287	682	364
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Overlap
Signal Group	7	0	5	2	6	6
Auxiliary Signal Groups						6,7
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.05	0.08	0.40	0.21	0.03
Intersection LOS	B					
Intersection V/C	0.612					

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Intersection Level Of Service Report
Intersection 24: Moorpark Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.988

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	100.00	100.00	350.00	250.00	100.00	100.00	200.00	100.00	200.00	380.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	202	0	485	145	0	98	67	1070	624	729	599	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	4	0	1	0	72	13	0	71	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	224	0	520	159	0	106	72	1219	682	782	713	97
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	0	130	40	0	27	18	305	171	196	178	24
Total Analysis Volume [veh/h]	224	0	520	159	0	106	72	1219	682	782	713	97
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	230
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	3	0	8	7	0	0	5	2	2	1	6	6
Auxiliary Signal Groups									2,3			6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.20	0.11	0.00	0.07	0.05	0.38	0.37	0.30	0.22	0.00
Intersection LOS	E											
Intersection V/C	0.988											

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Intersection Level Of Service Report
Intersection 25: SR□23 SB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.861

Intersection Setup

Name												
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	40	0	396	0	1006	770	0	993	554	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	29	0	8	68	0	38	0	13	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	0	454	0	1087	894	0	1103	594	13	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	0	114	0	272	224	0	276	149	3	0	0
Total Analysis Volume [veh/h]	43	0	454	0	1087	894	0	1103	594	13	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	4	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.30	0.00	0.23	0.56	0.00	0.34	0.40	0.00	0.00	0.00
Intersection LOS	D											
Intersection V/C	0.861											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 26: SB 23 NB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.868

Intersection Setup

Name											
Approach	Northbound			Eastbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	300.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	684	0	519	0	502	548	0	1278	111	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	0	0	0	8	0	0	4	0	0	0	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	761	0	556	0	546	588	0	1374	119	0	0	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	190	0	139	0	137	147	0	344	30	0	0	2
Total Analysis Volume [veh/h]	761	0	556	0	546	588	0	1374	119	0	0	6
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	7	0	0	3	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.25	0.00	0.44	0.00	0.17	0.39	0.00	0.43	0.08	0.00	0.00	0.00
Intersection LOS	D											
Intersection V/C	0.868											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 27: Moorpark Road and Santa Rosa Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	3	2	5	407	1	878	572	377	3	1	144	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	7	0	6	3	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	2	5	443	1	947	616	404	3	1	154	111
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	111	0	237	154	101	1	0	39	28
Total Analysis Volume [veh/h]	3	2	5	443	1	947	616	404	3	1	154	111
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	4	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.28	0.28	0.39	0.24	0.25	0.25	0.00	0.10	0.07
Intersection LOS	C											
Intersection V/C	0.734											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report

Intersection 28: Broadway Road and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	11	54	55	41	99	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	58	59	44	106	45
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	15	15	11	27	11
Total Analysis Volume [veh/h]	12	58	59	44	106	45
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.06	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	11.25	9.03	0.00	0.00	7.60	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.00	0.00	0.23	0.23
95th-Percentile Queue Length [ft/ln]	6.41	6.41	0.00	0.00	5.74	5.74
d_A, Approach Delay [s/veh]	9.41		0.00		5.34	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.52					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 29: Championship Drive and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.055

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	200.00	400.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	64	30	16	119	38	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	32	17	128	41	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	8	4	32	10	1
Total Analysis Volume [veh/h]	69	32	17	128	41	3
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.44	0.00	10.09	8.63
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.00	0.17	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.86	0.00	4.34	0.23
d_A, Approach Delay [s/veh]	0.00		0.87		9.99	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.95					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 30: Meridian Hills Drive and Walnut Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	16.6
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.150

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	250.00	200.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	40	130	287	14	16	123
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	54	41	31	5	38	26
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	180	339	20	55	158
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	45	85	5	14	40
Total Analysis Volume [veh/h]	97	180	339	20	55	158
Pedestrian Volume [ped/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.15	0.22
d_M, Delay for Movement [s/veh]	8.26	0.00	0.00	0.00	16.56	11.60
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.26	0.00	0.00	0.00	0.52	0.86
95th-Percentile Queue Length [ft/ln]	6.59	0.00	0.00	0.00	13.08	21.46
d_A, Approach Delay [s/veh]	2.89		0.00		12.88	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	4.18					
Intersection LOS	C					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 31: SR 118 WB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.371

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	39	534	0	0	140	242	0	0	0	4	1	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	573	0	0	150	259	0	0	0	4	1	288
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	143	0	0	38	65	0	0	0	1	0	72
Total Analysis Volume [veh/h]	42	573	0	0	150	259	0	0	0	4	1	288
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.19	0.00	0.00	0.05	0.16	0.00	0.00	0.00	0.00	0.00	0.18
Intersection LOS	A											
Intersection V/C	0.371											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 32: SR 118 EB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.687

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	48	239	859	71	20	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	256	921	76	21	307
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	64	230	19	5	77
Total Analysis Volume [veh/h]	51	256	921	76	21	307
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Split	Split
Signal Group	7	0	0	2	8	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.17	0.29	0.31	0.01	0.20
Intersection LOS	B					
Intersection V/C	0.687					

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Intersection Level Of Service Report
Intersection 33: Future Road - Meridian Hills Drive at Street "A"

Control Type:	Roundabout	Delay (sec / veh):	3.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	13	0	0	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	13	0	0	5	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	0	0	1	0
Total Analysis Volume [veh/h]	0	13	0	0	5	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	0		5		0	
Exiting Flow Rate [veh/h]	5		0		13	
Demand Flow Rate [veh/h]	0	13	0	0	5	0
Adjusted Demand Flow Rate [veh/h]	0	13	0	0	5	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1130.00	1130.00	1130.00
B (coefficient)	0.00100	0.00100	0.00100
HV Adjustment Factor	0.98	0.98	0.98
Entry Flow Rate [veh/h]	14	0	6
Capacity of Entry and Bypass Lanes [veh/h]	1130	1125	1130
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1108	1103	1108
X, volume / capacity	0.01	0.00	0.00

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.00	0.01
95th-Percentile Queue Length [ft]	0.89	0.00	0.34
Approach Delay [s/veh]	3.35	3.27	3.29
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.33		
Intersection LOS	A		

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 34: Future Road - Street "A" at High Street

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.138

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	133	56	9	5	5	25
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	133	56	9	5	5	25
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	14	2	1	1	6
Total Analysis Volume [veh/h]	133	56	9	5	5	25
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.05	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.58	9.24	7.29	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.70	0.70	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	17.53	17.53	0.43	0.43	0.00	0.00
d_A, Approach Delay [s/veh]	9.48		4.68		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.97					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 35: Future Road - Casey Road at Street "A"

Control Type:	All-way stop	Delay (sec / veh):	7.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.230

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0721	1.0721	1.0721	1.0721	1.0000	1.0721	1.0721	1.0721	1.0721	1.0000	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	10	4	40	49	2	8	79	129	11	10	19
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	10	4	40	49	2	8	79	129	11	10	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	3	1	10	12	1	2	20	32	3	3	5
Total Analysis Volume [veh/h]	21	10	4	40	49	2	8	79	129	11	10	19
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	921	878	939	935
Degree of Utilization, x	0.02	0.10	0.23	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.05	0.34	0.89	0.10
95th-Percentile Queue Length [ft]	1.16	8.43	22.19	2.48
Approach Delay [s/veh]	6.97	7.56	7.98	6.98
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.74			
Intersection LOS	A			

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Intersection Level Of Service Report
Intersection 36: Future Road - Gabbert Road at North Hills Parkway

Control Type:	All-way stop	Delay (sec / veh):	7.2
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.077

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	13	0	0	36	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	1	25	2	1	0	0	4	73	21	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	15	25	2	40	0	0	4	73	21	0	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	4	6	1	10	0	0	1	18	5	0	1
Total Analysis Volume [veh/h]	22	15	25	2	40	0	0	4	73	21	0	5
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	898	856	996	843
Degree of Utilization, x	0.07	0.05	0.08	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.22	0.15	0.25	0.10
95th-Percentile Queue Length [ft]	5.55	3.87	6.27	2.39
Approach Delay [s/veh]	7.31	7.43	6.92	7.41
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.20			
Intersection LOS	A			

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Intersection Level Of Service Report
Intersection 37: Future Road - Gabbert Road at High Street

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.084

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	13	0	36	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	48	14	0	95	61	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	14	39	95	61	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	4	10	24	15	0
Total Analysis Volume [veh/h]	62	14	39	95	61	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.08	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.43	0.00	10.41	9.08
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.08	0.08	0.27	0.27
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.97	1.97	6.86	6.86
d_A, Approach Delay [s/veh]	0.00		2.16		10.41	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.41					
Intersection LOS	B					

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Hitch Ranch Traffic Analysis Update

Vistro File: \...\new_Hitch Ranch_FINAL High-v3-w-unknown -prjs.vistro

Scenario 8 8 8 PM Future 2.0

Report File: U:\...\future_wp_pm.pdf

12/3/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.014	31.6	D
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.047	64.2	F
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	WB Right	1.133	-	F
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.679	-	B
5	Moorpark Avenue at High Street	Signalized	ICU 1	NB Thru	0.809	-	D
6	Spring Road at High Street	Signalized	ICU 1	SB Left	1.007	-	F
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.449	11.6	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Right	0.811	-	D
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.970	-	E
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.818	-	D
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.609	-	B
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.680	-	B
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.767	-	C
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.728	-	C
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.716	-	C
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	NB Left	0.769	-	C
17	Spring Road and Peach Hill Road	Signalized	ICU 1	NB Thru	0.575	-	A
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Thru	0.371	-	A

19	Mountain Trail Street and Tierra Rejada Road	Signalized	ICU 1	EB Right	0.451	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.345	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	WB Right	0.445	-	A
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	WB Right	0.507	-	A
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.571	-	A
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.922	-	E
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.854	-	D
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NB Right	0.887	-	D
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	EB Left	0.910	-	E
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.017	10.4	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.055	10.1	B
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.155	16.4	C
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.308	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.587	-	A
35	Future Road - Meridian Hills Drive at Street "A"	Roundabout	HCM 2010	NB Right		3.3	A
36	Future Road - Street "A" at High Street	Two-way stop	HCM 2010	SB Left	0.089	9.6	A
40	Future Road - Casey Road at Street "A"	All-way stop	HCM 2010	EB Right	0.161	7.4	A
41	Future Road - Gabbert Road at North Hills Parkway	All-way stop	HCM 2010	NB Left	0.190	7.7	A
47	Future Road - Gabbert Road at High Street	Two-way stop	HCM 2010	WB Left	0.069	10.4	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

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Intersection Level Of Service Report
Intersection 1: Walnut Canyon Road at Broadway Road

Control Type:	Two-way stop	Delay (sec / veh):	31.6
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	917	7	3	295	2	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	65	0	0	82	0	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1048	8	3	398	2	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	262	2	1	100	1	5
Total Analysis Volume [veh/h]	1048	8	3	398	2	19
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.07
d_M, Delay for Movement [s/veh]	0.00	0.00	10.48	0.00	31.61	19.37
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.27	0.27
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.34	0.34	6.73	6.73
d_A, Approach Delay [s/veh]	0.00		0.08		20.53	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.31					
Intersection LOS	D					

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Intersection Level Of Service Report
Intersection 2: Walnut Canyon Road at Championship Drive

Control Type:	Two-way stop	Delay (sec / veh):	64.2
Analysis Method:	HCM 2010	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.047

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	300.00	100.00	100.00	400.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	120	895	312	2	3	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	174	203	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	1134	537	2	3	111
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	284	134	1	1	28
Total Analysis Volume [veh/h]	129	1134	537	2	3	111
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.01	0.01	0.00	0.05	0.20
d_M, Delay for Movement [s/veh]	9.00	0.00	0.00	0.00	64.21	13.31
Movement LOS	A	A	A	A	F	B
95th-Percentile Queue Length [veh/ln]	0.43	0.00	0.00	0.00	0.15	0.76
95th-Percentile Queue Length [ft/ln]	10.71	0.00	0.00	0.00	3.63	18.96
d_A, Approach Delay [s/veh]	0.92		0.00		14.65	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.48					
Intersection LOS	F					

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Intersection Level Of Service Report
Intersection 3: Walnut Canyon Road at Spring Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.133

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			25.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2	203	36	287	123	1	1	2	0	48	2	787
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	35	28	154	49	0	0	0	7	0	0	150
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	253	67	462	181	1	1	2	7	51	2	994
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	63	17	116	45	0	0	1	2	13	1	249
Total Analysis Volume [veh/h]	9	253	67	462	181	1	1	2	7	51	2	994
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	240
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Permiss	Split	Split	Permiss	Split
Signal Group	0	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.16	0.04	0.31	0.12	0.00	0.00	0.00	0.00	0.03	0.00	0.66
Intersection LOS	F											
Intersection V/C	1.133											

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Intersection Level Of Service Report

Intersection 4: Walnut Canyon Road at Casey Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.679

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	82	172	348	74	34	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	204	64	46	28	16	143
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	292	248	419	107	52	233
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	62	105	27	13	58
Total Analysis Volume [veh/h]	292	248	419	107	52	233
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	7	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.16	0.33	0.33	0.03	0.16
Intersection LOS	B					
Intersection V/C	0.679					

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Intersection Level Of Service Report
Intersection 5: Moorpark Avenue at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.809

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	26	292	292	87	214	6	7	21	36	266	21	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	55	131	30	116	120	5	0	54	44	38	53	194
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	444	343	209	349	11	8	77	83	323	76	321
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	105	86	52	83	3	2	19	21	81	19	80
Total Analysis Volume [veh/h]	83	422	343	209	332	11	8	77	83	323	76	321
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.65	0.23	0.14	0.21	0.21	0.01	0.11	0.11	0.20	0.25	0.20
Intersection LOS	D											
Intersection V/C	0.809											

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Intersection Level Of Service Report
Intersection 6: Spring Road at High Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.007

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	280.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	168	205	263	404	567	22	12	322	139	102	273	162
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	100	55	45	131	55	6	5	125	50	40	165	98
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	280	275	327	564	663	30	18	470	199	149	458	272
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	70	69	82	141	166	8	5	118	50	37	115	68
Total Analysis Volume [veh/h]	280	275	327	564	663	30	18	470	199	149	458	272
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.09	0.22	0.38	0.22	0.22	0.01	0.31	0.13	0.10	0.29	0.18
Intersection LOS	F											
Intersection V/C	1.007											

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Intersection Level Of Service Report
Intersection 7: Gabbert Road at Poindexter Avenue

Control Type:	All-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.449

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	100.00	180.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		30.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	16	256	19	9	231	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	149	1	20	92	2	32
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	166	275	40	102	250	38
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	69	10	26	63	10
Total Analysis Volume [veh/h]	166	275	40	102	250	38
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	634	724	613	557	683
Degree of Utilization, x	0.26	0.38	0.23	0.45	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.04	1.78	0.89	2.31	0.18
95th-Percentile Queue Length [ft]	26.12	44.49	22.28	57.75	4.41
Approach Delay [s/veh]	10.56		10.64	13.55	
Approach LOS	B		B	B	
Intersection Delay [s/veh]	11.56				
Intersection LOS	B				

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Intersection Level Of Service Report
Intersection 8: Moorpark Avenue and Poindexter Avenue/1st Street

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.811

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	84	377	4	10	336	315	198	25	62	3	58	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	195	6	1	173	29	19	0	0	5	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	599	10	12	533	367	231	27	66	8	62	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	142	3	3	127	92	58	7	17	2	16	5
Total Analysis Volume [veh/h]	90	569	10	12	506	367	231	27	66	8	62	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	120
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.36	0.36	0.01	0.55	0.55	0.15	0.06	0.06	0.01	0.05	0.05
Intersection LOS	D											
Intersection V/C	0.811											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 9: Somis Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.970

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	370.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	191	64	579	26	104	53	15	480	104	369	584	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	61	0	0	0	0	14	0	44	13	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	205	69	682	28	111	57	16	529	111	440	639	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	17	171	7	28	14	4	132	28	110	160	5
Total Analysis Volume [veh/h]	205	69	682	28	111	57	16	529	111	440	639	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	240
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.17	0.16	0.02	0.11	0.11	0.01	0.40	0.40	0.29	0.41	0.41
Intersection LOS	E											
Intersection V/C	0.970											

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Intersection Level Of Service Report
Intersection 10: Grimes Canyon Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.818

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	500.00	100.00	100.00	500.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	32	100	137	862	890	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	75	57	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	107	147	999	1011	34
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	27	37	250	253	9
Total Analysis Volume [veh/h]	34	107	147	999	1011	34
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	80
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.09	0.10	0.62	0.63	0.02
Intersection LOS	D					
Intersection V/C	0.818					

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Intersection Level Of Service Report
Intersection 11: Tierra Rejada Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.609

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	2	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	200.00	250.00	100.00	180.00	450.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	145	97	309	64	173	127	74	692	243	310	689	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	20	29	29	36	48	31	0	17	25	58
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	148	351	98	214	172	127	773	261	349	764	102
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	37	88	25	54	43	32	193	65	87	191	26
Total Analysis Volume [veh/h]	155	148	351	98	214	172	127	773	261	349	764	102
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	1	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups			1,8									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.09	0.12	0.07	0.13	0.11	0.08	0.24	0.17	0.11	0.24	0.06
Intersection LOS	B											
Intersection V/C	0.609											

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Intersection Level Of Service Report
Intersection 12: Moorpark Avenue and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.680

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	69	87	116	205	48	97	143	917	31	101	941	109
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	7	10	141	5	32	27	154	2	15	198	167
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	100	134	361	56	136	180	1137	35	123	1207	284
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	25	34	90	14	34	45	284	9	31	302	71
Total Analysis Volume [veh/h]	75	100	134	361	56	136	180	1137	35	123	1207	284
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	100
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	0	8	1	0	4	5	5	2	0	1	6	6
Auxiliary Signal Groups			1,8			4,5						6,8
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.06	0.01	0.12	0.00	0.00	0.12	0.24	0.24	0.08	0.38	0.19
Intersection LOS	B											
Intersection V/C	0.680											

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Intersection Level Of Service Report
Intersection 13: Spring Road and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.767

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	200.00	100.00	500.00	400.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			40.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	245	315	44	350	217	92	158	907	188	51	1035	693
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	102	26	0	95	10	40	46	211	63	0	249	128
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	365	364	47	470	243	139	215	1183	265	55	1359	871
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	91	91	12	118	61	35	54	296	66	14	340	218
Total Analysis Volume [veh/h]	365	364	47	470	243	139	215	1183	265	55	1359	871
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	1	7	4	4	5	2	0	1	6	6
Auxiliary Signal Groups						4,5						6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.13	0.13	0.15	0.15	0.02	0.07	0.37	0.17	0.03	0.42	0.40
Intersection LOS	C											
Intersection V/C	0.767											

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Intersection Level Of Service Report
Intersection 14: Miller Parkway/Science Drive/Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.728

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	0	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	320.00	100.00	100.00	100.00	100.00	100.00	450.00	100.00	450.00	450.00	100.00	450.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	49.21
Speed [mph]	40.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	196	4	89	118	16	49	14	1183	107	110	1569	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	4	0	0	0	0	301	6	2	366	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	222	4	99	127	17	53	15	1569	121	120	2048	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	1	25	32	4	13	4	392	30	30	512	5
Total Analysis Volume [veh/h]	222	4	99	127	17	53	15	1569	121	120	2048	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	140
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.00	0.07	0.08	0.12	0.12	0.01	0.33	0.08	0.05	0.53	0.02
Intersection LOS	C											
Intersection V/C	0.728											

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Intersection Level Of Service Report

Intersection 15: SR□23 SB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.716

Intersection Setup

Name											
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	350.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	23	0	953	0	781	688	37	927	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	0	197	0	150	155	11	116	0	56	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	1219	0	987	893	51	1110	0	56	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	305	0	247	223	13	278	0	14	0	0
Total Analysis Volume [veh/h]	36	0	1219	0	987	893	51	1110	0	56	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	110
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	7	0	0	0	2	0	1	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.39	0.39	0.03	0.69	0.00	0.00	0.00	0.00
Intersection LOS	C											
Intersection V/C	0.716											

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Intersection Level Of Service Report
Intersection 16: SR□23 NB ramps and Los Angeles Avenue

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.769

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	1	2	0	0	0
Entry Pocket Length [ft]	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	920	10	20	819	38	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	104	11	26	135	12	23
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1090	22	47	1013	53	98
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	273	6	12	253	13	25
Total Analysis Volume [veh/h]	1090	22	47	1013	53	98
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	90
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	3	0	2	0	0	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.42	0.01	0.01	0.32	0.03	0.09
Intersection LOS	C					
Intersection V/C	0.769					

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Intersection Level Of Service Report
Intersection 17: Spring Road and Peach Hill Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.575

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	87	426	44	34	278	154	120	41	46	46	99	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	129	2	2	72	0	0	0	0	1	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	93	586	49	38	370	165	129	44	49	50	106	50
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	147	12	10	93	41	32	11	12	13	27	13
Total Analysis Volume [veh/h]	93	586	49	38	370	165	129	44	49	50	106	50
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.37	0.03	0.03	0.23	0.11	0.09	0.03	0.03	0.03	0.10	0.10
Intersection LOS	A											
Intersection V/C	0.575											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 18: Tierra Rejada Road and Countrywood Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.371

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			35.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	74	469	76	68	566	89	50	9	48	67	5	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	36	0	23	23	0	0	0	0	0	0	28
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	539	81	96	630	95	54	10	51	72	5	84
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	135	20	24	158	24	14	3	13	18	1	21
Total Analysis Volume [veh/h]	79	539	81	96	630	95	54	10	51	72	5	84
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.19	0.19	0.06	0.23	0.23	0.04	0.04	0.04	0.05	0.06	0.06
Intersection LOS	A											
Intersection V/C	0.371											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 19: Mountain Trail Street and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	55	13	96	37	23	61	89	522	67	208	459	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	6	6	17	0	0	30	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	14	103	40	25	71	101	577	72	223	522	41
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	4	26	10	6	18	25	144	18	56	131	10
Total Analysis Volume [veh/h]	59	14	103	40	25	71	101	577	72	223	522	41
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.01	0.07	0.03	0.06	0.06	0.07	0.20	0.20	0.15	0.18	0.18
Intersection LOS	A											
Intersection V/C	0.451											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 20: Mountain Meadow Drive and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	32	5	39	57	5	16	16	601	38	81	657	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	12	9	8	0	0	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	5	42	61	5	29	26	652	41	87	722	86
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	1	11	15	1	7	7	163	10	22	181	22
Total Analysis Volume [veh/h]	34	5	42	61	5	29	26	652	41	87	722	86
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Version 2021 (SP 0-4)

Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.03	0.03	0.04	0.02	0.02	0.02	0.22	0.22	0.06	0.25	0.25
Intersection LOS	A											
Intersection V/C	0.345											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 21: Walnut Creek Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.445

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	5	1	74	84	2	21	32	652	10	110	784	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	8	0	0	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	79	90	2	23	34	707	11	118	859	139
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	20	23	1	6	9	177	3	30	215	35
Total Analysis Volume [veh/h]	5	1	79	90	2	23	34	707	11	118	859	139
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	70
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.05	0.06	0.02	0.02	0.02	0.22	0.22	0.08	0.31	0.31
Intersection LOS	A											
Intersection V/C	0.445											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 22: Peach Hill Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.507

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	69	97	90	722	946	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	9	7	1	9	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	113	103	775	1023	138
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	28	26	194	256	35
Total Analysis Volume [veh/h]	76	113	103	775	1023	138
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	7	0	5	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.08	0.07	0.24	0.36	0.36
Intersection LOS	A					
Intersection V/C	0.507					

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Intersection Level Of Service Report
Intersection 23: Spring Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name						
Base Volume Input [veh/h]	323	74	69	712	1064	495
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	72	1	2	1	10	129
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	418	80	76	764	1151	660
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	105	20	19	191	288	165
Total Analysis Volume [veh/h]	418	80	76	764	1151	660
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Overlap
Signal Group	7	0	5	2	6	6
Auxiliary Signal Groups						6,7
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.05	0.05	0.24	0.36	0.28
Intersection LOS	A					
Intersection V/C	0.571					

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Intersection Level Of Service Report
Intersection 24: Moorpark Road and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.922

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	1	0	0	1	0	1	2	0	1
Entry Pocket Length [ft]	100.00	100.00	350.00	250.00	100.00	100.00	200.00	100.00	200.00	380.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	448	0	786	112	0	95	60	756	223	582	1030	158
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	10	0	1	0	58	15	0	123	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	495	0	843	130	0	103	64	869	254	624	1227	183
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	124	0	211	33	0	26	16	217	64	156	307	46
Total Analysis Volume [veh/h]	495	0	843	130	0	103	64	869	254	624	1227	183
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	240
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	3	0	8	7	0	0	5	2	2	1	6	6
Auxiliary Signal Groups									2,3			6,7
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.00	0.32	0.09	0.00	0.07	0.04	0.27	0.00	0.24	0.38	0.04
Intersection LOS	E											
Intersection V/C	0.922											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 25: SR□23 SB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.854

Intersection Setup

Name												
Approach	Southbound			Eastbound			Westbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	156	0	556	0	1274	343	0	1165	208	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	42	0	7	61	0	62	0	33	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	167	0	638	0	1373	429	0	1311	223	33	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	0	160	0	343	107	0	328	56	8	0	0
Total Analysis Volume [veh/h]	167	0	638	0	1373	429	0	1311	223	33	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	0	0	4	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.43	0.00	0.43	0.29	0.00	0.41	0.15	0.00	0.00	0.00
Intersection LOS	D											
Intersection V/C	0.854											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 26: SB 23 NB ramps and Tierra Rejada Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.887

Intersection Setup

Name											
Approach	Northbound			Eastbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	300.00	100.00	100.00	200.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	587	0	678	0	1195	239	0	787	74	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	0	0	0	7	0	0	7	0	0	0	19
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	665	0	727	0	1288	256	0	851	79	0	0	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	166	0	182	0	322	64	0	213	20	0	0	5
Total Analysis Volume [veh/h]	665	0	727	0	1288	256	0	851	79	0	0	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	0	7	0	0	3	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.00	0.46	0.00	0.40	0.16	0.00	0.27	0.05	0.00	0.00	0.00
Intersection LOS	D											
Intersection V/C	0.887											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 27: Moorpark Road and Santa Rosa Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.910

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	1	5	101	3	868	960	235	0	1	351	385
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	8	0	7	7	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	5	116	3	938	1036	252	0	1	376	421
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	29	1	235	259	63	0	0	94	105
Total Analysis Volume [veh/h]	1	1	5	116	3	938	1036	252	0	1	376	421
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	130
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	4	5	2	0	1	6	0
Auxiliary Signal Groups						4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.07	0.07	0.23	0.40	0.16	0.00	0.00	0.24	0.28
Intersection LOS	E											
Intersection V/C	0.910											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 28: Broadway Road and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	12	120	45	18	46	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	129	48	19	49	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	32	12	5	12	12
Total Analysis Volume [veh/h]	13	129	48	19	49	47
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.13	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	10.36	9.19	0.00	0.00	7.42	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.51	0.51	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	12.66	12.66	0.00	0.00	2.47	2.47
d_A, Approach Delay [s/veh]	9.30		0.00		3.79	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.52					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 29: Championship Drive and Grimes Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.055

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	0
Entry Pocket Length [ft]	100.00	200.00	400.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	64	30	16	119	38	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	32	17	128	41	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	8	4	32	10	1
Total Analysis Volume [veh/h]	69	32	17	128	41	3
Pedestrian Volume [ped/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.44	0.00	10.09	8.63
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.00	0.17	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.86	0.00	4.34	0.23
d_A, Approach Delay [s/veh]	0.00		0.87		9.99	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.95					
Intersection LOS	B					

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Intersection Level Of Service Report

Intersection 30: Meridian Hills Drive and Walnut Canyon Road

Control Type:	Two-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.155

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	300.00	100.00	100.00	250.00	200.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		40.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	68	210	127	29	16	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	51	29	51	6	41	23
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	124	254	187	37	58	84
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	64	47	9	15	21
Total Analysis Volume [veh/h]	124	254	187	37	58	84
Pedestrian Volume [ped/h]	0		0		0	

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Version 2021 (SP 0-4)

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.00	0.00	0.16	0.10
d_M, Delay for Movement [s/veh]	7.95	0.00	0.00	0.00	16.40	9.67
Movement LOS	A	A	A	A	C	A
95th-Percentile Queue Length [veh/ln]	0.30	0.00	0.00	0.00	0.54	0.33
95th-Percentile Queue Length [ft/ln]	7.60	0.00	0.00	0.00	13.60	8.14
d_A, Approach Delay [s/veh]	2.61		0.00		12.42	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.69					
Intersection LOS	C					

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 31: SR 118 WB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.308

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	72	534	0	0	140	242	0	0	0	15	0	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	573	0	0	150	259	0	0	0	16	0	288
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	143	0	0	38	65	0	0	0	4	0	72
Total Analysis Volume [veh/h]	77	573	0	0	150	259	0	0	0	16	0	288
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.19	0.00	0.00	0.05	0.16	0.00	0.00	0.00	0.01	0.00	0.10
Intersection LOS	A											
Intersection V/C	0.308											

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Version 2021 (SP 0-4)

Intersection Level Of Service Report
Intersection 32: SR 118 EB and Collins Drive

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.587

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	217	239	421	371	20	211
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	233	256	451	398	21	226
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	64	113	100	5	57
Total Analysis Volume [veh/h]	233	256	451	398	21	226
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Cycle Length [s]	60
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Split	Split
Signal Group	7	0	0	2	8	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.17	0.14	0.27	0.01	0.15
Intersection LOS	A					
Intersection V/C	0.587					

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Intersection Level Of Service Report
Intersection 35: Future Road - Meridian Hills Drive at Street "A"

Control Type:	Roundabout	Delay (sec / veh):	3.3
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	0	0	6	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	16	0	0	6	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	0	2	0
Total Analysis Volume [veh/h]	0	16	0	0	6	0
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	0		6		0	
Exiting Flow Rate [veh/h]	6		0		16	
Demand Flow Rate [veh/h]	0	16	0	0	6	0
Adjusted Demand Flow Rate [veh/h]	0	16	0	0	6	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1130.00	1130.00	1130.00
B (coefficient)	0.00100	0.00100	0.00100
HV Adjustment Factor	0.98	0.98	0.98
Entry Flow Rate [veh/h]	17	0	7
Capacity of Entry and Bypass Lanes [veh/h]	1130	1124	1130
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1108	1102	1108
X, volume / capacity	0.01	0.00	0.01

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.00	0.02
95th-Percentile Queue Length [ft]	1.10	0.00	0.41
Approach Delay [s/veh]	3.37	3.27	3.29
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.35		
Intersection LOS	A		

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Intersection Level Of Service Report
Intersection 36: Future Road - Street "A" at High Street

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.089

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	79	46	23	3	3	90
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	46	23	3	3	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	12	6	1	1	23
Total Analysis Volume [veh/h]	79	46	23	3	3	90
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.05	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.65	9.12	7.44	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.46	0.46	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.55	11.55	1.17	1.17	0.00	0.00
d_A, Approach Delay [s/veh]	9.45		6.58		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.54					
Intersection LOS	A					

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Intersection Level Of Service Report
Intersection 40: Future Road - Casey Road at Street "A"

Control Type:	All-way stop	Delay (sec / veh):	7.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.161

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0721	1.0721	1.0721	1.0721	1.0000	1.0721	1.0721	1.0721	1.0721	1.0000	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	75	33	6	28	26	9	12	53	84	15	31	64
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	33	6	28	26	9	12	53	84	15	31	64
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	8	2	7	7	2	3	13	21	4	8	16
Total Analysis Volume [veh/h]	75	33	6	28	26	9	12	53	84	15	31	64
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	888	851	927	976
Degree of Utilization, x	0.04	0.06	0.16	0.08

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.14	0.20	0.57	0.26
95th-Percentile Queue Length [ft]	3.44	5.07	14.29	6.59
Approach Delay [s/veh]	7.24	7.52	7.63	7.01
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.41			
Intersection LOS	A			

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Intersection Level Of Service Report
Intersection 41: Future Road - Gabbert Road at North Hills Parkway

Control Type:	All-way stop	Delay (sec / veh):	7.7
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.190

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	16	0	0	28	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	82	1	72	6	1	0	0	3	48	14	4	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	18	72	6	31	0	0	3	48	14	4	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	5	18	2	8	0	0	1	12	4	1	2
Total Analysis Volume [veh/h]	82	18	72	6	31	0	0	3	48	14	4	6
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	906	840	938	820
Degree of Utilization, x	0.19	0.04	0.05	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.70	0.14	0.17	0.09
95th-Percentile Queue Length [ft]	17.44	3.45	4.30	2.26
Approach Delay [s/veh]	7.90	7.48	7.06	7.53
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.66			
Intersection LOS	A			

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Version 2021 (SP 0-4)

Intersection Level Of Service Report

Intersection 47: Future Road - Gabbert Road at High Street

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.069

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	16	0	0	28	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	155	26	0	63	49	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	172	26	0	93	49	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	7	0	23	12	0
Total Analysis Volume [veh/h]	172	26	0	93	49	0
Pedestrian Volume [ped/h]	0		0		0	

Generated with PTV VISTRO

Version 2021 (SP 0-4)

Intersection Settings

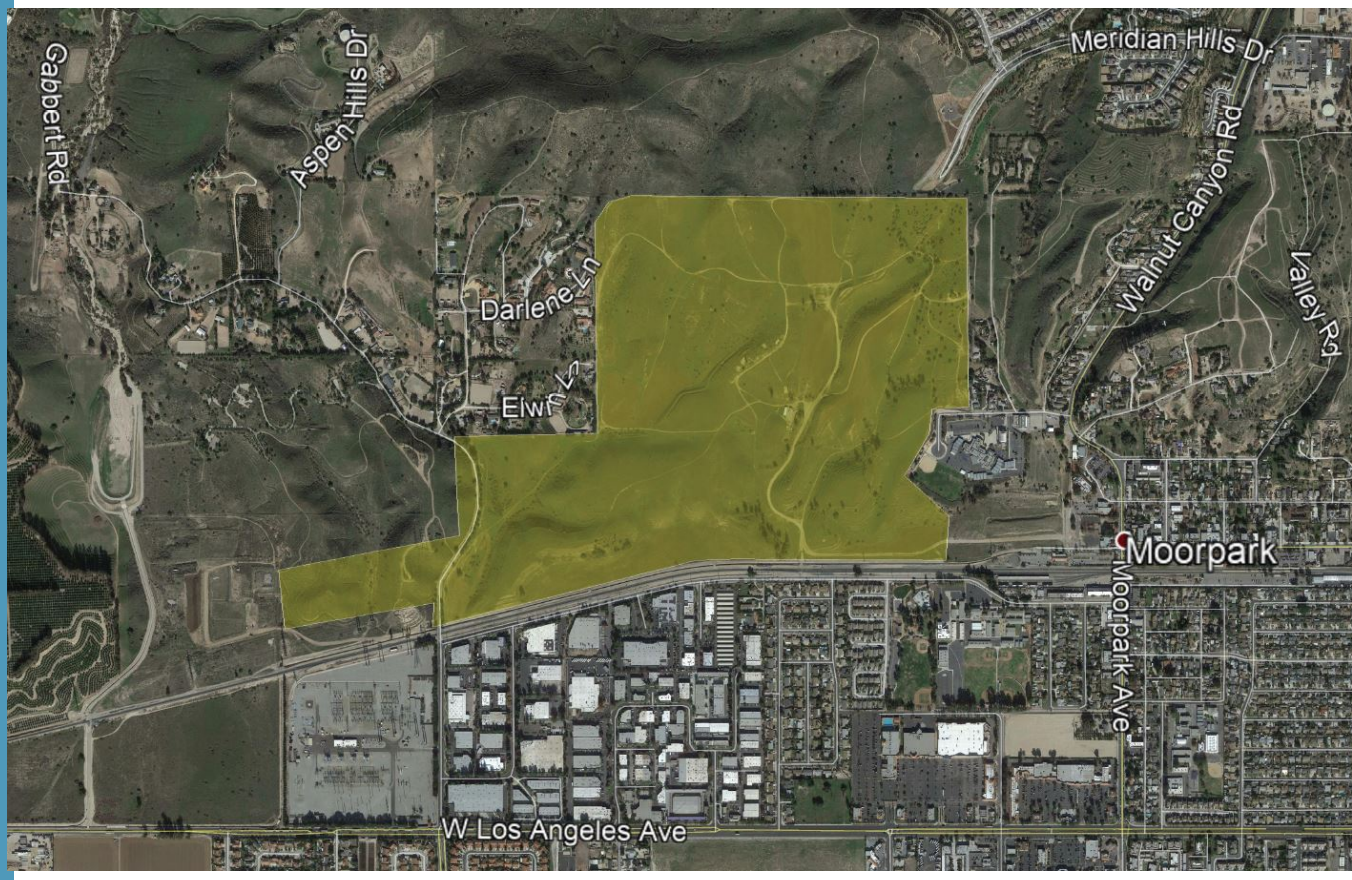
Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.62	0.00	10.43	9.57
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.22	0.22
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	5.53	5.53
d_A, Approach Delay [s/veh]	0.00		0.00		10.43	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.50					
Intersection LOS	B					

City of Moorpark

Traffic Impact Analysis for the Proposed Hitch Ranch Specific Plan



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January 2021

TRAFFIC IMPACT ANALYSIS FOR PROPOSED HITCH RANCH SPECIFIC PLAN

City of Moorpark

Prepared for:
Comstock Homes

Prepared by:

Impact Sciences, Inc.

Prepared July 2021

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EXCUTIVE SUMMARY

Project Description

The proposed project includes 755 residential units (427 single-family, 328 multi-family), a 6.77-acre public park, over five acres of private recreational areas, and over 112 acres of open space, manufactured slopes, and detention basins. It is anticipated that the specific plan would be completed in six phases beginning in 2022. The 253.94-acre project site is located approximately 1,600 feet west of State Route 23 (SR-23) and extends approximately 1,400 feet west of Gabbert Road, as shown in the following Figure 1, Project Setting. The project site is predominantly undeveloped, containing limited improvements that include dirt and semi-paved roads and remnants of grazing use (e.g., corrals, fences, watering facilities for grazing animals).

This analysis was prepared based on the protocols identified in the Traffic Study Scoping Memo prepared by Impact Science in March 2019, discussed with City staff, and approved by the City of Moorpark in August 2019. This analysis was prepared prior to the effective date of SB 743, which shifted the focus of traffic analyses away from congestion Levels of Service toward assessing changes in vehicle miles traveled.

Project Access

The proposed project would include several new roadways that would be built to provide internal circulation within the project over its two phases. The first phase would include the following major public rights-of-way:

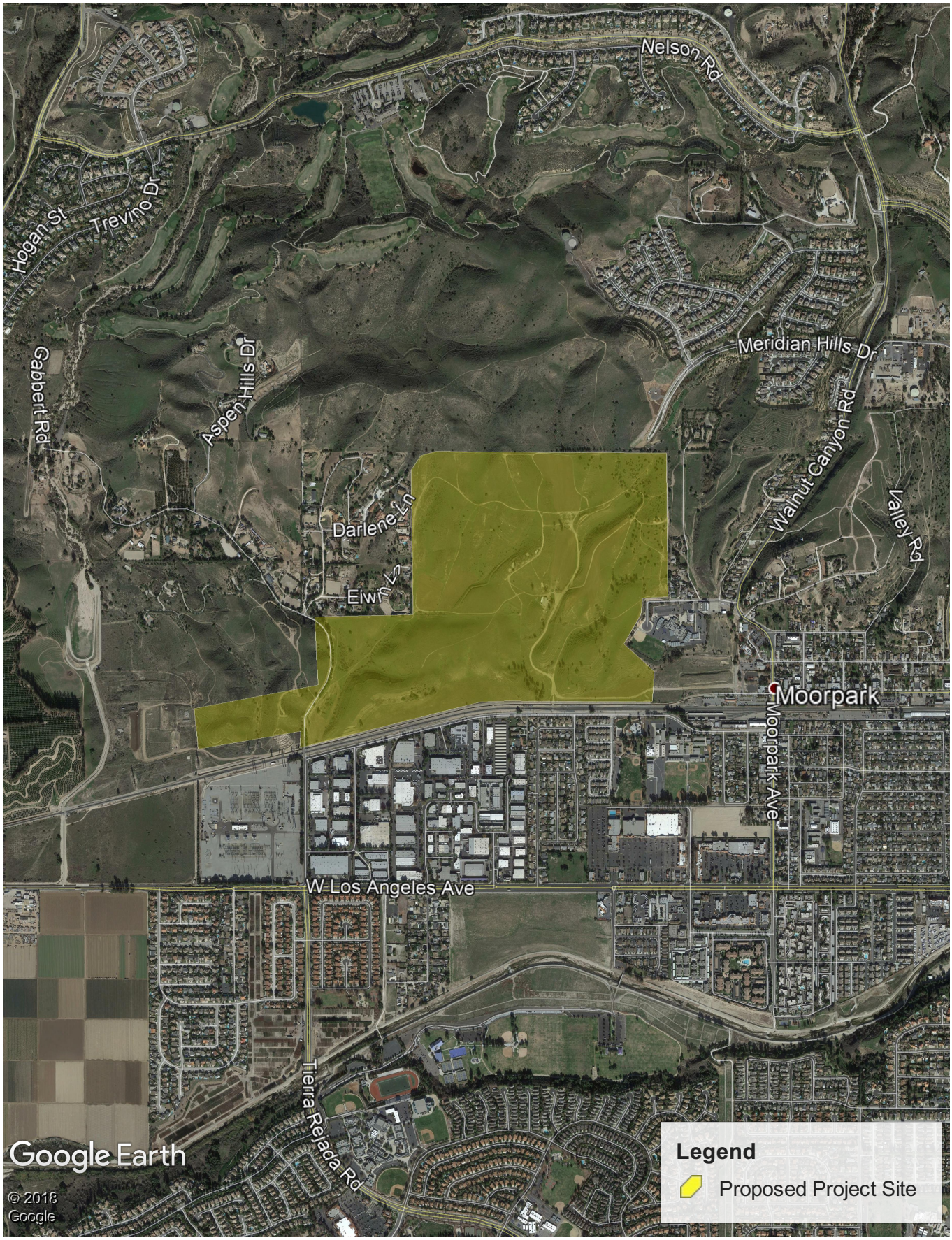
- A local north-south collector road (referred to hereafter as Street “A”) to be built from the extension of High Street, approximately midway between Walnut Canyon Road and Gabbert Road. Street “A” would intersect the North Hills Parkway once it is constructed and terminate at the connection to Meridian Hills Drive to the north.
- Extending High Street through the project site to connect Moorpark Avenue on the east to Gabbert Road. The High Street extension will be built as a two-lane collector roadway generally running parallel to Poindexter Avenue, north of the

Union Pacific Railroad right-of-way. This extension will provide direct access to the future Moorpark Civic Center and Historic High Street east of Moorpark Avenue.

- The proposed project would extend Casey Road west into the site as far as Street "A." The project would also widen Casey Road east of the project site to approximately 440 feet west of Walnut Canyon Road.
- Extending Meridian Hills Drive feet westward from its current terminus northwest of the project site.
- The dedication of corridor right-of-way for the future construction of North Hills Parkway from Walnut Canyon Road to Street "A." Upon completion in Phase 2 this road would have one two travel lanes in each direction with a center median.
- The construction of local roads to serve the first phase of development east of Street "A".

The second phase would include construction of the following rights-of-way:

- Construction of North Hills Parkway from the eastern property line of the project to Gabbert Canyon Road. Right of way dedication will be provided to the western property line.
- The construction of local roads to serve the second phase of development west of Street "A" (i.e., Streets "B" through "P").
- A widening of Gabbert Road from North Hills Parkway to immediately north of the railroad tracks right of way.



SOURCE: Google, 2019. Impact Sciences, 2019

FIGURE **1**

IMPACT SCIENCES

Project Setting

1318.002

Estimated Traffic Generation

Estimates of the traffic generated by the proposed project were calculated using the industry standard traffic generation rates developed by the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition. The rates for single-family detached housing (land use code 210), multi-family housing (low-rise, land use code 220), and public park (land use code 411) were used to estimate trips generated by the proposed project.[1] Using these definitions, it is estimated that the project would generate 6,436 daily weekday vehicle trips with 467 morning peak hour trips and 608 afternoon peak hour trips.

Table 1
Project Traffic Generation Estimates

Land Use	Daily Traffic	AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out
Single-Family Residences	4,031	316	79	237	423	266	157
Multifamily Residences	2,401	151	35	116	184	116	68
Public Park	4	0	0	0	1	0	1
Total	6,436	467	114	353	608	382	226

Project's Potential Traffic Impacts

The focus of this traffic study is to evaluate the potential traffic impact created by the development of the proposed project and identify and analyze the significant traffic impacts that require traffic mitigation. This traffic study provides two baseline scenarios to evaluate the project's traffic impacts: (1) existing 2019 traffic conditions plus the project traffic volume ("Existing + Project") and (2) future 2026 cumulative traffic conditions plus the project traffic volume ("Future 2026 Cumulative + Project").

[1] ITE defines low-rise multi-family housing as "…apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have one or two levels…" While the Project includes two- and three-story buildings, this analysis used land use code 220 for all multi-family dwelling units to conservatively estimate trip generation. Public park is described as "…including boating or swimming facilities, beaches, hiking trails, ball fields, soccer fields, campsites, and picnic facilities."

The traffic impacts of the project are considered significant if the project substantially degrades the level of service (LOS) at any of the signalized or un-signalized intersections analyzed for both baseline scenarios. LOS is a measure of the quality of traffic flow. The specific criteria for significant impacts are described in Tables 7a and 7b later in this report.

Significant Project traffic impacts (Existing + Project)

When compared to existing conditions, the change in traffic flow generated by the proposed project would exceed the traffic impact significance criteria at five intersections:

1. The intersection of Walnut Canyon Road and Casey Road is significantly impacted in the morning peak hour prior to the implementation of mitigation measures, with Level of Service degrading from LOS B to LOS D.

2. The intersection of Walnut Canyon Road and Spring Road is significantly impacted in the afternoon peak hour prior to the implementation of mitigation measures, with Level of Service degrading from LOS C to LOS D, though it should be noted that this intersection currently operates at 0.899 V/C (LOS C).

3. The intersection of Moorpark Avenue and High Street is significantly impacted in the afternoon peak hour prior to the implementation of traffic mitigation measures. Level of Service would degrade from LOS C to D.

4. The intersection of Spring Road and High Street is significantly impacted in the afternoon peak hour prior to the implementation of traffic mitigation measures, with Level of Service degrading from LOS C to LOS D.

5. The intersection of Spring Road and Los Angeles Avenue is significantly impacted in the afternoon peak hour prior to the implementation of traffic mitigation measures, as V/C would increase by 0.059 at this intersection that already operates at LOS F.

Significant Project traffic impacts (Future 2026 Cumulative + Project)

Assuming all pending and approved projects go forward, the change in traffic flow generated by the proposed project would exceed the traffic impact significance criteria in the future cumulative condition at eight intersections:[2]

1. The intersection of Walnut Canyon Road and Casey Road is significantly impacted in the morning peak hour prior to the implementation of mitigation measures, with Level of Service degrading from LOS C to LOS D.

2. The intersection of Moorpark Avenue and High Street is significantly impacted in the morning and afternoon peak hours prior to the implementation of mitigation measures, with Level of Service degrading from LOS D to LOS E and LOS C to LOS E, respectively.

3. The intersection of Spring Road at High Street is significantly impacted in the morning peak hour prior to the implementation of mitigation measures, with Level of Service degrading from LOS C to LOS D.

4. The intersection of Spring Road and Los Angeles Avenue is significantly impacted in the morning peak hour prior to the implementation of mitigation measures, as V/C would increase by 0.037 at this intersection that would already operate at LOS F.

5. The intersection of Spring Road and Los Angeles Avenue is significantly impacted in the afternoon peak hour prior to the implementation of mitigation measures, as V/C would increase by 0.059 at this intersection that would already operate at LOS F.

---

[2] Level of Service at Tierra Rejada Road and Los Angeles Avenue would degrade from LOS D to E in the morning peak hour due to the projected baseline V/C of 0.897. Because the project's increase is only 0.006 V/C, this is not considered a significant project impact.

6. The intersection of Miller Parkway/Science Drive/Los Angeles Avenue is significantly impacted in the afternoon peak hour prior to the implementation of mitigation measures, as V/C would increase by 0.048 at this intersection that would already operate at LOS F.

7. The intersection of SR-23 southbound ramps and Los Angeles Avenue is significantly impacted in the afternoon peak hour prior to the implementation of mitigation measures, with Level of Service degrading from LOS C to LOS D.

8. The intersection of Spring Road and Tierra Rejada Road is significantly impacted prior to the implementation of mitigation measures, with Level of Service degrading from LOS D to LOS E.

Project's Traffic Mitigation Measures

Several traffic measures are recommended for eight significantly impacted intersections:

1. Walnut Canyon Road and Casey Road. Add a second right turn lane on eastbound Casey Road. The Project would contribute a fair share contribution towards the cost of these improvements under the City's Area of Contribution (AOC) program.

2. Walnut Canyon Road at Spring Road. Add a second right turn lane on westbound Spring Road. The Project would contribute a fair share contribution towards the cost of these improvements under the City's AOC program.

3. Moorpark Avenue at High Street. Convert the northbound left turn lane-through lane to a dedicated left turn lane and a through lane. Adding a left turn lane on the westbound High Street approach at Moorpark Avenue would also be needed. The Project would contribute a fair share contribution towards the cost of these improvements under the City's AOC program.

4. Spring Road and High Street. Add a second through lane on the eastbound approach of High Street at Spring Road. The Project would contribute a fair

share contribution towards the cost of these improvements under the City's AOC program.

5. Spring Road and Los Angeles Avenue. Convert the right turn-only lane on the eastbound Los Angeles Avenue approach at Spring Road to a shared right turn-through lane. The Project would contribute a fair share contribution towards the cost of these improvements under the City's City's AOC program.

6. Miller Parkway/Science Drive/Los Angeles Avenue. Add a dedicated right turn on the Science Drive approach to Los Angeles Avenue. The Project would contribute a fair share contribution towards the cost of these improvements under the City's AOC program .

7. SR-23 SB ramps and Los Angeles Avenue. Convert the dedicated left turn lane on westbound Los Angeles Avenue to a left turn-through lane. The Project would contribute a fair share contribution towards the cost of these improvements under the City's AOC program.

8. Spring Road and Tierra Rejada Road. Allow permissive signal timing on Tierra Rejada Road. The Project would contribute a fair share contribution towards the cost of these improvements under the City's AOC program.

Parking Supply and Estimated Parking Demand

1. Recommended Parking Requirement

The proposed project will provide parking based on the City of Moorpark's parking demand calculations provided below. The parking demand calculated for the project is 1,676 parking spaces based on the City's Municipal Code.

2. Code Calculations (all new development)

Pursuant to the City of Moorpark's Municipal Code (section 17.32 Off-Street Parking Requirements), the following parking standards would be required:

Single-family dwellings 2 spaces in a garage for dwellings <2,800 sq. ft.

	3 spaces in a garage for dwellings > 2,800 sq. ft.
Multiple dwellings	1 space per unit covered in a garage or carport for each bachelor or studio unit
	1.75 spaces per unit, 1 covered in a garage or carport for each one-bedroom unit (including guest parking)
	2 spaces per unit, 1 covered in a garage or carport for each unit with 2 or more bedrooms, 0.5 spaces per unit for visitors

The focus of this traffic study is to evaluate the potential traffic impact created by the development of the Hitch Ranch Specific Plan.

As part of the environmental review for the proposed project, the potential traffic impact of the development has been evaluated using the Intersection Capacity Utilization (ICU) method for signalized intersections and Highway Capacity Manual (HCM) 2010 method delay methodology for un-signalized intersections.

The ICU analysis method quantifies the operating conditions of an intersection using a ratio of peak hour traffic volume to intersection capacity. The HCM analysis method quantifies the operating conditions of an intersection using a ratio of peak hour traffic volume to intersection capacity. This method was used to analyze six stop sign controlled intersections. Any change to the intersection's peak hour operating condition caused by an increase / decrease in traffic volume (i.e., traffic impact) can be quantified using these analysis methods.

Potential traffic impacts caused by a development project that exceed limits established by the City of Moorpark are deemed significant traffic impacts. All significantly impacted intersections are then evaluated for possible traffic mitigation measures. The following steps have been taken to evaluate the project's traffic impact.

Existing Conditions

(a) Evaluate existing 2019 traffic conditions;

(b) Add proposed project traffic volume to existing traffic volume to evaluate potential "existing + project" impacts;

(c) Recommended traffic mitigation, if necessary.

Future 2026 Cumulative Conditions

(d) Existing 2019 traffic volumes were increased by an ambient growth factor of 1.0 percent per year growth rate (7.2 percent total growth at 1.0 percent annual growth rate) to the future 2026 study year (year anticipated for buildout project occupancy);

(e) Future traffic generated by other projects in the study area was added to traffic in (d). Future cumulative baseline traffic volume was derived from a related projects list provided by City staff, see Appendix E ("future 2026 without project");[3]

(f) Add proposed project traffic volume to future 2026 without project traffic to evaluate future "2026 cumulative + project" scenario;

(g) Recommended traffic mitigation, if necessary.

An intersection capacity analysis of the existing baseline and future traffic conditions has been completed at those locations expected to have the highest potential for significant traffic impacts. Weekday morning and afternoon peak hour conditions have been evaluated at 32 key intersections selected for review by the City of Moorpark. Low volume intersections or intersections with minimal project traffic are not included in this analysis. The analyses were conducted in accordance with the 2009 Ventura County Congestion Management Program (CMP) and include 24 intersections on the CMP network. For the future cumulative scenario (2026), three new intersections along Street "A" were also analyzed.

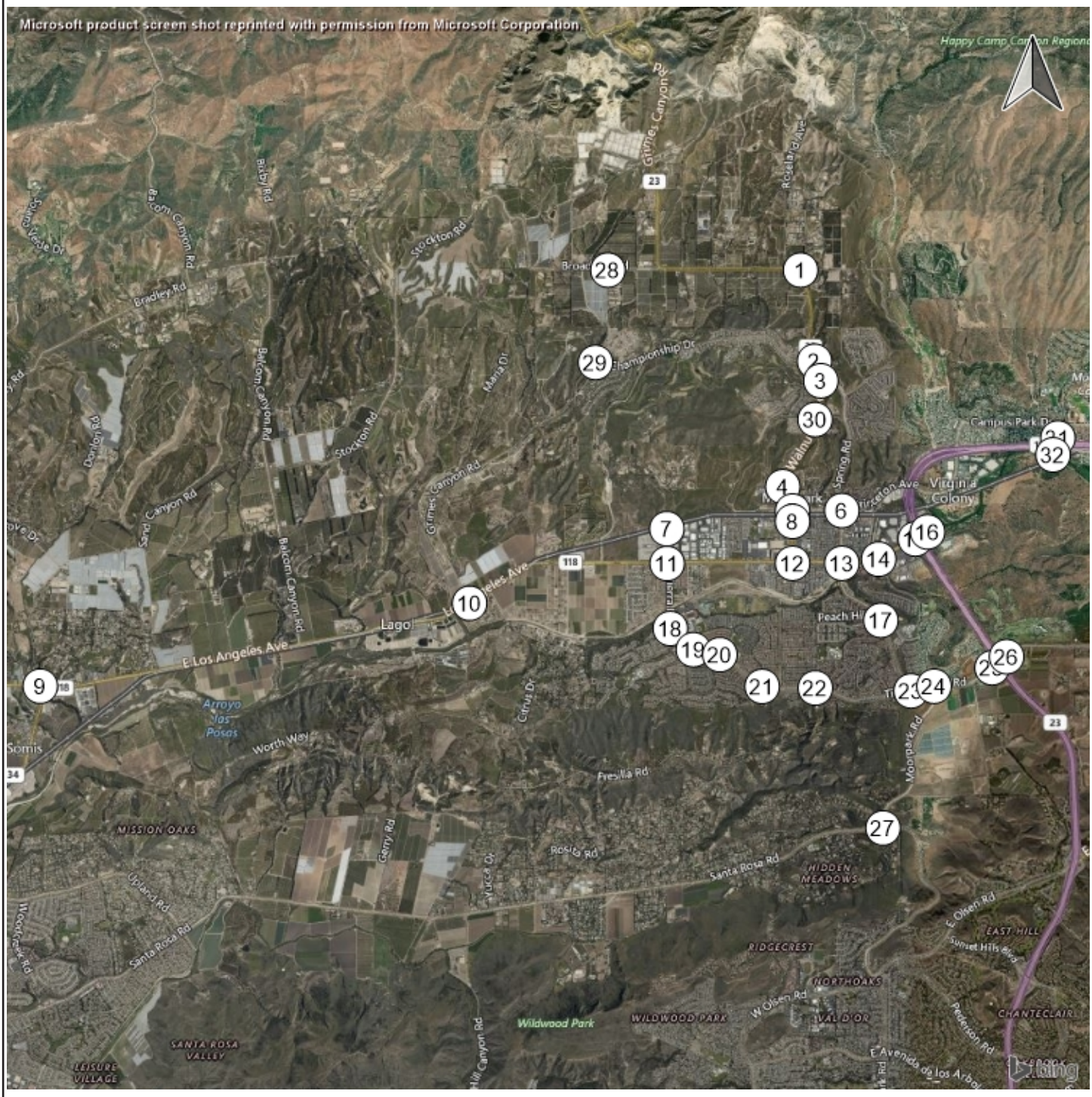
Project Study Area

The intersections analyzed in this study are listed below (see Figure 2 for location of the study intersections (asterisk denotes CMP intersection).

1. Walnut Canyon Road and Broadway Road*
2. Walnut Canyon Road and Championship Drive*
3. Walnut Canyon Road and Spring Road*
4. Walnut Canyon Road and Casey Road*

[3] This includes the development of 200 multi-family dwelling units on the City's affordable housing site.

5. Moorpark Avenue and High Street*
6. Spring Road and High Street
7. Gabbert Road and Poindexter Avenue
8. Moorpark Avenue and Poindexter Avenue/1st Street*
9. Somis Road and Los Angeles Avenue*
10. Grimes Canyon Road and Los Angeles Avenue
11. Tierra Rejada Road and Los Angeles Avenue*
12. Moorpark Avenue and Los Angeles Avenue*
13. Spring Road and Los Angeles Avenue*
14. Miller Parkway/Science Drive/Los Angeles Avenue*
15. SR-23 SB ramps and Los Angeles Avenue*
16. SR-23 NB ramps and Los Angeles Avenue*
17. Spring Road and Peach Hill Road
18. Tierra Rejada Road and Countrywood Drive*
19. Mountain Trail Road and Tierra Rejada Road*
20. Mountain Meadow Drive and Tierra Rejada Road*
21. Walnut Creek Road and Tierra Rejada Road*
22. Peach Hill Road and Tierra Rejada Road*
23. Spring Road and Tierra Rejada Road*
24. Miller Parkway and Tierra Rejada Road*
25. SR-23 SB ramps and Tierra Rejada Road*
26. SB-23 NB ramps and Tierra Rejada Road*
27. Moorpark Road and Santa Rosa Road
28. Broadway Road and Grimes Canyon Road
29. Championship Drive and Grimes Canyon Road
30. Meridian Hills Drive and Walnut Canyon Road
31. SR 118 WB and Collins Drive*
32. SR 118 EB and Collins Drive*
33. Street “A” at Meridian Hills Drive (future)
34. Street “A” at High Street (future)
35. Street “A” at Casey Road (future)



SOURCE: Impact Sciences, 2019

FIGURE **2**

IMPACT SCIENCES

Project Location

1318.002

The proposed project includes construction of 755 residential units (427 single-family, 328 multi-family), a 6.77-acre public park, over five acres of private recreational areas, and over 112 acres of open space, manufactured slopes, and detention basins. The 253.94-acre project site is located approximately 1,600 feet west of SR-23 and extends to approximately 1,400 feet west of Gabbert Road. The project site is predominantly undeveloped with limited improvements that include dirt and semi-paved roads and remnants of grazing use (e.g., corrals, fences, watering facilities for grazing animals). Parking for the project would be provided with enclosed garages and additional at-grade surface parking lots for the multi-family residences.

Vehicle Access and On-Site Circulation

Vehicles will access the project site via Gabbert Road to the west, the extension of High Street through the project site to the south, Meridian Hills Drive to the north, and Moorpark Avenue to the east. Internal circulation would be accommodated with a new local collector road (Street “A”), the extension of Casey Road west into the site as far as Street “A,” and the eventual construction of North Hills Parkway. Figure 3 illustrates the circulation plan for the project.

On-Site Street Improvements

Street “A” is a future two-lane local collector road built on-site from the extension of High Street, approximately midway between Walnut Canyon Road and Gabbert Road, and provide the primary north-south access through the Project Site and the two phases of development. Street “A” would intersect the North Hills Parkway once it is constructed and terminate at the extension of Meridian Hills Drive to the north.

Streets “B” through “P” are future local roads that would serve the second phase of development west of Street “A” (i.e., Streets “B” through “P”).

High Street would be extended from its current western terminus at the U.S. Postal Service building (100 High Street) westward through the project site to connect Gabbert Road on the west would provide primary east-west access at the southern boundary of

the project site. The High Street extension will be built as a two-lane arterial roadway generally running parallel to Poindexter Avenue, north of the Union Pacific Railroad right-of-way. It will provide direct access to the future Moorpark Civic Center and Historic High Street east of Moorpark Avenue.

North Hills Parkway is a future two-lane arterial roadway would provide primary east-west access through the entire project site, connecting Walnut Canyon Road on the east, Gabbert Road on the west, and Street “A” in the middle of the project site.

HITCH RANCH SPECIFIC PLAN
LAND USE STATISTICAL SUMMARY
Date: November 1, 2020

Area/Description:	Land Use:	Acres:	Dwelling Units/Gross Acre:	Number of Dwelling Units (DU):
Planning Area 1	SFD Units & Private Streets	25.20		79
	Natural Open Space	17.33		
	Manufactured Slopes	12.88		
	Subtotal	**55.41**	**1.43**	**79**
Planning Area 1A	Recreation Lot	3.12		
	Manufactured Slopes	2.96		
	Subtotal	**6.08**		
Planning Area 2	SFD Units & Private Streets	32.14		
	Natural Open Space	7.46		
	Manufactured Slopes	18.62		
	Passive Recreation Lot	1.55		
	Water Quality Treatment (Lot AE)	2.33		
	Subtotal	**62.10**	**3.03**	**188**
Planning Area 3	SFD Units & Private Streets	17.28		160
	MFD Units & Private Streets	8.93		93
	Open Space	1.60		
	Manufactured Slopes	4.06		
	Recreation Lot	0.93		
	Subtotal	**32.80**	**7.71**	**253**
Planning Area 4	Multi-family Dwelling Units	5.00		100
	Affordable Apartment Units	3.45		135
	Manufactured Slopes	3.30		
	Subtotal	**11.75**		**235**
Planning Area 5	Open Space	28.78		
	Subtotal	**28.78**		
Other Categories	Public Streets	31.66		
	VCWPD Easement (Lot AD)	2.68		
	Detention Basin 2 (Lot Z)	5.94		
	Detention Basin 2A (Lot H)	3.67		
	Detention Basin 2B (Lot V)	6.30		
	City Park (Lot AE)	6.77		
	Subtotal	**57.02**		
	TOTAL	**253.94**	**2.97**	**755**

Market Rate Units	**620**
Affordable Apartments	**135**



SOURCE: Comstock Homes, December 2020

FIGURE 3

Project Site Plan

Environmental Setting

The project site is located north of Poindexter Avenue, between Moorpark Avenue and Gabbert Road in the City of Moorpark. The project site is also located in the Hitch Ranch Specific Plan area. The project site is located adjacent to single family residential detached estate lots to the west, south, east, and northeast; with undeveloped land directly to the north. Commercial and industrial land uses are located to the southwest of the project site. Other notable land uses in the vicinity of the site include: Walnut Canyon Elementary School to the east, Chaparral Middle School to the southeast, Poindexter Park to the south, and the City of Moorpark Civic Center to the east. The study area land use map is shown in Appendix A.

Field surveys were conducted in the study area to determine the roadway and intersection geometry and traffic signal operations. Figure 4 illustrates the study locations, type of intersection traffic control and lane configurations for the project impact analysis.

Freeways

The proposed project would be constructed and operated in the southeastern portion of Ventura County within the incorporated City of Moorpark. Regional access to the study area is provided by State Route 118 (SR-118) and SR-32.

SR-118 is an east-west freeway that travels through the City of Moorpark. Where SR-118 curves and starts to head north and south (just west of Princeton Avenue) the roadway turns into SR-23. At the interchange with New Los Angeles Avenue, the SR-118 turns into Los Angeles Avenue, a six-lane arterial road. West of Tierra Rejada Road, the SR-118 begins narrowing, and west of Buttercreek Road becomes a two-lane collector. The SR-118 provides access to Ventura and Oxnard to the west, and Los Angeles' San Fernando Valley to the east. Caltrans traffic volume data estimate 20,200 vehicles east of Grimes Canyon Road (where the SR-118 is a local collector) and 82,000 west of Collins Drive (where the SR-118 is a freeway) in 2017. In the Ventura

County CMP, the SR-118 is designated as a freeway north and east of the Los Angeles Avenue interchange and designated as a major road west of the Los Angeles Avenue interchange.

SR-23 is a north-south highway that provides access to the City of Fillmore to the north and Thousand Oaks to the south. Caltrans data on traffic volumes Caltrans data for 2017 show an annual average daily traffic of 72,000 vehicles north of Tierra Rejada Road (where the SR-23 is a freeway) and approximately 4,000 south of Spring Road (where SR-23 is a local collector).[4] South of the interchange of SR-118/SR-23/Los Angeles Avenue, the SR-23 is the Moorpark Freeway, designated as a freeway in the Ventura County CMP. North and west of the interchange, SR-23 is a local road (described below).

Local Roads

SR-23 is designated as a major road west and north of the Los Angeles Avenue interchange, running along Moorpark Avenue, Walnut Canyon Road, and Broadway Road:

- **Moorpark Avenue** is a two-lane road designated as a north-south local collector road in the City's General Plan. It connects Walnut Canyon Road to the north and terminates to the south at the Arroyo River.
- **Walnut Canyon Road** is a two-lane road designated as a north-south local collector road in the City's General Plan. It connects Broadway Road to the north with Moorpark Avenue to the south.
- **Broadway Road** is a two-lane road designated as an east-west local collector road in the City's General Plan. It connects Grimes Canyon Road to the west with Walnut Canyon Road to the east.

[4] Caltrans, 2017 Traffic Volumes accessible at https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes/2017/route-22-33

Gabbert Road is a north-south two-lane road that provides access to residences north of Poindexter Avenue, and turns into Tierra Rejada Road south of Los Angeles Avenue. The project site is bordered by Gabbert Road to the west.

High Street is a two-lane road designated as an east-west local collector road in the City's General Plan.

Casey Road is a two-lane road designated as an east-west local collector road in the City's General Plan. This two- to three-lane road starts at Walnut Canyon Road to the east and terminates in a cul-de-sac at Walnut Canyon Elementary School, at the eastern boundary of the project site. It will be extended from its current western terminus at Walnut Canyon Elementary School westward to Street "A." Casey Road would provide primary east-west access to the eastern portion of the project site.

Meridian Hills Drive is a two-lane road that starts at Walnut Canyon Road to the east and terminates 0.6 miles to the west but is closed to public access west of Breezy Glen Drive.

Poindexter Avenue is a two-lane road designated as an east-west local collector road in the City's General Plan. Poindexter Avenue connects Moorpark Avenue on the east with Gabbert Road on the west.

Spring Road is a four-lane arterial road north of Los Angeles Avenue, and narrows to a two-lane collector road south of Los Angeles Avenue. Spring Road connects Walnut Canyon Road/SR-23 to the north with Tierra Rejada Road to the south.

Grimes Canyon Road is designated as a primarily north-south local collector road in the City's General Plan. Grimes Canyon Road connects Broadway Road to the north with Los Angeles Avenue to the south.

Tierra Rejada Road is designated as a four-lane arterial road primarily running east to west. Tierra Rejada Road connects Los Angeles Avenue to the northwest with the SR-23 to the east. Tierra Rejada Road continues outside of the project vicinity to connect to Madera Road in Simi Valley to the east.

Transit Service

Public transportation in the study area is provided by Metrolink, Amtrak, and Moorpark City Transit. These services include:

- Metrolink: The Metrolink Ventura County Line provides trips to Ventura to the west and Los Angeles Union Station to the southeast.

- Amtrak: The Pacific Surfliner route provides access to San Luis Obispo to the north and San Diego to the south, including stops in Santa Barbara, Ventura, Burbank, Glendale, Los Angeles, Anaheim, and Irvine in between.

- Moorpark City Transit: Routes 1 and 2 follow the same route, but in opposite directions. Routes 1 and 2 connect with Moorpark College to the northeast, Moorpark City Hall in the northwest, Moorpark High School in the southwest, and Mesa Verde School in the south, amongst other destinations. The nearest Moorpark City Transit bus stop to the project site is located at Moorpark City Hall. Buses run Monday through Friday, from roughly 6:15 AM to 6:00 PM.

Bicycle and Pedestrian Facilities

There are Class II bicycle facilities throughout the City of Moorpark, including westbound lanes on Poindexter Avenue to the south of the project site.

Regulatory Setting

There are a number of federal, State, and local regulations and ordinances that govern the transportation impacts of new development. This includes, but is not limited to, the following:

State

The California Department of Transportation (Caltrans) administers vehicle-related laws that govern the safe operation of vehicles and the transportation of hazardous materials.

Caltrans manages the State's highway and freeway system, providing inter-city rail services, permits public-use airports, and works with local agencies to improve mobility.

Encroachment permits are required for any activities that involve encroachment within, under, or over the state highway rights-of-way. Examples include utilities, excavations, and driveways that require encroachment permits.

Ventura County

The Ventura County Transportation Commission (VCTC) is the designated Congestion Management Agency for Ventura County and is responsible for coordinating land use and transportation planning. The VCTC's CMP provides guidance and resources to improve mobility throughout the county and assists in the allocation of transportation funds through the State Transportation Improvement Program (STIP) process. In 1991, the VCTC designated the CMP transportation network, which includes all state highways and some arterials within the County. The CMP requires local jurisdictions to prepare and submit a deficiency plan when the LOS on a road segment or at an intersection on the county's CMP network drops to LOS F.

City of Moorpark

The City of Moorpark's General Plan Circulation Element was adopted in 1992 and governs transportation policy within the incorporated jurisdiction. The Circulation Element includes seven goals and more policies relevant for development projects, including:

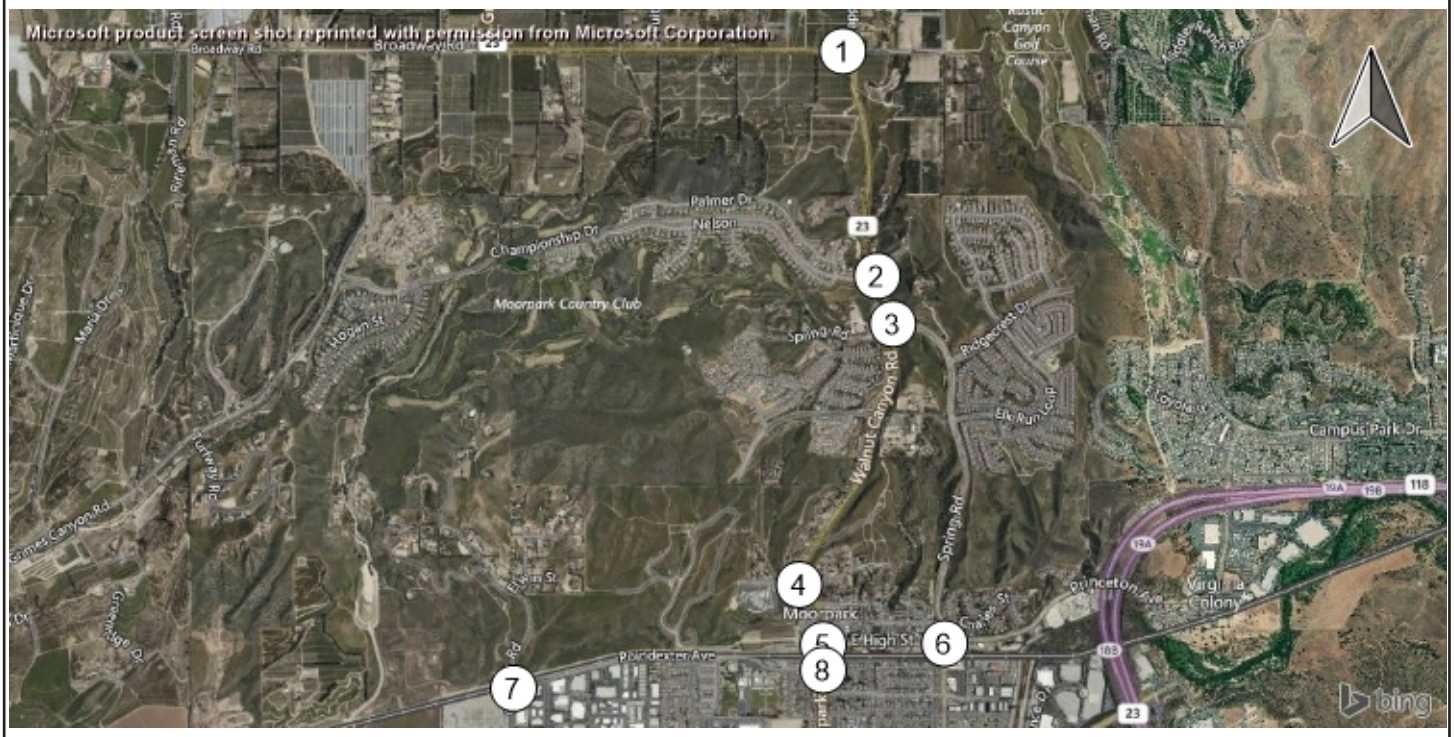
Goal 2: Provide a circulation system which supports existing, approved, and planned land uses throughout the City while maintaining a desired level of service on all streets and at all intersections.

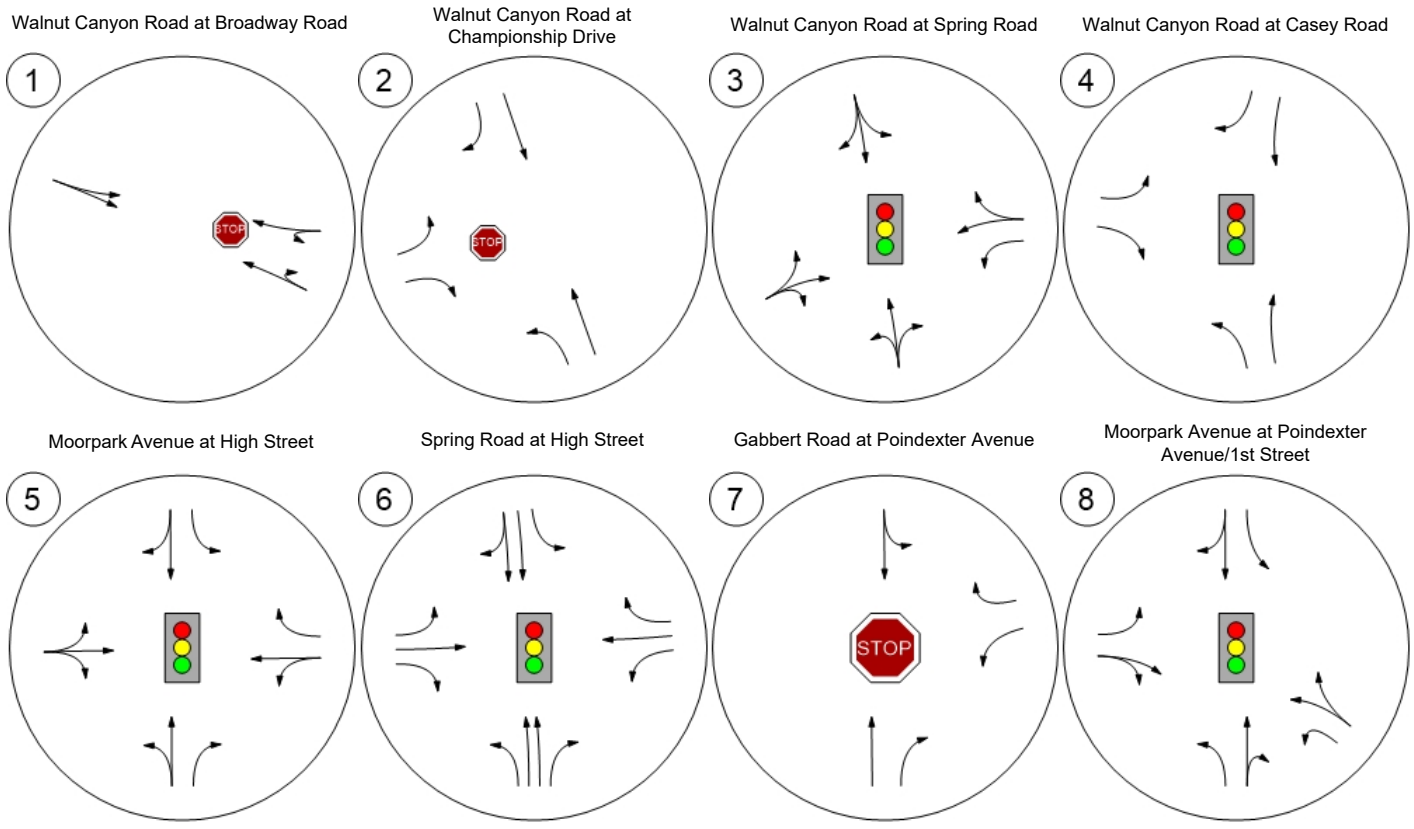
Policy 2.1: Level of service "C" shall be the system performance objective for traffic volumes on the circulation system. For roadways and interchanges already operating at worse than LOS C, the system performance objective shall be to maintain or improve the current level of service.

Goal 4: Provide a public transportation system which serves the needs of persons living in and/or working in the City of Moorpark.

Policy 4.1: Participation in a public transit system that provides a means of intra-city and inter-city transportation, as a logical alternative to automobile transportation, should be developed or maintained.

Goal 5: Provide a citywide system of safe, efficient, and attractive bicycle and pedestrian routes for commuter, school, and recreational use.





SOURCE: Impact Sciences, 2019

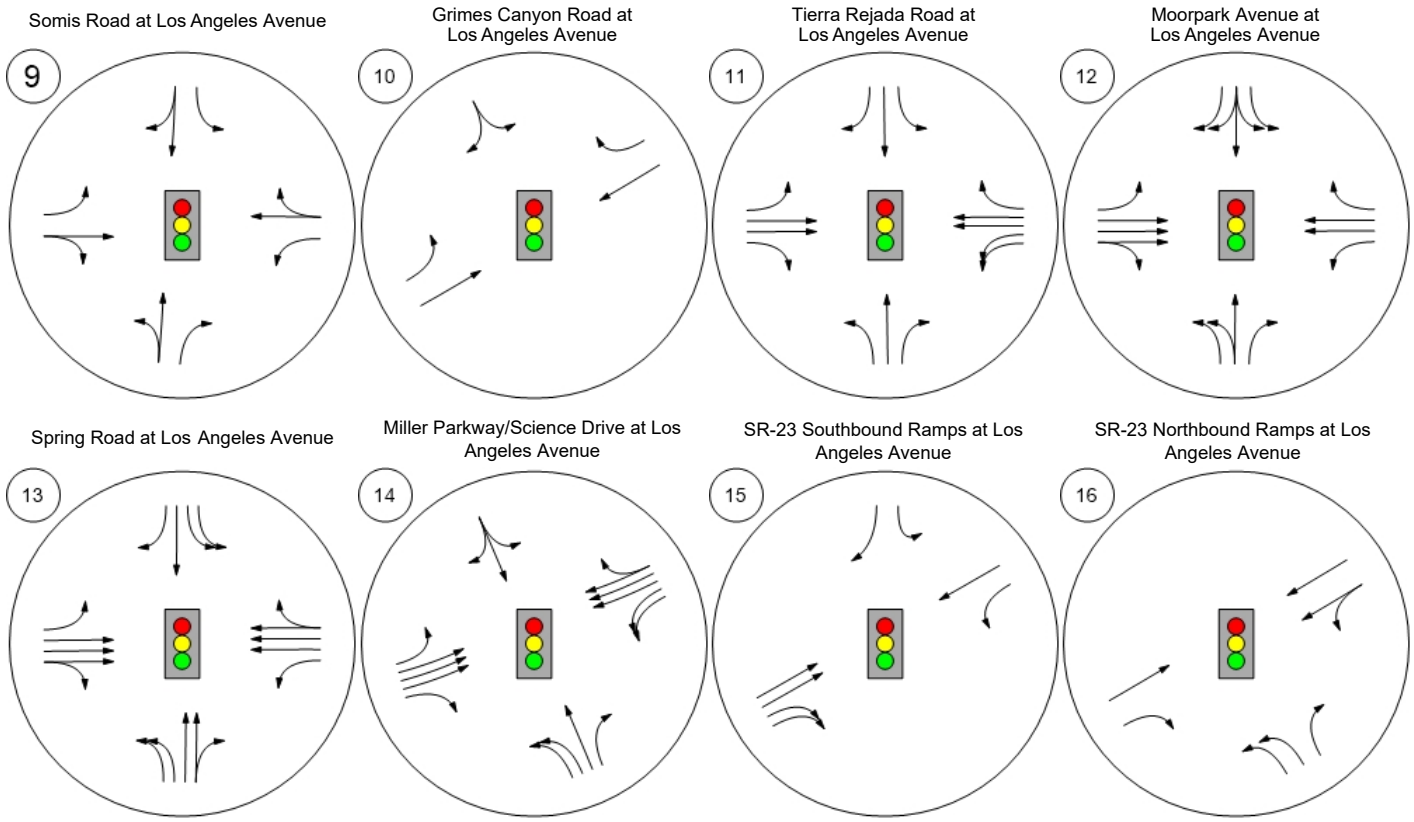
FIGURE **4a**

IMPACT SCIENCES

Study Intersections Characteristics

1318.002





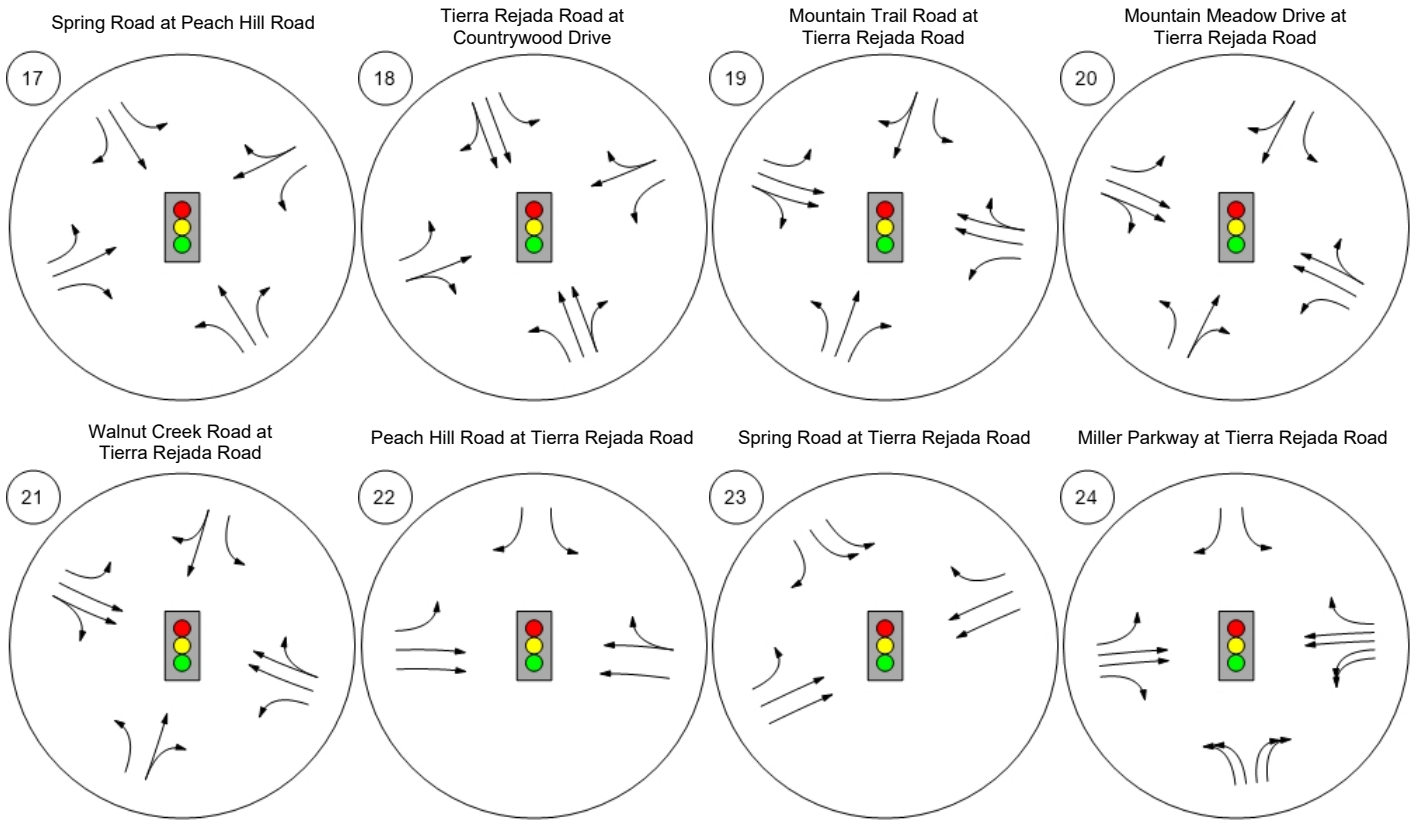
SOURCE: Impact Sciences, 2019

FIGURE **4b**

IMPACT SCIENCES

Study Intersections Characteristics





SOURCE: Impact Sciences, 2019

FIGURE **4c**

IMPACT SCIENCES

Study Intersections Characteristics

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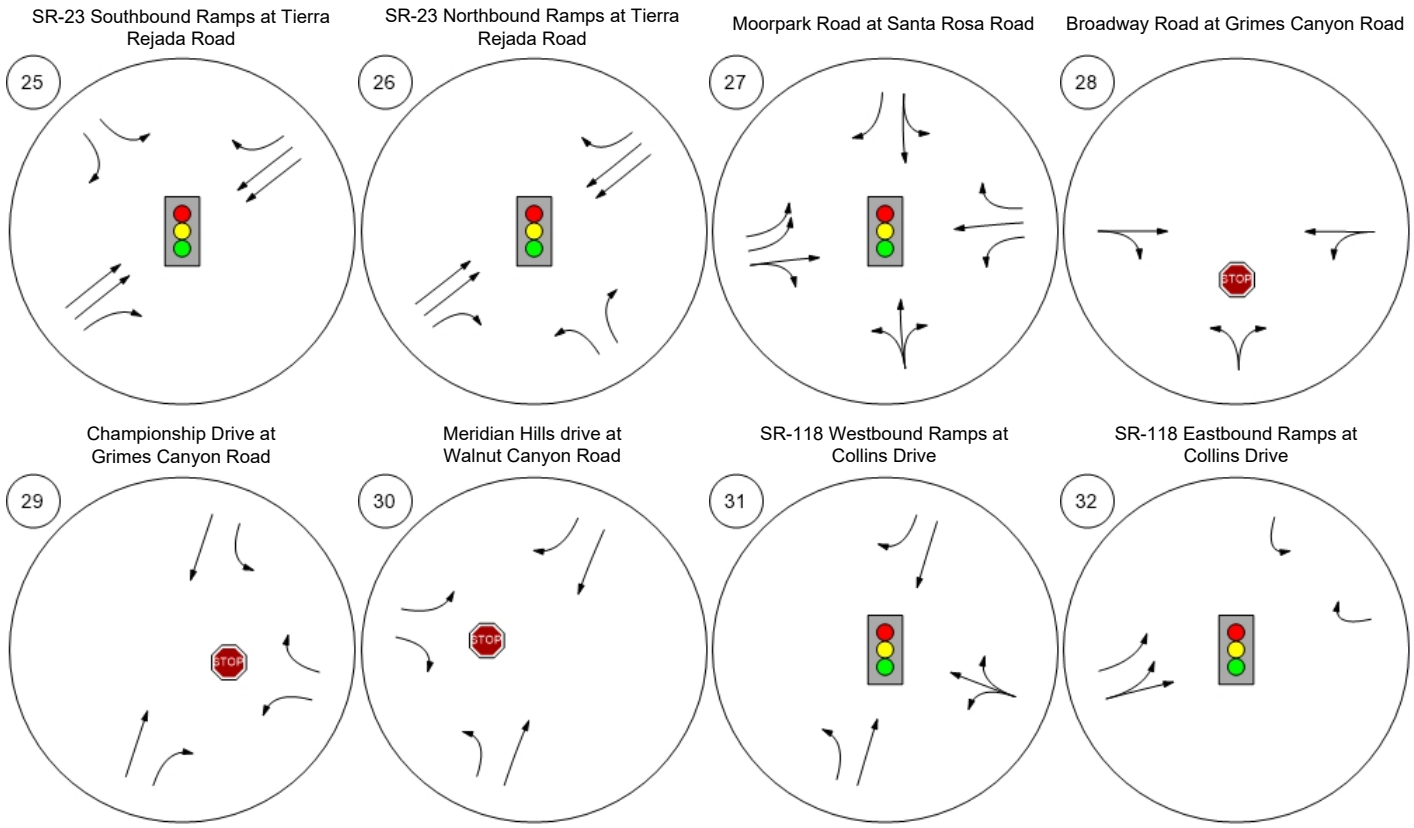


SOURCE: Impact Sciences, 2019

FIGURE **4d**

IMPACT SCIENCES

Study Intersections Characteristics

1318.002

Traffic Generation

Traffic-generating characteristics of residential and park land uses have been studied by the Institute of Transportation Engineers (ITE). The results of the traffic generation studies have been published in Trip Generation, 10th Edition Handbook. This publication of traffic generation data has become the industry standard for estimating traffic generation for land uses.

These trip generation studies indicate that the uses associated with the proposed project generally exhibit the trip-making characteristics per dwelling unit or acre as shown by the ITE trip rates in Table 2. Estimates of the project's traffic were calculated on the basis of these ITE traffic generation rates for the project's proposed land uses.

Table 2
Project Trip Generation Rates (Weekday)

	ITE	Weekday	AM Peak Hour			PM Peak Hour		
Land Use	Code	Daily	Total	In	Out	Total	In	Out
Single-Family Detached. Housing (per Dwelling Unit)	210	9.44	0.74	25%	75%	0.99	63%	37%
Multifamily Housing (Low-Rise) (per Dwelling Unit)	220	7.32	0.46	23%	77%	0.56	63%	37%
Public Park (per Acre)	411	0.78	0.15	67%	33%	0.11	40%	60%

Traffic volumes expected to be generated by the project were estimated by applying the Table 2 ITE trip rates per dwelling unit or acre for each of the project's land use components.

The proposed project would add 6,436 daily vehicle trips to the local roadway system, including 467 morning peak hour trips and 608 afternoon peak hour trips (Table 3). In order to conduct a conservative traffic impact analysis, no vehicle trip adjustments were made to account for internal capture trips (i.e., interaction between residential uses and/or the public park).

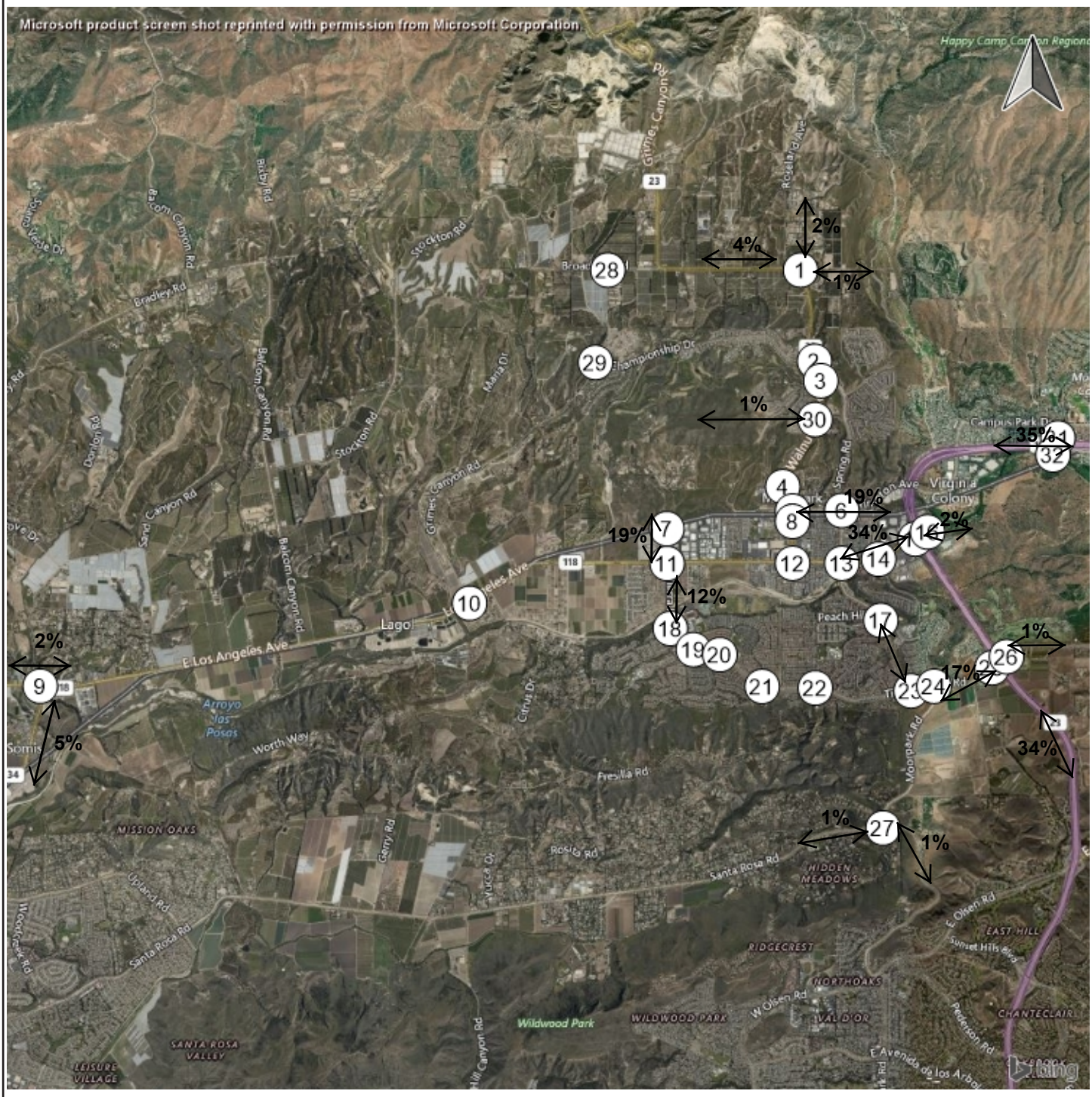
Table 3
Project Traffic Generation
(Weekday AM and PM Hours)

Weekday Traffic Generation	Daily	AM Peak Hour			PM Peak Hour		
Proposed Land Use	Traffic	Total	In	Out	Total	In	Out
Single-Family Residences	4,031	316	79	237	423	266	157
Multi-Family Residences	2,401	151	35	116	184	116	68
Public Park	4	0	0	0	1	0	1
New Traffic	6,436	467	114	353	608	382	226

Traffic Distribution and Trip Assignment

A primary factor affecting trip direction is the spatial distribution of population and employment centers which would generate project trip origins and destinations. The estimated project directional trip distribution is based on the study area roadway network, traffic flow patterns in and out of the project study area and other traffic studies recently prepared for the general area.

Figure 5 illustrates the estimated project traffic percentages at the selected study intersections for the morning peak hour and afternoon peak hour. Using the traffic assignment at each intersection and the estimated peak hour traffic volume as provided in Table 3, peak hour traffic volumes at each study location for each study period have been calculated and are shown in Figures 7 and 8 for the weekday morning and afternoon, respectively. This estimated assignment of the project traffic flow provides the information necessary to analyze the potential traffic impacts generated by the project at the study intersections.



SOURCE: Impact Sciences, 2019

FIGURE **5**

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Project Traffic Assignment

1318.002

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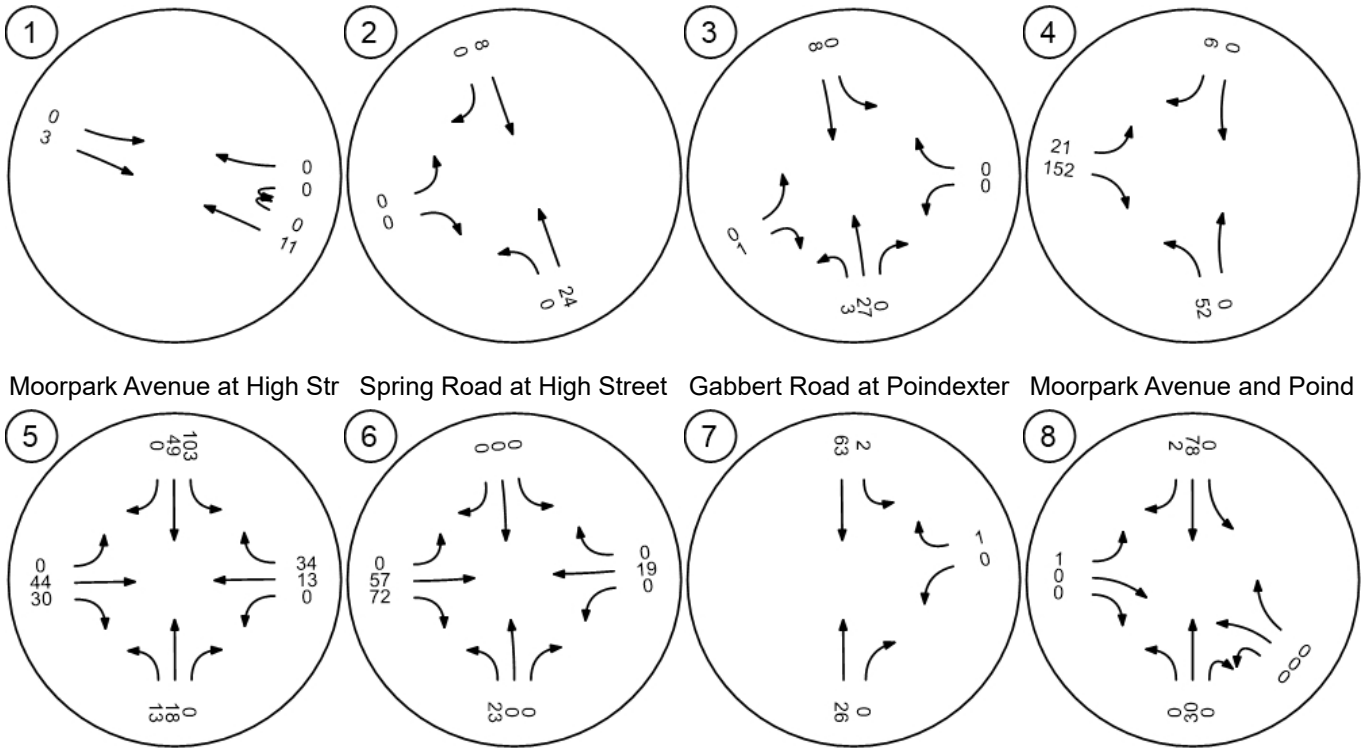

SOURCE: Impact Sciences, Inc., 2021

FIGURE 6a

IMPACT SCIENCES

Project Traffic Volume - Weekday AM Peak Hour

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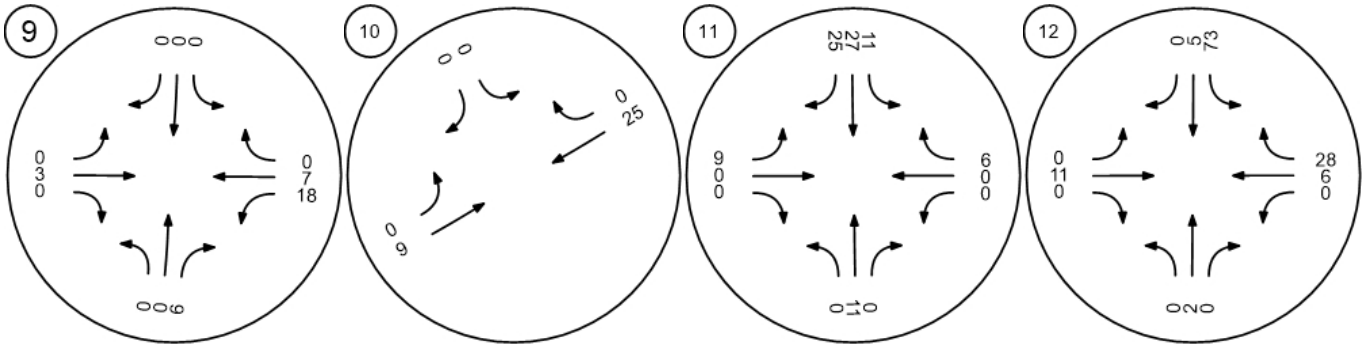
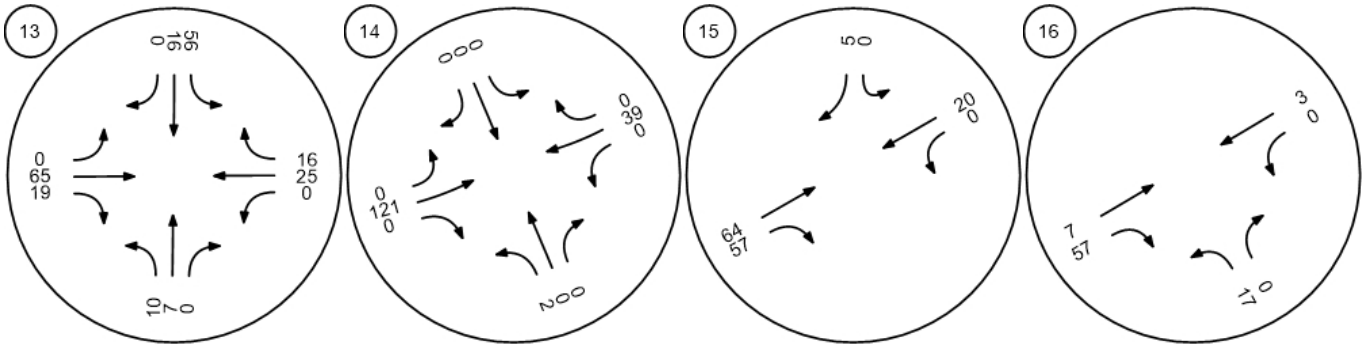
Somis Road and Los Angeles | Grimes Canyon Road and Lo | Tierra Rejada Road and Los | Moorpark Avenue and Los A



Spring Road and Los Angele | Miller Parkway/Science Drive | SR□23 SB ramps and Los An | SR□23 NB ramps and Los An



SOURCE: Impact Sciences, Inc., 2021

FIGURE 6b

IMPACT SCIENCES

Project Traffic Volume - Weekday AM Peak Hour

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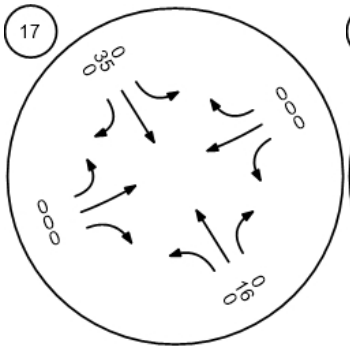
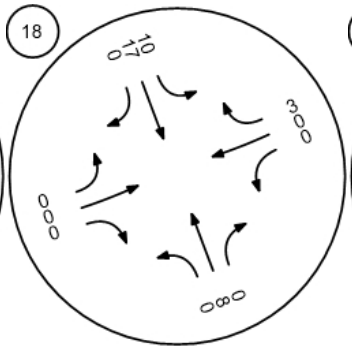
Version 7.00-06



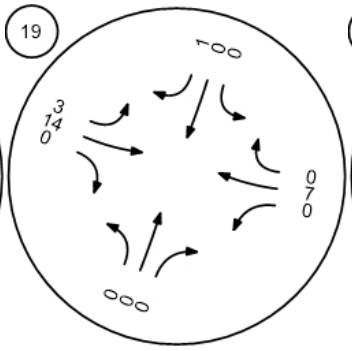
Spring Road and Peach Hill



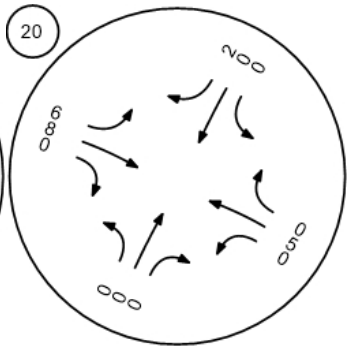
Tierra Rejada Road and Cou



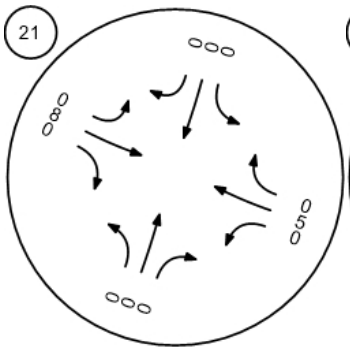
Mountain Trail Road and Tier



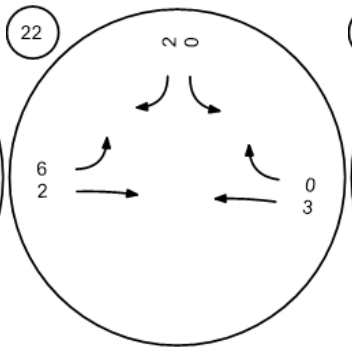
Mountain Meadow Drive and



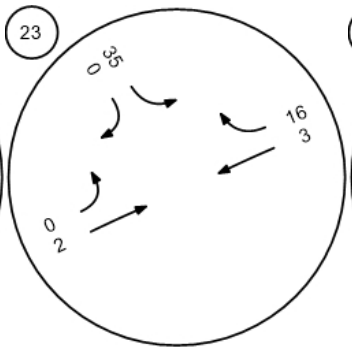
Walnut Creek Road and Tierr



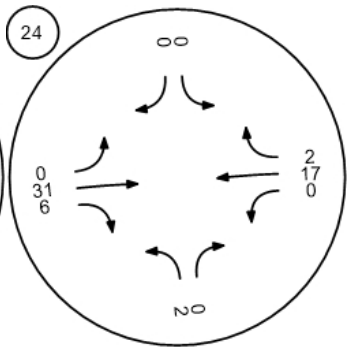
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Miller Pkwy and Tierra Rejada



SOURCE: Impact Sciences, Inc., 2021

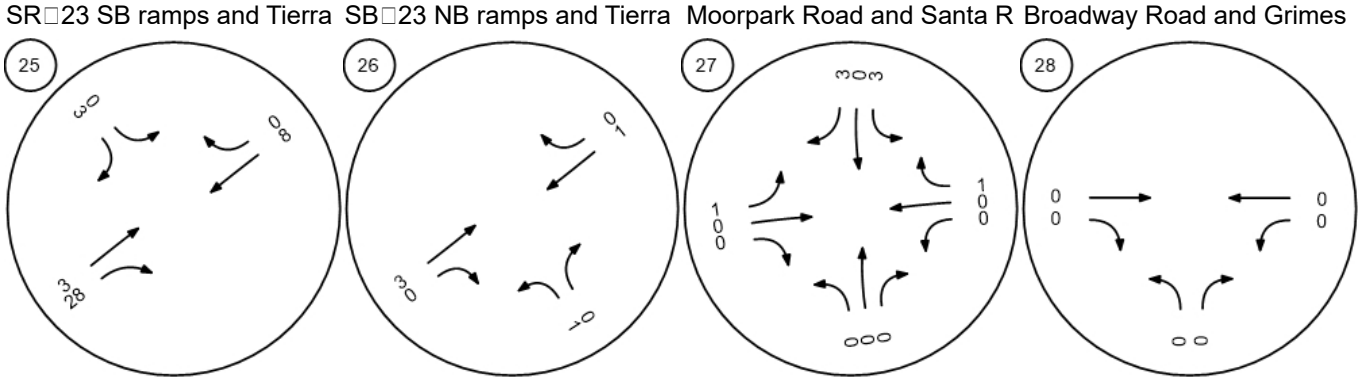
FIGURE 6c

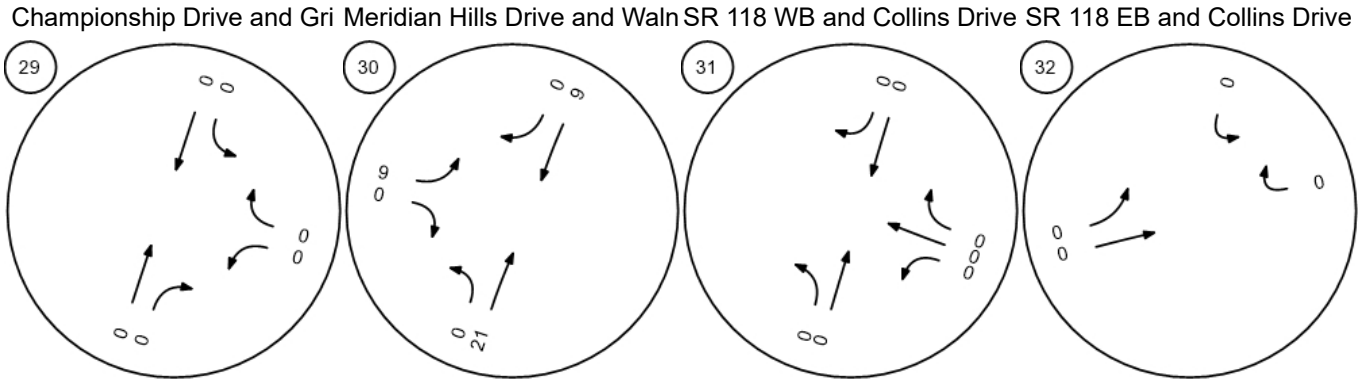
IMPACT SCIENCES

Project Traffic Volume - Weekday AM Peak Hour

1318.003•01/21







SOURCE: Impact Sciences, Inc., 2021

FIGURE **6d**

IMPACT SCIENCES

Project Traffic Volume - Weekday AM Peak Hour

SOURCE: Impact Sciences, Inc., 2021

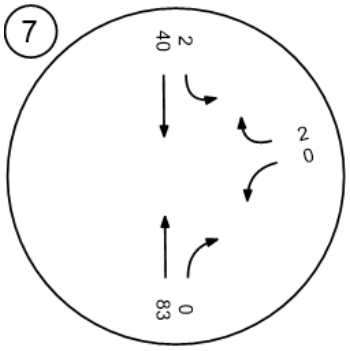
FIGURE **7a**

Project Traffic Volume - Weekday PM Peak Hour

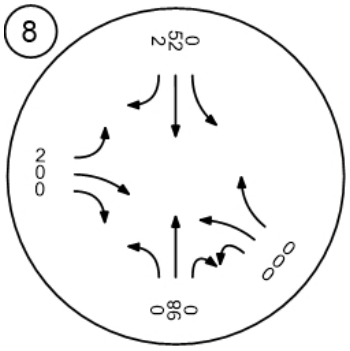
IMPACT SCIENCES



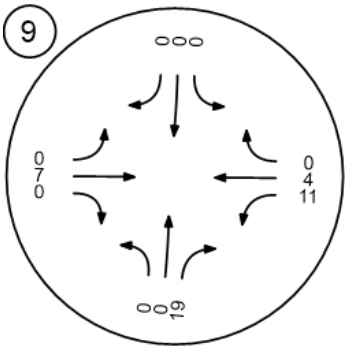
Gabbert Road at Poindexter



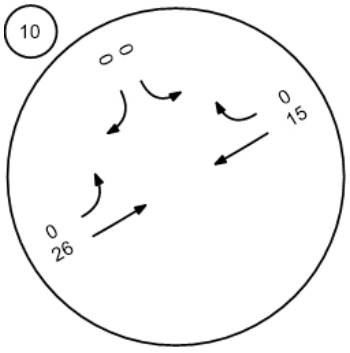
Moorpark Avenue and Poind



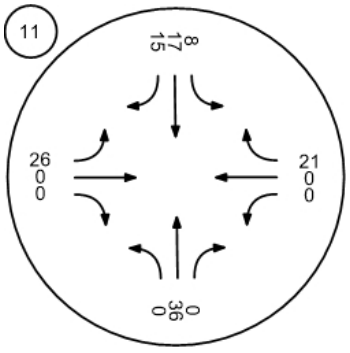
Somis Road and Los Angeles



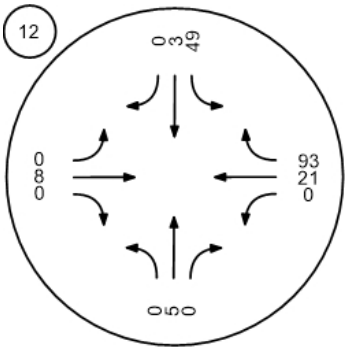
Grimes Canyon Road and Lo



Tierra Rejada Road and Los



Moorpark Avenue and Los A

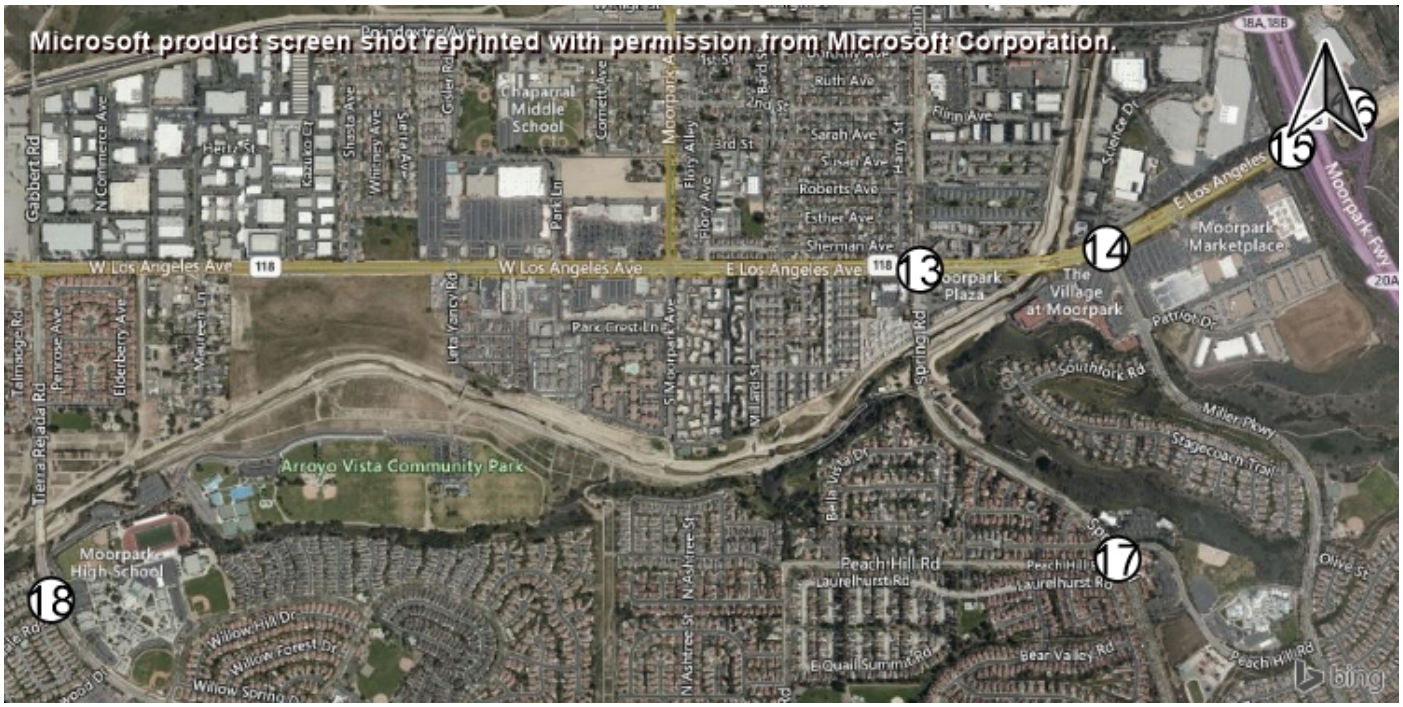


SOURCE: Impact Sciences, Inc., 2021

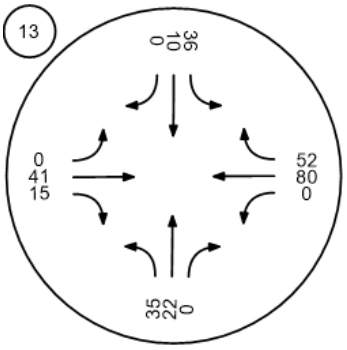
FIGURE **7b**

IMPACT SCIENCES

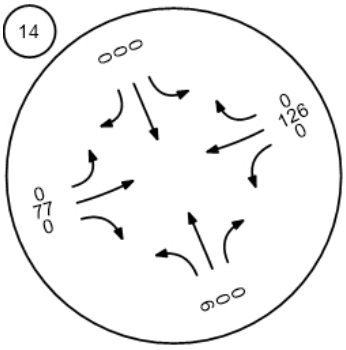
Project Traffic Volume - Weekday PM Peak Hour



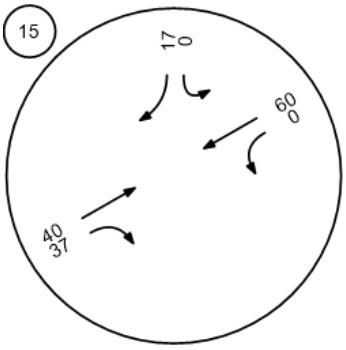
Spring Road and Los Angele



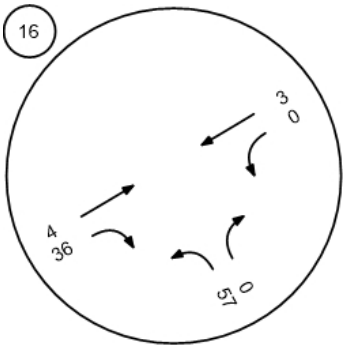
Miller Parkway/Science Drive



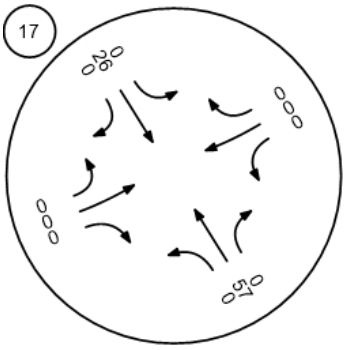
SR□23 SB ramps and Los An



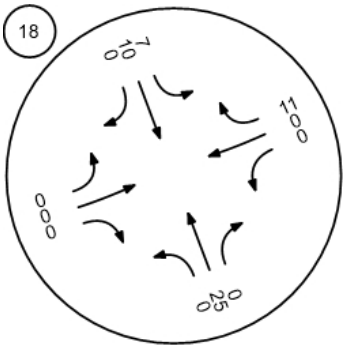
SR□23 NB ramps and Los An



Spring Road and Peach Hill



Tierra Rejada Road and Cou



SOURCE: Impact Sciences, Inc., 2021

FIGURE **7c**

IMPACT SCIENCES

Project Traffic Volume - Weekday PM Peak Hour

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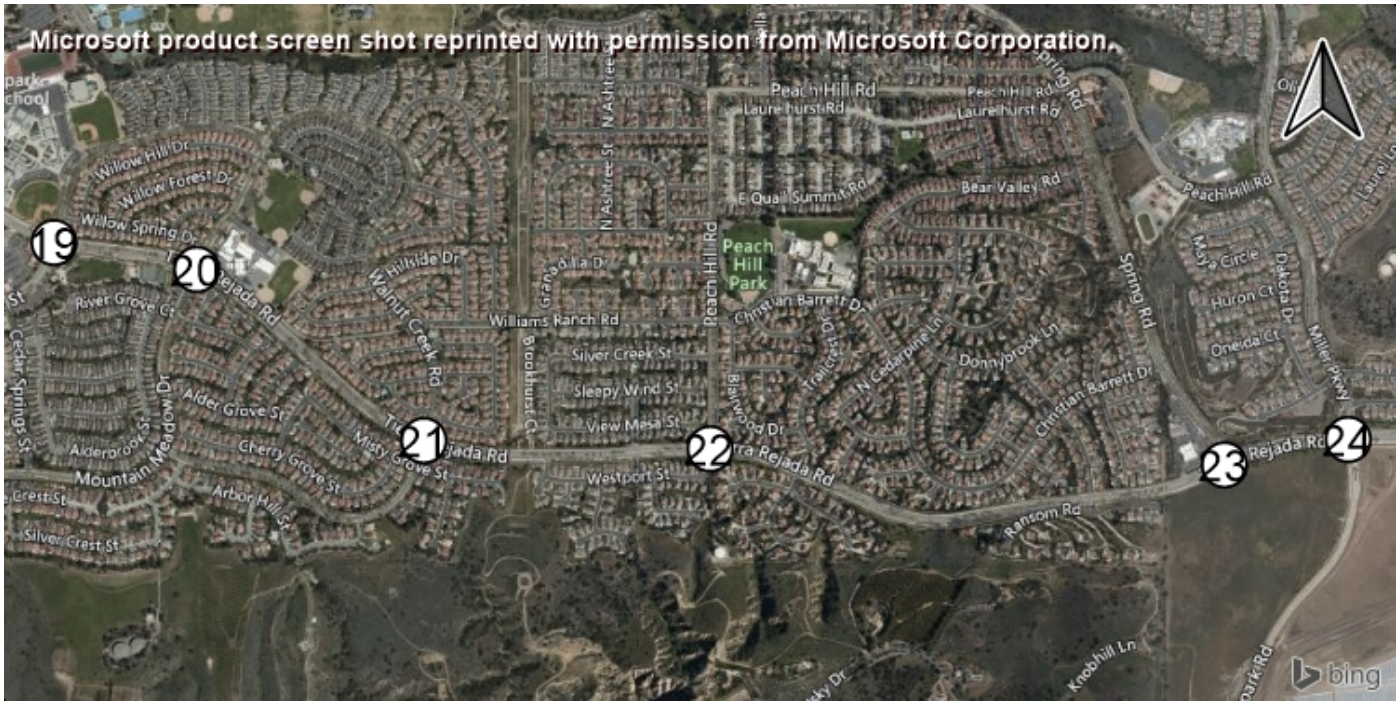
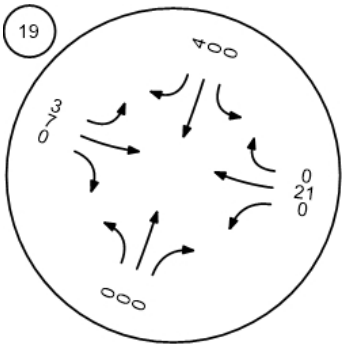
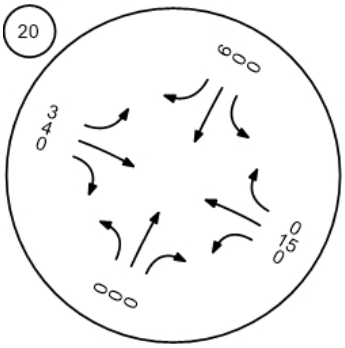
Version 7.00-06



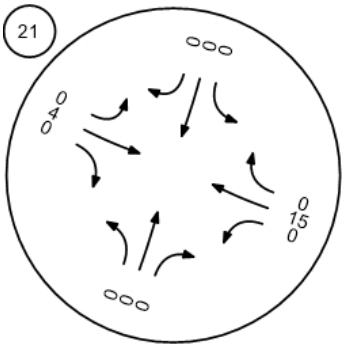
Mountain Trail Road and Tier



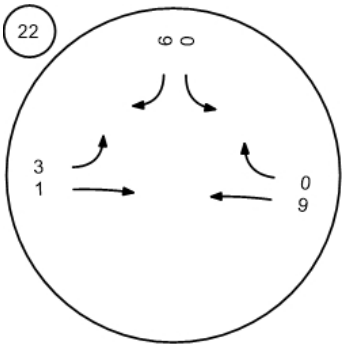
Mountain Meadow Drive and



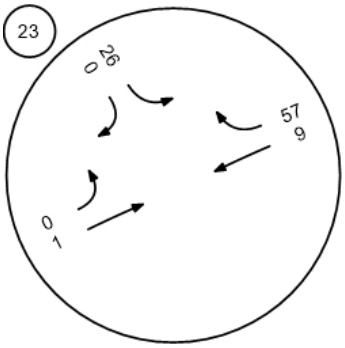
Walnut Creek Road and Tierr



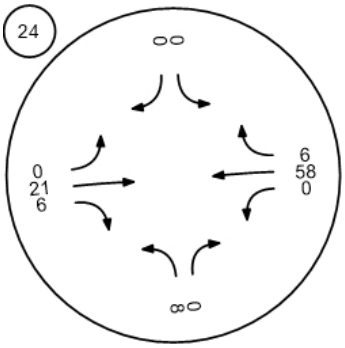
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Miller Pkwy and Tierra Rejada



SOURCE: Impact Sciences, Inc., 2021

FIGURE **7d**

IMPACT SCIENCES

Project Traffic Volume - Weekday PM Peak Hour

1318.003•01/21

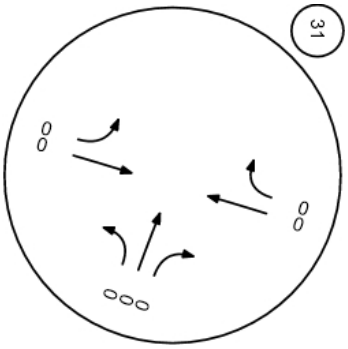
SOURCE: Impact Sciences, Inc., 2021

FIGURE **7e**

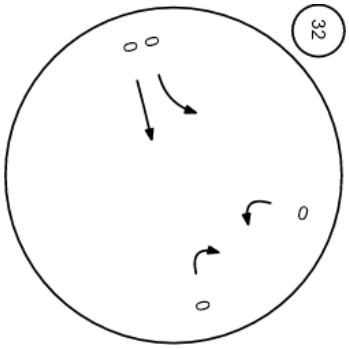
IMPACT SCIENCES

Project Traffic Volume - Weekday PM Peak Hour





SR 118 WB and Collins Drive



SR 118 EB and Collins Drive

SOURCE: Impact Sciences, Inc., 2021

FIGURE **7f**

IMPACT SCIENCES

Project Traffic Volume - Weekday PM Peak Hour

Analysis of Existing Traffic Conditions

To ensure updated, consistent traffic counts to be used for each pending project, traffic volume data was collected in spring 2019 by National Data & Surveying Services, an independent third-party data collection company used in this study. Weekday traffic counts were conducted on Wednesday, April 17, 2019 and Thursday, April 18, 2019 from 7:00 to 9:00 am and 4:00 to 6:00 pm.

The existing 2019 peak hour traffic volumes at each study intersection are illustrated in Figure 9 for the weekday morning peak hour and Figure 10 for the weekday afternoon peak hour. Data collection worksheets for the peak hour counts are contained in Appendix C.

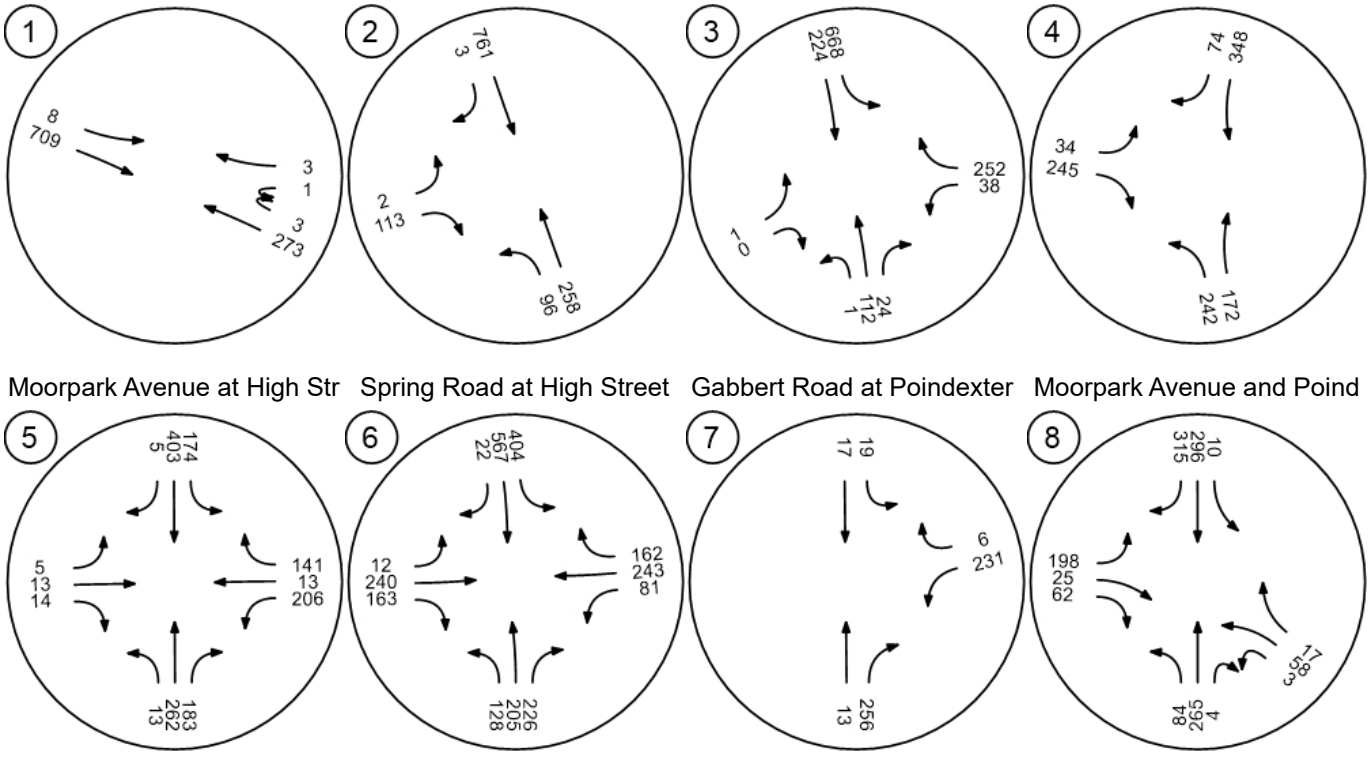
The traffic conditions analysis was conducted using the Intersection Capacity Utilization (ICU) method for the study intersections. The ICU procedure uses a ratio of the highest combination of conflicting traffic volume (V) to the intersection capacity (C) to define the proportion of an hour necessary to accommodate all the traffic moving through the intersection assuming all approaches were operating at full capacity. For example, if an intersection has a volume-to-capacity (V/C) value of 0.70, the intersection is operating at 70 percent capacity with 30 percent unused capacity. The V/C ratios provide an appropriate means for quantifying intersection operating characteristics for planning purposes.

Once the intersection V/C ratio has been calculated for each time period, a level of service (LOS) grade (A through F) is assigned to estimate the level of congestion and stability of the traffic flow. The term LOS is used by traffic engineers to describe the quality of traffic flow. Level of Service standard D is generally considered the design capacity of arterial intersections and is thereby often set as the performance standard. Definitions of the LOS grades, from the City's General Plan Circulation Element, are shown in Table 4.

Table 4
V/C Level of Service Definitions – Signalized Intersections

Level of Service	Definition	Equivalent ICU
A	EXCELLENT - Free flow conditions with low traffic density.	0.000 - 0.600
B	VERY GOOD - A stable flow of traffic.	0.601 - 0.700
C	GOOD - Light congestion but stable, occasional backups behind left-turning vehicles.	0.701 - 0.800
D	FAIR - Approaching instability, drivers are restricted in freely changing lanes. Vehicles may be required to wait through more than one cycle.	0.801 - 0.900
E	POOR - At or near capacity with some long lines for left-turning vehicles. Blockage of intersection may occur if traffic signal does not provide for protected turning movements.	0.901 - 1.000
F	FAILURE - Jammed conditions with stoppages of long duration and long queues.	> 1.000





SOURCE: Impact Sciences, Inc., 2021

FIGURE **8a**

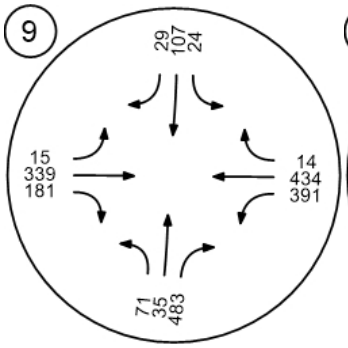
IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday AM Peak Hour

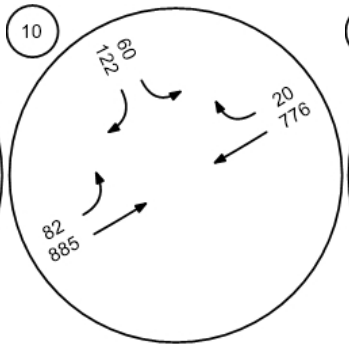
Generated with PTV VISTRO
Version 7.00-06



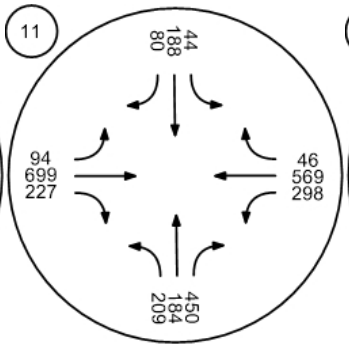
Somis Road and Los Angeles



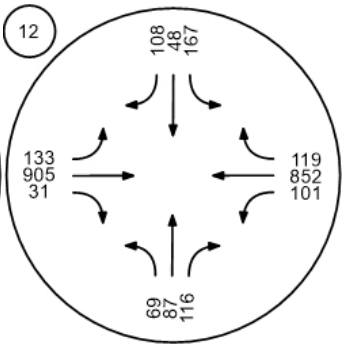
Grimes Canyon Road and Lo



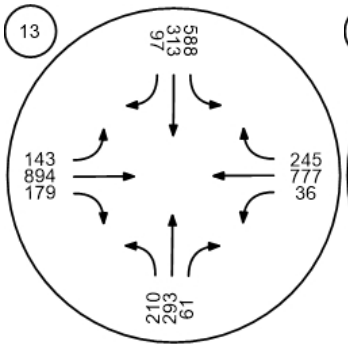
Tierra Rejada Road and Los



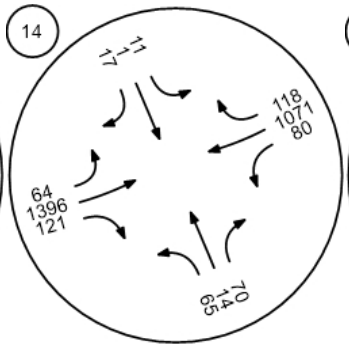
Moorpark Avenue and Los A



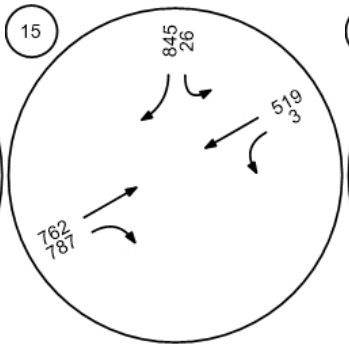
Spring Road and Los Angele



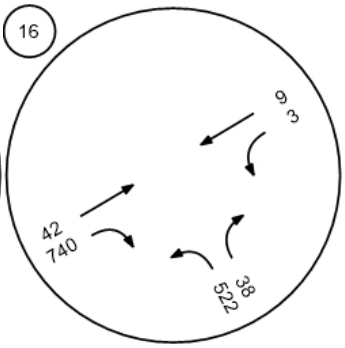
Miller Parkway/Science Drive



SR□23 SB ramps and Los An



SR□23 NB ramps and Los An



SOURCE: Impact Sciences, Inc., 2021

FIGURE **8b**

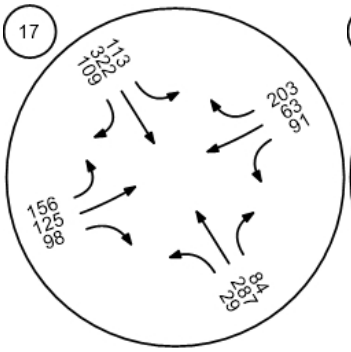
IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday AM Peak Hour

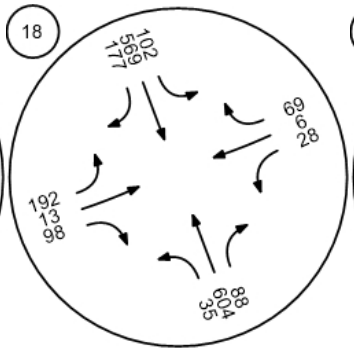
1318.003•01/21



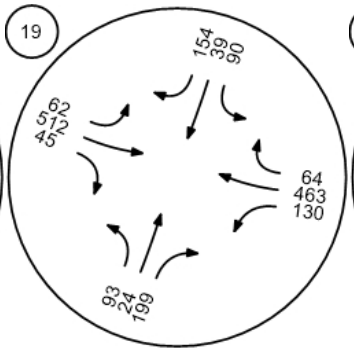
Spring Road and Peach Hill



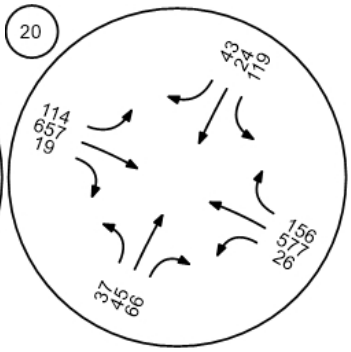
Tierra Rejada Road and Cou



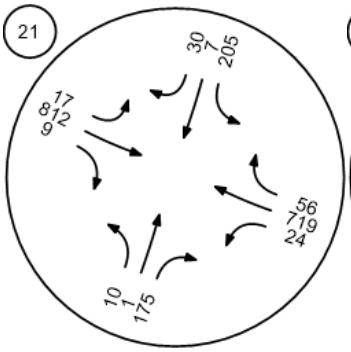
Mountain Trail Road and Tier



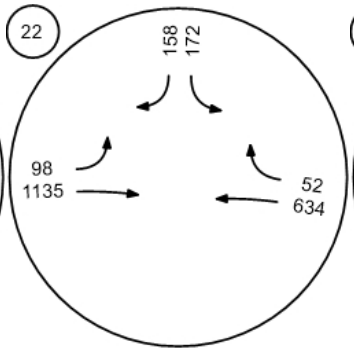
Mountain Meadow Drive and



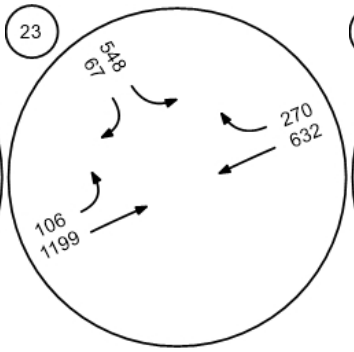
Walnut Creek Road and Tierr



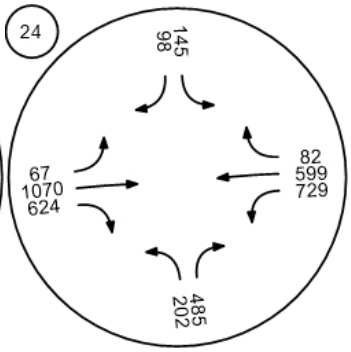
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Miller Pkwy and Tierra Rejada



SOURCE: Impact Sciences, Inc., 2021

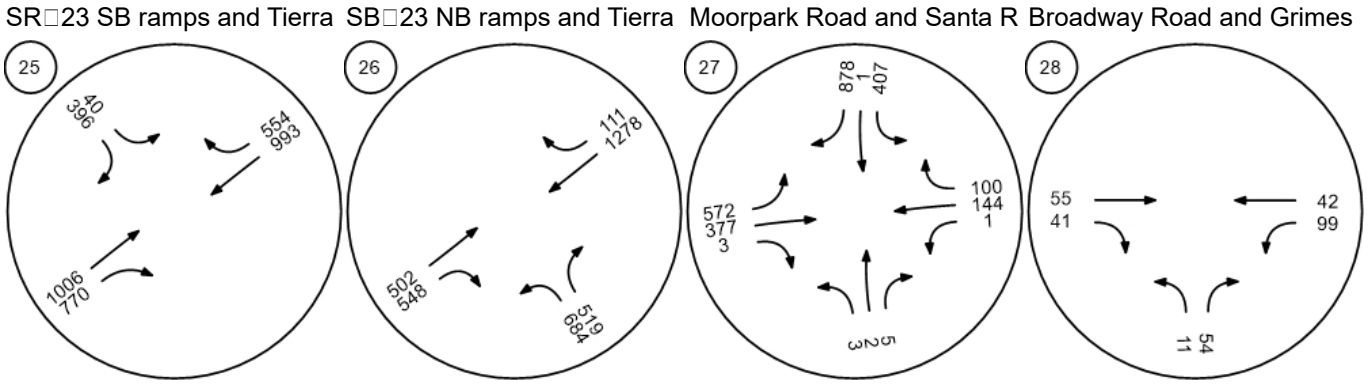
FIGURE **8c**

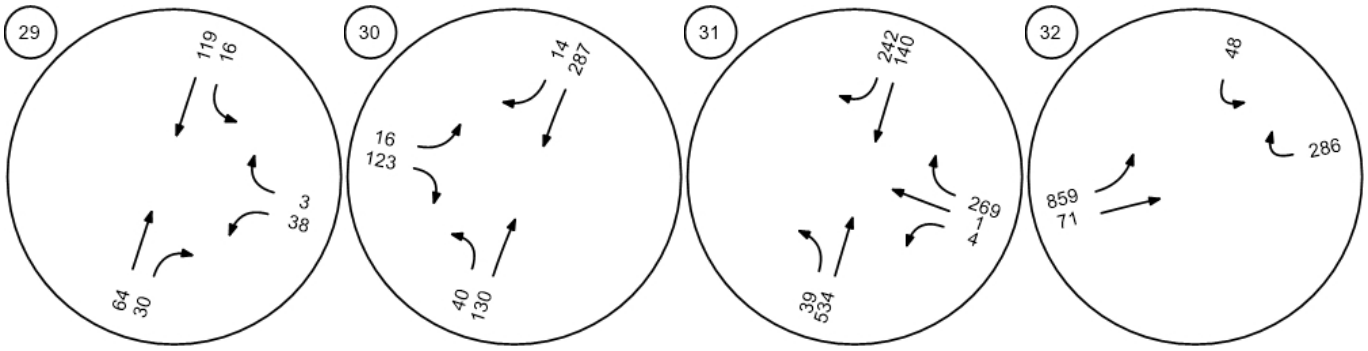
IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday AM Peak Hour

Generated with PTV VISTRO
Version 7.00-06







SOURCE: Impact Sciences, Inc., 2021

FIGURE **8d**

IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday AM Peak Hour

1318.003•01/21

SOURCE: Impact Sciences, Inc., 2021

FIGURE **9a**

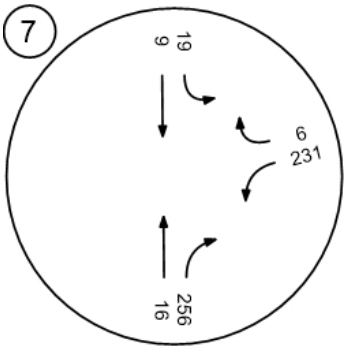
Existing (2019) Traffic Volume - Weekday PM Peak Hour

IMPACT SCIENCES

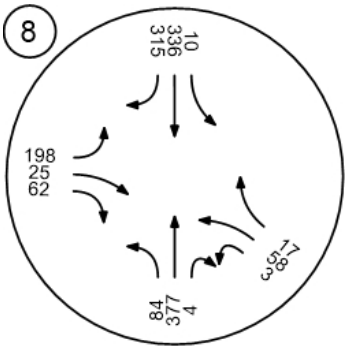
Generated with PTV VISTRO
Version 7.00-06



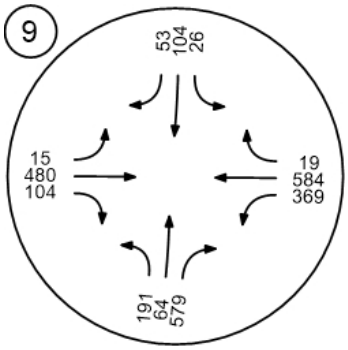
Gabbert Road at Poindexter



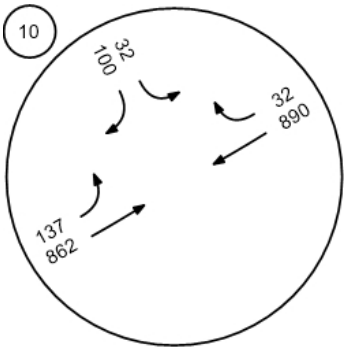
Moorpark Avenue and Poind



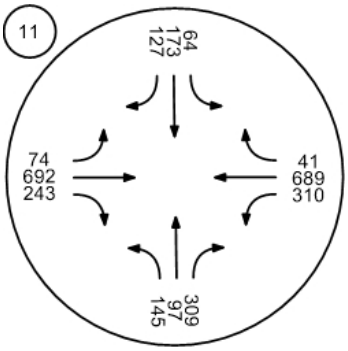
Somis Road and Los Angeles



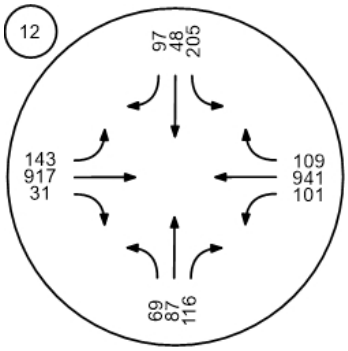
Grimes Canyon Road and Lo



Tierra Rejada Road and Los



Moorpark Avenue and Los A



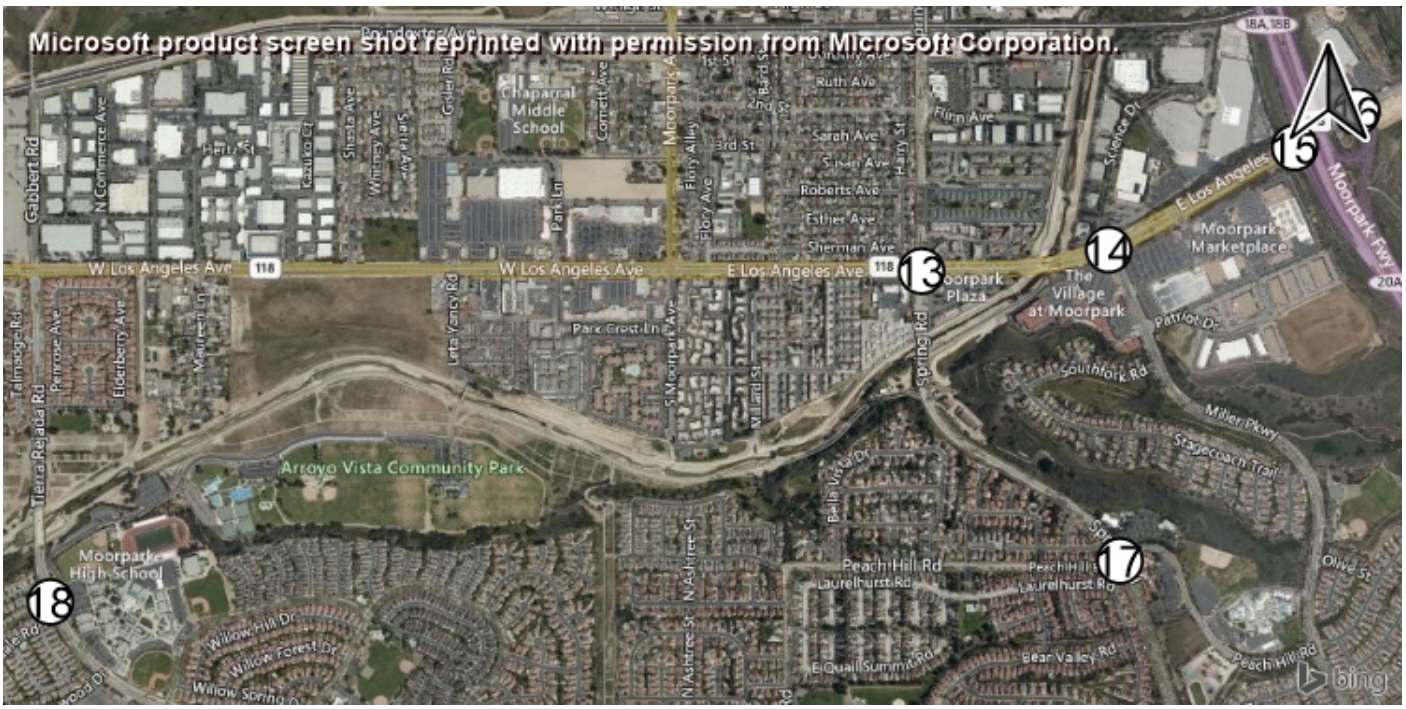
SOURCE: Impact Sciences, Inc., 2021

FIGURE **9b**

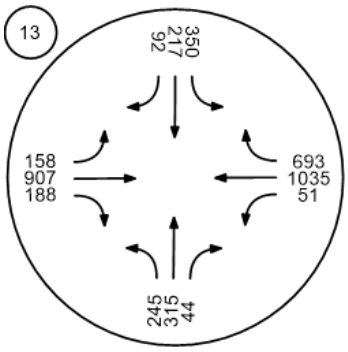
IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday PM Peak Hour

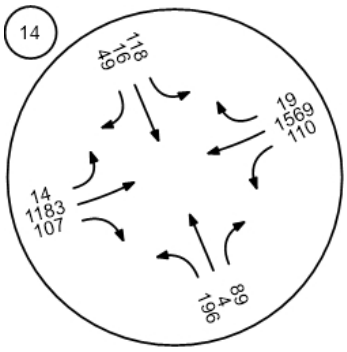
1318.003•01/21



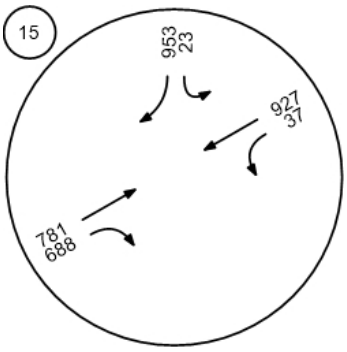
Spring Road and Los Angele



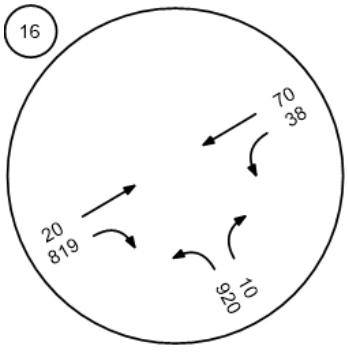
Miller Parkway/Science Drive



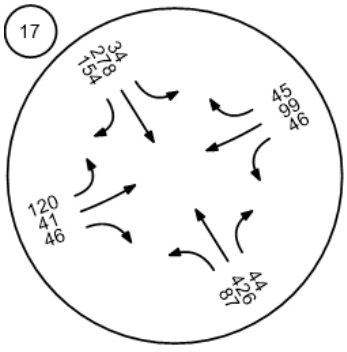
SR□23 SB ramps and Los An



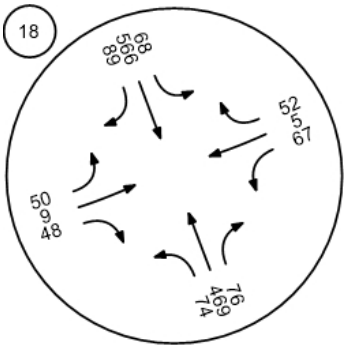
SR□23 NB ramps and Los An



Spring Road and Peach Hill



Tierra Rejada Road and Cou

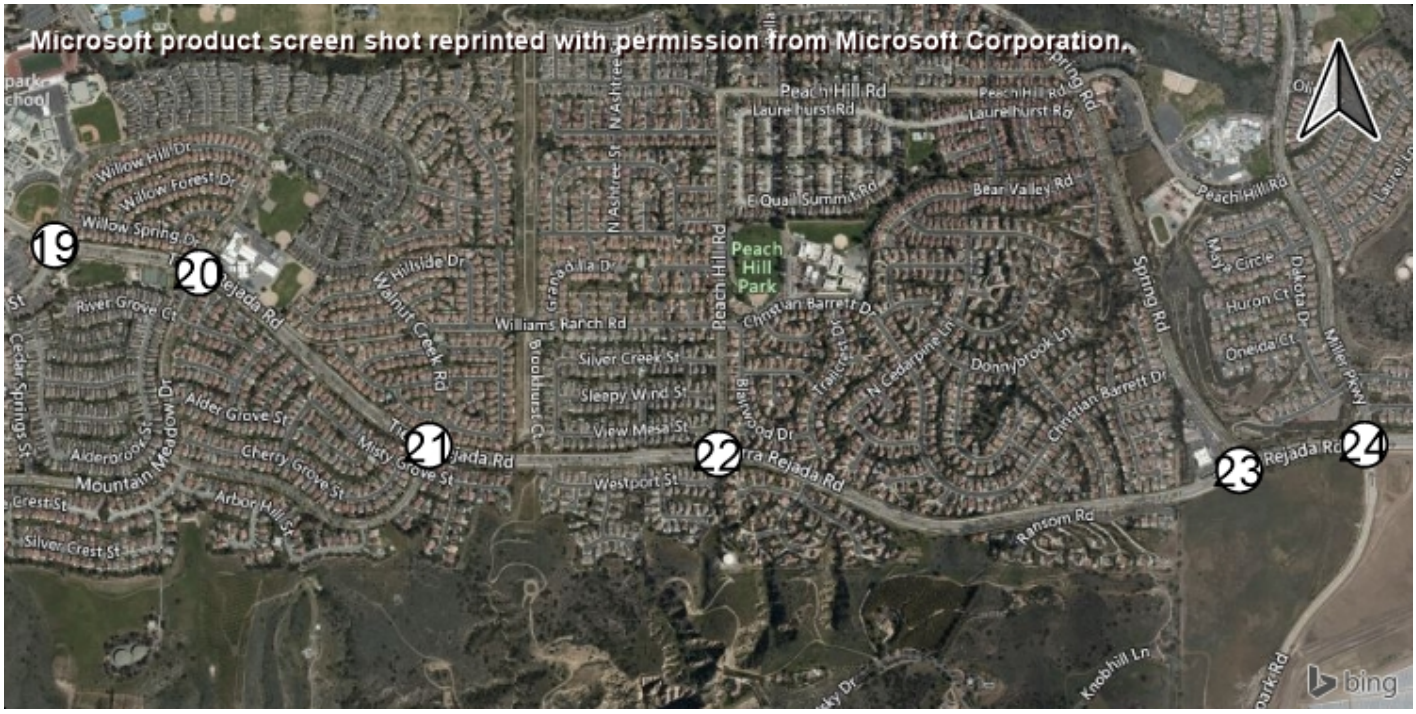


SOURCE: Impact Sciences, Inc., 2021

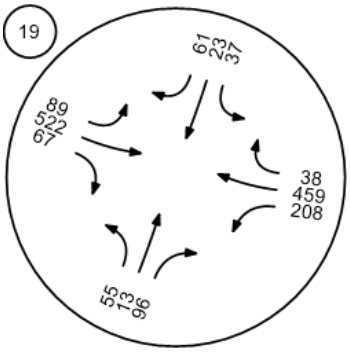
FIGURE **9c**

IMPACT SCIENCES

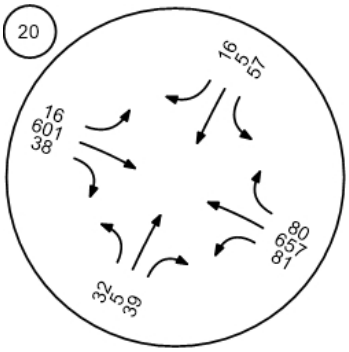
Existing (2019) Traffic Volume - Weekday PM Peak Hour



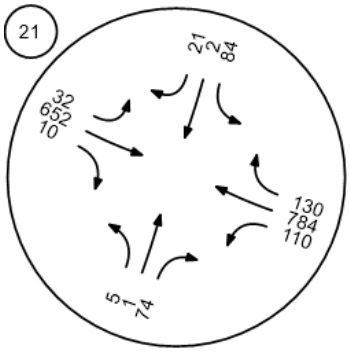
Mountain Trail Road and Tier



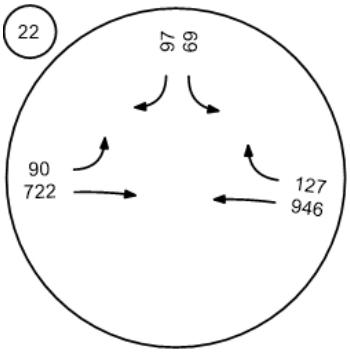
Mountain Meadow Drive and



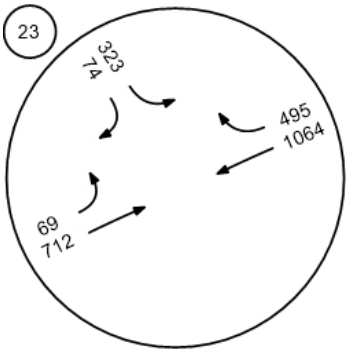
Walnut Creek Road and Tierr



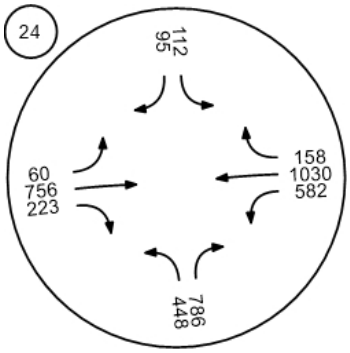
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Miller Pkwy and Tierra Rejada



SOURCE: Impact Sciences, Inc., 2021

FIGURE **9d**

IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday PM Peak Hour

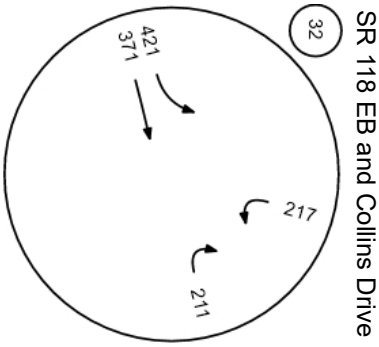
SOURCE: Impact Sciences, Inc., 2021

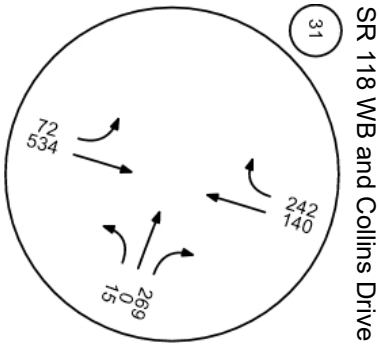
FIGURE **9e**

IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday PM Peak Hour







SOURCE: Impact Sciences, Inc., 2021

FIGURE **9f**

IMPACT SCIENCES

Existing (2019) Traffic Volume - Weekday PM Peak Hour

The LOS thresholds for stop sign controlled intersections differ from signalized intersections to reflect different driver expectations. The expectation is that a signalized intersection is designed to carry higher traffic volumes than a stop-controlled intersection.

For the un-signalized intersections, a delay-based analysis was conducted using procedures based on the HCM method. This procedure calculates the control delay as the total elapsed time from the time a vehicle stops at the end of the queue to the time the vehicle departs from the intersection. Using this procedure, the LOS is evaluated on the basis of the total delay per vehicle for selected movements (in seconds per vehicle).

Definitions of the LOS grades for stop-controlled intersections as defined by the Transportation Research Board are shown in Table 5.

Table 5
Level of Service Definitions – Stop Controlled Intersections

Level of Service	Average Control Delay (sec)
A	Less than or equal to 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50

By applying the ICU and HCM procedures, the V/C ratios, delay values and the corresponding LOS for existing traffic conditions were determined for each intersection. The existing V/C ratios, delay values and the corresponding LOS values are summarized in Table 6. Using the 2019 traffic counts, five of the study intersections currently operate at LOS E or worse in the AM Peak Hour. In the PM Peak Hour, three intersections operate at LOS E or worse. These estimates include a 0.1 clearance interval applied to the overall ICU value, per City guidance. Supporting capacity worksheets are contained in Appendix D of this report.

Table 6

Existing Traffic Conditions Summary

No.	Intersection	AM Peak Hour*			PM Peak Hour*		
		V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road		18.5	C		23.6	C
2	Walnut Canyon Road at Championship Drive		25.4	D		33.2	D
3	Walnut Canyon Road at Spring Road	0.746		C	0.899		D
4	Walnut Canyon Road at Casey Road	0.668		B	0.468		A
5	Moorpark Avenue at High Street	0.684		B	0.735		C
6	Spring Road at High Street	0.694		B	0.782		C
7	Gabbert Road at Poindexter Avenue		10.8	B		10.8	B
8	Moorpark Avenue and Poindexter Avenue/1st St	0.734		C	0.838		D
9	Somis Road and Los Angeles Avenue	1.022		F	1.220		F
10	Grimes Canyon Road and Los Angeles Avenue	0.767		C	0.824		D
11	Tierra Rejada Road and Los Angeles Avenue	0.805		D	0.765		C
12	Moorpark Avenue and Los Angeles Avenue	0.701		C	0.620		B
13	Spring Road and Los Angeles Avenue	0.928		E	1.064		F
14	Miller Parkway/Science Drive/Los Angeles Avenue	0.689		B	0.853		D
15	SR-23 SB ramps and Los Angeles Avenue	0.441		A	0.694		B
16	SR-23 NB ramps and Los Angeles Avenue	0.496		A	0.667		B
17	Spring Road and Peach Hill Road	0.744		C	0.705		C
18	Tierra Rejada Road and Countrywood Drive	0.716		C	0.553		A
19	Mountain Trail Road and Tierra Rejada Road	0.619		B	0.526		A
20	Mountain Meadow Drive and Tierra Rejada Road	0.684		B	0.593		A
21	Walnut Creek Road and Tierra Rejada Road	0.837		D	0.692		B
22	Peach Hill Road and Tierra Rejada Road	0.777		C	0.722		C
23	Spring Road and Tierra Rejada Road	0.843		D	0.756		C
24	Miller Parkway and Tierra Rejada Road	0.960		E	0.834		D
25	SR-23 SB ramps and Tierra Rejada Road	0.829		D	0.812		D
26	SB-23 NB ramps and Tierra Rejada Road	0.927		E	0.897		D
27	Moorpark Road and Santa Rosa Road	0.978		E	1.184		F
28	Broadway Road and Grimes Canyon Road		11.0	B		10.2	B
29	Championship Drive and Grimes Canyon Road		10.0	A		10.0	A
30	Meridian Hills Drive and Walnut Canyon Road		12.2	B		12.1	B
31	SR 118 WB and Collins Drive	0.605		B	0.611		B
32	SR 118 EB and Collins Drive	0.599		A	0.615		B

* V/C for signalized intersections, delay for unsignalized intersections. Includes 0.1 clearance interval for signalized intersections

Analysis of Existing + Project Traffic Conditions

The project's traffic impact has been calculated by adding the project traffic volumes to the existing traffic conditions.

According to the traffic impact standards provided by the City of Moorpark for this environmental assessment, a traffic impact is considered significant if the related increase in the V/C ratio value equals or exceeds the thresholds shown in Tables 7a and 7b for signalized and un-signalized study intersections, respectively.

Table 7a
Significant Traffic Impact Criteria
(Signalized Intersections)

1. Degrades the LOS at an un-signalized intersection to an unacceptable level of Service (LOS D or worse);
2. Degrades the LOS at a signalized intersection operating at an unacceptable level of Service (LOS D or worse); or
3. Increases V/C at a signalized intersection operating at LOS F by 0.020 or more.

Table 7b
Significant Traffic Impact Criteria
(Un-signalized Intersections)

4. Degrades the LOS at an un-signalized intersection to an unacceptable level of Service (LOS D or worse); or
5. Increases delay at an un-signalized intersection operating at an unacceptable level by five or more seconds; or
6. Results in satisfying the most recent California Manual on Uniform Traffic Control Devices (CAMUTCD) peak hour volume warrant or other warrants for traffic signal installation at the intersection.

Comparing the changes in the traffic conditions (i.e., V/C ratio or delay) between the without and with project traffic volume scenarios provides the information necessary to determine if the project traffic volume creates a significant traffic impact which would require traffic mitigation.

The existing level of service traffic conditions with the added project traffic volume are shown in Table 8. Peak hour traffic volumes for the “existing + project” scenario are shown in Figures 11 and 12 for the study periods.

As shown in Table 8, one study intersection is significantly impacted by the proposed project traffic volume in the morning peak hour when compared to existing conditions:

1. The intersection of Walnut Canyon Road and Casey Road is significantly impacted prior to the implementation of mitigation measures, with Level of Service degrading from LOS B to LOS D.

In addition, the proposed project will significantly impact traffic conditions at four intersections during the afternoon peak hour when compared to existing conditions:

1. The intersection of Walnut Canyon Road and Spring Road is significantly impacted prior to the implementation of mitigation measures, with Level of Service degrading from LOS C to LOS D, though it should be noted that this intersection currently operates at 0.899 V/C (LOS C).

2. The intersection of Moorpark Avenue and High Street is significantly impacted prior to the implementation of traffic mitigation measures. Level of Service would degrade from LOS C to D.

3. The intersection of Spring Road and High Street is significantly impacted prior to the implementation of traffic mitigation measures, with Level of Service degrading from LOS C to LOS D.

4. The intersection of Spring Road and Los Angeles Avenue is significantly impacted prior to the implementation of traffic mitigation measures, as V/C would increase by 0.059 at this intersection that already operates at LOS F.

Table 8
Existing + Project Traffic Conditions (AM Peak Hour)

No.	Intersection	Existing Conditions			Existing with Project Conditions					
		V/C	Delay	LOS	V/C	Delay	LOS	Change (V/C)	Change (Delay)	Signifi-cant?
1	Walnut Canyon Road at Broadway Road		18.5	C		18.8	C		0.3	No
2	Walnut Canyon Road at Championship Drive		25.4	D		26.4	D		1.0	No
3	Walnut Canyon Road at Spring Road	0.746		C	0.763		C	0.017		No
4	Walnut Canyon Road at Casey Road	0.668		B	0.801		D	0.133		Yes
5	Moorpark Avenue at High Street	0.684		B	0.788		C	0.104		No
6	Spring Road at High Street	0.694		B	0.730		C	0.036		No
7	Gabbert Road at Poindexter Avenue		10.8	B		11.0	B		0.2	No
8	Moorpark Avenue and Poindexter Avenue/1st St	0.734		C	0.785		C	0.051		No
9	Somis Road and Los Angeles Avenue	1.022		F	1.032		F	0.010		No
10	Grimes Canyon Road and Los Angeles Avenue	0.767		C	0.773		C	0.006		No
11	Tierra Rejada Road and Los Angeles Avenue	0.805		D	0.812		D	0.007		No
12	Moorpark Avenue and Los Angeles Avenue	0.701		C	0.717		C	0.016		No
13	Spring Road and Los Angeles Avenue	0.928		E	0.969		E	0.041		No
14	Miller Parkway/Science Drive/Los Angeles Ave	0.689		B	0.723		C	0.034		No
15	SR-23 SB ramps and Los Angeles Avenue	0.441		A	0.453		A	0.012		No
16	SR-23 NB ramps and Los Angeles Avenue	0.496		A	0.519		A	0.023		No
17	Spring Road and Peach Hill Road	0.744		C	0.776		C	0.032		No
18	Tierra Rejada Road and Countrywood Drive	0.716		C	0.726		C	0.010		No
19	Mountain Trail Road and Tierra Rejada Road	0.619		B	0.626		B	0.007		No
20	Mountain Meadow Drive and Tierra Rejada Rd	0.684		B	0.688		B	0.004		No
21	Walnut Creek Road and Tierra Rejada Road	0.837		D	0.841		D	0.004		No
22	Peach Hill Road and Tierra Rejada Road	0.777		C	0.778		C	0.001		No
23	Spring Road and Tierra Rejada Road	0.843		D	0.856		D	0.013		No
24	Miller Parkway and Tierra Rejada Road	0.960		E	0.964		E	0.004		No
25	SR-23 SB ramps and Tierra Rejada Road	0.829		D	0.848		D	0.019		No
26	SB-23 NB ramps and Tierra Rejada Road	0.927		E	0.928		E	0.001		No
27	Moorpark Road and Santa Rosa Road	0.978		E	0.980		E	0.002		No
28	Broadway Road and Grimes Canyon Road		11.0	B		11.0	B		0.0	No
29	Championship Drive and Grimes Canyon Road		10.0	A		10.0	A		0.0	No
30	Meridian Hills Drive and Walnut Canyon Road		12.2	B		12.7	B		0.5	No
31	SR 118 WB and Collins Drive	0.605		B	0.605		B	0.000		No
32	SR 118 EB and Collins Drive	0.599		A	0.599		A	0.000		No

Shading denotes significant impact. Includes 0.1 clearance interval for signalized intersections

Table 9
Existing + Project Traffic Conditions (PM Peak Hour)

No.	Intersection	Existing Conditions			Existing with Project Conditions					
		V/C	Delay	LOS	V/C	Delay	LOS	Change (V/C)	Change (Delay)	Signifi-cant?
1	Walnut Canyon Road at Broadway Road		23.6	C		23.9	C		0.3	No
2	Walnut Canyon Road at Championship Drive		33.2	D		34.6	D		1.4	No
3	Walnut Canyon Road at Spring Road	0.899		D	0.834		E	0.013		Yes
4	Walnut Canyon Road at Casey Road	0.468		A	0.514		B	0.186		No
5	Moorpark Avenue at High Street	0.735		C	0.608		D	0.161		Yes
6	Spring Road at High Street	0.782		C	0.711		D	0.022		Yes
7	Gabbert Road at Poindexter Avenue		10.8	B		10.9	B		0.1	No
8	Moorpark Avenue and Poindexter Avenue/1st St	0.838		D	0.698		D	0.040		No
9	Somis Road and Los Angeles Avenue	1.220		F	0.999		F	0.019		No
10	Grimes Canyon Road and Los Angeles Avenue	0.824		D	0.735		D	0.010		No
11	Tierra Rejada Road and Los Angeles Avenue	0.765		C	0.551		C	0.005		No
12	Moorpark Avenue and Los Angeles Avenue	0.620		B	0.544		B	0.022		No
13	Spring Road and Los Angeles Avenue	1.064		F	1.123		F	0.059		Yes
14	Miller Parkway/Science Drive/Los Angeles Ave	0.853		D	0.897		D	0.044		No
15	SR-23 SB ramps and Los Angeles Avenue	0.694		B	0.731		C	0.037		No
16	SR-23 NB ramps and Los Angeles Avenue	0.667		B	0.696		B	0.029		No
17	Spring Road and Peach Hill Road	0.705		C	0.757		C	0.052		No
18	Tierra Rejada Road and Countrywood Drive	0.553		A	0.563		A	0.010		No
19	Mountain Trail Road and Tierra Rejada Road	0.526		A	0.538		A	0.012		No
20	Mountain Meadow Drive and Tierra Rejada Rd	0.593		A	0.599		A	0.004		No
21	Walnut Creek Road and Tierra Rejada Road	0.692		B	0.698		B	0.006		No
22	Peach Hill Road and Tierra Rejada Road	0.722		C	0.728		C	0.006		No
23	Spring Road and Tierra Rejada Road	0.756		C	0.777		C	0.021		No
24	Miller Parkway and Tierra Rejada Road	0.834		D	0.840		D	0.006		No
25	SR-23 SB ramps and Tierra Rejada Road	0.812		D	0.827		D	0.015		No
26	SB-23 NB ramps and Tierra Rejada Road	0.897		D	0.898		D	0.001		No
27	Moorpark Road and Santa Rosa Road	1.184		F	1.189		F	0.005		No
28	Broadway Road and Grimes Canyon Road		10.2	B		10.2	B		0.0	No
29	Championship Drive and Grimes Canyon Road		10.0	A		10.0	A		0.0	No
30	Meridian Hills Drive and Walnut Canyon Road		12.1	B		12.6	B		0.5	No
31	SR 118 WB and Collins Drive	0.611		B	0.611		B	0.000		No
32	SR 118 EB and Collins Drive	0.615		B	0.615		B	0.000		No

Shading denotes significant impact

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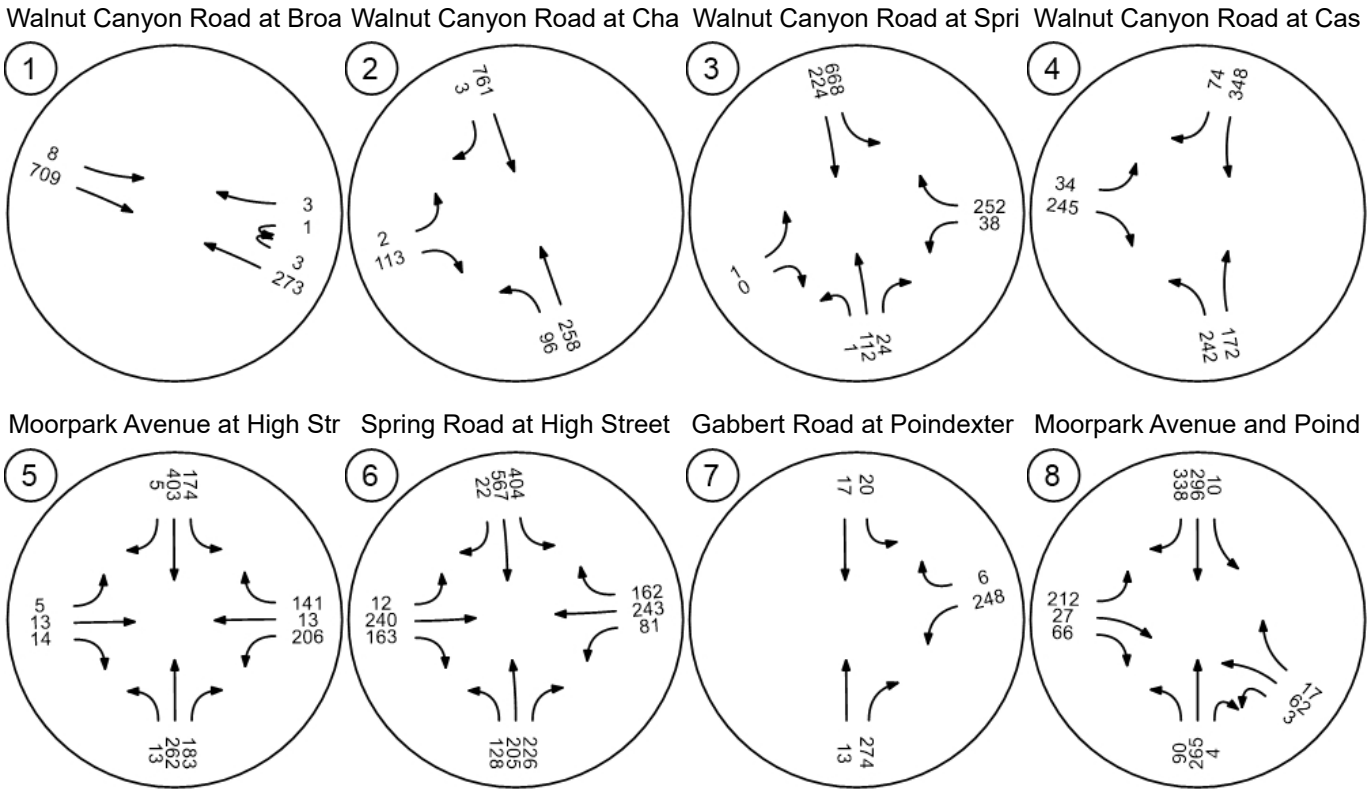

SOURCE: Impact Sciences, Inc., 2021

FIGURE **10a**

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Existing (2019) + Project Traffic Volume - Weekday AM Peak Hour

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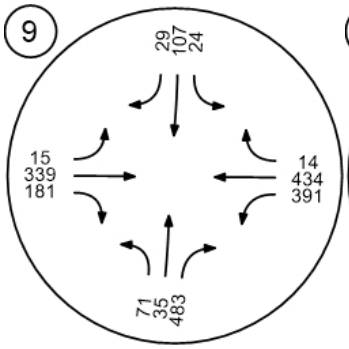
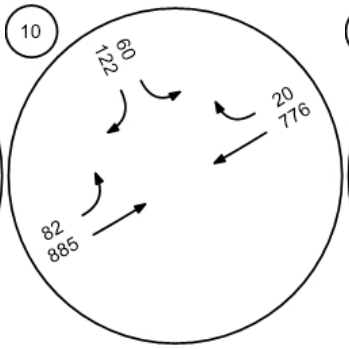
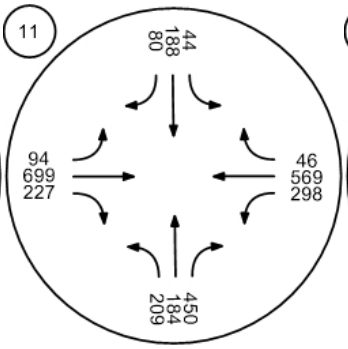
Somis Road and Los Angeles



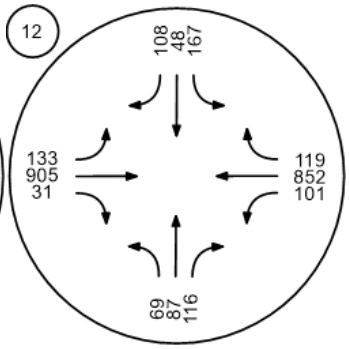
Grimes Canyon Road and Lo



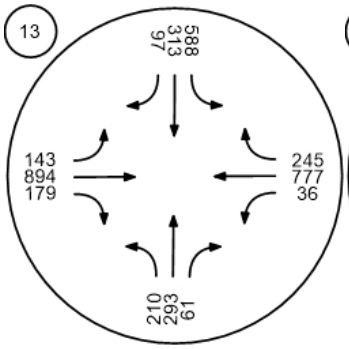
Tierra Rejada Road and Los



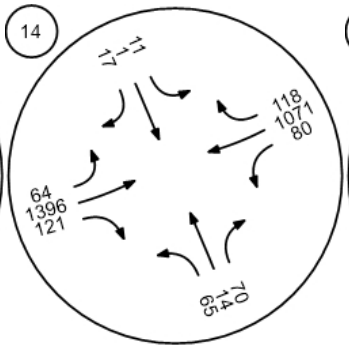
Moorpark Avenue and Los A



Spring Road and Los Angele



Miller Parkway/Science Drive



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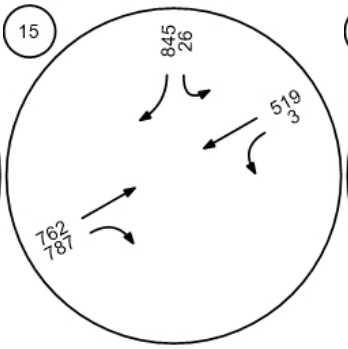
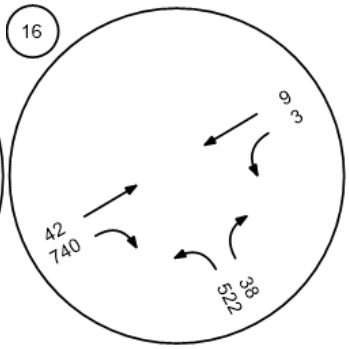


SR□23 NB ramps and Los An



SOURCE: Impact Sciences, Inc., 2021

FIGURE **10b**

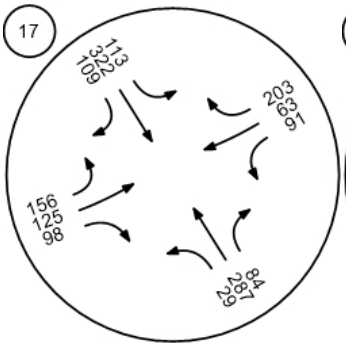
IMPACT SCIENCES

Existing (2019) + Project Traffic Volume - Weekday AM Peak Hour

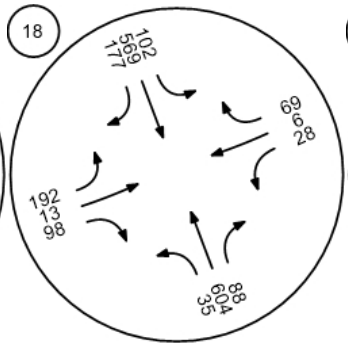
1318.003•01/21



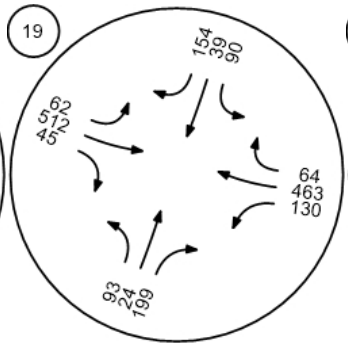
Spring Road and Peach Hill



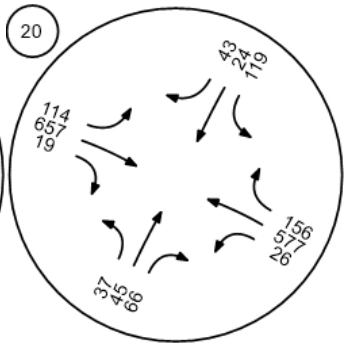
Tierra Rejada Road and Cou



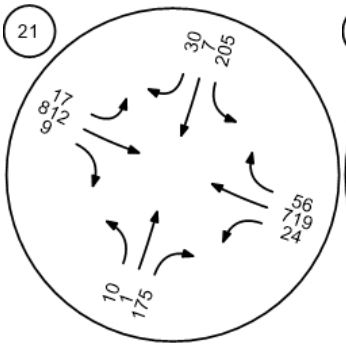
Mountain Trail Road and Tier



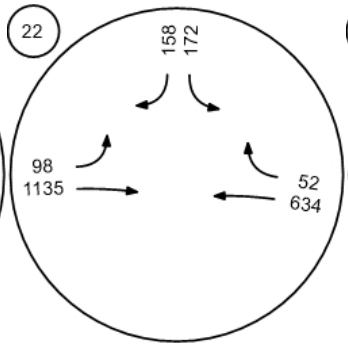
Mountain Meadow Drive and



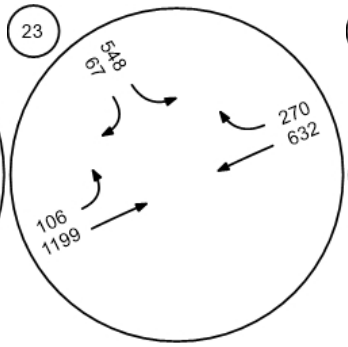
Walnut Creek Road and Tierr



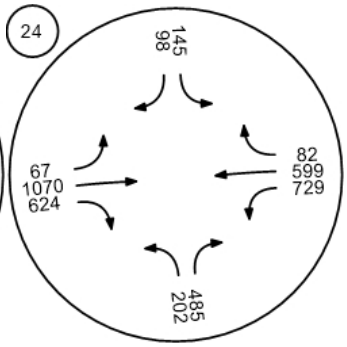
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Miller Pkwy and Tierra Rejada



SOURCE: Impact Sciences, Inc., 2021

FIGURE **10c**

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Existing (2019) + Project Traffic Volume - Weekday AM Peak Hour

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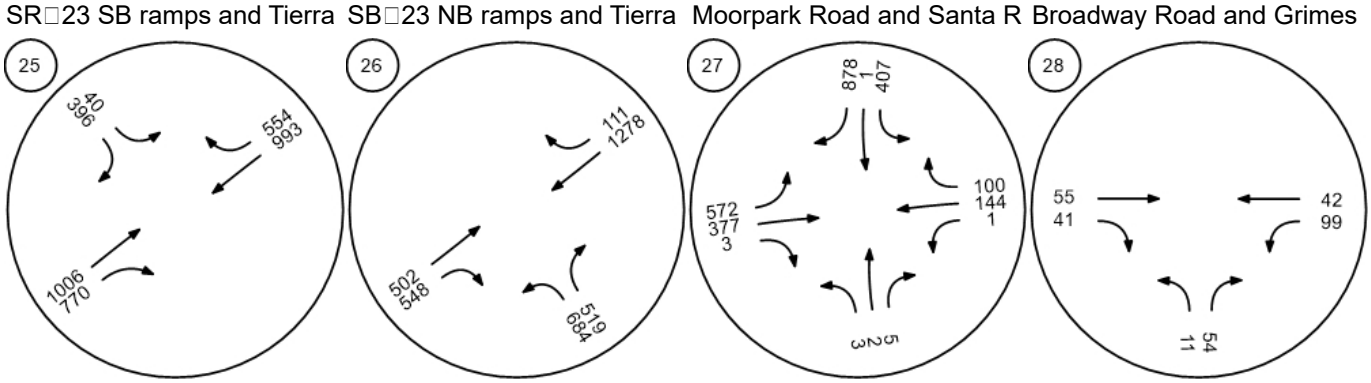
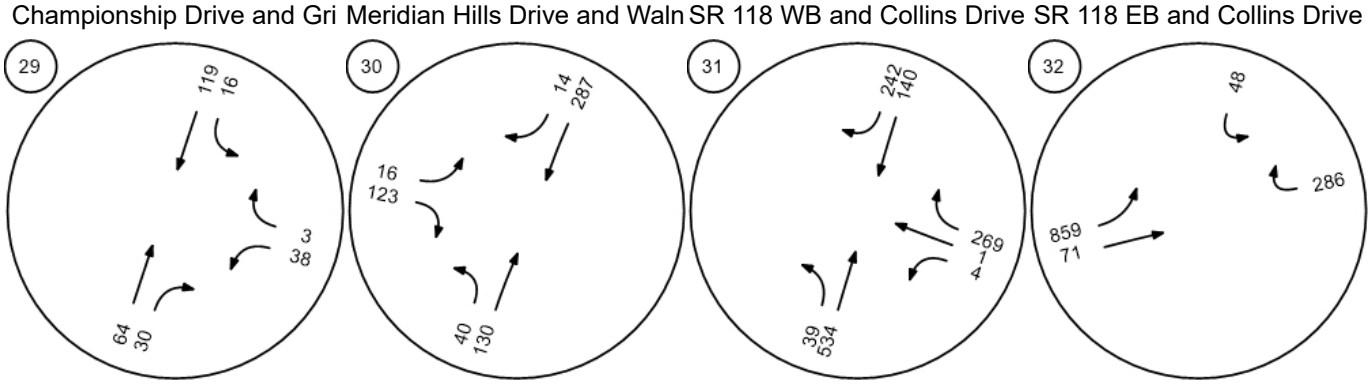




SOURCE: Impact Sciences, Inc., 2021

FIGURE **10d**

IMPACT SCIENCES

Existing (2019) + Project Traffic Volume - Weekday AM Peak Hour

1318.003•01/21

SOURCE: Impact Sciences, Inc., 2021

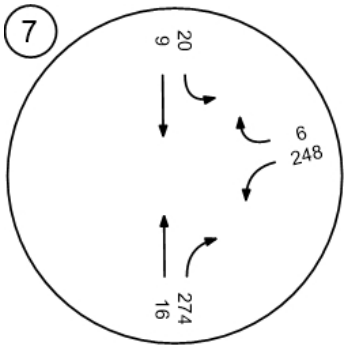
FIGURE **11a**

IMPACT SCIENCES

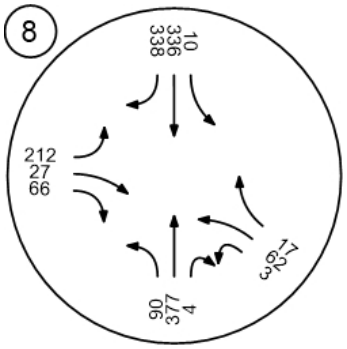
Existing (2019) + Project Traffic Volume - Weekday PM Peak Hour



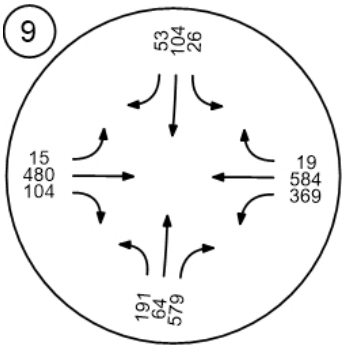
Gabbert Road at Poindexter



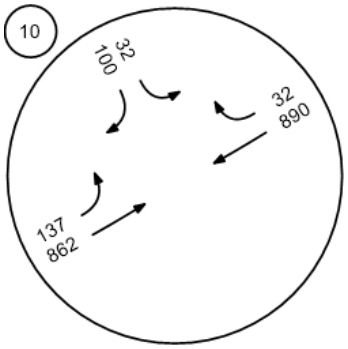
Moorpark Avenue and Poind



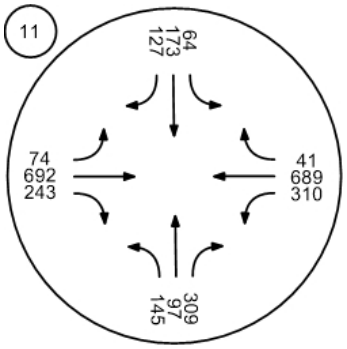
Somis Road and Los Angeles



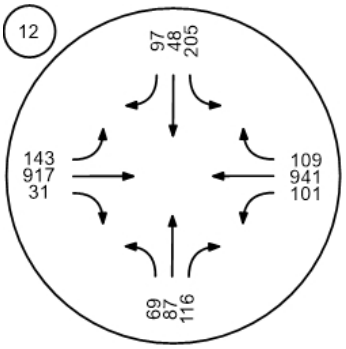
Grimes Canyon Road and Lo



Tierra Rejada Road and Los



Moorpark Avenue and Los A

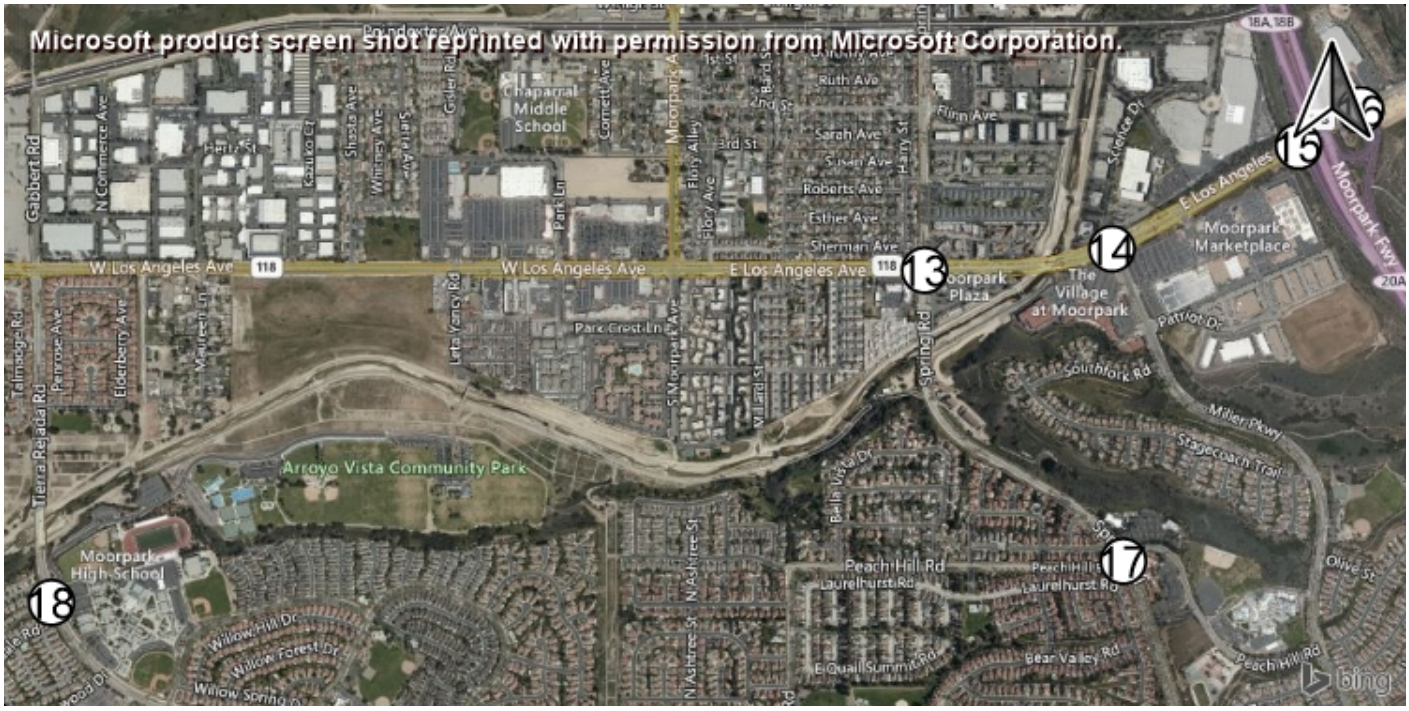


SOURCE: Impact Sciences, Inc., 2021

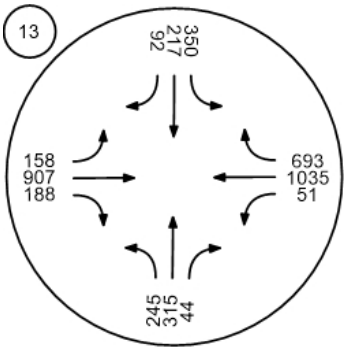
FIGURE **11b**

IMPACT SCIENCES

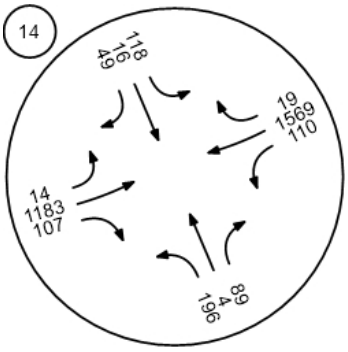
Existing (2019) + Project Traffic Volume - Weekday PM Peak Hour



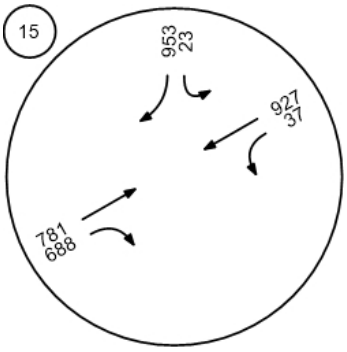
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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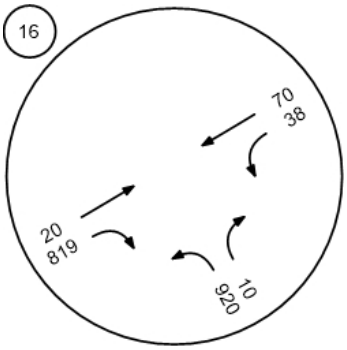
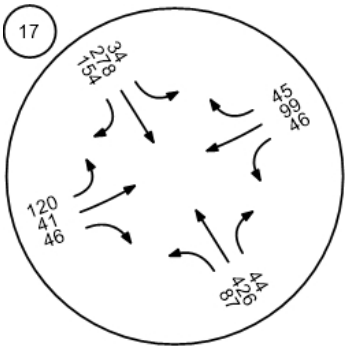
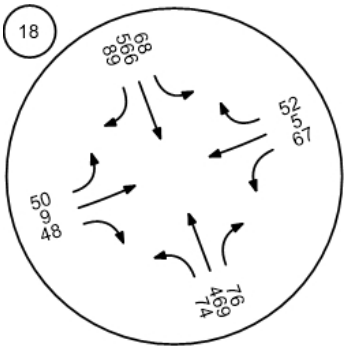


Spring Road and Peach Hill



Tierra Rejada Road and Cou

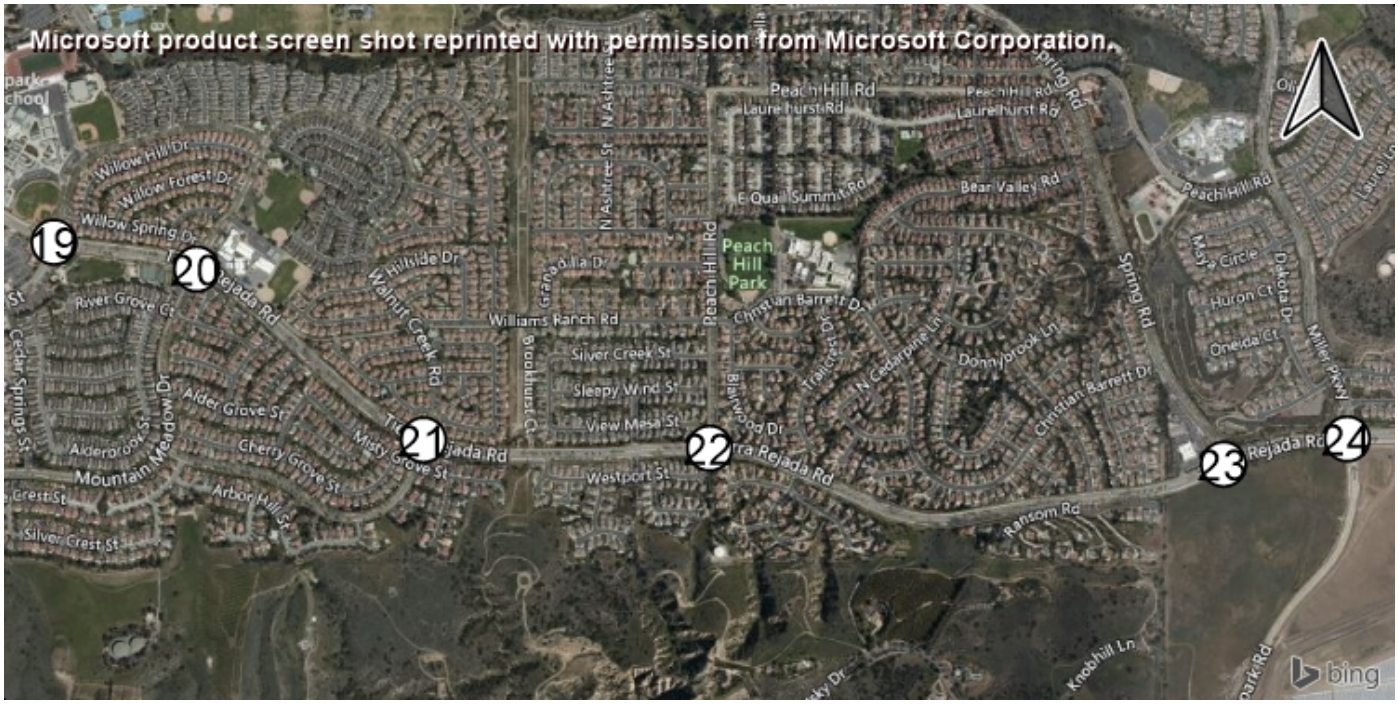


SOURCE: Impact Sciences, Inc., 2021

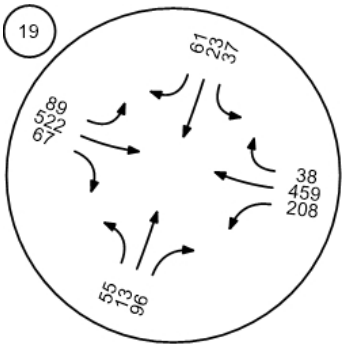
FIGURE **11c**

IMPACT SCIENCES

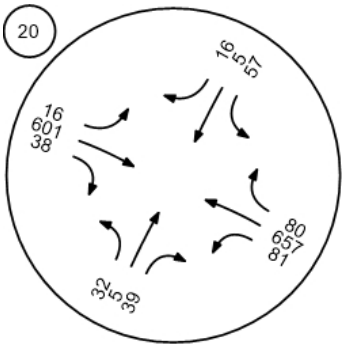
Existing (2019) + Project Traffic Volume - Weekday PM Peak Hour



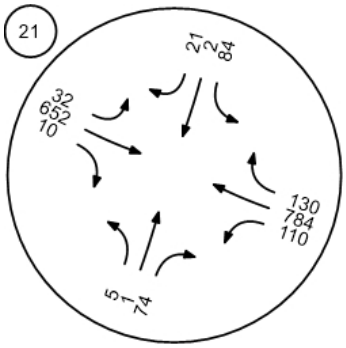
Mountain Trail Road and Tier



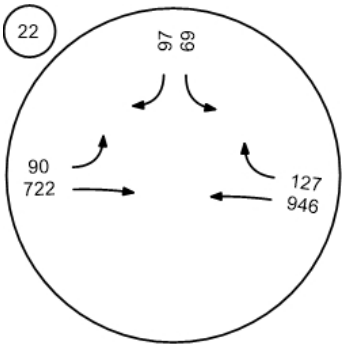
Mountain Meadow Drive and



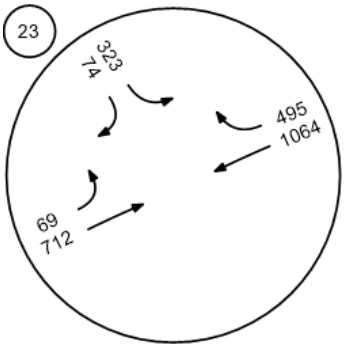
Walnut Creek Road and Tierr



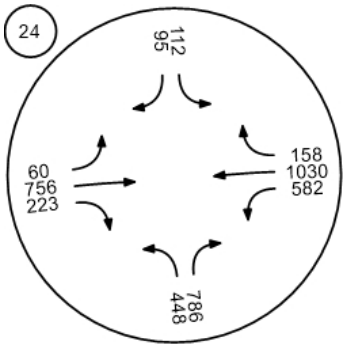
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Miller Pkwy and Tierra Rejada



SOURCE: Impact Sciences, Inc., 2021

FIGURE **11d**

IMPACT SCIENCES

Existing (2019) + Project Traffic Volume - Weekday PM Peak Hour

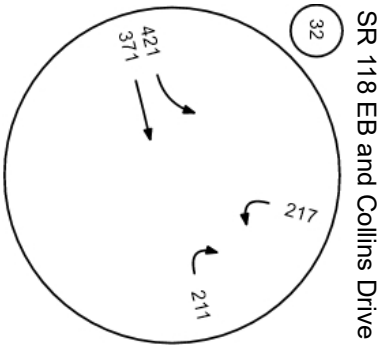
SOURCE: Impact Sciences, Inc., 2021

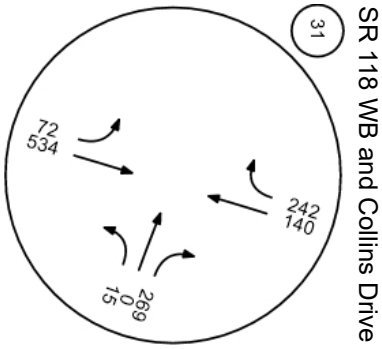
FIGURE **11e**

IMPACT SCIENCES

Existing (2019) + Project Traffic Volume - Weekday PM Peak Hour







SOURCE: Impact Sciences, Inc., 2021

FIGURE **11f**

IMPACT SCIENCES

Existing (2019) + Project Traffic Volume - Weekday PM Peak Hour

Analysis of Future Traffic Conditions

Future traffic volume projections have been developed to analyze the traffic conditions after completion of other planned land developments including the proposed project for study year 2026, when buildout of the proposed project is anticipated. Descriptions of other related projects, their locations and estimated traffic generation are provided in Appendix E.

In addition to the traffic generated by the related project list, other projects outside the study area or projects unknown at this time may contribute to the traffic volume in the area. To account for this outside influence, an ambient annual growth factor (1.0 percent) has been applied to the existing 2019 traffic counts to establish the 2026 study year. The use of both the related project traffic volume growth and the ambient growth factor provides a conservative estimate of future traffic growth in the study area for 2026.

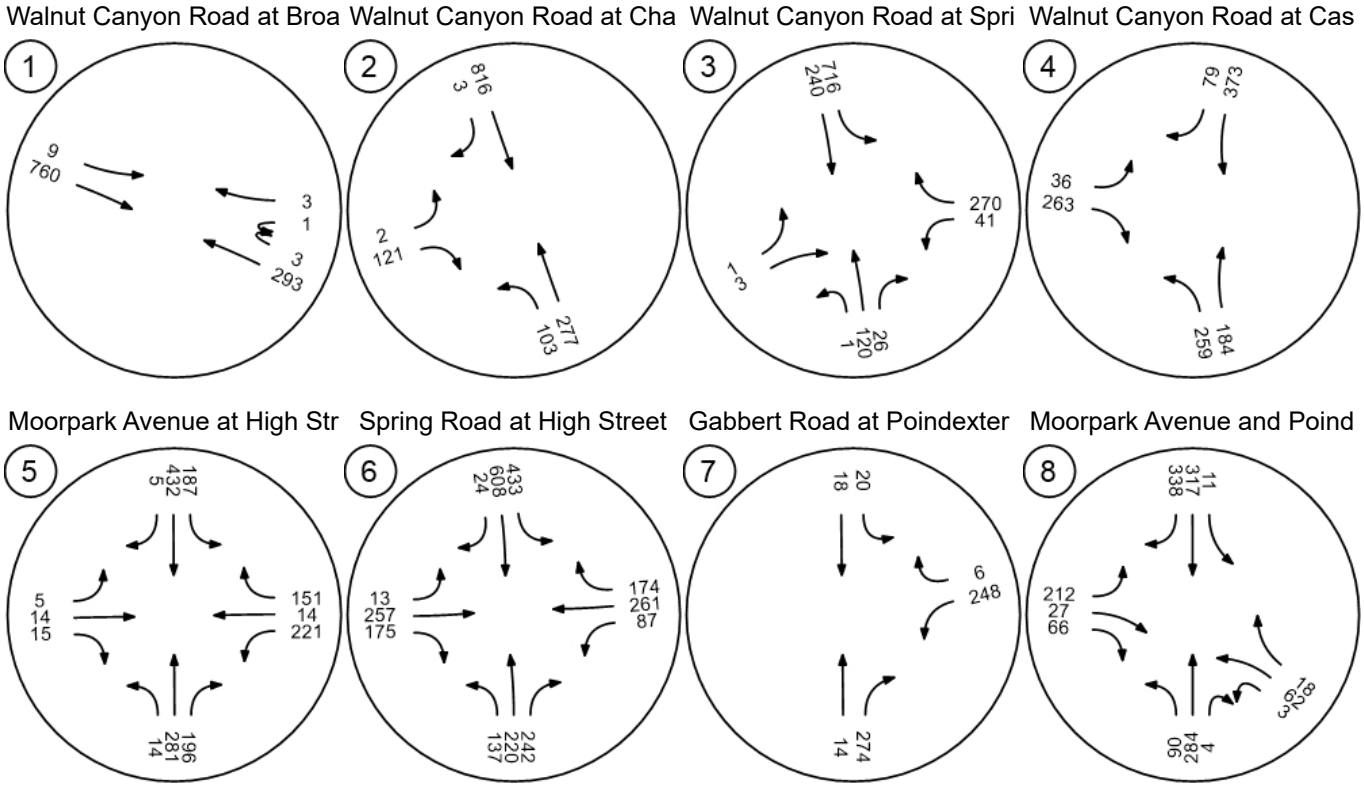
Adding the project traffic to the future “without project” conditions provides the information necessary to calculate the future cumulative project traffic impacts at the study intersections for each future scenario. Table 10 shows the estimated project traffic impacts for the 2026 study year. Future cumulative 2026 peak hour traffic volumes are shown in Figures 13 and 14 for the study periods. In the AM Peak Hour, four intersections operate at LOS E and five intersections operate of LOS F. In the PM Peak Hour, two intersections operate at LOS E, and six operate at LOS F.

Table 10
Future (2026) Traffic Conditions Summary

No.	Intersection	AM Peak Hour*			PM Peak Hour*		
		V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road		20.3	C		26.6	D
2	Walnut Canyon Road at Championship Drive		29.5	D		39.8	E
3	Walnut Canyon Road at Spring Road	0.687		B	1.012		F
4	Walnut Canyon Road at Casey Road	0.780		C	0.571		A
5	Moorpark Avenue at High Street	0.818		D	0.795		**C**
6	Spring Road at High Street	0.796		C	0.973		E
7	Gabbert Road at Poindexter Avenue		10.8	B		10.8	B
8	Moorpark Avenue and Poindexter Avenue/1st St	0.801		D	0.831		D
9	Somis Road and Los Angeles Avenue	1.202		F	1.435		**F**
10	Grimes Canyon Road and Los Angeles Avenue	0.828		D	0.901		E
11	Tierra Rejada Road and Los Angeles Avenue	0.897		D	0.853		D
12	Moorpark Avenue and Los Angeles Avenue	0.693		B	0.754		C
13	Spring Road and Los Angeles Avenue	1.049		F	1.18		**F**
14	Miller Parkway/Science Drive/Los Angeles Avenue	0.811		D	1.044		**F**
15	SR-23 SB ramps and Los Angeles Avenue	0.501		A	0.779		**C**
16	SR-23 NB ramps and Los Angeles Avenue	0.602		B	0.824		D
17	Spring Road and Peach Hill Road	0.852		D	0.815		D
18	Tierra Rejada Road and Countrywood Drive	0.779		C	0.59		A
19	Mountain Trail Road and Tierra Rejada Road	0.674		B	0.564		A
20	Mountain Meadow Drive and Tierra Rejada Road	0.733		C	0.633		B
21	Walnut Creek Road and Tierra Rejada Road	0.901		E	0.74		C
22	Peach Hill Road and Tierra Rejada Road	0.835		D	0.772		C
23	Spring Road and Tierra Rejada Road	0.921		E	0.879		**D**
24	Miller Parkway and Tierra Rejada Road	1.155		F	1.011		F
25	SR-23 SB ramps and Tierra Rejada Road	0.934		E	0.945		E
26	SB-23 NB ramps and Tierra Rejada Road	1.031		F	0.852		D
27	Moorpark Road and Santa Rosa Road	1.081		F	1.395		F
28	Broadway Road and Grimes Canyon Road		11.3	B		10.4	B
29	Championship Drive and Grimes Canyon Road		10.1	B		10.1	B
30	Meridian Hills Drive and Walnut Canyon Road		14.5	B		15.1	C
31	SR 118 WB and Collins Drive	0.641		B	0.648		B
32	SR 118 EB and Collins Drive	0.650		B	0.671		B
33	Meridian Hills Drive and Street “A”		3.3	A		3.3	A
34	Street “A” and High Street		8.4	A		8.4	A
35	Casey Road at Street “A”		7.0	A		7.0	A

* V/C for signalized intersections, delay for unsignalized intersections. Includes 0.1 clearance interval for signalized intersections





SOURCE: Impact Sciences, Inc., 2021

FIGURE **12a**

IMPACT SCIENCES

Future (2026) Traffic Volume Without Project - Weekday AM Peak Hour

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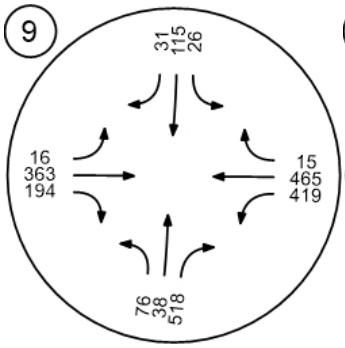
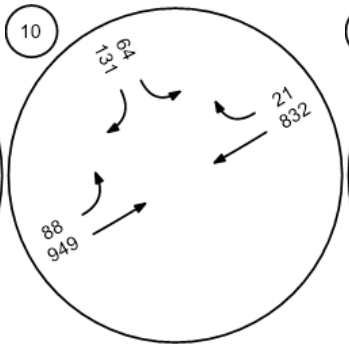
Version 7.00-06



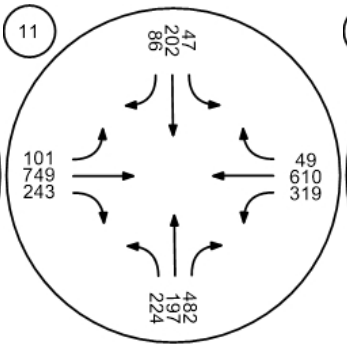
Somis Road and Los Angeles



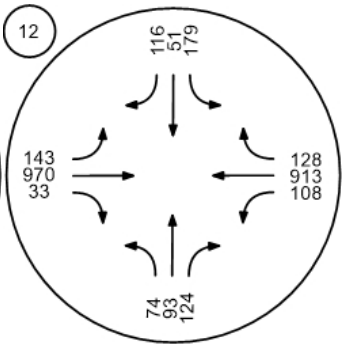
Grimes Canyon Road and Lo



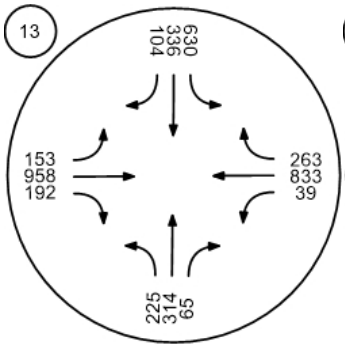
Tierra Rejada Road and Los



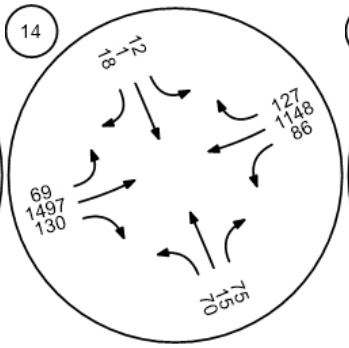
Moorpark Avenue and Los A



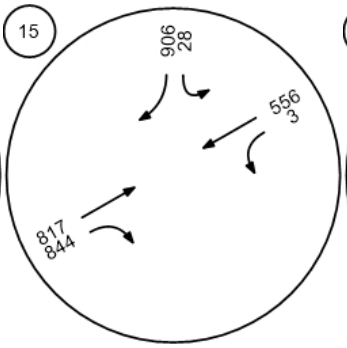
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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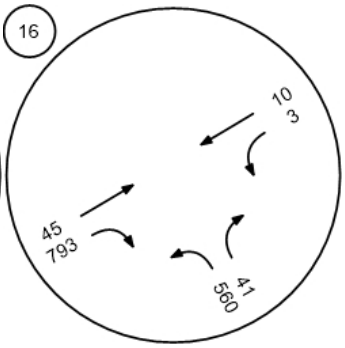

SOURCE: Impact Sciences, Inc., 2021

FIGURE **12b**

IMPACT SCIENCES

Future (2026) Traffic Volume Without Project - Weekday AM Peak Hour

1318.003•01/21

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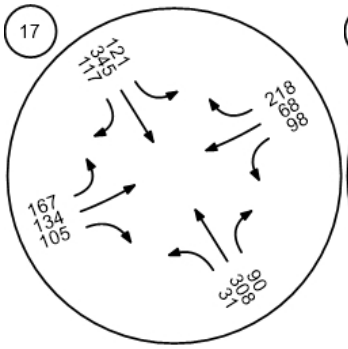
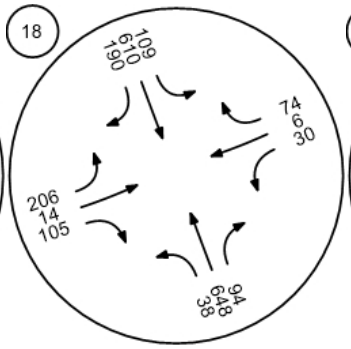
Version 7.00-06



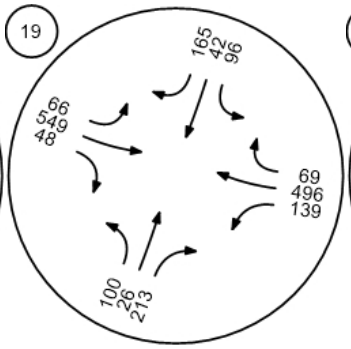
Spring Road and Peach Hill



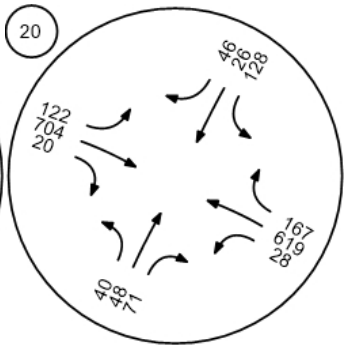
Tierra Rejada Road and Cou



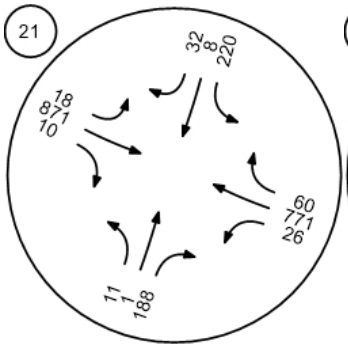
Mountain Trail Road and Tier



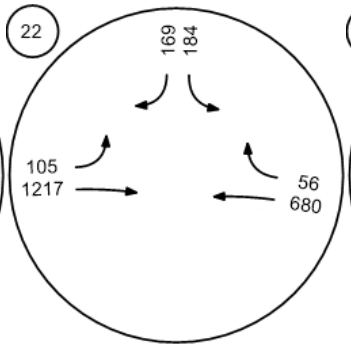
Mountain Meadow Drive and



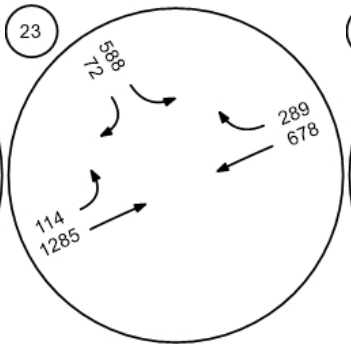
Walnut Creek Road and Tierr



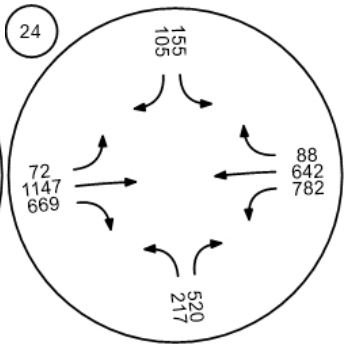
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Miller Pkwy and Tierra Rejada



SOURCE: Impact Sciences, Inc., 2021

FIGURE **12c**

IMPACT SCIENCES

Future (2026) Traffic Volume Without Project - Weekday AM Peak Hour

1318.003•01/21

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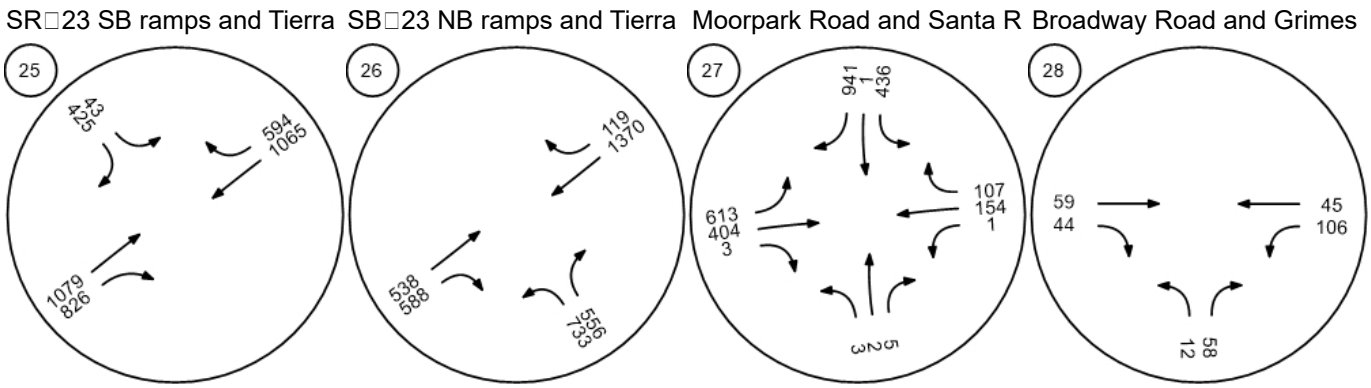
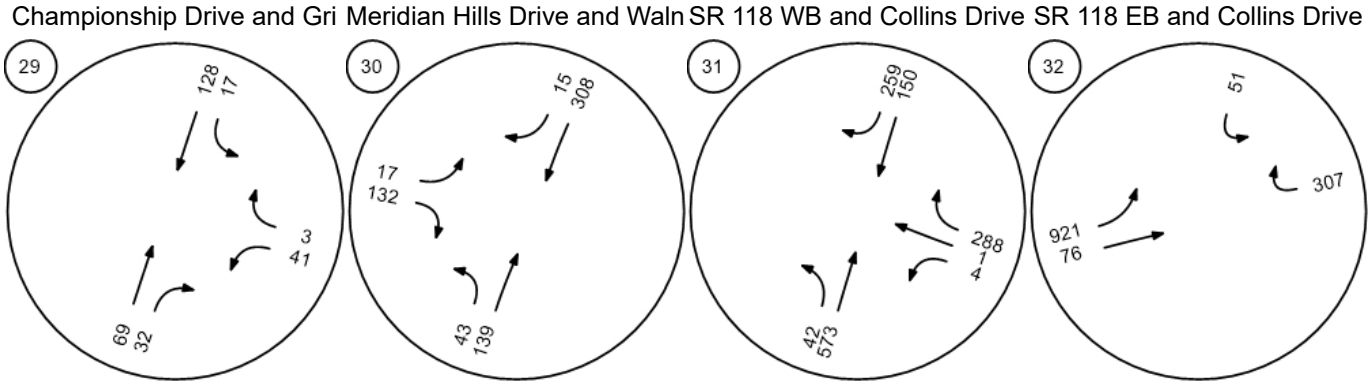
Version 7.00-06







SOURCE: Impact Sciences, Inc., 2021

FIGURE **12d**

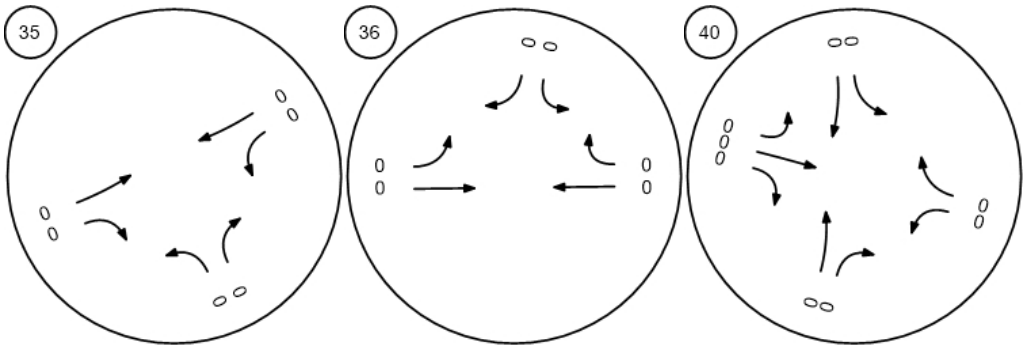
IMPACT SCIENCES

Future (2026) Traffic Volume Without Project - Weekday AM Peak Hour

1318.003•01/21



Future Road - Meridian Hills Future Road - Street "A" at HiFuture Road - Casey Road at



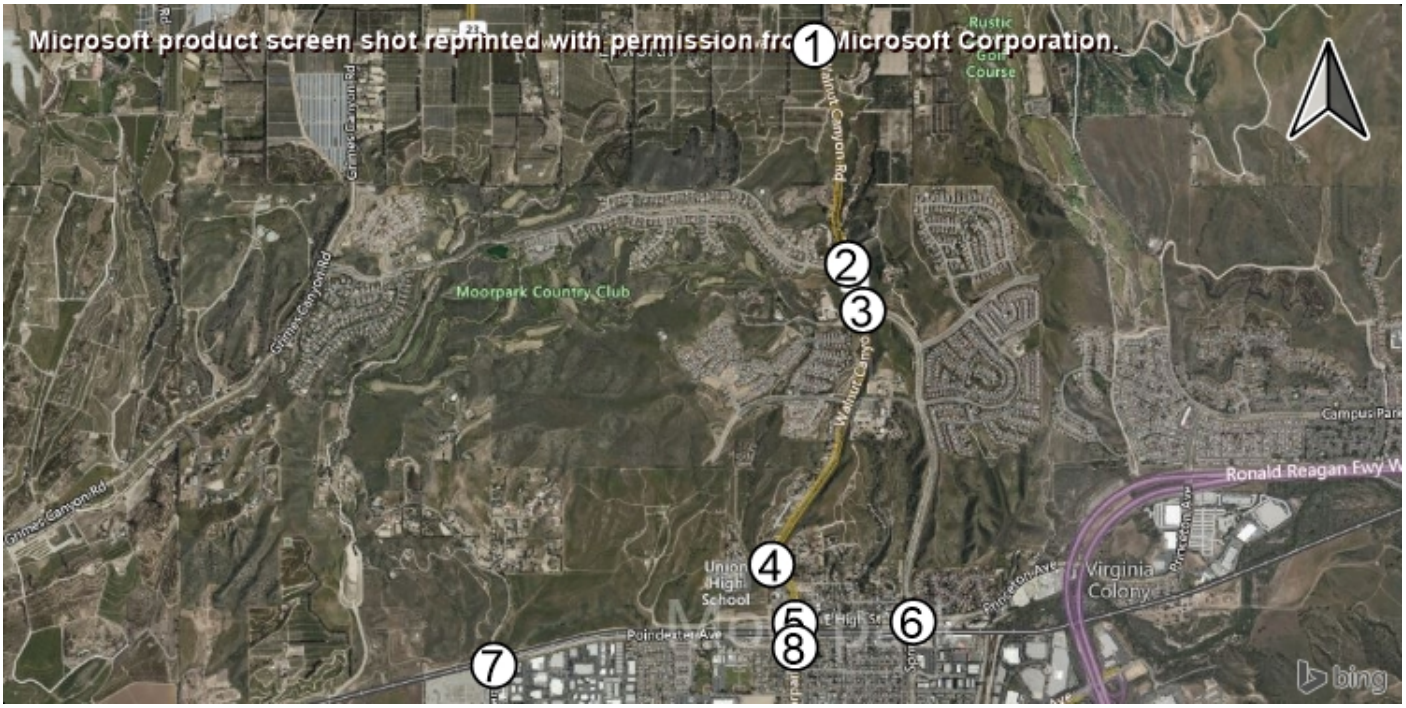
SOURCE: Impact Sciences, Inc., 2021

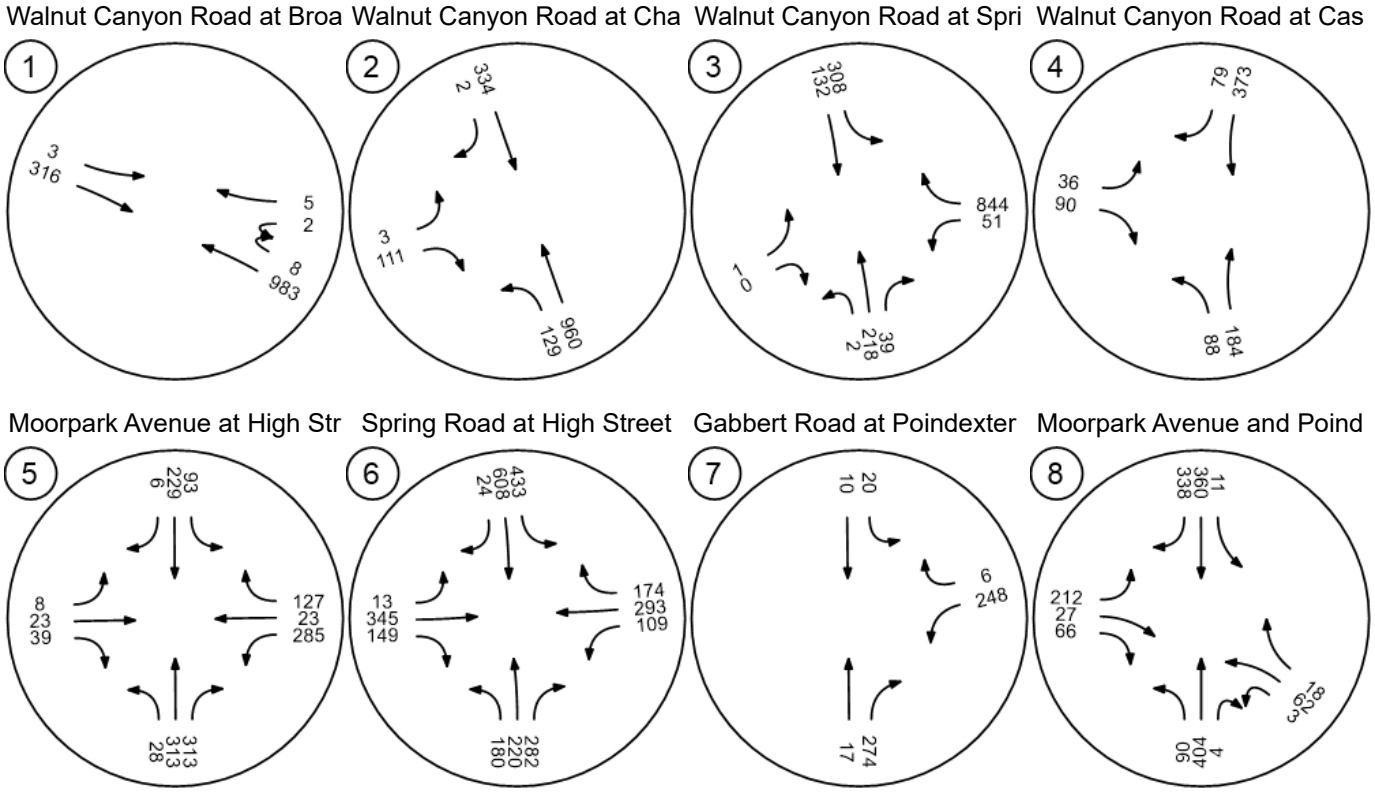
FIGURE **12e**

IMPACT SCIENCES

Future (2026) Traffic Volume Without Project - Weekday AM Peak Hour

Generated with PTV VISTRO
Version 7.00-06





SOURCE: Impact Sciences, Inc., 2021

FIGURE **13a**

IMPACT SCIENCES

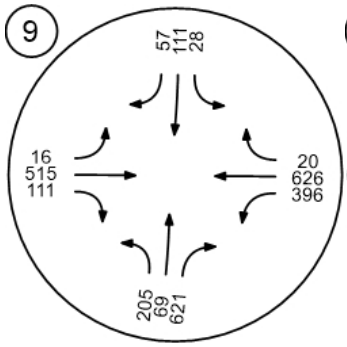
Future (2026) Traffic Volume Without Project - Weekday PM Peak Hour

1318.003•01/21

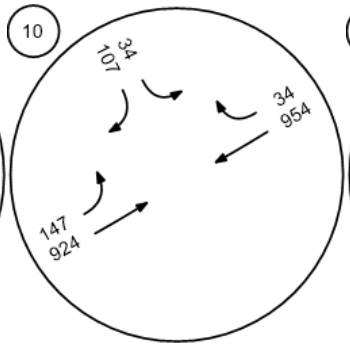
Generated with PTV VISTRO
Version 7.00-06



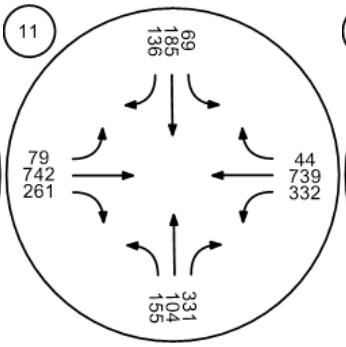
Somis Road and Los Angeles



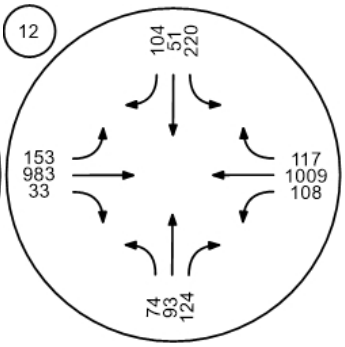
Grimes Canyon Road and Lo



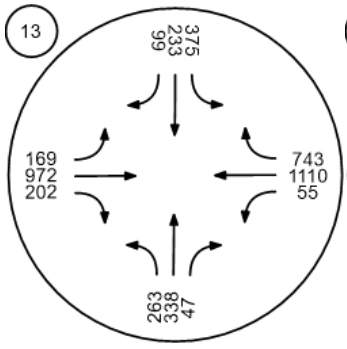
Tierra Rejada Road and Los



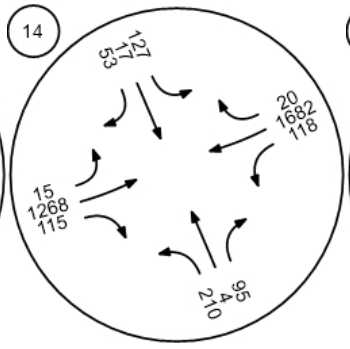
Moorpark Avenue and Los A



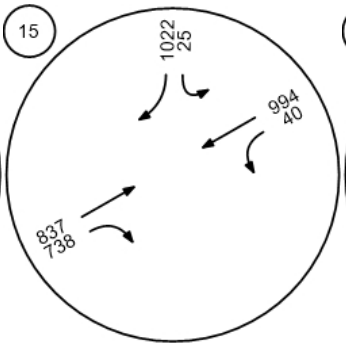
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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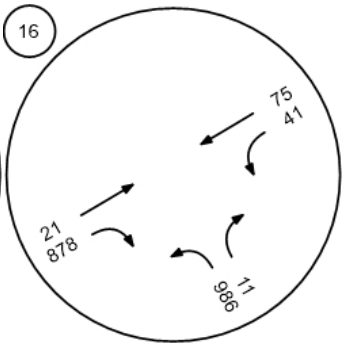


SOURCE: Impact Sciences, Inc., 2021

FIGURE **13b**

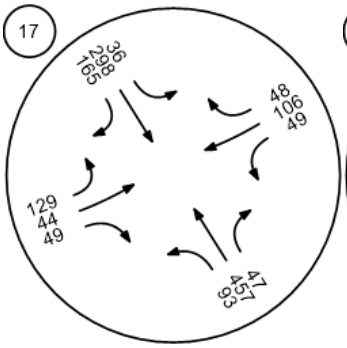
IMPACT SCIENCES

Future (2026) Traffic Volume Without Project - Weekday PM Peak Hour

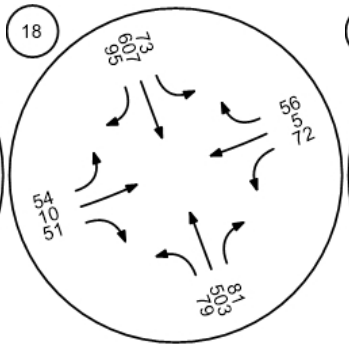
1318.003•01/21



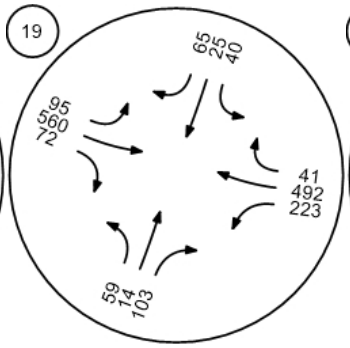
Spring Road and Peach Hill



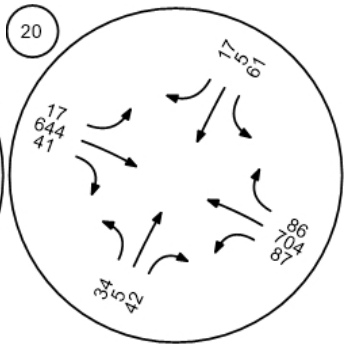
Tierra Rejada Road and Cou



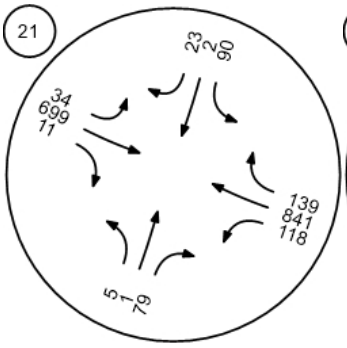
Mountain Trail Road and Tier



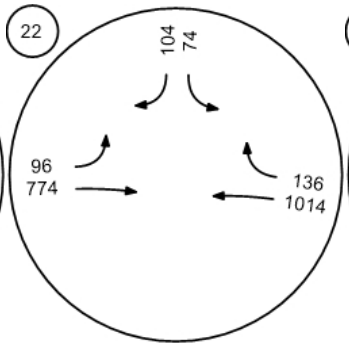
Mountain Meadow Drive and



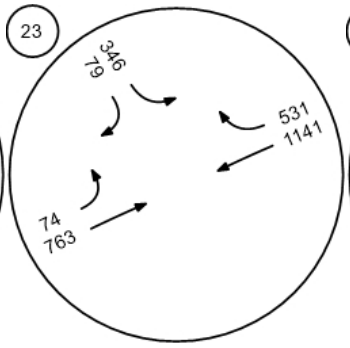
Walnut Creek Road and Tierr



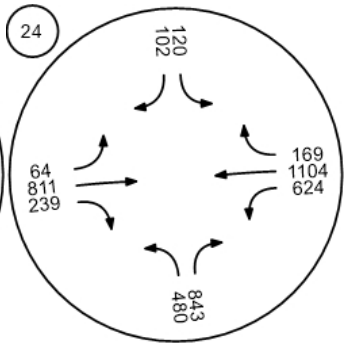
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Miller Pkwy and Tierra Rejada



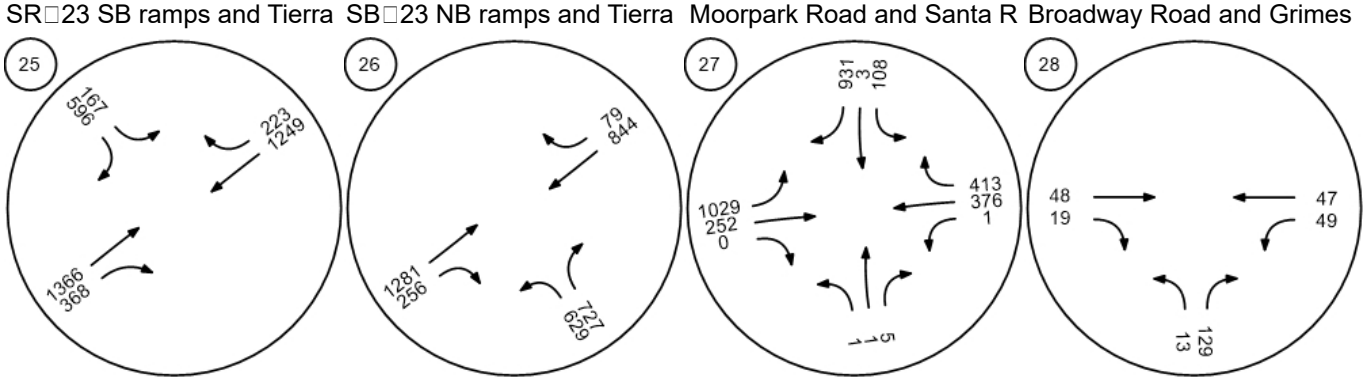
SOURCE: Impact Sciences, Inc., 2021

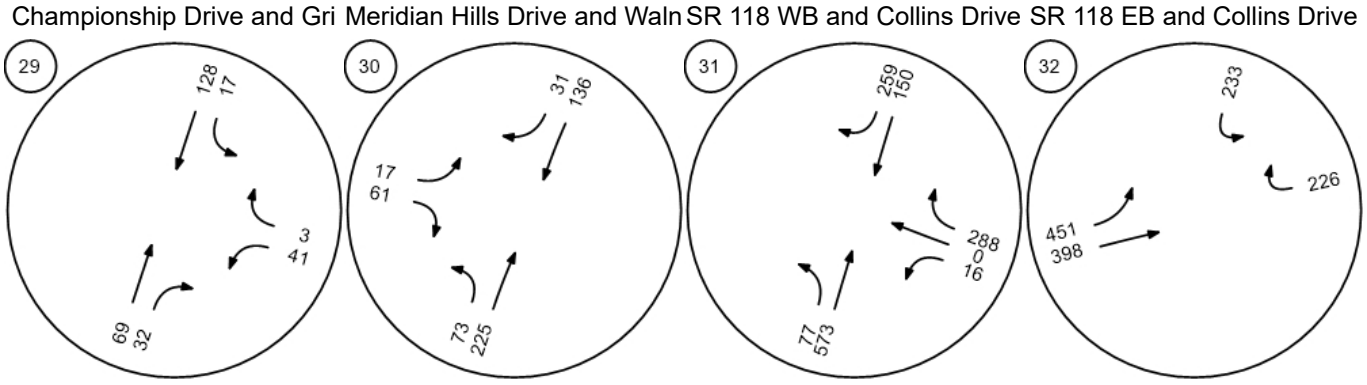
FIGURE **13c**

IMPACT SCIENCES

Future (2026) Traffic Volume Without Project - Weekday PM Peak Hour







SOURCE: Impact Sciences, Inc., 2021

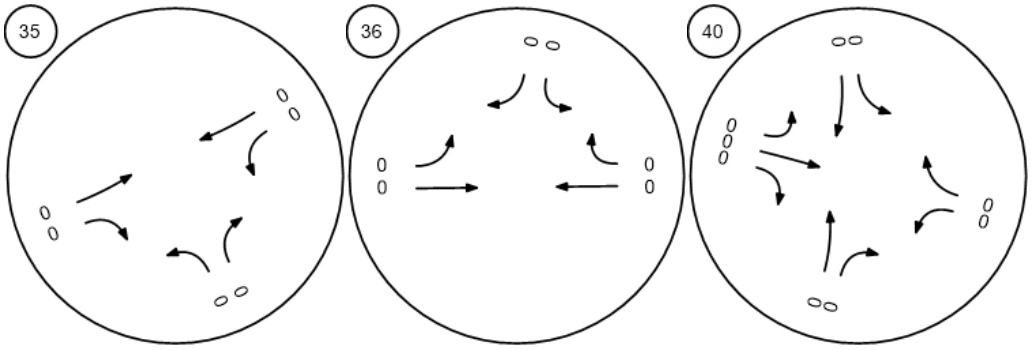
FIGURE **13d**

IMPACT SCIENCES

Future (2026) Traffic Volume Without Project - Weekday PM Peak Hour



Future Road - Meridian Hills Future Road - Street "A" at HiFuture Road - Casey Road at



SOURCE: Impact Sciences, Inc., 2021

FIGURE **13e**

IMPACT SCIENCES

Future (2026) Traffic Volume Without Project - Weekday PM Peak Hour

As shown in Table 11, the proposed project will significantly impact traffic conditions at four intersections during the morning peak hour under cumulative 2026 conditions.

9. The intersection of Walnut Canyon Road and Casey Road is significantly impacted prior to the implementation of mitigation measures, with Level of Service degrading from LOS C to LOS D.

10. The intersection of Moorpark Avenue and High Street is significantly impacted prior to the implementation of mitigation measures, with Level of Service degrading from LOS D to LOS E.

11. The intersection of Spring Road at High Street is significantly impacted prior to the implementation of mitigation measures, with Level of Service degrading from LOS C to LOS D.

12. The intersection of Spring Road and Los Angeles Avenue is significantly impacted prior to the implementation of mitigation measures, as V/C would increase by 0.037 at this intersection that would already operate at LOS F.

In the afternoon peak hour, the proposed project will significantly impact traffic conditions at five intersections under cumulative 2026 conditions:[5]

13. The intersection of Moorpark Avenue and High Street is significantly impacted prior to the implementation of mitigation measures, with Level of Service degrading from LOS C to LOS E.

14. The intersection of Spring Road and Los Angeles Avenue is significantly impacted prior to the implementation of mitigation measures, as V/C would increase by 0.059 at this intersection that would already operate at LOS F.

[5] Level of Service at Tierra Rejada Road and Los Angeles Avenue would degrade from LOS D to E in the morning peak hour due to the projected baseline V/C of 0.897. Because the project's increase is only 0.006 V/C, this is not considered a significant project impact.

15. The intersection of Miller Parkway/Science Drive/Los Angeles Avenue is significantly impacted prior to the implementation of mitigation measures, as V/C would increase by 0.048 at this intersection that would already operate at LOS F.

16. The intersection of SR-23 southbound ramps and Los Angeles Avenue is significantly impacted prior to the implementation of mitigation measures, with Level of Service degrading from LOS C to LOS D.

17. The intersection of Spring Road and Tierra Rejada Road is significantly impacted prior to the implementation of mitigation measures, with Level of Service degrading from LOS D to LOS E.

Table 11
Future (2026) + Project Traffic Conditions (AM Peak Hour)

No.	Intersection	Future Conditions			Future with Project Conditions					
		V/C	Delay	LOS	V/C	Delay	LOS	Change (V/C)	Change (Delay)	Signifi-cant?
1	Walnut Canyon Road at Broadway Road		20.3	C		20.6	C		0.3	No
2	Walnut Canyon Road at Championship Drive		29.5	D		30.2	D		1.1	No
3	Walnut Canyon Road at Spring Road	0.687		B	0.704		C	0.017		No
4	Walnut Canyon Road at Casey Road	0.780		C	0.874		D	0.094		Yes
5	Moorpark Avenue at High Street	0.818		D	0.947		E	0.129		Yes
6	Spring Road at High Street	0.796		C	0.81		D	0.014		Yes
7	Gabbert Road at Poindexter Avenue		10.8	B	11	11.0	B		0.2	No
8	Moorpark Avenue and Poindexter Avenue/1st St	0.801		D	0.861		D	0.06		No
9	Somis Road and Los Angeles Avenue	1.202		F	1.212		F	0.01		No
10	Grimes Canyon Road and Los Angeles Avenue	0.828		D	0.833		D	0.005		No
11	Tierra Rejada Road and Los Angeles Avenue	0.897		D	0.903		E	0.006		No*
12	Moorpark Avenue and Los Angeles Avenue	0.693		B	0.726		C	0.033		No
13	Spring Road and Los Angeles Avenue	1.049		F	1.086		F	0.037		Yes
14	Miller Parkway/Science Drive/Los Angeles Ave	0.811		D	0.84		D	0.029		No
15	SR-23 SB ramps and Los Angeles Avenue	0.501		A	0.509		A	0.008		No
16	SR-23 NB ramps and Los Angeles Avenue	0.602		B	0.619		B	0.017		No
17	Spring Road and Peach Hill Road	0.852		D	0.884		D	0.032		No
18	Tierra Rejada Road and Countrywood Drive	0.779		C	0.789		C	0.01		No
19	Mountain Trail Road and Tierra Rejada Road	0.674		B	0.68		B	0.006		No
20	Mountain Meadow Drive and Tierra Rejada Rd	0.733		C	0.737		C	0.004		No
21	Walnut Creek Road and Tierra Rejada Road	0.901		E	0.905		E	0.004		No
22	Peach Hill Road and Tierra Rejada Road	0.835		D	0.837		D	0.002		No
23	Spring Road and Tierra Rejada Road	0.921		E	0.943		E	0.022		No
24	Miller Parkway and Tierra Rejada Road	1.155		F	1.159		F	0.004		No
25	SR-23 SB ramps and Tierra Rejada Road	0.934		E	0.954		E	0.02		No
26	SB-23 NB ramps and Tierra Rejada Road	1.031		F	1.032		F	0.001		No
27	Moorpark Road and Santa Rosa Road	1.081		F	1.083		F	0.002		No
28	Broadway Road and Grimes Canyon Road		11.3	B		11.3	B		0.0	No
29	Championship Drive and Grimes Canyon Road		10.1	B		10.1	B		0.0	No
30	Meridian Hills Drive and Walnut Canyon Road		14.5	B		15.0	B		0.5	No
31	SR 118 WB and Collins Drive	0.641		B	0.641		B	0.000		No
32	SR 118 EB and Collins Drive	0.650		B	0.650		B	0.000		No
33	Meridian Hills Drive and Street “A”		3.3	A		3.3	A		0.0	No
34	Street “A” and High Street		8.4	A		9.5	A		1.1	No
35	Casey Road at Street “A”		7.0	A		7.7	A		0.7	No

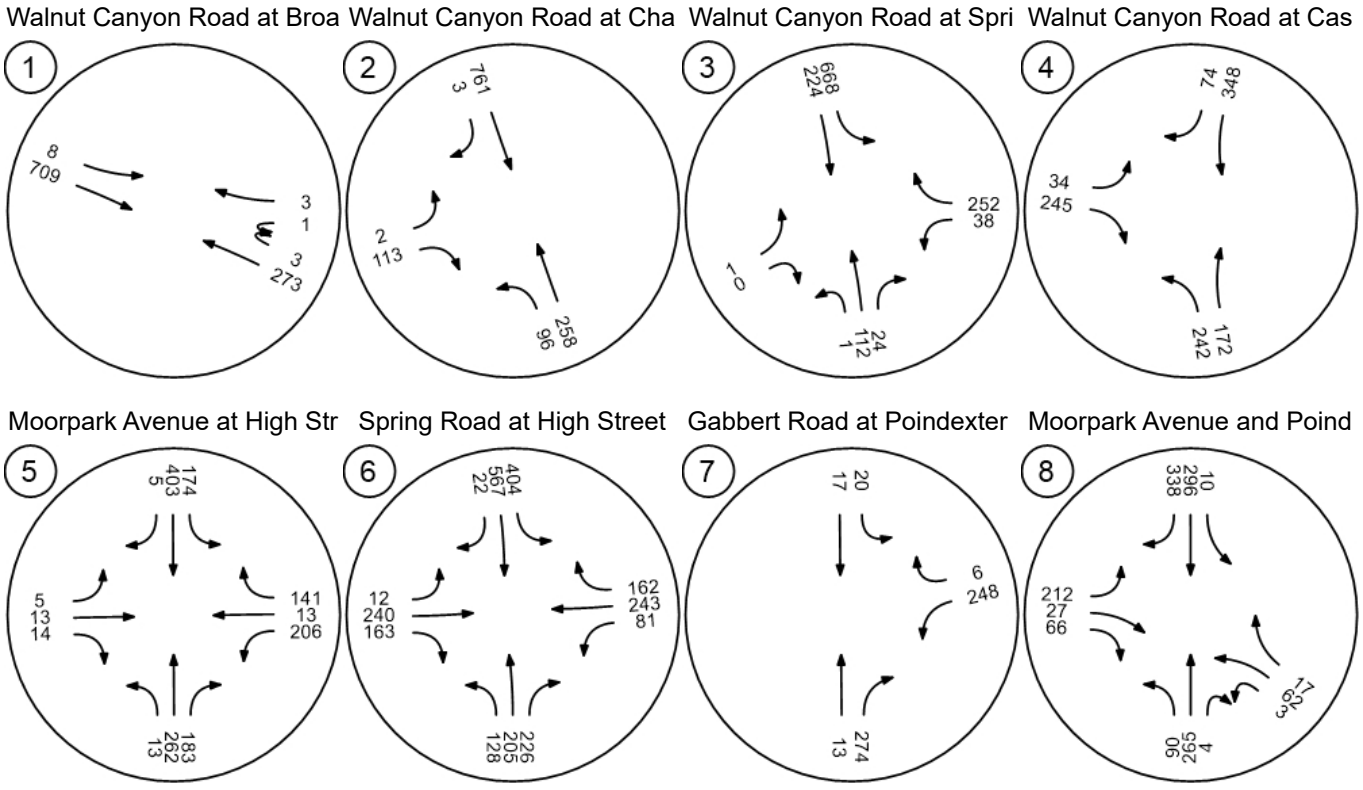
Shading denotes significant impact
* Level of Service at Tierra Rejada Road and Los Angeles Avenue would degrade from LOS D to E in the morning peak hour due to the projected baseline V/C of 0.897. Because the project’s increase is only 0.006 V/C, this is not considered a significant project impact.

Table 12
Future (2026) + Project Traffic Conditions (PM Peak Hour)

No.	Intersection	Future Conditions			Future with Project Conditions					
		V/C	Delay	LOS	V/C	Delay	LOS	Change (V/C)	Change (Delay)	Signifi-cant?
1	Walnut Canyon Road at Broadway Road		26.6	D		27.0	D		0.4	No
2	Walnut Canyon Road at Championship Drive		39.8	E		41.5	E		1.7	No
3	Walnut Canyon Road at Spring Road	1.012		F	1.026		F	0.014		No
4	Walnut Canyon Road at Casey Road	0.571		A	0.743		C	0.172		No
5	Moorpark Avenue at High Street	0.795		C	0.946		E	0.151		Yes
6	Spring Road at High Street	0.973		E	0.997		E	0.024		No
7	Gabbert Road at Poindexter Avenue		10.8	B		10.9	B	0.1	0.1	No
8	Moorpark Avenue and Poindexter Avenue/1st St	0.831		D	0.868		D	0.037		No
9	Somis Road and Los Angeles Avenue	1.435		F	1.454		F	0.019		No
10	Grimes Canyon Road and Los Angeles Avenue	0.901		E	0.91		E	0.009		No
11	Tierra Rejada Road and Los Angeles Avenue	0.853		D	0.858		D	0.005		No
12	Moorpark Avenue and Los Angeles Avenue	0.754		C	0.78		C	0.026		No
13	Spring Road and Los Angeles Avenue	1.18		F	1.239		F	0.059		Yes
14	Miller Parkway/Science Drive/Los Angeles Ave	1.044		F	1.092		F	0.048		Yes
15	SR-23 SB ramps and Los Angeles Avenue	0.779		C	0.815		D	0.036		Yes
16	SR-23 NB ramps and Los Angeles Avenue	0.824		D	0.856		D	0.032		No
17	Spring Road and Peach Hill Road	0.815		D	0.865		D	0.05		No
18	Tierra Rejada Road and Countrywood Drive	0.59		A	0.605		B	0.015		No
19	Mountain Trail Road and Tierra Rejada Road	0.564		A	0.575		A	0.011		No
20	Mountain Meadow Drive and Tierra Rejada Rd	0.633		B	0.638		B	0.005		No
21	Walnut Creek Road and Tierra Rejada Road	0.74		C	0.746		C	0.006		No
22	Peach Hill Road and Tierra Rejada Road	0.772		C	0.779		C	0.007		No
23	Spring Road and Tierra Rejada Road	0.879		D	0.926		E	0.047		Yes
24	Miller Parkway and Tierra Rejada Road	1.011		F	1.018		F	0.007		No
25	SR-23 SB ramps and Tierra Rejada Road	0.945		E	0.953		E	0.008		No
26	SB-23 NB ramps and Tierra Rejada Road	0.852		D	0.853		D	0.001		No
27	Moorpark Road and Santa Rosa Road	1.395		F	1.401		F	0.006		No
28	Broadway Road and Grimes Canyon Road		10.4	B		10.4	B		0.0	No
29	Championship Drive and Grimes Canyon Road		10.1	B		10.1	B		0.0	No
30	Meridian Hills Drive and Walnut Canyon Road		15.1	C		16.0	C		0.9	No
31	SR 118 WB and Collins Drive	0.648		B	0.648		B	0.000		No
32	SR 118 EB and Collins Drive	0.671		B	0.671		B	0.000		No
33	Meridian Hills Drive and Street “A”		3.3	A		3.3	A		0.0	No
34	Street “A” and High Street		8.4	A		9.6	A		1.2	No
35	Casey Road at Street “A”		7.0	A		7.4	A		0.4	No

Shading denotes significant impact





SOURCE: Impact Sciences, Inc., 2021

FIGURE **14a**

IMPACT SCIENCES

Future (2026) + Project Traffic Volume - Weekday AM Peak Hour

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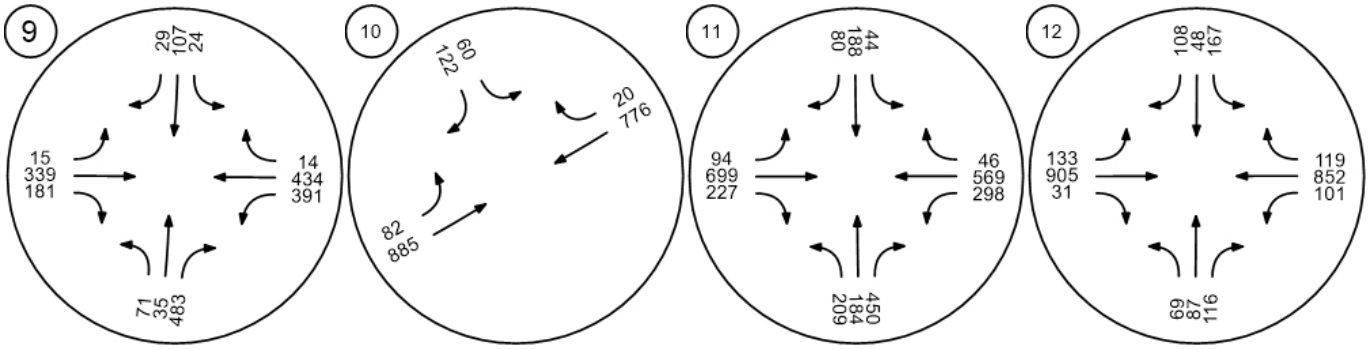
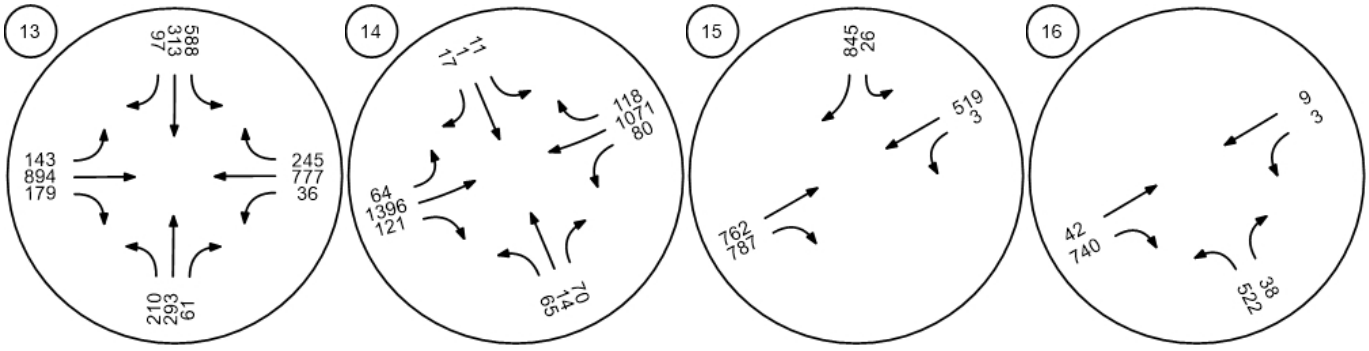
Version 7.00-06



Somis Road and Los Angeles | Grimes Canyon Road and Lo | Tierra Rejada Road and Los | Moorpark Avenue and Los A



Spring Road and Los Angele | Miller Parkway/Science Drive | SR□23 SB ramps and Los An | SR□23 NB ramps and Los An



SOURCE: Impact Sciences, Inc., 2021

FIGURE **14b**

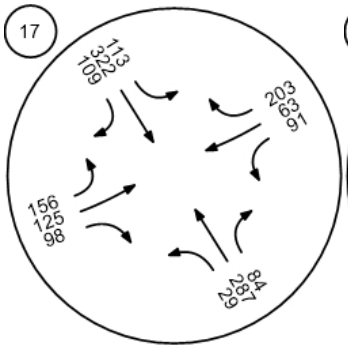
IMPACT SCIENCES

Future (2026) + Project Traffic Volume - Weekday AM Peak Hour

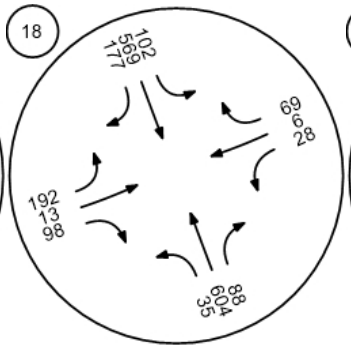
1318.003•01/21



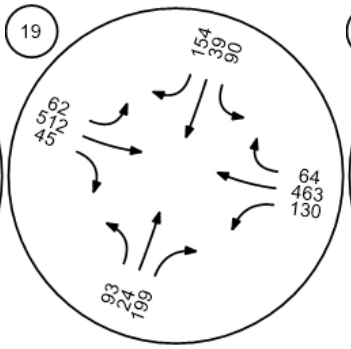
Spring Road and Peach Hill



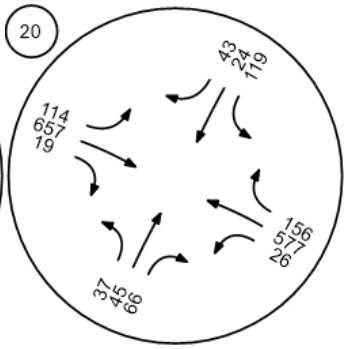
Tierra Rejada Road and Cou



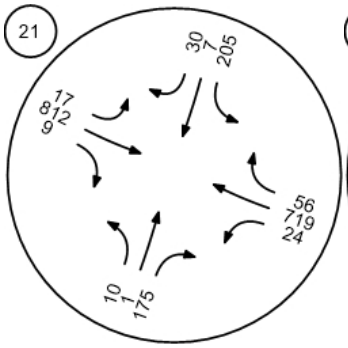
Mountain Trail Road and Tier



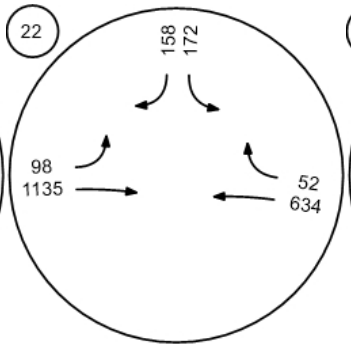
Mountain Meadow Drive and



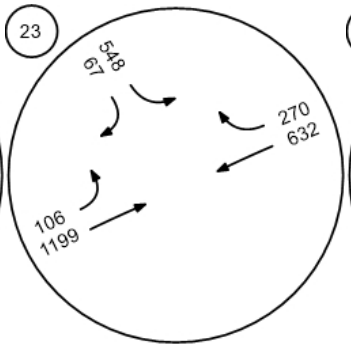
Walnut Creek Road and Tierr



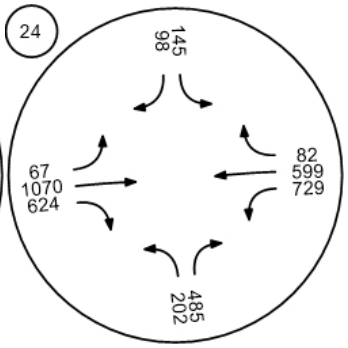
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Miller Pkwy and Tierra Rejada



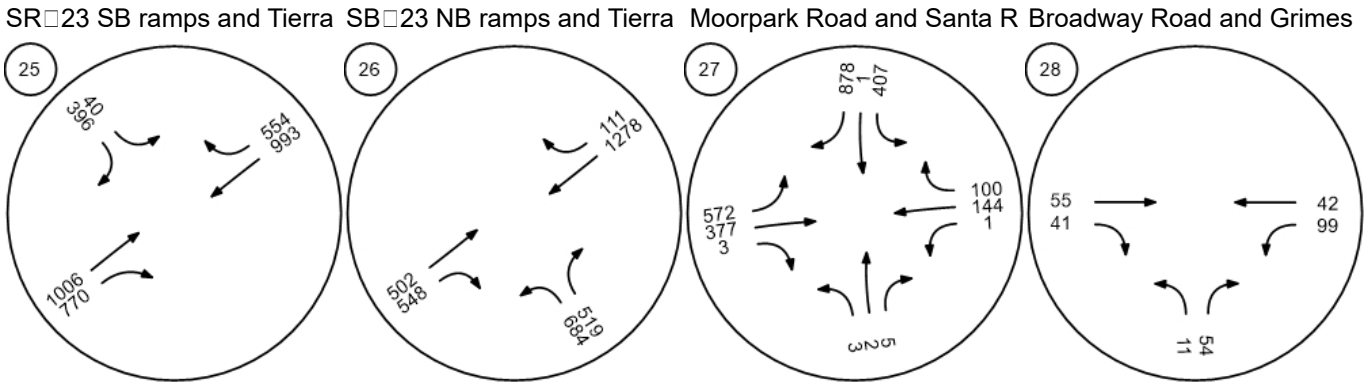
SOURCE: Impact Sciences, Inc., 2021

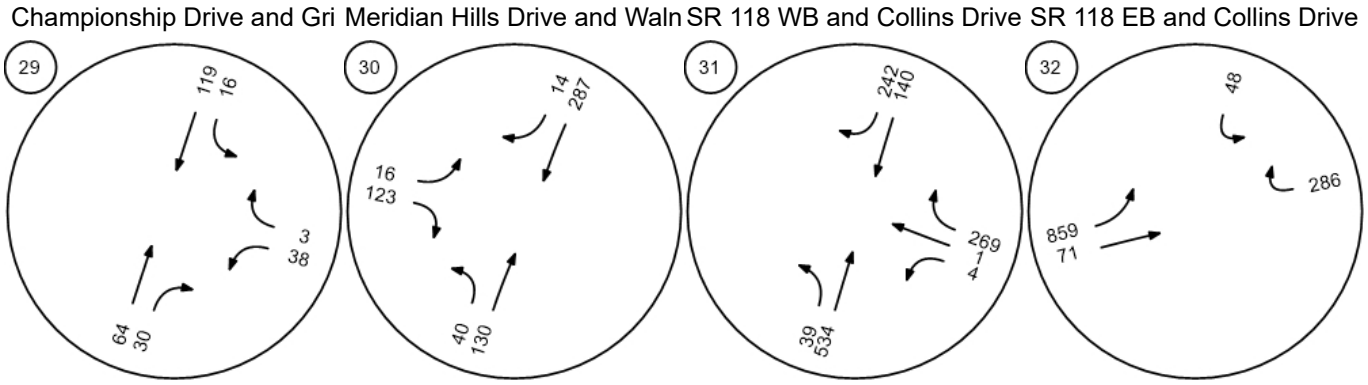
FIGURE **14c**

IMPACT SCIENCES

Future (2026) + Project Traffic Volume - Weekday AM Peak Hour







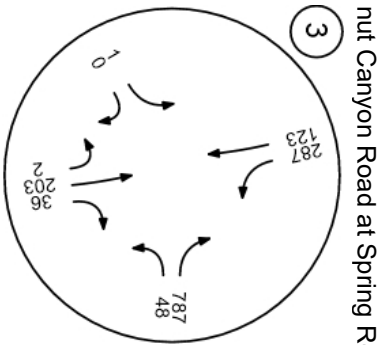
SOURCE: Impact Sciences, Inc., 2021

FIGURE **14d**

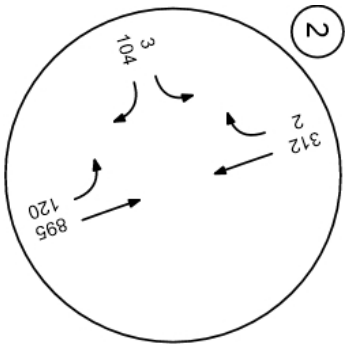
IMPACT SCIENCES

Future (2026) + Project Traffic Volume - Weekday AM Peak Hour

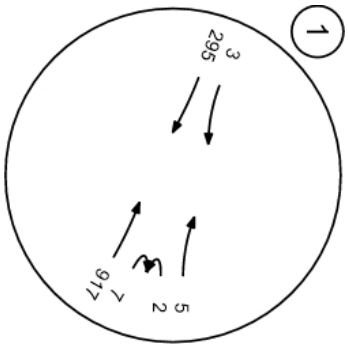




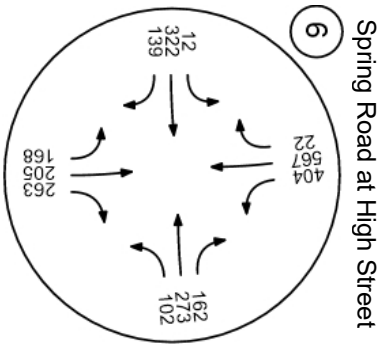
nut Canyon Road at Spring R



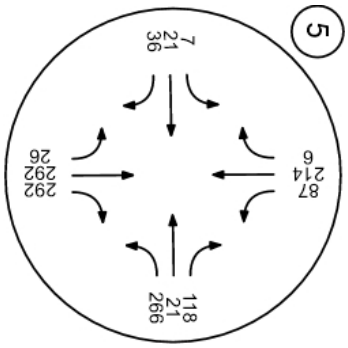
Canyon Road at Championsh



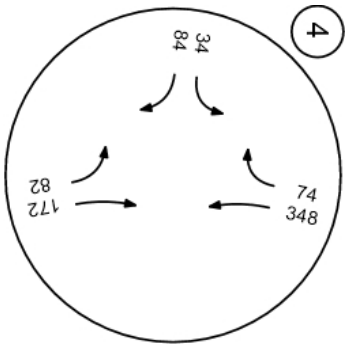
Jt Canyon Road at Broadway



Spring Road at High Street



Moorpark Avenue at High Stree



lnut Canyon Road at Casey R

SOURCE: Impact Sciences, Inc., 2021

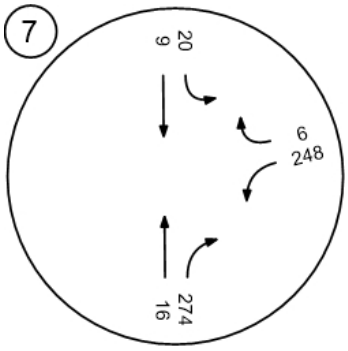
FIGURE **15a**

IMPACT SCIENCES

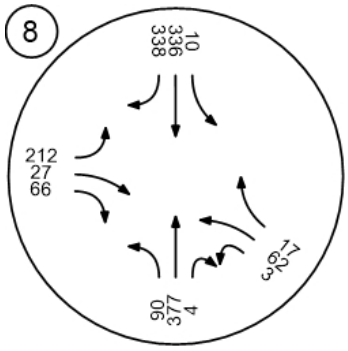
Future (2026) + Project Traffic Volume - Weekday PM Peak Hour



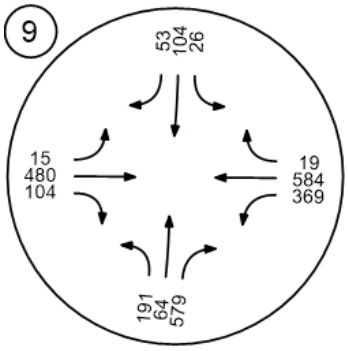
Gabbert Road at Poindexter



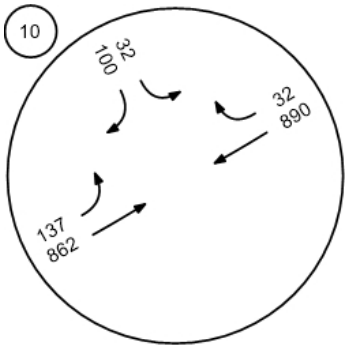
Moorpark Avenue and Poind



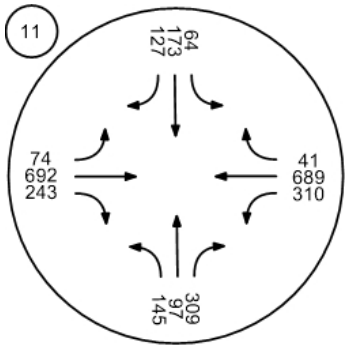
Somis Road and Los Angeles



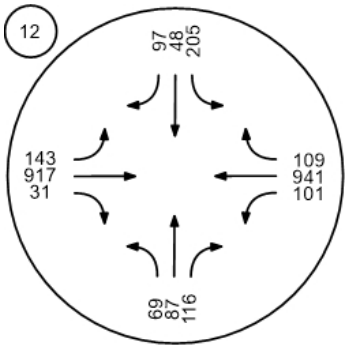
Grimes Canyon Road and Lo



Tierra Rejada Road and Los



Moorpark Avenue and Los A

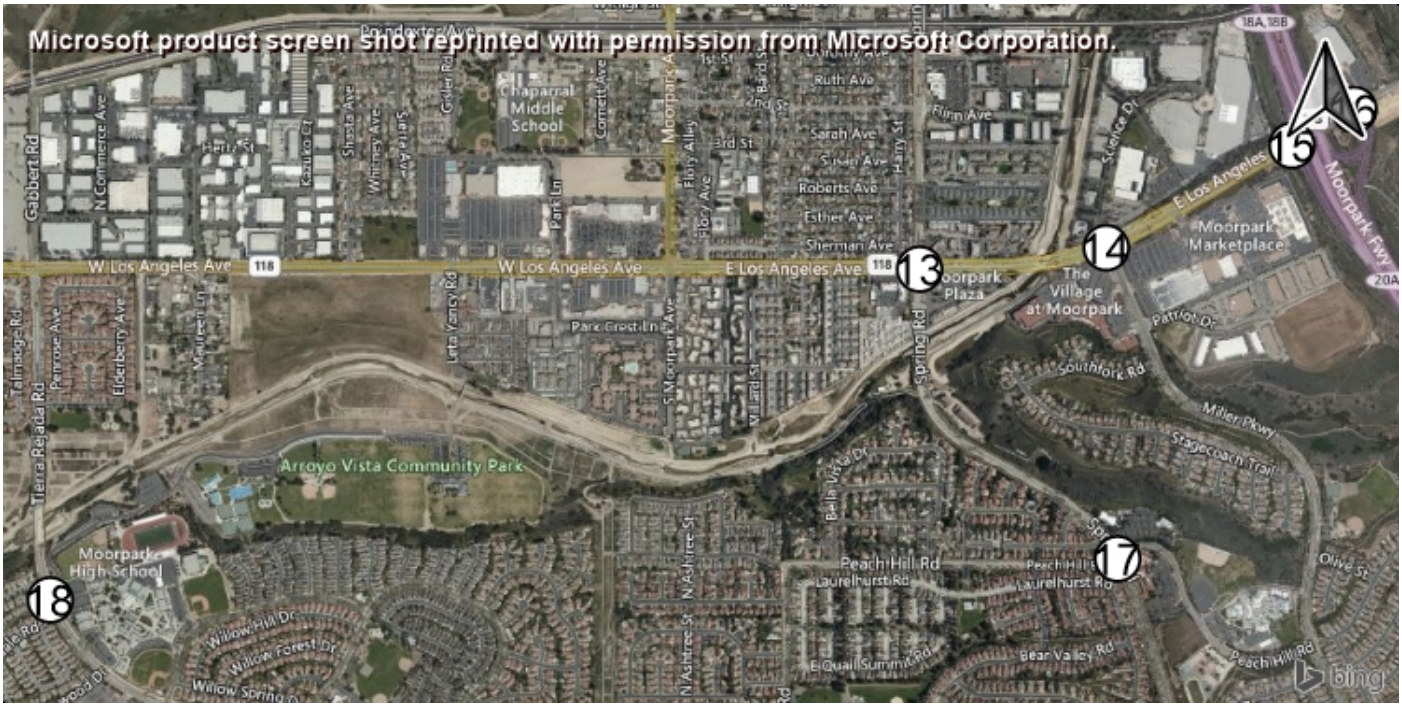


SOURCE: Impact Sciences, Inc., 2021

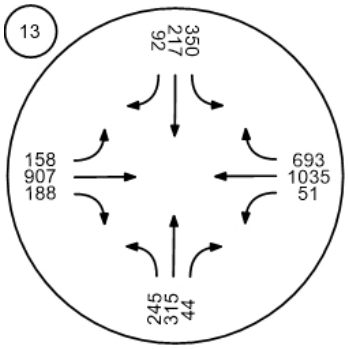
FIGURE **15b**

IMPACT SCIENCES

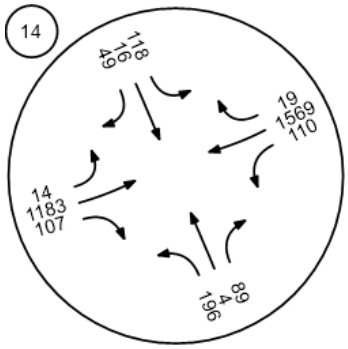
Future (2026) + Project Traffic Volume - Weekday PM Peak Hour



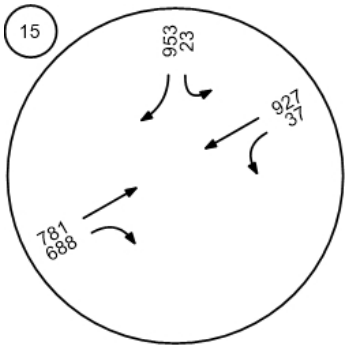
Spring Road and Los Angele



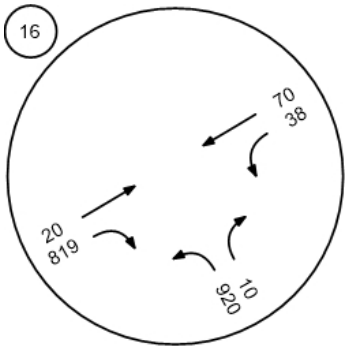
Miller Parkway/Science Drive



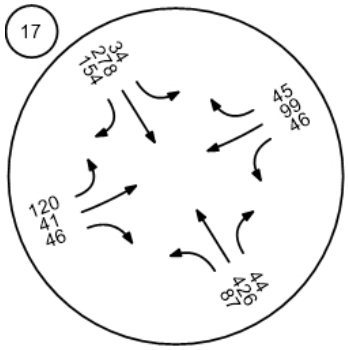
SR□23 SB ramps and Los An



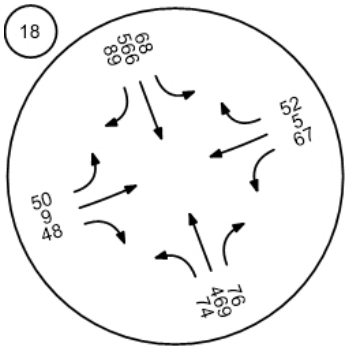
SR□23 NB ramps and Los An



Spring Road and Peach Hill



Tierra Rejada Road and Cou

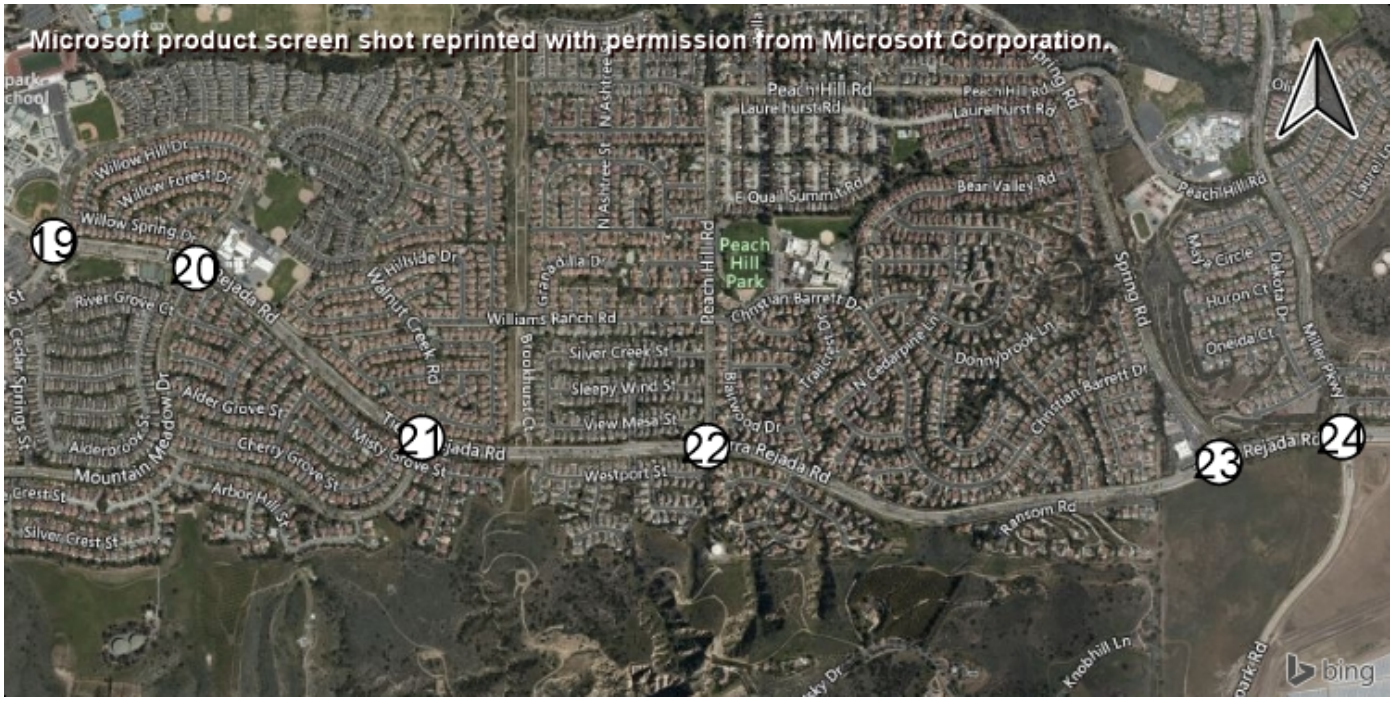


SOURCE: Impact Sciences, Inc., 2021

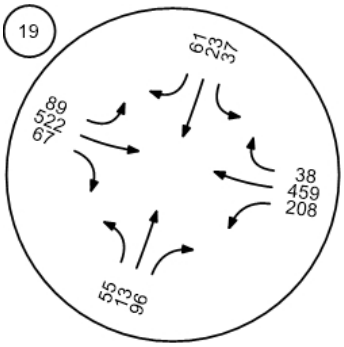
FIGURE **15c**

IMPACT SCIENCES

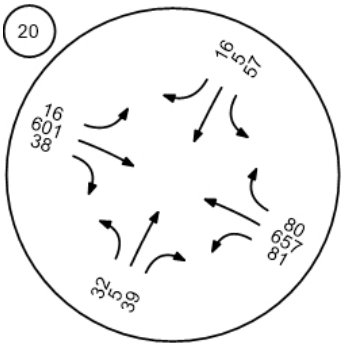
Future (2026) + Project Traffic Volume - Weekday PM Peak Hour



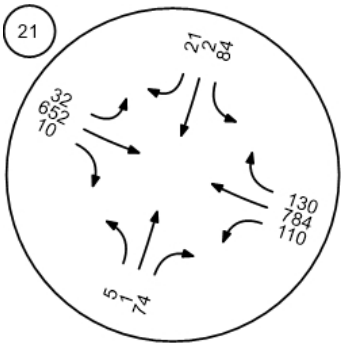
Mountain Trail Road and Tier



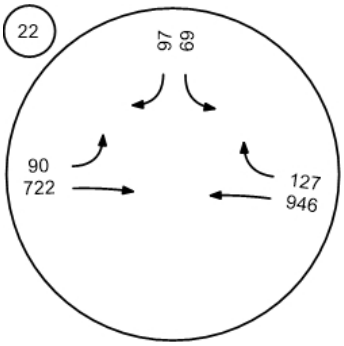
Mountain Meadow Drive and



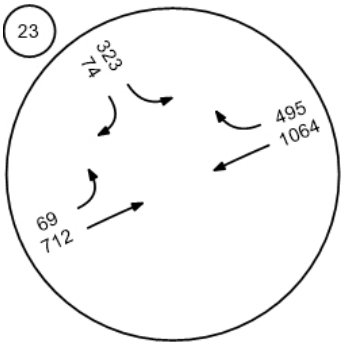
Walnut Creek Road and Tierr



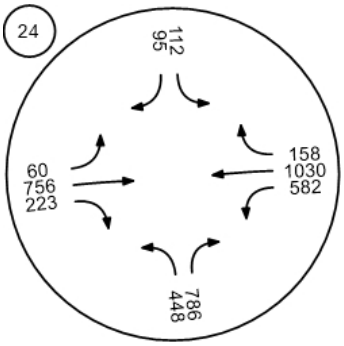
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Miller Pkwy and Tierra Rejada



SOURCE: Impact Sciences, Inc., 2021

FIGURE **15d**

IMPACT SCIENCES

Future (2026) + Project Traffic Volume - Weekday PM Peak Hour

rpark Road and Santa Rosa F

3 NB ramps and Tierra Rejada

3 SB ramps and Tierra Rejada

ı Hills Drive and Walnut Canyc

nship Drive and Grimes Cany

way Road and Grimes Canyor

SOURCE: Impact Sciences, Inc., 2021

FIGURE **15e**

IMPACT SCIENCES

Future (2026) + Project Traffic Volume - Weekday PM Peak Hour

SOURCE: Impact Sciences, Inc., 2021

FIGURE **15f**

IMPACT SCIENCES

Future (2026) + Project Traffic Volume - Weekday PM Peak Hour

Site Plan Review

- Transit, Bicycle, and Pedestrian Facilities

The proposed project would include construction of 755 residential units, a public park, eight acres of private recreational areas, and 162 acres of open space, roadways, and detention basins. Development of the 270.64-acre project site would not impact the operations of the Moorpark Metrolink station, the platform for which is 890 feet to the southeast of the edge of the project site. Specifically, Metrolink's at-grade right-of-way crossing on Moorpark Avenue is 170 feet south of the project site and would not be impacted by construction or operation of the proposed project. While this traffic study conservatively did not assume any transit mode share, the proximity of the Metrolink station would likely reduce demand for auto trips to and from the project site.

The project would not cross or interfere with existing bikeways or pedestrian facilities. Rather, residents and visitors to the project site would benefit from active transportation facilities in and near the project site. This includes proposed sidewalks within the development will encourage pedestrian travel to the Civic Center area via High Street, as well as travel to the Los Angeles Avenue corridor to the south. In addition, Class II bicycle facilities on Poindexter Avenue to the south of the railroad right-of-way will help encourage bicycle use to and from the project site.

As such, the project would support public transit, pedestrian, and bicycle programs and objectives in the City of Moorpark.

- Emergency Vehicle Access

The project site's internal circulation system does not have any hazardous design features like sharp curves or complex intersections that could impede ingress and egress for emergency vehicles. Specifically, the primary collector roads (e.g., Casey Road, High Street, Street "A", North Hills Parkway, Meridian Hills Drive) are generally two lane roads that would be designed to the City's standards for such roadways. A roundabout at the junction of Meridian Hills Drive and Street "A" would be designed with sufficient radius to allow emergency vehicles to navigate this. Local roads serving the residences would not

include any sharp curves or other design features that would impede emergency access. Cul-de-sacs would be designed with sufficient turning radii for larger emergency vehicles. No roads would be permanently closed during the construction of the proposed project. As such, no structures would be built that could impair execution of emergency response plans or emergency evacuation plans.

In the long-term, development of the Hitch Ranch site would replace dead-end cul-de-sacs at several locations (e.g., High Street, Casey Road, Meridian Hills Drive) with through access to other parts of the transportation network. This would likely improve emergency access by increasing the options for accessing emergency events.

- Construction Impacts

The proposed project would be developed in two multi-year construction phases. The first phase would be completed by 2023 and serve the east part of the site east of proposed Street "A." During this 24-36 month construction process, several new roadways would be built to provide internal circulation within the project during construction. The first phase would include the following major public rights-of-way:

- A local north-south collector road (Street "A") to be built from the extension of High Street, approximately midway between Walnut Canyon Road and Gabbert Road.
- Extending High Street through the project site to connect Moorpark Avenue on the east to Gabbert Road.
- Extend Casey Road west into the site as far as Street "A." The project would also widen Casey Road east of the project site to approximately 440 feet west of Walnut Canyon Road.
- Extending Meridian Hills Drive feet westward from its current terminus northwest of the project site.
- The dedication of corridor right-of-way for the future construction of North Hills Parkway from Walnut Canyon Road to Street "A."

While the transport of graders, rollers, and other construction equipment needed to develop this internal roadway system would include use of High Street, Moorpark

Avenue, and other local arterials, these impacts would be temporary. Once on-site, the staging of construction activities would remain within the perimeter of the project site, minimizing any impacts on the local circulation network outside the project boundaries. Once the internal roadways are complete, construction of the residences on the northeast quadrant of the project site would proceed, with staging and construction activities done within the perimeter of the project site. Once again, impacts on the local roadway network outside the project boundaries would be minimal, aside from commute workers and vendors accessing the site to deliver material.

Following occupancy of the first phase, a second phase of construction would begin to develop the western portion of the project site west of Street “A” for operation by 2026. This would include constructing the rest of the internal circulation system, including:

- The dedication of right-of-way for future construction of North Hills Parkway from Gabbert Road to connect to the Aldersgate project east of Street “A.”
- The construction of local roads to serve the second phase of development west of Street “A” (i.e., Streets “B” through “P”).

Construction equipment needed to build the internal roadway system for Phase 2 would likely use equipment already on-site from Phase 1. As such, impacts of transporting equipment to the site on High Street, Moorpark Avenue, and other local arterials would be minimal. Staging of construction activities would remain within the perimeter of the project site, minimizing any impacts on the local circulation network outside the project boundaries. Once the internal roadways are complete to serve Phase 2, construction of the residences on the western half of the project site would proceed, with staging and construction activities done within the perimeter of the project site. Once again, impacts on the local roadway network outside the project boundaries would be minimal, aside from commute workers and vendors accessing the site to deliver material.

No roads would be permanently closed during the construction of the proposed project. In addition, no structures would be built that could impair execution of emergency response plans or emergency evacuation plans.

Congestion Management Program Analysis

The VCTC adopted the 2009 CMP to regulate and monitor regional traffic growth and transportation improvement programs. Under the CMP's Traffic Impact Analysis guidelines, a project impact is considered significant if it increases traffic demand on the CMP roadway network by more than two percent of capacity (V/C > 0.02), causing or worsening LOS F (V/C > 1.00). As such, a project would not have a regionally significant impact on the countywide roadway network if the CMP facility operates at LOS E or better after the addition of project traffic, regardless of the increase in V/C from the project. If a CMP facilities operates at LOS F with project traffic and the incremental change is 0.02 or greater V/C, the project would have a significant impact.

Under the CMP's Traffic Impact Assessment guidelines, an intersection on the CMP network must be examined if a project would add 50 or more trips during the AM or PM weekday peak hours. As shown in Table 13, the project would add 50 or more peak hour trips in the AM peak hour to six intersections on the CMP roadway network for Ventura County. However, based on the CMP's criteria that define a significant impact, the project would not significantly impact the CMP's roadway network in the AM peak hour.

Table 13
Existing + Project Traffic Conditions on CMP Network (AM Peak Hour)

No.	Intersection	Existing Conditions		Existing with Project Conditions			
		V/C	LOS	V/C	Delay	Change (V/C)	Signifi-cant?
4	Walnut Canyon Road at Casey Road	0.668	B	0.801	D	0.133	No
5	Moorpark Avenue at High Street	0.684	B	0.788	C	0.104	No
8	Moorpark Avenue and Poindexter Avenue/1st St	0.734	C	0.785	C	0.051	No
12	Moorpark Avenue and Los Angeles Avenue	0.701	C	0.717	C	0.016	No
15	SR-23 SB ramps and Los Angeles Avenue	0.441	A	0.453	A	0.012	No
16	SR-23 NB ramps and Los Angeles Avenue	0.496	A	0.519	A	0.023	No
Intersections listed represent areas on the CMP roadway network where the project would add 50 or more peak hour trips Shading denotes significant impact							

As shown in Table 14, the project would add 50 or more peak hour trips in the PM peak hour to seven intersections on the CMP network. However, based on CMP criteria, the project would not significantly impact the regional network in the PM peak hour.

Table 14
Existing + Project Traffic Conditions on CMP Network (PM Peak Hour)

No.	Intersection	Existing Conditions		Existing with Project Conditions			
		V/C	LOS	V/C	LOS	Change (V/C)	Signifi-cant?
4	Walnut Canyon Road at Casey Road	0.468	A	0.654	A	0.186	No
5	Moorpark Avenue at High Street	0.735	C	0.896	D	0.161	No
12	Moorpark Avenue and Los Angeles Avenue	0.620	B	0.642	B	0.022	No
15	SR-23 SB ramps and Los Angeles Avenue	0.694	B	0.731	C	0.037	No
16	SR-23 NB ramps and Los Angeles Avenue	0.667	B	0.696	B	0.029	No
23	Spring Road and Tierra Rejada Road	0.756	C	0.777	C	0.021	No
24	Miller Parkway and Tierra Rejada Road	0.834	D	0.840	D	0.006	No
Intersections listed represent areas on the CMP roadway network where the project would add 50 or more peak hour trips Shading denotes significant impact							

Project's Traffic Mitigation Measures

When analyzed against existing conditions, the change in traffic flow generated by the proposed project significantly impacts up five intersections in the morning and/or afternoon peak hours. Figure 15 illustrates the location and time period for the impacted study intersections. The impacted intersections for each project scenario are listed below with the recommended traffic mitigation measures for each intersection.

1. Walnut Canyon Road and Casey Road. This impact in the morning peak hour could be mitigated by adding a second right turn lane on eastbound Casey Road.

2. Walnut Canyon Road at Spring Road. This impact in the afternoon peak hour could be mitigated by adding a second right turn lane on westbound Spring Road.

3. Moorpark Avenue at High Street. This impact in the afternoon peak hour could be mitigated by converting the northbound left turn lane-through lane to a dedicated left turn lane and a through lane. Adding a left turn lane on the westbound High Street approach at Moorpark Avenue would also be needed.

4. Spring Road and High Street. This impact in the afternoon peak hour could be mitigated by adding a second through lane on the eastbound approach of High Street at Spring Road.

5. Spring Road and Los Angeles Avenue. This impact in the afternoon peak hour could be mitigated by converting the right turn-only lane on the eastbound Los Angeles Avenue approach at Spring Road to a shared right turn-through lane.

When analyzed against future (cumulative) conditions, the following mitigation measures would substantially reduce impacts at the seven intersections that would be impacted in the morning and/or afternoon peak hours:[6]

1. Walnut Canyon Road and Casey Road. This impact in the morning peak hour could be mitigated by adding a second right turn lane on eastbound Casey Road.

2. Moorpark Avenue at High Street. This impact in the morning peak hour could be mitigated by converting the northbound left turn lane-through lane to a dedicated left turn lane and a through lane. Adding a left turn lane on the westbound High Street approach at Moorpark Avenue would also be needed to mitigate the afternoon peak hour impact.

3. Spring Road and High Street. This impact in the morning peak hour could be mitigated by adding a second through lane on the eastbound approach of High Street at Spring Road.

4. Spring Road and Los Angeles Avenue. This impact in the morning and afternoon peak hour could be mitigated by converting the right turn-only lane on the eastbound Los Angeles Avenue approach at Spring Road to a shared right turn-through lane.

5. Miller Parkway/Science Drive/Los Angeles Avenue. This impact in the afternoon peak hour could be mitigated by adding a dedicated right turn on the Science Drive approach to Los Angeles Avenue.

6. SR-23 SB ramps and Los Angeles Avenue. This impact in the afternoon peak hour could be mitigated by converting the dedicated left turn lane on westbound Los Angeles Avenue to a left turn-through lane.

[6] Level of Service at Tierra Rejada Road and Los Angeles Avenue would degrade from LOS D to E in the morning peak hour due to the projected baseline V/C of 0.897. Because the project's increase is only 0.006 V/C, this is not considered a significant project impact.

7. Spring Road and Tierra Rejada Road. The impact in the afternoon peak hour could be mitigated by allowing permissive signal timing on Tierra Rejada Road.

However, the project's impacts contribute to intersections that require improvements due to cumulative growth in the area. As a result, the following mitigation measure would be required to mitigate all significant impacts:

TRA-1 Area of Contribution (AOC) Fees

The project shall pay the AOC fee based upon the level of traffic added at significantly impacted intersections. The AOC fee shall be paid prior to issuance of a certificate of occupancy for the first phase of the project.

With implementation of the proposed traffic mitigation measures, the project's traffic impacts will be fully mitigated as shown in Table 15 for the "Existing (2019) + Project" conditions.

- Walnut Canyon Road and Casey Road. The proposed mitigation measure would improve conditions at this intersection by reducing existing V/C by 0.002 which would help maintain the current LOS B during the morning peak.
- Walnut Canyon Road and Spring Road. The proposed mitigation measure would improve conditions at this intersection by reducing existing V/C by 0.233 which would improve the current LOS D during the morning peak to LOS B.
- Moorkpark Avenue and High Street. The proposed mitigation measure would improve conditions at this intersection by only increasing existing V/C by 0.046 which would help maintain the current LOS C during the morning peak.
- Spring Road and High Street. The proposed mitigation measure would improve conditions at this intersection by decreasing existing V/C by 0.087 which would improve the current LOS C during the morning peak to LOS B.
- Spring Road and Los Angeles Avenue. The proposed mitigation measure would improve conditions at this intersection by reducing V/C by 0.055 which would

ensure that the intersection, while continuing to operate at LOS F, would reduce V/C.

Table 15
Existing (2019) Traffic Conditions With Project + Mitigation

Intersection	Peak Hour	Without Project		With Project + Mitigation		
		V/C	LOS	V/C	LOS	Impact
Walnut Canyon Road and Casey Road	AM	0.668	B	0.666	B	-0.002
Walnut Canyon Road and Spring Road	PM	0.899	D	0.666	B	-0.233
Moorpark Avenue and High Street	PM	0.735	C	0.781	C	0.046
Spring Road and High Street	PM	0.782	C	0.695	B	-0.087
Spring Road and Los Angeles Ave	PM	1.064	f	1.009	f	-0.055

With implementation of the proposed traffic mitigation measures, the project's traffic impacts will be fully mitigated as shown in Table 16 for the "Future (2026) Cumulative + Project" conditions

- Walnut Canyon Road and Casey Road. The proposed mitigation measure would improve conditions at this intersection by reducing future V/C by 0.096 which would help improve the current from LOS D during the peak morning hour to LOS B.
- Moorpark Avenue and High Street. The proposed mitigation measure would improve conditions at this intersection by reducing future V/C by 0.052 which would help improve the current from LOS D during the peak morning hour to LOS C. In the peak afternoon hour, the measure would limit the increase in V/C to 0.063, resulting in LOS D. Because the projected baseline V/C of 0.795 is nearly LOS D, the project, as mitigated, is not considered a significant impact.
- Spring Road and High Street. The proposed mitigation measure would improve conditions at this intersection by reducing future V/C by 0.075 which would help improve the current from LOS D during the peak morning hour to LOS C.
- Spring Road and Los Angeles Avenue. The proposed mitigation measure would improve conditions at this intersection by reducing future V/C by 0.029 in the morning peak hour which would ensure that the intersection, while continuing to

operate at LOS F, would reduce V/C. The measure would also reduce also reduce future V/C by 0.007 in the afternoon peak hour which would ensure that this intersection, while continuing to operate at LOS F in the afternoon peak hour, would reduce projected V/C.

- Miller Parkway/Science Drive/Los Angeles Avenue. The proposed mitigation measure would improve conditions at this intersection by reducing future baseline V/C by 0.002 would ensure that the intersection, while continuing to operate at LOS F, would reduce V/C.
- SR-23 SB Ramps and Los Angeles Avenue. The proposed mitigation measure would improve conditions at this intersection by reducing future V/C by 0.258 which would help improve future baseline level of service from LOS C during the peak afternoon hour to LOS A.
- Spring Road and Tierra Rejada Road. The proposed mitigation measure would improve conditions at this intersection by reducing future V/C by 0.142 which would help improve future baseline level of service from LOS D during the peak afternoon hour to LOS C.

Table 16
Future (2026) Cumulative Traffic Conditions With Project + Mitigation

Intersection	Peak Hour	Without Project		With Project + Mitigation		
		V/C	LOS	V/C	LOS	Impact
Walnut Canyon Road and Casey Road	AM	0.780	C	0.684	B	-0.096
Moorpark Avenue and High Street	AM	0.818	D	0.766	C	-0.052
Spring Road and High Street	AM	0.871	D	0.796	C	-0.075
Spring Road and Los Angeles Ave	AM	1.049	F	1.020	F	-0.029
Moorpark Avenue and High Street	PM	0.795	C	0.858	D*	0.063
Spring Road and Los Angeles Ave	PM	1.180	F	1.173	F	-0.007
Miller Pkwy/Science Dr./Los Angeles Ave	PM	1.044	F	1.042	F	-0.002
SR-23 SB Ramps and Los Angeles Ave	PM	0.779	C	0.521	A	-0.258
Spring Road and Tierra Rejada Road	PM	0.879	D	0.737	C	-0.142

* Level of Service at Moorpark Avenue and High Street would degrade from LOS C to D in the afternoon peak hour due to the projected baseline V/C of 0.795, which is nearly LOS D. Because the project's increase is only 0.063 V/C, this is not considered a significant project impact.

Traffic Signal Review

The City of Moorpark requires a traffic signal warrant analysis when the level of service of an un-signalized intersection exceeds the City's acceptable limits. Based on the City's three criteria for signal warrants, traffic impacts at the nine un-signalized intersections studied under future conditions would not be considered significant. As a result, further traffic signal warrant analyses are not required.

Traffic Mitigation Fair Share

Several applications for land developments have been recently filed with the City of Moorpark and could occur within a similar time frame with similar traffic impacts. Therefore, the City may apply a mitigation funding mechanism through a fair share process to mitigate the cumulative traffic impacts created by a group of development project, enabling the installation of more traffic improvements.

City of Moorpark Parking Requirements

The City's Municipal Code (section 17.32 Off-Street Parking Requirements) requires off-street parking for residential uses based on the size of dwelling units as summarized below:

Single-family dwellings	2 spaces in a garage for dwellings <2,800 sq. ft.
	3 spaces in a garage for dwellings > 2,800 sq. ft.
Multiple dwellings	1 space per unit covered in a garage or carport for each bachelor or studio unit
	1.75 spaces per unit, 1 covered in a garage or carport for each one-bedroom unit (including guest parking)
	2 spaces per unit, 1 covered in a garage or carport for each unit with 2 or more bedrooms, 0.5 spaces per unit for visitors

Parking Analysis

The proposed project would be expected to provide parking spaces based on the City of Moorpark parking requirements. The parking demand calculated for the project is 1,676 parking spaces based on the City's Municipal Code. This includes 1,556 required parking spaces and 119 visitor parking spaces. The calculation of these parking requirements is provided in Appendix B.

APPENDIX A
LAND USE MAP

HITCH RANCH SPECIFIC PLAN
LAND USE STATISTICAL SUMMARY
Date: November 1, 2020

Area / Description:	Land Use:	Acres:	Dwelling Units / Gross Acre:	Number of Dwelling Units (DU):
Planning Area 1	SFD Units & Private Streets	25.20		79
	Natural Open Space	17.33		
	Manufactured Slopes	12.88		
	Subtotal	**55.41**	**1.43**	**79**
Planning Area 1A	Recreation Lot	3.12		
	Manufactured Slopes	2.96		
	Subtotal	**6.08**		
Planning Area 2	SFD Units & Private Streets	32.14		
	Natural Open Space	7.46		
	Manufactured Slopes	18.62		
	Passive Recreation Lot	1.55		
	Water Quality Treatment (Lot AE)	2.33		
	Subtotal	**62.10**	**3.03**	**188**
Planning Area 3	SFD Units & Private Streets	17.28		160
	MFD Units & Private Streets	8.93		93
	Open Space	1.60		
	Manufactured Slopes	4.06		
	Recreation Lot	0.93		
	Subtotal	**32.80**	**7.71**	**253**
Planning Area 4	Multi-family Dwelling Units	5.00		100
	Affordable Apartment Units	3.45		135
	Manufactured Slopes	3.30		
	Subtotal	**11.75**		**235**
Planning Area 5	Open Space	28.78		
	Subtotal	**28.78**		
Other Categories	Public Streets	31.66		
	VCWPD Easement (Lot AD)	2.68		
	Detention Basin 2 (Lot Z)	5.94		
	Detention Basin 2A (Lot H)	3.67		
	Detention Basin 2B (Lot V)	6.30		
	City Park (Lot AE)	6.77		
	Subtotal	**57.02**		
	TOTAL	**253.94**	**2.97**	**755**

Market Rate Units	**620**
Affordable Apartments	**135**

PROJECT / SPECIFIC PLAN BOUNDARY



N
W E
S

SCALE: 1" = 200'
0 200 400 600

HITCH RANCH

Moorpark

Specific Plan #1

DECEMBER 2020 DPS

COMSTOCK

APPENDIX B
PARKING REQUIREMENTS

Housing Type	Number of Housing Type	Required Spaces per Housing Type	Total Required Parking
Single Family < 2,800 sq. ft.	324	2	648
Single Family > 2,800 sq. ft.	103	3	309
Multi Family - Studio/Bachelor	45	1	45
Multi Family - One Bedroom	45	1.75	78.75
Multi Family - 2 or more Bedroom	238	2	476
Visitor Parking		0.5	119
Total			**1675.75**

Note: For the 135 Affordable units, it was assumed that an even mix for each multi housing type would be used. Therefore, this is 45 units per multi-family housing type for the 135 total affordable units.

APPENDIX C

TRAFFIC COUNT DATA

National Data & Surveying Services

Intersection Turning Movement Count

Location: Collins Dr & 118 EB Ramps
City: Moorpark
Control: Signalized

Project ID: 19-05109-032
Date: 4/24/19

Total

NS/EW Streets:	Collins Dr				Collins Dr				118 EB Ramps				118 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1.5	0.5	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	3	0	46	0	69	13	0	0	0	6	38	0	175
7:15 AM	0	0	0	0	4	0	54	0	107	16	0	0	0	3	38	0	222
7:30 AM	0	0	0	0	6	0	44	0	115	13	0	0	0	4	43	0	225
7:45 AM	0	0	0	0	8	0	57	0	210	23	0	0	0	6	73	0	377
8:00 AM	0	0	0	0	15	0	70	0	224	17	0	0	0	2	70	0	398
8:15 AM	0	0	0	0	12	0	55	0	277	14	0	0	0	8	91	0	457
8:30 AM	0	0	0	0	13	0	57	0	148	17	0	0	0	4	52	0	291
8:45 AM	0	0	0	0	16	0	43	0	121	15	0	0	0	3	39	0	237
9:00 AM	0	0	0	0	6	0	52	0	119	9	0	0	0	3	39	0	228
9:15 AM	0	0	0	0	9	0	46	0	141	12	0	0	0	3	33	0	244
9:30 AM	0	0	0	0	9	0	47	0	290	10	0	0	0	4	36	0	396
9:45 AM	0	0	0	0	31	0	128	0	340	8	0	0	0	1	42	0	550
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	132	0	699	0	2161	167	0	0	0	47	594	0	3800
APPROACH %'s :					15.88%	0.00%	84.12%	0.00%	92.83%	7.17%	0.00%	0.00%	0.00%	7.33%	92.67%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	0	0	0	48	0	239	0	859	71	0	0	0	20	286	0	1523
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.800	0.000	0.854	0.000	0.775	0.772	0.000	0.000	0.000	0.625	0.786	0.000	0.833
						0.844				0.799				0.773			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1.5	0.5	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	0	0	0	0	50	0	58	0	101	99	0	0	0	1	67	0	376
4:45 PM	0	0	0	0	41	0	46	0	94	82	0	0	0	5	37	0	305
5:00 PM	0	0	0	0	78	0	57	0	112	109	0	0	0	1	63	0	420
5:15 PM	0	0	0	0	48	0	48	0	114	81	0	0	0	1	44	0	336
5:30 PM	0	0	0	0	67	0	54	0	114	66	0	0	0	0	42	0	343
5:45 PM	0	0	0	0	32	0	46	0	122	62	0	0	0	0	45	0	307
6:00 PM	0	0	0	0	52	0	53	0	86	36	0	0	0	0	34	0	261
6:15 PM	0	0	0	0	32	0	58	0	78	31	0	0	0	3	34	0	236
6:30 PM	0	0	0	0	23	0	61	0	89	10	0	0	0	3	40	0	226
6:45 PM	0	0	0	0	14	0	90	0	109	19	0	0	0	2	33	0	267
7:00 PM	0	0	0	0	22	0	56	0	59	6	0	0	0	0	21	0	164
7:15 PM	0	0	0	0	7	0	39	0	47	22	0	0	0	0	17	0	132
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	466	0	666	0	1125	623	0	0	0	16	477	0	3373
APPROACH %'s :					41.17%	0.00%	58.83%	0.00%	64.36%	35.64%	0.00%	0.00%	0.00%	3.25%	96.75%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	217	0	209	0	421	371	0	0	0	8	211	0	1437
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.696	0.000	0.901	0.000	0.923	0.851	0.000	0.000	0.000	0.400	0.787	0.000	0.855
						0.789				0.896				0.805			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Tierra Rejada Rd & Los Angeles Ave
City: Moorpark
Control: Signalized

Project ID: 19-05109-011
Date: 4/17/19

Total

NS/EW Streets:	Tierra Rejada Rd				Tierra Rejada Rd				Los Angeles Ave				Los Angeles Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	1	0	1	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	50	27	53	0	15	23	21	0	10	124	29	0	31	140	9	0	531
7:15 AM	36	16	36	0	16	17	21	0	21	188	38	0	36	138	17	0	578
7:30 AM	50	37	72	0	12	43	26	0	23	175	51	0	61	152	11	0	711
7:45 AM	59	59	139	0	13	60	17	0	32	173	62	0	93	143	16	0	861
8:00 AM	59	46	118	0	12	38	13	0	20	169	60	0	80	140	9	0	760
8:15 AM	42	44	122	0	8	47	25	0	20	184	55	0	64	135	10	0	754
8:30 AM	41	54	112	0	5	37	19	0	21	146	50	0	66	148	9	0	706
8:45 AM	36	42	100	0	8	43	15	0	16	119	42	0	85	112	16	0	631
9:00 AM	38	33	88	0	5	16	12	0	12	141	26	0	34	139	19	0	560
9:15 AM	34	16	49	1	8	10	14	0	13	116	22	0	31	113	9	0	432
9:30 AM	25	14	50	0	6	12	12	0	6	102	19	0	31	116	10	0	401
9:45 AM	24	14	46	0	8	11	10	0	11	107	32	0	41	95	8	0	404
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	492	398.5	981.5	0.5	113	355	202.5	0	202	1740.5	483.5	0	649.5	1568.5	140	0	7327
APPROACH %'s :	26.28%	21.28%	52.42%	0.03%	16.85%	52.95%	30.20%	0.00%	8.33%	71.74%	19.93%	0.00%	27.54%	66.52%	5.94%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	209	184	450	0	44	188	80	0	94	699	227	0	298	569	46	0	3086
PEAK HR FACTOR :	0.893	0.786	0.811	0.000	0.880	0.783	0.784	0.000	0.742	0.952	0.923	0.000	0.800	0.936	0.734	0.000	0.896
		0.824				0.876				0.960				0.908			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	1	0	1	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	47	31	63	0	30	40	37	0	22	174	71	0	80	167	19	0	778
4:45 PM	26	20	90	0	14	41	24	0	20	193	56	0	76	166	9	0	733
5:00 PM	34	26	84	0	12	56	36	0	17	150	52	0	80	192	7	0	743
5:15 PM	39	21	72	0	9	36	30	0	16	176	65	0	74	165	7	0	709
5:30 PM	34	20	60	0	5	30	19	0	25	171	62	0	74	171	10	0	677
5:45 PM	30	20	66	0	5	38	28	0	14	150	60	0	75	153	6	0	642
6:00 PM	30	17	70	0	4	23	21	0	22	160	47	0	80	158	9	0	639
6:15 PM	28	14	64	0	5	19	13	0	10	153	48	0	69	136	4	0	559
6:30 PM	29	16	56	0	4	21	17	0	8	110	31	0	66	124	4	0	483
6:45 PM	20	18	47	0	4	15	14	0	8	109	26	0	57	103	4	0	423
7:00 PM	25	16	78	0	5	22	13	0	8	96	22	0	68	106	2	0	458
7:15 PM	16	13	63	0	4	14	12	0	8	74	21	0	66	105	4	0	396
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	355	228.5	810.5	0	98	352.5	261	0	175	1712	557.5	0	863	1743	81	0	7237
APPROACH %'s :	25.47%	16.39%	58.14%	0.00%	13.77%	49.54%	36.68%	0.00%	7.16%	70.03%	22.81%	0.00%	32.12%	64.87%	3.01%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	145	97	309	0	64	173	127	0	74	692	243	0	310	689	41	0	2962
PEAK HR FACTOR :	0.780	0.791	0.862	0.000	0.538	0.772	0.855	0.000	0.841	0.896	0.862	0.000	0.969	0.899	0.554	0.000	0.952
		0.958				0.852				0.937				0.935			

Prepared by National Data & Surveying Services

Walnut Canyon Rd & Spring Rd

Peak Hour Turning Movement Count

ID: 19-05109-003
City: Moorpark

Day: Wednesday
Date: 04/17/2019

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 10:00 AM
NOON	NONE
PM	04:30 PM - 07:30 PM

SOUTHBOUND — Walnut Canyon Rd

AM	1	224	668	0	363.5	AM
NOON	0	0	0	0	0	NOON
PM	1	123	287	0	989.5	PM

EASTBOUND — Spring Rd

AM	NOON	PM	
3	0	3.5	
0	0	0	0
0	0	0	1
1	0	1	0
3	0	2	1

WESTBOUND — Spring Rd

PM	NOON	AM	
787	0	252	1
2	0	2	0
48	0	38	1
0	0	1	0
324	0	693	

NORTHBOUND — Walnut Canyon Rd

PM	172	0	2	203	36	PM
NOON	0	0	0	0	0	NOON
AM	264.5	0	1	112	24	AM

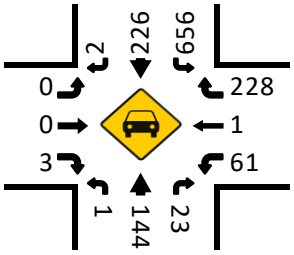
	0	1	1	0
	0	1	1	1

CONTROL

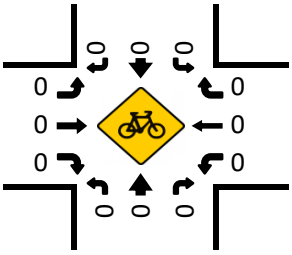
Signalized

TEV	### AM	0 NOON	### PM
PHF	0.98		0.94

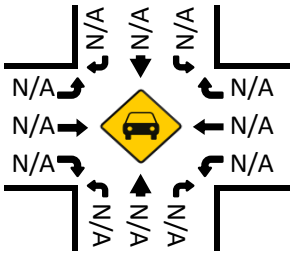
Total Vehicles (AM)



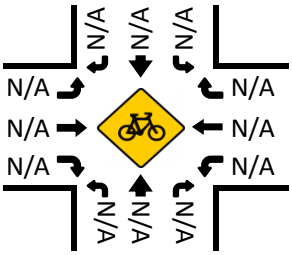
Bikes (AM)



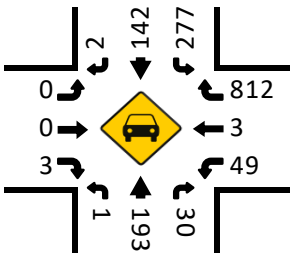
Total Vehicles (Noon)



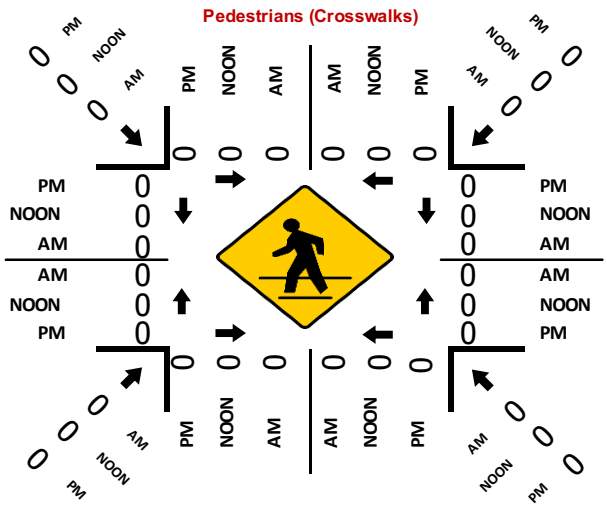
Bikes (NOON)



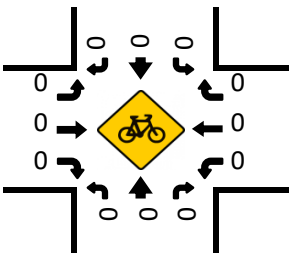
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Walnut Canyon Rd & Meridian Hills Dr
City: Moorpark
Control: 1-Way Stop (EB)

Project ID: 19-05109-030
Date: 4/3/19

Total

NS/EW Streets:	Walnut Canyon Rd				Walnut Canyon Rd				Meridian Hills Dr				Meridian Hills Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	1	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	8	30	0	0	0	40	2	0	2	0	29	0	0	0	0	0	110
7:15 AM	5	21	0	0	0	40	3	0	5	0	34	0	0	0	0	0	107
7:30 AM	9	22	0	0	0	71	4	0	6	0	35	0	0	0	0	0	146
7:45 AM	9	30	0	0	0	64	4	0	4	0	29	0	0	0	0	0	139
8:00 AM	10	42	0	0	0	82	3	0	4	0	30	0	0	0	0	0	169
8:15 AM	13	37	0	0	0	71	4	0	3	0	29	0	0	0	0	0	156
8:30 AM	10	38	0	0	0	48	5	0	5	0	28	1	0	0	0	0	134
8:45 AM	12	37	0	0	0	41	5	0	2	0	18	1	0	0	0	0	114
9:00 AM	11	28	0	0	0	22	4	0	2	0	13	0	0	0	0	0	80
9:15 AM	8	22	0	0	0	32	4	0	4	0	17	0	0	0	0	0	86
9:30 AM	9	34	0	0	0	21	5	0	3	0	12	1	0	0	0	0	84
9:45 AM	6	26	0	0	0	30	3	0	2	0	14	0	0	0	0	0	80
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	107.5	363.5	0	0	0	559	43.5	0	40	0	286.5	2.5	0	0	0	0	1402.5
APPROACH %'s :	22.82%	77.18%	0.00%	0.00%	0.00%	92.78%	7.22%	0.00%	12.16%	0.00%	87.08%	0.76%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	40	130	0	0	0	287	14	0	16	0	123	0	0	0	0	0	609
PEAK HR FACTOR :	0.800	0.783	0.000	0.000	0.000	0.880	0.964	0.000	0.667	0.000	0.875	0.000	0.000	0.000	0.000	0.000	0.901
		0.833				0.889				0.845							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	1	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	16	52	0	0	0	38	8	0	7	0	17	0	0	0	0	0	136
4:45 PM	17	43	0	0	0	34	7	0	3	0	17	0	0	0	0	0	119
5:00 PM	19	64	0	0	0	31	7	0	5	0	11	0	0	0	0	0	135
5:15 PM	17	51	0	0	0	25	8	0	2	0	13	0	0	0	0	0	116
5:30 PM	22	39	0	0	0	34	4	0	3	0	9	1	0	0	0	0	111
5:45 PM	23	47	0	0	0	26	6	0	3	0	7	0	0	0	0	0	111
6:00 PM	21	24	0	0	0	30	9	0	2	0	16	1	0	0	0	0	101
6:15 PM	16	25	0	0	0	19	8	0	4	0	11	0	0	0	0	0	82
6:30 PM	20	29	0	0	0	24	7	0	4	0	8	0	0	0	0	0	90
6:45 PM	19	22	0	0	0	24	10	0	2	0	14	0	0	0	0	0	90
7:00 PM	14	26	0	0	0	18	6	0	2	0	11	0	0	0	0	0	76
7:15 PM	21	28	0	0	0	15	6	0	4	0	7	0	0	0	0	0	79
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	223	446.5	0	0	0	315.5	82	0	38.5	0	137.5	1	0	0	0	0	1244
APPROACH %'s :	33.31%	66.69%	0.00%	0.00%	0.00%	79.37%	20.63%	0.00%	21.75%	0.00%	77.68%	0.56%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	68	210	0	0	0	127	29	0	16	0	57	0	0	0	0	0	506
PEAK HR FACTOR :	0.895	0.818	0.000	0.000	0.000	0.836	0.891	0.000	0.615	0.000	0.856	0.000	0.000	0.000	0.000	0.000	0.929
		0.836				0.854				0.788							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Grimes Canyon Rd & Championship Dr
City: Moorpark
Control: 1-Way Stop (WB)

Project ID: 19-05109-029
Date: 4/3/19

Total

NS/EW Streets:	Grimes Canyon Rd				Grimes Canyon Rd				Championship Dr				Championship Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	1	1	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	21	7	0	1	27	0	0	0	0	0	0	8	0	0	1	65
7:15 AM	0	16	10	0	6	26	0	0	0	0	0	0	8	0	2	0	67
7:30 AM	0	14	4	0	5	36	0	0	0	0	0	0	9	0	1	1	67
7:45 AM	0	14	9	0	5	31	0	0	0	0	0	0	14	0	1	0	72
8:00 AM	0	12	6	0	0	30	0	0	0	0	0	0	5	0	1	1	53
8:15 AM	0	13	8	0	2	28	0	0	0	0	0	0	11	0	1	1	62
8:30 AM	0	14	7	0	0	22	0	0	0	0	0	0	10	0	3	0	55
8:45 AM	0	11	6	0	1	12	0	0	0	0	0	0	9	0	1	1	39
9:00 AM	0	10	8	0	2	12	0	0	0	0	0	0	6	0	2	1	38
9:15 AM	0	4	2	0	2	11	0	0	0	0	0	0	8	0	3	0	29
9:30 AM	0	14	2	0	1	12	0	0	0	0	0	0	8	0	1	0	36
9:45 AM	0	11	3	0	3	13	0	0	0	0	0	0	5	0	0	0	34
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	149.5	68.5	0	25	257	0	0	0	0	0	0	99	0	11.5	3.5	614
APPROACH %'s :	0.00%	68.58%	31.42%	0.00%	8.87%	91.13%	0.00%	0.00%					86.84%	0.00%	10.09%	3.07%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	64	30	0	16	119	0	0	0	0	0	0	38	0	3	2	270
PEAK HR FACTOR :	0.000	0.756	0.738	0.000	0.646	0.838	0.000	0.000	0.000	0.000	0.000	0.000	0.704	0.000	0.500	0.375	0.938
		0.830				0.841								0.733			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	1	1	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	0	21	7	0	1	27	0	0	0	0	0	0	8	0	0	1	65
4:45 PM	0	16	10	0	6	26	0	0	0	0	0	0	8	0	2	0	67
5:00 PM	0	14	4	0	5	36	0	0	0	0	0	0	9	0	1	1	67
5:15 PM	0	14	9	0	5	31	0	0	0	0	0	0	14	0	1	0	72
5:30 PM	0	12	6	0	0	30	0	0	0	0	0	0	5	0	1	1	53
5:45 PM	0	13	8	0	2	28	0	0	0	0	0	0	11	0	1	1	62
6:00 PM	0	14	7	0	0	22	0	0	0	0	0	0	10	0	3	0	55
6:15 PM	0	11	6	0	1	12	0	0	0	0	0	0	9	0	1	1	39
6:30 PM	0	10	8	0	2	12	0	0	0	0	0	0	6	0	2	1	38
6:45 PM	0	4	2	0	2	11	0	0	0	0	0	0	8	0	3	0	29
7:00 PM	0	14	2	0	1	12	0	0	0	0	0	0	8	0	1	0	36
7:15 PM	0	11	3	0	3	13	0	0	0	0	0	0	5	0	0	0	34
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	149.5	68.5	0	25	257	0	0	0	0	0	0	99	0	11.5	3.5	614
APPROACH %'s :	0.00%	68.58%	31.42%	0.00%	8.87%	91.13%	0.00%	0.00%					86.84%	0.00%	10.09%	3.07%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	64	30	0	16	119	0	0	0	0	0	0	38	0	3	2	270
PEAK HR FACTOR :	0.000	0.756	0.738	0.000	0.646	0.838	0.000	0.000	0.000	0.000	0.000	0.000	0.704	0.000	0.500	0.375	0.938
		0.830				0.841								0.733			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Moorpark Rd/Marvella Ct & Santa Rosa Rd
City: Moorpark
Control: Signalized

Project ID: 19-05109-027
Date: 4/24/19

Total

NS/EW Streets:	Moorpark Rd/Marvella Ct				Moorpark Rd/Marvella Ct				Santa Rosa Rd				Santa Rosa Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0.5	0.5	1	0	2	1	0	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	48	1	194	0	118	53	0	0	0	30	10	0	451
7:15 AM	0	1	2	0	66	0	215	0	142	77	1	0	1	19	14	0	535
7:30 AM	1	1	2	0	118	0	233	0	150	120	2	0	0	33	31	0	689
7:45 AM	1	1	2	0	100	0	208	0	146	107	0	0	0	35	26	0	624
8:00 AM	1	1	1	0	90	1	220	0	136	77	0	0	1	37	20	0	583
8:15 AM	1	0	0	0	100	0	218	0	140	74	1	0	1	40	24	0	597
8:30 AM	0	0	2	0	104	0	190	0	175	95	0	0	0	35	17	0	616
8:45 AM	0	1	1	0	92	0	181	0	152	98	0	0	0	32	18	0	572
9:00 AM	1	0	2	0	55	1	137	0	120	70	0	0	0	41	25	0	450
9:15 AM	1	0	1	0	23	0	121	0	123	52	0	0	1	31	24	0	375
9:30 AM	0	1	1	0	33	2	104	0	125	51	0	0	0	28	29	0	371
9:45 AM	0	0	2	0	25	0	113	0	138	50	2	0	0	35	36	0	400
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4.5	4	13	0	850.5	3	2130.5	0	1662.5	921.5	5	0	2	393	270.5	0	6260
APPROACH %'s :	20.93%	18.60%	60.47%	0.00%	28.50%	0.10%	71.40%	0.00%	64.21%	35.59%	0.19%	0.00%	0.30%	59.05%	40.65%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	3	2	5	0	407	1	878	0	572	377	3	0	1	144	100	0	2491
PEAK HR FACTOR :	0.750	0.500	0.563	0.000	0.862	0.250	0.944	0.000	0.953	0.789	0.313	0.000	0.500	0.911	0.820	0.000	0.905
	0.792				0.917				0.876				0.965				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0.5	0.5	1	0	2	1	0	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	0	1	1	0	37	0	156	0	187	55	2	0	0	83	123	0	641
4:45 PM	1	1	1	0	28	2	225	0	239	57	0	0	0	82	117	0	752
5:00 PM	0	0	1	0	23	0	230	0	230	57	0	0	0	98	88	0	725
5:15 PM	0	0	3	0	31	1	200	0	251	62	0	0	1	87	83	0	717
5:30 PM	1	0	1	0	19	1	213	0	241	60	0	0	0	84	97	0	715
5:45 PM	0	0	2	0	28	2	159	0	195	48	1	0	2	72	64	0	568
6:00 PM	1	1	1	0	17	0	153	0	155	50	0	0	1	82	81	0	540
6:15 PM	1	1	1	0	28	1	116	0	157	56	1	0	1	66	68	0	493
6:30 PM	1	0	2	0	33	1	103	0	119	43	1	0	1	80	53	0	434
6:45 PM	0	0	1	0	17	1	80	0	103	30	1	0	1	54	44	0	328
7:00 PM	0	0	0	0	20	0	96	0	84	21	1	0	2	49	36	0	307
7:15 PM	0	1	2	0	21	0	73	0	68	26	1	0	3	30	34	0	257
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2.5	4	12	0	300	6.5	1800.5	0	2025	560.5	4.5	0	10	864	885	0	6474.5
APPROACH %'s :	13.51%	21.62%	64.86%	0.00%	14.24%	0.31%	85.45%	0.00%	78.19%	21.64%	0.17%	0.00%	0.57%	49.12%	50.31%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	1	1	5	0	101	3	868	0	960	235	0	0	1	351	385	0	2908
PEAK HR FACTOR :	0.500	0.250	0.450	0.000	0.815	0.500	0.943	0.000	0.956	0.946	0.000	0.000	0.250	0.894	0.822	0.000	0.967
	0.650				0.954				0.954				0.924				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-23 NB Ramps & Tierra Rejada Rd
City: Moorpark
Control: Signalized

Project ID: 19-05109-026
Date: 4/24/19

Total

NS/EW Streets:	SR-23 NB Ramps				SR-23 NB Ramps				Tierra Rejada Rd				Tierra Rejada Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0	0.5	0	0	0	0	0	0	2	1	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	36	0	32	0	0	0	0	0	0	92	90	0	0	218	13	0	480
7:15 AM	43	0	44	0	0	0	0	0	0	118	105	0	0	328	19	0	656
7:30 AM	52	0	47	0	0	0	0	0	0	139	125	0	0	363	23	0	748
7:45 AM	65	0	46	0	0	0	0	0	0	122	158	0	0	304	33	0	726
8:00 AM	61	0	42	0	0	0	0	0	0	123	137	0	0	306	26	0	694
8:15 AM	59	0	56	0	0	0	0	0	0	118	130	0	0	307	30	0	698
8:30 AM	50	0	44	0	0	0	0	0	0	130	118	0	0	285	21	0	646
8:45 AM	60	0	50	0	0	0	0	0	0	121	125	0	0	215	19	0	589
9:00 AM	57	0	39	0	0	0	0	0	0	101	106	0	0	147	18	0	467
9:15 AM	70	0	38	0	0	0	0	0	0	97	109	0	0	117	14	0	443
9:30 AM	69	0	46	0	0	0	0	0	0	93	103	0	0	135	19	0	464
9:45 AM	64	0	38	0	0	0	0	0	0	97	114	0	0	118	16	0	446
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	684	0	519	0	0	0	0	0	0	1347.5	1416.5	0	0	2839.5	248	0	7054.5
APPROACH %'s :	56.86%	0.00%	43.14%	0.00%					0.00%	48.75%	51.25%	0.00%	0.00%	91.97%	8.03%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	237	0	191	0	0	0	0	0	0	502	548	0	0	1278	111	0	2865
PEAK HR FACTOR :	0.910	0.000	0.850	0.000	0.000	0.000	0.000	0.000	0.000	0.902	0.870	0.000	0.000	0.881	0.850	0.000	0.958
	0.932								0.940				0.900				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0	0.5	0	0	0	0	0	0	2	1	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	128	0	172	0	0	0	0	0	0	311	45	0	0	191	11	0	857
4:45 PM	125	0	154	0	0	0	0	0	0	343	57	0	0	200	11	0	889
5:00 PM	159	0	188	0	0	0	0	0	0	310	54	0	0	238	29	0	978
5:15 PM	175	0	164	0	0	0	0	0	0	231	84	0	0	159	24	0	836
5:30 PM	163	0	182	0	0	0	0	0	0	239	71	0	0	146	24	0	825
5:45 PM	166	0	152	0	0	0	0	0	0	246	53	0	0	122	11	0	749
6:00 PM	155	0	126	0	0	0	0	0	0	252	61	0	0	170	13	0	776
6:15 PM	114	0	81	0	0	0	0	0	0	225	64	0	0	123	21	0	626
6:30 PM	116	0	67	0	0	0	0	0	0	145	45	1	0	113	13	0	499
6:45 PM	96	0	34	0	0	0	0	0	0	131	50	0	0	128	10	0	448
7:00 PM	111	0	43	0	0	0	0	0	0	115	38	0	0	83	11	0	399
7:15 PM	112	0	48	0	0	0	0	0	0	90	36	0	0	49	7	0	341
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1618.5	0	1408	0	0	0	0	0	0	2636.5	654.5	0.5	0	1719.5	183	0	8220.5
APPROACH %'s :	53.48%	0.00%	46.52%	0.00%					0.00%	80.10%	19.88%	0.02%	0.00%	90.38%	9.62%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	587	0	678	0	0	0	0	0	0	1195	239	0	0	787	74	0	3559
PEAK HR FACTOR :	0.838	0.000	0.901	0.000	0.000	0.000	0.000	0.000	0.000	0.871	0.711	0.000	0.000	0.828	0.638	0.000	0.910
	0.911								0.897				0.808				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Moorpark Rd/Miller Pkwy & Tierra Rejada Rd
City: Moorpark
Control: Signalized

Project ID: 19-05109-024
Date: 4/3/19

Total

NS/EW Streets:	Moorpark Rd/Miller Pkwy				Moorpark Rd/Miller Pkwy				Tierra Rejada Rd				Tierra Rejada Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	0	2	0	1	0	1	0	1	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	20	0	96	0	29	0	9	0	7	264	96	0	155	85	9	0	768
7:15 AM	26	0	114	0	37	0	10	0	4	267	123	0	164	92	12	0	845
7:30 AM	44	0	114	0	36	0	24	0	4	271	199	0	196	137	12	0	1035
7:45 AM	49	0	122	0	23	1	28	0	12	252	171	0	195	168	17	0	1035
8:00 AM	51	0	104	0	38	1	26	0	30	279	115	0	165	153	31	0	990
8:15 AM	58	0	146	0	48	0	21	0	22	269	140	0	174	142	24	0	1041
8:30 AM	29	0	121	0	31	0	16	0	20	263	133	0	153	120	27	0	911
8:45 AM	52	0	138	0	33	0	14	0	23	212	99	0	160	116	26	0	871
9:00 AM	41	0	110	0	19	0	7	0	15	192	67	0	120	83	16	0	668
9:15 AM	37	0	123	0	16	0	10	0	9	178	61	0	89	82	18	0	620
9:30 AM	43	1	114	0	21	0	6	0	6	173	59	0	79	88	25	0	611
9:45 AM	44	1	107	0	20	0	12	0	7	156	73	0	83	106	22	0	628
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	491.5	1.5	1405	0	349	1.5	179	0	156	2772.5	1332.5	0	1728.5	1368.5	235	0	10020.5
APPROACH %'s :	25.90%	0.08%	74.03%	0.00%	65.91%	0.28%	33.81%	0.00%	3.66%	65.07%	31.27%	0.00%	51.88%	41.07%	7.05%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	202	0	485	0	145	2	98	0	67	1070	624	0	729	599	82	0	4100
PEAK HR FACTOR :	0.871	0.000	0.832	0.000	0.753	0.375	0.871	0.000	0.568	0.961	0.785	0.000	0.932	0.894	0.672	0.000	0.985
			0.843				0.889				0.930				0.930		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	0	2	0	1	0	1	0	1	2	1	0	2	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	116	0	189	0	31	0	21	0	16	211	48	0	168	261	40	0	1099
4:45 PM	117	1	189	0	22	0	26	0	14	176	66	0	129	240	47	0	1025
5:00 PM	115	0	196	0	31	0	27	0	15	186	61	0	130	256	38	0	1053
5:15 PM	101	1	213	0	30	0	22	0	15	184	49	0	155	273	34	0	1073
5:30 PM	110	0	205	0	26	0	18	0	15	177	46	0	127	253	35	0	1010
5:45 PM	132	0	186	0	20	0	26	0	18	148	55	0	88	285	44	0	1000
6:00 PM	117	0	161	0	20	0	21	0	12	136	46	0	103	279	48	0	940
6:15 PM	90	0	155	0	20	0	21	0	14	118	49	0	103	221	40	0	829
6:30 PM	73	0	114	0	22	0	18	0	16	148	44	0	80	236	27	0	776
6:45 PM	71	1	85	0	19	0	20	0	21	99	44	0	77	192	26	0	652
7:00 PM	53	0	61	0	16	0	18	0	10	107	30	0	69	165	27	0	554
7:15 PM	55	0	62	0	9	0	15	0	14	77	28	0	63	160	31	0	511
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1147.5	2	1811	0	261.5	0	250	0	178.5	1764.5	562	0	1289.5	2819	434	0	10519.5
APPROACH %'s :	38.76%	0.07%	61.17%	0.00%	51.12%	0.00%	48.88%	0.00%	7.13%	70.44%	22.44%	0.00%	28.39%	62.06%	9.55%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	448	2	786	0	112	0	95	0	60	756	223	0	582	1030	158	0	4249
PEAK HR FACTOR :	0.961	0.375	0.924	0.000	0.918	0.000	0.892	0.000	0.930	0.897	0.851	0.000	0.866	0.943	0.847	0.000	0.967
			0.985				0.906				0.945				0.943		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Spring Rd & Tierra Rejada Rd
City: Moorpark
Control: Signalized

Project ID: 19-05109-023
Date: 4/3/19

Total

NS/EW Streets:	Spring Rd				Spring Rd				Tierra Rejada Rd				Tierra Rejada Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	2	0	1	0	1	2	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	115	0	3	0	12	255	0	0	0	77	34	0	494
7:15 AM	0	0	0	0	122	0	4	0	13	296	0	0	0	98	31	0	564
7:30 AM	0	0	0	0	160	0	20	0	16	294	0	0	0	171	57	0	717
7:45 AM	0	0	0	0	139	0	19	0	26	302	0	0	0	161	66	0	711
8:00 AM	0	0	0	0	118	0	14	0	30	314	0	0	0	161	73	0	709
8:15 AM	0	0	0	0	132	0	15	0	34	289	0	0	0	140	75	0	683
8:30 AM	0	0	0	0	147	0	25	0	28	264	0	0	0	118	57	0	638
8:45 AM	0	0	0	0	106	0	22	0	27	211	0	0	0	125	50	0	540
9:00 AM	0	0	0	0	87	0	7	0	14	202	0	0	0	81	42	0	433
9:15 AM	0	0	0	0	62	0	7	0	15	166	0	1	0	89	42	0	380
9:30 AM	0	0	0	0	82	0	4	0	13	174	0	1	0	83	52	0	406
9:45 AM	0	0	0	0	65	0	5	0	11	157	0	1	0	107	55	0	399
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	1331	0	142	0	236	2922	0	2	0	1407	631	0	6671
APPROACH %'s :					90.36%	0.00%	9.64%	0.00%	7.47%	92.47%	0.00%	0.06%	0.00%	69.04%	30.96%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	548	0	67	0	106	1199	0	0	0	632	270	0	2820
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.856	0.000	0.853	0.000	0.776	0.954	0.000	0.000	0.000	0.923	0.904	0.000	0.983
					0.856				0.948				0.967				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	2	0	1	0	1	2	0	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	0	0	0	0	84	0	19	0	13	200	0	1	0	256	129	0	700
4:45 PM	0	0	0	0	88	0	17	0	15	155	0	0	0	265	123	0	663
5:00 PM	0	0	0	0	86	0	21	0	16	189	0	0	0	279	123	0	713
5:15 PM	0	0	0	0	66	0	17	0	25	169	0	0	0	265	120	0	661
5:30 PM	0	0	0	0	82	0	22	0	19	159	0	1	0	269	119	0	669
5:45 PM	0	0	0	0	74	0	21	0	20	140	0	1	0	308	128	0	690
6:00 PM	0	0	0	0	67	0	15	0	11	141	0	0	0	308	110	0	651
6:15 PM	0	0	0	0	54	0	17	0	20	116	0	1	0	245	93	0	544
6:30 PM	0	0	0	0	65	0	18	0	15	140	0	0	0	237	79	0	552
6:45 PM	0	0	0	0	41	0	15	0	23	120	0	0	0	197	91	0	486
7:00 PM	0	0	0	0	44	0	13	0	17	104	0	0	0	161	59	0	398
7:15 PM	0	0	0	0	33	0	18	0	6	78	0	1	0	177	62	0	373
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	781	0	210	0	198.5	1708.5	0	2.5	0	2964	1233	0	7097.5
APPROACH %'s :					78.81%	0.00%	21.19%	0.00%	10.40%	89.47%	0.00%	0.13%	0.00%	70.62%	29.38%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	323	0	74	0	69	712	0	1	0	1064	495	0	2736
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.918	0.000	0.875	0.000	0.685	0.892	0.000	0.250	0.000	0.955	0.962	0.000	0.959
					0.931				0.919				0.970				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Collins Dr & 118 WB Ramps
City: Moorpark
Control: Signalized

Project ID: 19-05109-031
Date: 4/24/19

Total

NS/EW Streets:	Collins Dr				Collins Dr				118 WB Ramps				118 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	0	0	0	0	0.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	10	44	0	0	0	25	24	0	0	0	0	0	0	0	12	0	113
7:15 AM	9	64	0	0	0	28	50	0	0	0	0	0	2	0	36	0	188
7:30 AM	12	67	0	0	0	25	35	0	0	0	0	0	1	0	33	0	171
7:45 AM	8	134	0	0	0	32	50	0	0	0	0	0	1	0	75	0	299
8:00 AM	8	139	0	0	0	39	80	0	0	0	0	0	1	0	65	0	331
8:15 AM	11	174	0	0	0	35	60	0	0	0	0	0	1	0	78	0	358
8:30 AM	12	88	0	0	0	34	53	0	0	0	0	0	1	1	51	0	239
8:45 AM	11	70	0	0	0	28	35	0	0	0	0	0	2	1	50	0	196
9:00 AM	7	72	0	0	0	29	28	0	0	0	0	0	0	1	33	0	169
9:15 AM	6	83	0	0	0	26	27	0	0	0	0	0	2	0	45	0	188
9:30 AM	7	152	0	0	0	28	36	0	0	0	0	0	1	0	87	0	310
9:45 AM	5	188	0	0	0	81	83	0	0	0	0	0	1	0	116	0	473
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	105	1272.5	0	0	0	407.5	556.5	0	0	0	0	0	10	1.5	679	0	3032
APPROACH %'s :	7.62%	92.38%	0.00%	0.00%	0.00%	42.27%	57.73%	0.00%					1.45%	0.22%	98.33%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	39	534	0	0	0	140	242	0	0	0	0	0	4	1	269	0	1227
PEAK HR FACTOR :	0.802	0.769	0.000	0.000	0.000	0.897	0.759	0.000	0.000	0.000	0.000	0.000	0.875	0.250	0.861	0.000	0.856
	0.776				0.805								0.862				

NS/EW Streets:	Collins Dr				Collins Dr				118 WB Ramps				118 WB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	0	0	0	0	0.3	0.3	1.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	15	62	0	0	0	50	57	0	0	0	0	0	2	0	29	0	213
4:45 PM	24	49	0	0	0	45	58	0	0	0	0	0	4	0	42	0	221
5:00 PM	11	71	0	0	0	58	42	0	0	0	0	0	2	0	37	0	221
5:15 PM	23	62	0	0	0	48	41	0	0	0	0	0	7	0	46	0	226
5:30 PM	14	62	0	0	0	50	39	0	0	0	0	0	2	0	37	0	203
5:45 PM	8	71	0	0	0	44	39	0	0	0	0	0	3	1	46	0	212
6:00 PM	11	56	0	0	0	42	54	0	0	0	0	0	2	0	44	0	209
6:15 PM	7	48	0	0	0	51	50	0	0	0	0	0	2	0	35	0	192
6:30 PM	9	51	0	0	0	39	56	0	0	0	0	0	1	0	35	0	190
6:45 PM	10	59	0	0	0	40	60	0	0	0	0	0	4	0	38	0	210
7:00 PM	6	38	0	0	0	41	47	0	0	0	0	0	4	1	42	0	177
7:15 PM	3	34	0	0	0	23	27	0	0	0	0	0	3	0	27	0	115
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	138	659	0	0	0	528.5	569	0	0	0	0	0	34	1.5	456	0	2386
APPROACH %'s :	17.31%	82.69%	0.00%	0.00%	0.00%	48.15%	51.85%	0.00%					6.92%	0.31%	92.78%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	72	243	0	0	0	200	197	0	0	0	0	0	15	0	154	0	881
PEAK HR FACTOR :	0.766	0.856	0.000	0.000	0.000	0.867	0.857	0.000	0.000	0.000	0.000	0.000	0.536	0.000	0.837	0.000	0.974
	0.932				0.935								0.797				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Peach Hill Rd & Tierra Rejada Rd
City: Moorpark
Control: Signalized

Project ID: 19-05109-022
Date: 4/3/19

Total

NS/EW Streets:	Peach Hill Rd				Peach Hill Rd				Tierra Rejada Rd				Tierra Rejada Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	37	0	25	0	12	236	0	1	0	81	7	0	397
7:15 AM	0	0	0	0	50	0	21	0	8	264	0	0	0	80	7	0	428
7:30 AM	0	0	0	0	42	0	34	0	8	263	0	0	0	144	6	0	496
7:45 AM	0	0	0	0	37	0	55	0	30	291	0	1	0	202	13	0	627
8:00 AM	0	0	0	0	44	0	39	0	37	289	0	0	0	145	16	0	569
8:15 AM	0	0	0	0	49	0	31	0	24	292	0	0	0	144	17	0	556
8:30 AM	0	0	0	0	37	0	28	0	15	248	0	0	0	115	13	0	455
8:45 AM	0	0	0	0	24	0	35	0	16	221	0	0	0	160	10	0	464
9:00 AM	0	0	0	0	20	0	18	0	13	185	0	0	0	82	9	0	326
9:15 AM	0	0	0	0	21	0	11	0	8	160	0	0	0	76	11	0	286
9:30 AM	0	0	0	0	19	0	15	0	6	163	0	0	0	80	11	0	293
9:45 AM	0	0	0	0	16	0	11	0	6	155	0	0	0	90	9	0	285
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	393.5	0	319	0	180	2764	0	1	0	1396	125.5	0	5179
APPROACH %'s :					55.23%	0.00%	44.77%	0.00%	6.11%	93.85%	0.00%	0.03%	0.00%	91.75%	8.25%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	172	0	158	0	98	1135	0	1	0	634	52	0	2247
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.875	0.000	0.722	0.000	0.662	0.971	0.000	0.250	0.000	0.786	0.757	0.000	0.896
					0.899				0.946				0.800				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	0	0	0	0	20	0	21	0	23	186	0	0	0	232	32	0	513
4:45 PM	0	0	0	0	18	0	30	0	21	163	0	1	0	236	32	0	499
5:00 PM	0	0	0	0	15	0	27	0	24	192	0	0	0	244	30	0	531
5:15 PM	0	0	0	0	16	0	20	0	23	181	0	0	0	235	34	0	508
5:30 PM	0	0	0	0	17	0	21	0	23	170	0	2	0	237	30	0	498
5:45 PM	0	0	0	0	13	0	30	0	19	153	0	0	0	256	33	0	503
6:00 PM	0	0	0	0	19	0	14	0	29	139	0	1	0	281	37	0	517
6:15 PM	0	0	0	0	9	0	14	0	14	125	0	0	0	231	31	0	423
6:30 PM	0	0	0	0	14	0	25	0	18	152	0	1	0	214	27	0	449
6:45 PM	0	0	0	0	16	0	20	0	20	136	0	1	0	188	23	0	402
7:00 PM	0	0	0	0	10	0	10	0	15	102	0	0	0	154	21	0	310
7:15 PM	0	0	0	0	9	0	14	0	19	84	0	0	0	151	19	0	296
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	174	0	243	0	245	1779	0	3.5	0	2656	345	0	5445.5
APPROACH %'s :					41.73%	0.00%	58.27%	0.00%	12.08%	87.74%	0.00%	0.17%	0.00%	88.50%	11.50%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	69	0	97	0	90	722	0	1	0	946	127	0	2050
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.863	0.000	0.818	0.000	0.952	0.939	0.000	0.250	0.000	0.969	0.948	0.000	0.966
					0.871				0.941				0.981				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-23 SB Ramps & Tierra Rejada Rd
City: Moorpark
Control: Signalized

Project ID: 19-05109-025
Date: 4/24/19

Total

NS/EW Streets:	SR-23 SB Ramps				SR-23 SB Ramps				Tierra Rejada Rd				Tierra Rejada Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	0	3	1	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	9	0	95	0	0	181	225	0	0	148	110	0	766
7:15 AM	0	0	0	0	10	0	89	0	0	211	200	0	0	203	151	0	863
7:30 AM	0	0	0	0	11	0	102	0	0	264	181	0	0	263	162	0	981
7:45 AM	0	0	0	0	13	0	104	0	0	259	184	0	0	252	126	0	937
8:00 AM	0	0	0	0	9	0	99	0	0	241	198	0	0	236	125	0	907
8:15 AM	0	0	0	0	8	0	92	0	0	243	207	1	0	243	142	0	934
8:30 AM	0	0	0	0	12	0	83	0	0	229	197	0	0	203	123	0	846
8:45 AM	0	0	0	0	13	0	96	0	0	233	153	0	0	191	95	0	780
9:00 AM	0	0	0	0	13	0	76	0	0	189	147	0	0	143	65	0	631
9:15 AM	0	0	0	0	11	0	73	0	0	191	122	0	0	141	44	0	580
9:30 AM	0	0	0	0	18	0	71	0	0	186	125	0	0	156	46	0	599
9:45 AM	0	0	0	0	16	0	94	0	0	194	108	0	0	152	37	0	600
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	139	0	1071	0	0	2618	2044	0.5	0	2326.5	1221.5	0	9420.5
APPROACH %'s :					11.49%	0.00%	88.51%	0.00%	0.00%	56.15%	43.84%	0.01%	0.00%	65.57%	34.43%	0.00%	
PEAK HR :	**07:30 AM - 08:30 AM**																TOTAL
PEAK HR VOL :	0	0	0	0	40	0	396	0	0	1006	770	1	0	993	554	0	3758
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.790	0.000	0.955	0.000	0.000	0.953	0.929	0.250	0.000	0.943	0.858	0.000	0.958
						0.938				0.987				0.911			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	0	3	1	0	0	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	0	0	0	0	40	0	126	0	0	318	70	0	0	278	42	0	873
4:45 PM	0	0	0	0	41	0	154	0	0	351	101	0	0	274	45	1	964
5:00 PM	0	0	0	0	43	0	147	0	0	317	92	0	0	323	70	0	992
5:15 PM	0	0	0	0	32	0	130	0	0	289	81	0	0	291	51	0	873
5:30 PM	0	0	0	0	26	0	118	0	0	271	77	0	0	244	55	0	790
5:45 PM	0	0	0	0	29	0	108	0	0	285	107	0	0	261	39	0	827
6:00 PM	0	0	0	0	23	0	107	0	0	292	83	0	0	256	49	0	809
6:15 PM	0	0	0	0	22	0	83	0	0	271	84	0	0	224	33	0	715
6:30 PM	0	0	0	0	19	0	70	0	0	178	63	0	0	203	26	0	558
6:45 PM	0	0	0	0	15	0	87	0	0	163	65	0	0	206	23	0	558
7:00 PM	0	0	0	0	24	0	87	0	0	135	44	0	0	162	28	0	479
7:15 PM	0	0	0	0	12	0	63	0	0	105	32	1	0	153	19	0	383
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	323.5	0	1276.5	0	0	2972.5	897.5	0.5	0	2871.5	476	0.5	8818.5
APPROACH %'s :					20.22%	0.00%	79.78%	0.00%	0.00%	76.80%	23.19%	0.01%	0.00%	85.77%	14.22%	0.01%	
PEAK HR :	**04:30 PM - 05:30 PM**																TOTAL
PEAK HR VOL :	0	0	0	0	156	0	556	0	0	1274	343	0	0	1165	208	1	3701
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.904	0.000	0.906	0.000	0.000	0.909	0.853	0.000	0.000	0.901	0.746	0.250	0.933
						0.917				0.896				0.874			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Grimes Canyon Rd & Broadway Rd
City: Moorpark
Control: 1-Way Stop (NB)

Project ID: 19-05109-028
Date: 4/24/19

Total

NS/EW Streets:	Grimes Canyon Rd				Grimes Canyon Rd				Broadway Rd				Broadway Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	5	0	12	0	0	0	0	0	0	6	4	0	18	9	0	0	54
7:15 AM	3	0	16	0	0	0	0	0	0	9	7	0	21	12	0	0	66
7:30 AM	4	0	17	0	0	0	0	0	0	22	16	0	29	8	0	0	95
7:45 AM	3	0	13	0	0	0	0	0	0	14	11	0	22	15	0	0	77
8:00 AM	2	0	8	0	0	0	0	0	0	11	8	0	28	8	0	0	63
8:15 AM	1	0	12	0	0	0	0	0	0	10	3	0	21	8	0	0	53
8:30 AM	4	0	12	0	0	0	0	0	0	11	4	0	21	6	0	0	57
8:45 AM	1	0	9	0	0	0	0	0	0	7	1	0	14	6	0	0	37
9:00 AM	2	0	11	0	0	0	0	0	0	8	2	0	16	7	0	0	45
9:15 AM	2	0	8	0	0	0	0	0	0	10	2	0	17	6	0	0	43
9:30 AM	4	0	13	0	0	0	0	0	0	4	2	0	9	9	0	0	40
9:45 AM	4	0	8	0	0	0	0	0	0	9	5	0	11	9	0	0	44
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	32	0	136.5	0	0	0	0	0	0	118	62	0	223.5	100	0	0	672
APPROACH %'s :	18.99%	0.00%	81.01%	0.00%					0.00%	65.56%	34.44%	0.00%	69.09%	30.91%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	11	0	54	0	0	0	0	0	0	55	41	0	99	42	0	0	300
PEAK HR FACTOR :	0.656	0.000	0.787	0.000	0.000	0.000	0.000	0.000	0.000	0.640	0.661	0.000	0.849	0.692	0.000	0.000	0.794
	0.762								0.649				0.959				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	3	0	33	0	0	0	0	0	0	10	8	0	11	11	0	0	75
4:45 PM	5	0	31	0	0	0	0	0	0	13	2	0	12	10	0	0	71
5:00 PM	3	0	23	0	0	0	0	0	0	7	4	0	13	14	0	0	63
5:15 PM	2	0	34	0	0	0	0	0	0	15	4	0	11	10	0	0	75
5:30 PM	1	0	32	0	0	0	0	0	0	8	3	0	10	7	0	0	60
5:45 PM	3	0	19	1	0	0	0	0	0	6	1	0	12	12	0	0	53
6:00 PM	1	0	22	0	0	0	0	0	0	2	1	0	8	7	0	0	40
6:15 PM	3	0	18	0	0	0	0	0	0	9	3	0	7	5	0	0	43
6:30 PM	1	0	19	0	0	0	0	0	0	10	3	0	8	2	0	0	41
6:45 PM	1	0	5	0	0	0	0	0	0	7	2	0	14	5	0	0	33
7:00 PM	1	0	7	0	0	0	0	0	0	7	0	0	5	5	0	0	25
7:15 PM	1	0	10	0	0	0	0	0	0	9	2	0	5	4	0	0	29
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	22	0	249.5	0.5	0	0	0	0	0	100	30.5	0	113	89.5	0	0	605
APPROACH %'s :	8.09%	0.00%	91.73%	0.18%					0.00%	76.63%	23.37%	0.00%	55.80%	44.20%	0.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	12	0	120	0	0	0	0	0	0	45	18	0	46	44	0	0	284
PEAK HR FACTOR :	0.600	0.000	0.896	0.000	0.000	0.000	0.000	0.000	0.000	0.742	0.583	0.000	0.885	0.806	0.000	0.000	0.945
	0.930								0.816				0.844				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Peach Hill Rd & Tierra Rejada Rd
City: Moorpark
Control: Signalized

Project ID: 19-05109-022
Date: 4/3/19

Total

NS/EW Streets:	Peach Hill Rd				Peach Hill Rd				Tierra Rejada Rd				Tierra Rejada Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	37	0	25	0	12	236	0	1	0	81	7	0	397
7:15 AM	0	0	0	0	50	0	21	0	8	264	0	0	0	80	7	0	428
7:30 AM	0	0	0	0	42	0	34	0	8	263	0	0	0	144	6	0	496
7:45 AM	0	0	0	0	37	0	55	0	30	291	0	1	0	202	13	0	627
8:00 AM	0	0	0	0	44	0	39	0	37	289	0	0	0	145	16	0	569
8:15 AM	0	0	0	0	49	0	31	0	24	292	0	0	0	144	17	0	556
8:30 AM	0	0	0	0	37	0	28	0	15	248	0	0	0	115	13	0	455
8:45 AM	0	0	0	0	24	0	35	0	16	221	0	0	0	160	10	0	464
9:00 AM	0	0	0	0	20	0	18	0	13	185	0	0	0	82	9	0	326
9:15 AM	0	0	0	0	21	0	11	0	8	160	0	0	0	76	11	0	286
9:30 AM	0	0	0	0	19	0	15	0	6	163	0	0	0	80	11	0	293
9:45 AM	0	0	0	0	16	0	11	0	6	155	0	0	0	90	9	0	285
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	393.5	0	319	0	180	2764	0	1	0	1396	125.5	0	5179
APPROACH %'s :					55.23%	0.00%	44.77%	0.00%	6.11%	93.85%	0.00%	0.03%	0.00%	91.75%	8.25%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	172	0	158	0	98	1135	0	1	0	634	52	0	2247
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.875	0.000	0.722	0.000	0.662	0.971	0.000	0.250	0.000	0.786	0.757	0.000	0.896
					0.899				0.946				0.800				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	1	0	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	0	0	0	0	20	0	21	0	23	186	0	0	0	232	32	0	513
4:45 PM	0	0	0	0	18	0	30	0	21	163	0	1	0	236	32	0	499
5:00 PM	0	0	0	0	15	0	27	0	24	192	0	0	0	244	30	0	531
5:15 PM	0	0	0	0	16	0	20	0	23	181	0	0	0	235	34	0	508
5:30 PM	0	0	0	0	17	0	21	0	23	170	0	2	0	237	30	0	498
5:45 PM	0	0	0	0	13	0	30	0	19	153	0	0	0	256	33	0	503
6:00 PM	0	0	0	0	19	0	14	0	29	139	0	1	0	281	37	0	517
6:15 PM	0	0	0	0	9	0	14	0	14	125	0	0	0	231	31	0	423
6:30 PM	0	0	0	0	14	0	25	0	18	152	0	1	0	214	27	0	449
6:45 PM	0	0	0	0	16	0	20	0	20	136	0	1	0	188	23	0	402
7:00 PM	0	0	0	0	10	0	10	0	15	102	0	0	0	154	21	0	310
7:15 PM	0	0	0	0	9	0	14	0	19	84	0	0	0	151	19	0	296
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	174	0	243	0	245	1779	0	3.5	0	2656	345	0	5445.5
APPROACH %'s :					41.73%	0.00%	58.27%	0.00%	12.08%	87.74%	0.00%	0.17%	0.00%	88.50%	11.50%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	69	0	97	0	90	722	0	1	0	946	127	0	2050
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.863	0.000	0.818	0.000	0.952	0.939	0.000	0.250	0.000	0.969	0.948	0.000	0.966
					0.871				0.941				0.981				

Prepared by National Data & Surveying Services

Walnut Canyon Rd & Championship Dr

Peak Hour Turning Movement Count

ID: 19-05109-002
City: Moorpark

Day: Wednesday
Date: 04/03/2019

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 04:30 PM - 07:30 PM

SOUTHBOUND — Walnut Canyon Rd

AM	3	761	0	0	259	AM
NOON	0	0	0	0	0	NOON
PM	2	312	0	0	897.5	PM

EASTBOUND — Championship Dr

AM	NOON	PM	
98	0	121	
0	0	0	0
2	0	3	1
0	0	0	0
113	0	104	1

WESTBOUND — Championship Dr

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	

NORTHBOUND — Walnut Canyon Rd

PM	416	1	120	895	0	PM
NOON	0	0	0	0	0	NOON
AM	874	1	96	258	0	AM

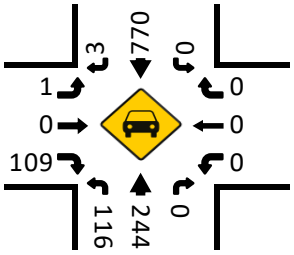
	1	1	0	0
	0	1	1	0

CONTROL

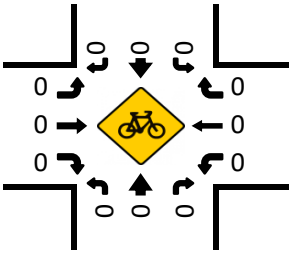
1-Way Stop (EB)

TEV	### AM	0 NOON	### PM
PHF	0.97		0.98

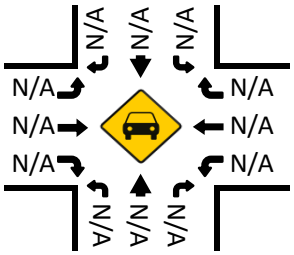
Total Vehicles (AM)



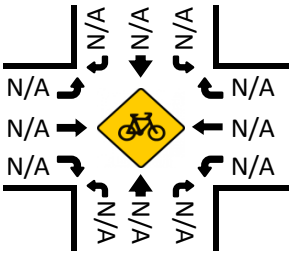
Bikes (AM)



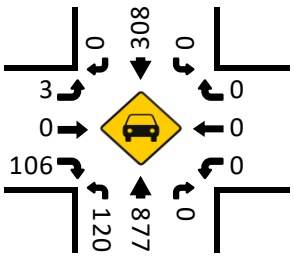
Total Vehicles (Noon)



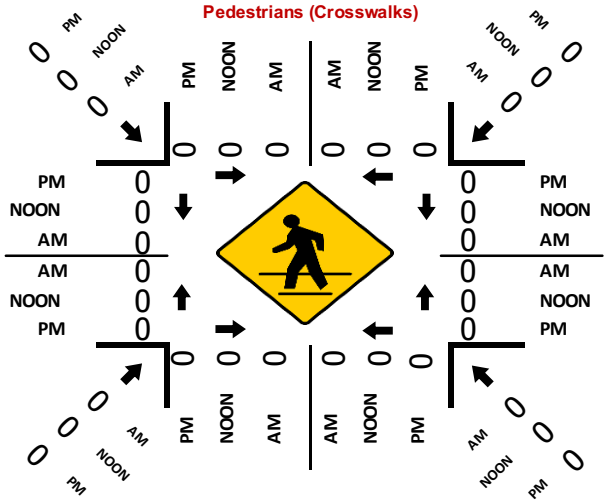
Bikes (NOON)



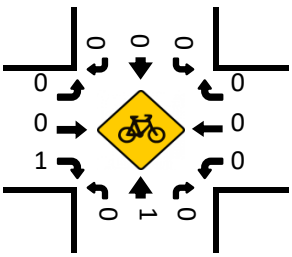
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Walnut Canyon Rd & Casey Rd

Peak Hour Turning Movement Count

ID: 19-05109-004
City: Moorpark

Day: Wednesday
Date: 04/17/2019

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 04:30 PM - 07:30 PM

SOUTHBOUND — Walnut Canyon Rd

AM	74	348	0	0	205	AM
NOON	0	0	0	0	0	NOON
PM	9	189	0	0	336	PM

EASTBOUND — Casey Rd

AM	NOON	PM	
316	0	90	⇦
0	0	0	↰ 0
34	0	15	↑ 1
0	0	0	→ 0
245	0	84	↱ 1
AM	NOON	PM	

WESTBOUND — Casey Rd

PM	NOON	AM	
0	0	0	0 ↰
0	0	0	0 ←
0	0	0	0 ↙
0	0	0	0 ↩
0	0	0	⇨
PM	NOON	AM	

NORTHBOUND — Walnut Canyon Rd

PM	272	0	82	321	0	PM
NOON	0	0	0	0	0	NOON
AM	592.5	0	242	172	0	AM

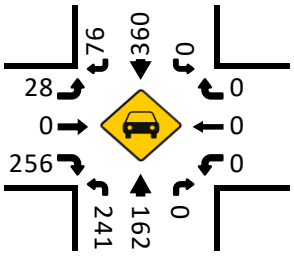
0 1 0 0 | 0 1 1 0

CONTROL

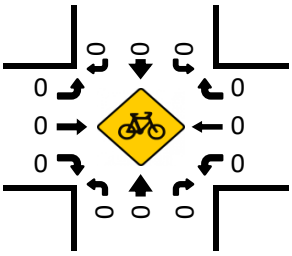
Signalized

TEV	###	0	698
	AM	NOON	PM
PHF	0.81		0.82

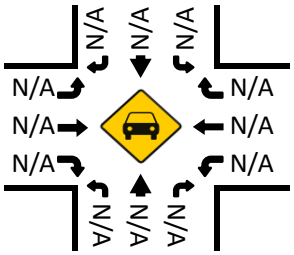
Total Vehicles (AM)



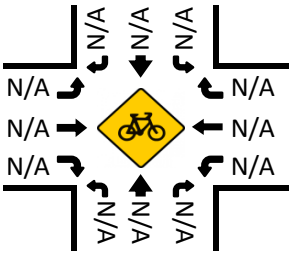
Bikes (AM)



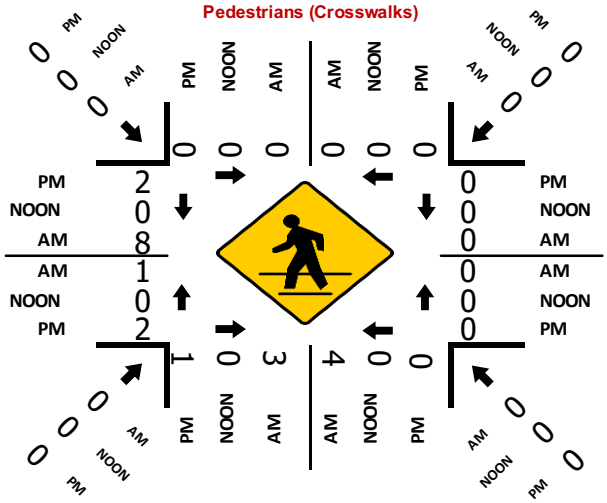
Total Vehicles (Noon)



Bikes (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
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Prepared by National Data & Surveying Services

Moorpark Ave & High St

Peak Hour Turning Movement Count

ID: 19-05109-005
City: Moorpark

Day: Wednesday
Date: 04/17/2019

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS

AM	07:00 AM - 10:00 AM
NOON	NONE
PM	04:30 PM - 07:30 PM

Moorpark Ave — SOUTHBOUND

AM	5	403	174	0	407.5	AM
NOON	0	0	0	0	0	NOON
PM	6	214	87	0	417	PM

High St — EASTBOUND

AM	NOON	PM	
30	0	53	
0	0	0	0
5	0	7	0
13	0	21	1
14	0	36	0
AM	NOON	PM	

CONTROL

Signalized

TEV	###	0	###
	AM	NOON	PM
PHF	0.86		0.98

High St — WESTBOUND

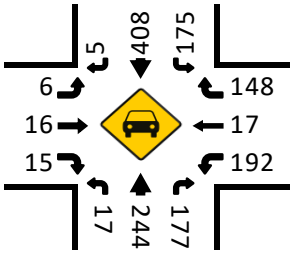
	PM	NOON	AM
1	118	0	141
0.5	21	0	13
0.5	266	0	206
0	0	0	0
	399	0	370
	PM	NOON	AM

Moorpark Ave — NORTHBOUND

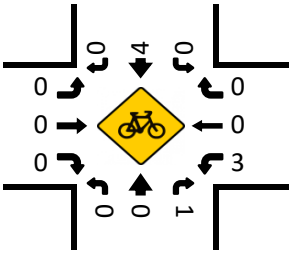
PM	515.5	0	26	292	292	PM
NOON	0	0	0	0	0	NOON
AM	622.5	0	13	262	183	AM

0 1 1 0 — 0 0.5 0.5 1

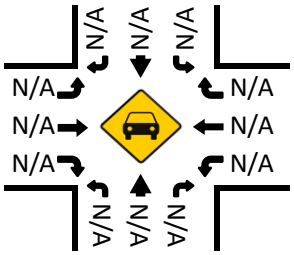
Total Vehicles (AM)



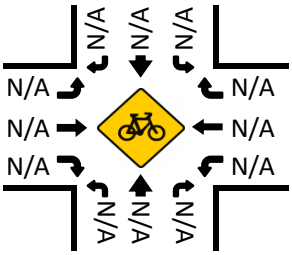
Bikes (AM)



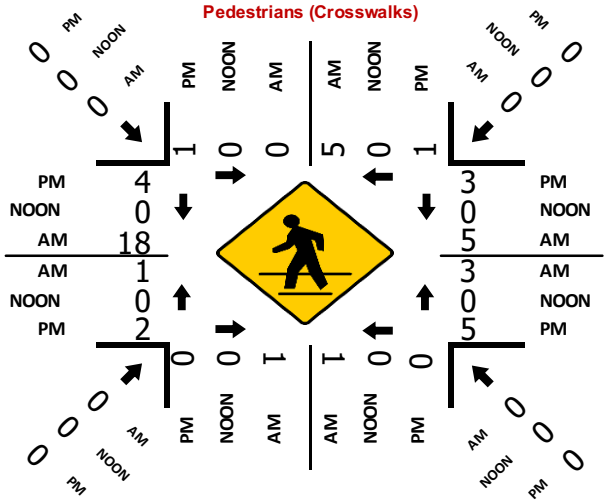
Total Vehicles (Noon)



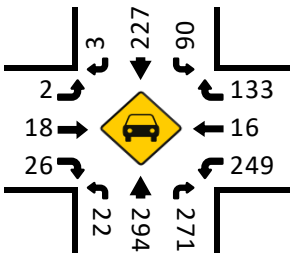
Bikes (NOON)



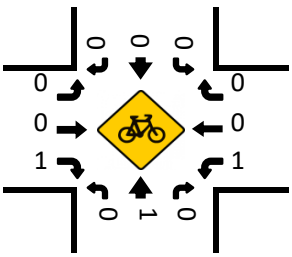
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Spring Rd & High St

Peak Hour Turning Movement Count

ID: 19-05109-006
City: Moorpark

Day: Wednesday
Date: 04/03/2019

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 10:00 AM
NOON	NONE
PM	04:30 PM - 07:30 PM

Spring Rd — SOUTHBOUND

AM	22	567	404	0	378	AM
NOON	0	0	0	0	0	NOON
PM	29	295	218	0	1132.5	PM

High St — EASTBOUND

AM	NOON	PM		
392	0	470	⇦	
0	0	0	↰	0
12	0	35	↑	1
240	0	322	→	1
163	0	139	↱	1
AM	NOON	PM		

High St — WESTBOUND

PM	NOON	AM		
474	0	162	↰	1
273	0	243	←	1
102	0	81	↱	1
0	0	1	↩	0
802	0	871	⇨	
PM	NOON	AM		

Spring Rd — NORTHBOUND

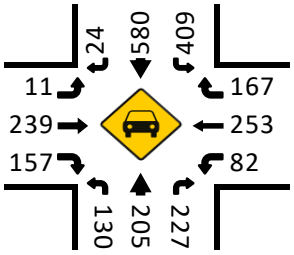
PM	535	0	168	624	263	PM
NOON	0	0	0	0	0	NOON
AM	810.5	0	128	205	226	AM

0.5 1.5 1 0 — 0 1 2 1

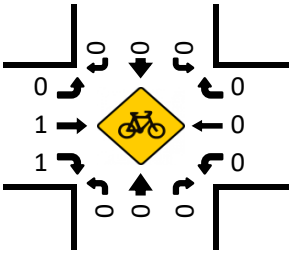
CONTROL: Signalized

TEV	### AM	0 NOON	### PM
PHF	0.94		0.91

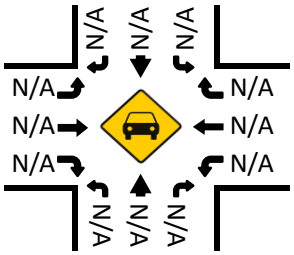
Total Vehicles (AM)



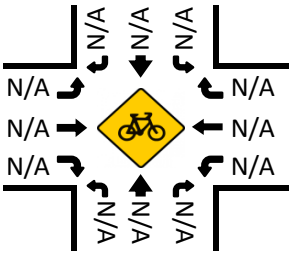
Bikes (AM)



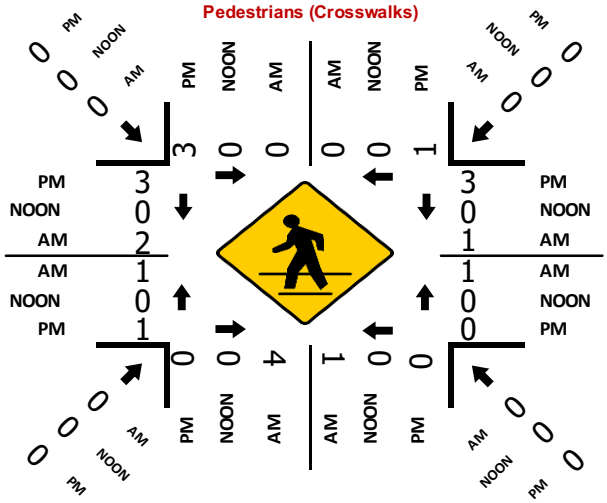
Total Vehicles (Noon)



Bikes (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
0
0
0
0
0
0
3
0
2
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1
3
0
1
1
0
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0
0
4
1
0
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0
0
0
0
0

Prepared by National Data & Surveying Services

Gabbert Rd & Poindexter Ave

Peak Hour Turning Movement Count

ID: 19-05109-007
City: Moorpark

Day: Wednesday
Date: 04/03/2019

PEAK HOURS

AM	08:00 AM - 09:00 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 10:00 AM
NOON	NONE
PM	04:30 PM - 07:30 PM

Gabbert Rd — SOUTHBOUND

AM	0	17	19	0	18	AM
NOON	0	0	0	0	0	NOON
PM	0	9	9	0	28.5	PM

Poindexter Ave — EASTBOUND

AM	NOON	PM	
0	0	0	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

CONTROL

3-Way Stop (NB/SB/WB)

TEV	543	0	485
	AM	NOON	PM
PHF	0.87		0.84

Poindexter Ave — WESTBOUND

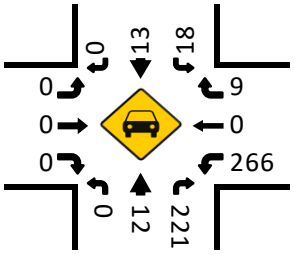
PM	NOON	AM	
13	0	6	1
0	0	0	0
257	0	231	1
1	0	1	0
191	0	276	
PM	NOON	AM	

Gabbert Rd — NORTHBOUND

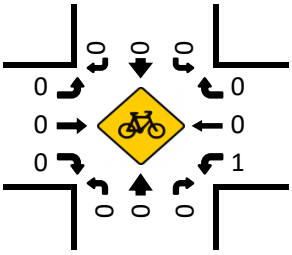
PM	266	0	0	16	182	PM
NOON	0	0	0	0	0	NOON
AM	249	1	0	13	256	AM

0 0 1 1

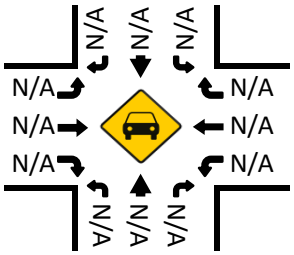
Total Vehicles (AM)



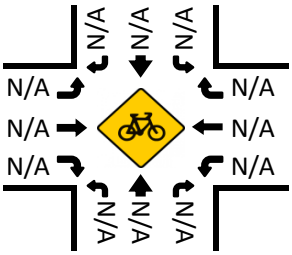
Bikes (AM)



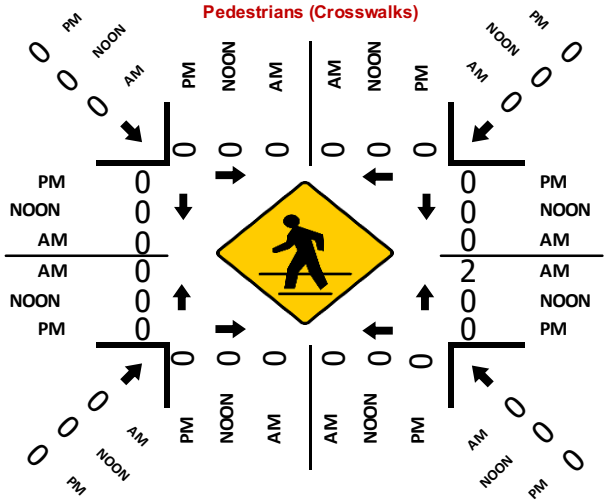
Total Vehicles (Noon)



Bikes (NOON)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
0
0
0

Prepared by National Data & Surveying Services

Moorpark Ave & Poindexter Ave/1st St

Peak Hour Turning Movement Count

ID: 19-05109-008
City: Moorpark

Day: Wednesday
Date: 04/03/2019

PEAK HOURS

AM: 08:00 AM - 09:00 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 04:30 PM - 07:30 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	###	0	###
PHF	0.94		0.93

SOUTHBOUND (Moorpark Ave)

AM	315	296	10	0	478.5	AM
NOON	0	0	0	0	0	NOON
PM	214	336	11	0	675.5	PM

EASTBOUND (Poindexter Ave/1st St)

	AM	NOON	PM	
	457	0	295	
0	0	0	0	0
1	198	0	286	1
0	25	0	28	0
1	62	0	70	1
	AM	NOON	PM	

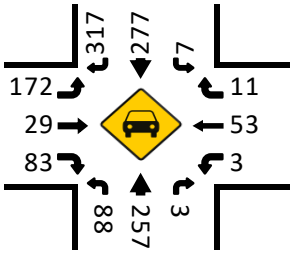
WESTBOUND (Poindexter Ave/1st St)

	PM	NOON	AM	
1	14	0	17	
0	30	0	58	
1	8	0	3	
0	0	0	0	
	50	0	39	
	PM	NOON	AM	

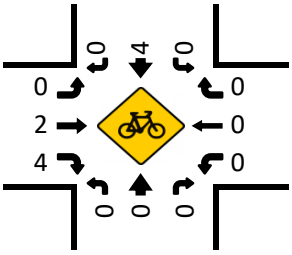
NORTHBOUND (Moorpark Ave)

PM	413.5	0	51	377	11	PM
NOON	0	0	0	0	0	NOON
AM	361	0	84	265	4	AM

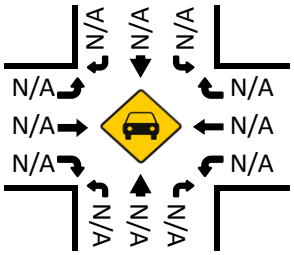
Total Vehicles (AM)



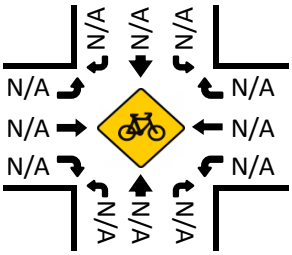
Bikes (AM)



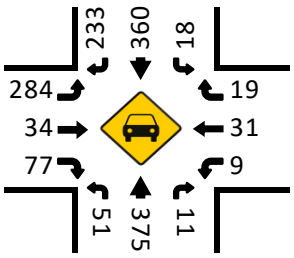
Total Vehicles (Noon)



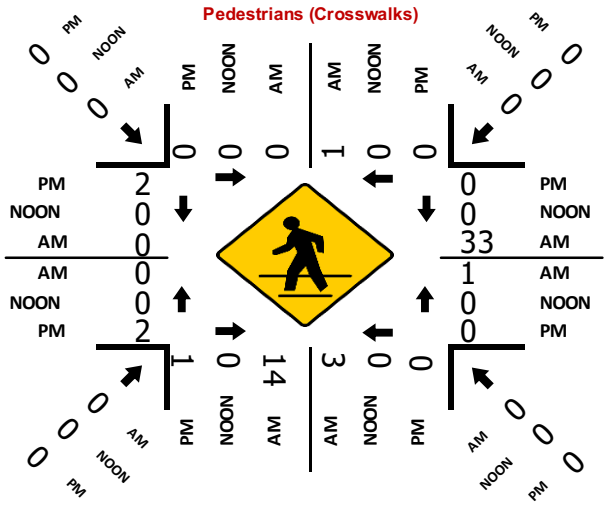
Bikes (NOON)



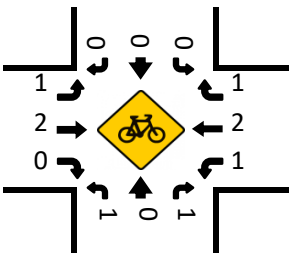
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Somis Rd & Los Angeles Ave

Peak Hour Turning Movement Count

ID: 19-05109-009
City: Moorpark

Day: Wednesday
Date: 04/17/2019

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 04:30 PM - 07:30 PM

Somis Rd

SOUTHBOUND

AM	29	107	24	0	63	AM
NOON	0	0	0	0	0	NOON
PM	53	104	26	0	97.5	PM
	0.5	0.5	1	0		

Los Angeles Ave — EASTBOUND

AM	NOON	PM	
533	0	828	
0	0	0	0
15	0	15	1
339	0	480	1
181	0	104	0

WESTBOUND — Los Angeles Ave

	PM	NOON	AM
0	19	0	14
1	584	0	434
1	369	0	391
0	0	0	0
	###	0	846

CONTROL

Signalized

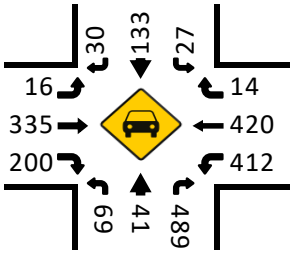
TEV	###	0	###
	AM	NOON	PM
PHF	0.94		0.98

	0	0.5	0.5	1		
PM	576	0	191	64	579	PM
NOON	0	0	0	0	0	NOON
AM	677.5	0	71	35	483	AM

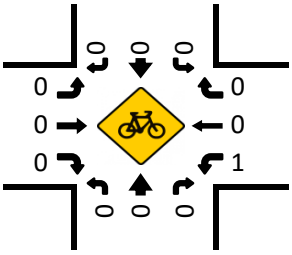
NORTHBOUND

Somis Rd

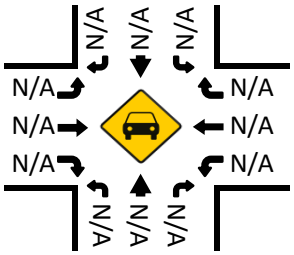
Total Vehicles (AM)



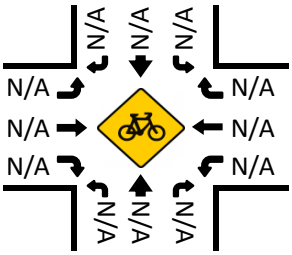
Bikes (AM)



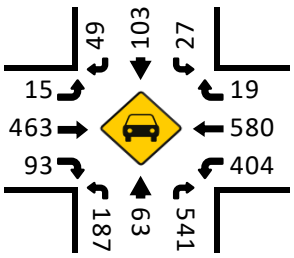
Total Vehicles (Noon)



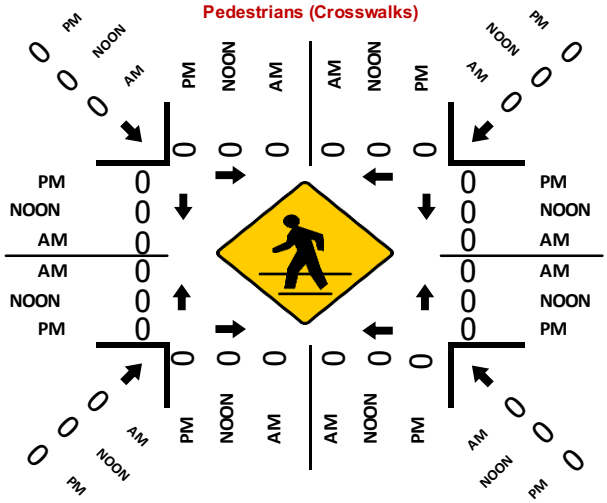
Bikes (NOON)



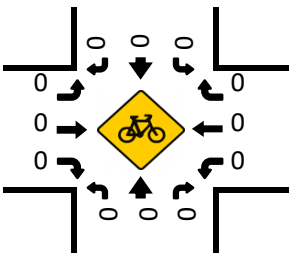
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Grimes Canyon Rd & Los Angeles Ave

Peak Hour Turning Movement Count

ID: 19-05109-010
City: Moorpark

Day: Wednesday
Date: 04/17/2019

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 10:00 AM
NOON	NONE
PM	04:30 PM - 07:30 PM

Grimes Canyon Rd — SOUTHBOUND

AM	122	0	60	0	101	AM
NOON	0	0	0	0	0	NOON
PM	100	0	32	0	168.5	PM

Los Angeles Ave — EASTBOUND

AM	NOON	PM	
897	0	990	
0	0	0	0
82	0	137	1
885	0	862	1
0	0	0	0

Los Angeles Ave — WESTBOUND

PM	NOON	AM	
32	0	20	1
890	0	776	1
0	0	0	0
0	0	0	0
894	0	945	

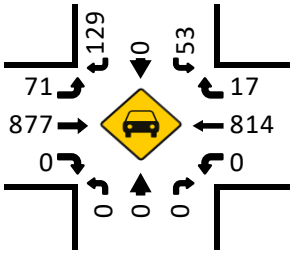
CONTROL: Signalized

	AM	NOON	PM
TEV	###	0	###
PHF	0.97		0.95

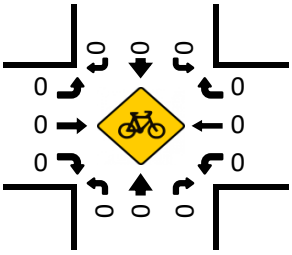
Grimes Canyon Rd — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

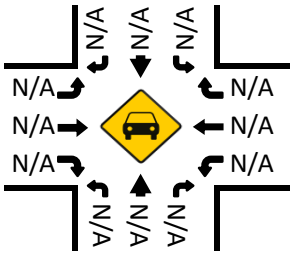
Total Vehicles (AM)



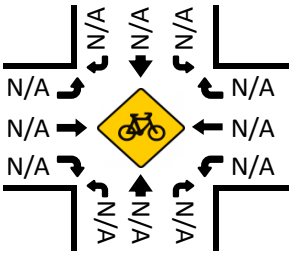
Bikes (AM)



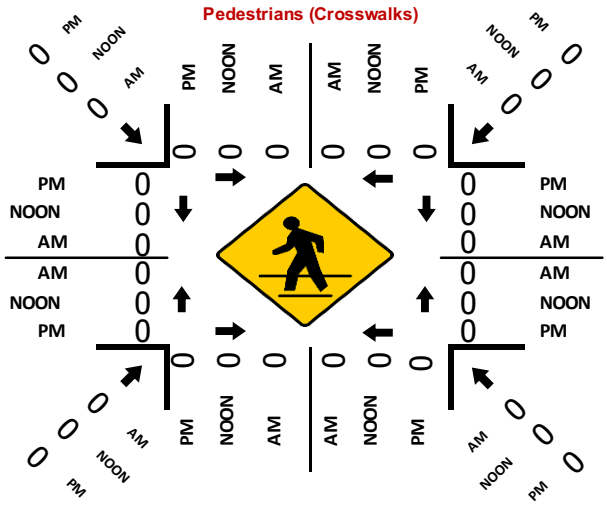
Total Vehicles (Noon)



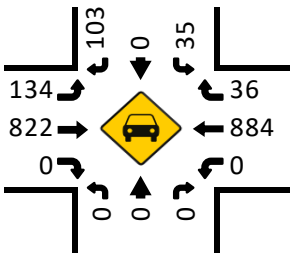
Bikes (NOON)



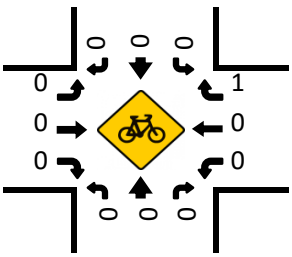
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Moorpark Ave & Los Angeles Ave
City: Moorpark
Control: Signalized

Project ID: 19-05109-012
Date: 4/17/19

Total

NS/EW Streets:	Moorpark Ave				Moorpark Ave				Los Angeles Ave				Los Angeles Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0.5	1	0	1.3	0.3	1.3	0	1	3	0	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	14	11	32	0	33	5	11	0	12	177	4	0	16	167	25	0	506
7:15 AM	15	11	29	0	29	12	18	0	14	185	3	0	15	190	16	0	535
7:30 AM	22	13	39	0	28	11	24	0	17	197	4	0	15	213	22	0	602
7:45 AM	23	20	34	0	42	7	28	0	34	251	8	0	17	236	24	0	722
8:00 AM	16	26	32	0	39	12	32	0	44	236	8	0	22	207	36	0	709
8:15 AM	14	20	27	0	46	19	29	0	29	229	6	0	33	194	34	0	677
8:30 AM	17	22	23	0	40	11	19	0	26	190	10	0	30	216	26	0	627
8:45 AM	12	19	18	0	42	23	30	0	26	185	6	0	37	200	27	0	621
9:00 AM	15	10	18	0	37	10	15	0	18	179	8	0	34	213	23	0	578
9:15 AM	9	3	25	0	32	9	12	0	15	162	5	0	24	182	24	0	499
9:30 AM	9	8	22	0	38	8	18	0	15	161	3	0	31	161	24	0	495
9:45 AM	4	5	31	0	40	10	19	0	15	147	3	0	32	169	35	0	505
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	167.5	165	327	0	445	134	251	0	263.5	2295	65	0	302.5	2345	313	0	7073.5
APPROACH %'s :	25.40%	25.02%	49.58%	0.00%	53.61%	16.14%	30.24%	0.00%	10.04%	87.48%	2.48%	0.00%	10.22%	79.21%	10.57%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	69	87	116	0	167	48	108	0	133	905	31	0	101	852	119	0	2734
PEAK HR FACTOR :	0.750	0.832	0.849	0.000	0.905	0.649	0.840	0.000	0.756	0.901	0.816	0.000	0.777	0.904	0.826	0.000	0.947
			0.886				0.866				0.912				0.971		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0.5	1	0	1.3	0.3	1.3	0	1	3	0	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	14	19	28	0	44	25	21	0	47	243	15	0	52	225	23	0	754
4:45 PM	16	14	27	0	56	27	26	0	35	224	9	0	67	237	25	0	759
5:00 PM	14	20	27	0	55	31	30	0	32	246	12	0	65	230	30	0	789
5:15 PM	11	13	40	0	45	30	25	0	45	231	14	0	71	225	30	0	778
5:30 PM	16	24	30	0	50	29	16	0	32	217	14	0	72	250	25	0	772
5:45 PM	14	18	29	0	42	24	20	0	23	206	14	0	81	245	24	0	737
6:00 PM	16	14	28	0	48	26	16	0	30	202	8	0	75	216	27	0	703
6:15 PM	12	16	31	0	43	22	20	0	21	215	10	0	80	217	24	0	709
6:30 PM	10	17	24	1	40	18	20	0	21	195	7	0	68	204	19	0	639
6:45 PM	11	13	32	0	40	28	15	0	25	172	8	0	61	168	23	0	594
7:00 PM	12	14	23	0	36	20	16	0	20	156	5	0	59	169	25	0	553
7:15 PM	9	12	18	0	32	17	18	0	18	152	9	0	59	177	13	0	531
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	150.5	190.5	335.5	0.5	527	295.5	240.5	0	345.5	2456	122.5	0	807	2559	284.5	0	8314.5
APPROACH %'s :	22.23%	28.14%	49.56%	0.07%	49.58%	27.80%	22.62%	0.00%	11.82%	83.99%	4.19%	0.00%	22.11%	70.10%	7.79%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	55	70	124	0	205	117	97	0	143	917	48	0	274	941	109	0	3098
PEAK HR FACTOR :	0.887	0.729	0.775	0.000	0.913	0.944	0.804	0.000	0.803	0.934	0.848	0.000	0.958	0.942	0.904	0.000	0.981
			0.896				0.905				0.956				0.957		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Spring Rd & Los Angeles Ave
City: Moorpark
Control: Signalized

Project ID: 19-05109-013
Date: 4/17/19

Total

NS/EW Streets:	Spring Rd				Spring Rd				Los Angeles Ave				Los Angeles Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	1.5	0.5	0	2	1	1	0	2	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	19	31	12	0	120	42	17	0	21	213	25	0	9	157	48	1	713
7:15 AM	25	39	14	0	160	47	18	0	26	200	26	0	11	166	37	1	767
7:30 AM	31	46	11	0	161	68	23	0	32	222	40	0	9	163	43	3	847
7:45 AM	38	68	11	0	150	72	29	0	40	238	48	0	6	215	67	2	980
8:00 AM	38	83	13	0	134	86	22	0	44	226	35	0	9	181	60	3	930
8:15 AM	70	74	21	0	145	83	23	0	33	211	47	0	13	193	63	3	977
8:30 AM	64	69	17	0	159	73	24	0	27	219	50	0	9	189	55	2	955
8:45 AM	63	67	24	0	132	57	16	0	35	210	37	0	10	175	48	1	870
9:00 AM	26	54	10	0	108	41	23	0	35	225	26	0	9	201	52	1	809
9:15 AM	24	44	13	0	87	34	23	0	29	195	23	0	10	180	47	4	710
9:30 AM	30	40	13	0	93	35	20	0	25	208	24	0	10	151	33	2	680
9:45 AM	26	46	16	0	83	32	14	0	20	188	30	0	12	183	47	4	697
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	451.5	658	171	0	1529.5	666.5	250.5	0	362.5	2551.5	407	0	112	2151.5	597	23	9931.5
APPROACH %'s :	35.26%	51.39%	13.35%	0.00%	62.52%	27.24%	10.24%	0.00%	10.92%	76.83%	12.26%	0.00%	3.88%	74.61%	20.70%	0.80%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	210	293	61	0	588	313	97	0	143	894	179	0	36	777	245	9	3842
PEAK HR FACTOR :	0.750	0.888	0.738	0.000	0.924	0.910	0.836	0.000	0.813	0.939	0.902	0.000	0.683	0.906	0.919	0.850	0.980
	0.856				0.974				0.935				0.923				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	1.5	0.5	0	2	1	1	0	2	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	63	77	19	0	94	45	18	0	41	208	28	0	20	251	159	1	1021
4:45 PM	62	76	8	0	96	60	27	0	32	237	44	0	14	263	157	1	1072
5:00 PM	69	80	11	0	89	59	22	0	37	234	41	0	8	255	180	1	1083
5:15 PM	52	79	10	0	82	48	17	0	45	216	51	0	10	268	191	1	1068
5:30 PM	62	81	16	0	84	51	26	0	45	221	52	0	19	249	165	2	1072
5:45 PM	65	75	9	0	91	56	26	0	39	194	40	0	21	247	172	1	1034
6:00 PM	63	66	16	0	74	46	25	0	40	229	41	0	17	243	136	2	995
6:15 PM	48	53	14	0	88	37	22	0	34	197	37	0	16	248	127	2	920
6:30 PM	54	59	10	0	89	50	27	0	32	194	41	0	21	211	96	1	882
6:45 PM	38	43	10	0	64	37	24	0	29	183	47	0	16	228	110	1	826
7:00 PM	40	37	11	0	74	41	22	0	30	159	38	0	11	175	94	2	732
7:15 PM	30	50	14	0	51	37	24	0	27	160	28	0	10	191	82	1	701
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	644	773	145	0	973.5	564	277.5	0	427.5	2429	485	0	180.5	2826.5	1666.5	11.5	11403.5
APPROACH %'s :	41.23%	49.49%	9.28%	0.00%	53.64%	31.07%	15.29%	0.00%	12.79%	72.69%	14.51%	0.00%	3.85%	60.33%	35.57%	0.25%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	245	315	44	0	350	217	92	0	158	907	188	0	51	1035	693	3	4294
PEAK HR FACTOR :	0.886	0.971	0.710	0.000	0.916	0.910	0.863	0.000	0.875	0.959	0.901	0.000	0.664	0.965	0.907	0.500	0.991
	0.945				0.906				0.984				0.949				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Miller Pkwy/Science Dr & Los Angeles Ave
City: Moorpark
Control: Signalized

Project ID: 19-05109-014
Date: 4/17/19

Total

NS/EW Streets:	Miller Pkwy/Science Dr				Miller Pkwy/Science Dr				Los Angeles Ave				Los Angeles Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	1	1	0	0.3	0.3	0.3	0	1	3	1	0	2	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	11	1	12	0	3	1	0	0	7	340	5	0	8	228	25	0	640
7:15 AM	10	1	18	1	2	0	2	0	8	368	11	0	3	231	23	0	675
7:30 AM	11	1	20	0	2	0	4	0	13	369	7	0	13	237	34	0	708
7:45 AM	14	4	18	0	4	0	3	0	17	381	18	0	15	304	46	0	820
8:00 AM	16	3	14	0	4	0	4	0	18	338	23	1	13	235	31	1	697
8:15 AM	18	4	20	0	3	0	5	0	17	333	30	1	25	285	23	0	763
8:30 AM	18	3	19	0	1	1	5	0	13	345	52	1	28	248	19	1	750
8:45 AM	28	6	24	1	4	1	1	0	7	309	36	1	35	247	17	0	714
9:00 AM	21	4	14	0	3	1	5	0	9	316	16	2	12	223	12	1	635
9:15 AM	27	2	14	0	4	1	3	0	5	267	16	0	17	219	12	0	583
9:30 AM	23	1	17	1	5	0	6	0	4	305	15	1	11	202	8	0	596
9:45 AM	25	1	16	0	5	1	5	0	8	258	23	1	21	230	8	0	598
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	218	29	202.5	1.5	36.5	4	40	0	122	3927.5	247.5	7	197	2885	256.5	2	8176
APPROACH %'s :	48.34%	6.43%	44.90%	0.33%	45.34%	4.97%	49.69%	0.00%	2.83%	91.25%	5.75%	0.16%	5.90%	86.36%	7.68%	0.06%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	65	14	70	0	11	1	17	0	64	1396	121	3	80	1071	118	1	3029
PEAK HR FACTOR :	0.921	0.844	0.869	0.000	0.688	0.250	0.825	0.000	0.914	0.917	0.587	0.625	0.714	0.881	0.646	0.500	0.923
	0.889				0.891				0.955				0.872				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	1	1	0	0.3	0.3	0.3	0	1	3	1	0	2	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	39	1	21	1	47	3	20	0	5	284	29	3	25	385	7	0	868
4:45 PM	66	1	21	0	26	3	10	0	2	312	31	1	30	375	4	0	880
5:00 PM	49	0	32	1	24	4	12	0	3	303	21	2	26	401	5	0	879
5:15 PM	42	2	15	1	22	7	7	0	4	285	27	3	30	409	3	1	854
5:30 PM	51	1	22	1	17	3	6	0	3	300	29	1	27	406	3	0	866
5:45 PM	45	1	21	1	12	2	6	0	2	295	24	4	28	398	6	0	841
6:00 PM	42	0	20	0	12	3	7	0	1	286	26	2	21	362	6	0	786
6:15 PM	45	1	20	0	11	2	10	0	5	277	23	1	12	356	6	0	767
6:30 PM	44	0	10	0	7	2	7	0	2	295	19	0	17	318	1	0	721
6:45 PM	36	0	12	0	6	2	6	0	3	250	20	2	21	303	3	0	662
7:00 PM	40	0	18	1	7	3	6	0	5	227	18	1	14	270	1	0	609
7:15 PM	30	2	12	0	3	1	3	0	4	204	16	1	14	286	3	1	576
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	527	8	222	4.5	191	31.5	98	0	37	3315	279.5	19	261.5	4265.5	47	1	9307.5
APPROACH %'s :	69.21%	1.05%	29.15%	0.59%	59.59%	9.83%	30.58%	0.00%	1.01%	90.81%	7.66%	0.52%	5.72%	93.23%	1.03%	0.02%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	196	4	89	2	118	16	49	0	14	1183	107	8	110	1569	19	1	3481
PEAK HR FACTOR :	0.741	0.583	0.691	0.500	0.634	0.615	0.606	0.000	0.675	0.949	0.863	0.667	0.932	0.960	0.679	0.250	0.989
	0.827				0.656				0.949				0.961				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-23 SB Ramps & Los Angeles Ave
City: Moorpark
Control: Signalized

Project ID: 19-05109-015
Date: 4/17/19

Total

NS/EW Streets:	SR-23 SB Ramps				SR-23 SB Ramps				Los Angeles Ave				Los Angeles Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	0	2	2	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	10	0	195	0	0	151	193	0	1	79	0	0	627
7:15 AM	0	0	0	0	9	0	171	0	0	166	234	0	2	92	0	0	672
7:30 AM	0	0	0	0	7	0	192	0	0	172	244	0	2	115	0	1	732
7:45 AM	0	0	0	0	7	0	226	0	0	204	190	0	1	167	0	1	793
8:00 AM	0	0	0	0	7	0	199	0	0	194	177	0	0	121	0	0	697
8:15 AM	0	0	0	0	5	0	229	0	0	193	177	0	1	117	0	0	721
8:30 AM	0	0	0	0	4	1	236	0	0	195	185	0	1	102	0	3	725
8:45 AM	0	0	0	0	4	0	218	0	0	176	168	0	2	115	0	1	682
9:00 AM	0	0	0	0	4	1	179	0	0	160	148	0	2	99	0	0	591
9:15 AM	0	0	0	0	3	0	175	0	0	171	131	0	4	100	0	1	584
9:30 AM	0	0	0	0	2	0	158	0	0	165	128	0	5	93	0	2	551
9:45 AM	0	0	0	0	3	0	185	0	0	132	142	0	2	100	0	0	563
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	62.5	1.5	2359.5	0	0	2076.5	2113	0	20	1296.5	0	7	7936.5
APPROACH %'s :					2.58%	0.06%	97.36%	0.00%	0.00%	49.56%	50.44%	0.00%	1.51%	97.96%	0.00%	0.53%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	26	0	845	0	0	762	787	0	3	519	0	2	2943
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.911	0.000	0.925	0.000	0.000	0.936	0.806	0.000	0.417	0.779	0.000	0.375	0.928
					0.932				0.931				0.781				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	0	2	2	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	0	0	0	0	5	0	196	0	1	230	141	0	15	240	0	0	827
4:45 PM	0	0	0	0	8	1	218	0	0	191	185	0	13	231	0	1	847
5:00 PM	0	0	0	0	5	0	236	0	0	206	177	0	8	240	0	1	872
5:15 PM	1	0	0	0	6	0	249	0	0	188	170	0	6	227	0	0	845
5:30 PM	0	0	0	0	5	0	250	0	0	197	158	0	11	229	0	0	848
5:45 PM	0	0	0	0	3	0	234	0	0	191	121	0	7	222	0	1	779
6:00 PM	0	0	0	0	1	0	252	0	0	189	129	0	5	211	0	1	786
6:15 PM	0	0	0	0	2	0	209	0	0	149	116	0	4	196	0	1	675
6:30 PM	0	0	0	0	1	1	155	0	1	186	154	0	4	155	0	2	655
6:45 PM	3	0	0	0	1	0	187	0	0	166	106	0	3	146	0	1	611
7:00 PM	1	0	0	0	2	0	169	0	0	156	96	0	5	129	0	0	556
7:15 PM	0	0	0	0	3	0	179	0	0	154	80	0	3	133	1	1	551
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4.5	0	0	0	40	1	2532.5	0	1.5	2198	1628	0	80	2356	1	6.5	8849
APPROACH %'s :	100.00%	0.00%	0.00%	0.00%	1.55%	0.04%	98.41%	0.00%	0.04%	57.43%	42.53%	0.00%	3.27%	96.42%	0.04%	0.27%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	1	0	0	0	23	1	953	0	0	781	688	0	37	927	0	2	3411
PEAK HR FACTOR :	0.250	0.000	0.000	0.000	0.719	0.250	0.953	0.000	0.000	0.950	0.932	0.000	0.730	0.965	0.000	0.500	0.978
	0.250				0.959				0.961				0.969				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-23 NB Ramps & Los Angeles Ave
City: Moorpark
Control: Signalized

Project ID: 19-05109-016
Date: 4/17/19

Total

NS/EW Streets:	SR-23 NB Ramps				SR-23 NB Ramps				Los Angeles Ave				Los Angeles Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	0	1	0	0	0	0	0	0	2	2	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	74	0	6	0	0	0	0	0	0	21	141	1	1	1	0	0	243
7:15 AM	91	0	10	0	0	0	0	0	0	10	159	0	0	2	0	0	271
7:30 AM	117	0	10	0	0	0	0	0	0	14	164	0	1	3	0	0	307
7:45 AM	169	0	12	0	0	0	0	0	0	8	202	0	1	3	0	0	394
8:00 AM	123	0	8	0	0	0	0	0	0	10	195	0	0	1	0	0	337
8:15 AM	114	0	9	0	0	0	0	0	0	11	180	0	2	2	0	0	316
8:30 AM	97	0	3	0	0	0	0	0	0	8	173	0	1	2	0	0	283
8:45 AM	112	0	4	0	0	0	0	0	0	4	176	0	1	2	0	0	298
9:00 AM	97	0	1	0	0	0	0	0	0	6	147	0	2	5	0	0	256
9:15 AM	96	0	3	0	0	0	0	0	0	5	156	1	1	4	0	0	264
9:30 AM	99	0	4	0	0	0	0	0	0	4	146	0	2	3	0	0	255
9:45 AM	95	0	5	0	0	0	0	0	0	3	138	0	3	2	0	0	246
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1280.5	0	72	0	0	0	0	0	0	100.5	1972.5	1	12	28.5	0	0	3467
APPROACH %'s :	94.68%	0.00%	5.32%	0.00%					0.00%	4.85%	95.11%	0.05%	29.63%	70.37%	0.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	522	0	38	0	0	0	0	0	0	42	740	0	3	9	0	0	1353
PEAK HR FACTOR :	0.774	0.000	0.826	0.000	0.000	0.000	0.000	0.000	0.000	0.778	0.915	0.000	0.375	0.708	0.000	0.000	0.860
			0.778								0.930				0.821		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	0	1	0	0	0	0	0	0	2	2	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	219	0	3	0	0	0	0	0	0	6	225	0	16	29	0	0	496
4:45 PM	245	0	3	0	0	0	0	0	0	3	197	0	7	17	0	1	472
5:00 PM	229	0	2	0	0	0	0	0	0	4	198	0	7	15	0	0	455
5:15 PM	227	0	2	0	0	0	0	0	0	7	199	0	9	9	0	0	453
5:30 PM	212	0	2	0	0	0	0	0	0	6	197	0	10	16	0	0	442
5:45 PM	224	0	1	0	0	0	0	0	1	3	189	0	6	11	0	0	435
6:00 PM	210	0	5	0	0	0	0	0	1	2	187	0	6	10	0	0	418
6:15 PM	202	0	3	0	0	0	0	0	1	7	149	0	2	2	0	0	365
6:30 PM	151	0	2	0	0	0	0	0	1	3	189	0	9	11	0	0	364
6:45 PM	157	0	0	0	0	0	0	0	0	3	172	0	2	2	0	0	335
7:00 PM	118	0	1	0	0	0	0	0	0	3	158	0	4	4	0	0	286
7:15 PM	134	0	3	0	0	0	0	0	0	3	148	0	3	2	0	0	293
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2325.5	0	24.5	0	0	0	0	0	3.5	48.5	2205.5	0	77.5	125	0	0.5	4810.5
APPROACH %'s :	98.96%	0.00%	1.04%	0.00%					0.16%	2.15%	97.70%	0.00%	38.18%	61.58%	0.00%	0.25%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	920	0	10	0	0	0	0	0	0	20	819	0	38	70	0	1	1875
PEAK HR FACTOR :	0.938	0.000	0.792	0.000	0.000	0.000	0.000	0.000	0.000	0.696	0.911	0.000	0.605	0.599	0.000	0.250	0.945
			0.936								0.911				0.604		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Spring Rd & Peach Hill Rd
City: Moorpark
Control: Signalized

Project ID: 19-05109-017
Date: 4/3/19

Total

NS/EW Streets:	Spring Rd				Spring Rd				Peach Hill Rd				Peach Hill Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	1	0	1	1	1	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	29	2	0	1	48	5	0	28	5	30	0	4	1	5	0	159
7:15 AM	5	36	6	0	3	66	12	0	39	7	20	0	6	2	4	0	204
7:30 AM	2	48	6	0	12	101	13	0	33	10	37	0	10	2	9	0	281
7:45 AM	7	69	15	0	15	106	21	0	41	15	27	0	16	11	17	0	357
8:00 AM	6	72	18	0	16	72	43	0	54	31	32	0	13	12	25	0	390
8:15 AM	8	86	19	0	19	89	33	0	50	37	20	0	15	15	37	0	425
8:30 AM	9	74	21	0	43	89	20	0	28	33	29	0	28	18	63	0	452
8:45 AM	7	55	26	0	36	73	14	0	24	25	17	0	36	19	79	0	409
9:00 AM	4	50	6	0	7	42	19	1	26	7	19	0	7	7	10	0	200
9:15 AM	7	48	5	0	7	38	16	1	21	6	18	0	2	5	11	0	182
9:30 AM	6	42	13	0	7	45	20	1	33	10	16	0	2	4	7	0	203
9:45 AM	8	51	8	0	9	44	19	0	25	8	14	0	4	7	5	0	199
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	69.5	658	141	0	171	809.5	231.5	1.5	399.5	189.5	277.5	0	140	101	268.5	0	3458
APPROACH %'s :	8.00%	75.76%	16.23%	0.00%	14.09%	66.71%	19.08%	0.12%	46.11%	21.87%	32.03%	0.00%	27.48%	19.82%	52.70%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	29	287	84	0	113	322	109	0	156	125	98	0	91	63	203	0	1675
PEAK HR FACTOR :	0.838	0.833	0.803	0.000	0.662	0.903	0.634	0.000	0.727	0.853	0.774	0.000	0.637	0.829	0.645	0.000	0.927
		0.886				0.899				0.817				0.669			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	1	0	1	1	1	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	15	108	8	0	8	68	32	0	30	8	9	0	11	26	11	0	331
4:45 PM	22	100	12	0	9	85	38	0	23	5	11	0	9	29	9	0	347
5:00 PM	20	115	11	0	11	75	37	0	25	12	14	0	15	26	11	0	370
5:15 PM	19	106	12	0	6	77	38	1	35	11	11	0	7	27	13	0	359
5:30 PM	23	101	11	0	8	60	40	1	34	8	10	0	11	24	15	0	343
5:45 PM	25	105	10	0	10	67	40	0	26	11	12	0	14	23	7	0	348
6:00 PM	24	102	10	0	3	62	38	1	27	8	9	0	7	16	13	0	316
6:15 PM	20	82	11	0	7	58	33	0	20	8	14	0	4	23	6	0	283
6:30 PM	21	64	9	0	7	63	53	1	31	7	8	0	5	13	8	0	288
6:45 PM	20	70	15	0	13	38	38	0	26	10	9	0	8	16	9	0	268
7:00 PM	14	59	13	0	15	37	42	1	22	9	6	0	7	14	11	0	246
7:15 PM	13	41	5	0	8	41	40	0	18	7	7	0	6	13	12	0	207
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	233.5	1051	124	0	102	727	466	3	314	99.5	116.5	0	100	246.5	122	0	3705
APPROACH %'s :	16.58%	74.62%	8.80%	0.00%	7.86%	56.01%	35.90%	0.23%	59.25%	18.77%	21.98%	0.00%	21.34%	52.61%	26.04%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	87	426	44	0	34	278	154	1	120	41	46	0	46	99	45	0	1419
PEAK HR FACTOR :	0.870	0.926	0.906	0.000	0.773	0.907	0.963	0.500	0.854	0.854	0.821	0.000	0.793	0.934	0.767	0.000	0.960
		0.956				0.956				0.922				0.929			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Tierra Rejada Rd & Countrywood Dr
City: Moorpark
Control: Signalized

Project ID: 19-05109-018
Date: 4/3/19

Total

NS/EW Streets:	Tierra Rejada Rd				Tierra Rejada Rd				Countrywood Dr				Countrywood Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	1	0	0	1	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	93	6	1	10	80	13	1	17	0	26	0	3	0	7	0	258
7:15 AM	4	76	8	1	4	92	14	0	20	1	27	0	1	1	1	0	246
7:30 AM	6	98	17	1	19	114	15	1	13	3	19	0	3	1	8	0	314
7:45 AM	9	169	28	7	43	191	39	0	42	6	24	0	10	2	25	0	591
8:00 AM	12	163	18	2	27	145	54	1	47	5	24	0	9	3	26	0	531
8:15 AM	9	139	16	1	9	113	64	0	61	2	30	0	4	1	4	0	450
8:30 AM	6	134	26	3	25	122	20	1	43	1	22	0	6	1	14	0	421
8:45 AM	7	127	37	5	32	132	10	0	16	7	15	0	10	3	17	0	416
9:00 AM	4	92	18	1	17	68	8	0	15	2	12	0	22	4	21	0	282
9:15 AM	6	65	6	1	6	59	8	1	17	1	11	0	5	1	5	0	189
9:30 AM	4	64	7	0	4	59	9	1	12	1	13	0	8	1	3	0	183
9:45 AM	5	51	9	1	9	72	7	1	13	2	11	0	3	1	3	0	184
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	72.5	1268.5	192	20	201.5	1243.5	258.5	4.5	313	29	230	0	82	15.5	131	0	4061.5
APPROACH %'s :	4.67%	81.68%	12.36%	1.29%	11.80%	72.80%	15.13%	0.26%	54.72%	5.07%	40.21%	0.00%	35.89%	6.78%	57.33%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	35	604	88	12	102	569	177	2	192	13	98	0	28	6	69	0	1992
PEAK HR FACTOR :	0.750	0.896	0.781	0.442	0.600	0.747	0.689	0.375	0.793	0.591	0.831	0.000	0.737	0.600	0.672	0.000	0.843
		0.870				0.782				0.823				0.702			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	1	0	0	1	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	16	118	17	0	11	159	21	6	10	1	20	0	14	1	8	0	399
4:45 PM	16	125	23	0	26	123	19	1	9	5	9	0	17	1	12	0	384
5:00 PM	23	110	22	1	18	150	25	1	14	1	13	0	23	3	20	0	421
5:15 PM	20	117	14	1	13	135	25	0	17	2	7	0	15	1	12	0	375
5:30 PM	16	113	16	0	15	136	21	0	13	0	11	0	13	1	15	0	367
5:45 PM	23	107	21	0	25	114	18	0	14	2	9	0	14	1	9	0	355
6:00 PM	20	95	17	1	17	105	22	0	12	1	14	0	19	3	22	0	346
6:15 PM	26	92	14	0	12	90	21	0	12	1	9	0	21	3	22	0	321
6:30 PM	18	95	15	0	8	112	20	0	10	3	12	0	15	2	11	0	318
6:45 PM	17	84	15	0	15	88	17	1	13	2	12	0	16	3	16	0	296
7:00 PM	11	76	7	1	9	80	15	0	11	1	8	0	23	2	33	0	274
7:15 PM	11	76	6	0	5	73	16	1	11	0	6	0	16	1	14	0	233
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	214	1206	184	3	172	1363	236	8	143	18	127.5	0	203.5	18.5	190.5	0	4087
APPROACH %'s :	13.32%	75.05%	11.45%	0.19%	9.67%	76.62%	13.27%	0.45%	49.57%	6.24%	44.19%	0.00%	49.33%	4.48%	46.18%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	74	469	76	2	68	566	89	7	50	9	48	0	67	5	52	0	1579
PEAK HR FACTOR :	0.799	0.942	0.821	0.375	0.649	0.893	0.908	0.318	0.750	0.450	0.600	0.000	0.744	0.450	0.644	0.000	0.938
		0.950				0.930				0.859				0.683			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Mountain Trail St & Tierra Rejada Rd
City: Moorpark
Control: Signalized

Project ID: 19-05109-019
Date: 4/3/19

Total

NS/EW Streets:	Mountain Trail St				Mountain Trail St				Tierra Rejada Rd				Tierra Rejada Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	12	6	41	0	17	5	33	0	29	71	7	0	10	54	37	1	321
7:15 AM	14	3	49	0	6	2	11	0	11	87	6	0	17	70	12	1	286
7:30 AM	13	1	42	0	15	5	16	0	12	89	7	0	28	96	15	0	337
7:45 AM	25	9	48	0	47	13	49	0	21	157	10	1	31	150	27	0	585
8:00 AM	21	5	55	0	16	10	43	0	16	155	11	0	34	99	16	0	479
8:15 AM	23	7	55	0	13	10	36	0	10	99	12	0	41	114	12	0	429
8:30 AM	25	4	41	0	15	7	27	0	16	102	12	0	24	101	10	0	380
8:45 AM	17	5	30	1	26	7	32	0	22	109	10	1	24	118	15	1	415
9:00 AM	14	1	24	0	13	4	24	0	8	88	11	1	18	68	4	1	277
9:15 AM	13	1	24	0	2	4	9	0	7	60	3	0	19	50	2	0	191
9:30 AM	15	0	30	1	2	3	10	0	7	69	5	0	21	46	1	1	208
9:45 AM	8	2	20	0	3	2	7	0	6	74	9	0	24	46	2	0	201
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	197.5	41.5	457	1	170	70.5	294	0	162.5	1158	101.5	1.5	289.5	1008.5	150	2.5	4105.5
APPROACH %'s :	28.34%	5.95%	65.57%	0.14%	31.81%	13.19%	55.00%	0.00%	11.42%	81.35%	7.13%	0.11%	19.96%	69.53%	10.34%	0.17%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	93	24	199	0	90	39	154	0	62	512	45	1	130	463	64	0	1872
PEAK HR FACTOR :	0.930	0.691	0.902	0.000	0.476	0.770	0.794	0.000	0.750	0.815	0.927	0.250	0.790	0.773	0.593	0.000	0.800
	0.938				0.653				0.825				0.790				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	9	3	21	0	9	6	11	0	18	158	16	1	55	118	6	1	429
4:45 PM	21	5	17	0	11	5	17	0	24	112	16	1	51	121	14	1	412
5:00 PM	11	3	26	0	9	6	18	0	28	140	17	1	52	114	11	0	431
5:15 PM	14	3	33	0	10	6	16	0	20	113	19	0	51	107	8	0	396
5:30 PM	18	6	21	0	11	4	13	0	30	109	17	2	57	95	12	0	393
5:45 PM	10	5	28	0	21	14	15	0	29	100	15	1	59	111	14	1	420
6:00 PM	10	5	26	1	6	6	12	0	25	93	18	0	61	94	10	0	363
6:15 PM	8	5	18	0	8	6	14	0	23	81	19	1	49	100	9	0	338
6:30 PM	13	5	19	0	25	9	15	0	22	91	15	0	45	88	11	1	355
6:45 PM	13	3	20	0	20	6	31	0	18	79	15	0	43	60	11	0	316
7:00 PM	9	4	15	0	14	5	17	0	18	70	18	1	36	57	6	0	267
7:15 PM	10	1	13	0	4	4	8	0	12	58	13	1	39	66	6	0	233
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	144	44.5	254	0.5	143.5	75	183	0	264.5	1201	194	6	595.5	1128	115.5	2	4351
APPROACH %'s :	32.51%	10.05%	57.34%	0.11%	35.74%	18.68%	45.58%	0.00%	15.88%	72.11%	11.65%	0.36%	32.35%	61.27%	6.27%	0.11%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	55	13	96	0	37	23	61	0	89	522	67	2	208	459	38	1	1668
PEAK HR FACTOR :	0.649	0.650	0.738	0.000	0.881	0.958	0.864	0.000	0.805	0.825	0.899	0.500	0.945	0.951	0.694	0.500	0.967
	0.826				0.941				0.883				0.953				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Mountain Meadow Dr & Tierra Rejada Rd
City: Moorpark
Control: Signalized

Project ID: 19-05109-020
Date: 4/3/19

Total

NS/EW Streets:	Mountain Meadow Dr				Mountain Meadow Dr				Tierra Rejada Rd				Tierra Rejada Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	1	21	0	21	0	3	0	0	126	2	0	4	97	6	0	282
7:15 AM	6	0	27	0	11	2	4	0	3	137	4	0	3	94	9	0	297
7:30 AM	7	6	22	0	20	2	2	0	13	137	2	0	4	134	38	0	384
7:45 AM	12	23	15	0	31	10	15	0	47	195	8	0	9	178	62	0	602
8:00 AM	6	14	13	0	35	4	11	0	47	171	5	0	7	129	40	0	479
8:15 AM	12	2	17	0	35	8	16	0	8	155	5	0	7	137	17	1	417
8:30 AM	12	2	16	0	28	3	4	0	5	145	5	1	7	114	17	0	357
8:45 AM	9	4	9	0	15	0	5	0	7	147	7	0	11	140	29	0	381
9:00 AM	5	0	14	0	20	1	3	0	6	118	3	0	4	77	6	0	254
9:15 AM	4	1	11	0	12	1	2	0	3	77	4	1	5	70	7	1	194
9:30 AM	5	1	14	0	13	2	5	0	3	90	7	1	7	58	10	0	212
9:45 AM	4	1	11	0	11	2	3	0	4	90	2	0	5	64	12	0	206
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	84.5	52	185.5	0	248	32.5	70	0	144	1584.5	49.5	1.5	68.5	1290	249.5	1	4061
APPROACH %'s :	26.24%	16.15%	57.61%	0.00%	70.76%	9.27%	19.97%	0.00%	8.09%	89.04%	2.78%	0.08%	4.26%	80.17%	15.51%	0.06%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	37	45	66	0	119	24	43	0	114	657	19	0	26	577	156	1	1881
PEAK HR FACTOR :	0.771	0.484	0.750	0.000	0.862	0.588	0.694	0.000	0.606	0.844	0.617	0.000	0.722	0.810	0.632	0.250	0.781
			0.745				0.807				0.794				0.763		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	9	1	10	0	12	1	2	0	4	178	9	0	19	166	20	1	428
4:45 PM	10	1	7	0	15	3	5	0	4	126	6	0	16	172	21	0	383
5:00 PM	8	2	12	0	19	1	5	1	5	159	11	0	25	164	20	0	429
5:15 PM	6	1	11	0	12	0	4	0	4	138	12	0	22	156	20	1	386
5:30 PM	6	4	14	0	11	0	5	0	8	125	7	0	20	152	21	0	370
5:45 PM	6	1	10	0	12	2	3	0	8	137	8	0	23	175	26	1	408
6:00 PM	6	3	10	0	12	1	1	0	2	111	8	1	19	157	26	0	353
6:15 PM	7	1	11	0	10	2	4	0	2	93	7	0	18	146	14	0	314
6:30 PM	6	1	13	0	14	3	6	0	1	125	11	0	18	134	16	1	345
6:45 PM	2	0	7	0	12	3	2	0	2	100	14	0	21	107	21	1	289
7:00 PM	5	2	9	0	10	3	6	0	2	91	6	1	12	88	12	0	244
7:15 PM	7	1	6	0	9	2	5	0	3	68	9	1	12	92	14	0	226
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	74.5	15	116.5	0	144	19	45.5	0.5	41.5	1448.5	106	1.5	222	1706	228.5	3	4172
APPROACH %'s :	36.17%	7.28%	56.55%	0.00%	68.90%	9.09%	21.77%	0.24%	2.60%	90.67%	6.64%	0.09%	10.28%	79.00%	10.58%	0.14%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	32	5	39	0	57	5	16	1	16	601	38	0	81	657	80	1	1625
PEAK HR FACTOR :	0.829	0.625	0.813	0.000	0.750	0.375	0.775	0.250	0.861	0.843	0.781	0.000	0.810	0.958	0.970	0.500	0.947
			0.878				0.760				0.858				0.981		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Walnut Creek Rd & Tierra Rejada Rd
City: Moorpark
Control: Signalized

Project ID: 19-05109-021
Date: 4/3/19

Total

NS/EW Streets:	Walnut Creek Rd				Walnut Creek Rd				Tierra Rejada Rd				Tierra Rejada Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	1	43	0	42	1	8	0	2	159	2	0	4	94	5	0	361
7:15 AM	3	0	49	0	49	0	7	0	5	172	2	0	3	99	6	0	393
7:30 AM	2	1	46	0	51	0	7	0	2	158	1	0	4	164	11	0	444
7:45 AM	2	0	38	0	47	2	10	0	7	241	3	1	7	242	17	1	614
8:00 AM	3	0	55	0	60	4	6	0	3	209	1	0	8	157	19	0	521
8:15 AM	4	1	37	0	48	1	8	0	6	205	5	0	6	157	10	0	484
8:30 AM	1	1	40	0	31	2	12	0	5	187	1	0	5	127	12	0	422
8:45 AM	5	0	29	0	32	1	11	0	9	160	3	1	9	166	16	1	441
9:00 AM	2	1	31	0	27	1	7	0	6	140	6	0	6	78	10	0	313
9:15 AM	1	0	28	0	28	2	4	0	3	100	1	0	6	71	10	0	252
9:30 AM	2	1	26	0	26	1	2	0	5	111	1	1	8	70	13	0	264
9:45 AM	1	1	26	0	22	1	5	0	5	103	1	1	8	77	11	0	259
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	25.5	5	444	0	461	13.5	83.5	0	56	1941.5	24	2.5	71.5	1499.5	137	1	4765.5
APPROACH %'s :	5.37%	1.05%	93.57%	0.00%	82.62%	2.42%	14.96%	0.00%	2.77%	95.92%	1.19%	0.12%	4.18%	87.74%	8.02%	0.06%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	10	1	175	0	205	7	30	0	17	812	9	1	24	719	56	1	2063
PEAK HR FACTOR :	0.625	0.500	0.795	0.000	0.861	0.406	0.738	0.000	0.635	0.844	0.472	0.250	0.783	0.744	0.750	0.250	0.840
			0.809				0.873				0.835				0.753		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	1	1	18	0	21	0	7	0	10	184	4	0	26	185	33	0	487
4:45 PM	1	0	16	0	17	1	7	0	6	139	3	0	25	208	33	0	454
5:00 PM	1	0	19	0	27	1	4	0	10	179	1	0	26	204	35	0	506
5:15 PM	2	1	21	0	20	0	4	0	7	151	2	0	34	187	29	0	456
5:30 PM	1	1	18	0	24	1	10	0	7	140	5	1	21	188	43	1	457
5:45 PM	2	0	14	0	18	0	11	0	9	142	4	0	27	207	35	0	468
6:00 PM	2	1	17	0	16	0	5	0	8	134	0	0	34	201	44	0	460
6:15 PM	2	1	15	0	18	0	3	0	7	103	3	0	33	170	37	0	390
6:30 PM	1	0	12	0	22	0	6	0	8	138	2	0	32	159	42	1	419
6:45 PM	2	0	17	0	21	1	6	0	6	115	4	0	31	143	27	0	370
7:00 PM	0	1	12	0	18	1	4	0	6	95	3	0	24	109	26	0	296
7:15 PM	1	1	7	0	11	1	2	0	5	77	4	0	20	120	25	0	273
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	14	4	184.5	0	230.5	3.5	66.5	0	86	1594.5	33	0.5	329	2078	407	1	5032
APPROACH %'s :	6.91%	1.98%	91.11%	0.00%	76.71%	1.16%	22.13%	0.00%	5.02%	93.03%	1.93%	0.03%	11.69%	73.82%	14.46%	0.04%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	5	1	74	0	84	2	21	0	32	652	10	0	110	784	130	0	1902
PEAK HR FACTOR :	0.625	0.500	0.875	0.000	0.792	0.375	0.808	0.000	0.788	0.888	0.594	0.000	0.817	0.942	0.925	0.000	0.940
			0.846				0.845				0.877				0.963		

APPENDIX D

LEVEL OF SERVICE WORKSHEETS

Existing (2019)

Future Cumulative (2026)

EXISTING (2019)

Vistro File: C:\...\Hitch Ranch_FINAL High.vistro
Report File: C:\...\AM Existingg.pdf

Scenario 9 9 AM Existing 2.0
12/15/2020

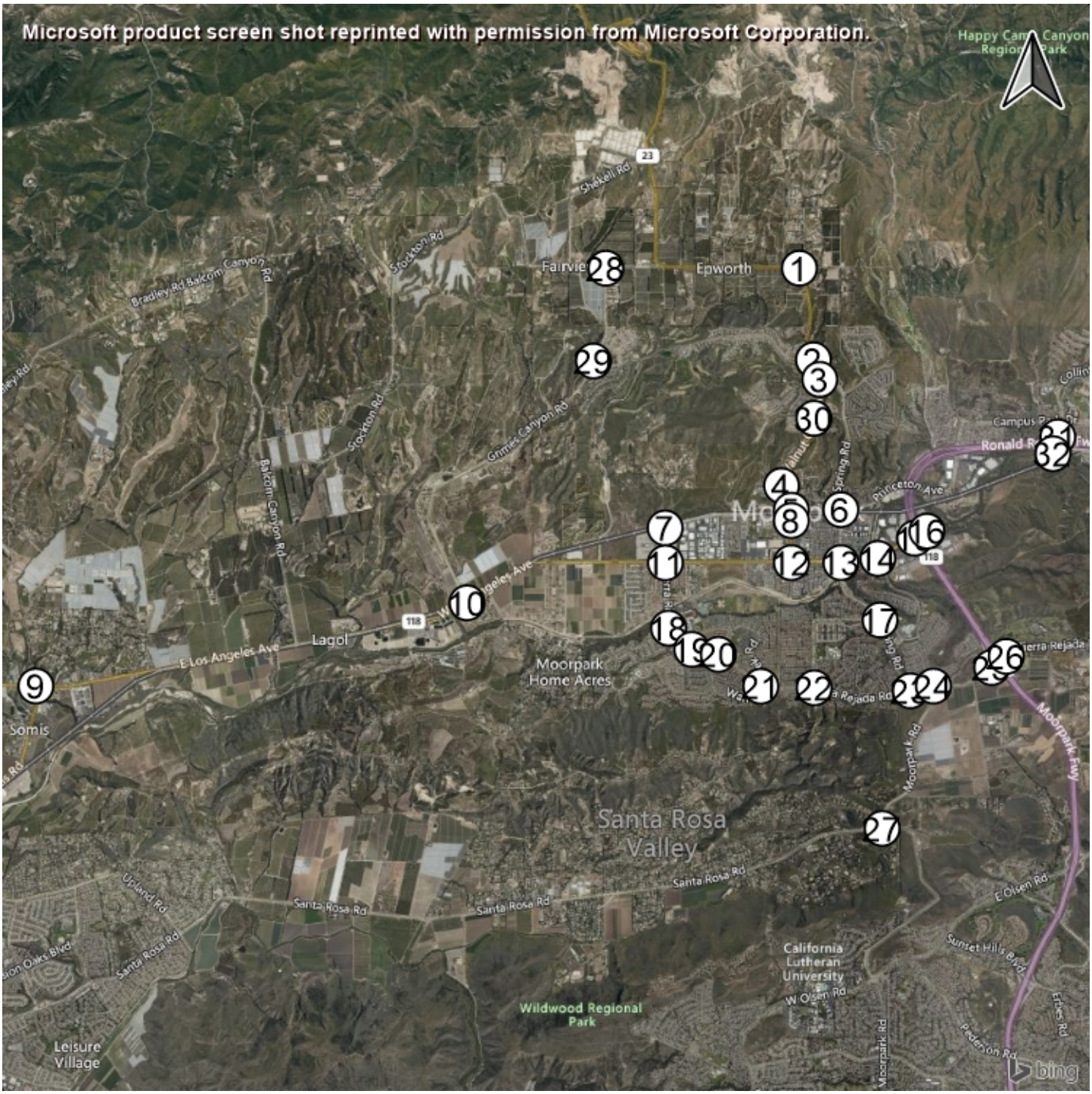
Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.004	18.5	C
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.011	25.4	D
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	SB Left	0.646	-	B
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.568	-	A
5	Moorpark Avenue at High Street	Signalized	ICU 1	SB Thru	0.584	-	A
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.594	-	A
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.400	10.8	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Thru	0.634	-	B
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.922	-	E
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	NEB Thru	0.667	-	B
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	NB Right	0.705	-	C
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.601	-	B
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.828	-	D
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.589	-	A
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.341	-	A
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	NEB Right	0.396	-	A
17	Spring Road and Peach Hill Road	Signalized	ICU 1	SEB Thru	0.644	-	B
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Thru	0.616	-	B

19	Mountain Trail Road and Tierra Rejada Road	Signalized	ICU 1	SEB Thru	0.519	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	NWB Right	0.584	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	SEB Right	0.737	-	C
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.677	-	B
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	NEB Thru	0.743	-	C
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	EB Right	0.860	-	D
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	NEB Right	0.729	-	C
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NWB Left	0.827	-	D
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	SB Right	0.878	-	D
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.017	11.0	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.050	10.0	A
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.031	12.2	B
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.505	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.499	-	A

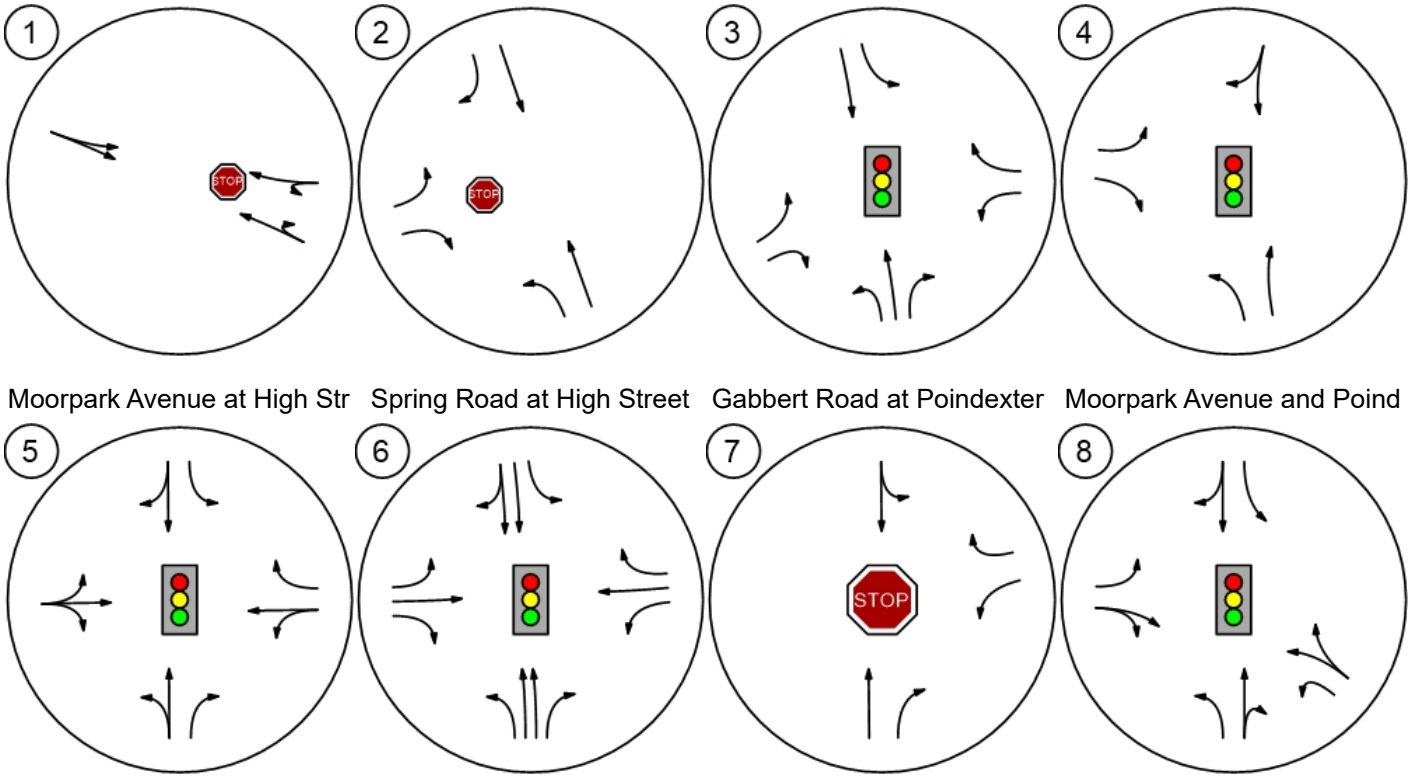
V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Report Figure 1: Study Intersections



Report Figure 2: Lane Configuration and Traffic Control

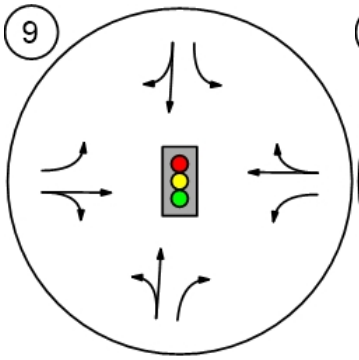




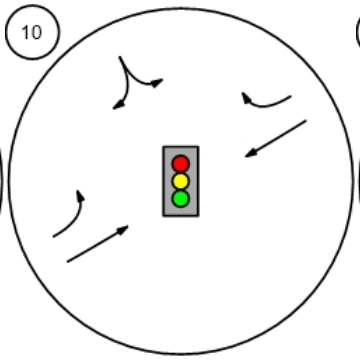
Report Figure 2: Lane Configuration and Traffic Control



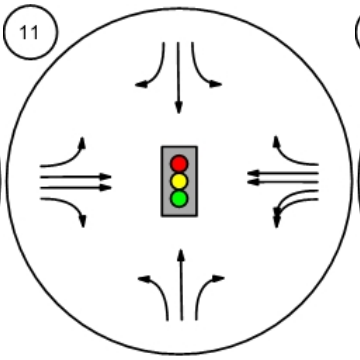
Somis Road and Los Angeles



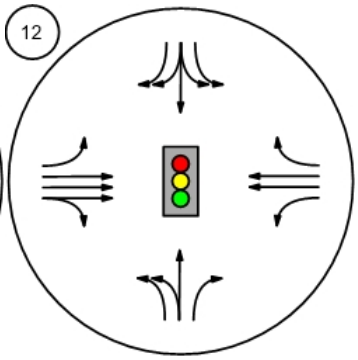
Grimes Canyon Road and Lo



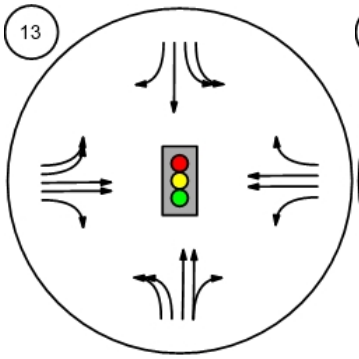
Tierra Rejada Road and Los



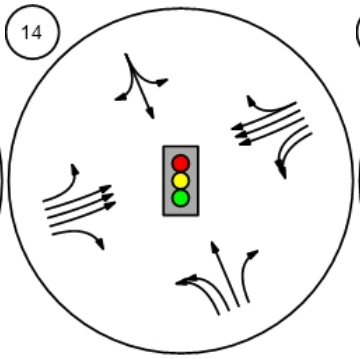
Moorpark Avenue and Los A



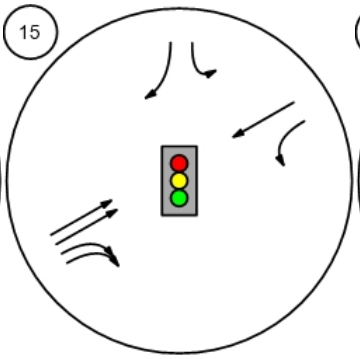
Spring Road and Los Angele



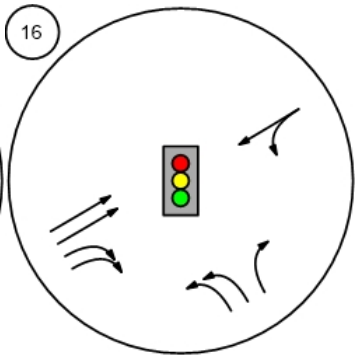
Miller Parkway/Science Drive



SR□23 SB ramps and Los An



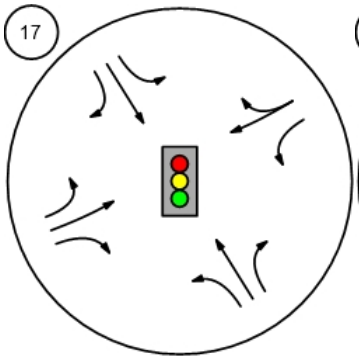
SR□23 NB ramps and Los An



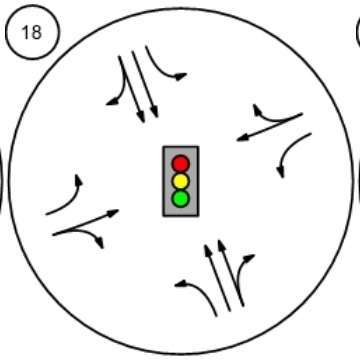
Report Figure 2: Lane Configuration and Traffic Control



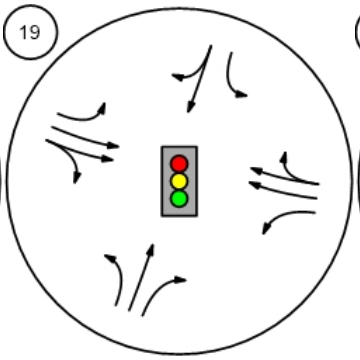
Spring Road and Peach Hill



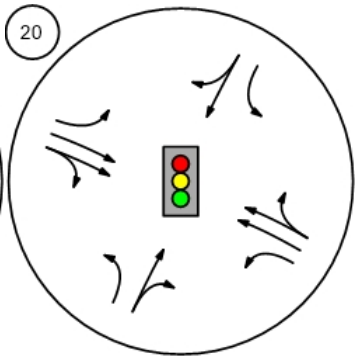
Tierra Rejada Road and Cou



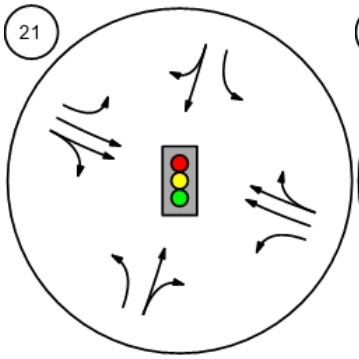
Mountain Trail Road and Tier



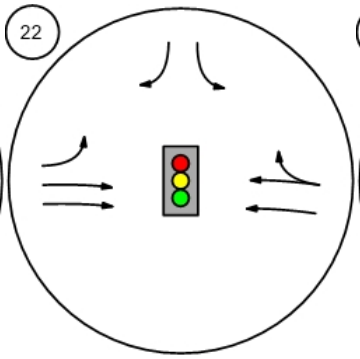
Mountain Meadow Drive and



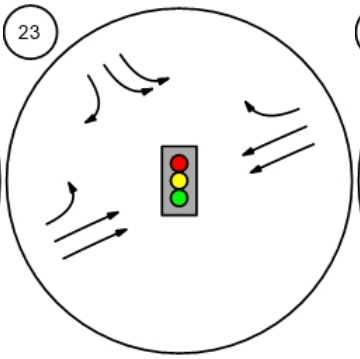
Walnut Creek Road and Tierr



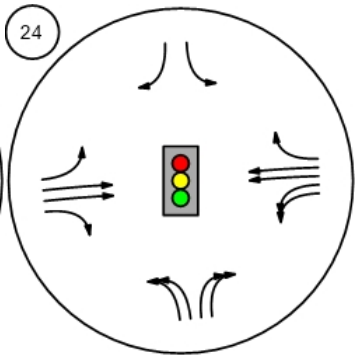
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



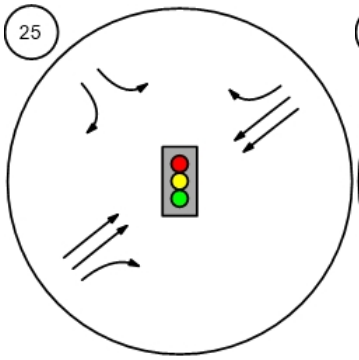
Moorpark Road and Tierra R



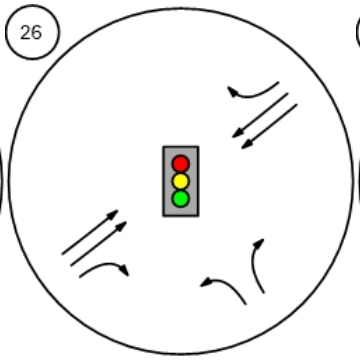
Report Figure 2: Lane Configuration and Traffic Control



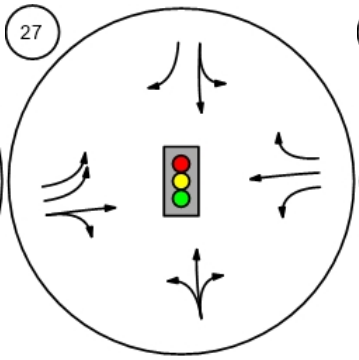
SR 23 SB ramps and Tierra



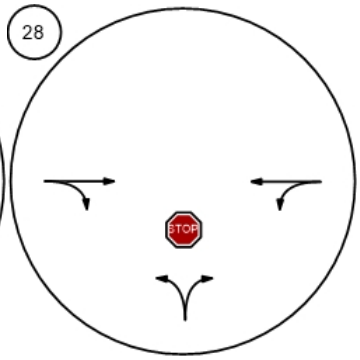
SB 23 NB ramps and Tierra



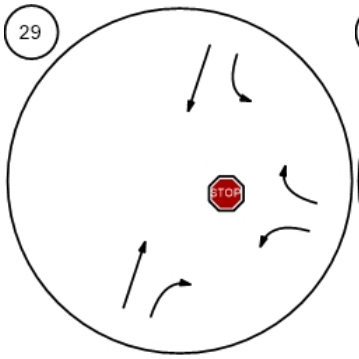
Moorpark Road and Santa R



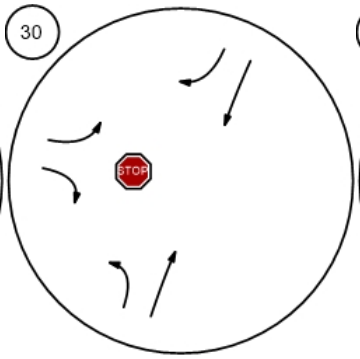
Broadway Road and Grimes



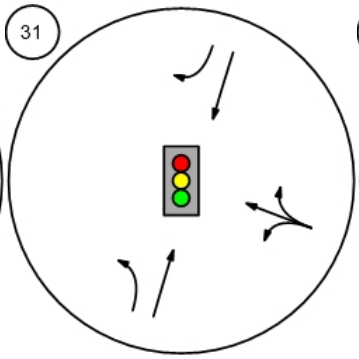
Championship Drive and Gri



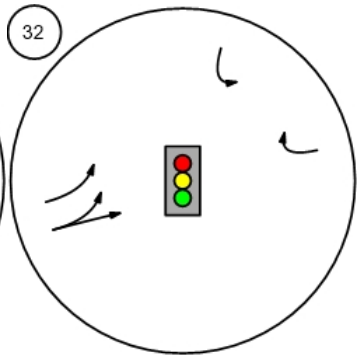
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



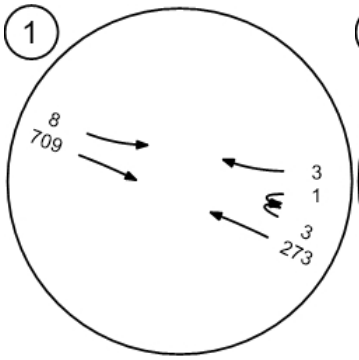
SR 118 EB and Collins Drive



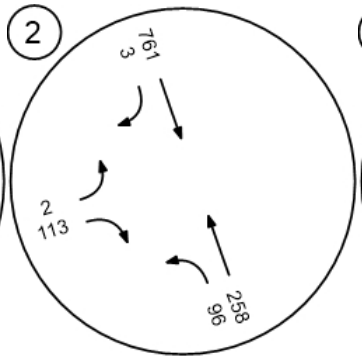
Report Figure 3a: Traffic Volume - Base Volume



Walnut Canyon Road at Broa



Walnut Canyon Road at Cha



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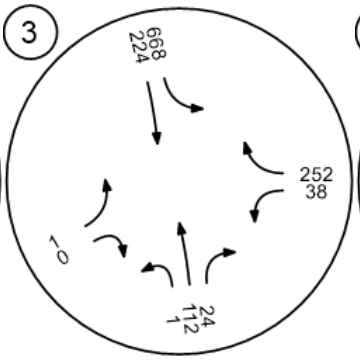

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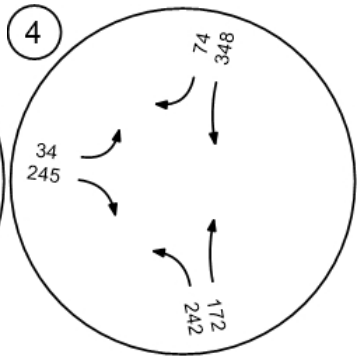
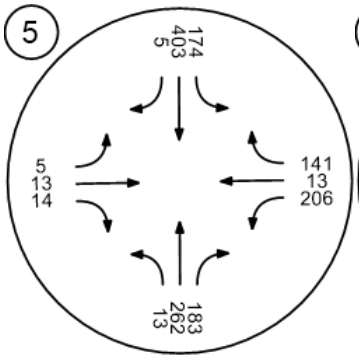
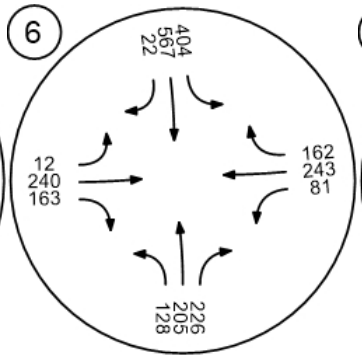


Moorpark Avenue at High Str



Spring Road at High Street



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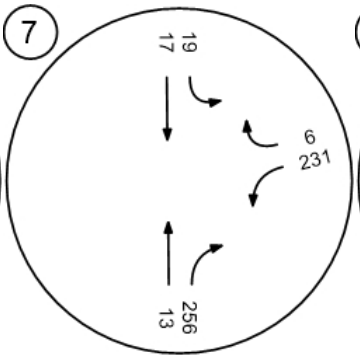

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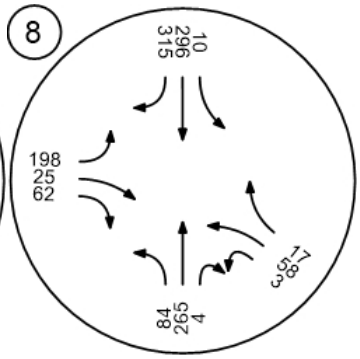
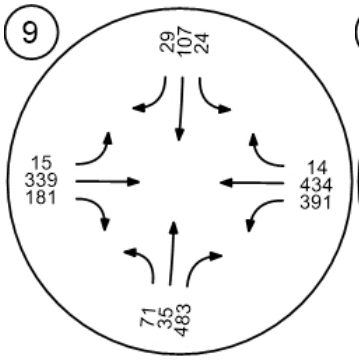


Report Figure 3a: Traffic Volume - Base Volume



Somis Road and Los Angeles



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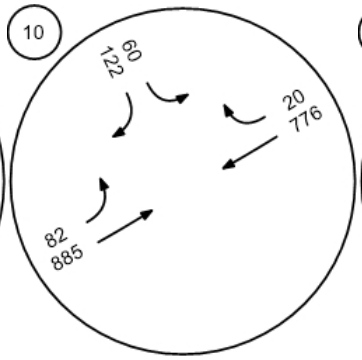
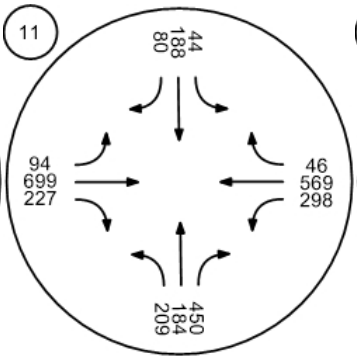
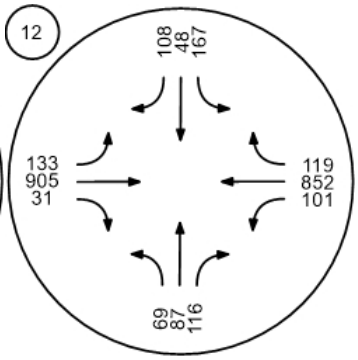


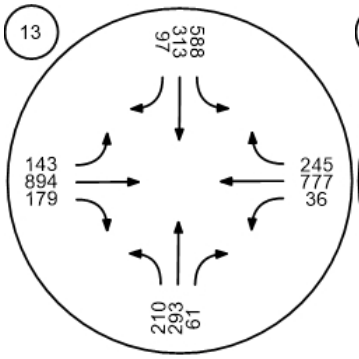
Tierra Rejada Road and Los



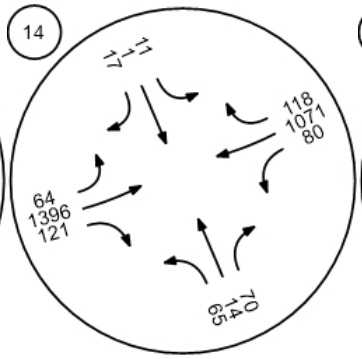
Moorpark Avenue and Los A



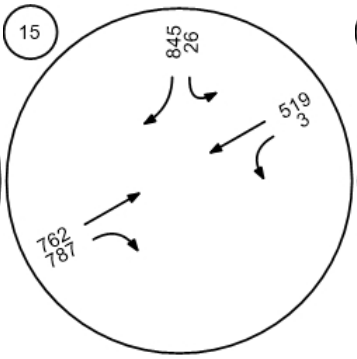
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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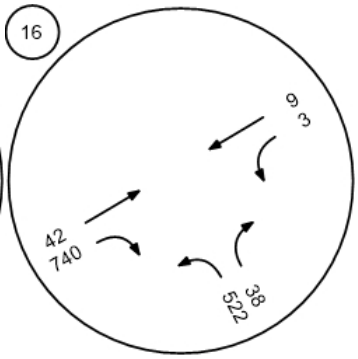
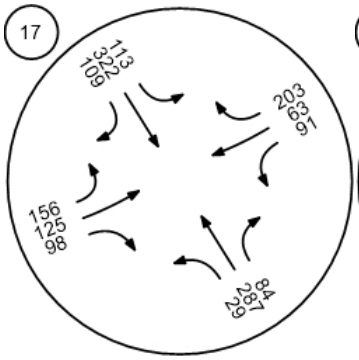


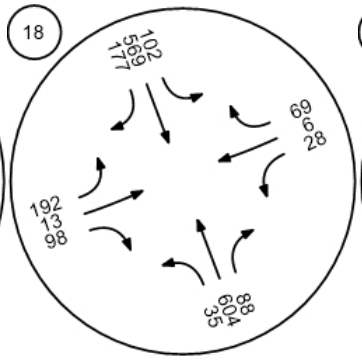
Report Figure 3a: Traffic Volume - Base Volume



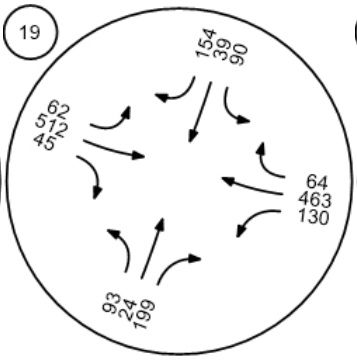
Spring Road and Peach Hill



Tierra Rejada Road and Cou



Mountain Trail Road and Tier



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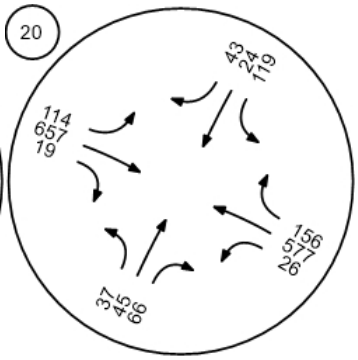
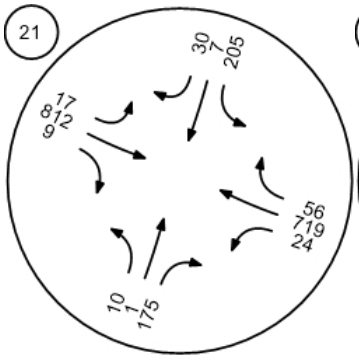
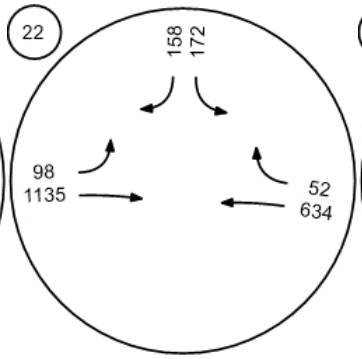


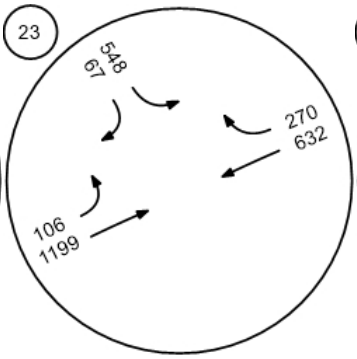
Walnut Creek Road and Tierr



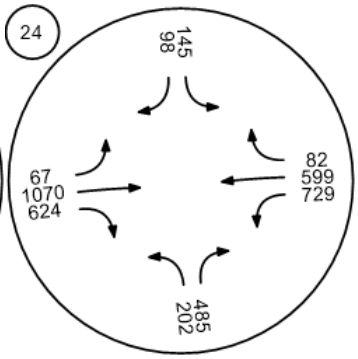
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



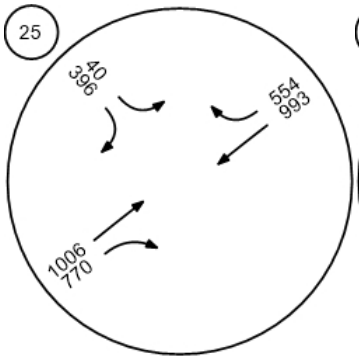
Moorpark Road and Tierra R



Report Figure 3a: Traffic Volume - Base Volume



SR□23 SB ramps and Tierra



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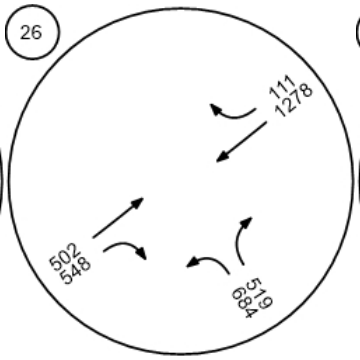

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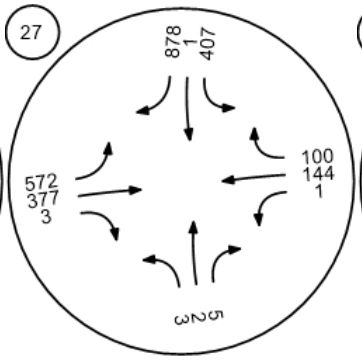

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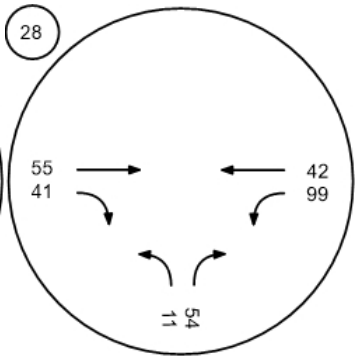

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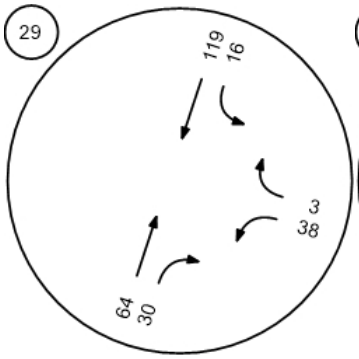

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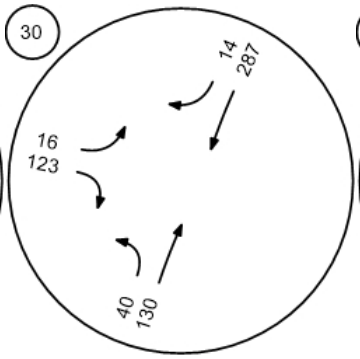

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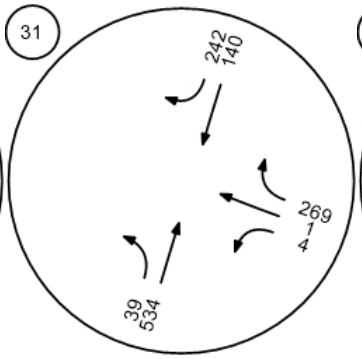

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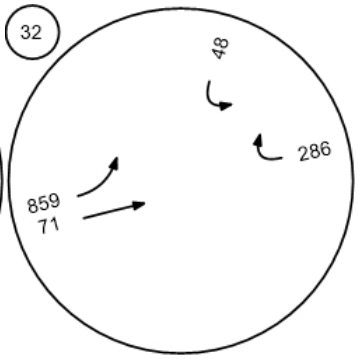
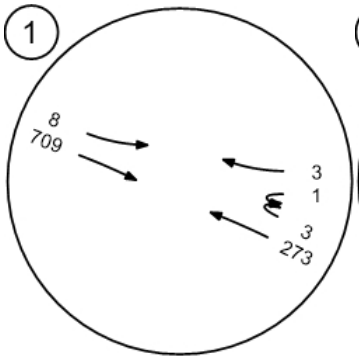


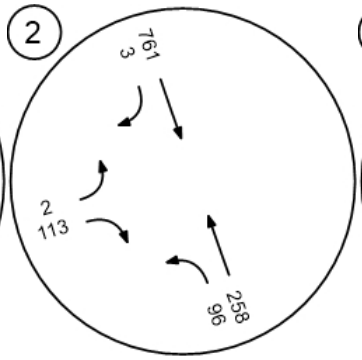
Report Figure 3c: Traffic Volume - Future Background Volume



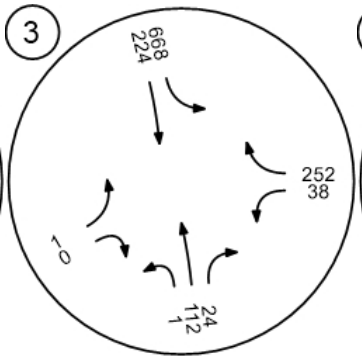
Walnut Canyon Road at Broa



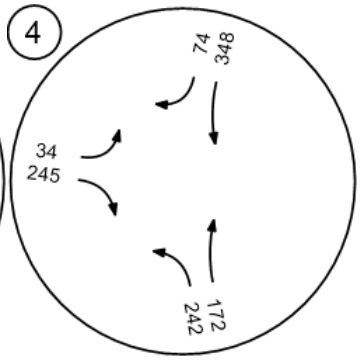
Walnut Canyon Road at Cha



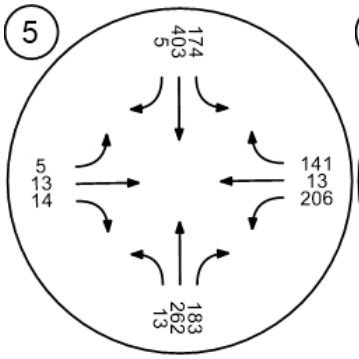
Walnut Canyon Road at Spri



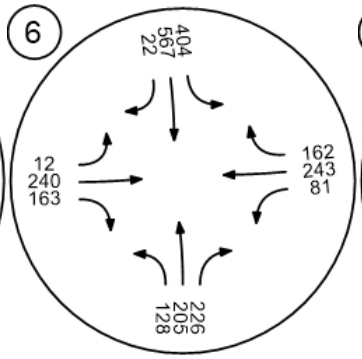
Walnut Canyon Road at Cas



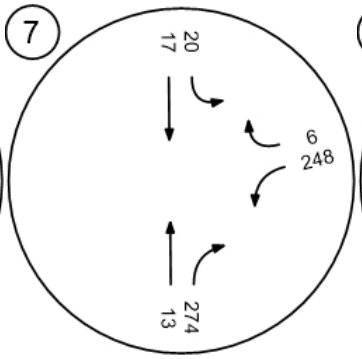
Moorpark Avenue at High Str



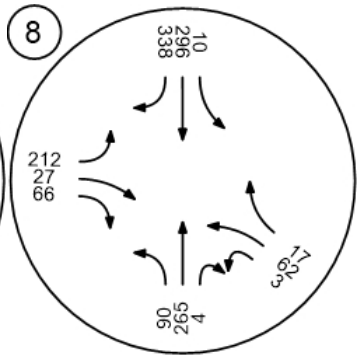
Spring Road at High Street



Gabbert Road at Poindexter



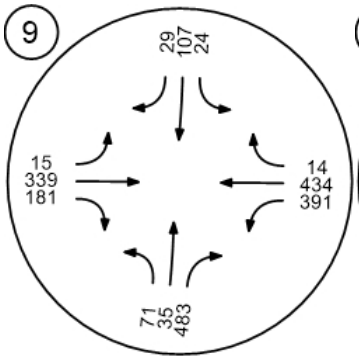
Moorpark Avenue and Poind



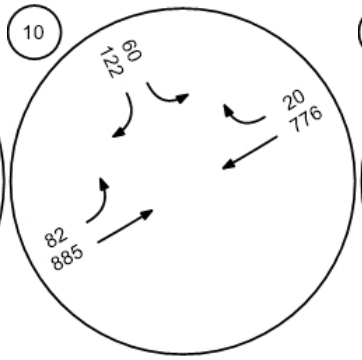
Report Figure 3c: Traffic Volume - Future Background Volume



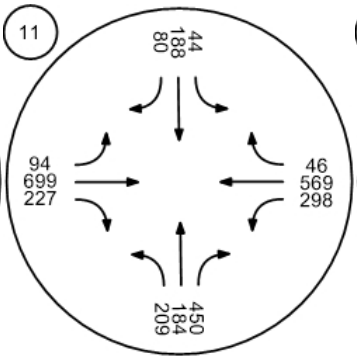
Somis Road and Los Angeles



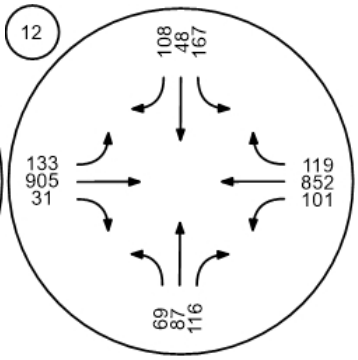
Grimes Canyon Road and Lo



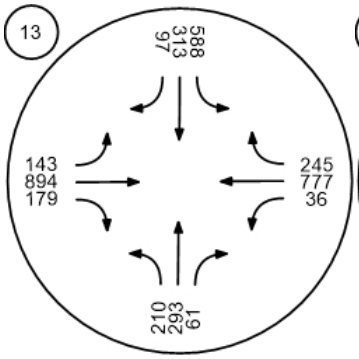
Tierra Rejada Road and Los



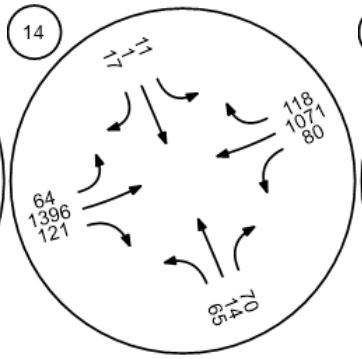
Moorpark Avenue and Los A



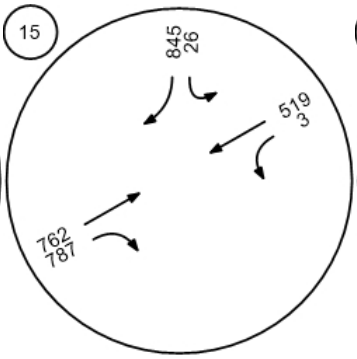
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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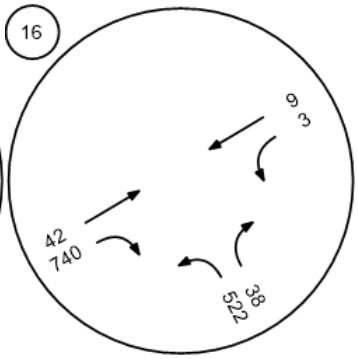
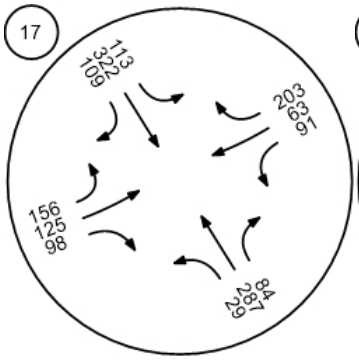


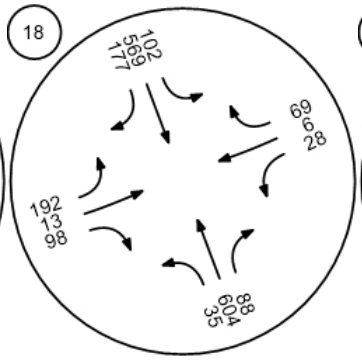
Report Figure 3c: Traffic Volume - Future Background Volume



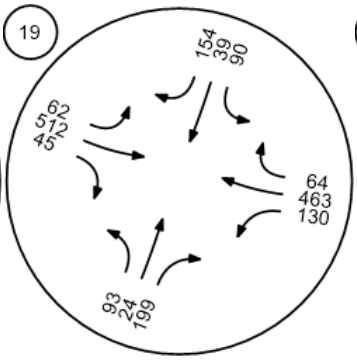
Spring Road and Peach Hill



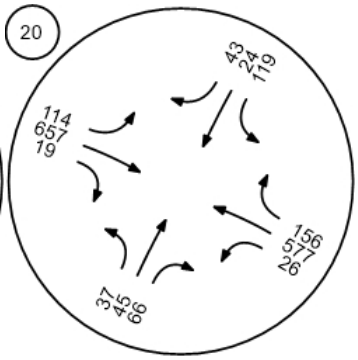
Tierra Rejada Road and Cou



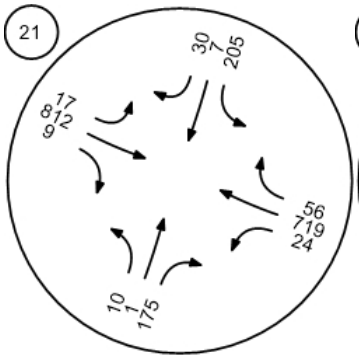
Mountain Trail Road and Tier



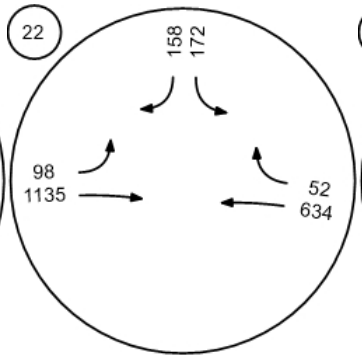
Mountain Meadow Drive and



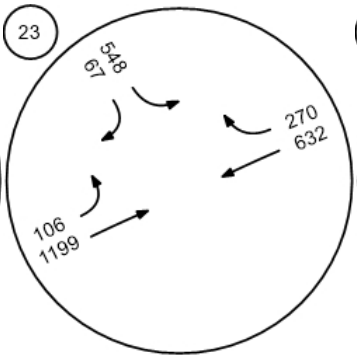
Walnut Creek Road and Tierr



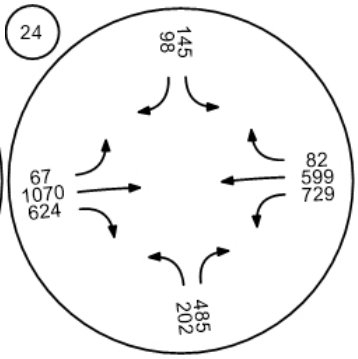
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Moorpark Road and Tierra R



Report Figure 3c: Traffic Volume - Future Background Volume



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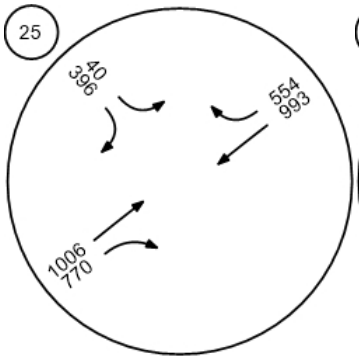
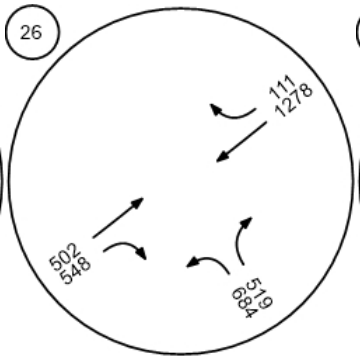
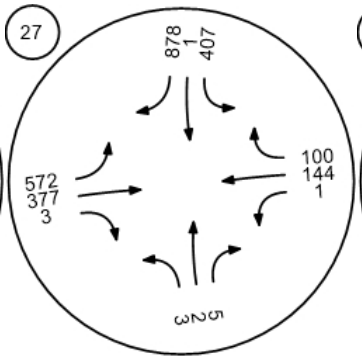


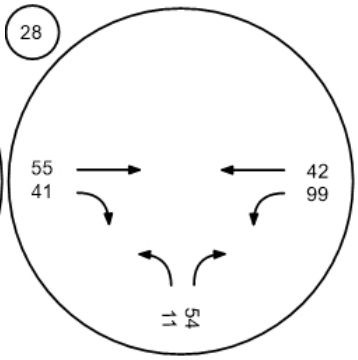
SB□23 NB ramps and Tierra



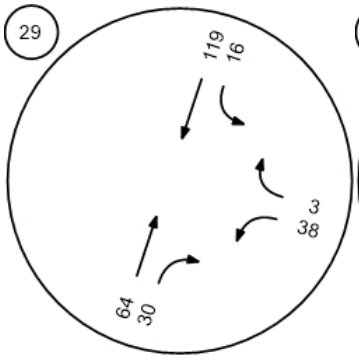
Moorpark Road and Santa R



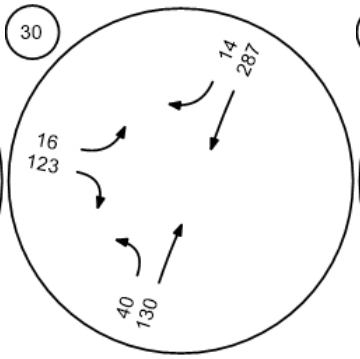
Broadway Road and Grimes



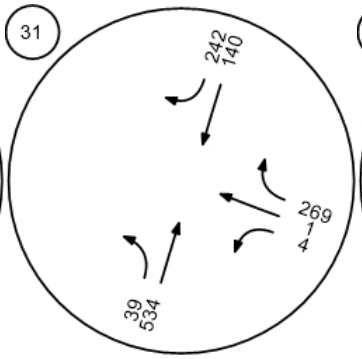
Championship Drive and Gri



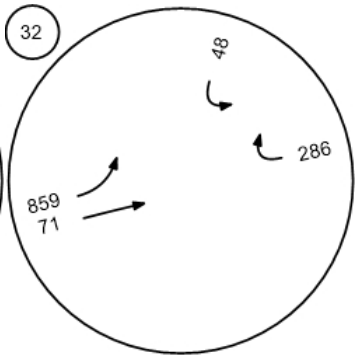
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive

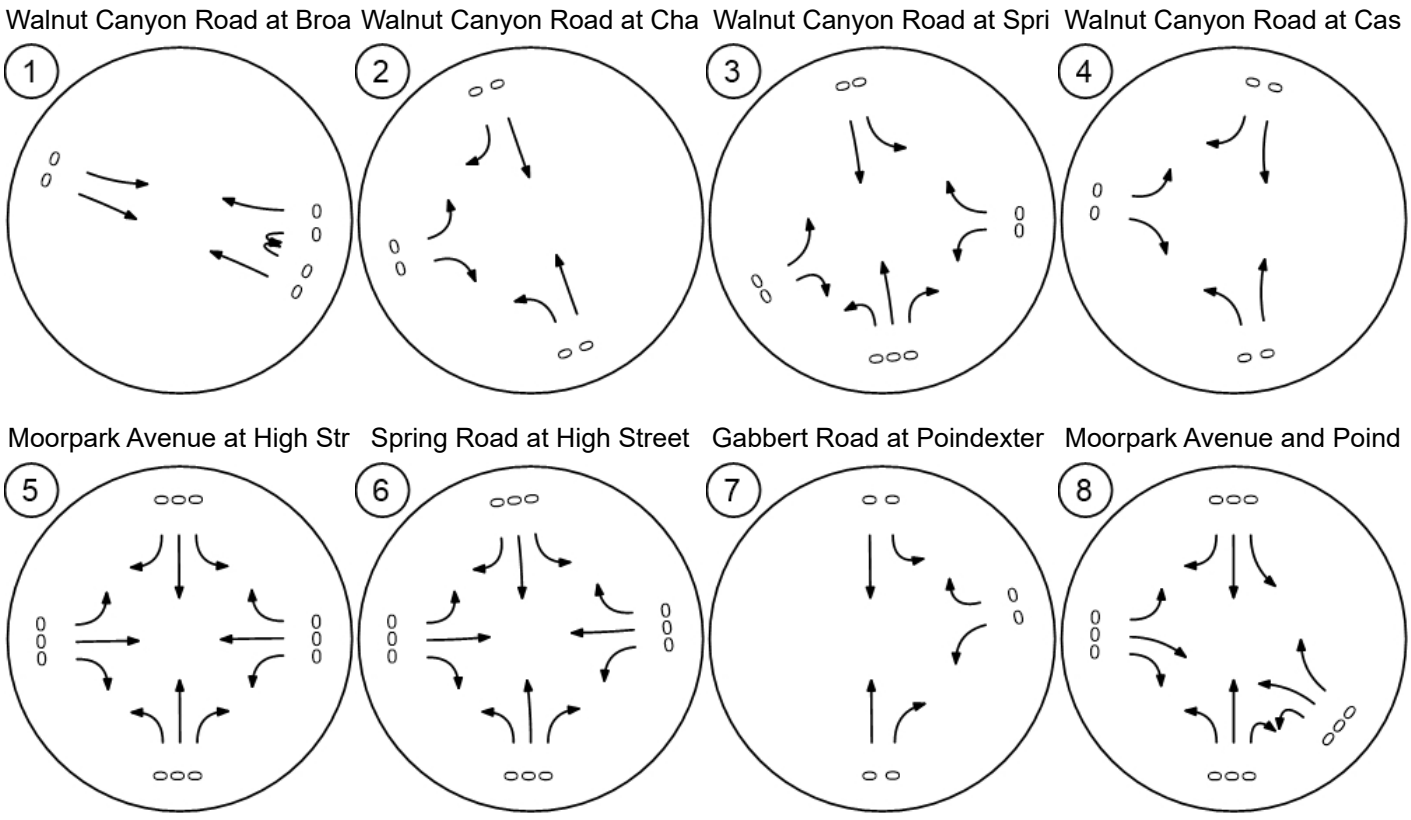


SR 118 EB and Collins Drive



Report Figure 3d: Traffic Volume - Net New Site Trips

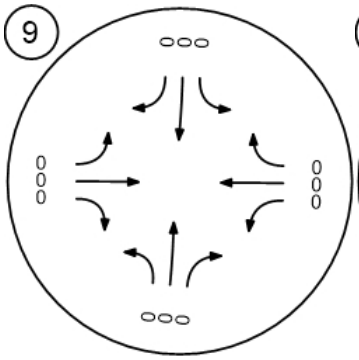




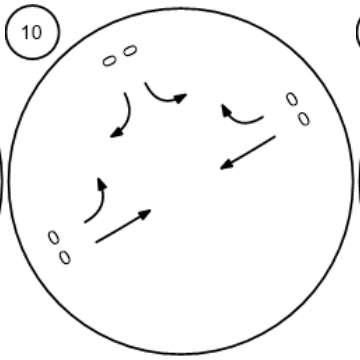
Report Figure 3d: Traffic Volume - Net New Site Trips



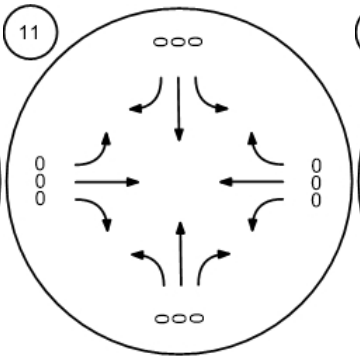
Somis Road and Los Angeles



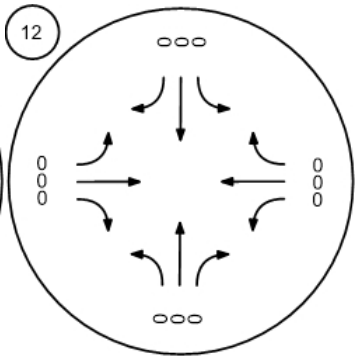
Grimes Canyon Road and Lo



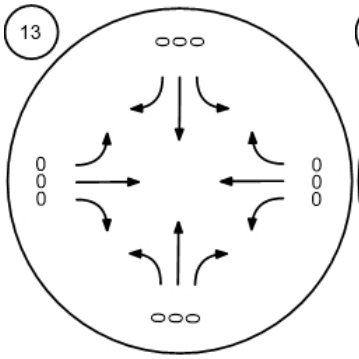
Tierra Rejada Road and Los



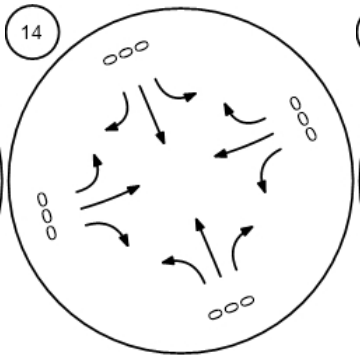
Moorpark Avenue and Los A



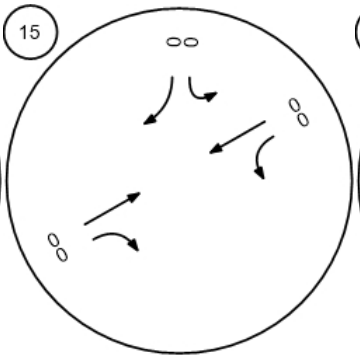
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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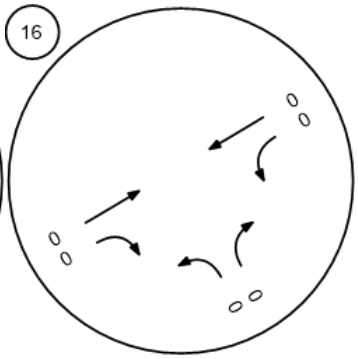
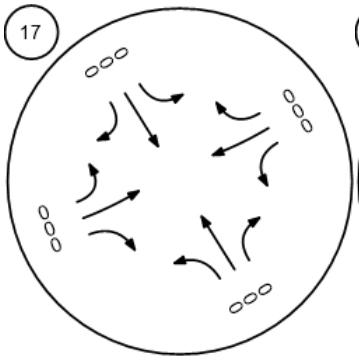


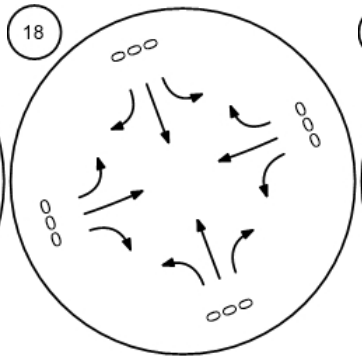
Report Figure 3d: Traffic Volume - Net New Site Trips



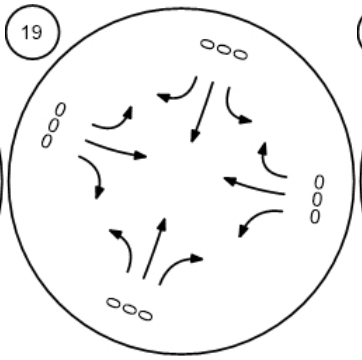
Spring Road and Peach Hill



Tierra Rejada Road and Cou



Mountain Trail Road and Tier



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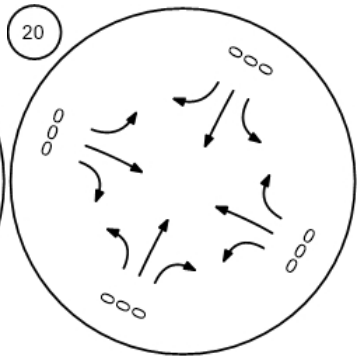
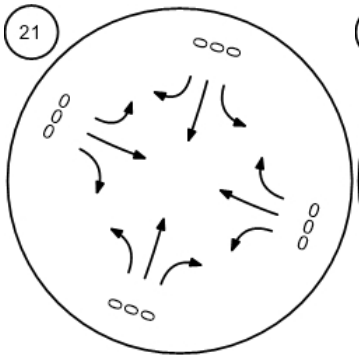
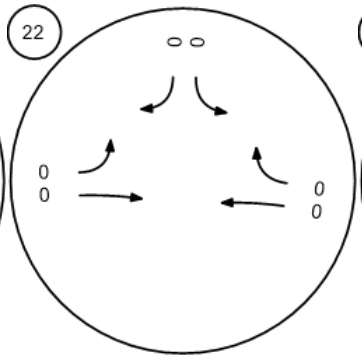


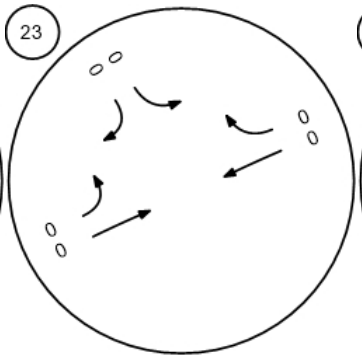
Walnut Creek Road and Tierr



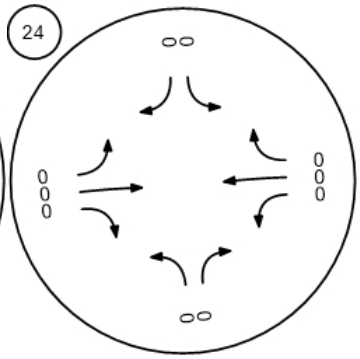
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



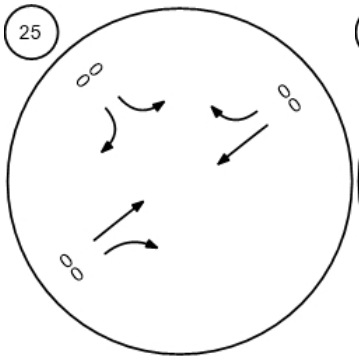
Moorpark Road and Tierra R



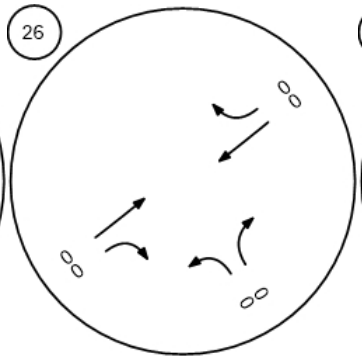
Report Figure 3d: Traffic Volume - Net New Site Trips



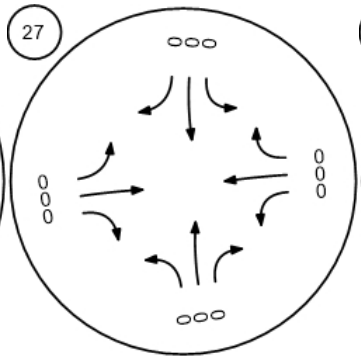
SR□23 SB ramps and Tierra



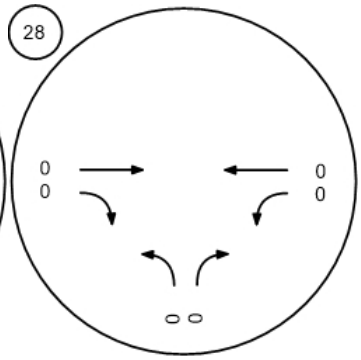
SB□23 NB ramps and Tierra



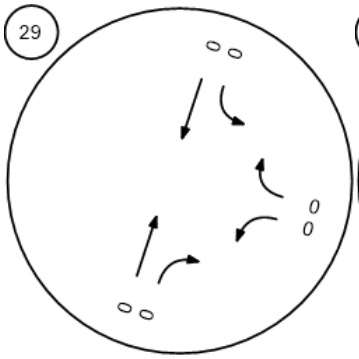
Moorpark Road and Santa R



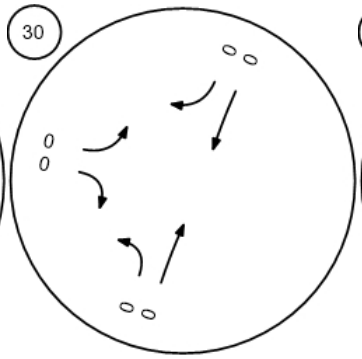
Broadway Road and Grimes



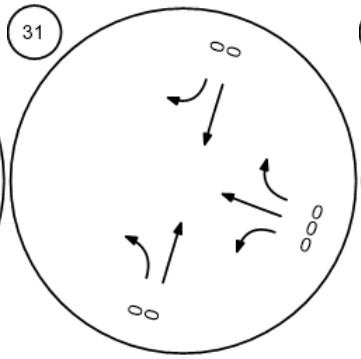
Championship Drive and Gri



Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



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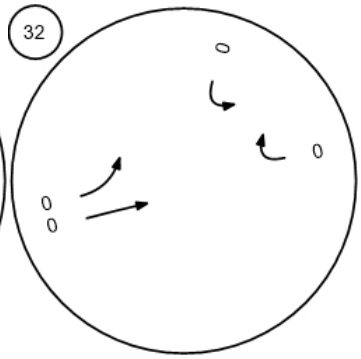
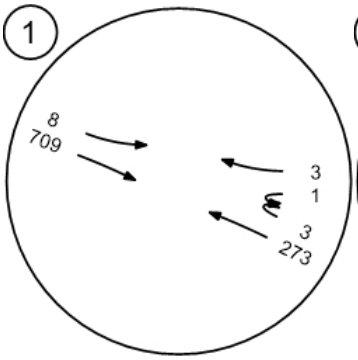


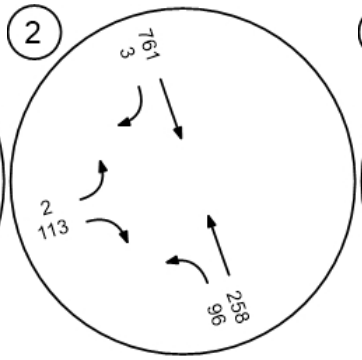
Report Figure 3f: Traffic Volume - Future Total Volume



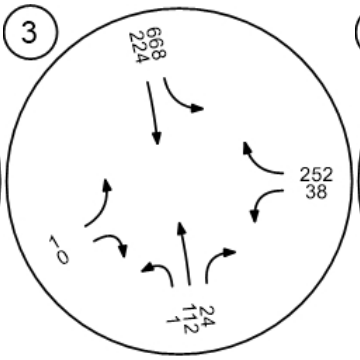
Walnut Canyon Road at Broa



Walnut Canyon Road at Cha



Walnut Canyon Road at Spri



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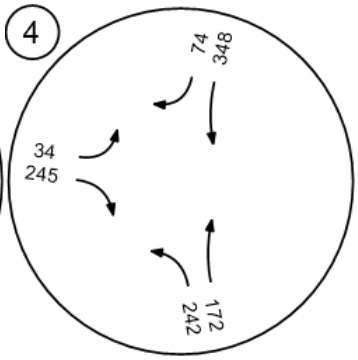
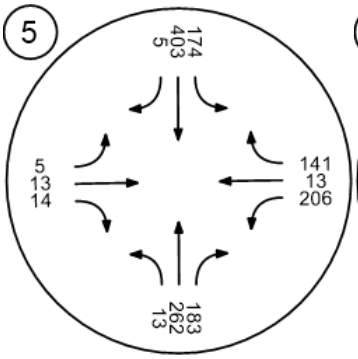
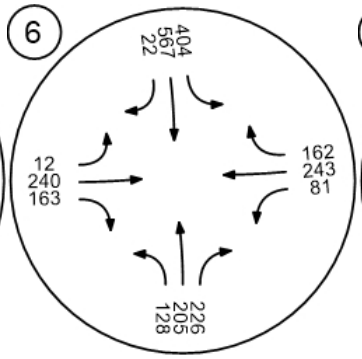


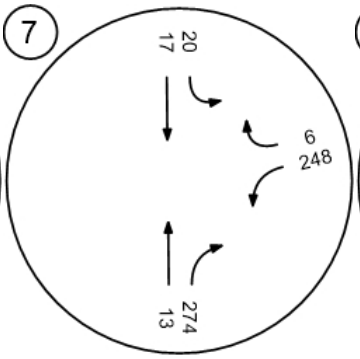
Moorpark Avenue at High Str



Spring Road at High Street



Gabbert Road at Poindexter



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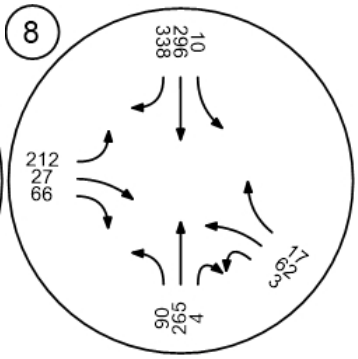
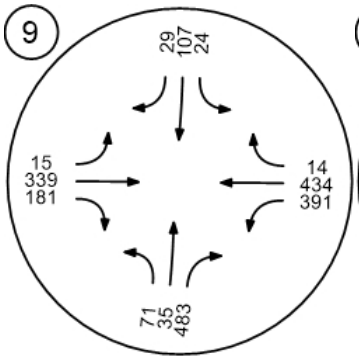


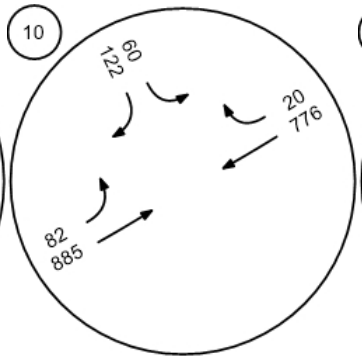
Report Figure 3f: Traffic Volume - Future Total Volume



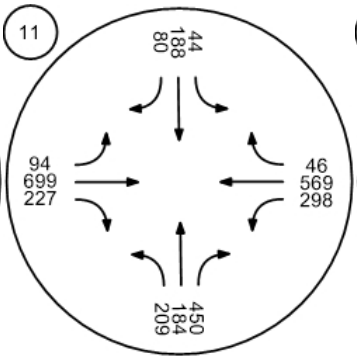
Somis Road and Los Angeles



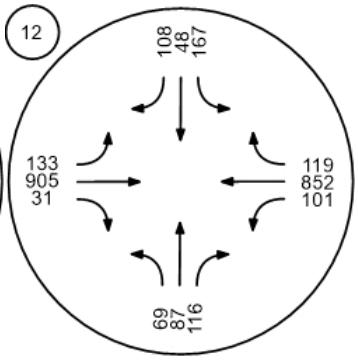
Grimes Canyon Road and Lo



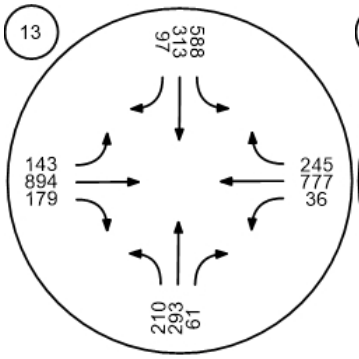
Tierra Rejada Road and Los



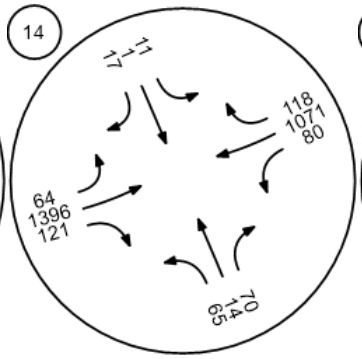
Moorpark Avenue and Los A



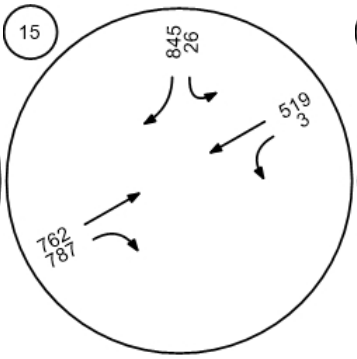
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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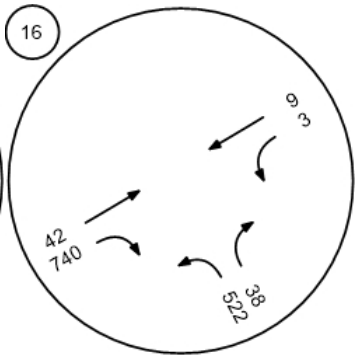
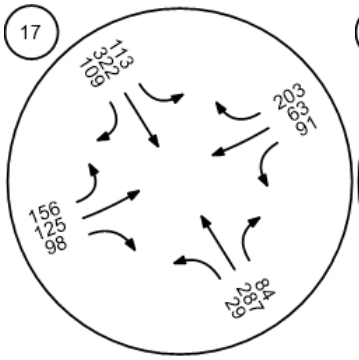


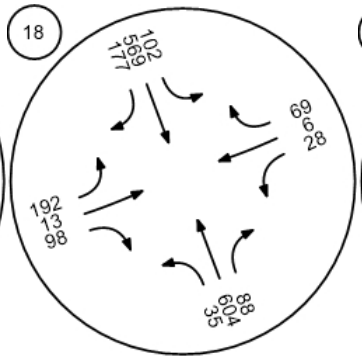
Report Figure 3f: Traffic Volume - Future Total Volume



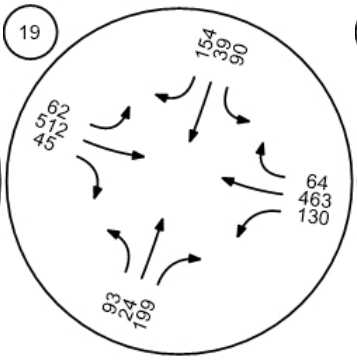
Spring Road and Peach Hill



Tierra Rejada Road and Cou



Mountain Trail Road and Tier



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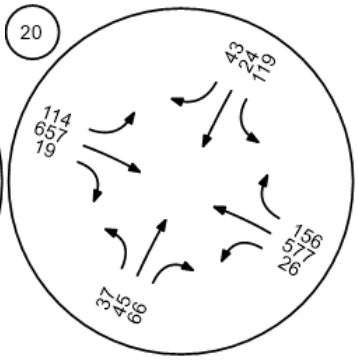

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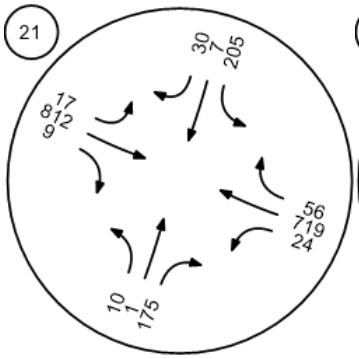

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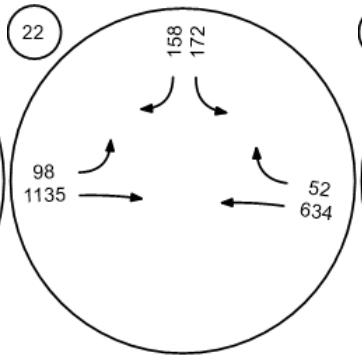
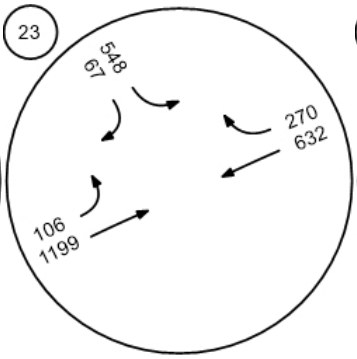
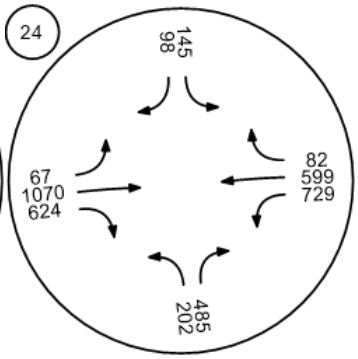


Spring Road and Tierra Reja



Moorpark Road and Tierra R



Report Figure 3f: Traffic Volume - Future Total Volume



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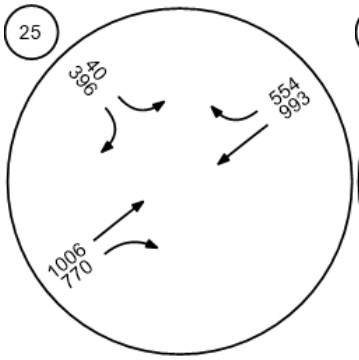

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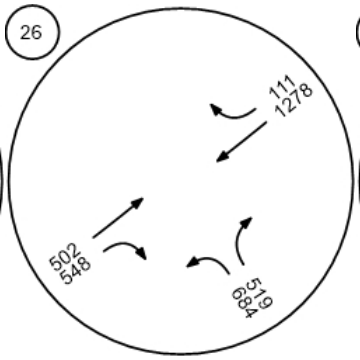
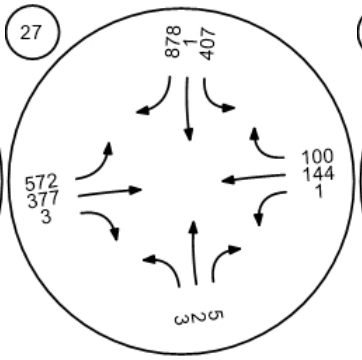
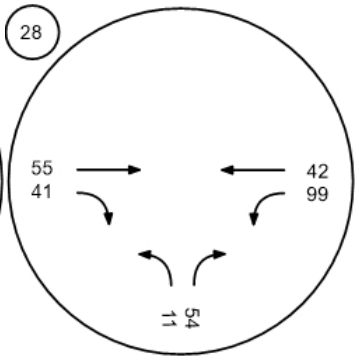


Moorpark Road and Santa R



Broadway Road and Grimes



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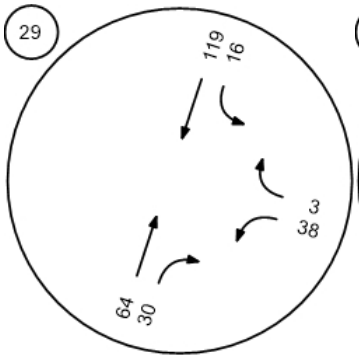

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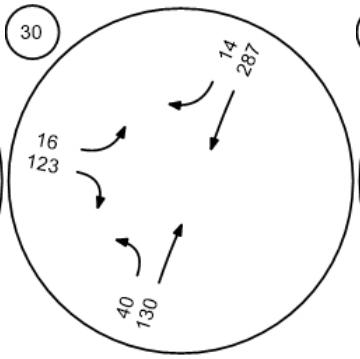
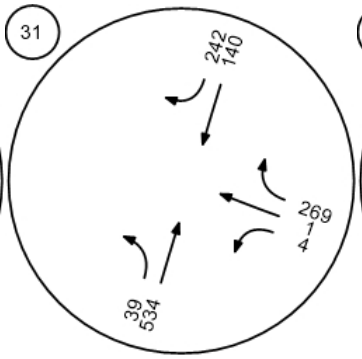
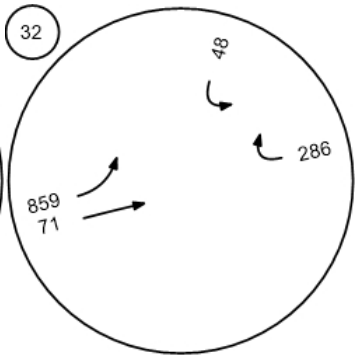


SR 118 WB and Collins Drive

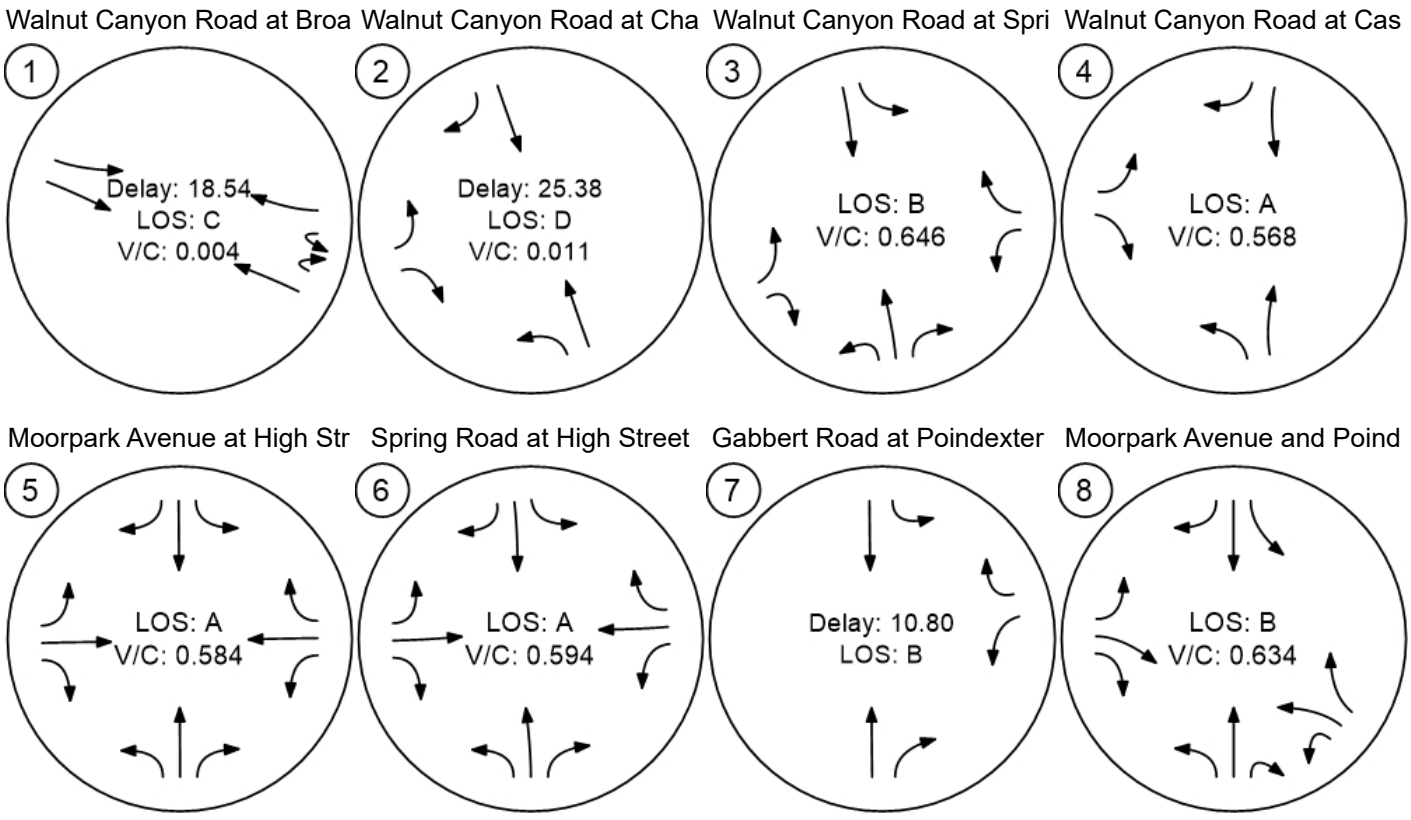


SR 118 EB and Collins Drive



Report Figure 4: Traffic Conditions





Report Figure 4: Traffic Conditions



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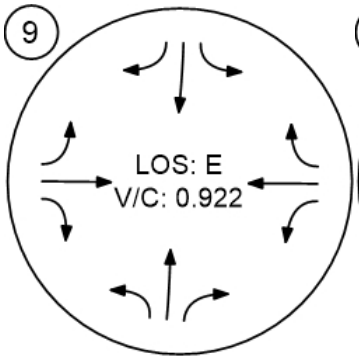
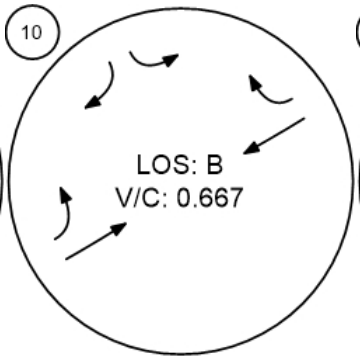


Grimes Canyon Road and Lo



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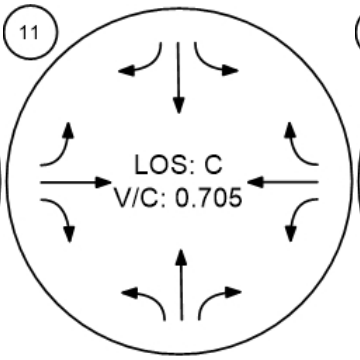
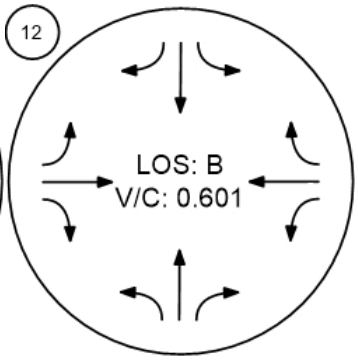
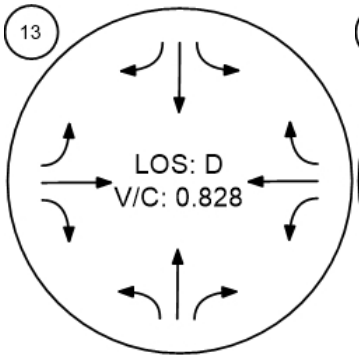


Moorpark Avenue and Los A



Spring Road and Los Angele



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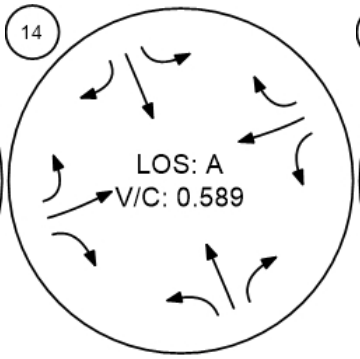

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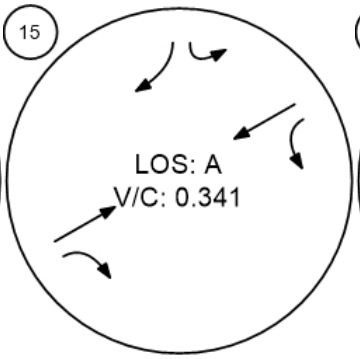

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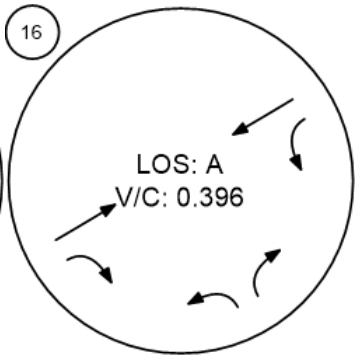

Report Figure 4: Traffic Conditions



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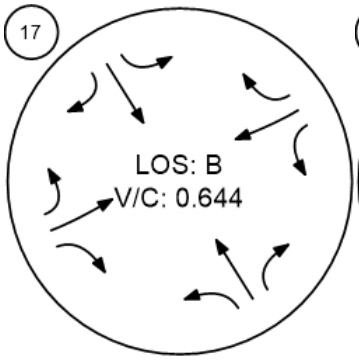
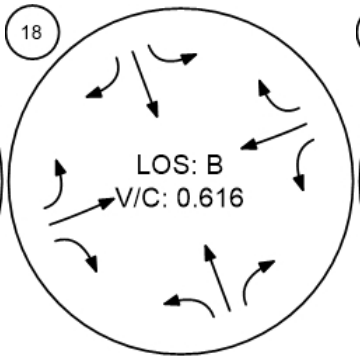


Tierra Rejada Road and Cou



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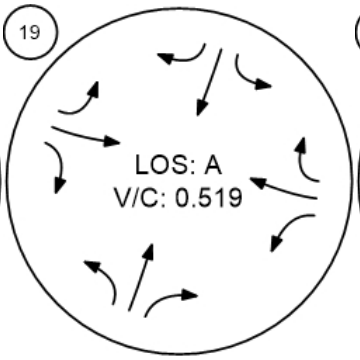

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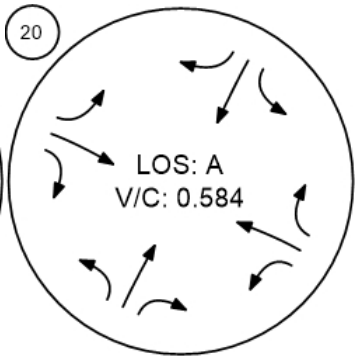

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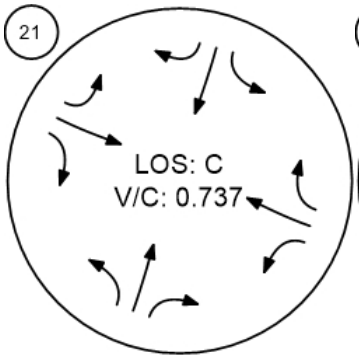

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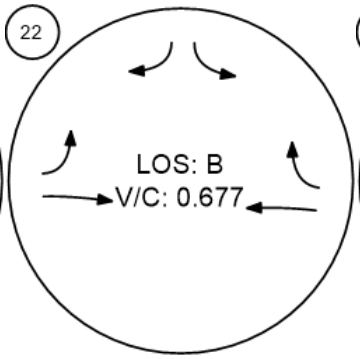

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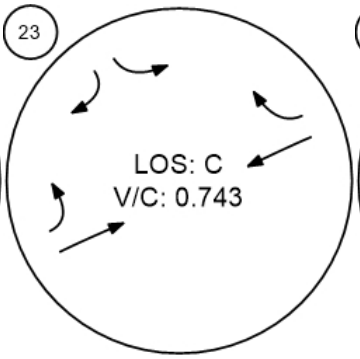

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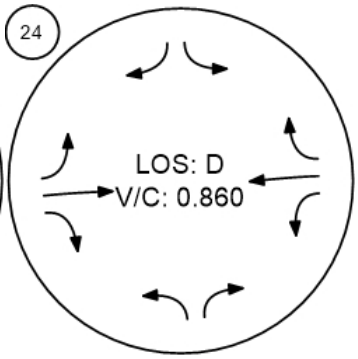

Report Figure 4: Traffic Conditions



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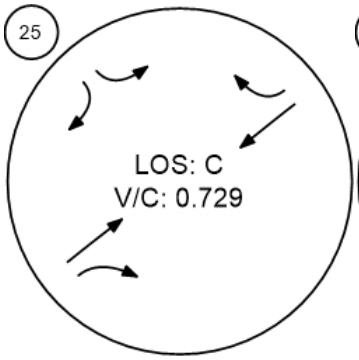

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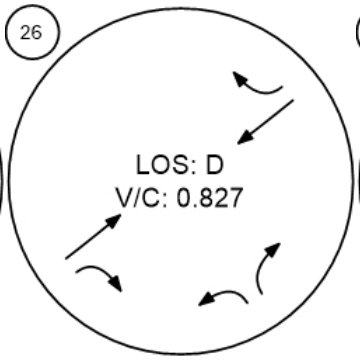
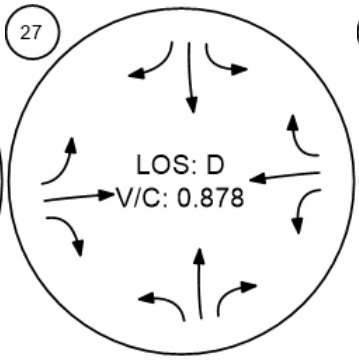


Moorpark Road and Santa R



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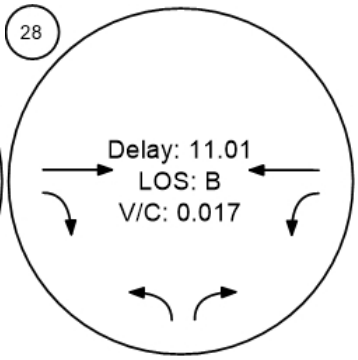

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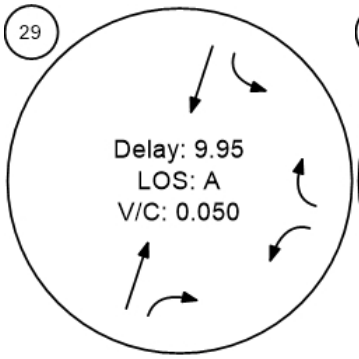

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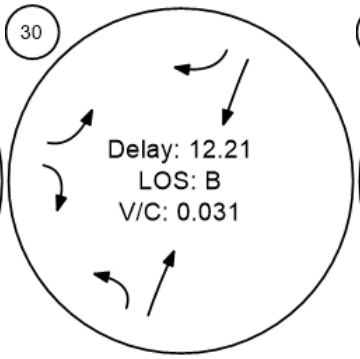

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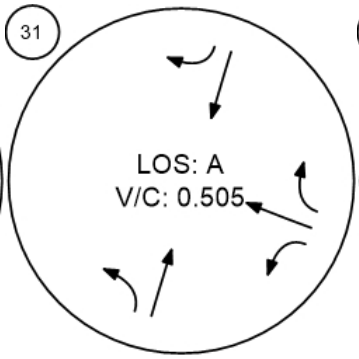
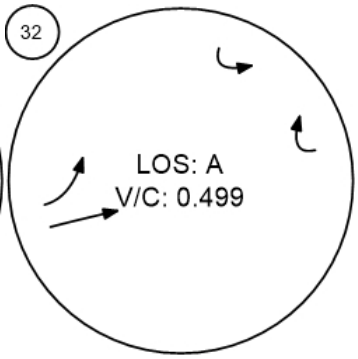


SR 118 EB and Collins Drive



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Scenario 10 10 PM Existing 2.0
12/15/2020

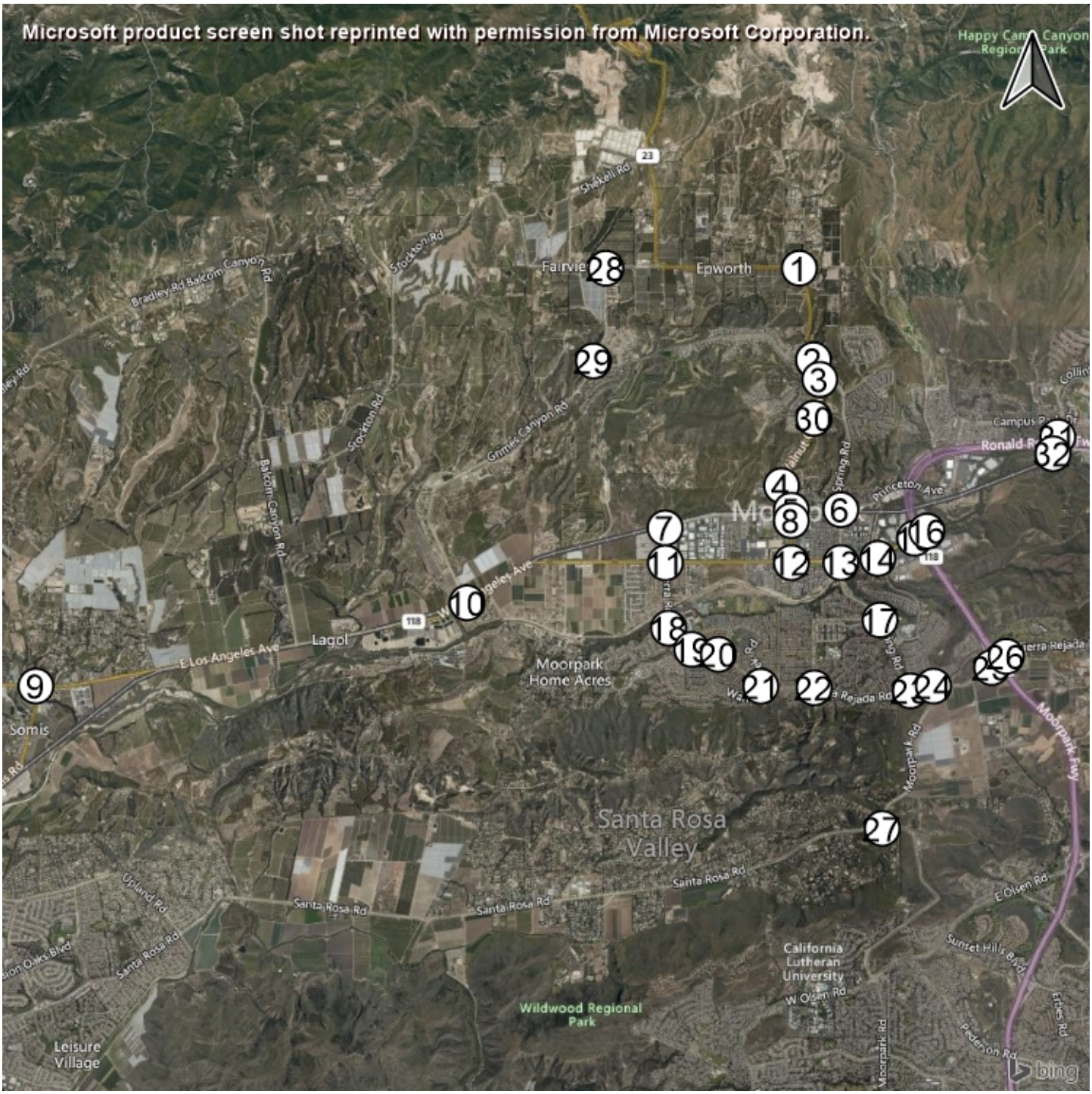
Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.010	23.6	C
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.023	33.2	D
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	WB Right	0.799	-	C
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.368	-	A
5	Moorpark Avenue at High Street	Signalized	ICU 1	NB Thru	0.635	-	B
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.682	-	B
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.399	10.8	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Thru	0.738	-	C
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	WB Thru	1.120	-	F
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.724	-	C
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.665	-	B
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.520	-	A
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	WB Right	0.964	-	E
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.753	-	C
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.594	-	A
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	NWB Left	0.567	-	A
17	Spring Road and Peach Hill Road	Signalized	ICU 1	NWB Thru	0.605	-	B
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Right	0.453	-	A

19	Mountain Trail Road and Tierra Rejada Road	Signalized	ICU 1	SEB Thru	0.426	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	NWB Thru	0.493	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.592	-	A
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.622	-	B
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	SWB Thru	0.656	-	B
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.734	-	C
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	SWB Thru	0.712	-	C
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NWB Right	0.797	-	C
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	SB Right	1.084	-	F
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.015	10.2	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.050	10.0	A
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.031	12.1	B
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.511	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.515	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Report Figure 1: Study Intersections



Report Figure 2: Lane Configuration and Traffic Control

lnut Canyon Road at Spring R

Canyon Road at Championsh

ut Canyon Road at Broadway

Spring Road at High Street

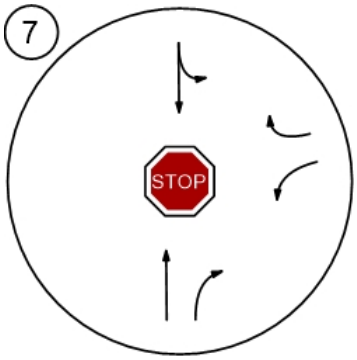
loorpark Avenue at High Stree

lnut Canyon Road at Casey R

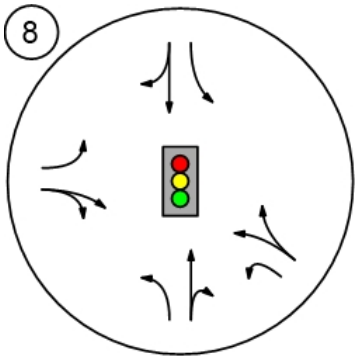
Report Figure 2: Lane Configuration and Traffic Control



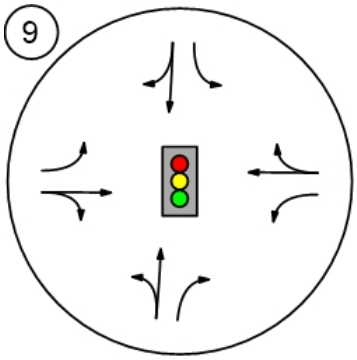
Gabbert Road at Poindexter



Moorpark Avenue and Poind



Somis Road and Los Angeles



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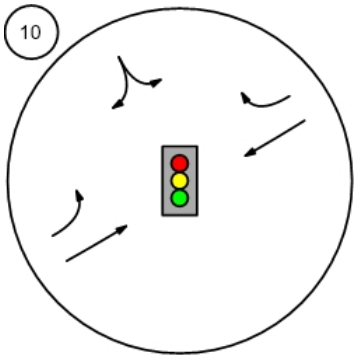

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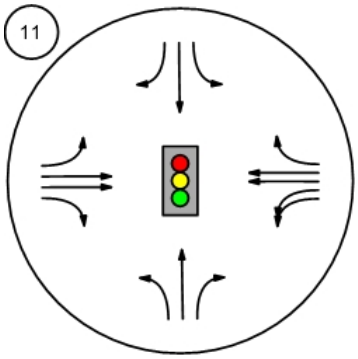
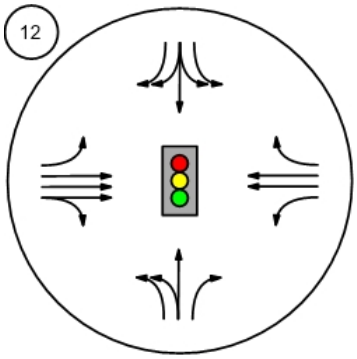
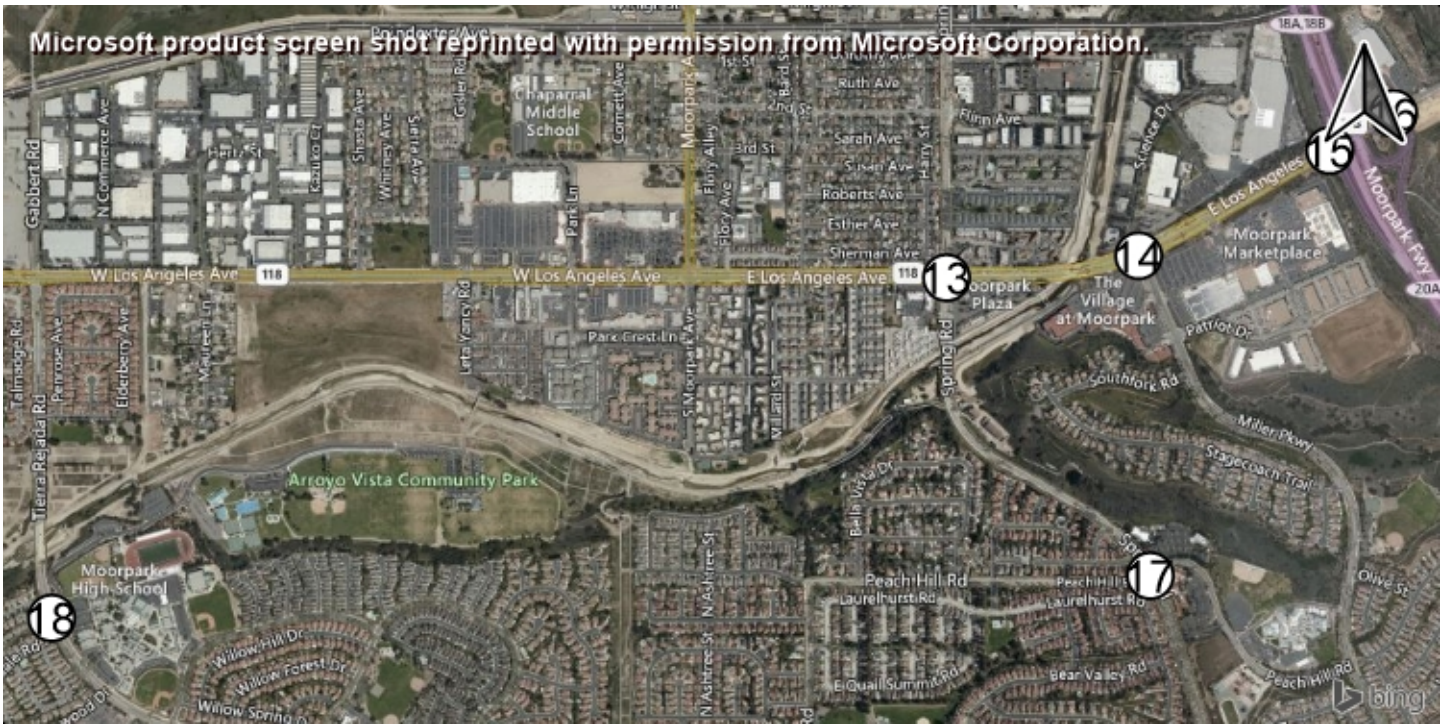


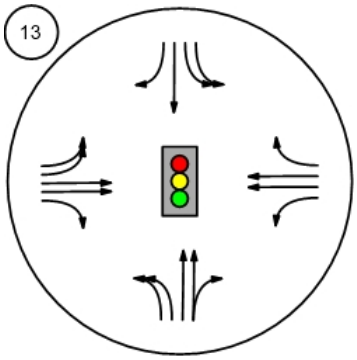
Moorpark Avenue and Los A



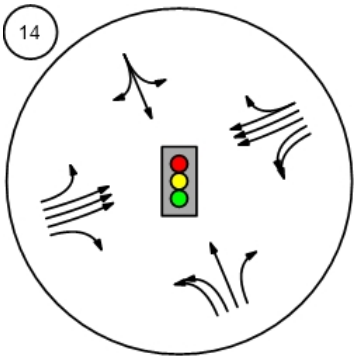
Report Figure 2: Lane Configuration and Traffic Control



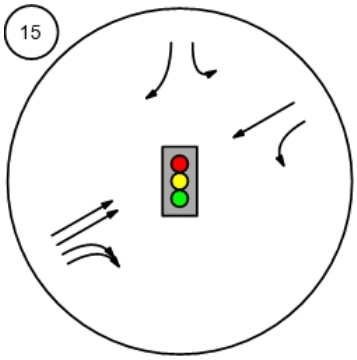
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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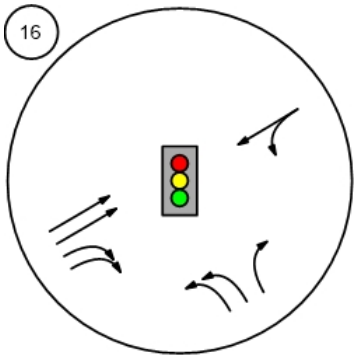
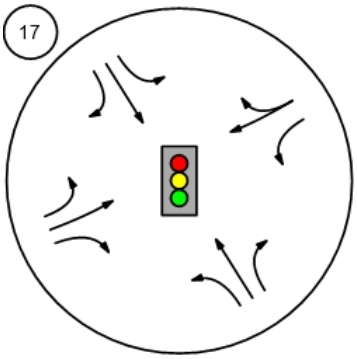
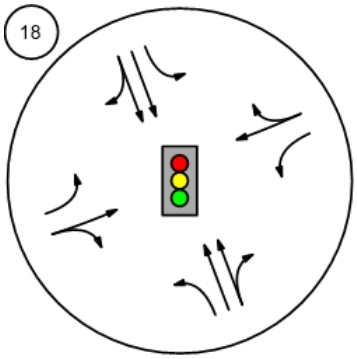


Spring Road and Peach Hill



Tierra Rejada Road and Cou

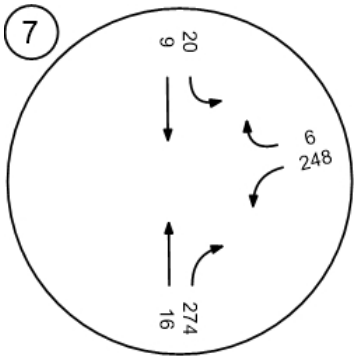


Report Figure 3c: Traffic Volume - Future Background Volume

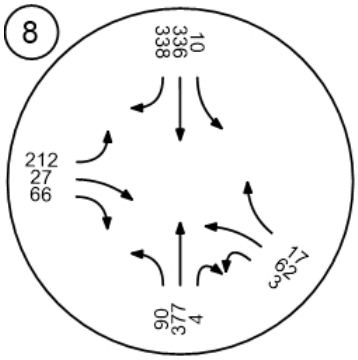
Report Figure 3c: Traffic Volume - Future Background Volume



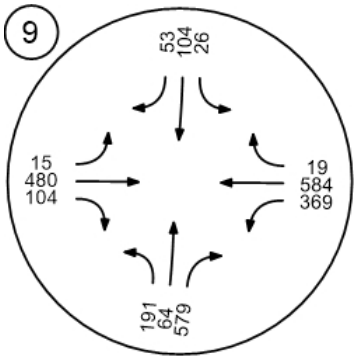
Gabbert Road at Poindexter



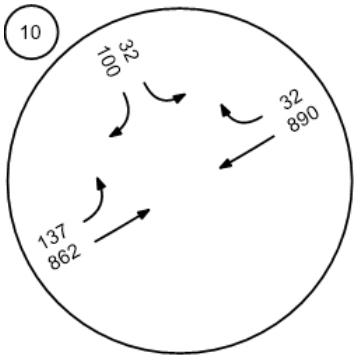
Moorpark Avenue and Poind



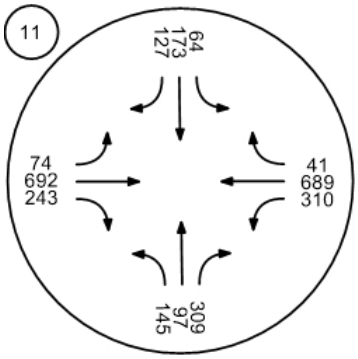
Somis Road and Los Angeles



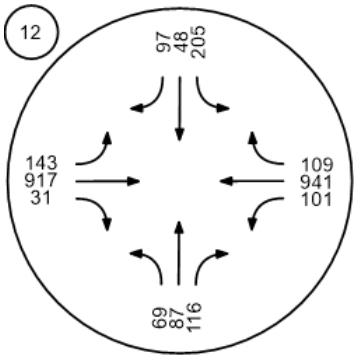
Grimes Canyon Road and Lo



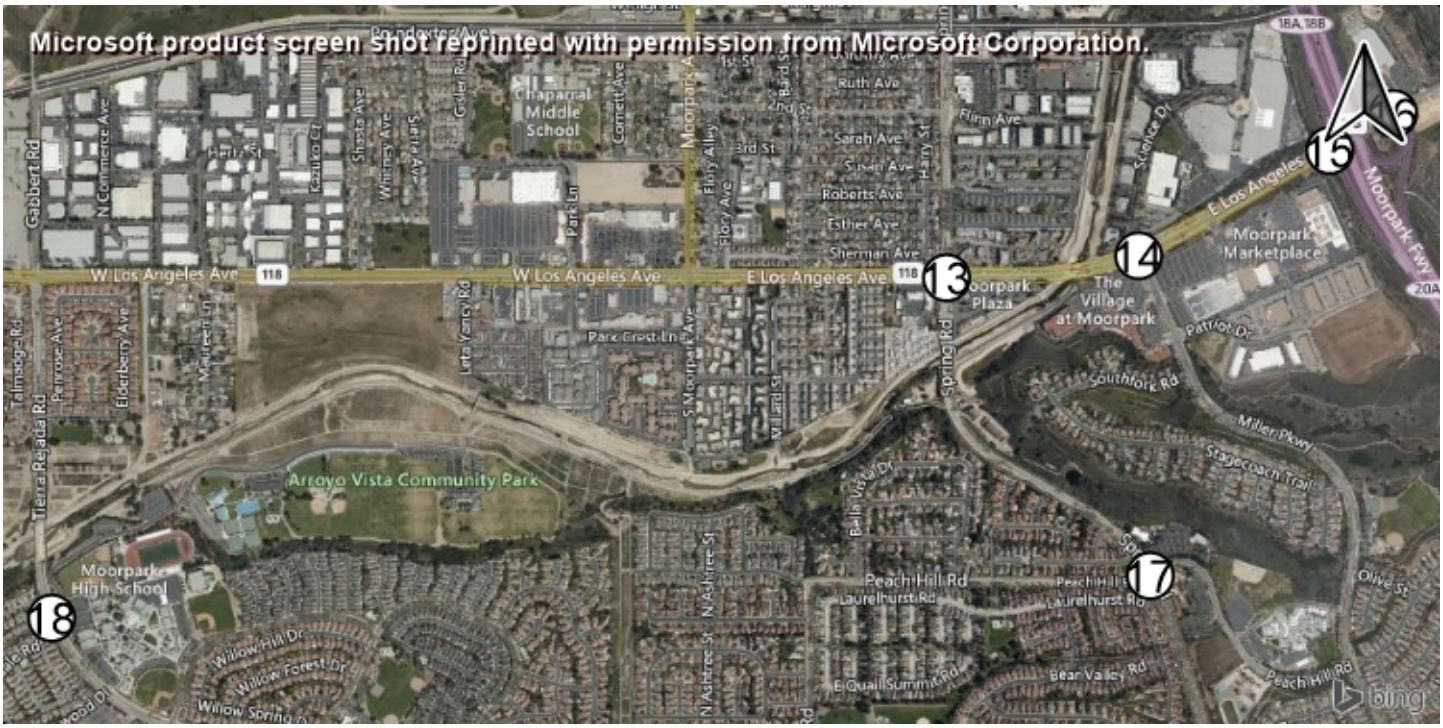
Tierra Rejada Road and Los



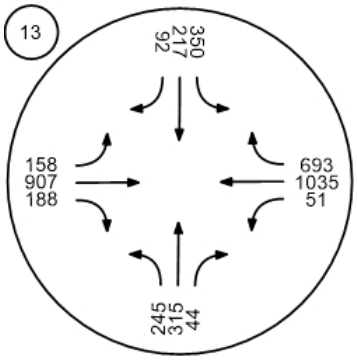
Moorpark Avenue and Los A



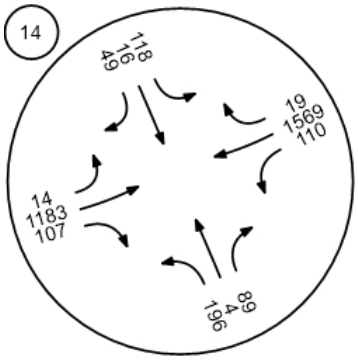
Report Figure 3c: Traffic Volume - Future Background Volume



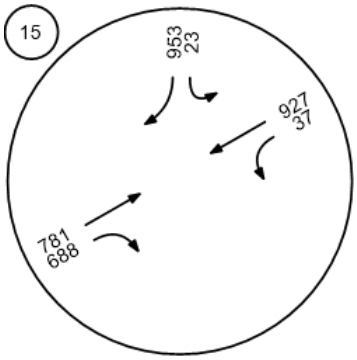
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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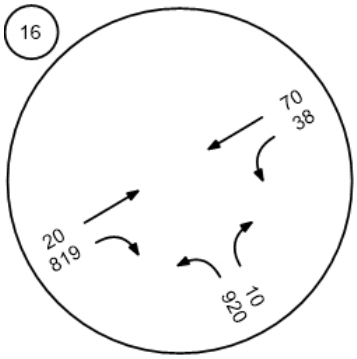
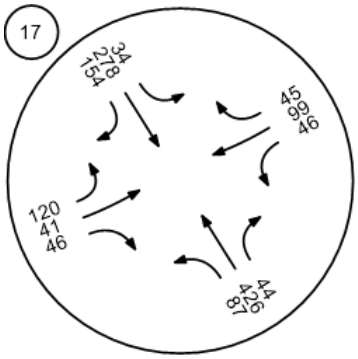
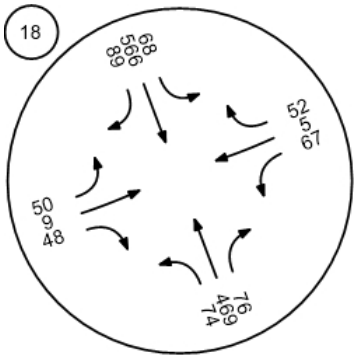


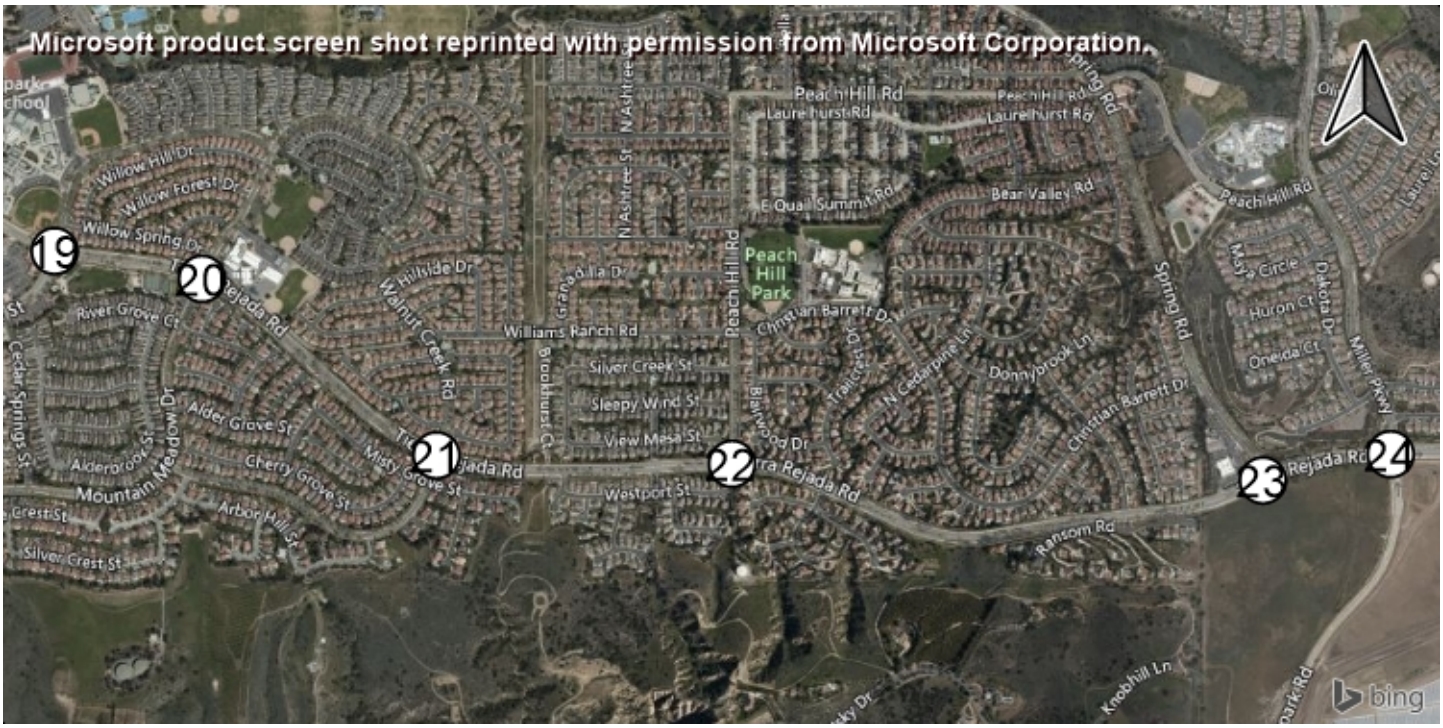
Spring Road and Peach Hill



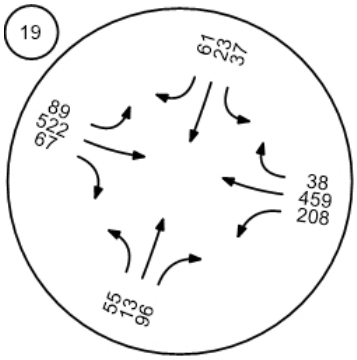
Tierra Rejada Road and Cou



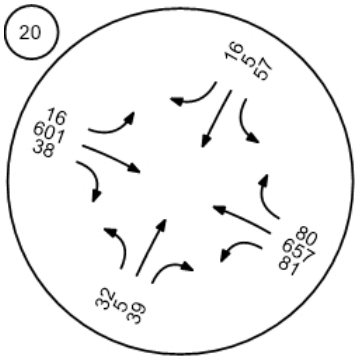
Report Figure 3c: Traffic Volume - Future Background Volume



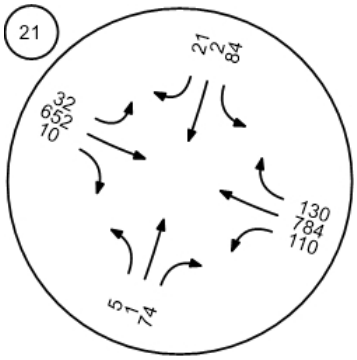
Mountain Trail Road and Tier



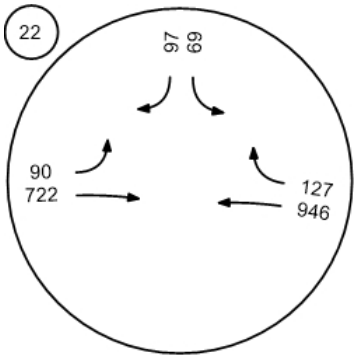
Mountain Meadow Drive and



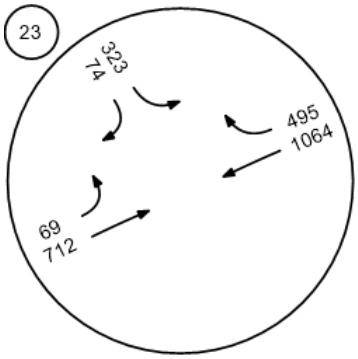
Walnut Creek Road and Tierr



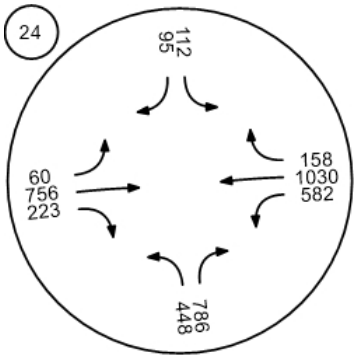
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



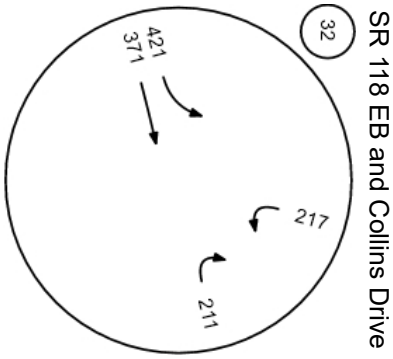
Moorpark Road and Tierra R

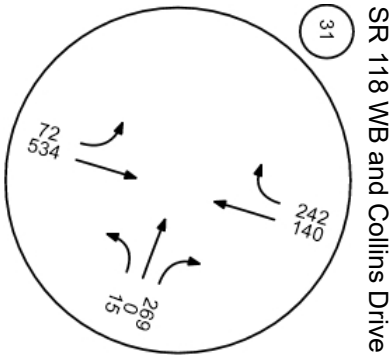


Report Figure 3c: Traffic Volume - Future Background Volume

Report Figure 3c: Traffic Volume - Future Background Volume







Report Figure 3d: Traffic Volume - Net New Site Trips

Inut Canyon Road at Spring R

Canyon Road at Championsh

ut Canyon Road at Broadway

Spring Road at High Street

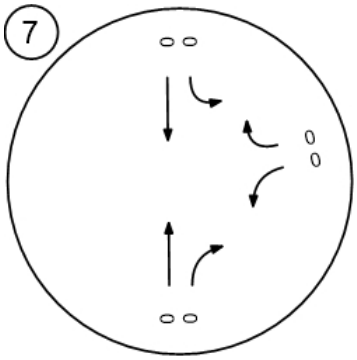
Moorpark Avenue at High Stree

Inut Canyon Road at Casey R

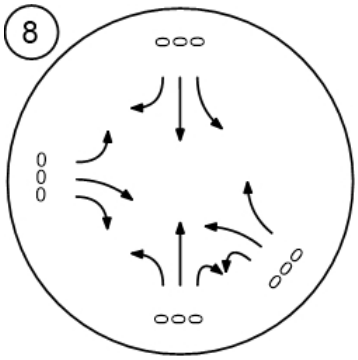
Report Figure 3d: Traffic Volume - Net New Site Trips



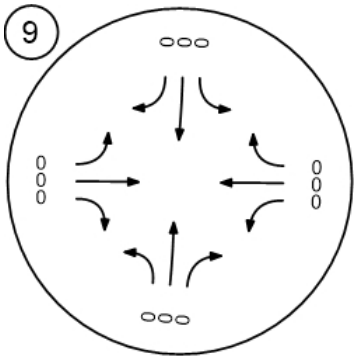
Gabbert Road at Poindexter



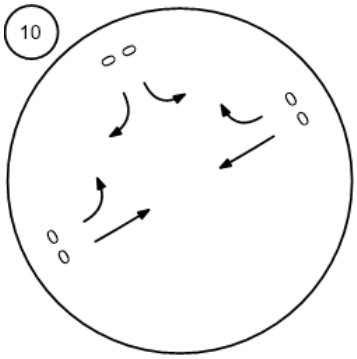
Moorpark Avenue and Poind



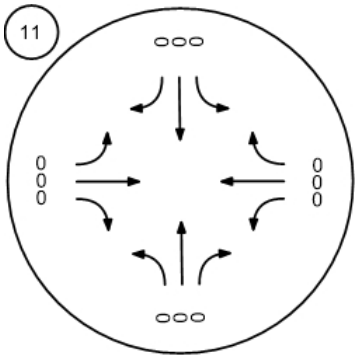
Somis Road and Los Angeles



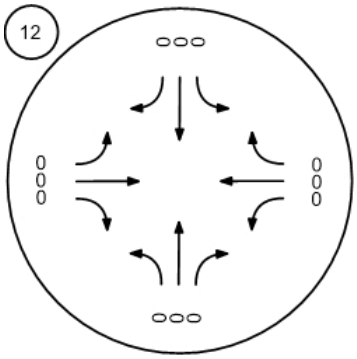
Grimes Canyon Road and Lo



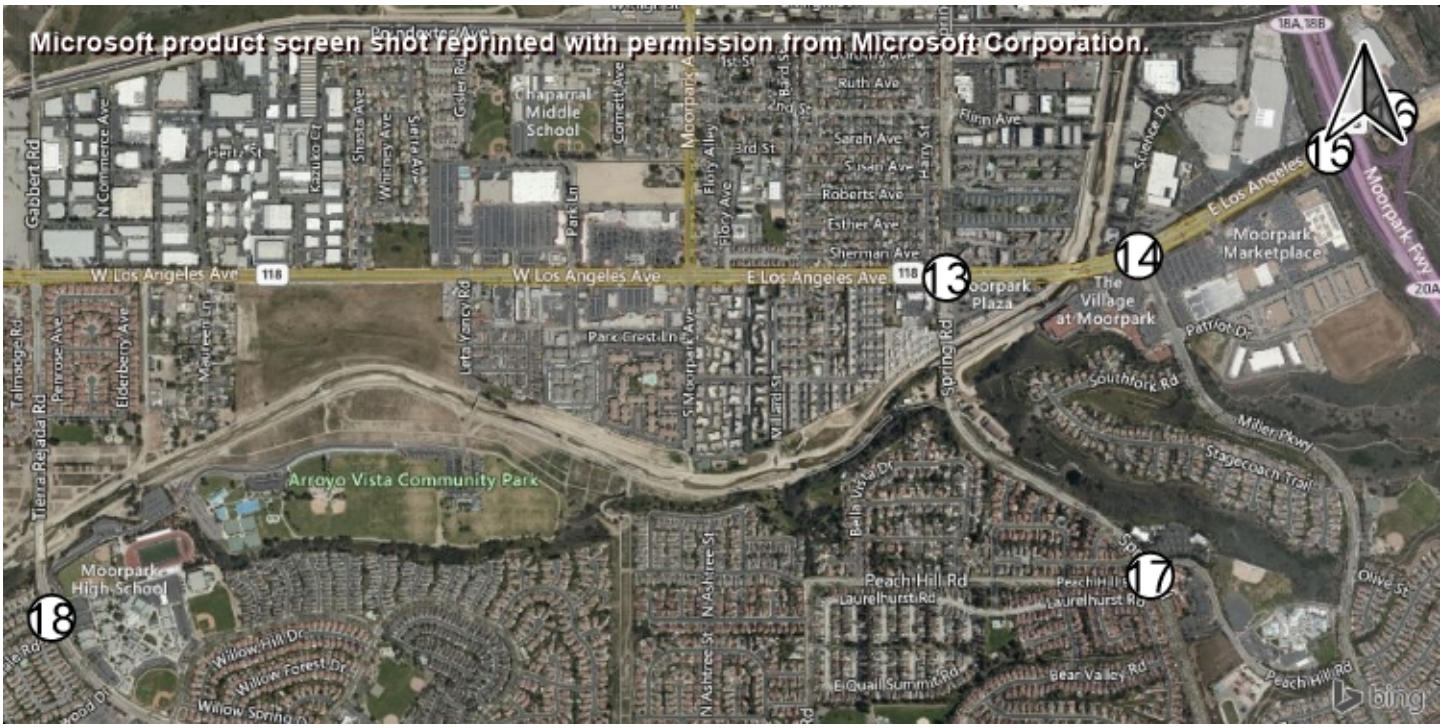
Tierra Rejada Road and Los



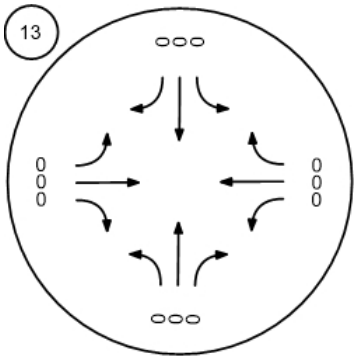
Moorpark Avenue and Los A



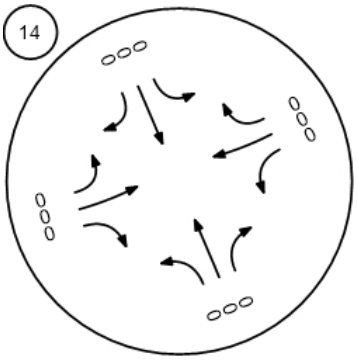
Report Figure 3d: Traffic Volume - Net New Site Trips



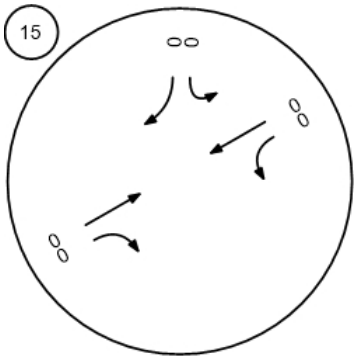
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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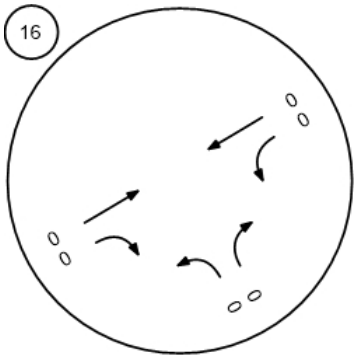
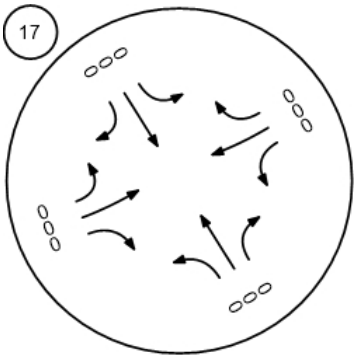
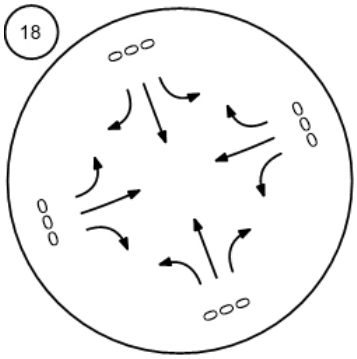


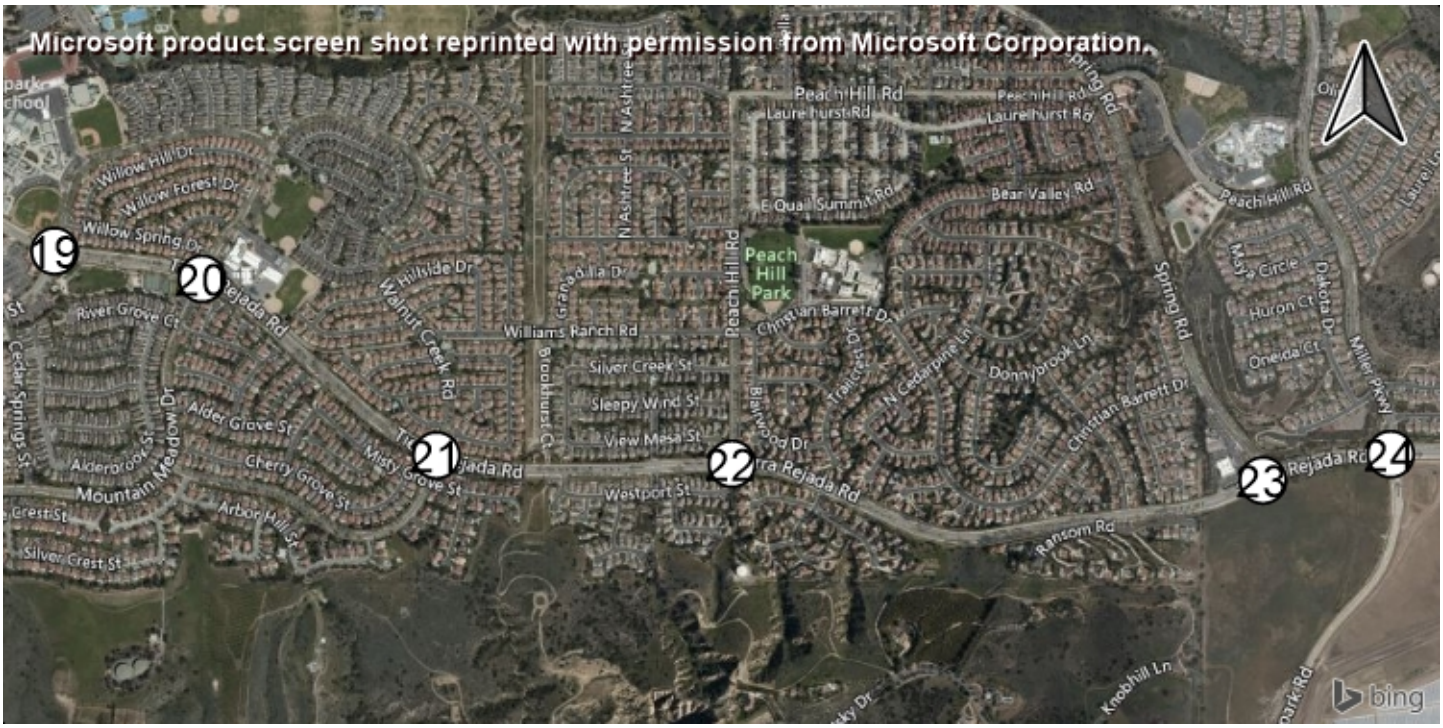
Spring Road and Peach Hill



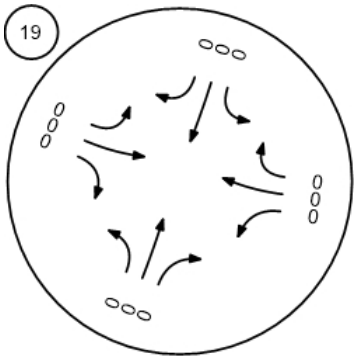
Tierra Rejada Road and Cou



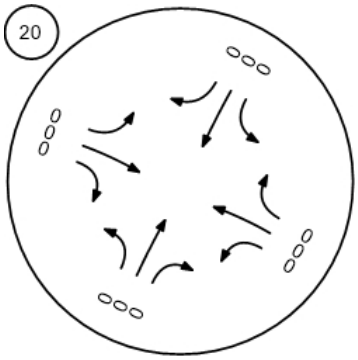
Report Figure 3d: Traffic Volume - Net New Site Trips



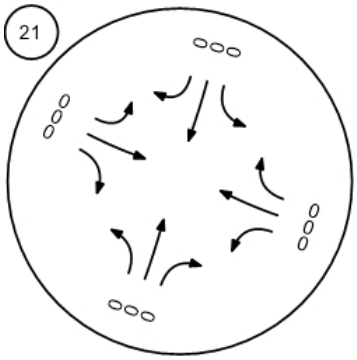
Mountain Trail Road and Tier



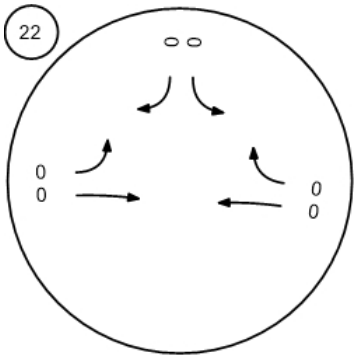
Mountain Meadow Drive and



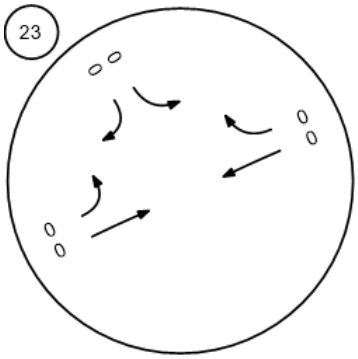
Walnut Creek Road and Tierr



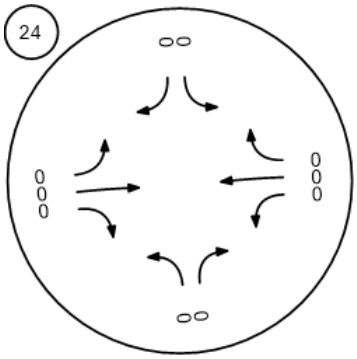
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



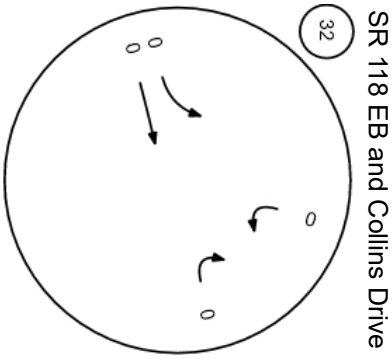
Moorpark Road and Tierra R



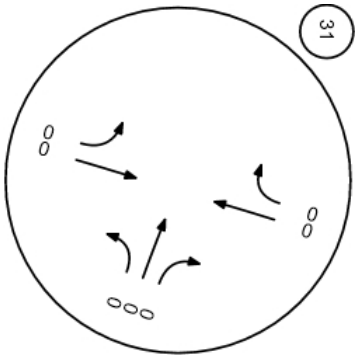
Report Figure 3d: Traffic Volume - Net New Site Trips

Report Figure 3d: Traffic Volume - Net New Site Trips





SR 118 EB and Collins Drive



SR 118 WB and Collins Drive

Report Figure 3f: Traffic Volume - Future Total Volume

Inut Canyon Road at Spring R

Canyon Road at Championsh

ut Canyon Road at Broadway

Spring Road at High Street

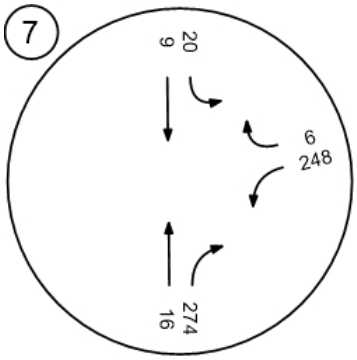
Moorpark Avenue at High Stree

Inut Canyon Road at Casey R

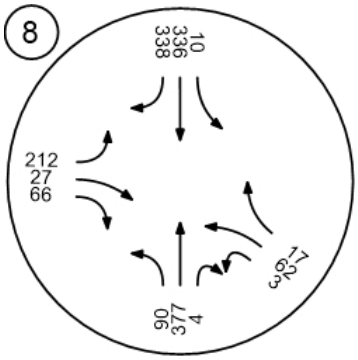
Report Figure 3f: Traffic Volume - Future Total Volume



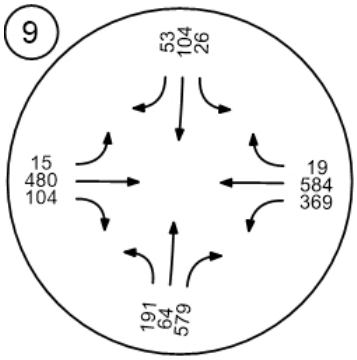
Gabbert Road at Poindexter



Moorpark Avenue and Poind



Somis Road and Los Angeles



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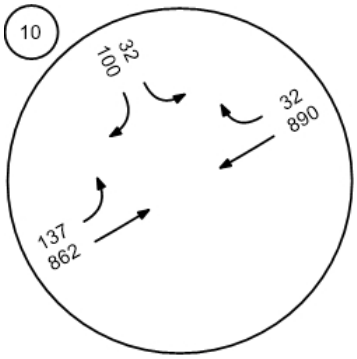

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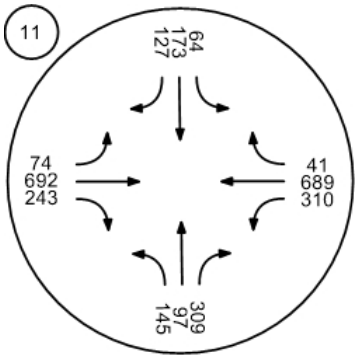

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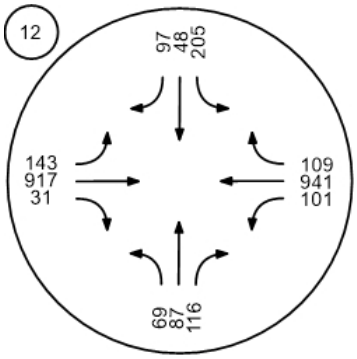
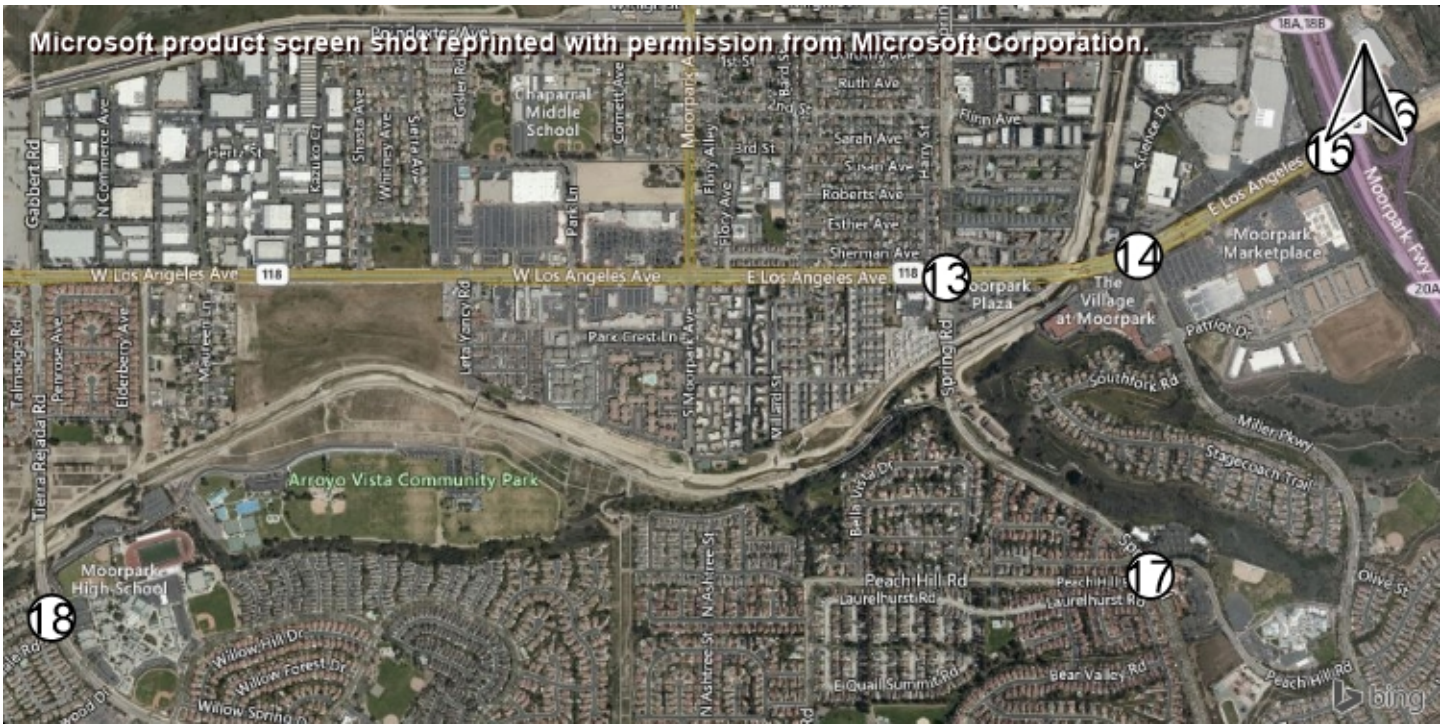
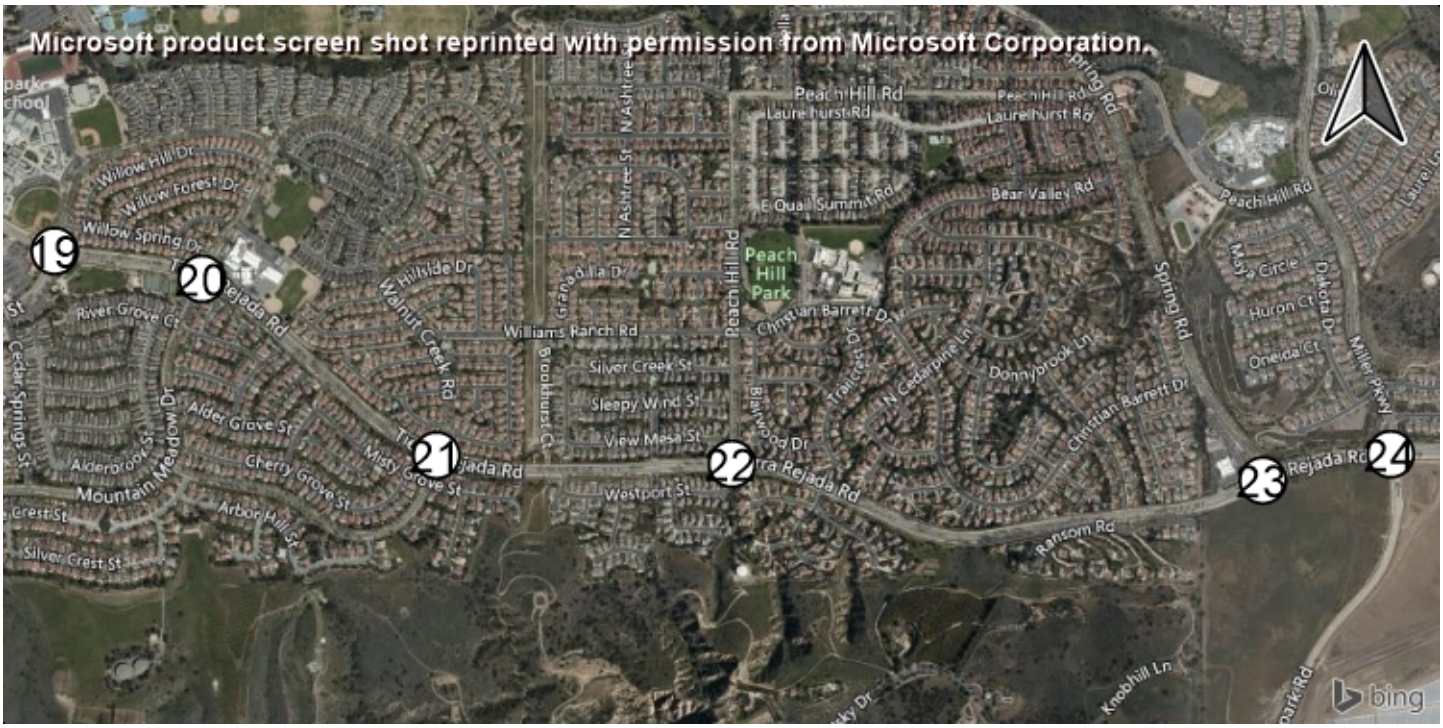


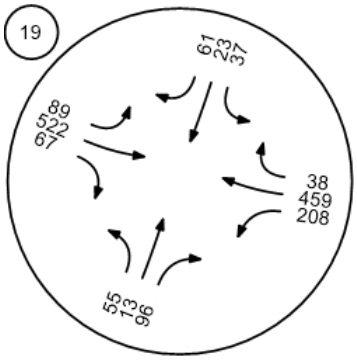
Report Figure 3f: Traffic Volume - Future Total Volume



Report Figure 3f: Traffic Volume - Future Total Volume



Mountain Trail Road and Tier



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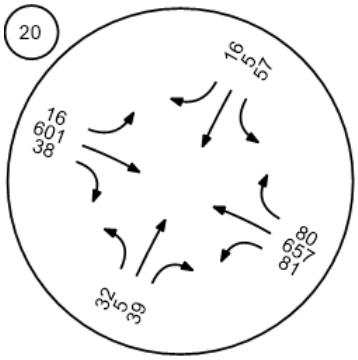
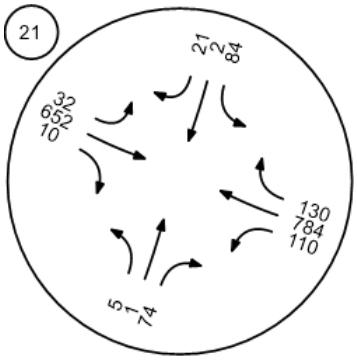


Walnut Creek Road and Tierr



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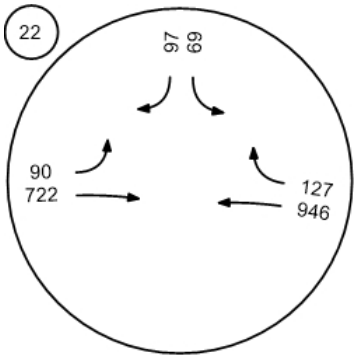

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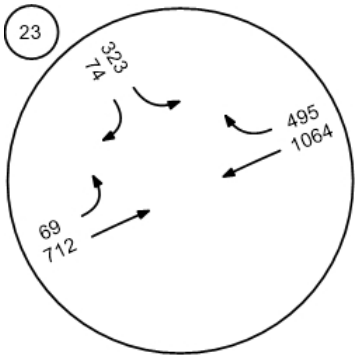
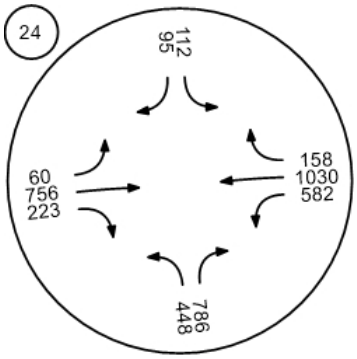


Moorpark Road and Tierra R



Report Figure 3f: Traffic Volume - Future Total Volume

rpark Road and Santa Rosa F

n Hills Drive and Walnut Canyo

3 NB ramps and Tierra Rejada

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3 SB ramps and Tierra Rejada

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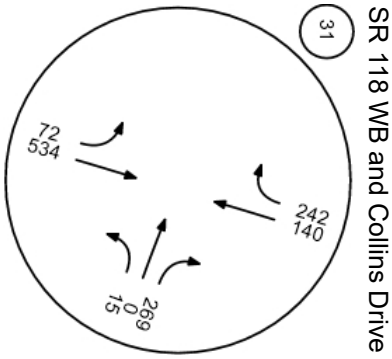
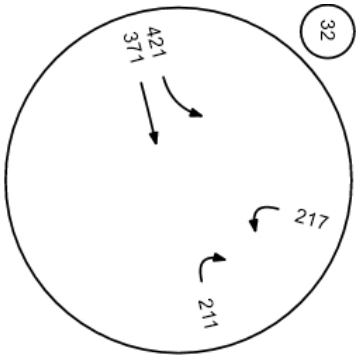
Report Figure 3f: Traffic Volume - Future Total Volume





SR 118 WB and Collins Drive



SR 118 EB and Collins Drive

Report Figure 4: Traffic Conditions

Inut Canyon Road at Spring R

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ut Canyon Road at Broadway

Spring Road at High Street

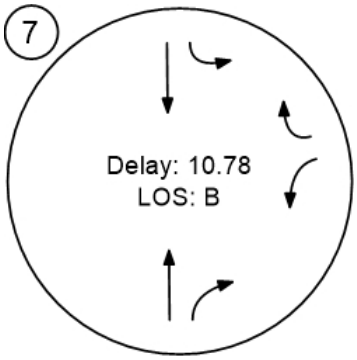
Moorpark Avenue at High Stree

Inut Canyon Road at Casey R

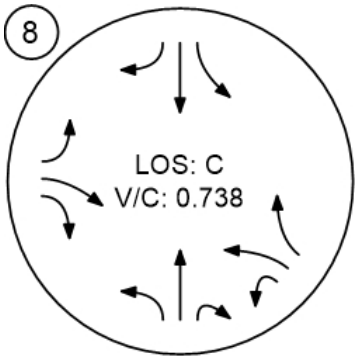
Report Figure 4: Traffic Conditions



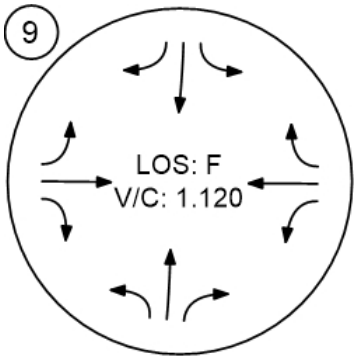
Gabbert Road at Poindexter



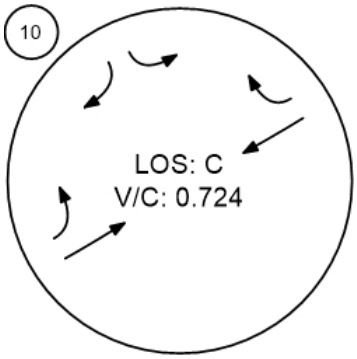
Moorpark Avenue and Poind



Somis Road and Los Angeles



Grimes Canyon Road and Lo



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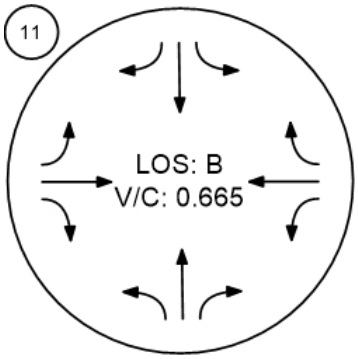
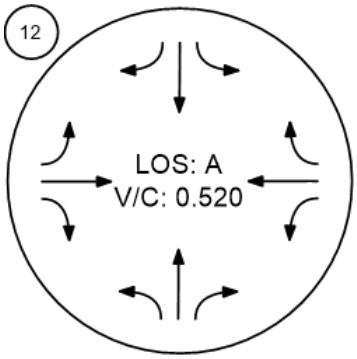
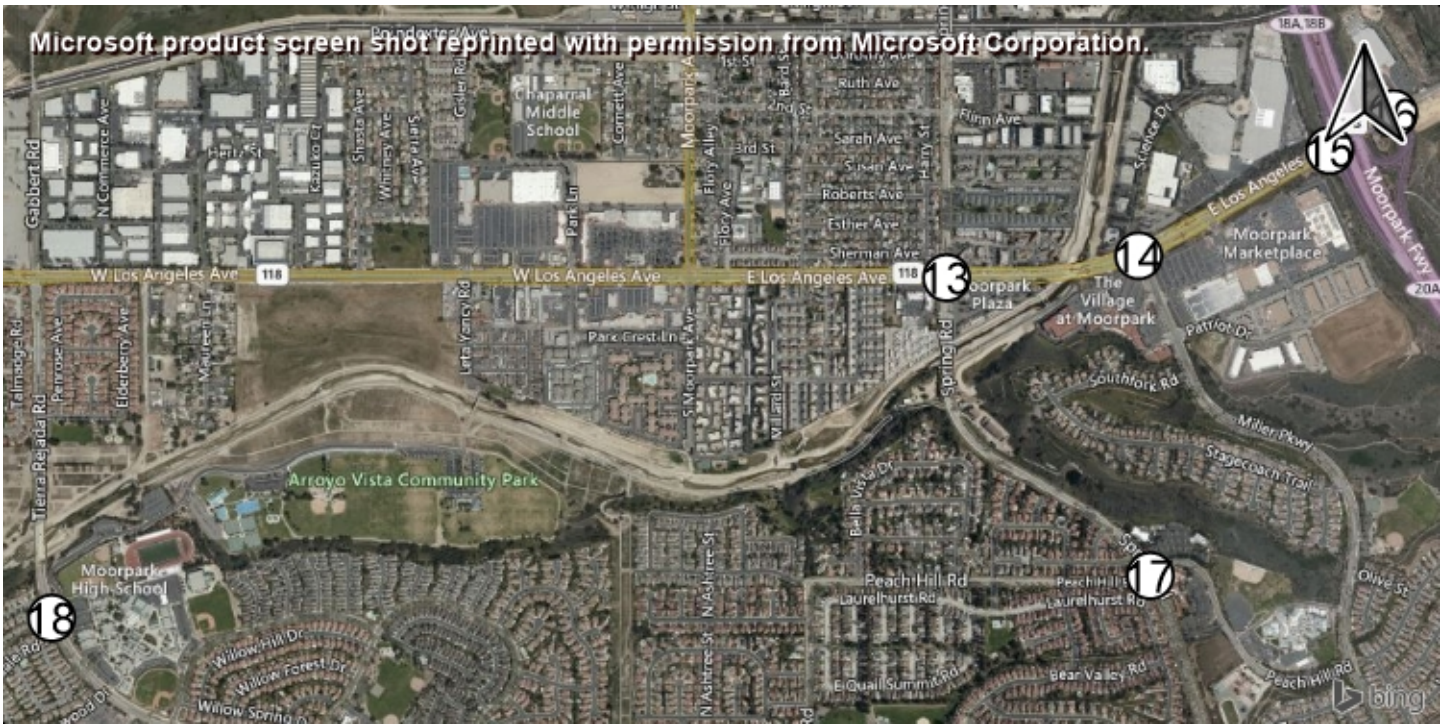


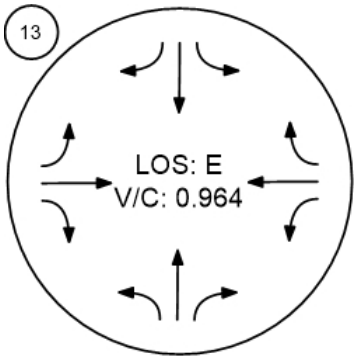
Moorpark Avenue and Los A



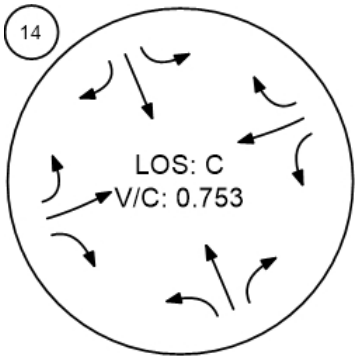
Report Figure 4: Traffic Conditions



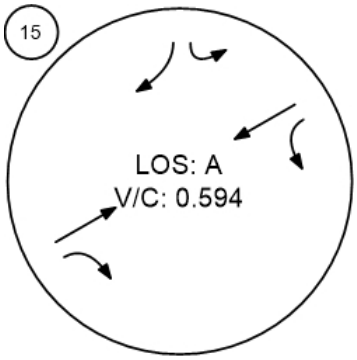
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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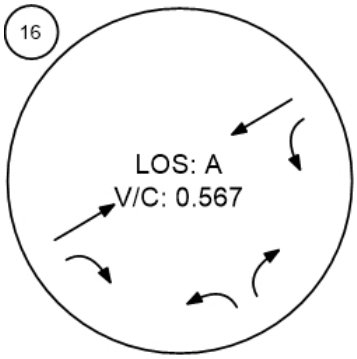
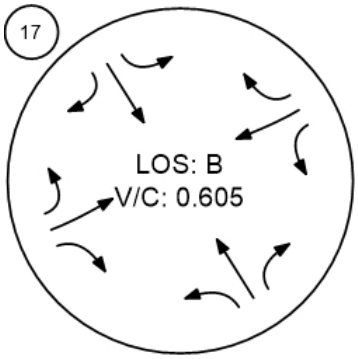


Spring Road and Peach Hill



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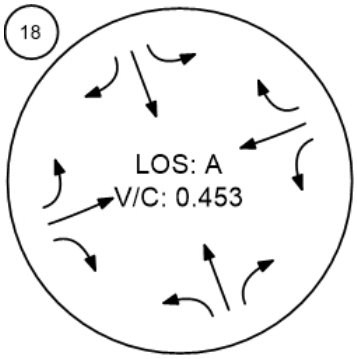
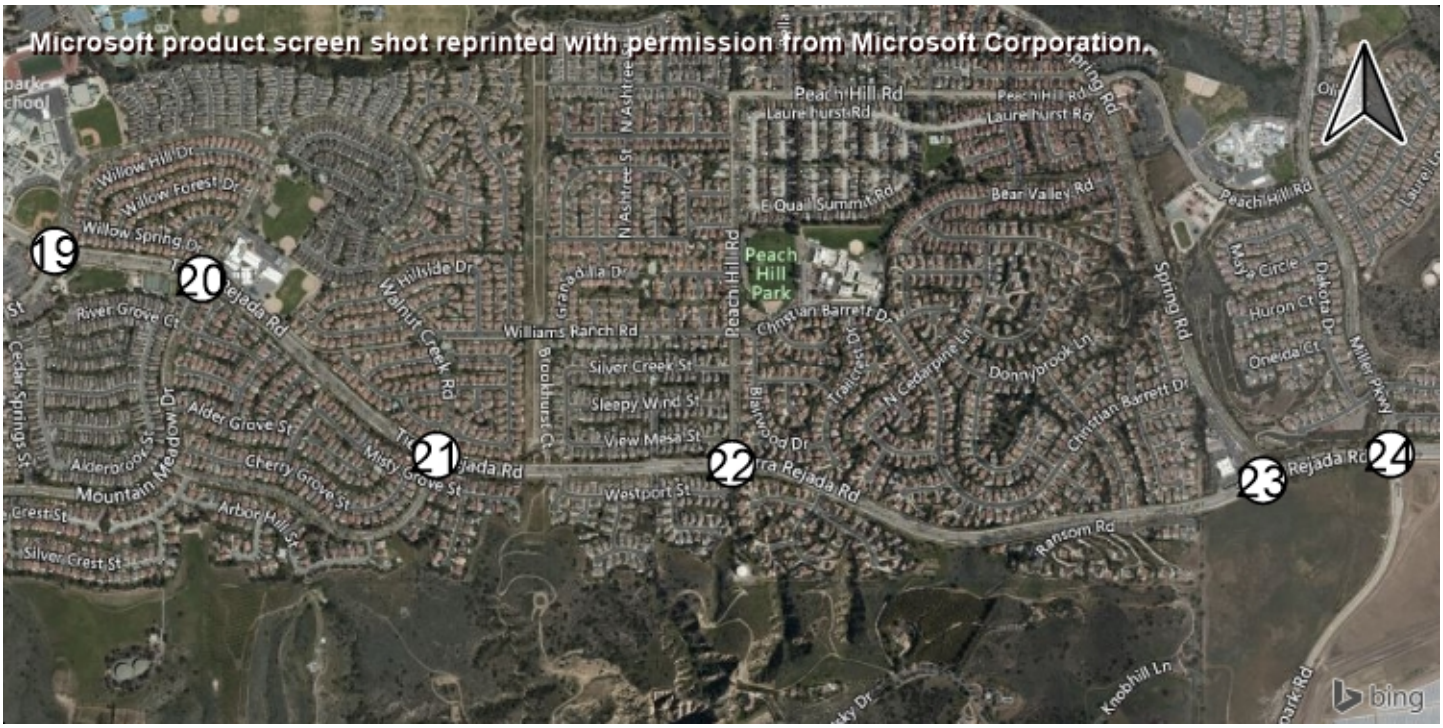
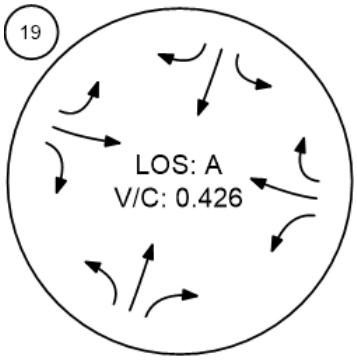


Report Figure 4: Traffic Conditions



Mountain Trail Road and Tier



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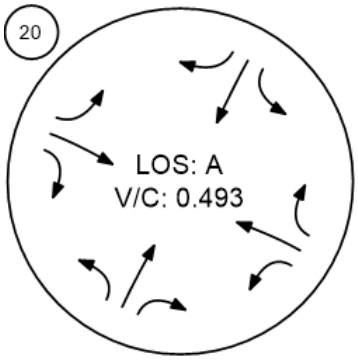

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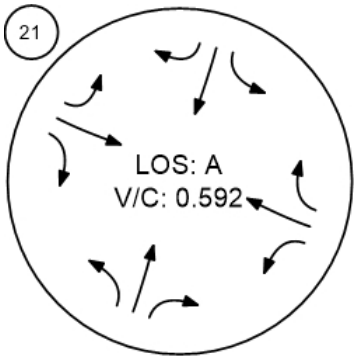

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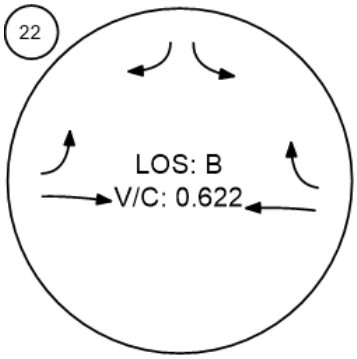
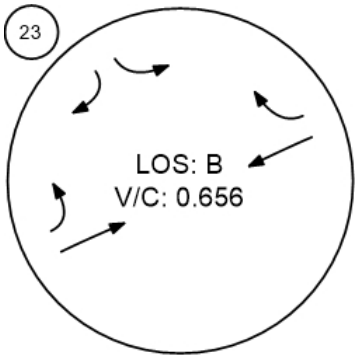
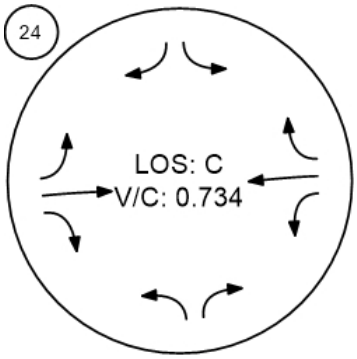


Spring Road and Tierra Reja



Moorpark Road and Tierra R



Report Figure 4: Traffic Conditions

rpark Road and Santa Rosa F

n Hills Drive and Walnut Canyo

3 NB ramps and Tierra Rejada

nship Drive and Grimes Cany

3 SB ramps and Tierra Rejada

way Road and Grimes Canyor

Report Figure 4: Traffic Conditions

EXISTING (2019) + PROJECT

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Report File: C:\...\AM Existing+Projectt.pdf

Scenario 9 9 AM Existing 2.0
12/15/2020

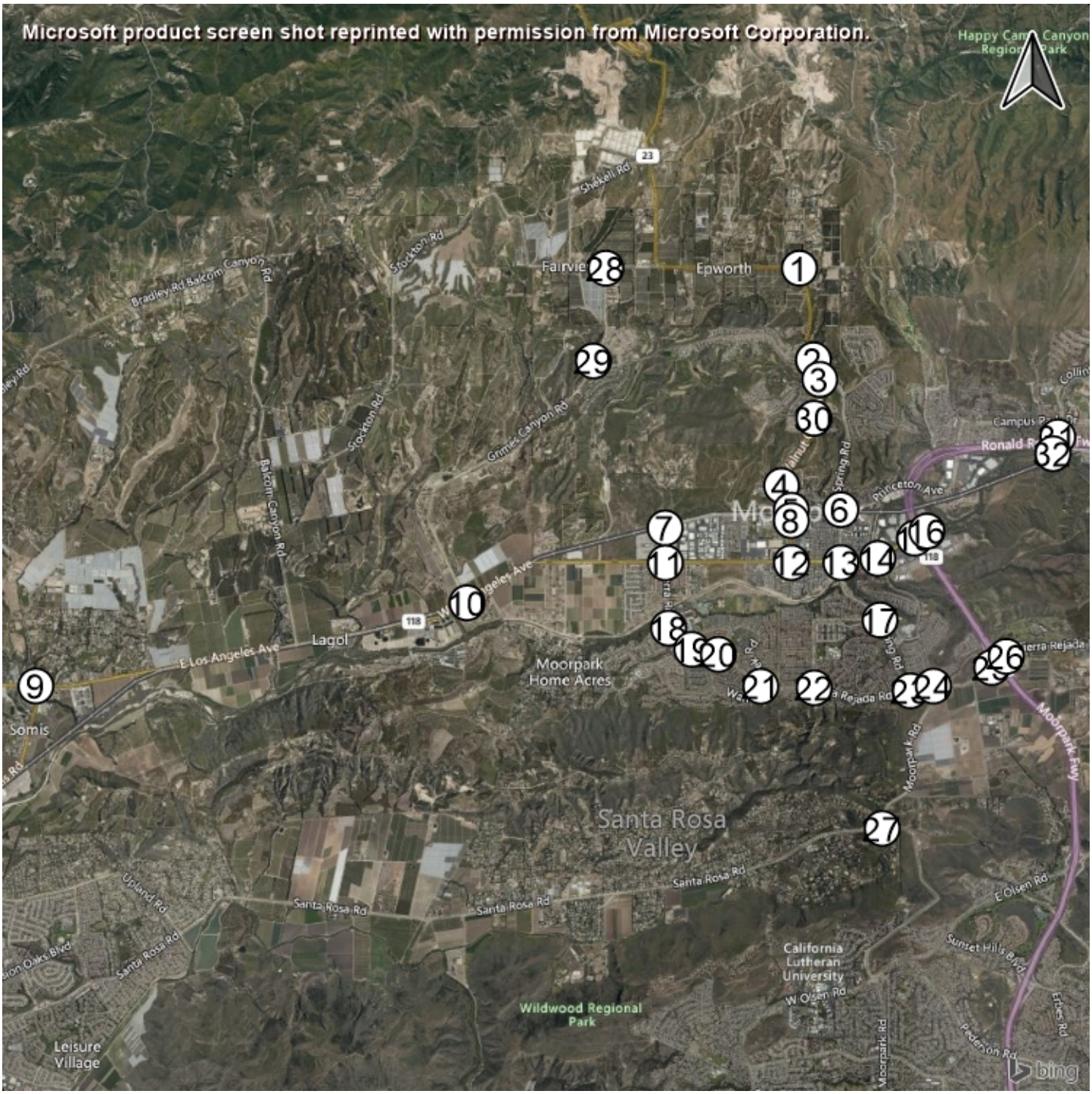
Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.004	18.8	C
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.012	26.3	D
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	SB Left	0.663	-	B
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Right	0.701	-	C
5	Moorpark Avenue at High Street	Signalized	ICU 1	SB Thru	0.688	-	B
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.630	-	B
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.417	11.0	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Right	0.685	-	B
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	EB Right	0.932	-	E
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	NEB Thru	0.673	-	B
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	NB Right	0.712	-	C
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.617	-	B
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.869	-	D
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.623	-	B
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.353	-	A
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	NEB Right	0.419	-	A
17	Spring Road and Peach Hill Road	Signalized	ICU 1	SEB Thru	0.676	-	B
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Thru	0.626	-	B

19	Mountain Trail Road and Tierra Rejada Road	Signalized	ICU 1	SEB Right	0.526	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	NWB Thru	0.588	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	SEB Thru	0.741	-	C
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.678	-	B
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	NEB Thru	0.756	-	C
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	EB Right	0.864	-	D
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	NEB Right	0.748	-	C
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NWB Left	0.828	-	D
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	SB Right	0.880	-	D
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.017	11.0	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.050	10.0	A
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.050	12.7	B
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.505	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.499	-	A

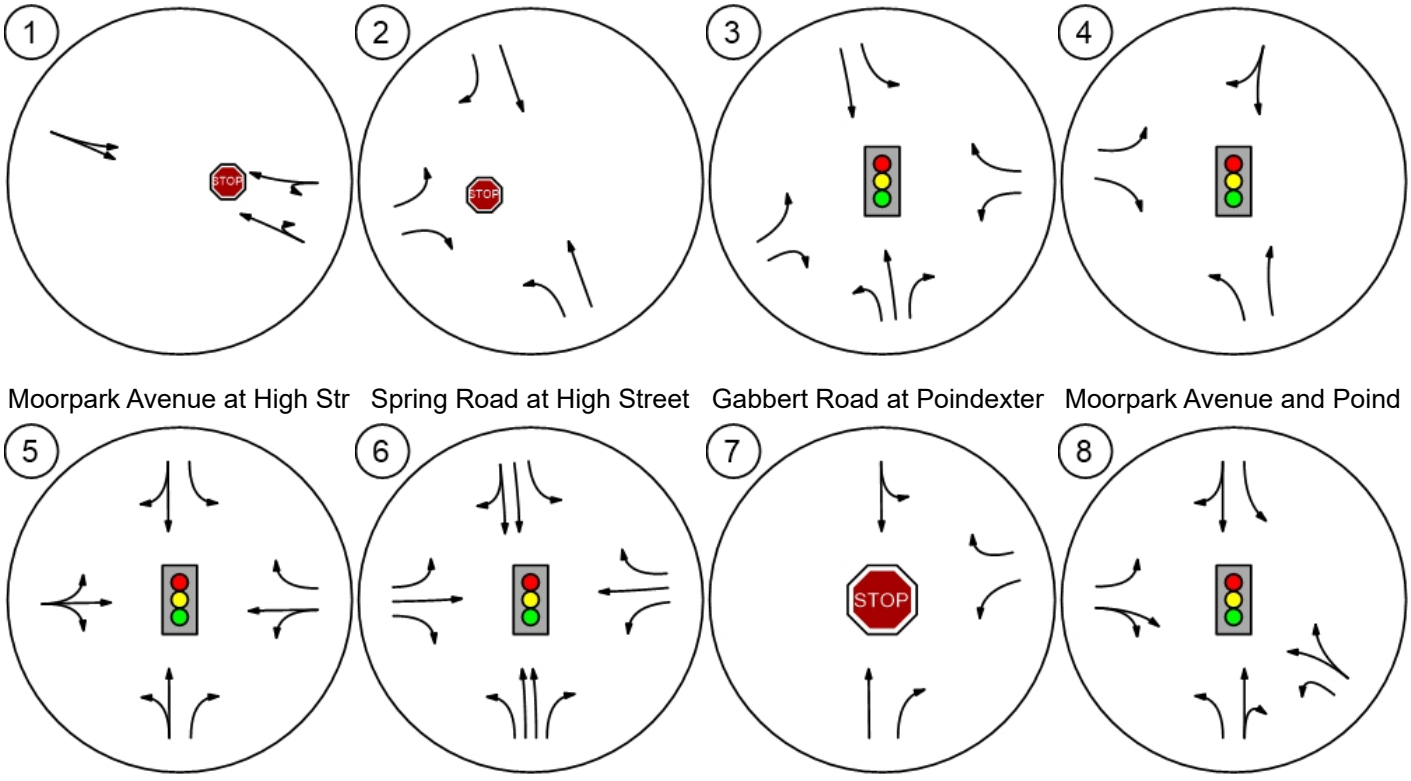
V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Report Figure 1: Study Intersections



Report Figure 2: Lane Configuration and Traffic Control

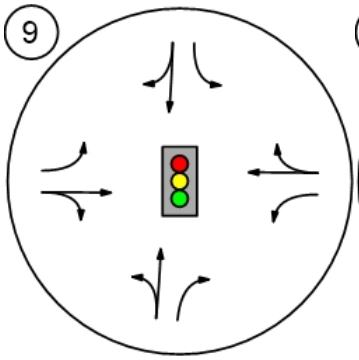




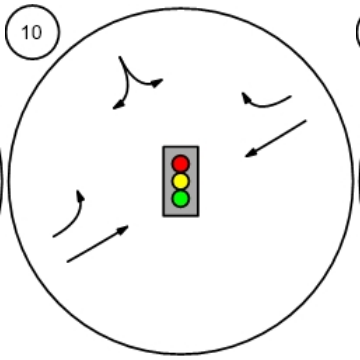
Report Figure 2: Lane Configuration and Traffic Control



Somis Road and Los Angeles



Grimes Canyon Road and Lo



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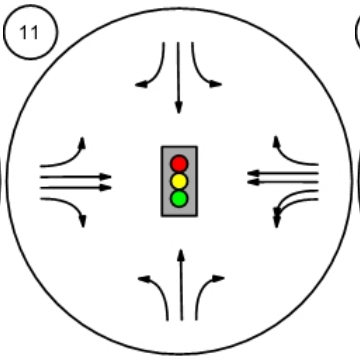
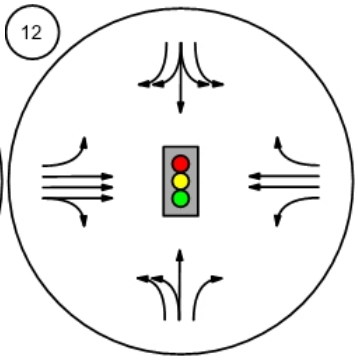
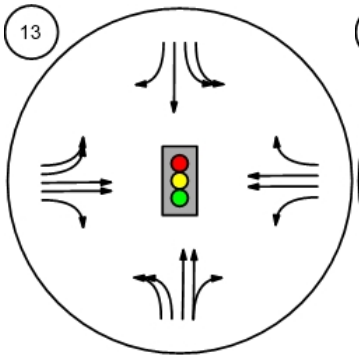


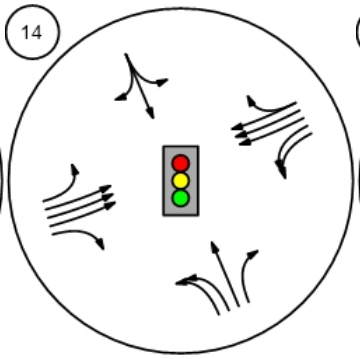
Moorpark Avenue and Los A



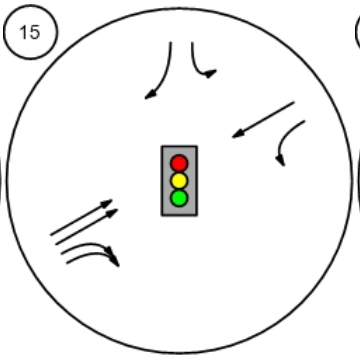
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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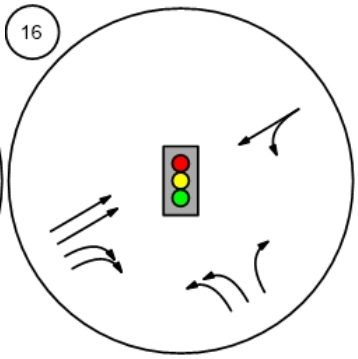
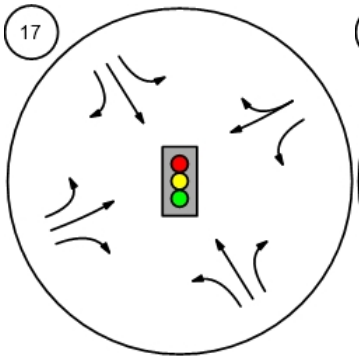


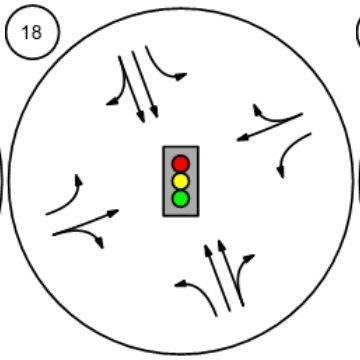
Report Figure 2: Lane Configuration and Traffic Control



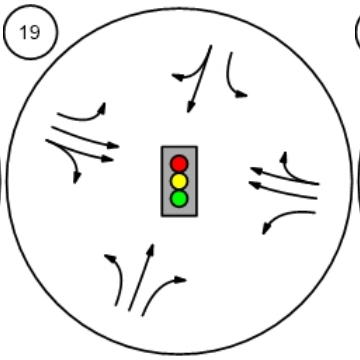
Spring Road and Peach Hill



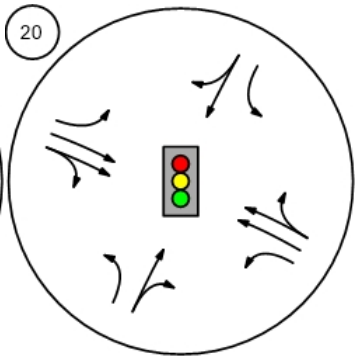
Tierra Rejada Road and Cou



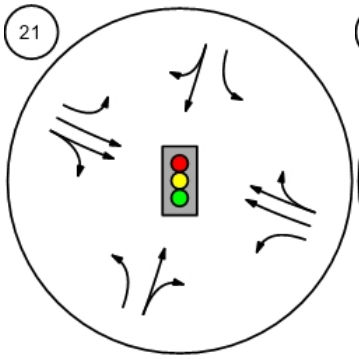
Mountain Trail Road and Tier



Mountain Meadow Drive and



Walnut Creek Road and Tierr



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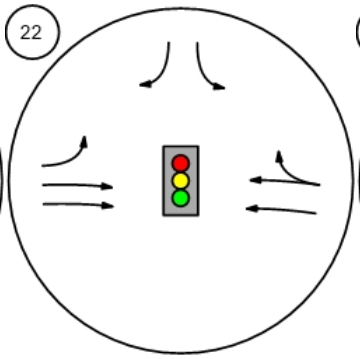

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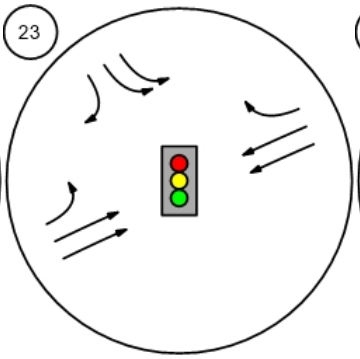
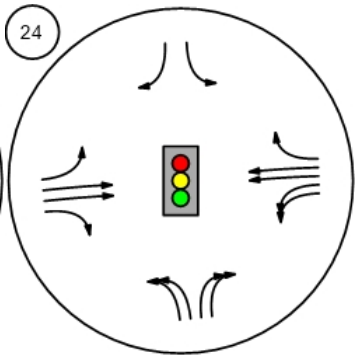


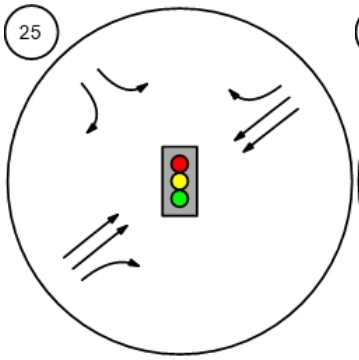
Moorpark Road and Tierra R



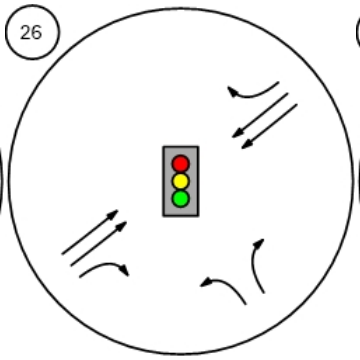
Report Figure 2: Lane Configuration and Traffic Control



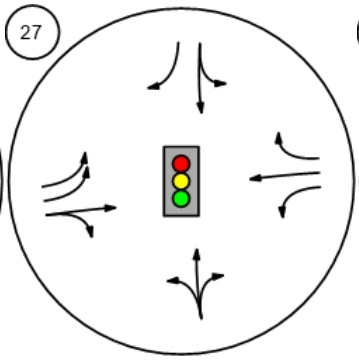
SR 23 SB ramps and Tierra



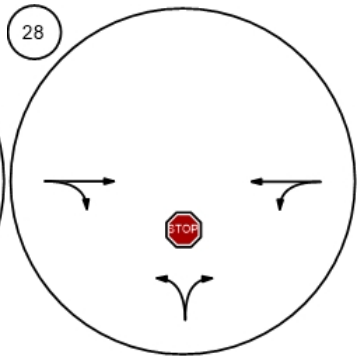
SB 23 NB ramps and Tierra



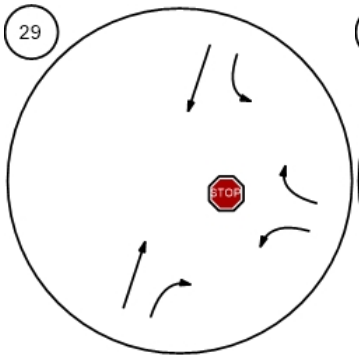
Moorpark Road and Santa R



Broadway Road and Grimes



Championship Drive and Gri



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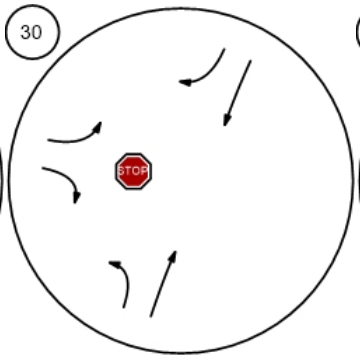
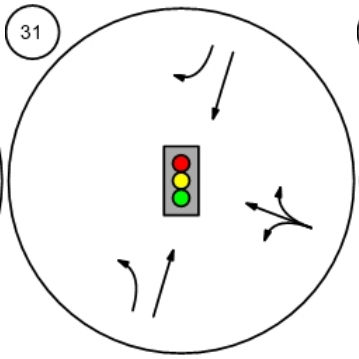
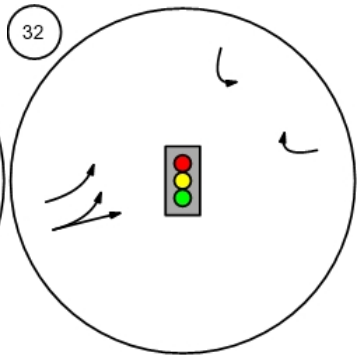


SR 118 WB and Collins Drive



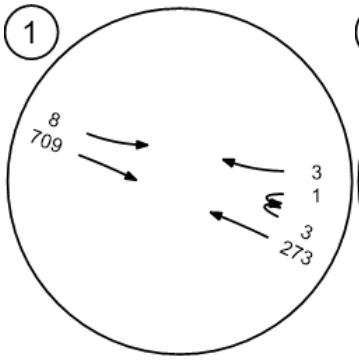
SR 118 EB and Collins Drive



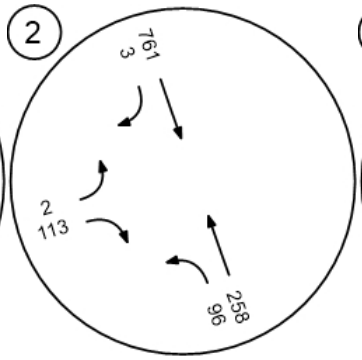
Report Figure 3c: Traffic Volume - Future Background Volume



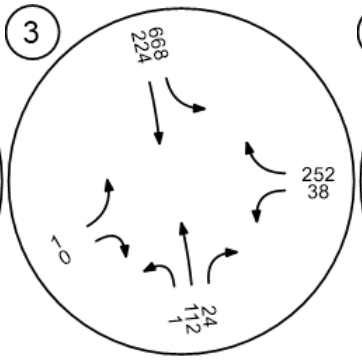
Walnut Canyon Road at Broa



Walnut Canyon Road at Cha



Walnut Canyon Road at Spri



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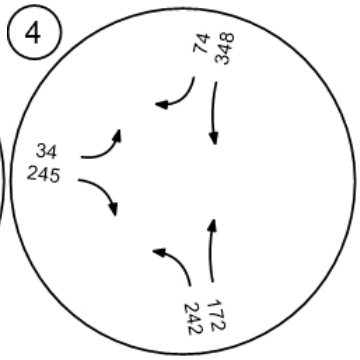
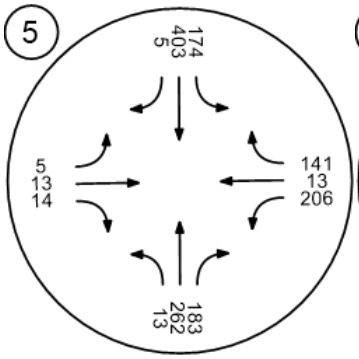
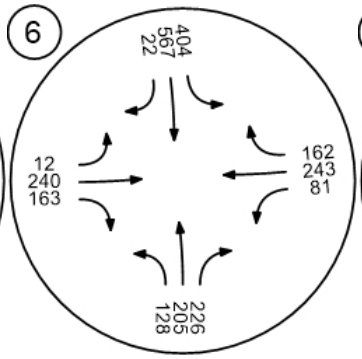


Moorpark Avenue at High Str



Spring Road at High Street



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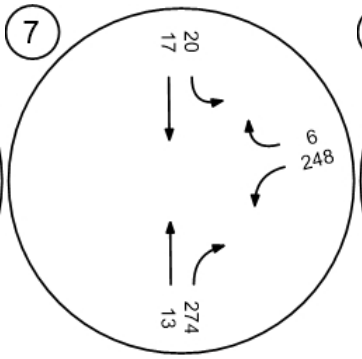
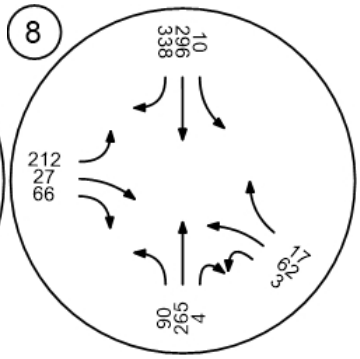


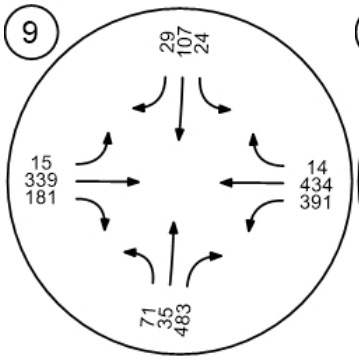
Moorpark Avenue and Poind



Report Figure 3c: Traffic Volume - Future Background Volume



Somis Road and Los Angeles



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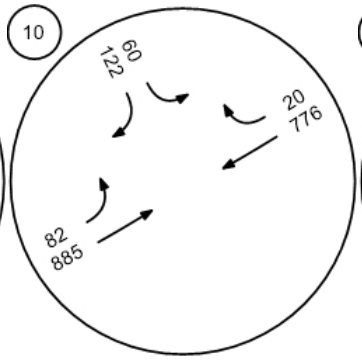

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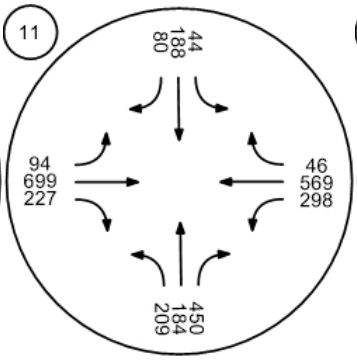

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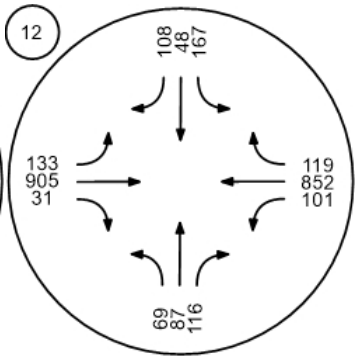

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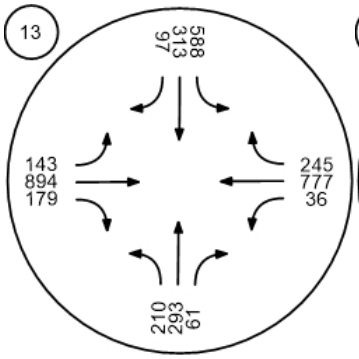

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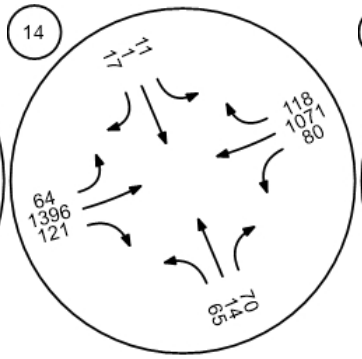

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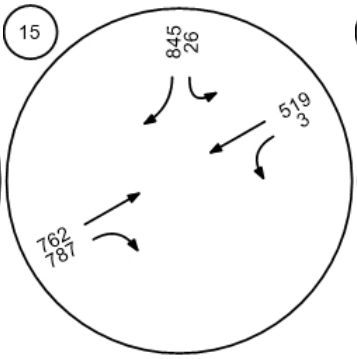

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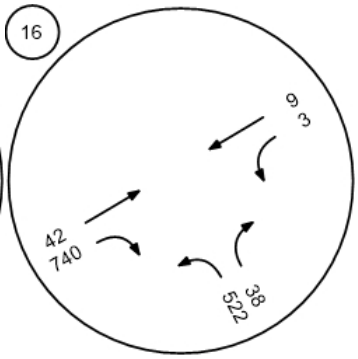
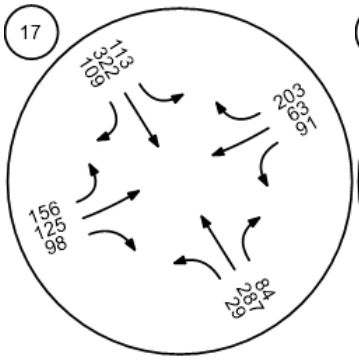


Report Figure 3c: Traffic Volume - Future Background Volume



Spring Road and Peach Hill



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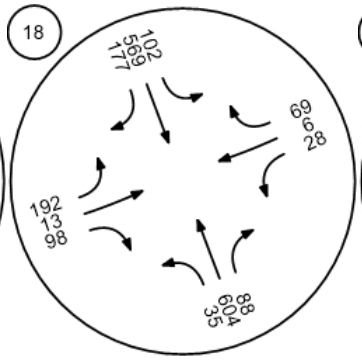

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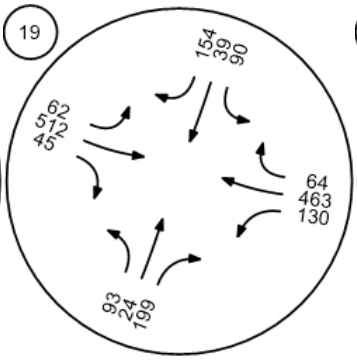

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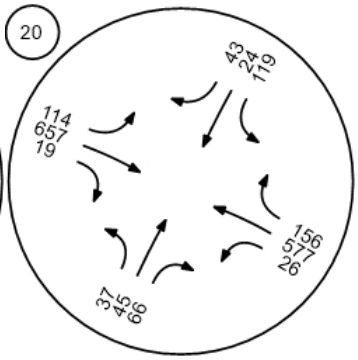

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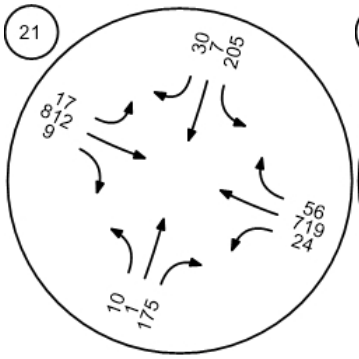

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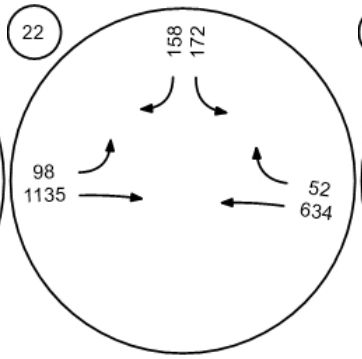

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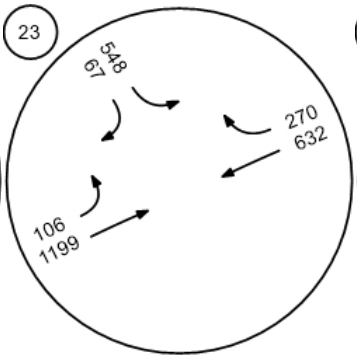

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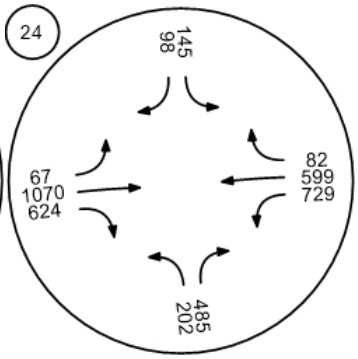
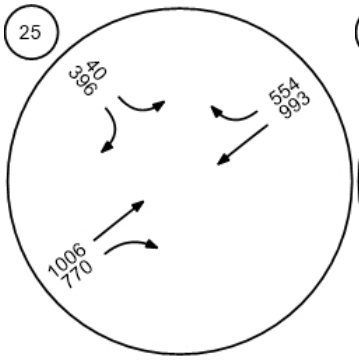


Report Figure 3c: Traffic Volume - Future Background Volume



SR□23 SB ramps and Tierra



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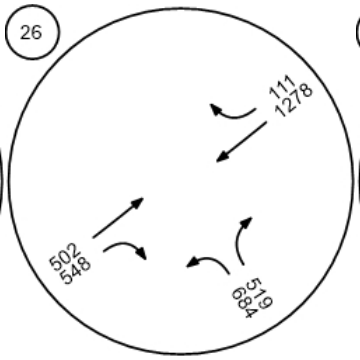
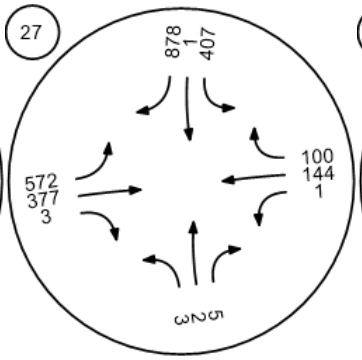
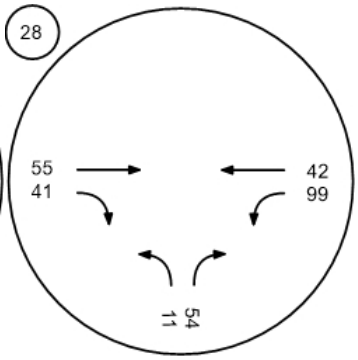


Moorpark Road and Santa R



Broadway Road and Grimes



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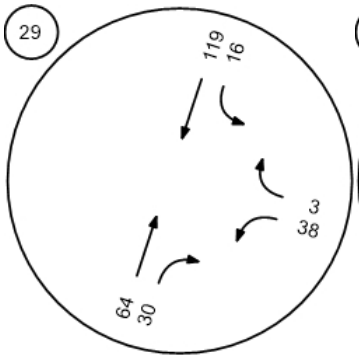

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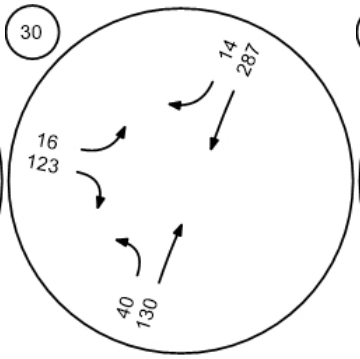

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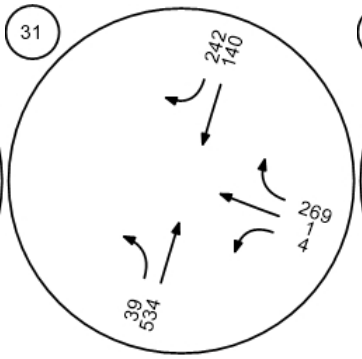

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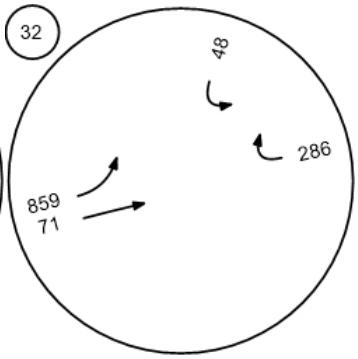

Report Figure 3d: Traffic Volume - Net New Site Trips



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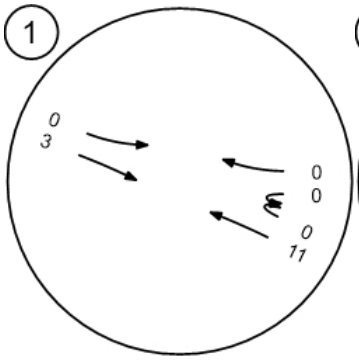
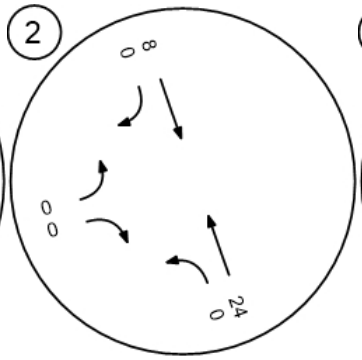
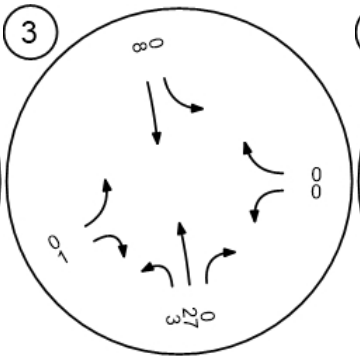


Walnut Canyon Road at Cha



Walnut Canyon Road at Spri



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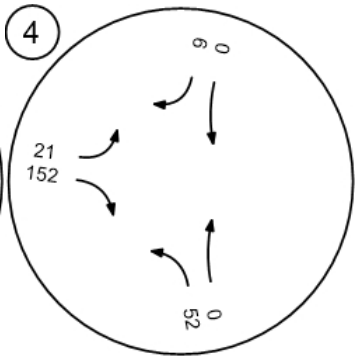
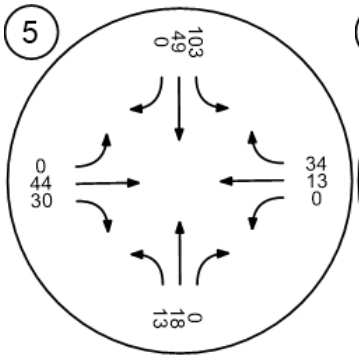
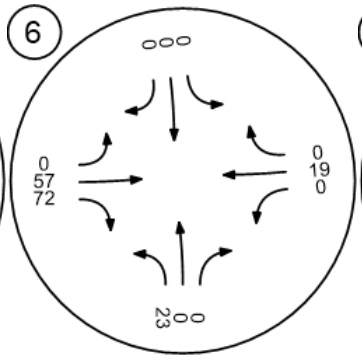


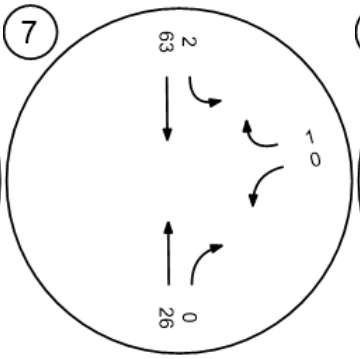
Moorpark Avenue at High Str



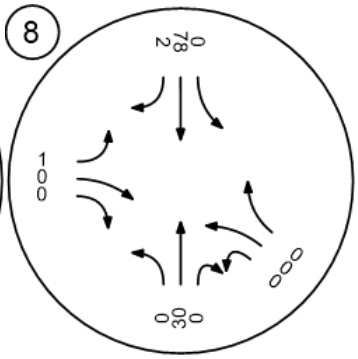
Spring Road at High Street



Gabbert Road at Poindexter



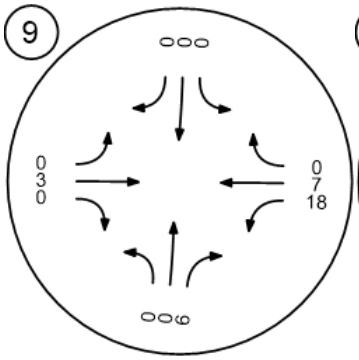
Moorpark Avenue and Poind



Report Figure 3d: Traffic Volume - Net New Site Trips



Somis Road and Los Angeles



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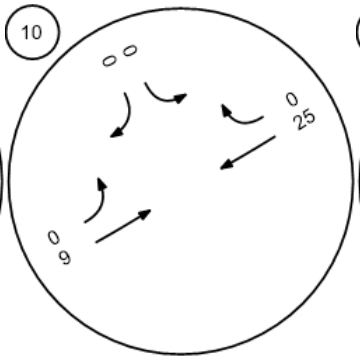
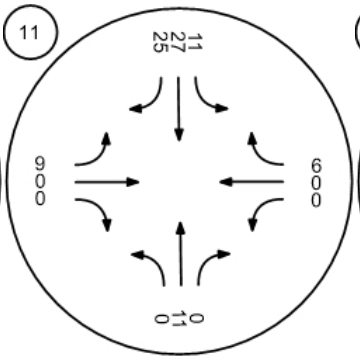


Tierra Rejada Road and Los



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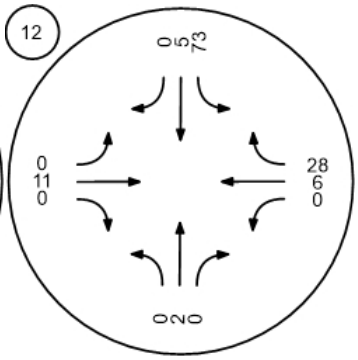
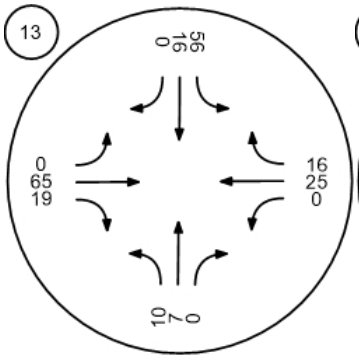
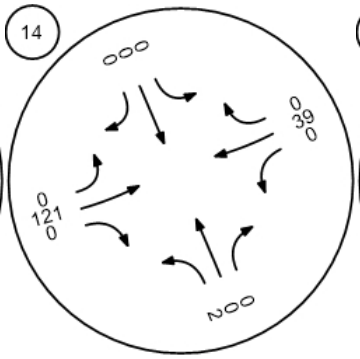


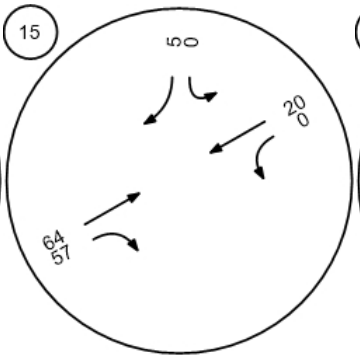
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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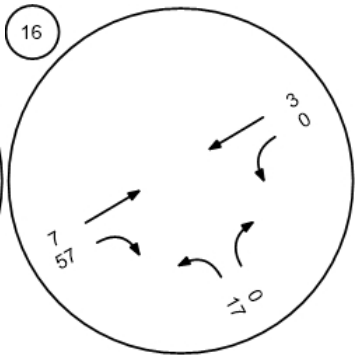
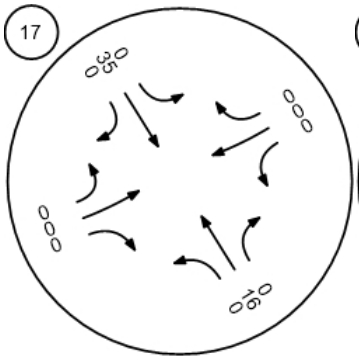


Report Figure 3d: Traffic Volume - Net New Site Trips



Spring Road and Peach Hill



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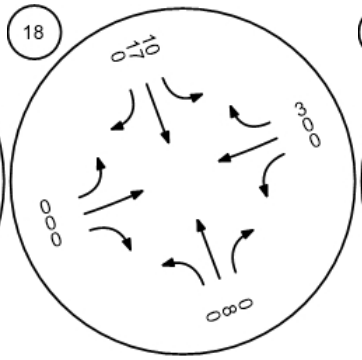
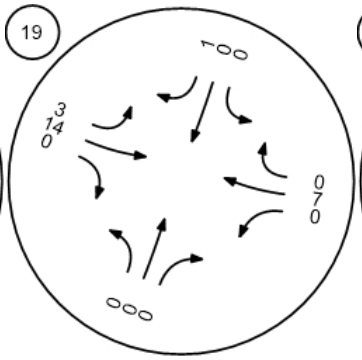


Mountain Trail Road and Tier



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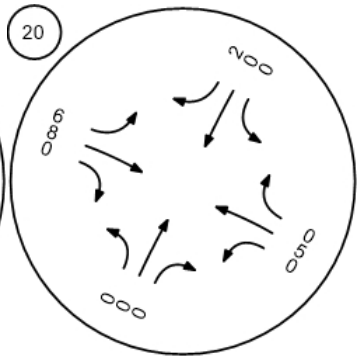

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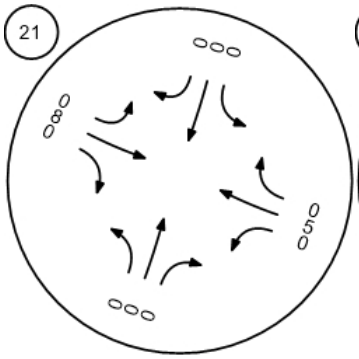

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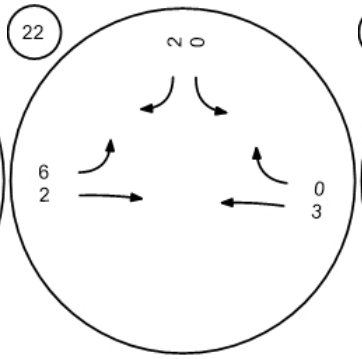
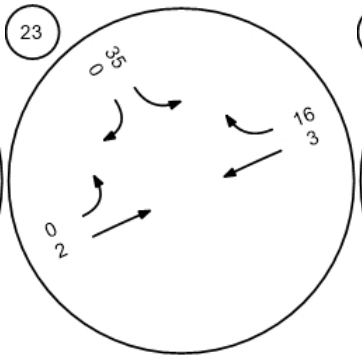
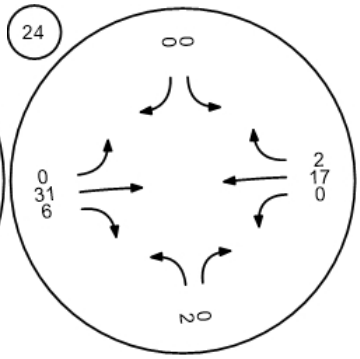


Spring Road and Tierra Reja



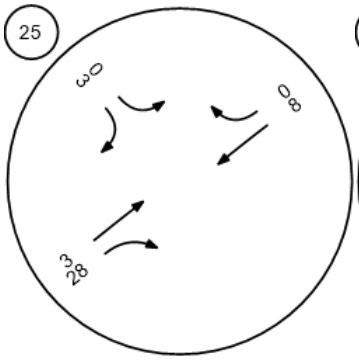
Moorpark Road and Tierra R



Report Figure 3d: Traffic Volume - Net New Site Trips



SR□23 SB ramps and Tierra



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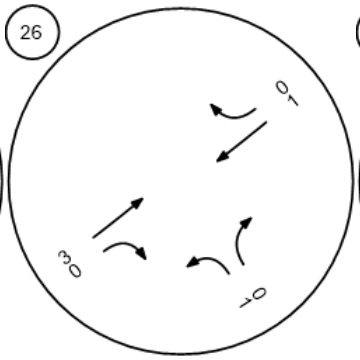
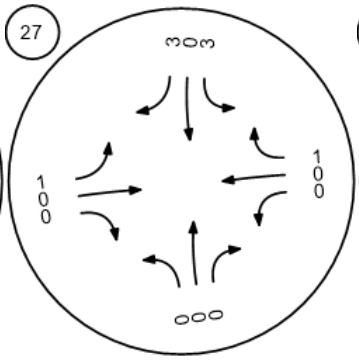
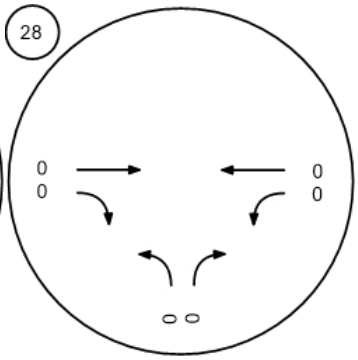


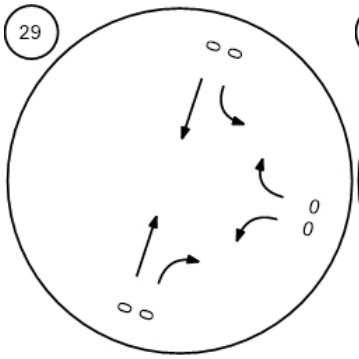
Moorpark Road and Santa R



Broadway Road and Grimes



Championship Drive and Gri



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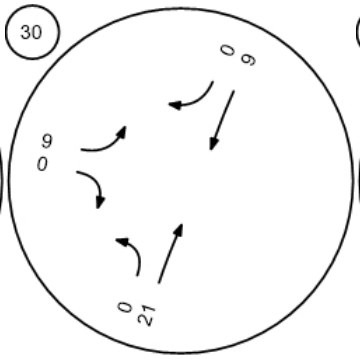

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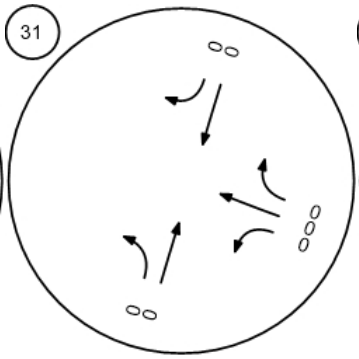

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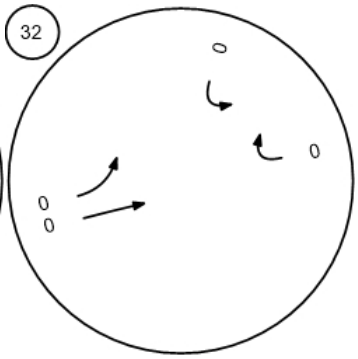
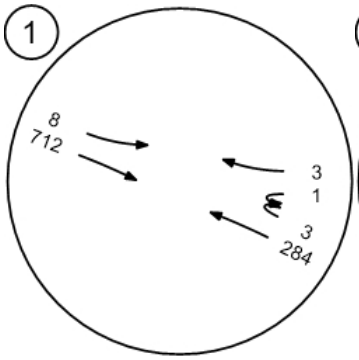


Report Figure 3f: Traffic Volume - Future Total Volume



Walnut Canyon Road at Broa



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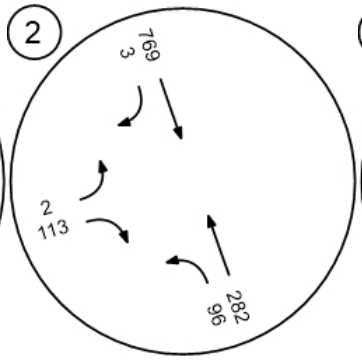

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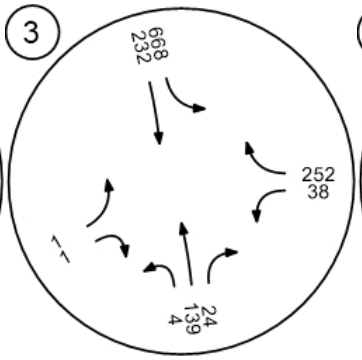

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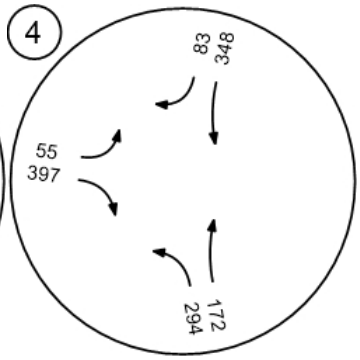

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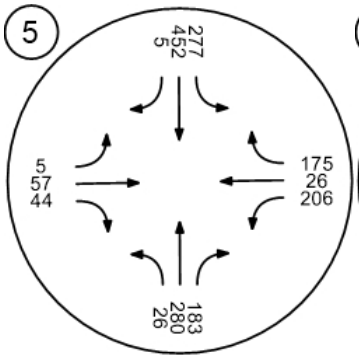
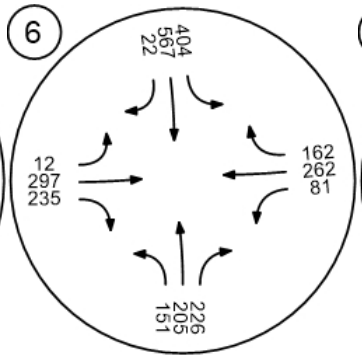


Spring Road at High Street



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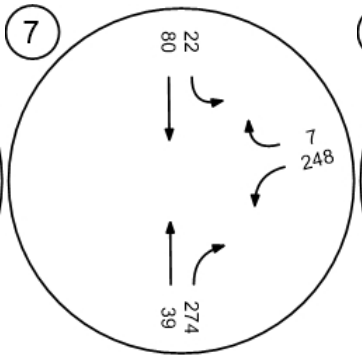
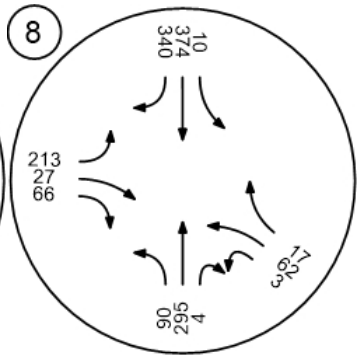


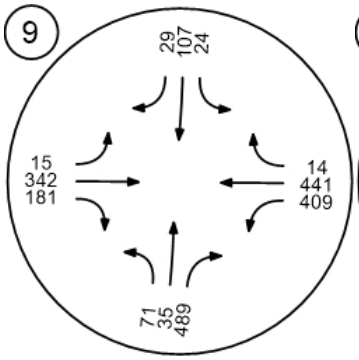
Moorpark Avenue and Poind



Report Figure 3f: Traffic Volume - Future Total Volume



Somis Road and Los Angeles



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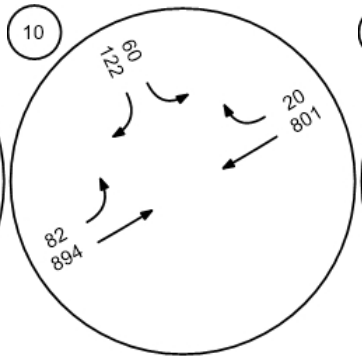

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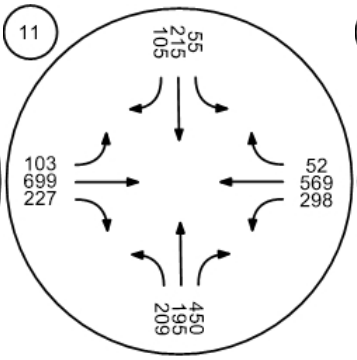
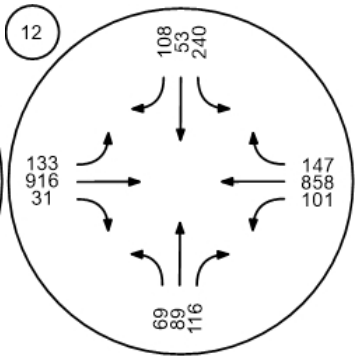
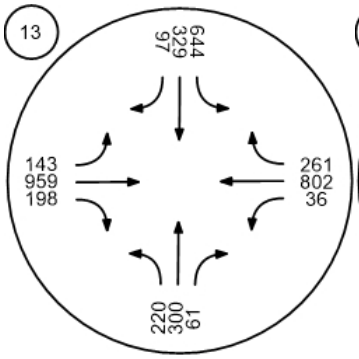


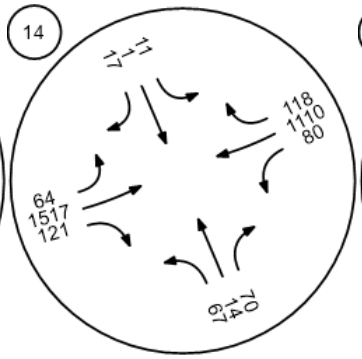
Moorpark Avenue and Los A



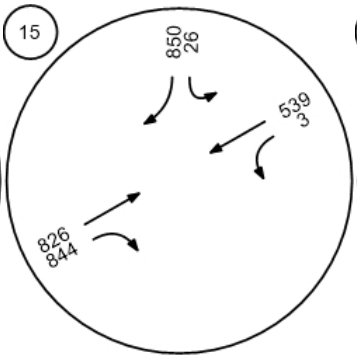
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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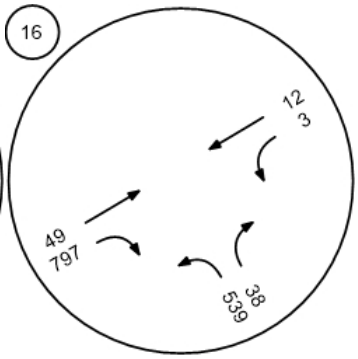

Report Figure 3f: Traffic Volume - Future Total Volume



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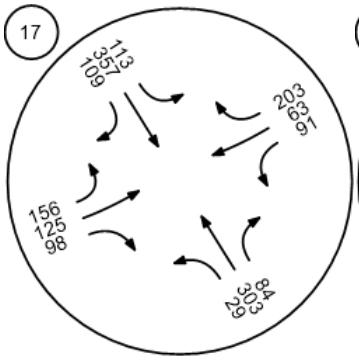
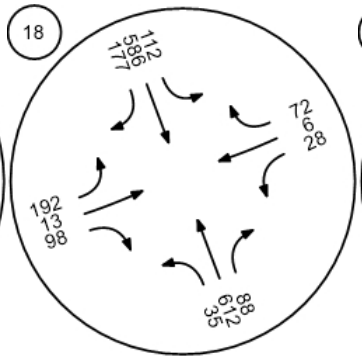
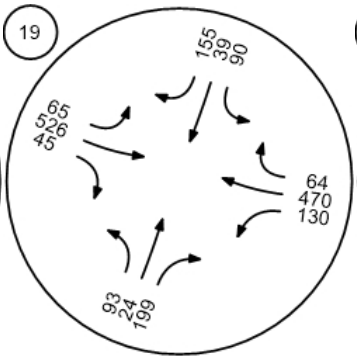


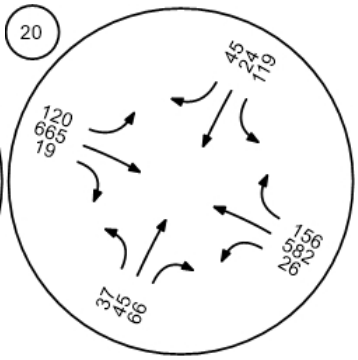
Tierra Rejada Road and Cou



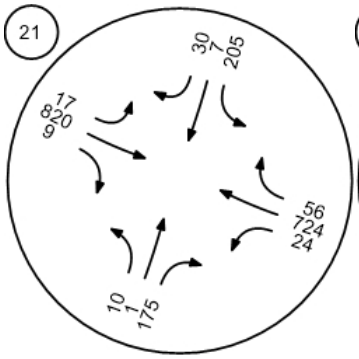
Mountain Trail Road and Tier



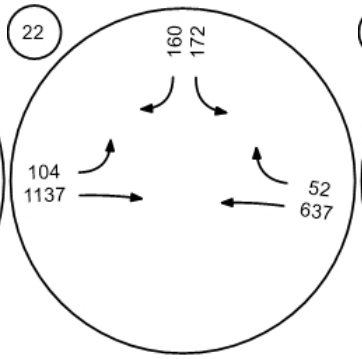
Mountain Meadow Drive and



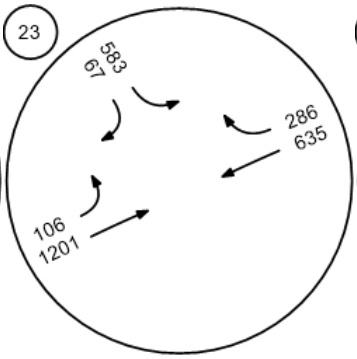
Walnut Creek Road and Tierr



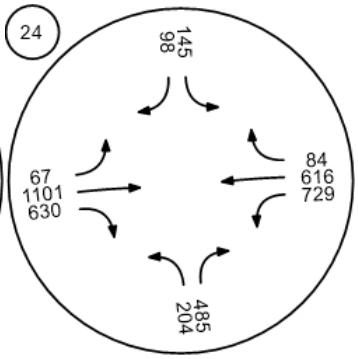
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



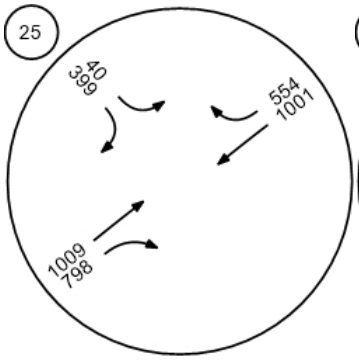
Moorpark Road and Tierra R



Report Figure 3f: Traffic Volume - Future Total Volume



SR□23 SB ramps and Tierra



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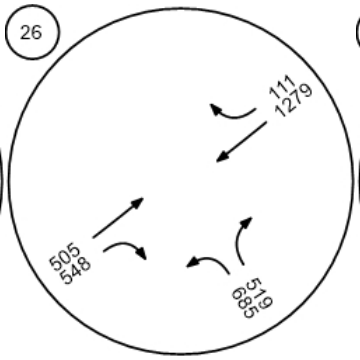
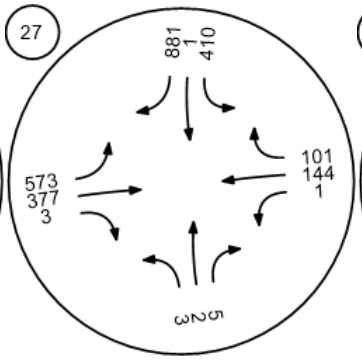
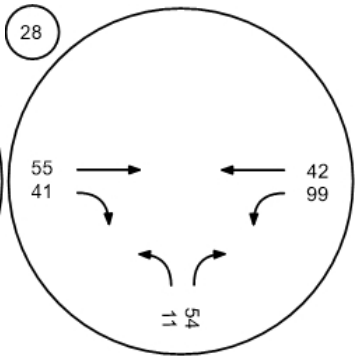


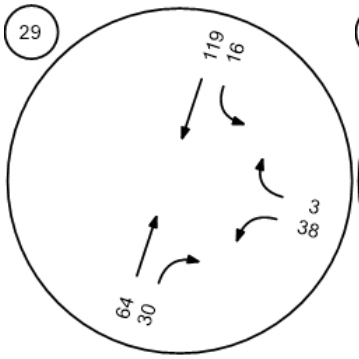
Moorpark Road and Santa R



Broadway Road and Grimes



Championship Drive and Gri



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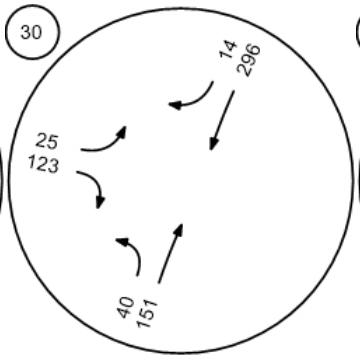

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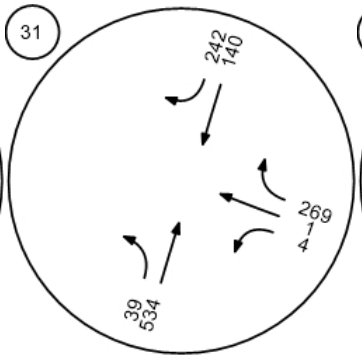

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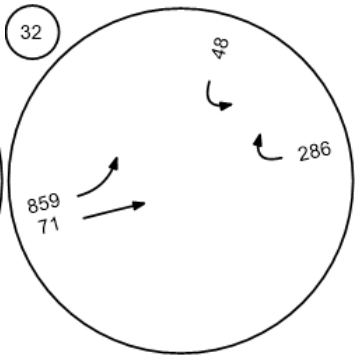
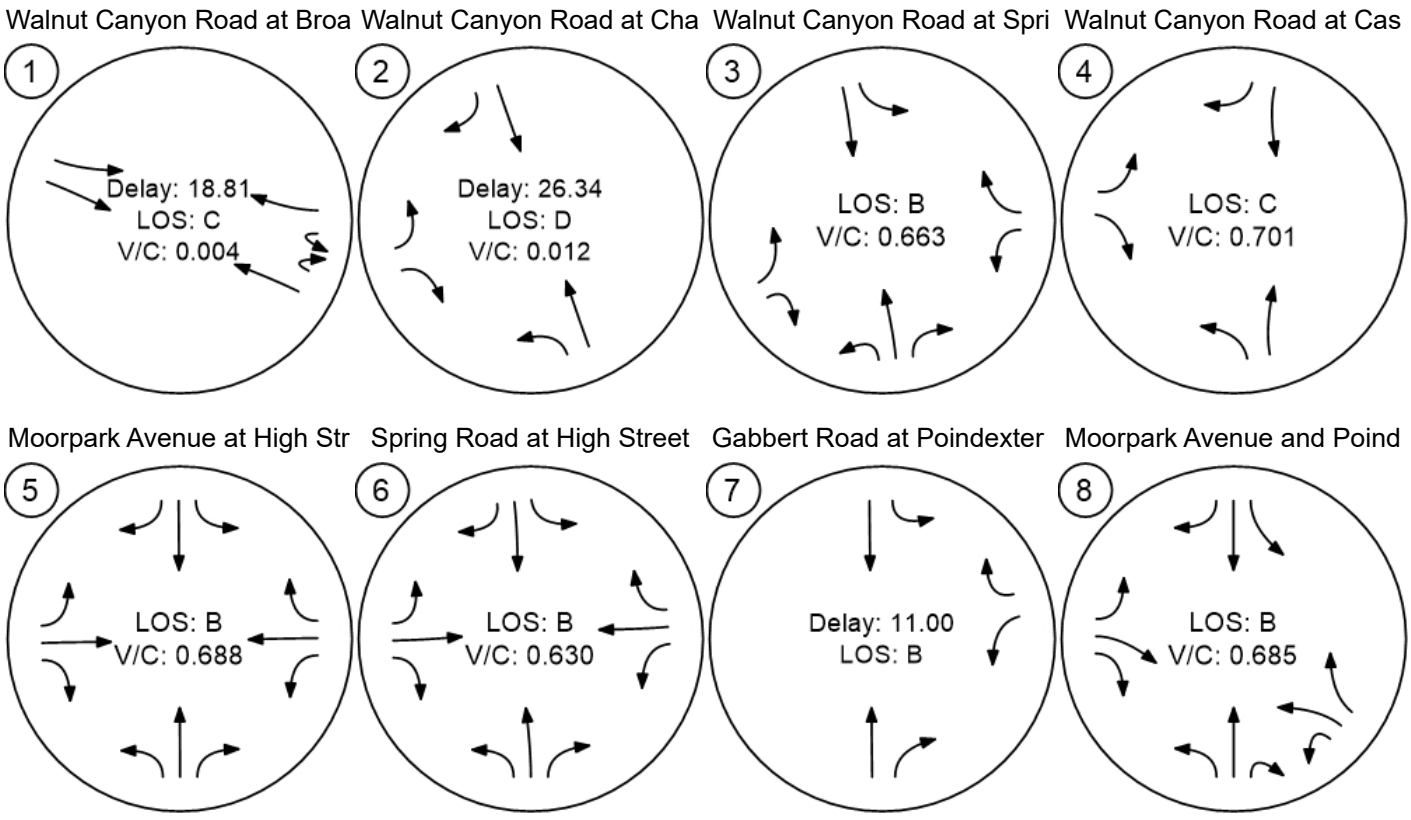


Report Figure 4: Traffic Conditions





Report Figure 4: Traffic Conditions



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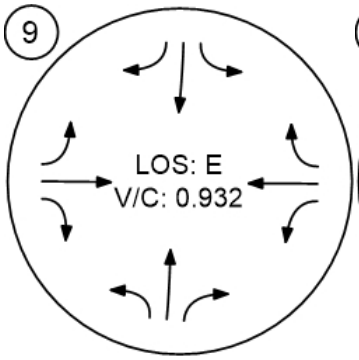

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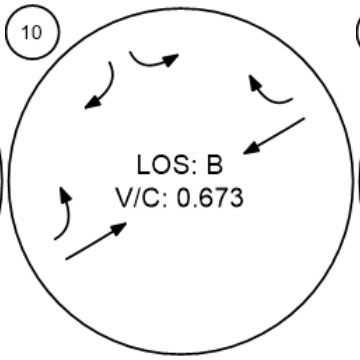
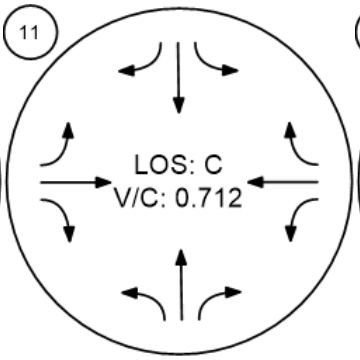
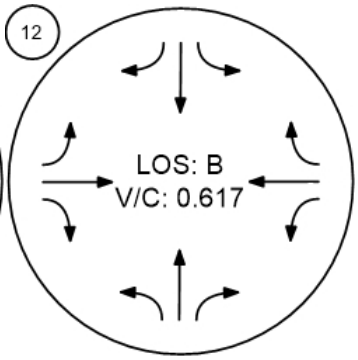


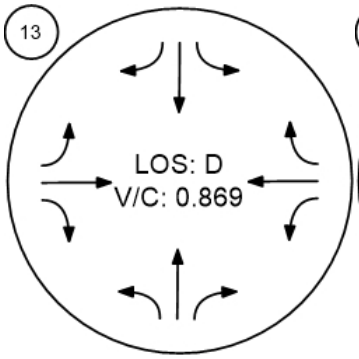
Tierra Rejada Road and Los



Moorpark Avenue and Los A



Spring Road and Los Angele



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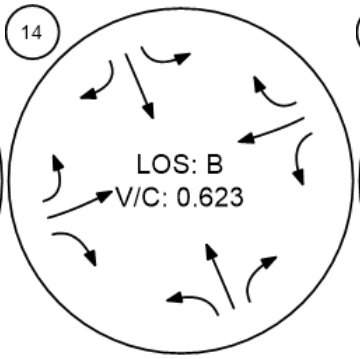
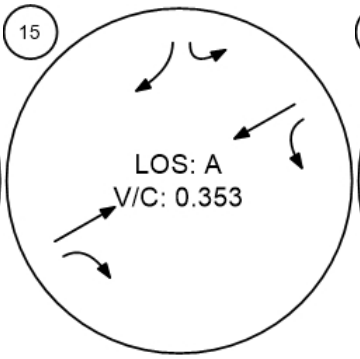


SR□23 SB ramps and Los An



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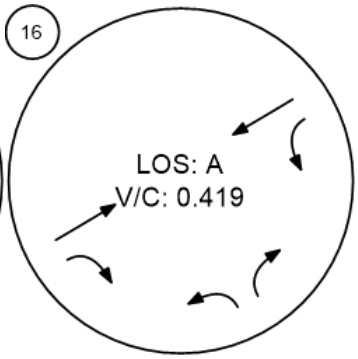
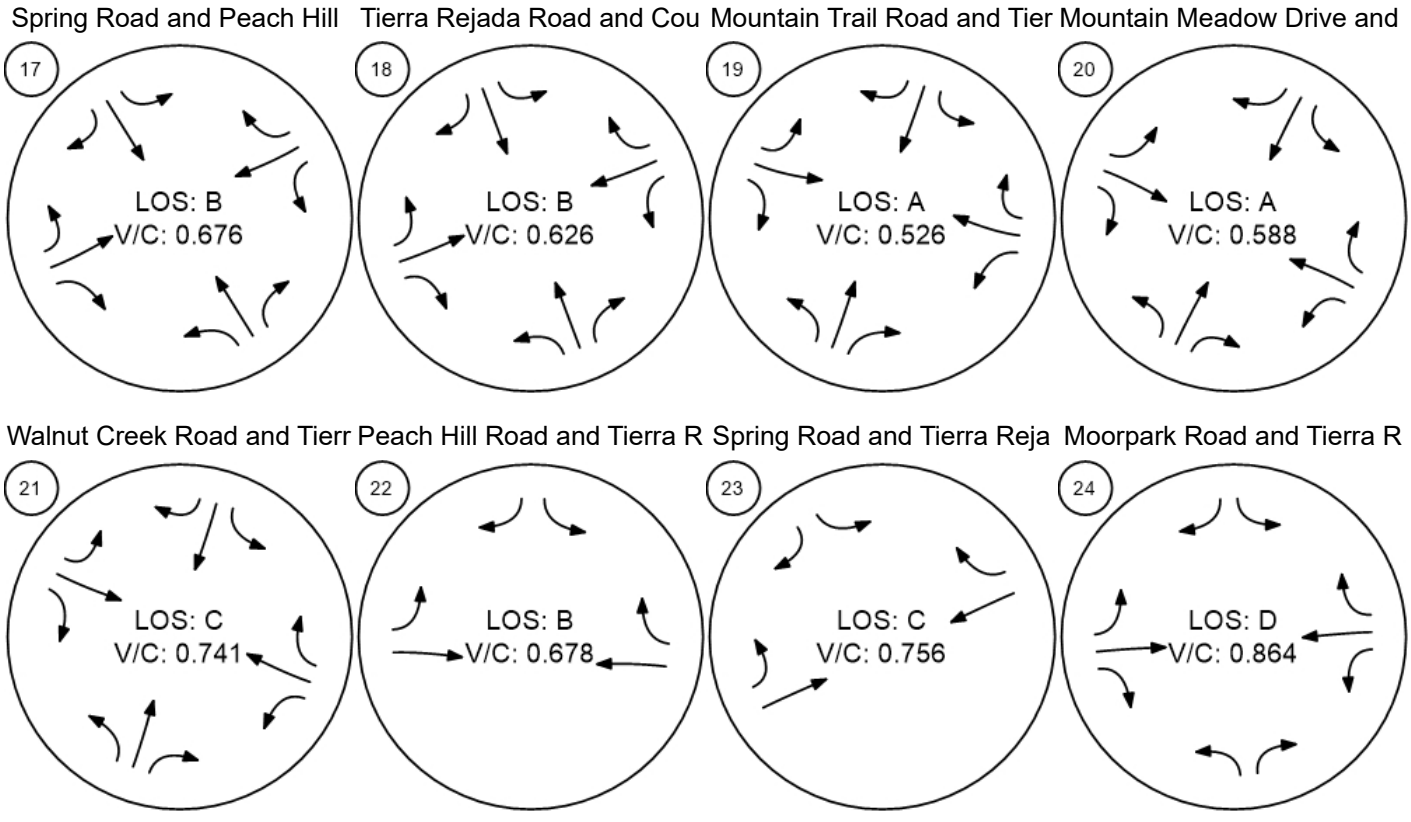


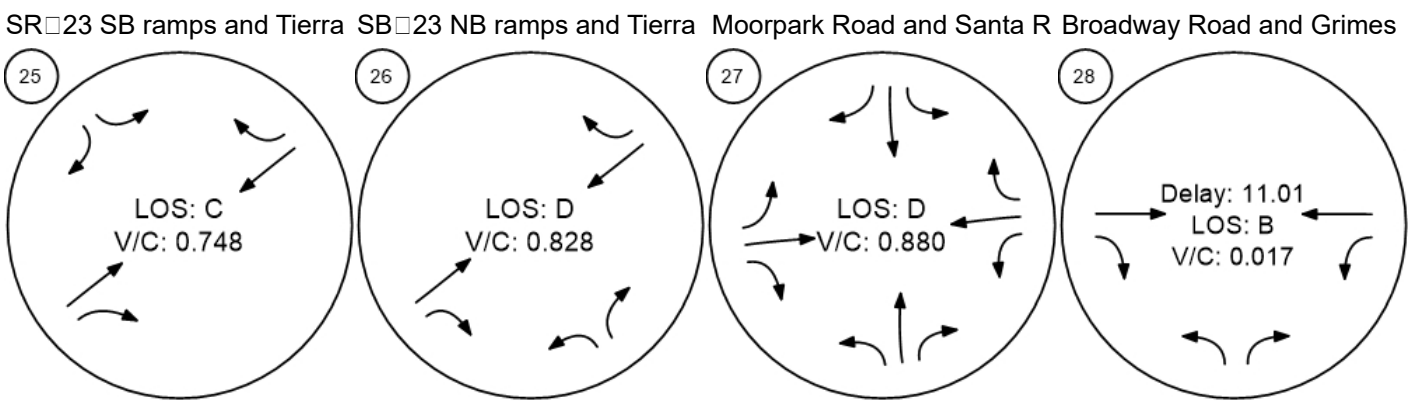
Report Figure 4: Traffic Conditions

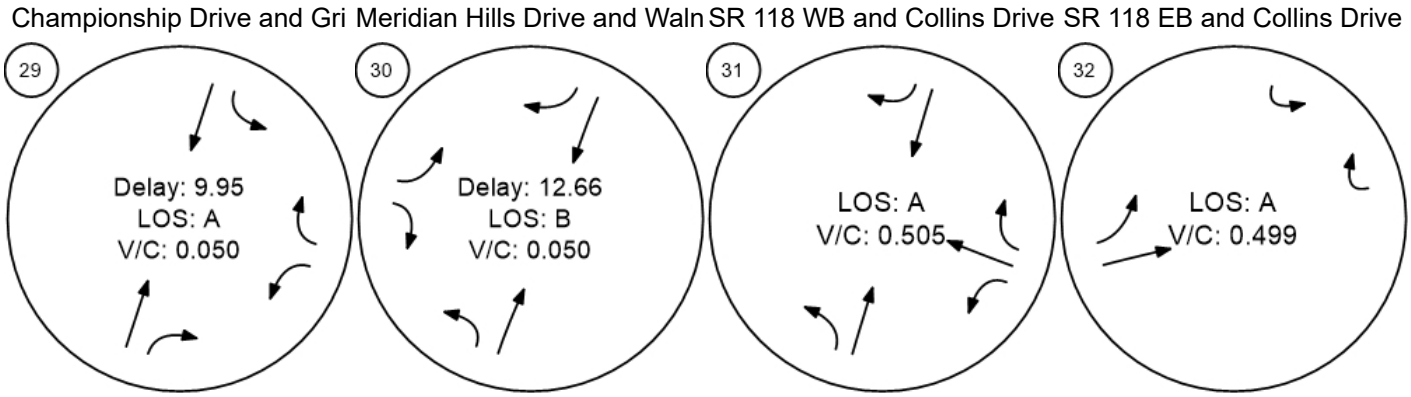




Report Figure 4: Traffic Conditions







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Report File: C:\...\PM Existing+Project.pdf

Scenario 10 10 PM Existing 2.0
12/15/2020

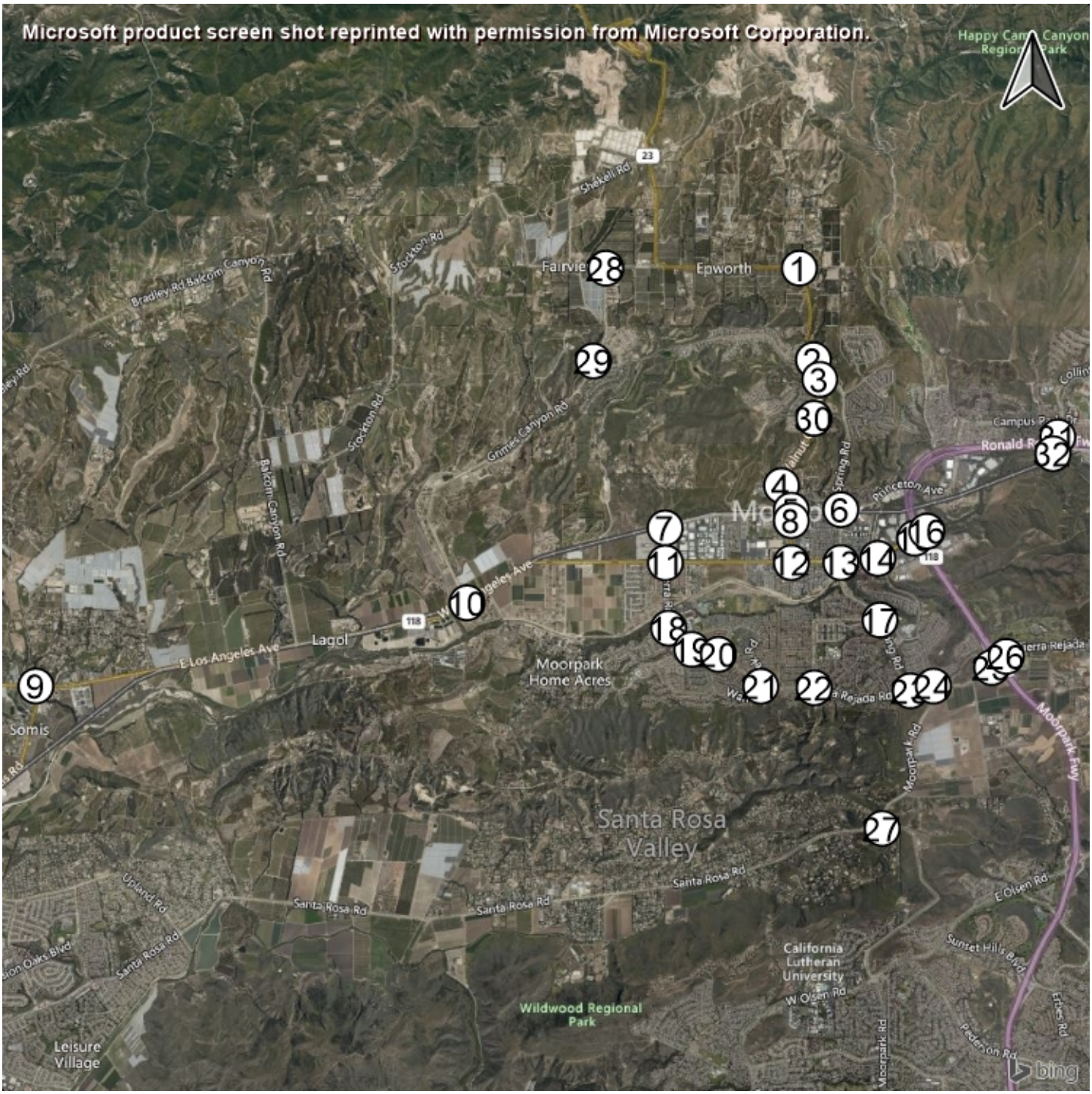
Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.010	23.9	C
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.024	34.5	D
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	WB Right	0.812	-	D
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.554	-	A
5	Moorpark Avenue at High Street	Signalized	ICU 1	NB Thru	0.796	-	C
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.704	-	C
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.420	10.9	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Thru	0.778	-	C
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	WB Thru	1.139	-	F
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.734	-	C
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.670	-	B
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.542	-	A
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	WB Right	1.023	-	F
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.797	-	C
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.631	-	B
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	NWB Left	0.596	-	A
17	Spring Road and Peach Hill Road	Signalized	ICU 1	NWB Thru	0.657	-	B
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Thru	0.463	-	A

19	Mountain Trail Road and Tierra Rejada Road	Signalized	ICU 1	SEB Thru	0.438	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	NWB Thru	0.499	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.598	-	A
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.628	-	B
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	SWB Right	0.677	-	B
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.740	-	C
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	SWB Thru	0.727	-	C
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NWB Right	0.798	-	C
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	SB Right	1.089	-	F
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.015	10.2	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.050	10.0	A
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.033	12.6	B
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.511	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.515	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Report Figure 1: Study Intersections



Report Figure 2: Lane Configuration and Traffic Control

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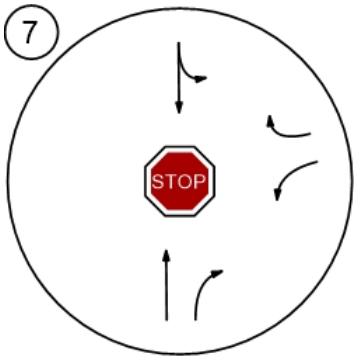
Report Figure 2: Lane Configuration and Traffic Control



Gabbert Road at Poindexter



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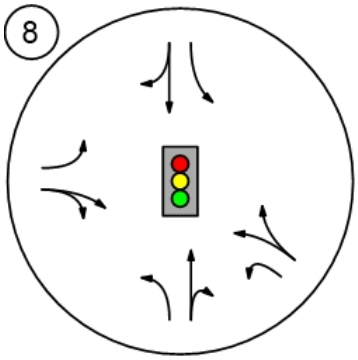

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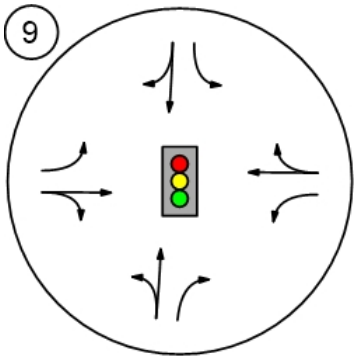

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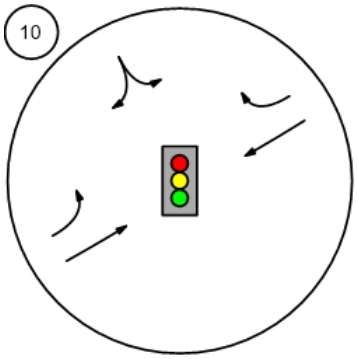

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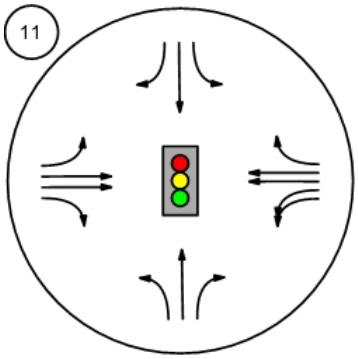

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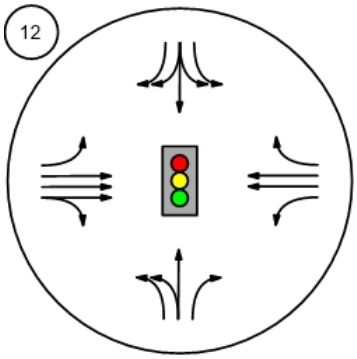
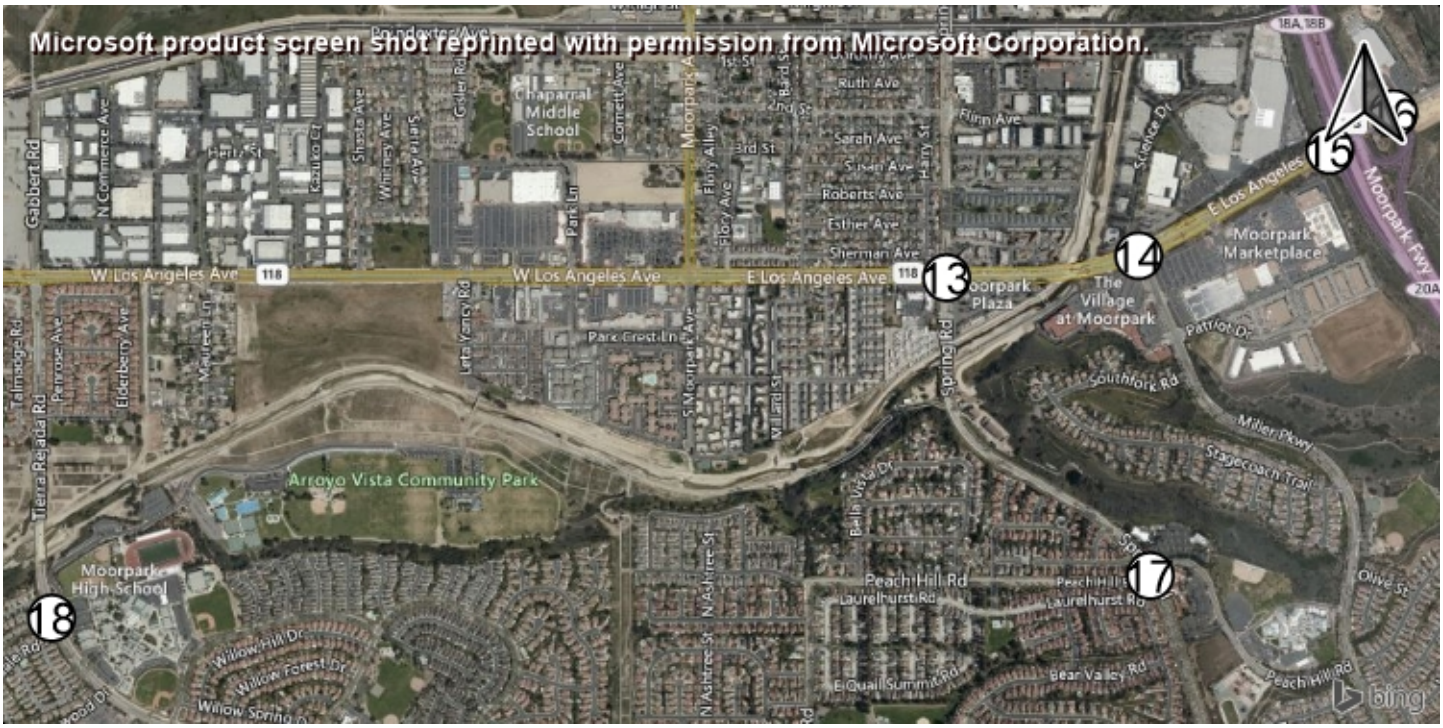


Report Figure 2: Lane Configuration and Traffic Control



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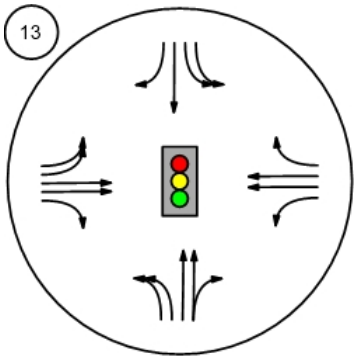

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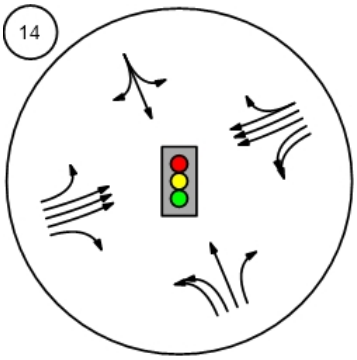

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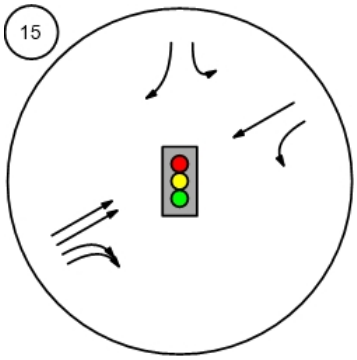

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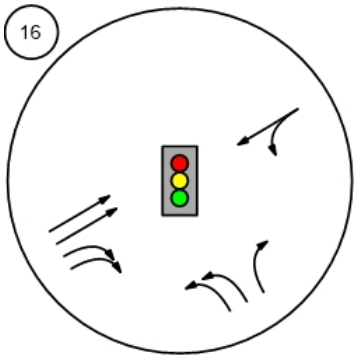

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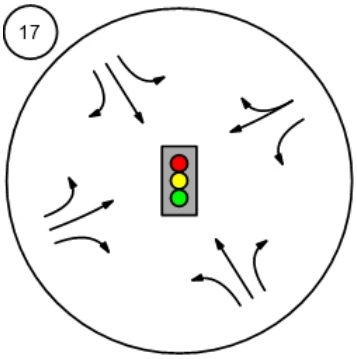

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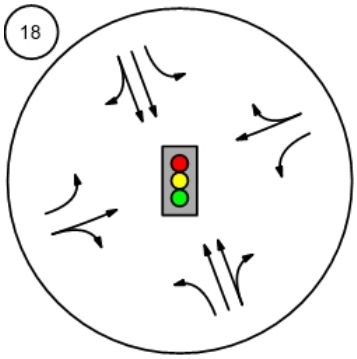
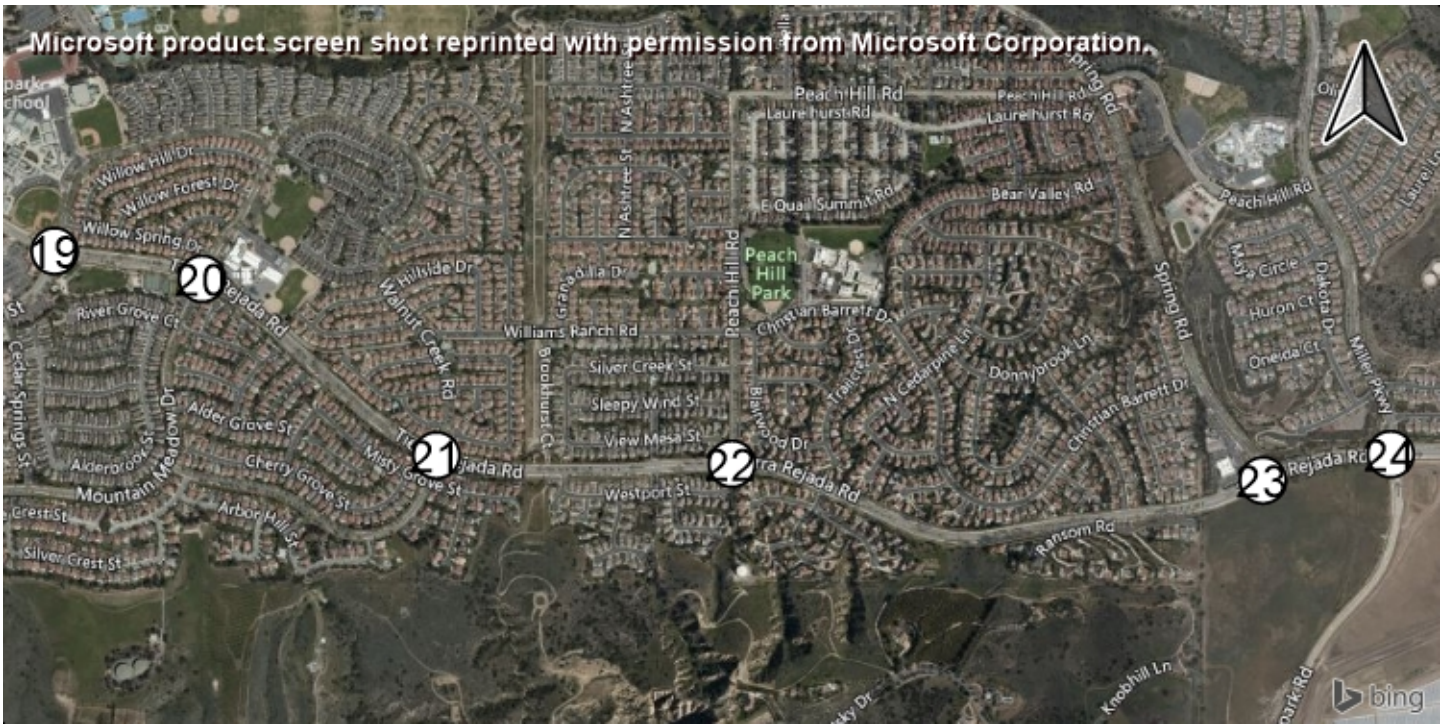


Report Figure 2: Lane Configuration and Traffic Control



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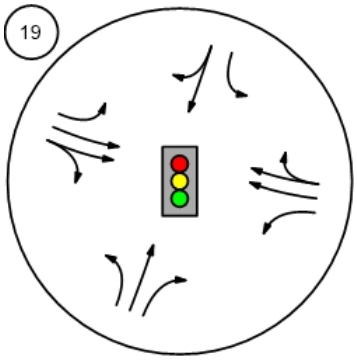

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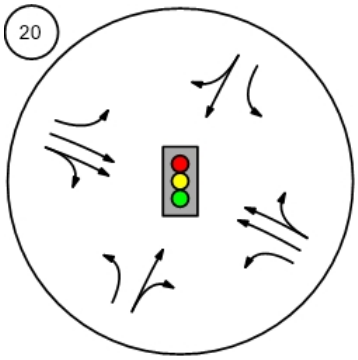

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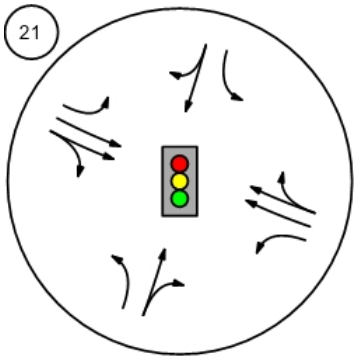

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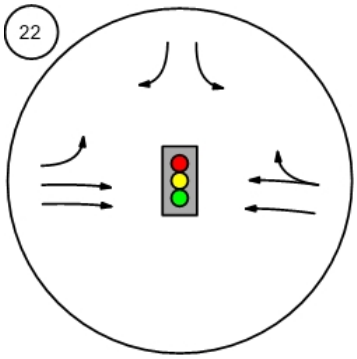

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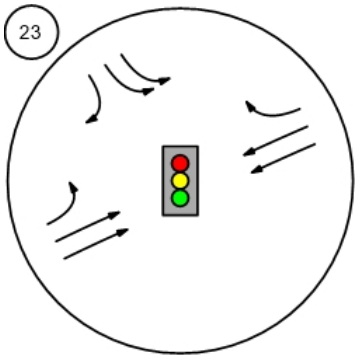

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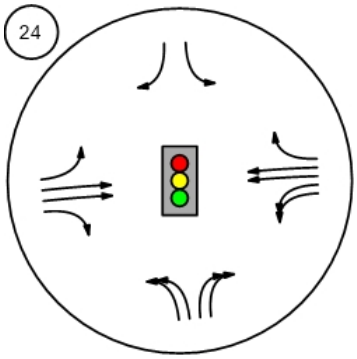

Report Figure 2: Lane Configuration and Traffic Control

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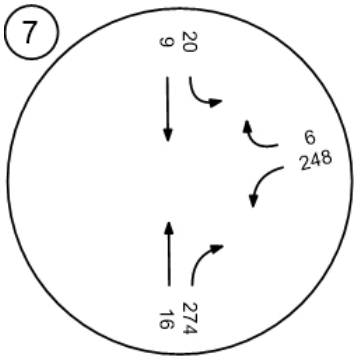
Report Figure 2: Lane Configuration and Traffic Control

Report Figure 3c: Traffic Volume - Future Background Volume

Report Figure 3c: Traffic Volume - Future Background Volume



Gabbert Road at Poindexter



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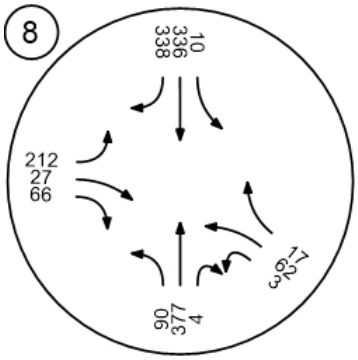
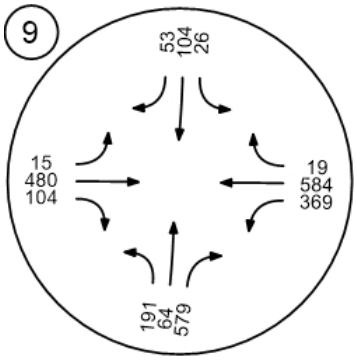


Somis Road and Los Angeles



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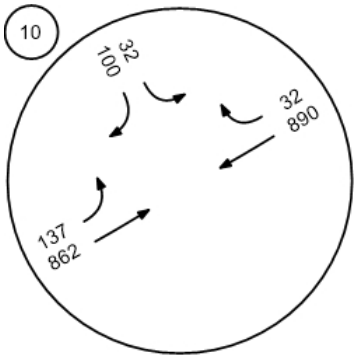

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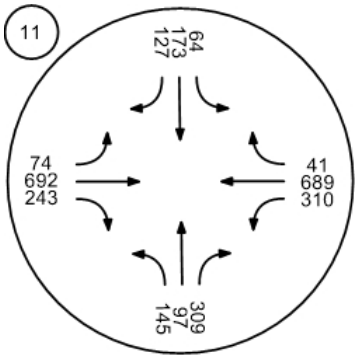

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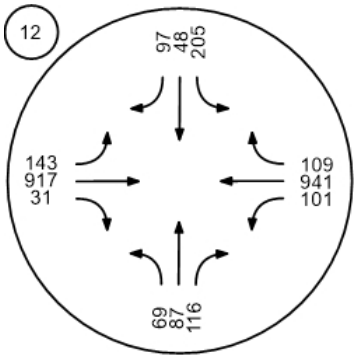
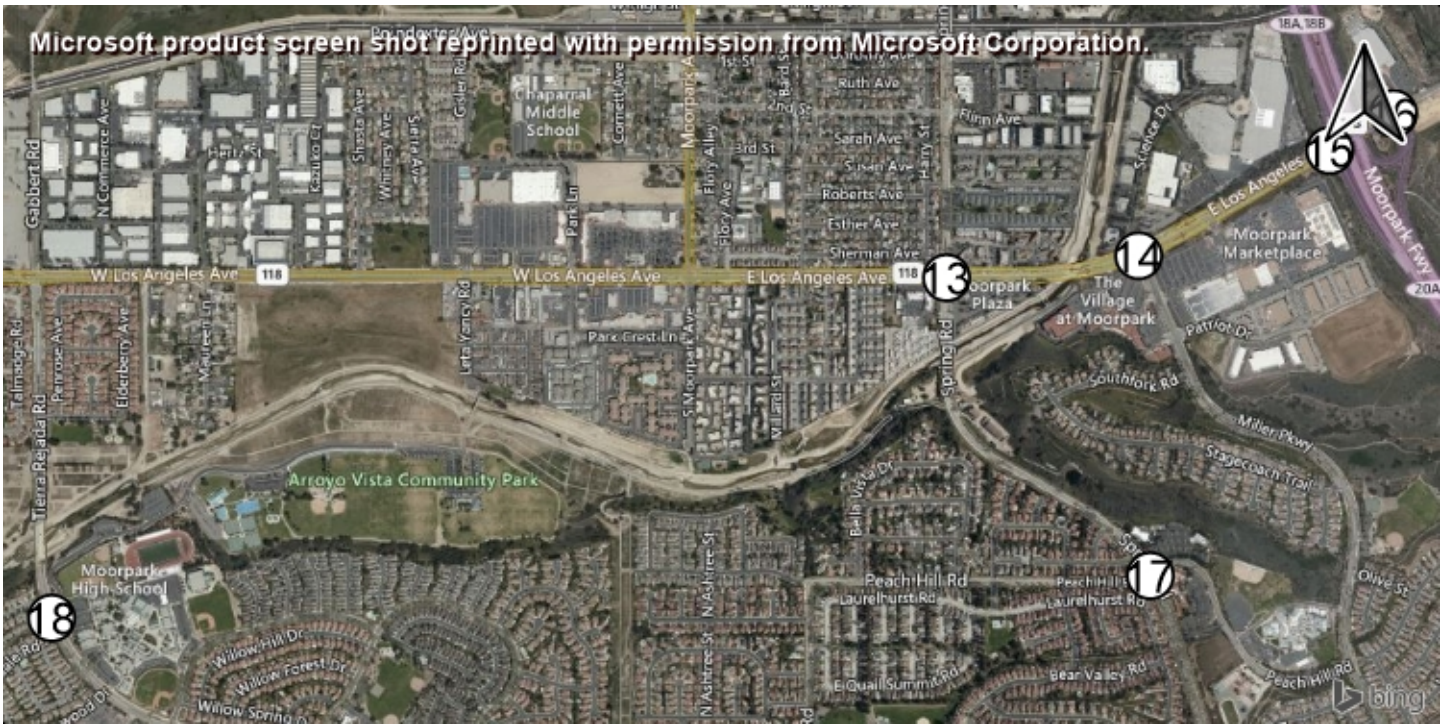


Report Figure 3c: Traffic Volume - Future Background Volume



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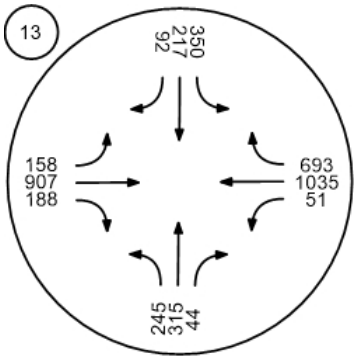
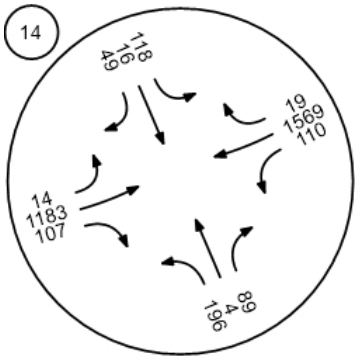
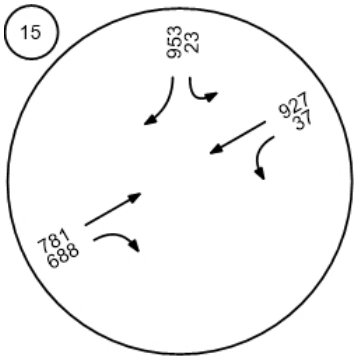


Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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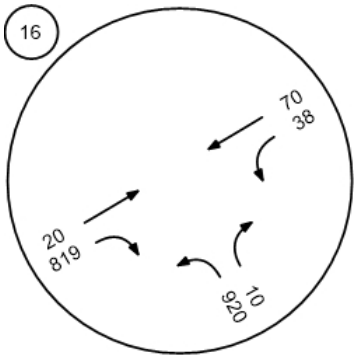
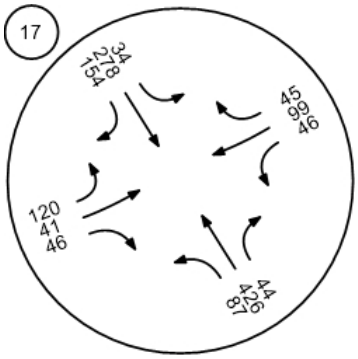
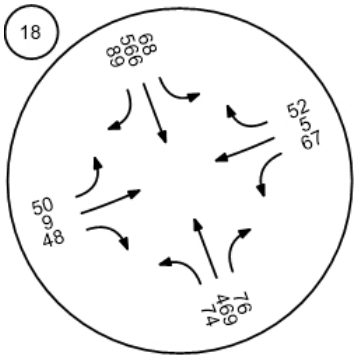


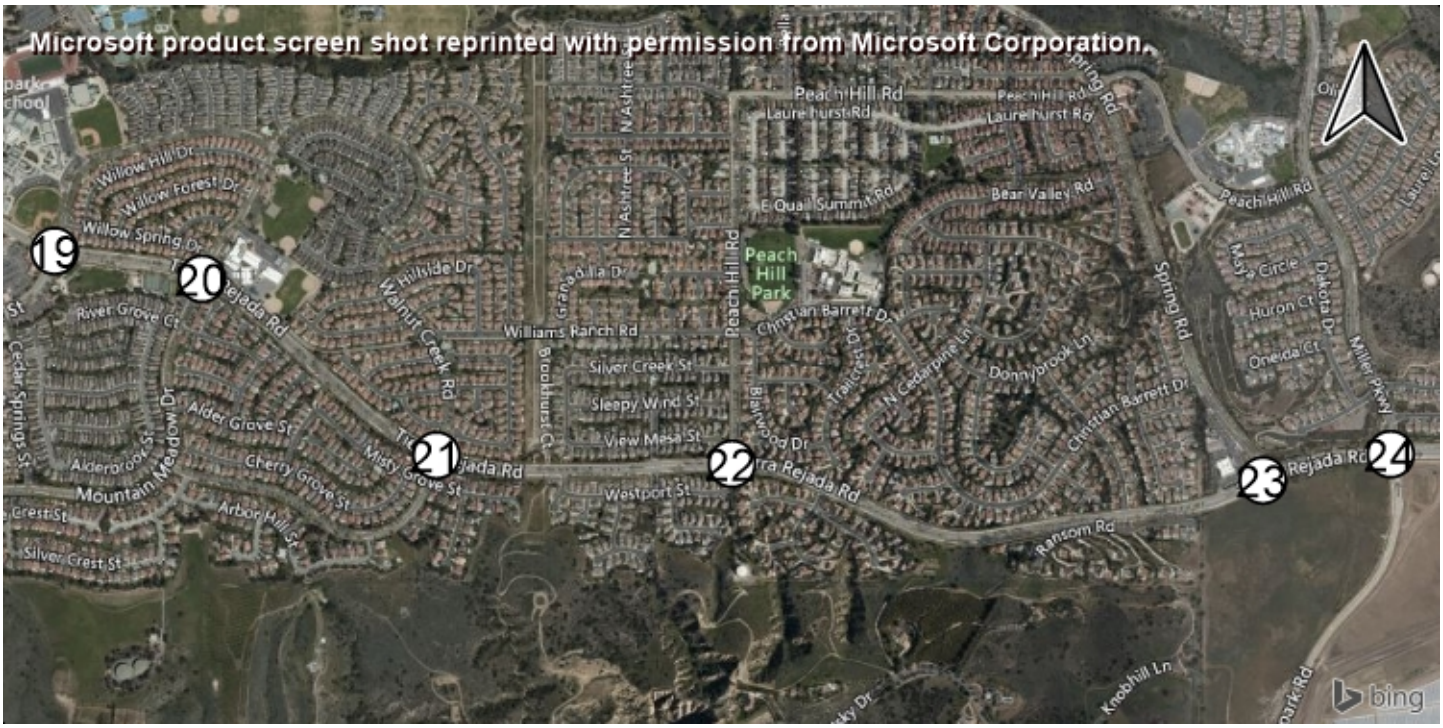
Spring Road and Peach Hill



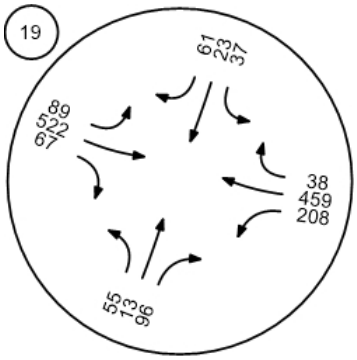
Tierra Rejada Road and Cou



Report Figure 3c: Traffic Volume - Future Background Volume



Mountain Trail Road and Tier



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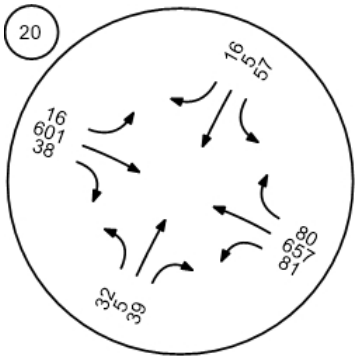
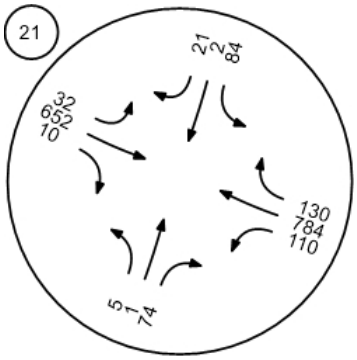
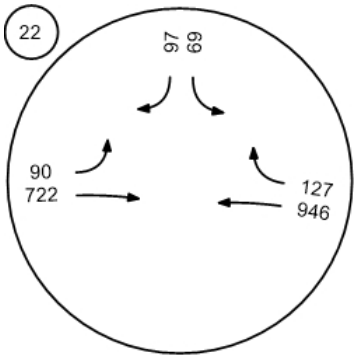


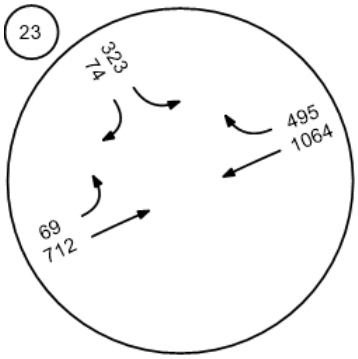
Walnut Creek Road and Tierr



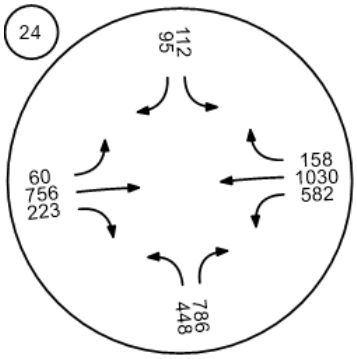
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



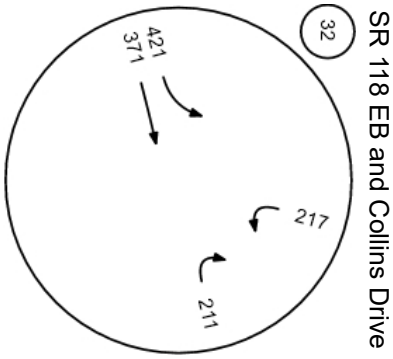
Moorpark Road and Tierra R

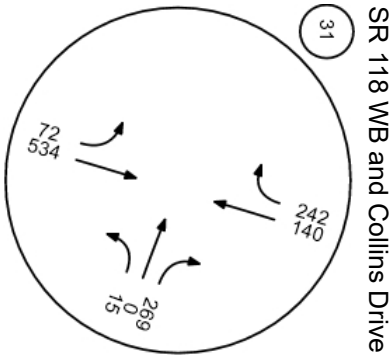


Report Figure 3c: Traffic Volume - Future Background Volume

Report Figure 3c: Traffic Volume - Future Background Volume







Report Figure 3d: Traffic Volume - Net New Site Trips

Inut Canyon Road at Spring R

Canyon Road at Championsh

ut Canyon Road at Broadway

Spring Road at High Street

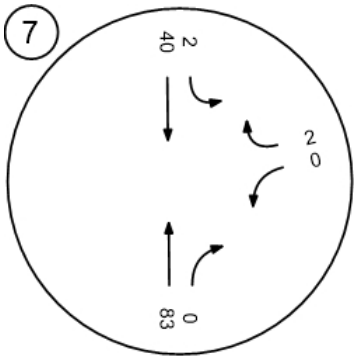
Moorpark Avenue at High Stree

Inut Canyon Road at Casey R

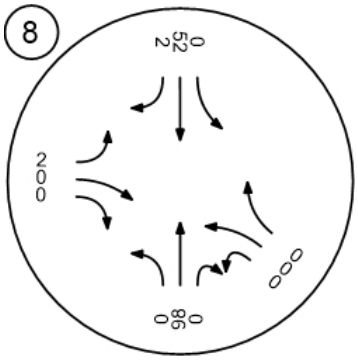
Report Figure 3d: Traffic Volume - Net New Site Trips



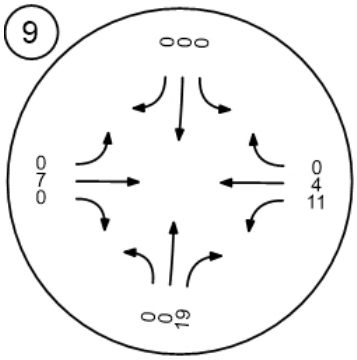
Gabbert Road at Poindexter



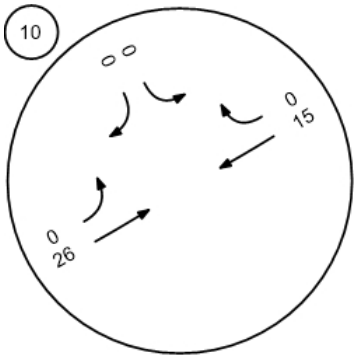
Moorpark Avenue and Poind



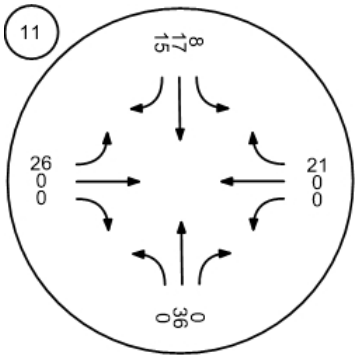
Somis Road and Los Angeles



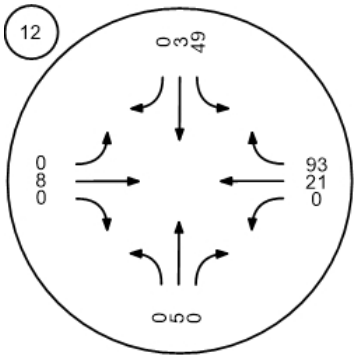
Grimes Canyon Road and Lo



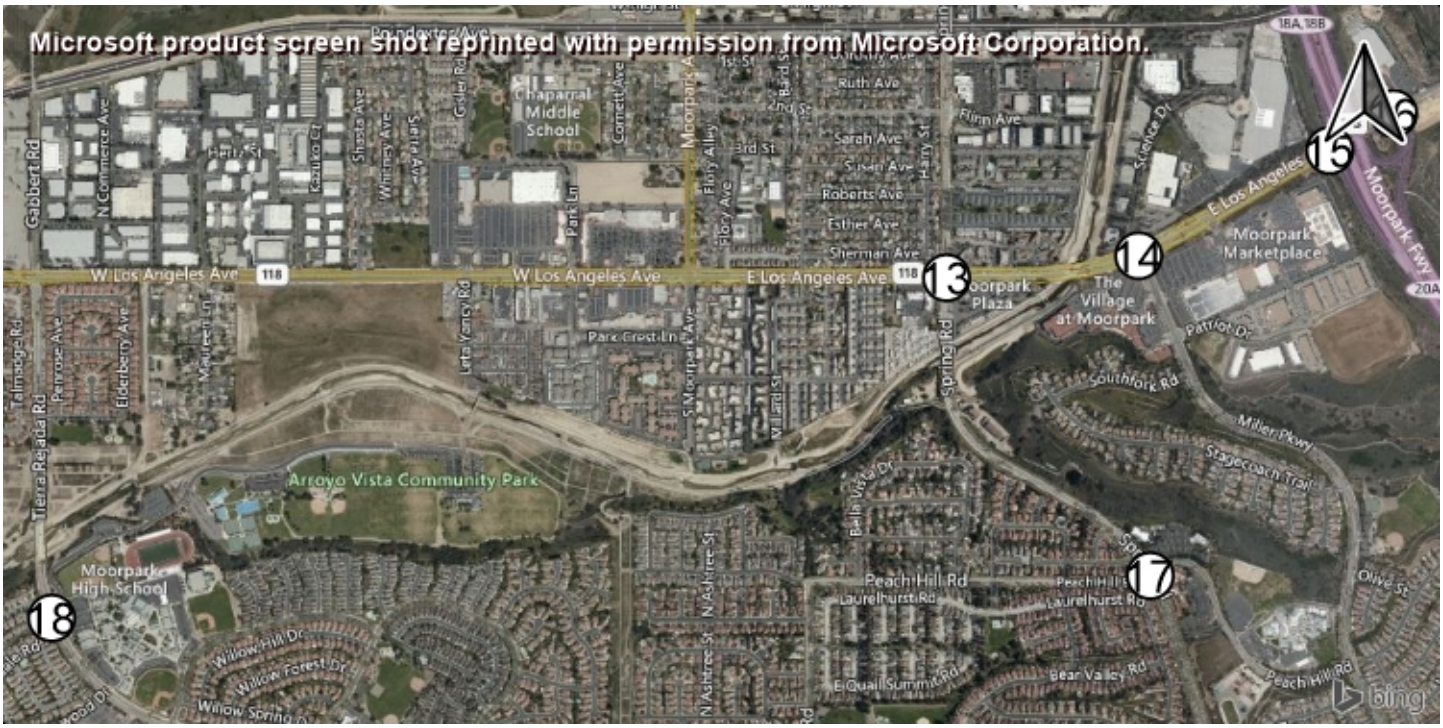
Tierra Rejada Road and Los



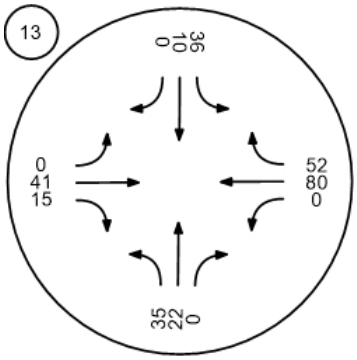
Moorpark Avenue and Los A



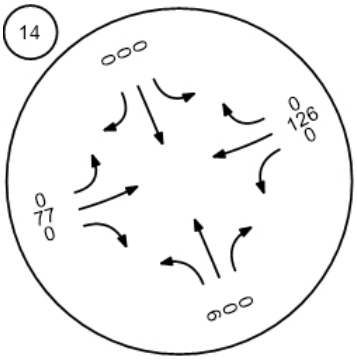
Report Figure 3d: Traffic Volume - Net New Site Trips



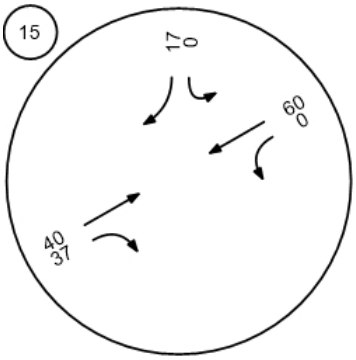
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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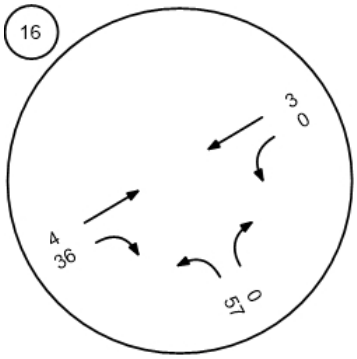
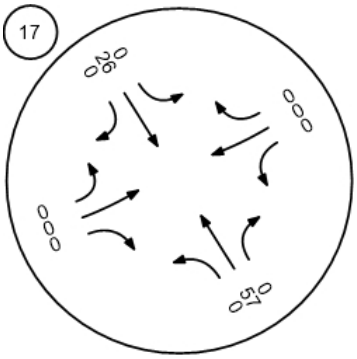
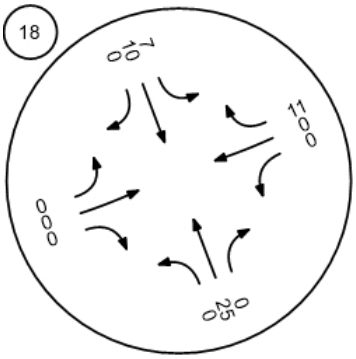


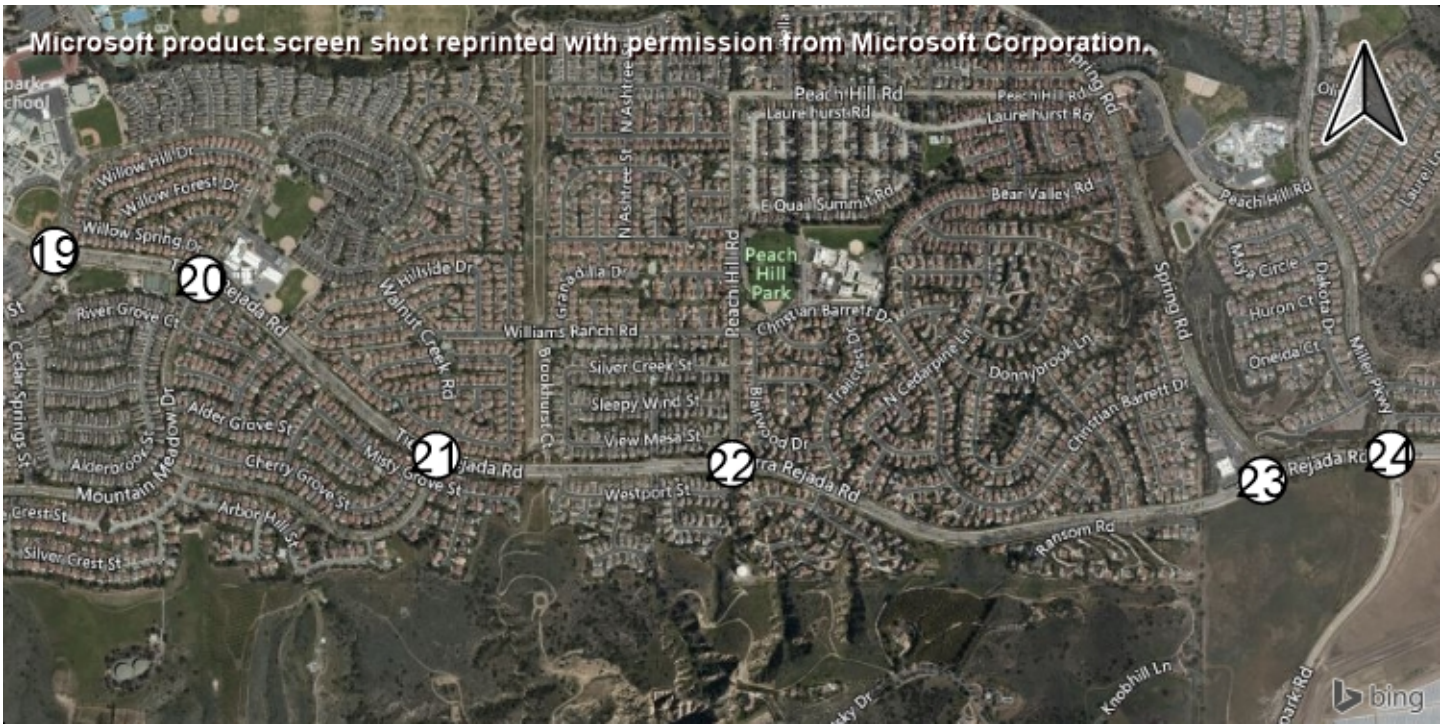
Spring Road and Peach Hill



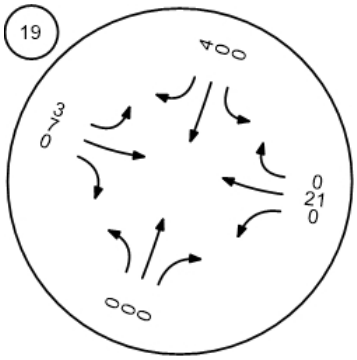
Tierra Rejada Road and Cou



Report Figure 3d: Traffic Volume - Net New Site Trips



Mountain Trail Road and Tier



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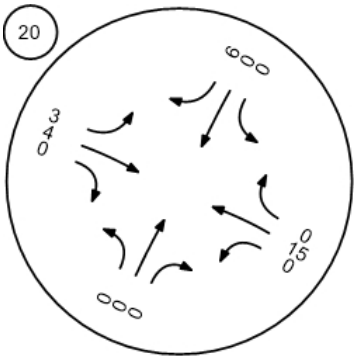
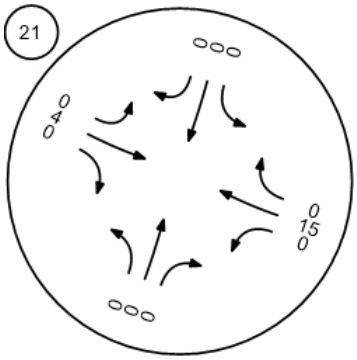
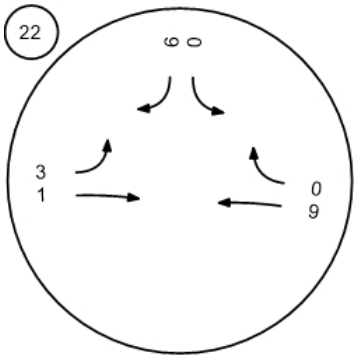


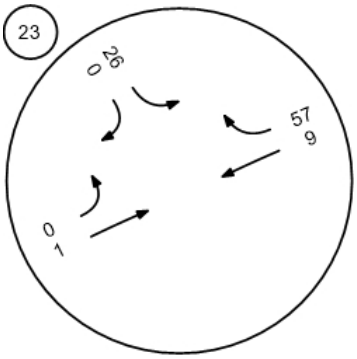
Walnut Creek Road and Tierr



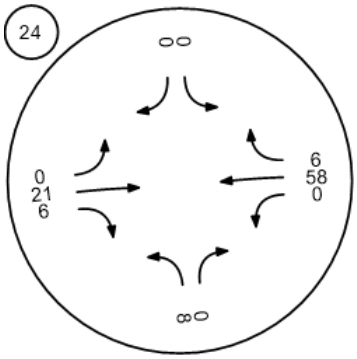
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



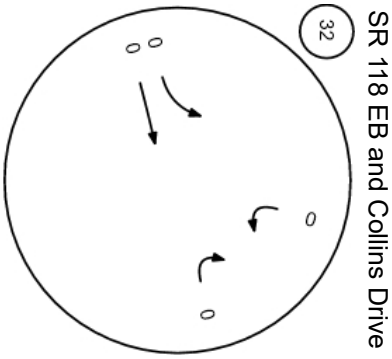
Moorpark Road and Tierra R



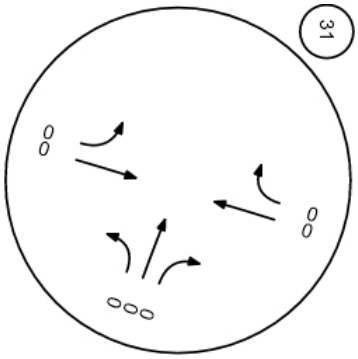
Report Figure 3d: Traffic Volume - Net New Site Trips

Report Figure 3d: Traffic Volume - Net New Site Trips





SR 118 EB and Collins Drive



SR 118 WB and Collins Drive

Report Figure 3f: Traffic Volume - Future Total Volume

Inut Canyon Road at Spring R

Canyon Road at Championsh

ut Canyon Road at Broadway

Spring Road at High Street

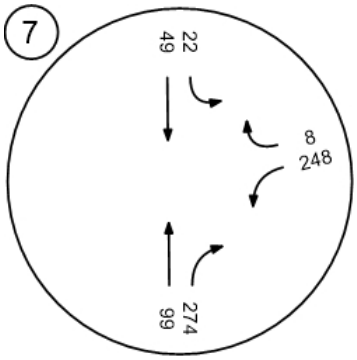
Moorpark Avenue at High Stree

Inut Canyon Road at Casey R

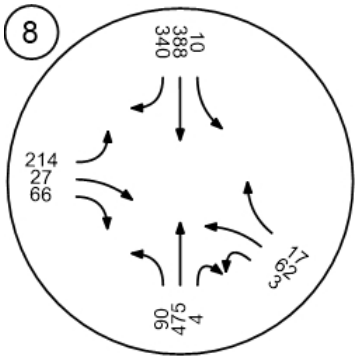
Report Figure 3f: Traffic Volume - Future Total Volume



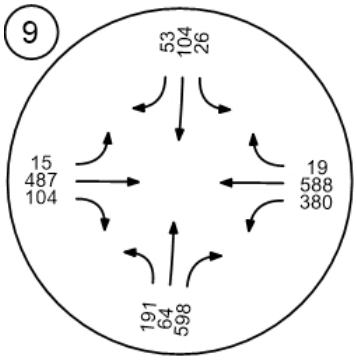
Gabbert Road at Poindexter



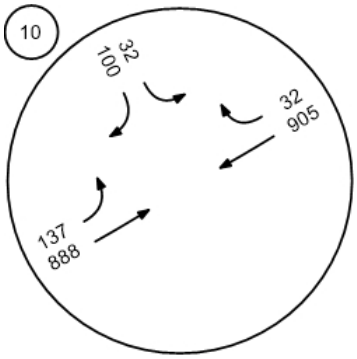
Moorpark Avenue and Poind



Somis Road and Los Angeles



Grimes Canyon Road and Lo



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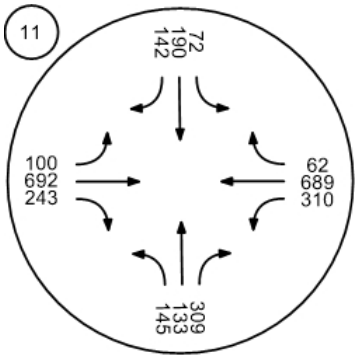
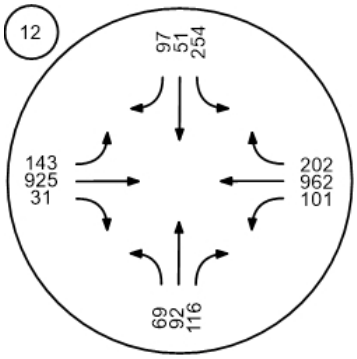
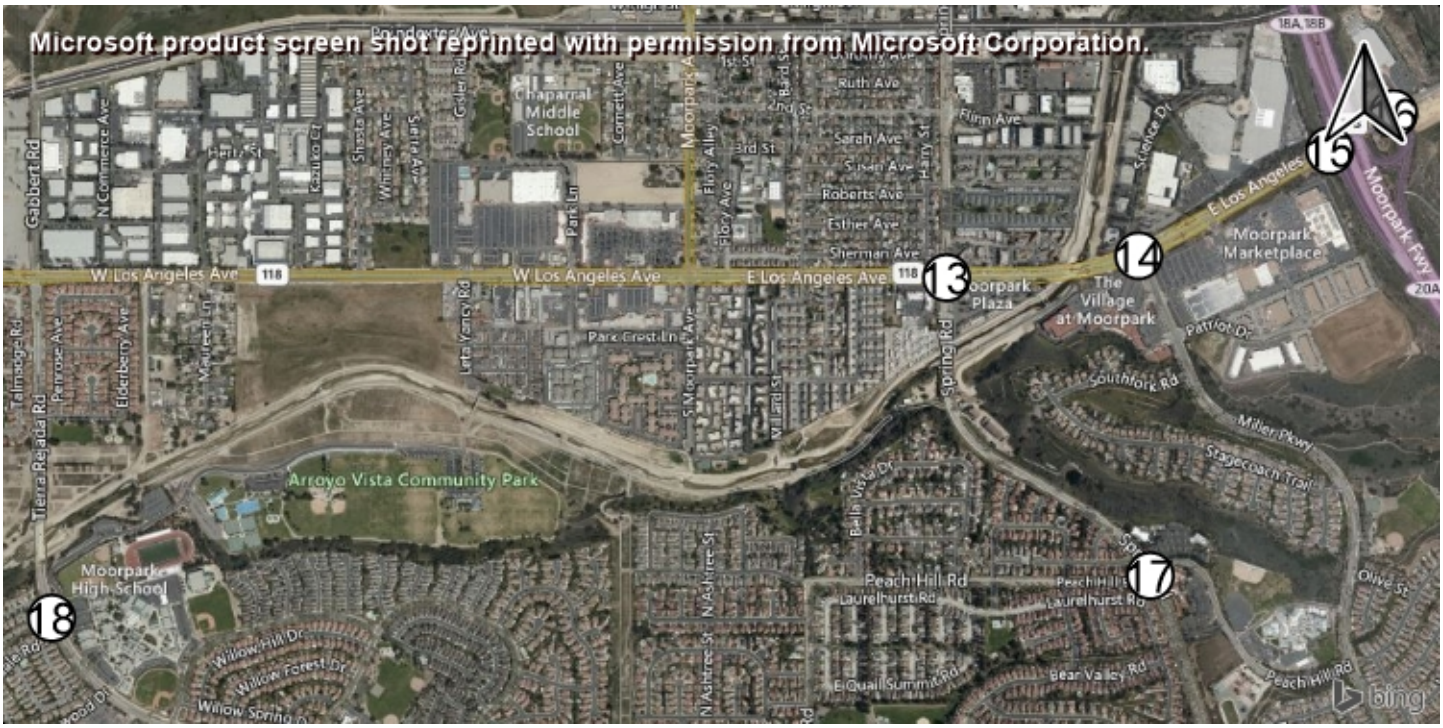


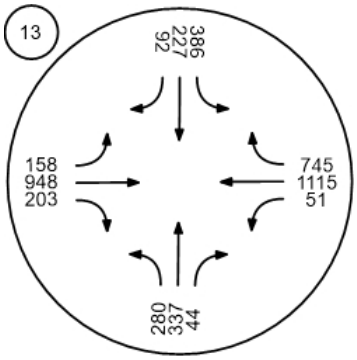
Moorpark Avenue and Los A



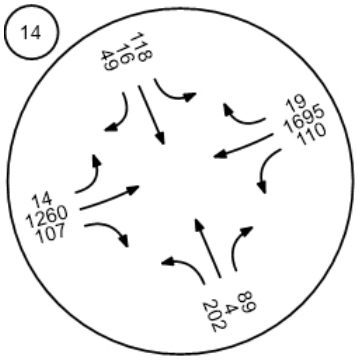
Report Figure 3f: Traffic Volume - Future Total Volume



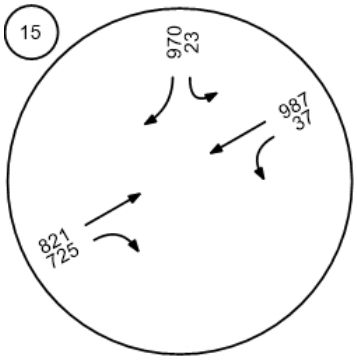
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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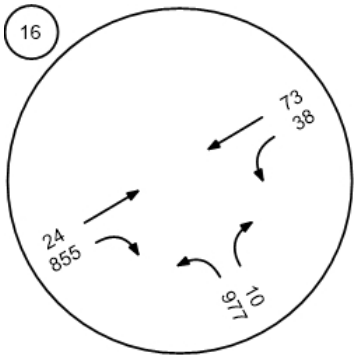
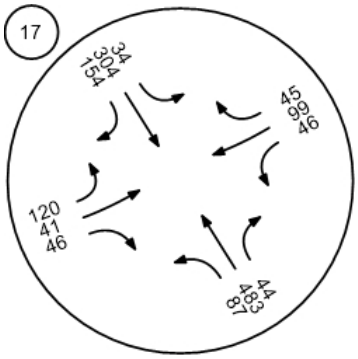
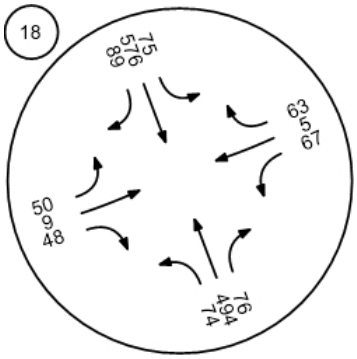


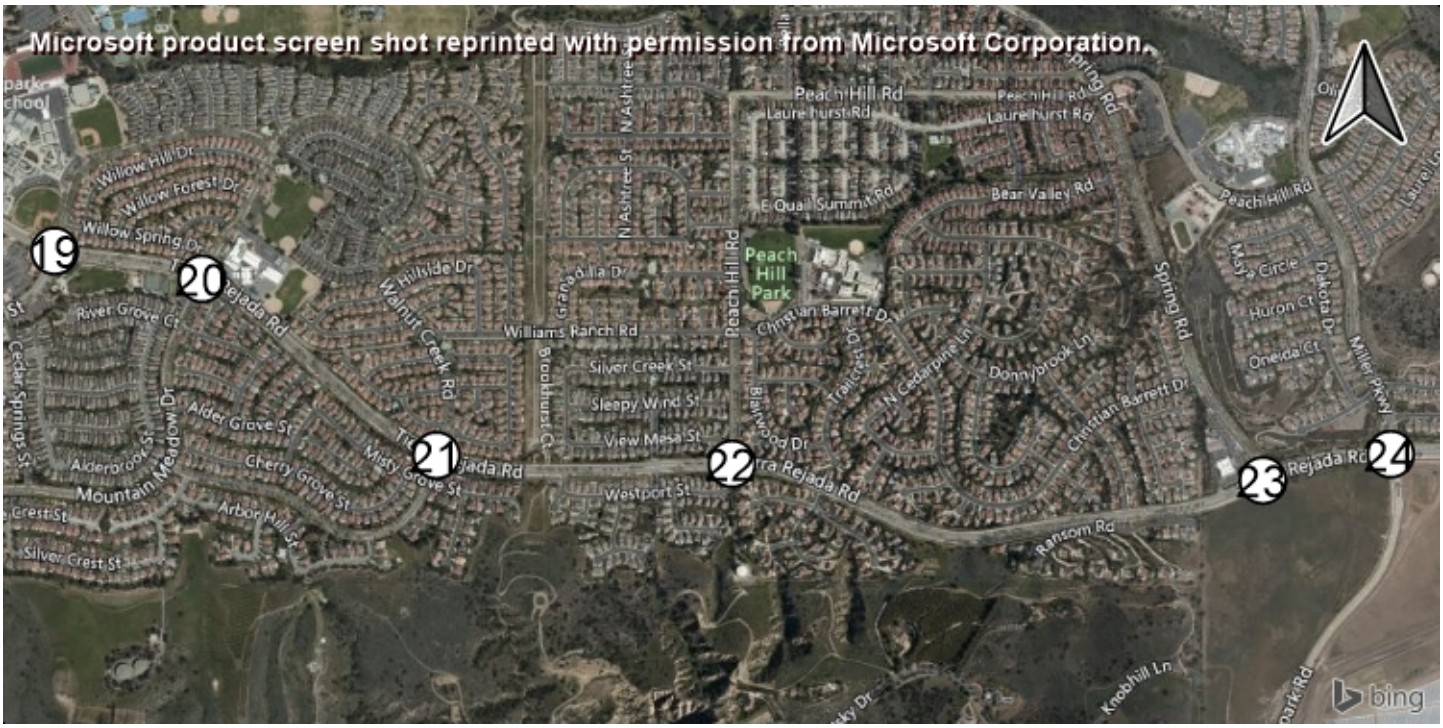
Spring Road and Peach Hill



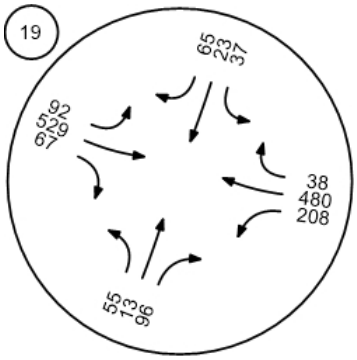
Tierra Rejada Road and Cou



Report Figure 3f: Traffic Volume - Future Total Volume



Mountain Trail Road and Tier



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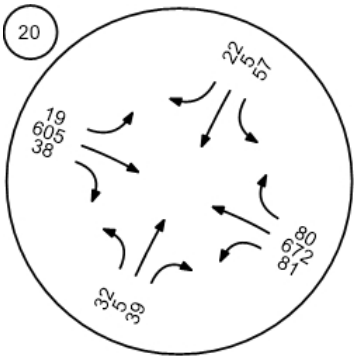
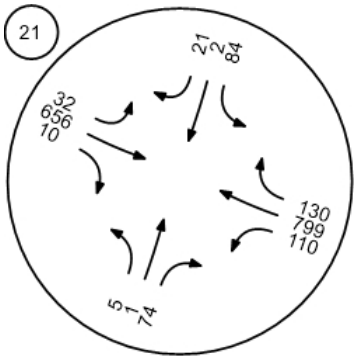
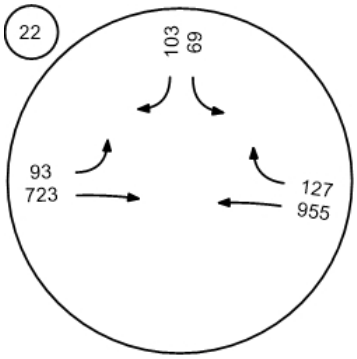


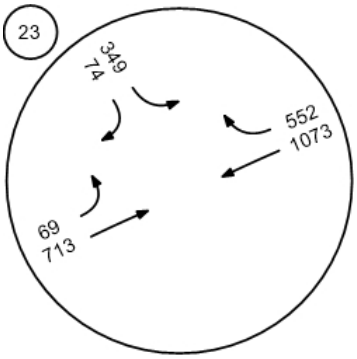
Walnut Creek Road and Tierr



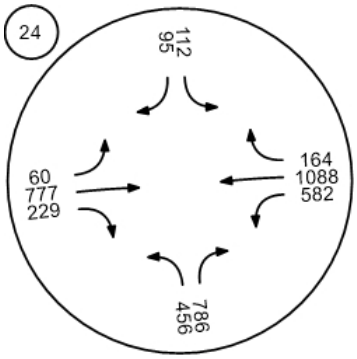
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Moorpark Road and Tierra R



Report Figure 3f: Traffic Volume - Future Total Volume

rpark Road and Santa Rosa F

3 NB ramps and Tierra Rejada

3 SB ramps and Tierra Rejada

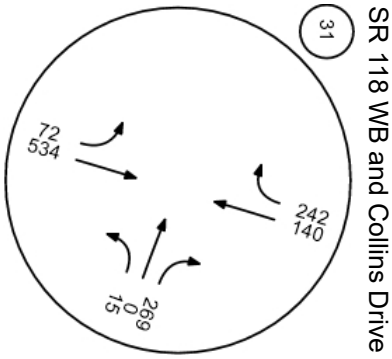
n Hills Drive and Walnut Canyo

nship Drive and Grimes Cany

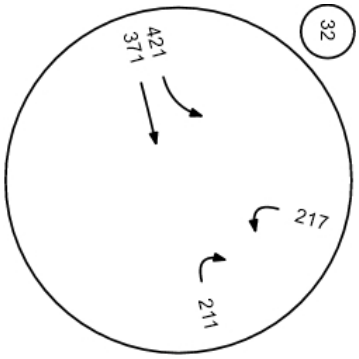
way Road and Grimes Canyor

Report Figure 3f: Traffic Volume - Future Total Volume





SR 118 WB and Collins Drive



SR 118 EB and Collins Drive

Report Figure 4: Traffic Conditions

Inut Canyon Road at Spring R

Canyon Road at Championsh

ut Canyon Road at Broadway

Spring Road at High Street

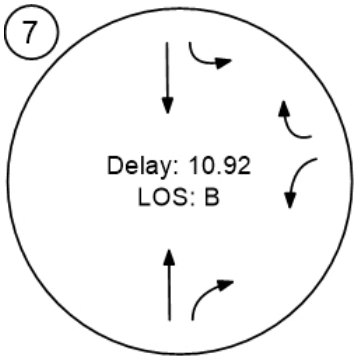
Moorpark Avenue at High Stree

Inut Canyon Road at Casey R

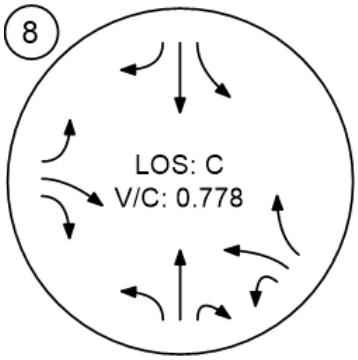
Report Figure 4: Traffic Conditions



Gabbert Road at Poindexter



Moorpark Avenue and Poind



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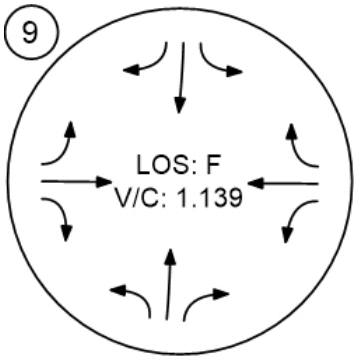

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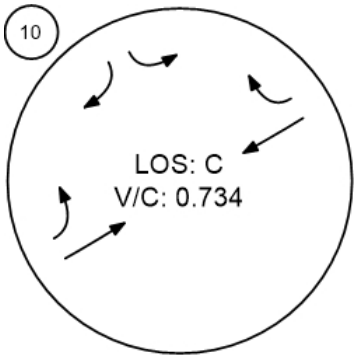

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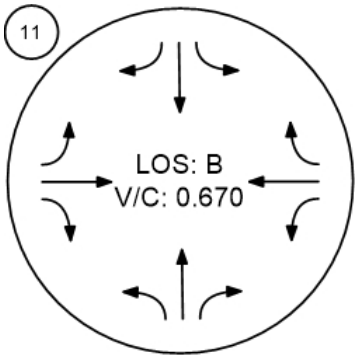
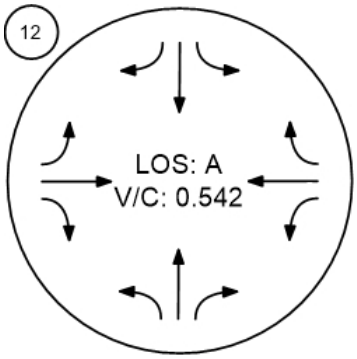
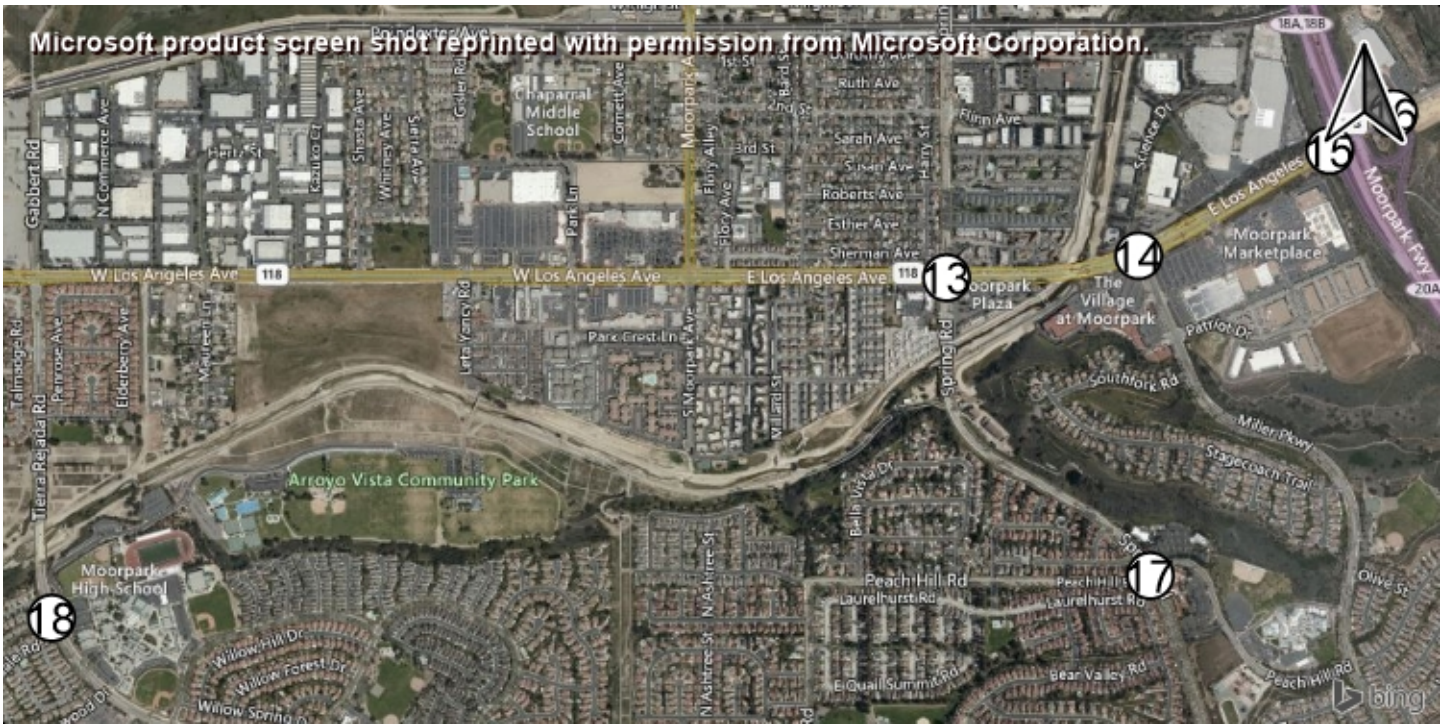


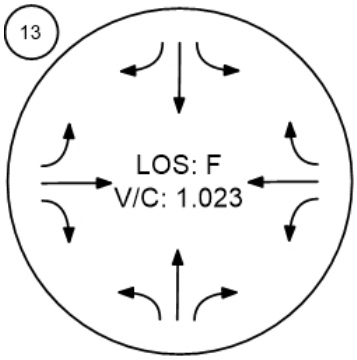
Moorpark Avenue and Los A



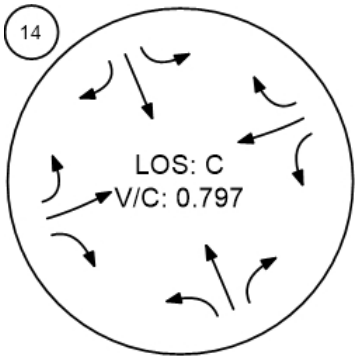
Report Figure 4: Traffic Conditions



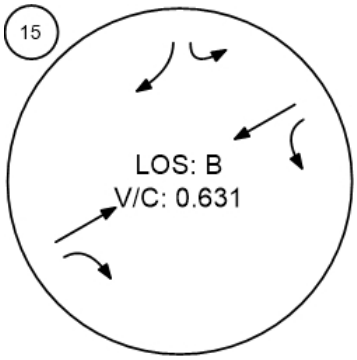
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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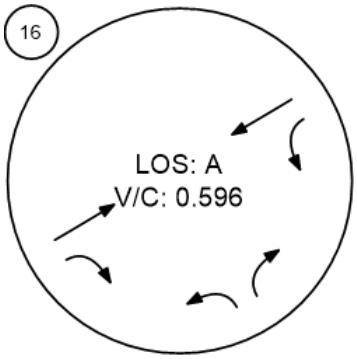
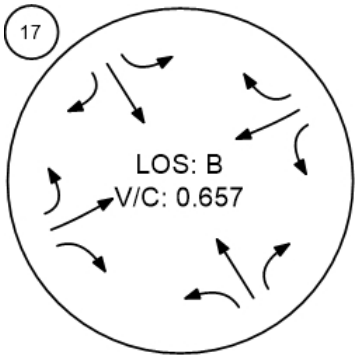
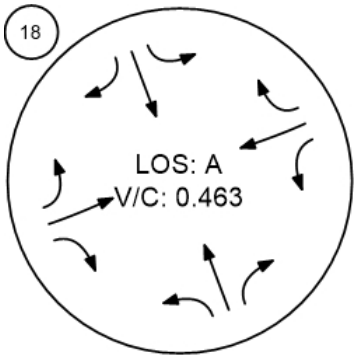


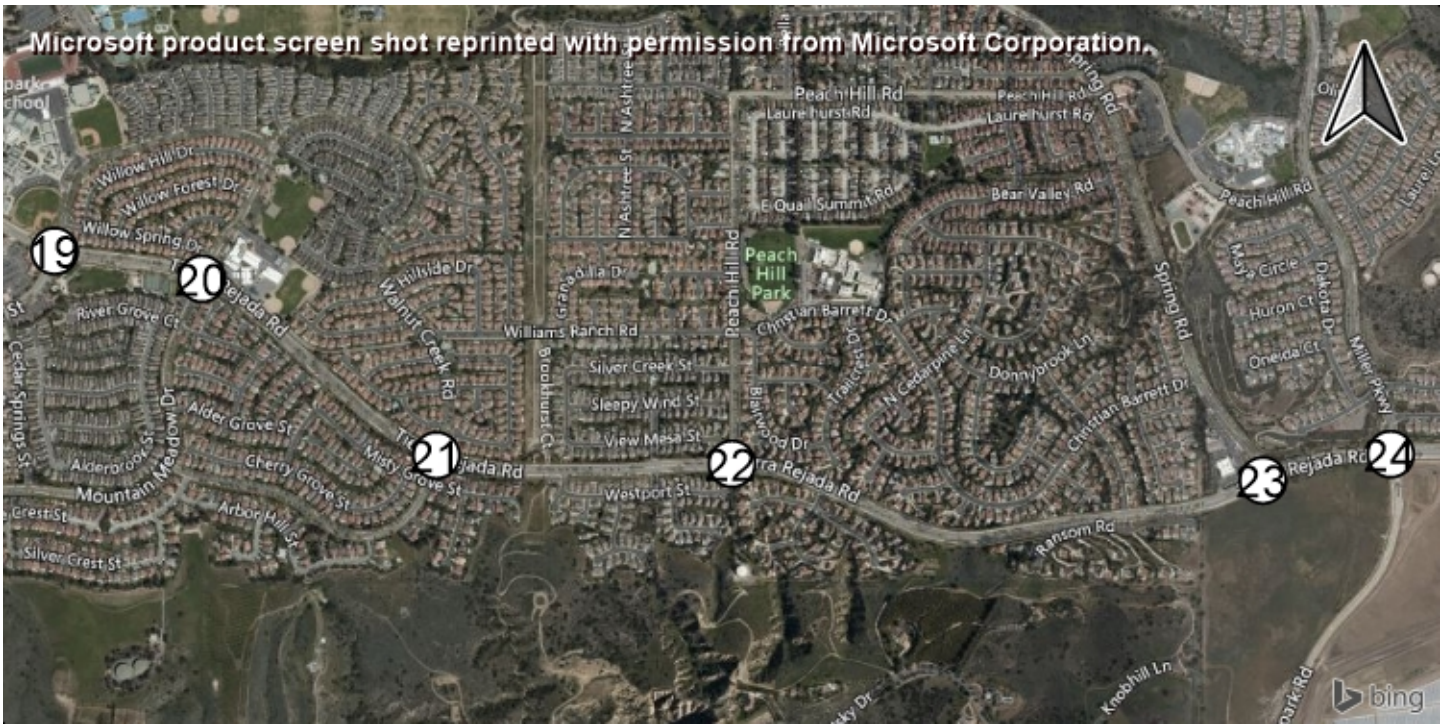
Spring Road and Peach Hill



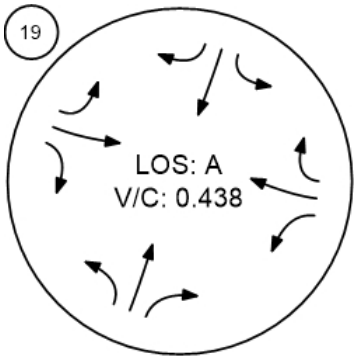
Tierra Rejada Road and Cou



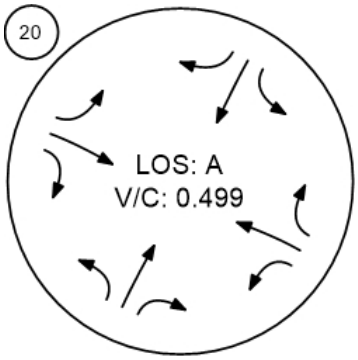
Report Figure 4: Traffic Conditions



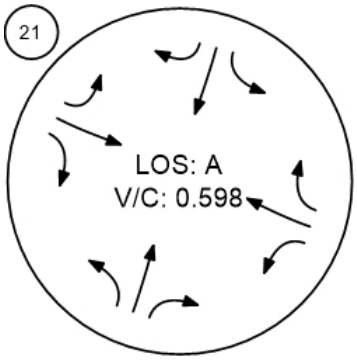
Mountain Trail Road and Tier



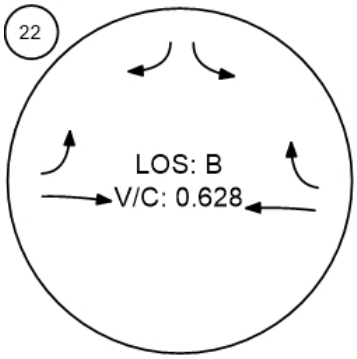
Mountain Meadow Drive and



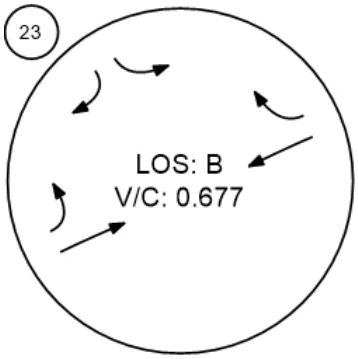
Walnut Creek Road and Tierr



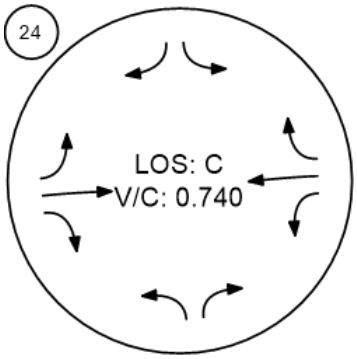
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



Moorpark Road and Tierra R



Report Figure 4: Traffic Conditions

rpark Road and Santa Rosa F

n Hills Drive and Walnut Canyo

3 NB ramps and Tierra Rejada

nship Drive and Grimes Cany

3 SB ramps and Tierra Rejada

way Road and Grimes Canyor

Report Figure 4: Traffic Conditions

FUTURE CUMULATIVE (2026)

Vistro File: C:\...\Hitch Ranch_FINAL High.vistro
Report File: C:\...\AM Futuree.pdf

Scenario 7 7 7 AM Future 2.0
12/15/2020

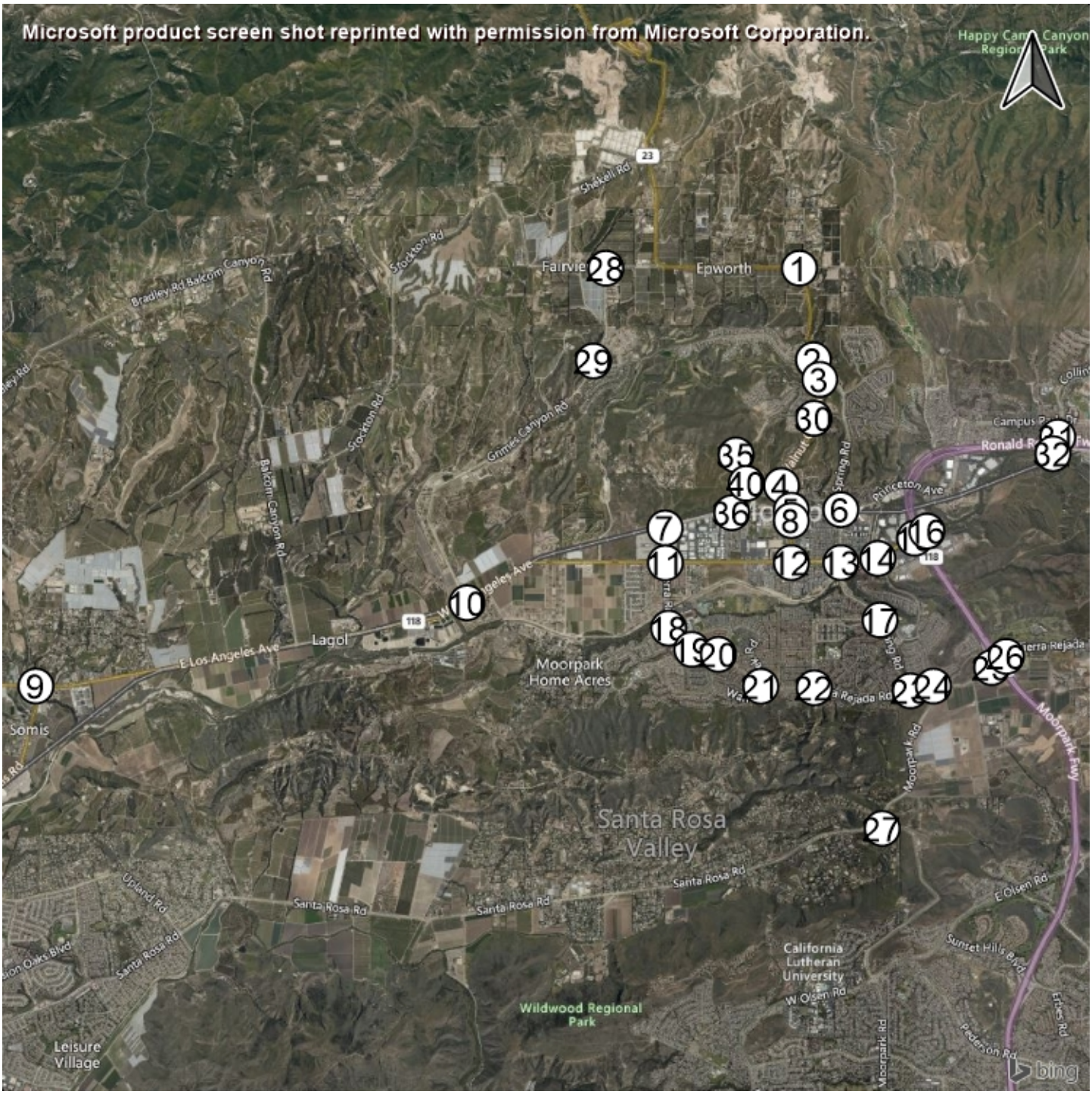
Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.004	20.3	C
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.013	29.5	D
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	SB Left	0.587	-	A
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.680	-	B
5	Moorpark Avenue at High Street	Signalized	ICU 1	SB Thru	0.718	-	C
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.696	-	B
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.406	10.8	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Thru	0.701	-	C
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	NB Right	1.102	-	F
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	NEB Thru	0.728	-	C
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	NB Right	0.797	-	C
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.593	-	A
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.949	-	E
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.711	-	C
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.401	-	A
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	NEB Right	0.502	-	A
17	Spring Road and Peach Hill Road	Signalized	ICU 1	SEB Thru	0.752	-	C
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Thru	0.679	-	B

19	Mountain Trail Road and Tierra Rejada Road	Signalized	ICU 1	SEB Thru	0.574	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	NWB Thru	0.633	-	B
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	SEB Thru	0.801	-	D
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.735	-	C
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	NEB Thru	0.821	-	D
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	EB Right	1.055	-	F
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	NEB Right	0.834	-	D
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NWB Left	0.931	-	E
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	SB Right	0.981	-	E
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.020	11.3	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.055	10.1	B
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.084	14.5	B
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.541	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.550	-	A
35	Future Road - Meridian Hills Drive at Street "A"	Roundabout	HCM 2010	NWB Right		3.3	A
36	Future Road - Street "A" at High Street	Two-way stop	HCM 2010	SB Right	0.008	8.4	A
40	Future Road - Casey Road at Street "A"	All-way stop	HCM 2010	SB Left	0.012	7.0	A

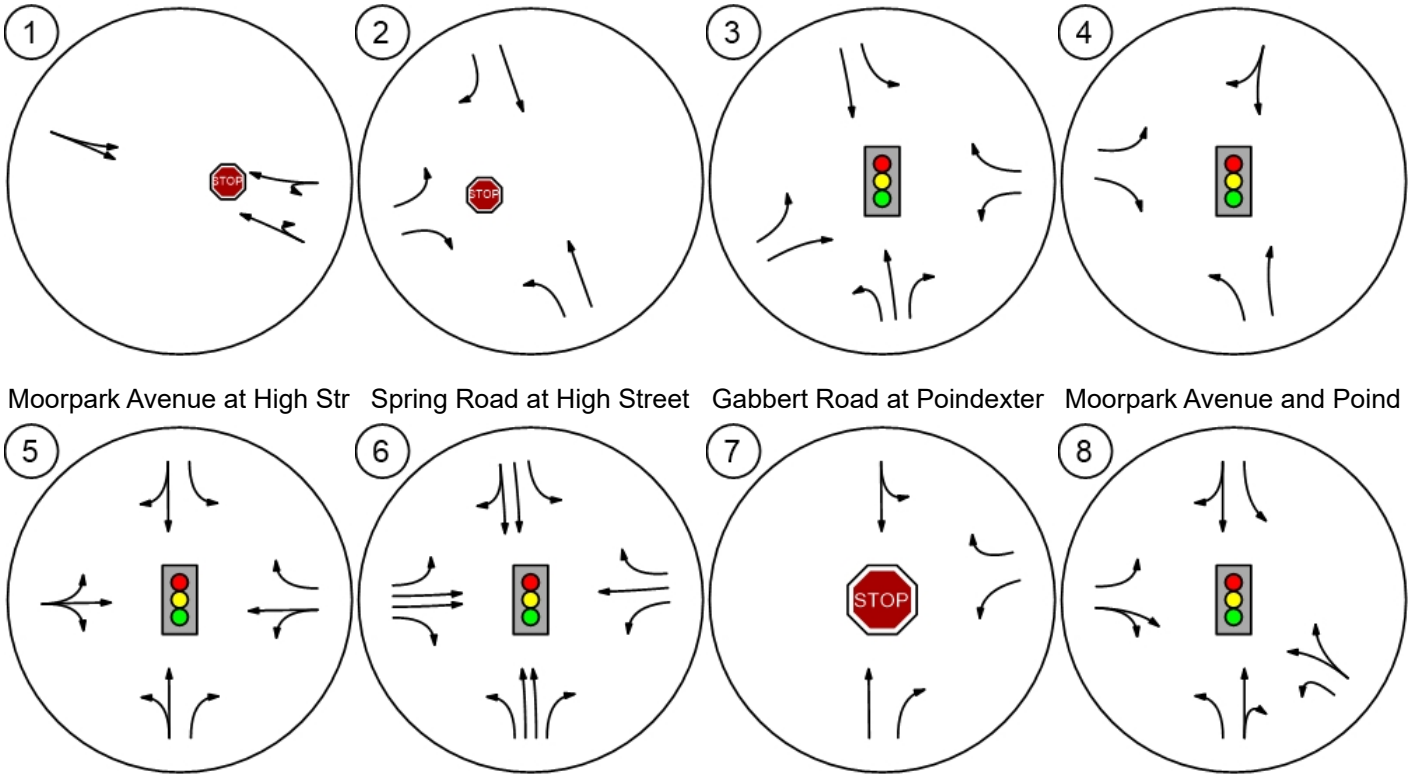
V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Report Figure 1: Study Intersections



Report Figure 2: Lane Configuration and Traffic Control

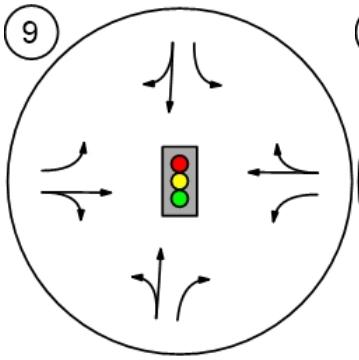




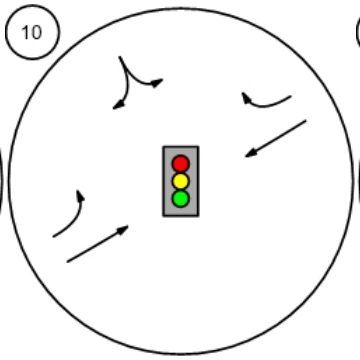
Report Figure 2: Lane Configuration and Traffic Control



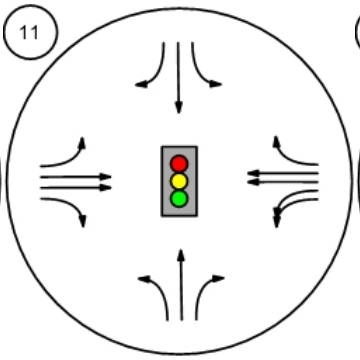
Somis Road and Los Angeles



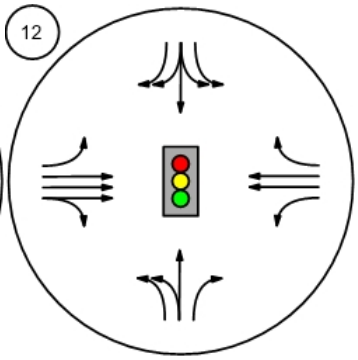
Grimes Canyon Road and Lo



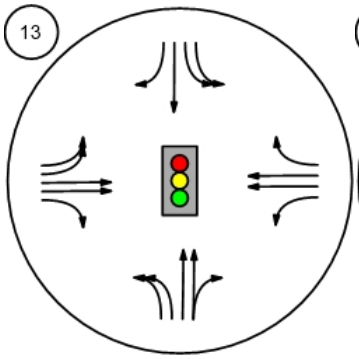
Tierra Rejada Road and Los



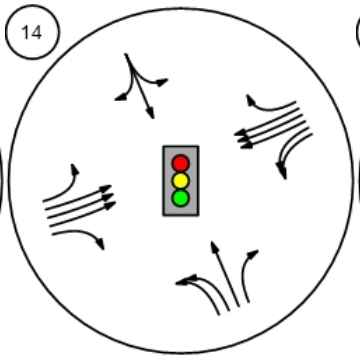
Moorpark Avenue and Los A



Spring Road and Los Angele



Miller Parkway/Science Drive



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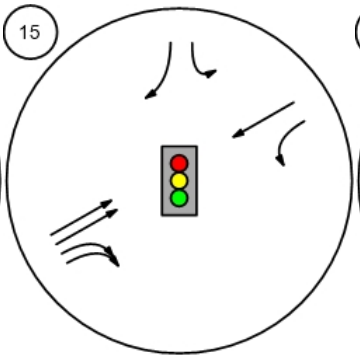

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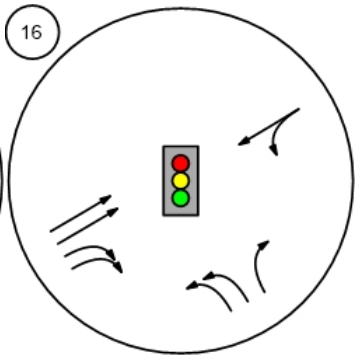

Report Figure 2: Lane Configuration and Traffic Control



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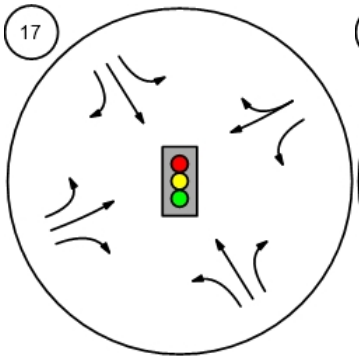

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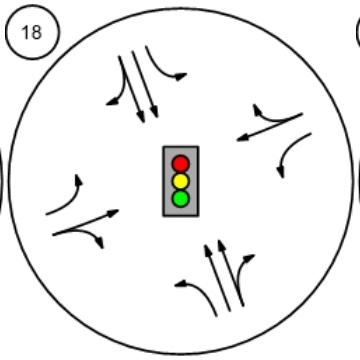

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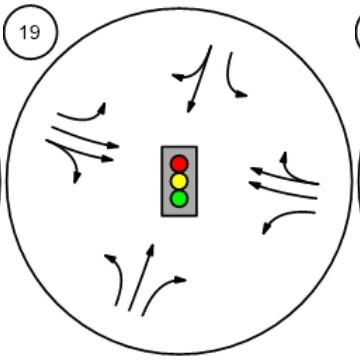
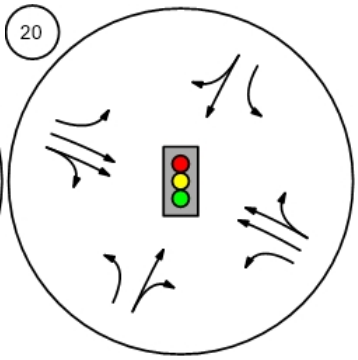


Mountain Meadow Drive and



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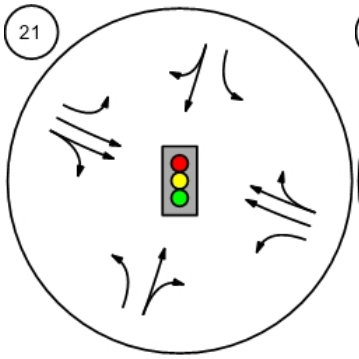

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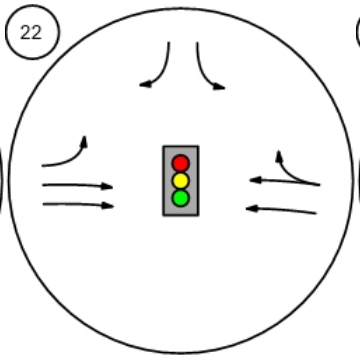

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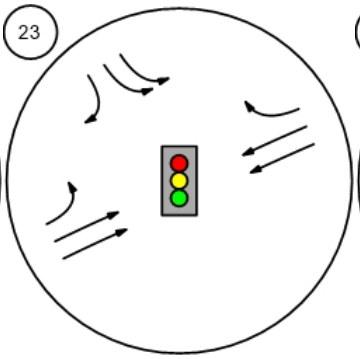
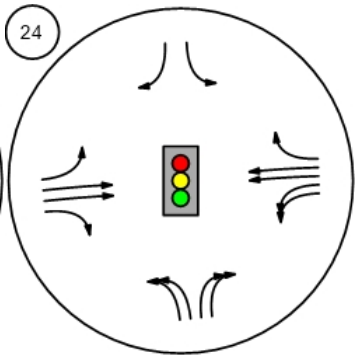


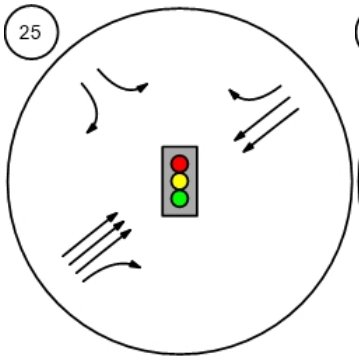
Moorpark Road and Tierra R



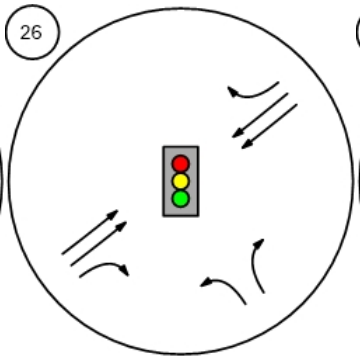
Report Figure 2: Lane Configuration and Traffic Control



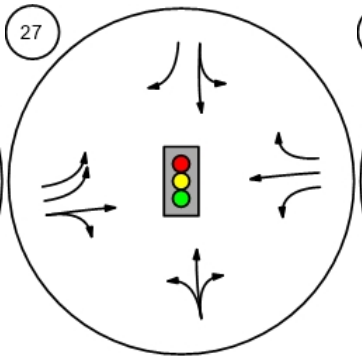
SR 23 SB ramps and Tierra



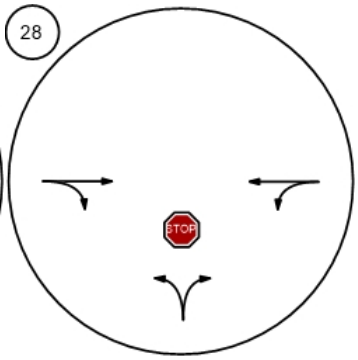
SB 23 NB ramps and Tierra



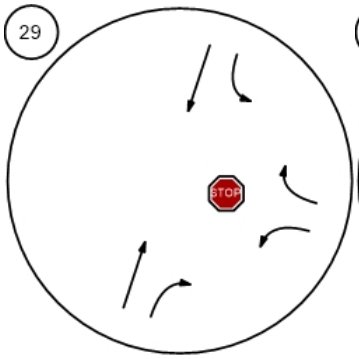
Moorpark Road and Santa R



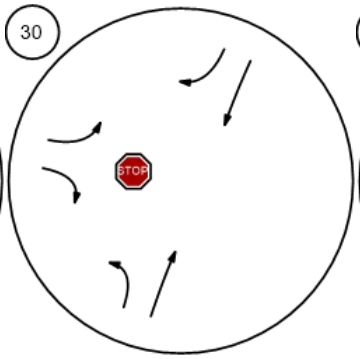
Broadway Road and Grimes



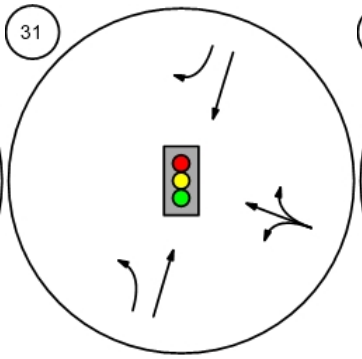
Championship Drive and Gri



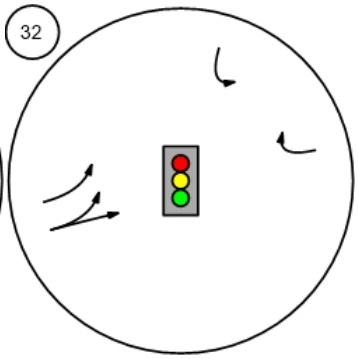
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



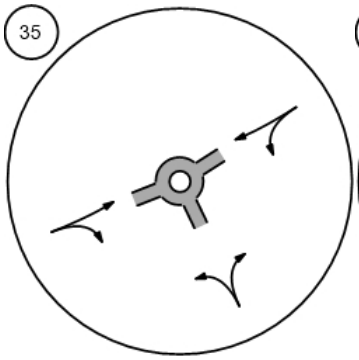
SR 118 EB and Collins Drive



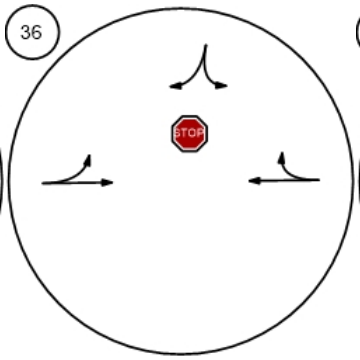
Report Figure 2: Lane Configuration and Traffic Control



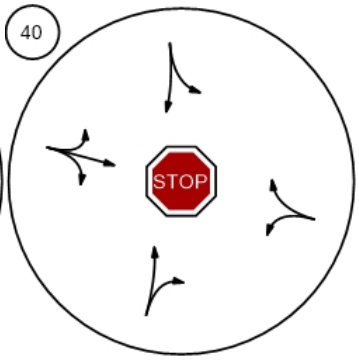
Future Road - Meridian Hills



Future Road - Street "A" at Hi



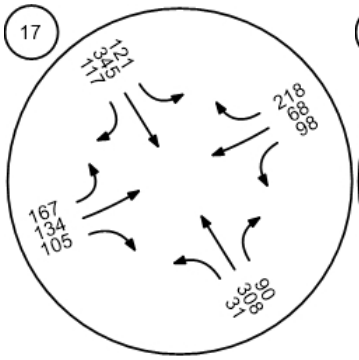
Future Road - Casey Road at



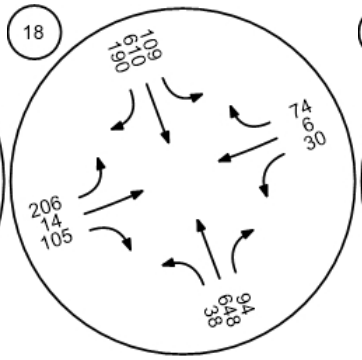
Report Figure 3c: Traffic Volume - Future Background Volume



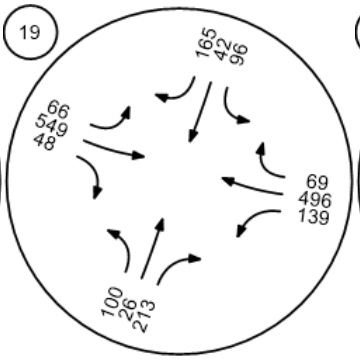
Spring Road and Peach Hill



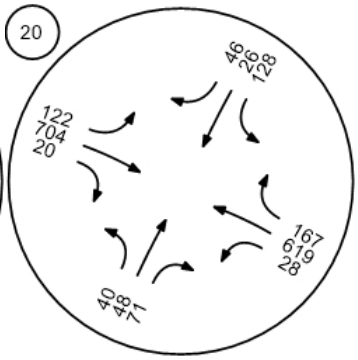
Tierra Rejada Road and Cou



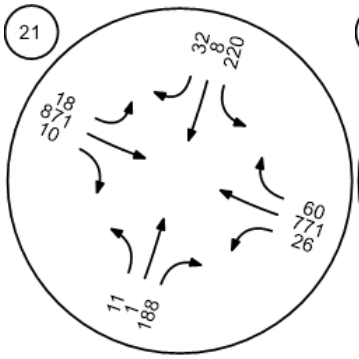
Mountain Trail Road and Tier



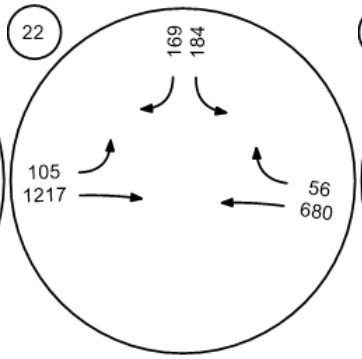
Mountain Meadow Drive and



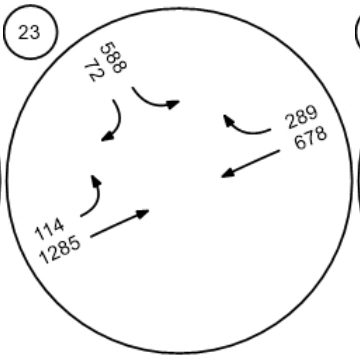
Walnut Creek Road and Tierr



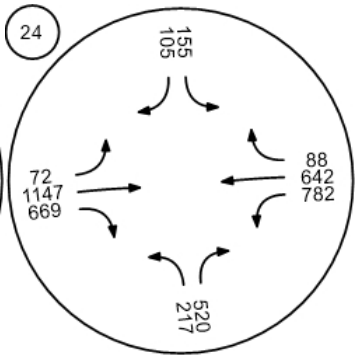
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



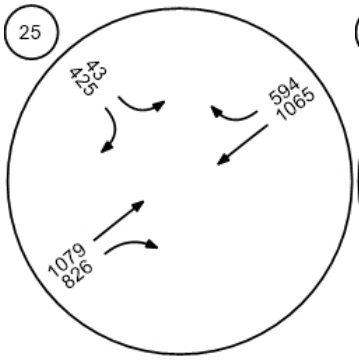
Moorpark Road and Tierra R



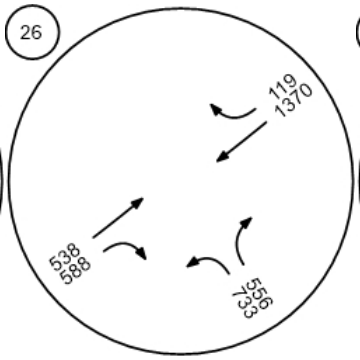
Report Figure 3c: Traffic Volume - Future Background Volume



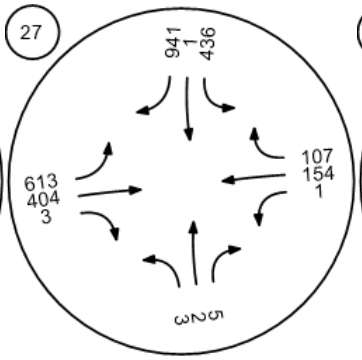
SR 23 SB ramps and Tierra



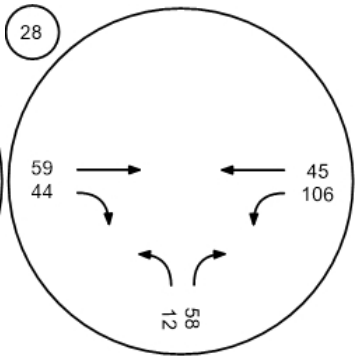
SB 23 NB ramps and Tierra



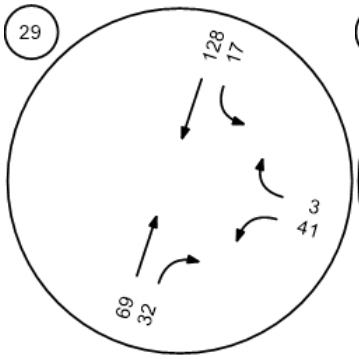
Moorpark Road and Santa R



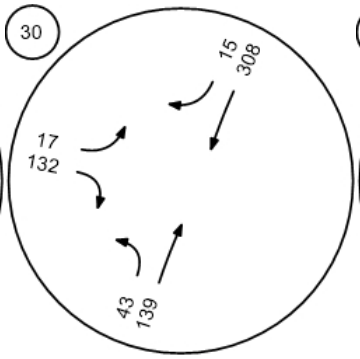
Broadway Road and Grimes



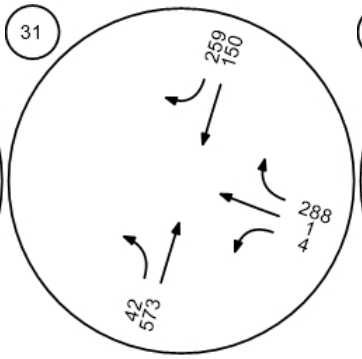
Championship Drive and Gri



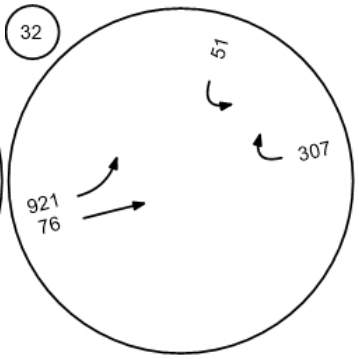
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



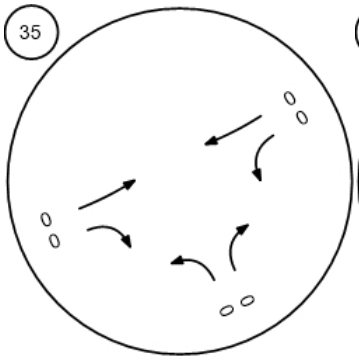
SR 118 EB and Collins Drive



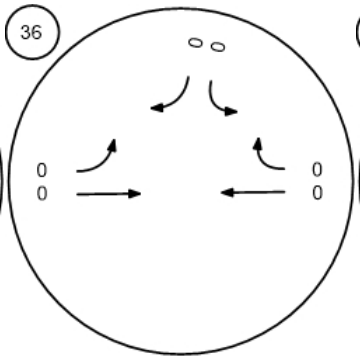
Report Figure 3c: Traffic Volume - Future Background Volume



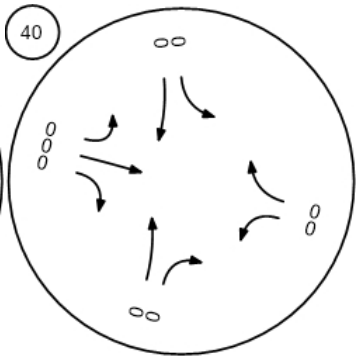
Future Road - Meridian Hills



Future Road - Street "A" at Hi



Future Road - Casey Road at



Report Figure 3d: Traffic Volume - Net New Site Trips



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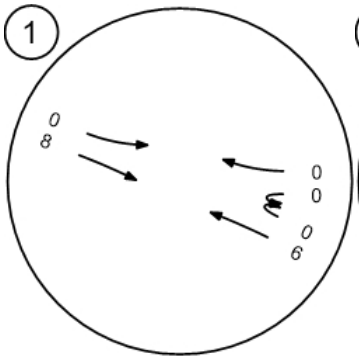
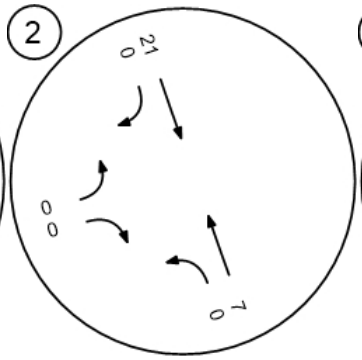


Walnut Canyon Road at Cha



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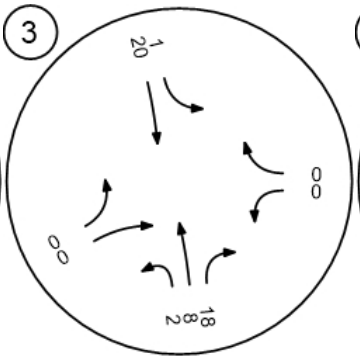

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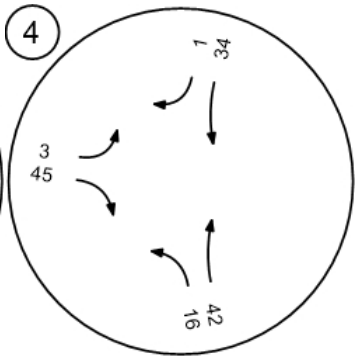
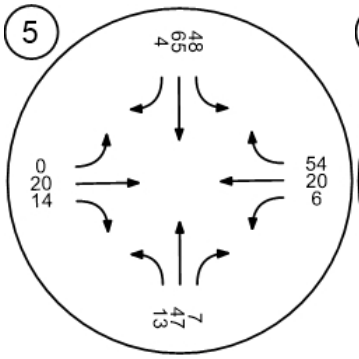
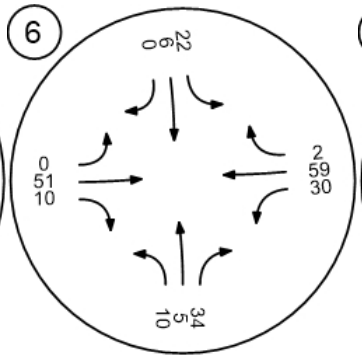


Moorpark Avenue at High Str



Spring Road at High Street



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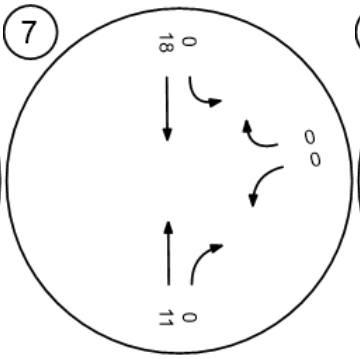

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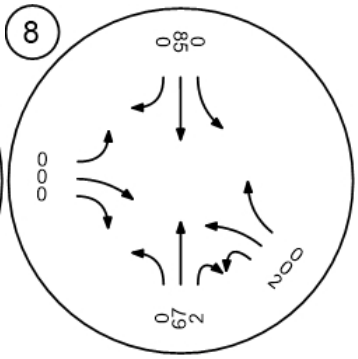

Report Figure 3d: Traffic Volume - Net New Site Trips



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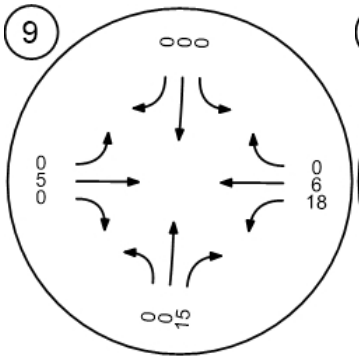

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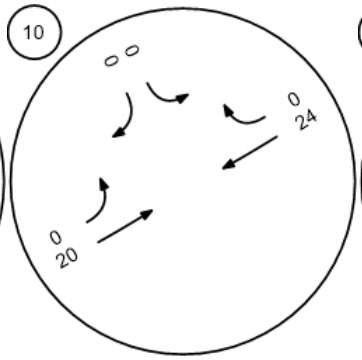

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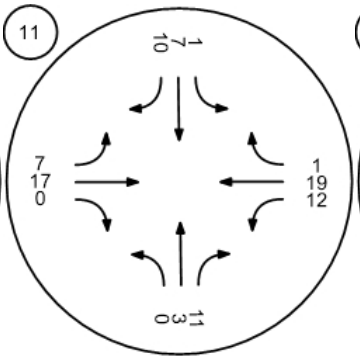
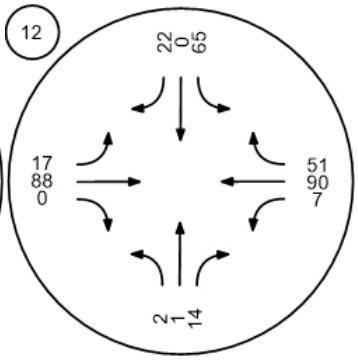
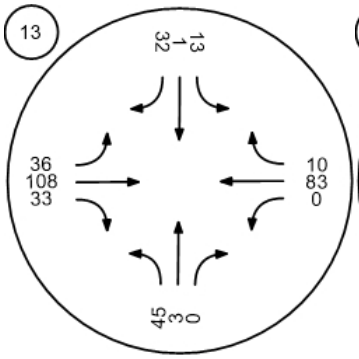


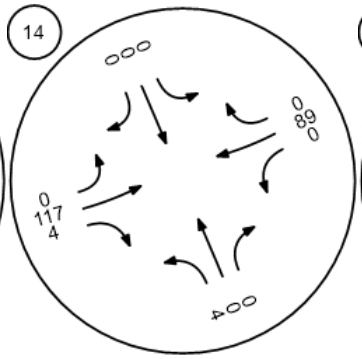
Moorpark Avenue and Los A



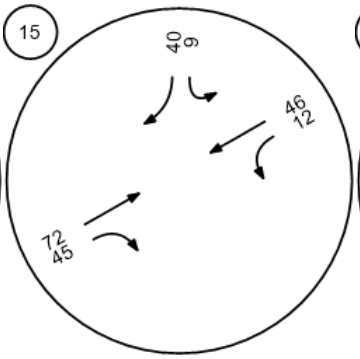
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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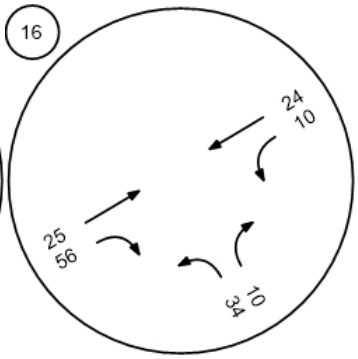
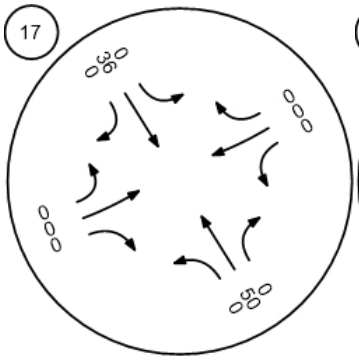


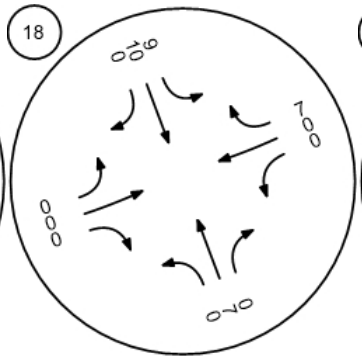
Report Figure 3d: Traffic Volume - Net New Site Trips



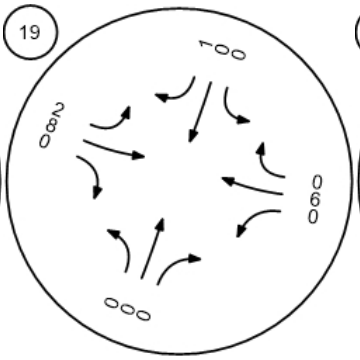
Spring Road and Peach Hill



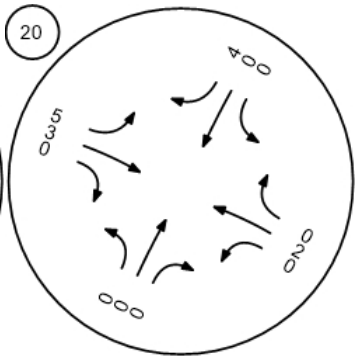
Tierra Rejada Road and Cou



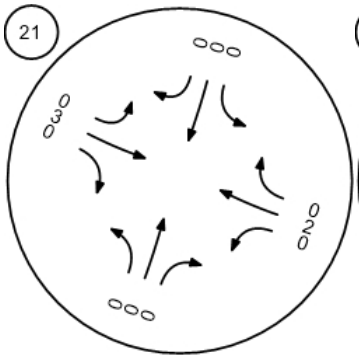
Mountain Trail Road and Tier



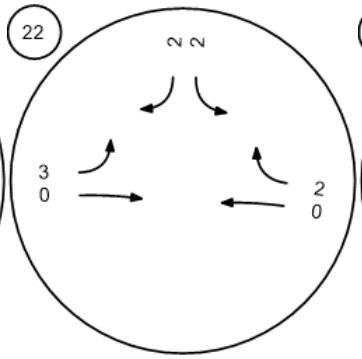
Mountain Meadow Drive and



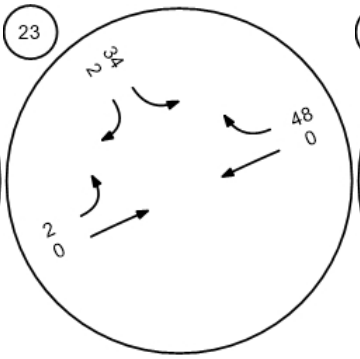
Walnut Creek Road and Tierr



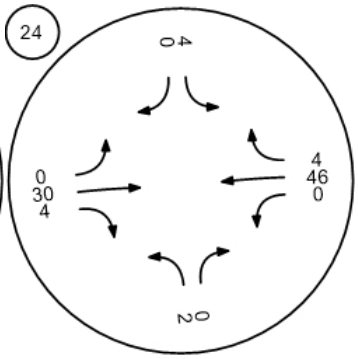
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



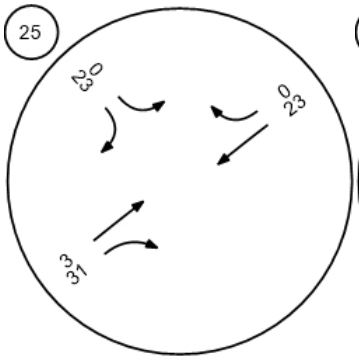
Moorpark Road and Tierra R



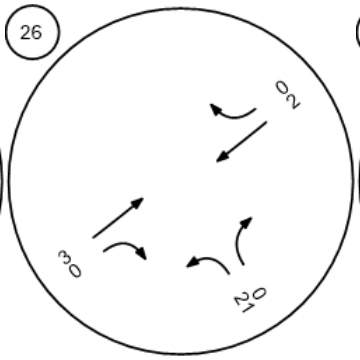
Report Figure 3d: Traffic Volume - Net New Site Trips



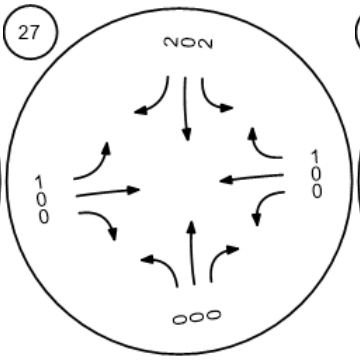
SR□23 SB ramps and Tierra



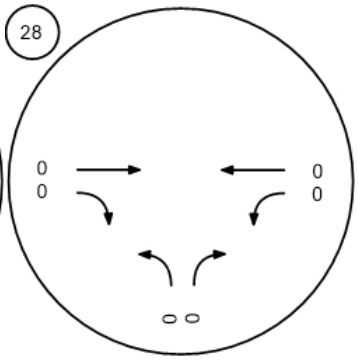
SB□23 NB ramps and Tierra



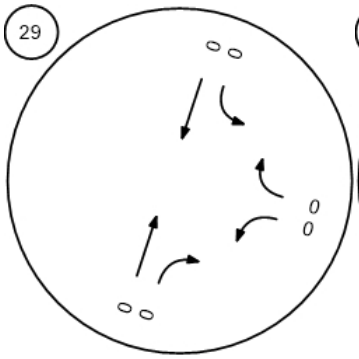
Moorpark Road and Santa R



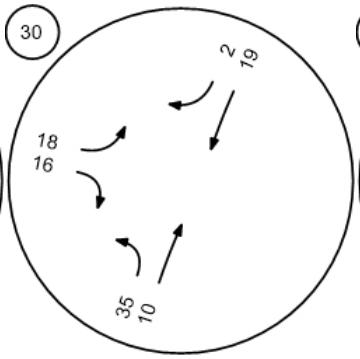
Broadway Road and Grimes



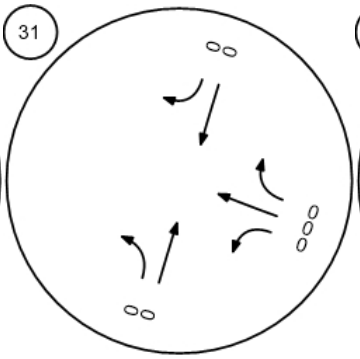
Championship Drive and Gri



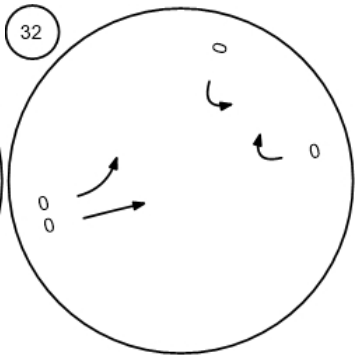
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



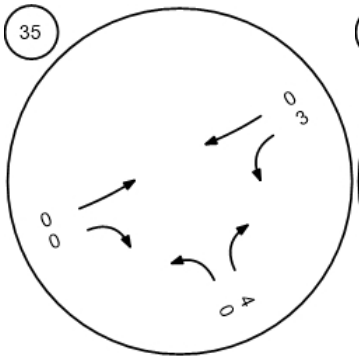
SR 118 EB and Collins Drive



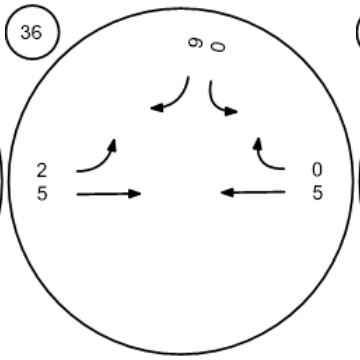
Report Figure 3d: Traffic Volume - Net New Site Trips



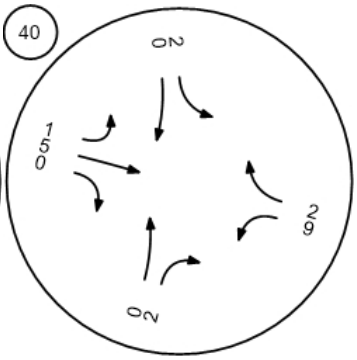
Future Road - Meridian Hills



Future Road - Street "A" at Hi



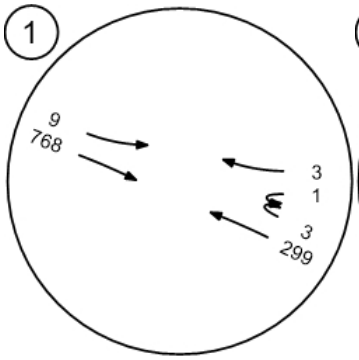
Future Road - Casey Road at



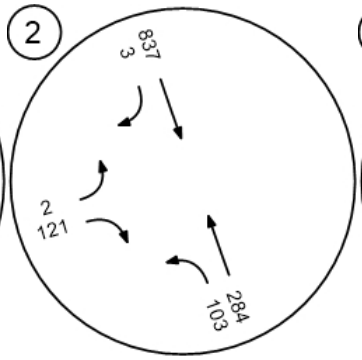
Report Figure 3f: Traffic Volume - Future Total Volume



Walnut Canyon Road at Broa



Walnut Canyon Road at Cha



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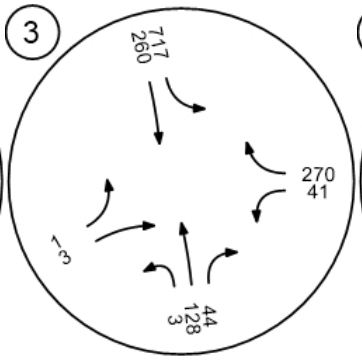

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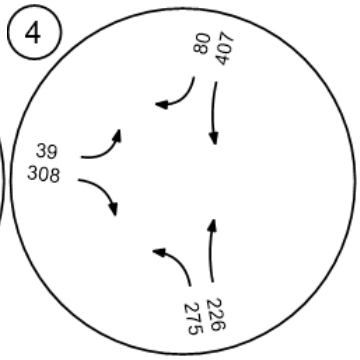
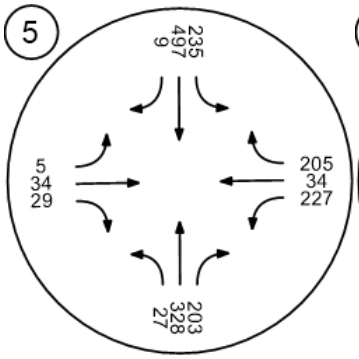
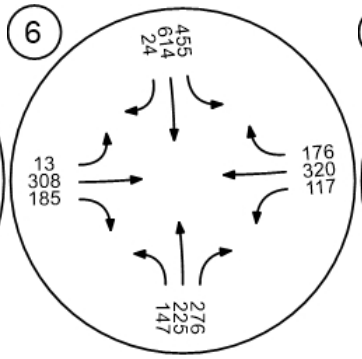


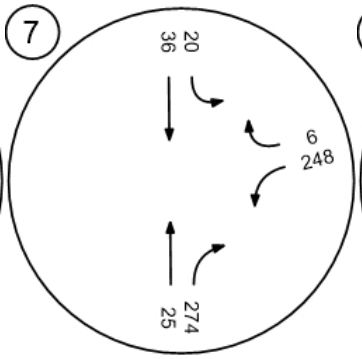
Moorpark Avenue at High Str



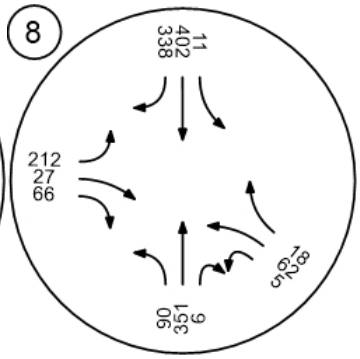
Spring Road at High Street



Gabbert Road at Poindexter



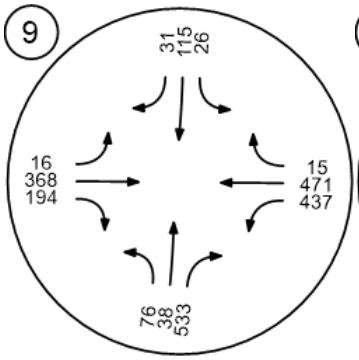
Moorpark Avenue and Poind



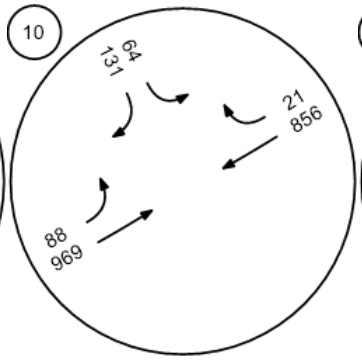
Report Figure 3f: Traffic Volume - Future Total Volume



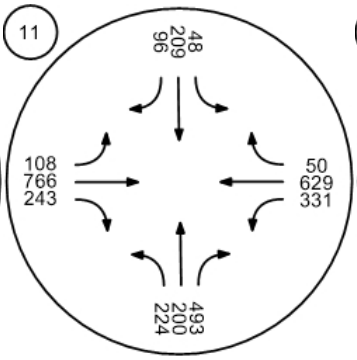
Somis Road and Los Angeles



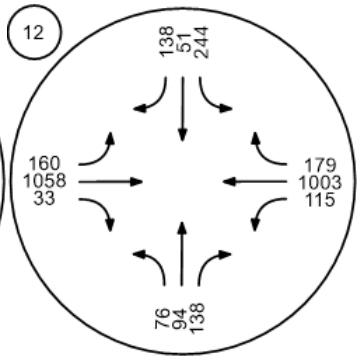
Grimes Canyon Road and Lo



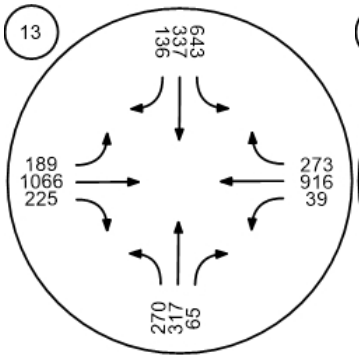
Tierra Rejada Road and Los



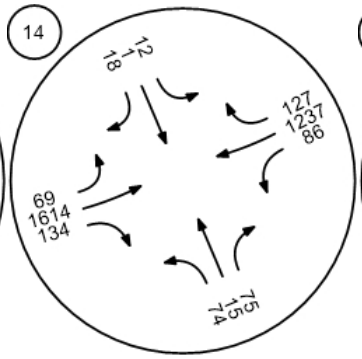
Moorpark Avenue and Los A



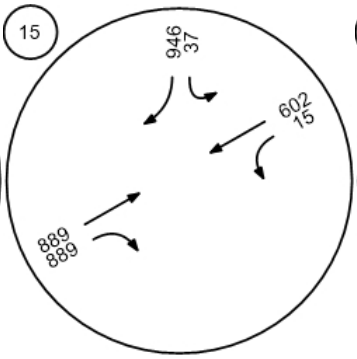
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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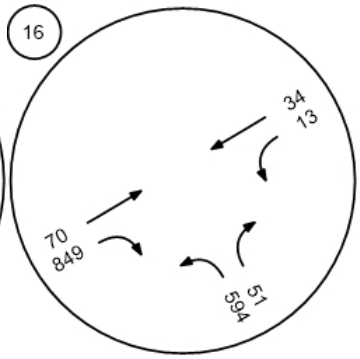

Report Figure 3f: Traffic Volume - Future Total Volume



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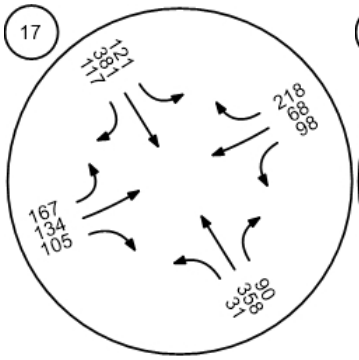

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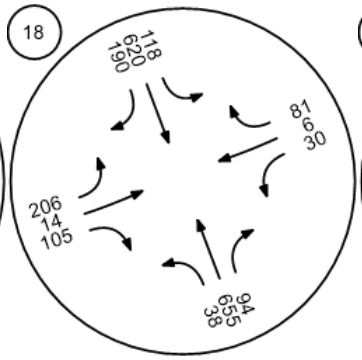

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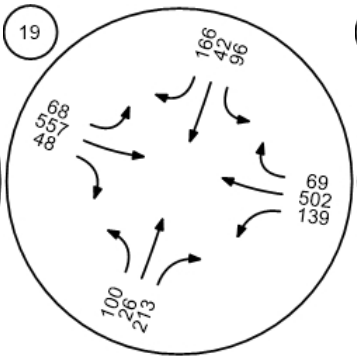

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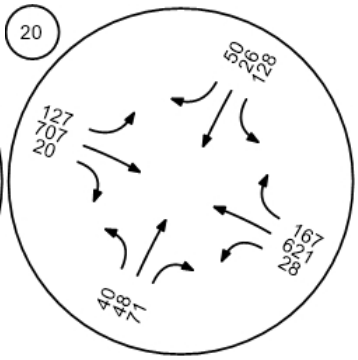
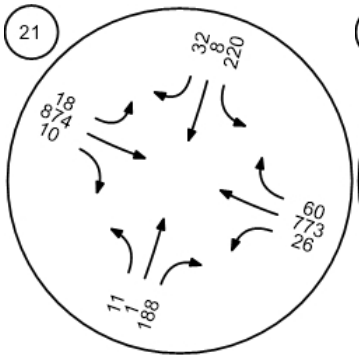


Walnut Creek Road and Tierr



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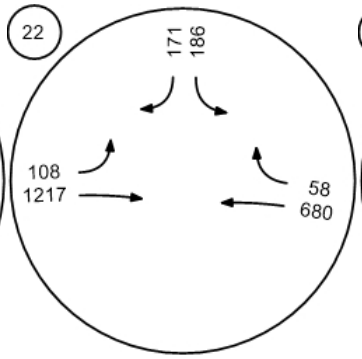

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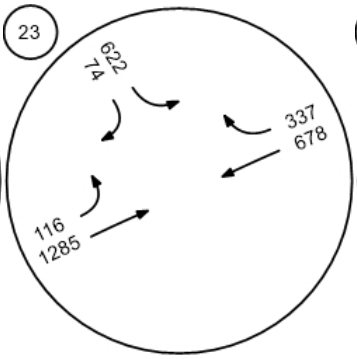
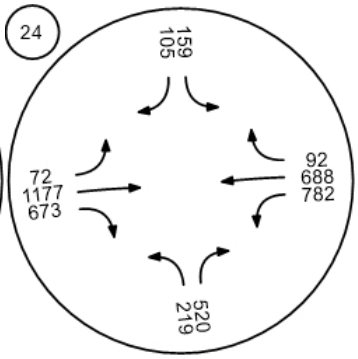


Moorpark Road and Tierra R



Report Figure 3f: Traffic Volume - Future Total Volume



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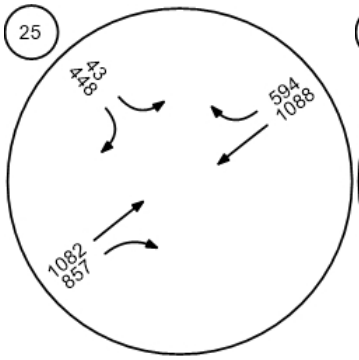

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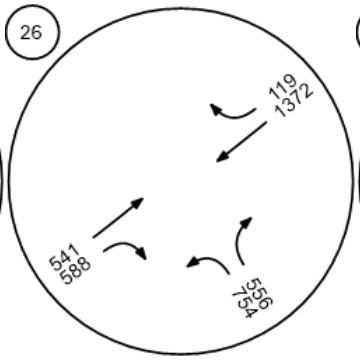

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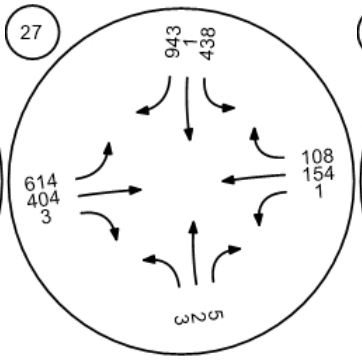
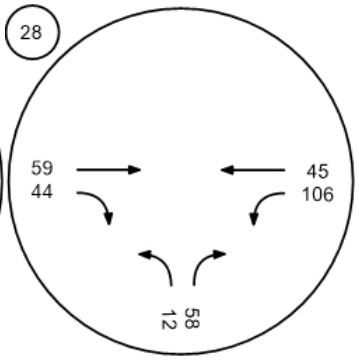
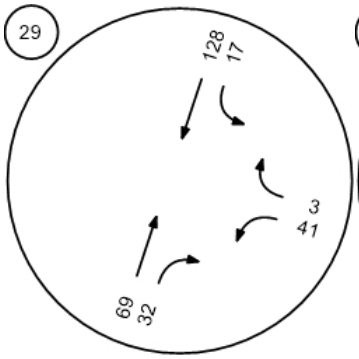


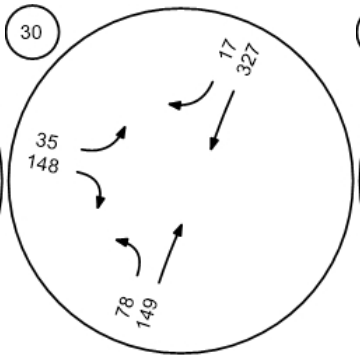
Broadway Road and Grimes



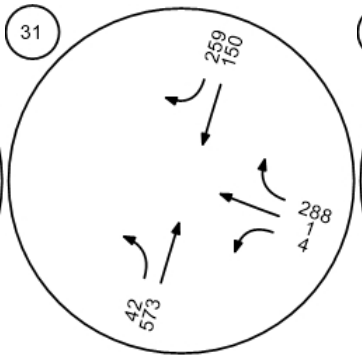
Championship Drive and Gri



Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



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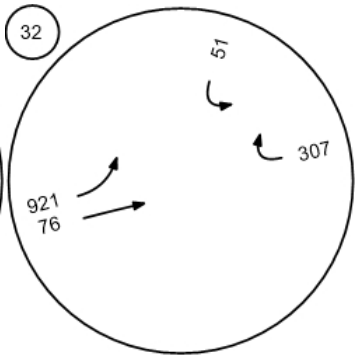
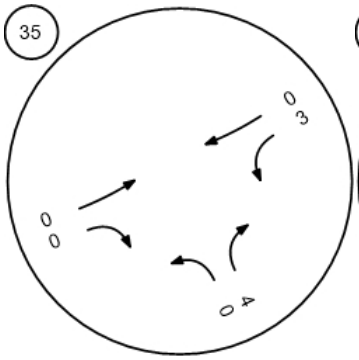


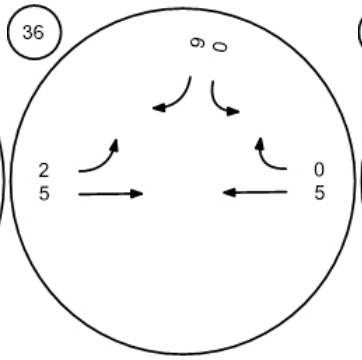
Report Figure 3f: Traffic Volume - Future Total Volume



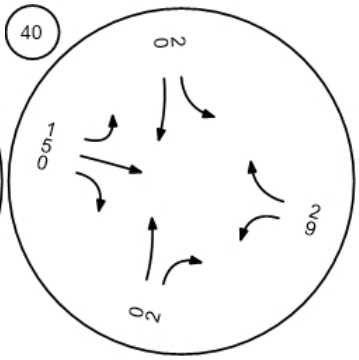
Future Road - Meridian Hills



Future Road - Street "A" at Hi

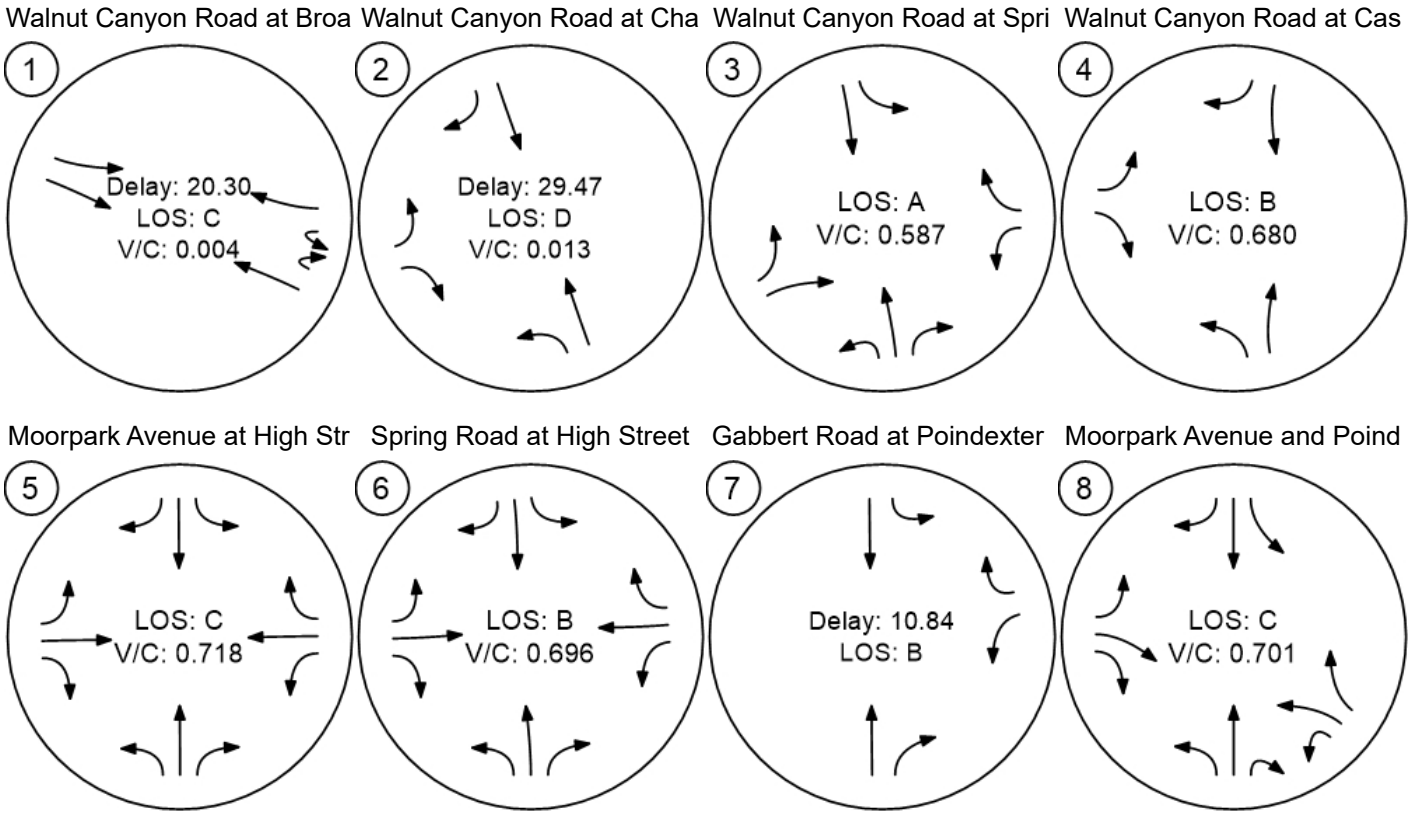


Future Road - Casey Road at



Report Figure 4: Traffic Conditions

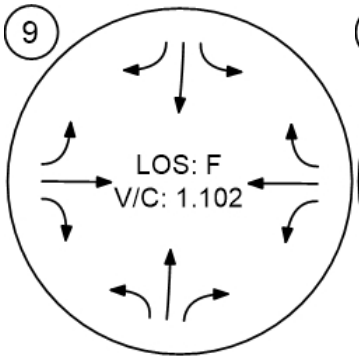




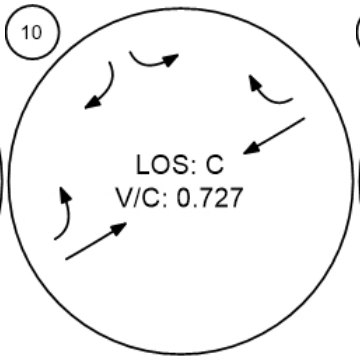
Report Figure 4: Traffic Conditions



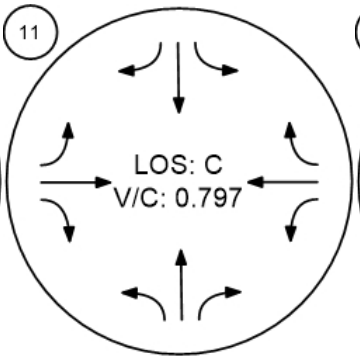
Somis Road and Los Angeles



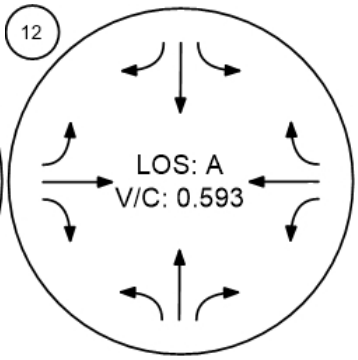
Grimes Canyon Road and Lo



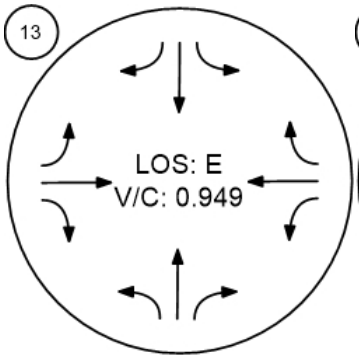
Tierra Rejada Road and Los



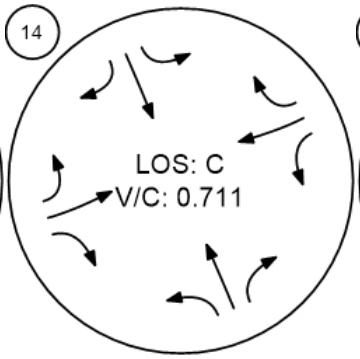
Moorpark Avenue and Los A



Spring Road and Los Angele



Miller Parkway/Science Drive



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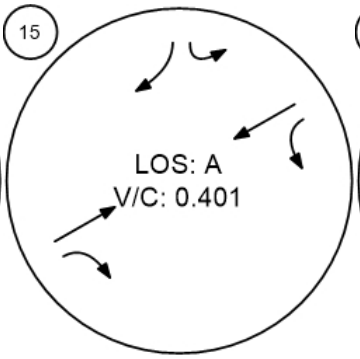

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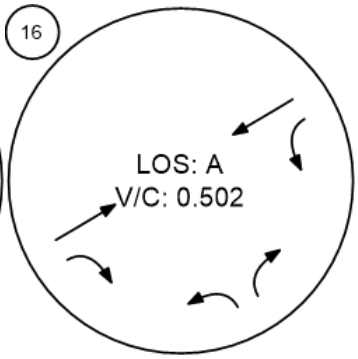
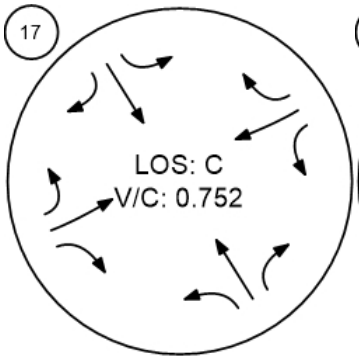


Report Figure 4: Traffic Conditions



Spring Road and Peach Hill



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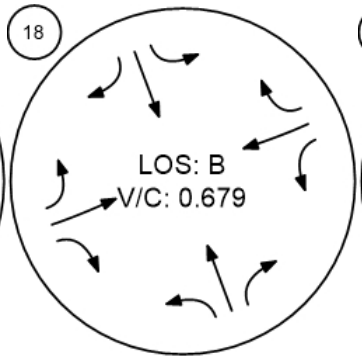
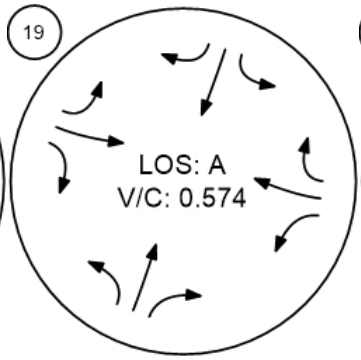


Mountain Trail Road and Tier



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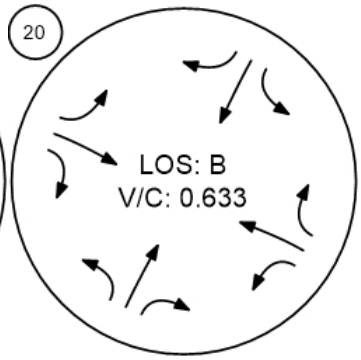

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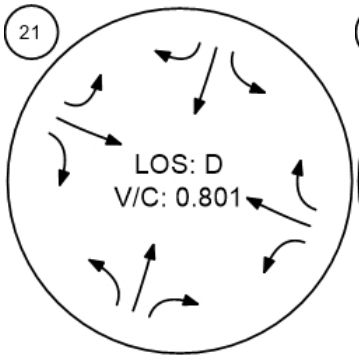

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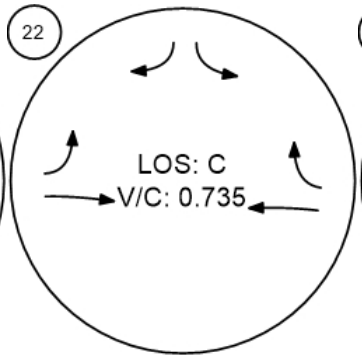

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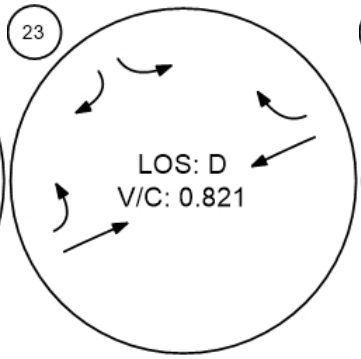

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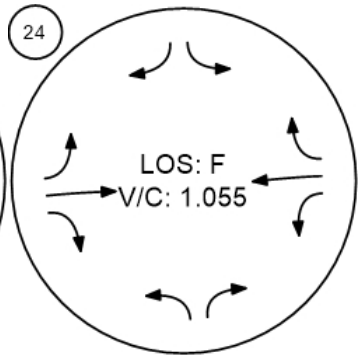

Report Figure 4: Traffic Conditions



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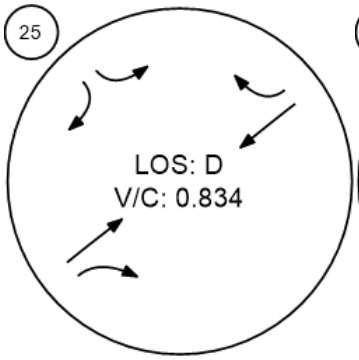

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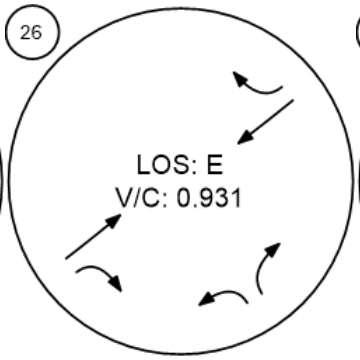
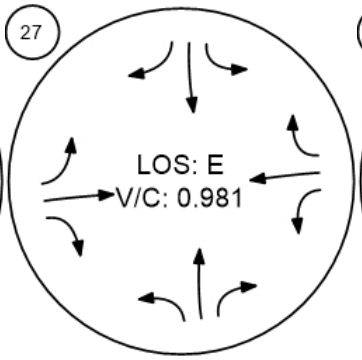


Moorpark Road and Santa R



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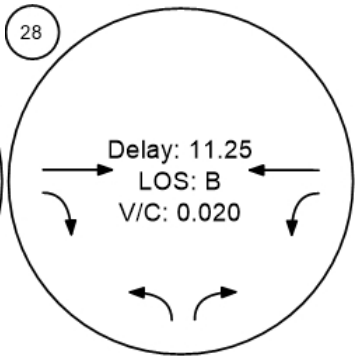

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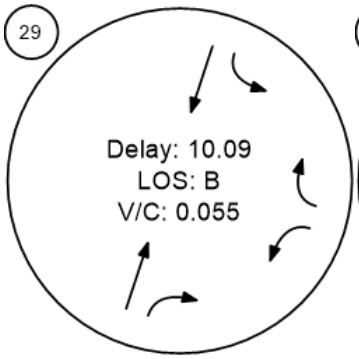

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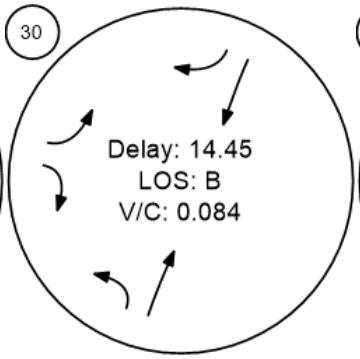

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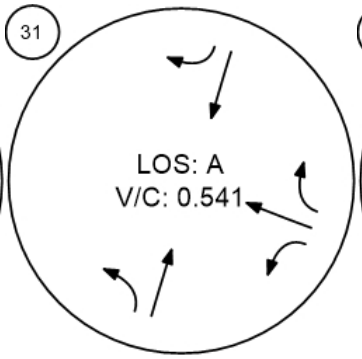

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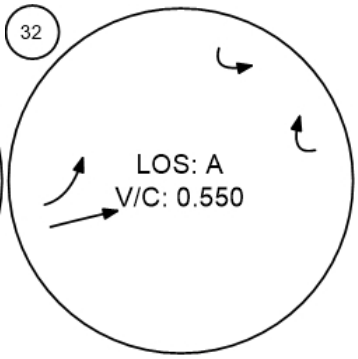
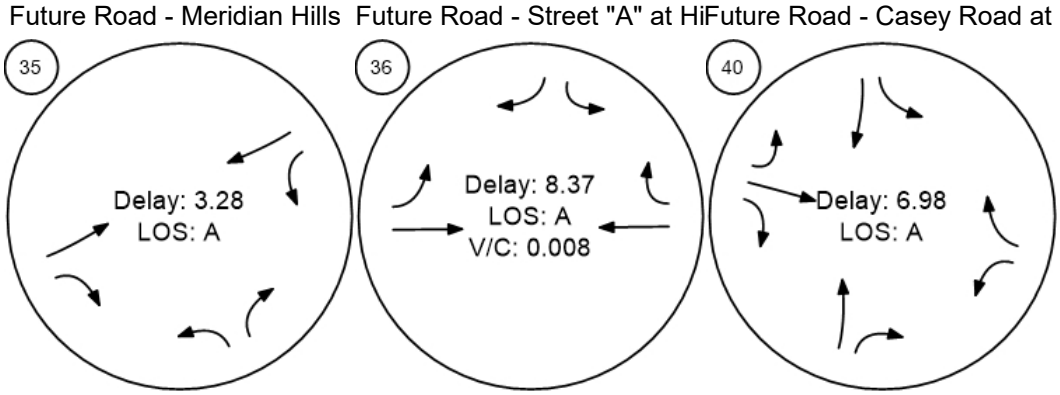


Report Figure 4: Traffic Conditions





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Report File: C:\...\PM Future.pdf

Scenario 8 8 8 PM Future 2.0
12/15/2020

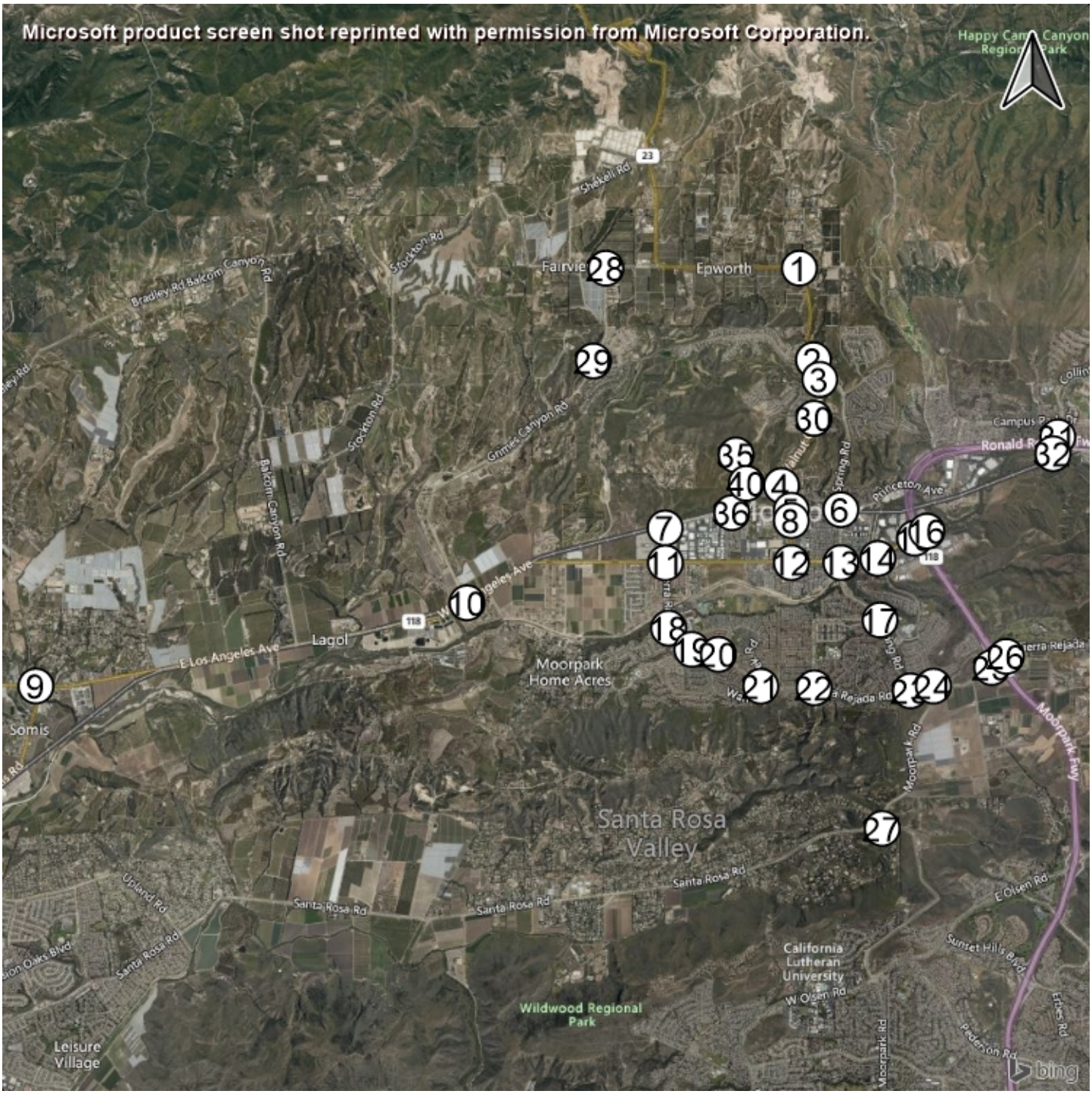
Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.012	26.6	D
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.028	39.8	E
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	WB Right	0.912	-	E
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.471	-	A
5	Moorpark Avenue at High Street	Signalized	ICU 1	NB Thru	0.695	-	B
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.873	-	D
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.404	10.8	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Thru	0.731	-	C
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	NB Right	1.335	-	F
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.801	-	D
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.753	-	C
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.654	-	B
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	WB Right	1.080	-	F
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.944	-	E
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.679	-	B
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	NWB Left	0.724	-	C
17	Spring Road and Peach Hill Road	Signalized	ICU 1	NWB Thru	0.715	-	C
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Right	0.490	-	A

19	Mountain Trail Road and Tierra Rejada Road	Signalized	ICU 1	SEB Thru	0.464	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	NWB Thru	0.533	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	WB Right	0.640	-	B
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.672	-	B
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	SWB Right	0.779	-	C
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.911	-	E
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	NEB Thru	0.845	-	D
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NWB Right	0.752	-	C
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	SB Right	1.295	-	F
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.017	10.4	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.055	10.1	B
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.118	15.1	C
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.548	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.571	-	A
35	Future Road - Meridian Hills Drive at Street "A"	Roundabout	HCM 2010	NWB Right		3.3	A
36	Future Road - Street "A" at High Street	Two-way stop	HCM 2010	SB Right	0.008	8.4	A
40	Future Road - Casey Road at Street "A"	All-way stop	HCM 2010	SB Left	0.012	7.0	A

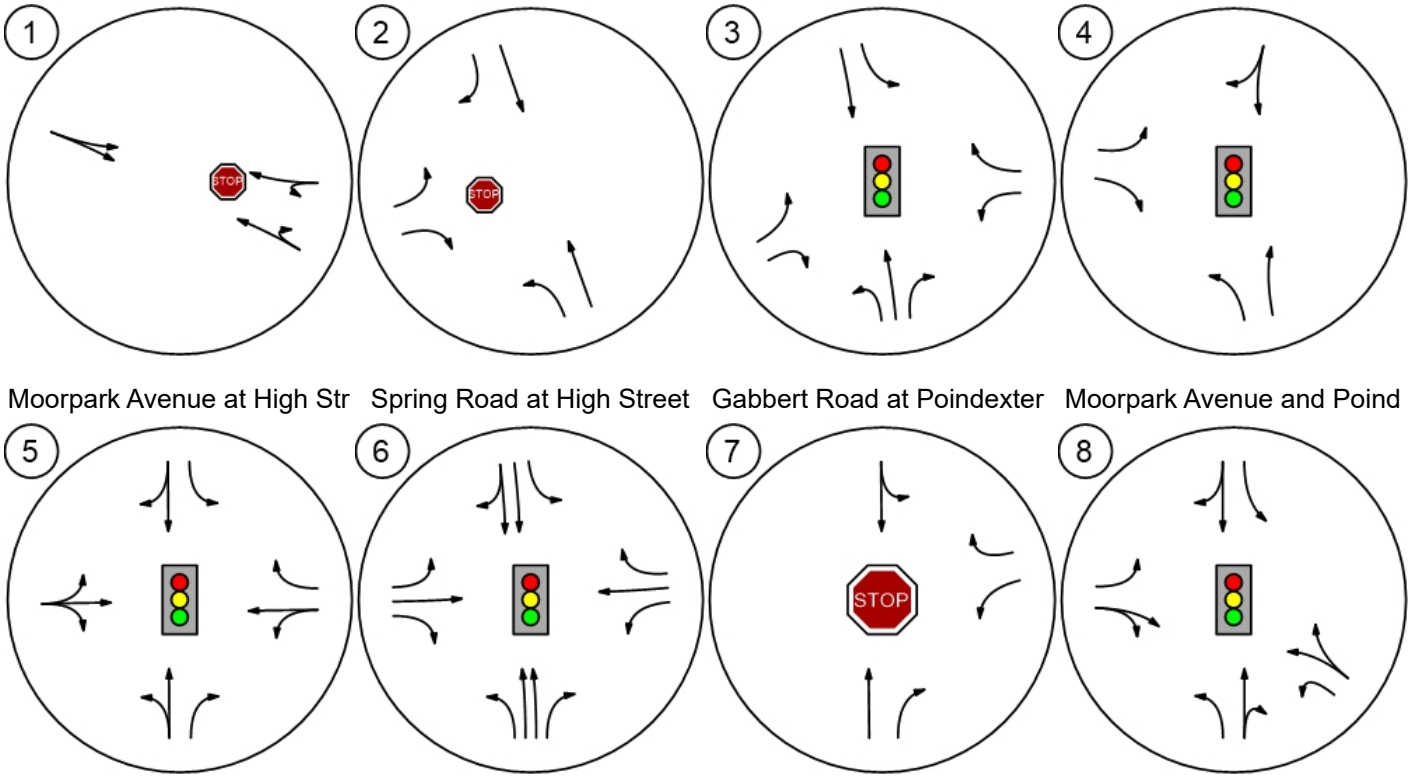
V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Report Figure 1: Study Intersections



Report Figure 2: Lane Configuration and Traffic Control





Report Figure 2: Lane Configuration and Traffic Control



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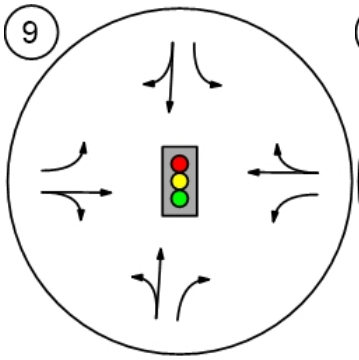

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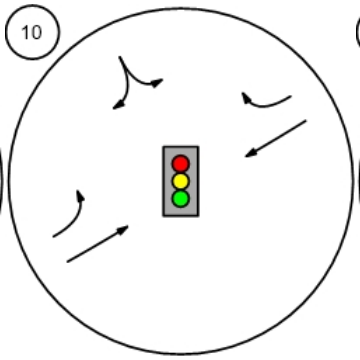

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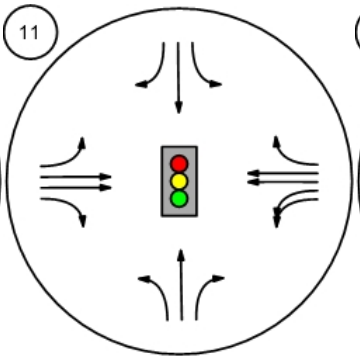

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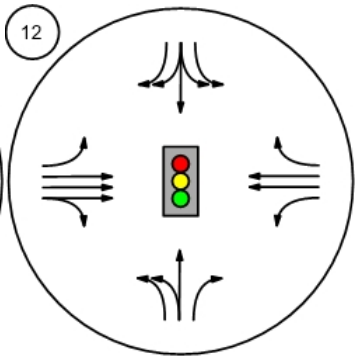

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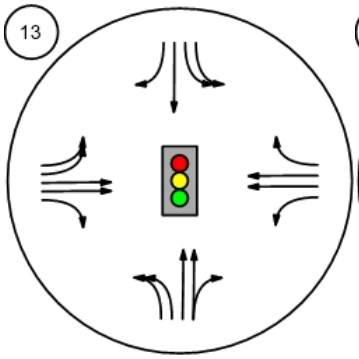

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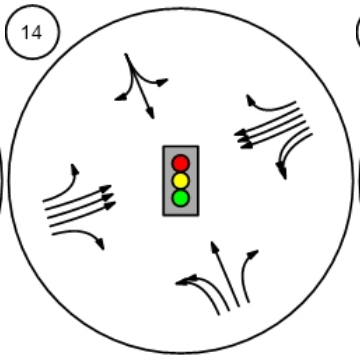

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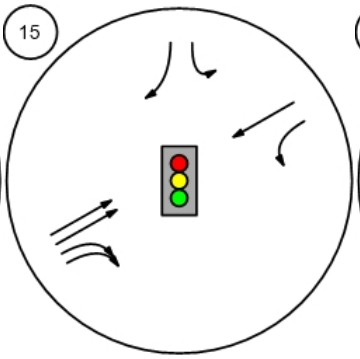

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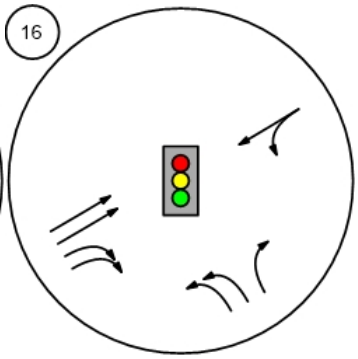

Report Figure 2: Lane Configuration and Traffic Control



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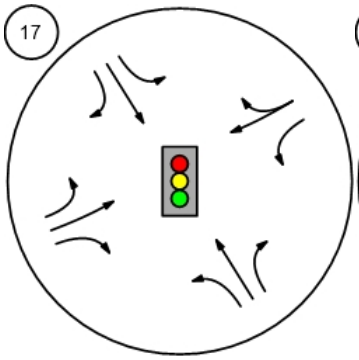

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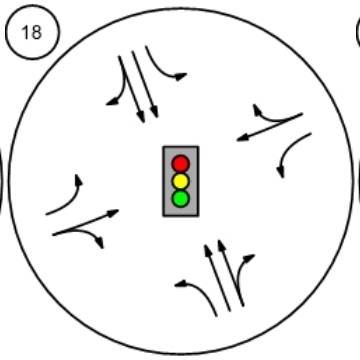

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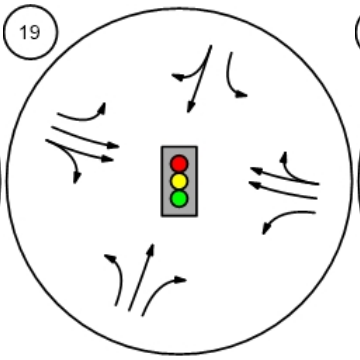

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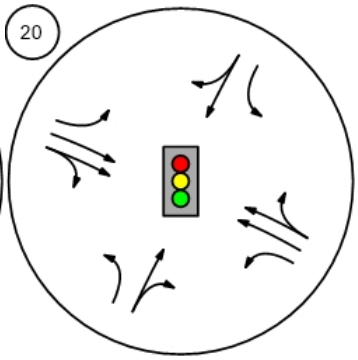

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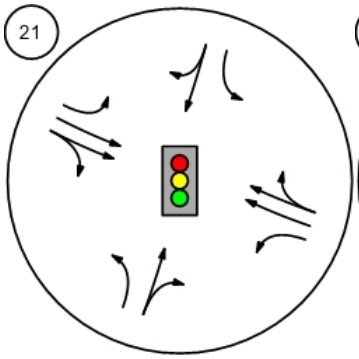

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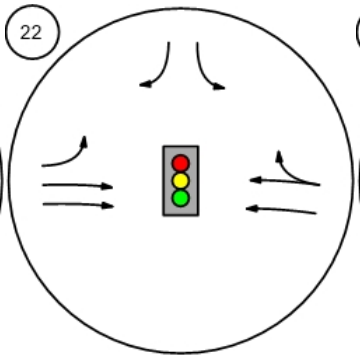

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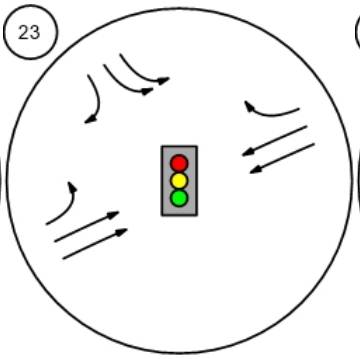

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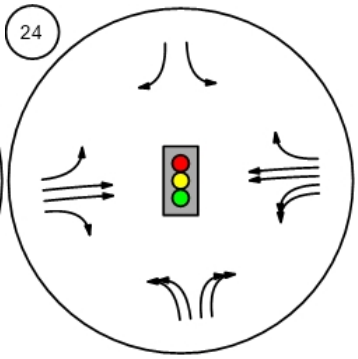

Report Figure 2: Lane Configuration and Traffic Control



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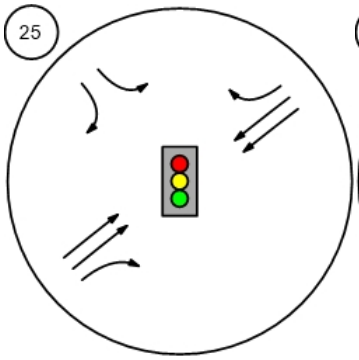

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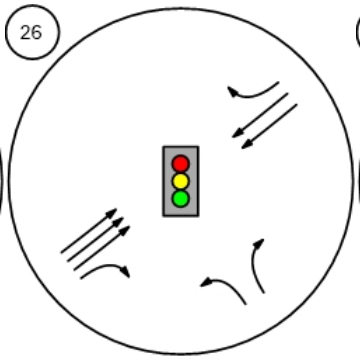

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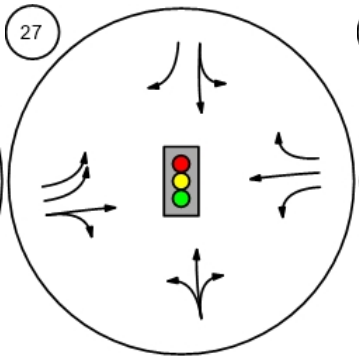

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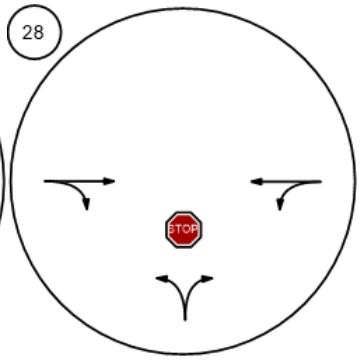
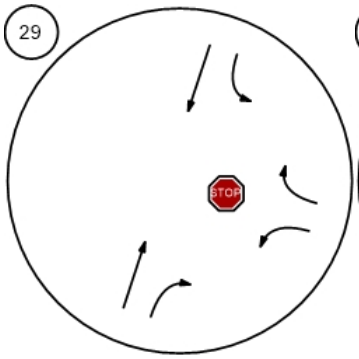


Championship Drive and Gri



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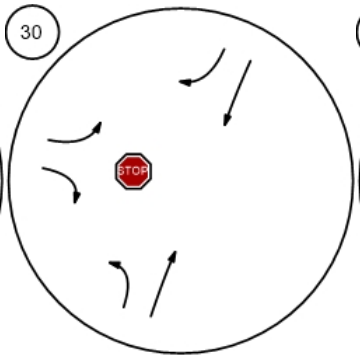
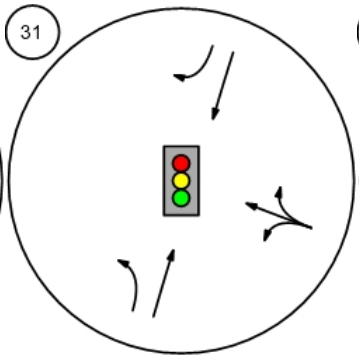


SR 118 WB and Collins Drive



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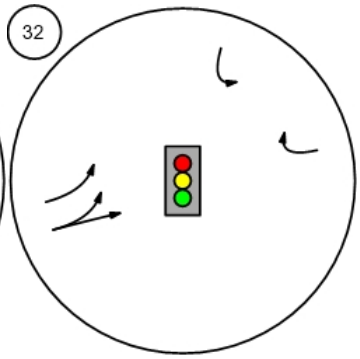
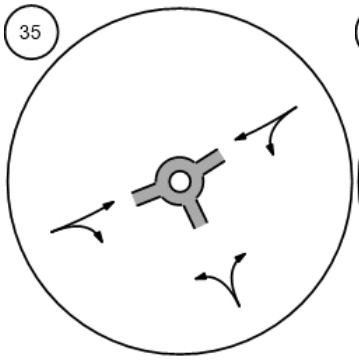


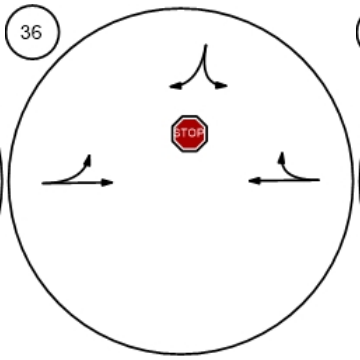
Report Figure 2: Lane Configuration and Traffic Control



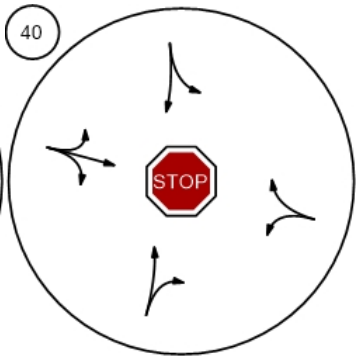
Future Road - Meridian Hills



Future Road - Street "A" at Hi



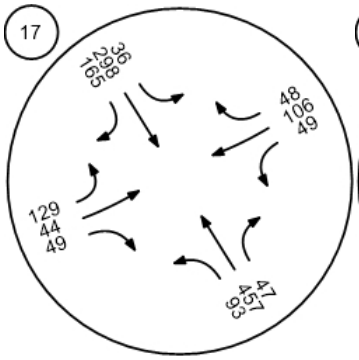
Future Road - Casey Road at



Report Figure 3c: Traffic Volume - Future Background Volume



Spring Road and Peach Hill



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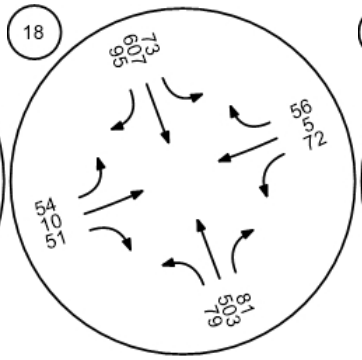
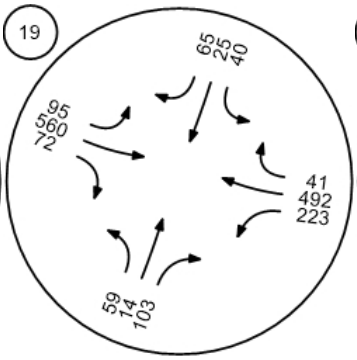
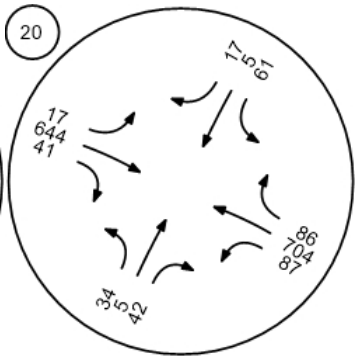


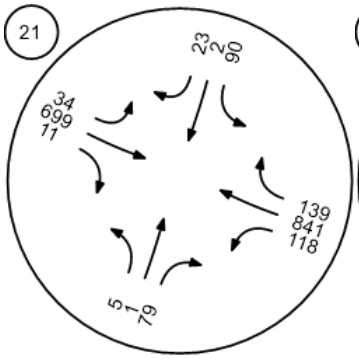
Mountain Trail Road and Tier



Mountain Meadow Drive and



Walnut Creek Road and Tierr



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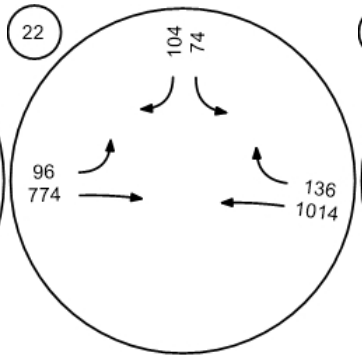

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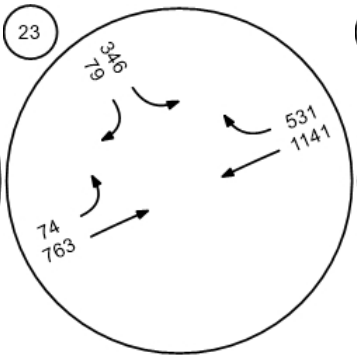
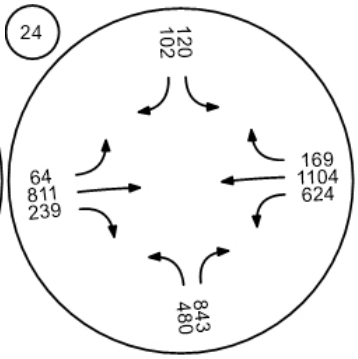


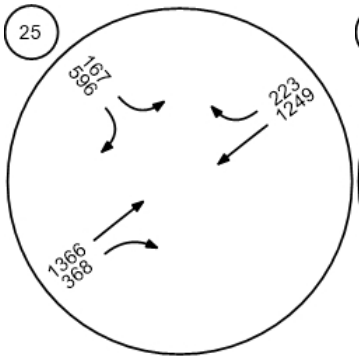
Moorpark Road and Tierra R



Report Figure 3c: Traffic Volume - Future Background Volume



SR 23 SB ramps and Tierra



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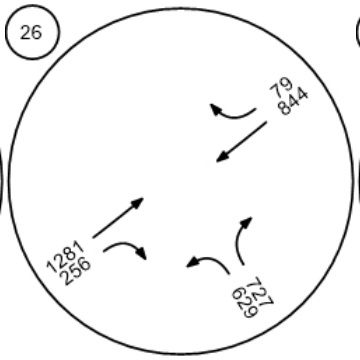
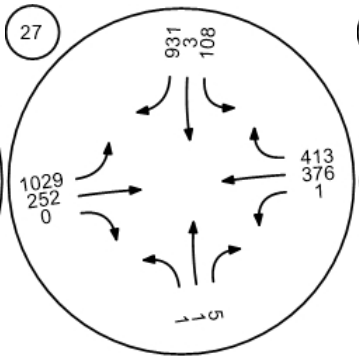
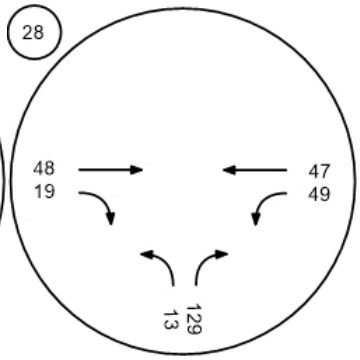


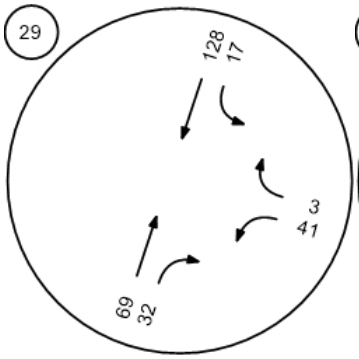
Moorpark Road and Santa R



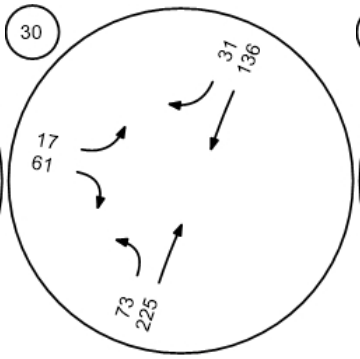
Broadway Road and Grimes



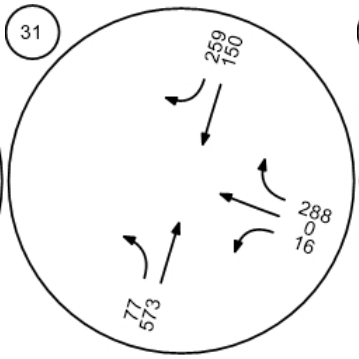
Championship Drive and Gri



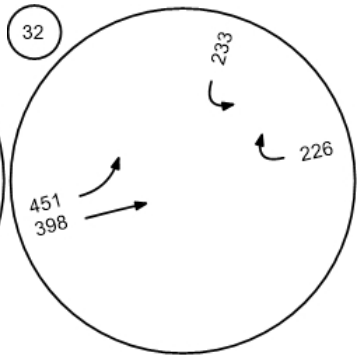
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



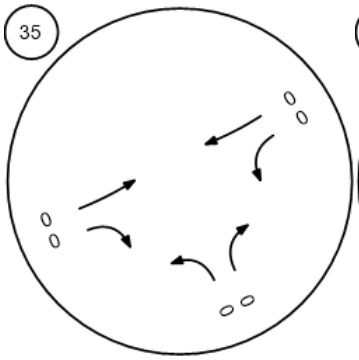
SR 118 EB and Collins Drive



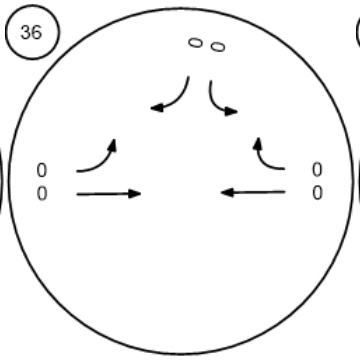
Report Figure 3c: Traffic Volume - Future Background Volume



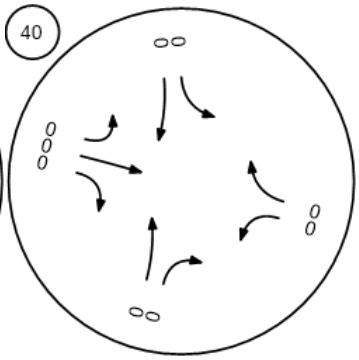
Future Road - Meridian Hills



Future Road - Street "A" at Hi



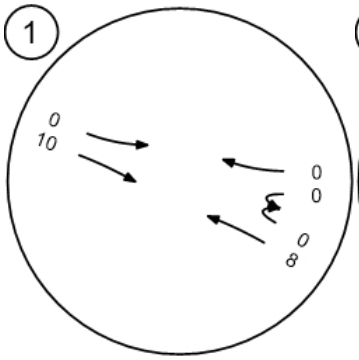
Future Road - Casey Road at



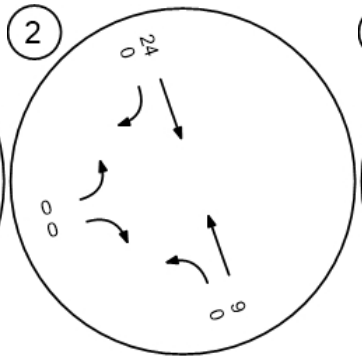
Report Figure 3d: Traffic Volume - Net New Site Trips



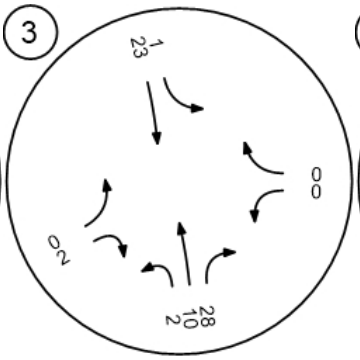
Walnut Canyon Road at Broa



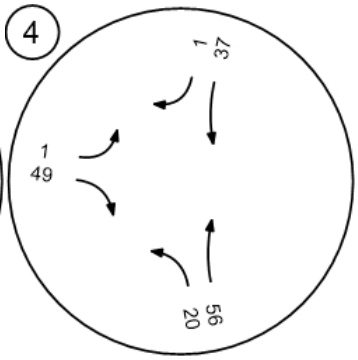
Walnut Canyon Road at Cha



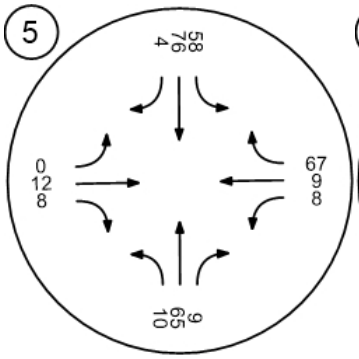
Walnut Canyon Road at Spri



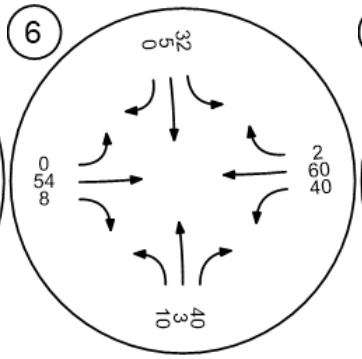
Walnut Canyon Road at Cas



Moorpark Avenue at High Str



Spring Road at High Street



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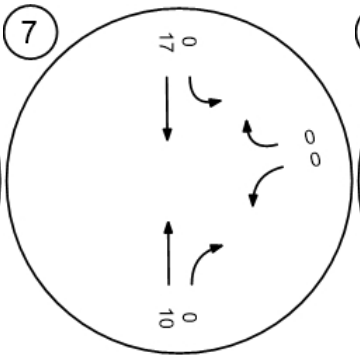

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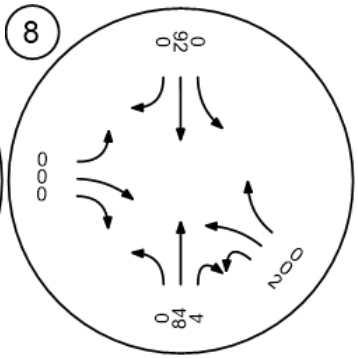

Report Figure 3d: Traffic Volume - Net New Site Trips



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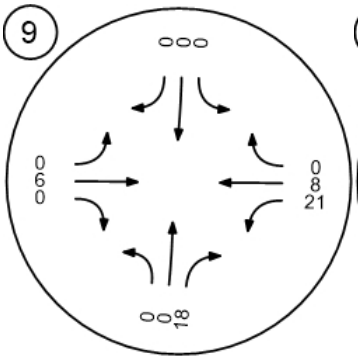

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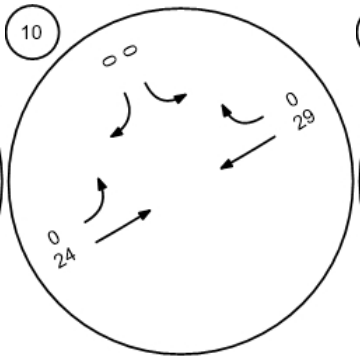

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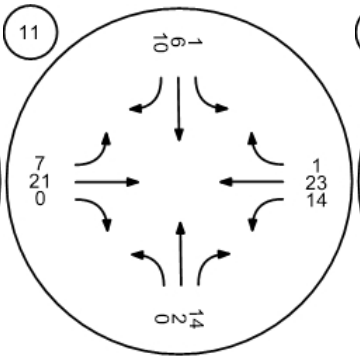
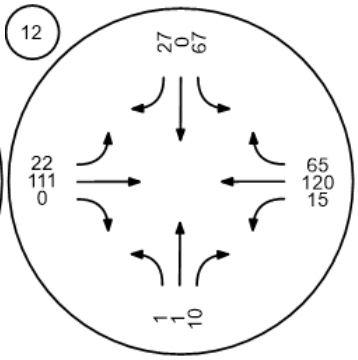
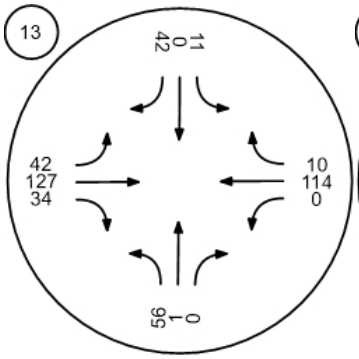


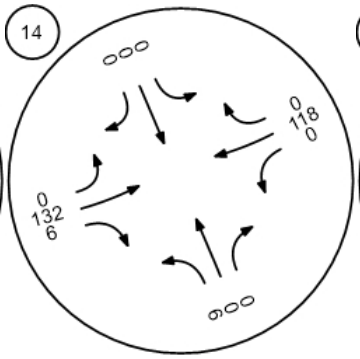
Moorpark Avenue and Los A



Spring Road and Los Angele



Miller Parkway/Science Drive



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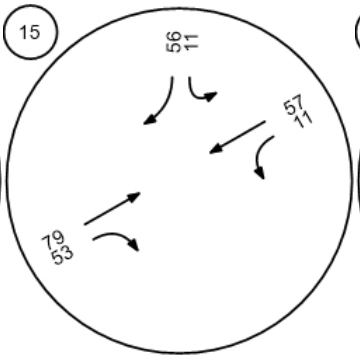

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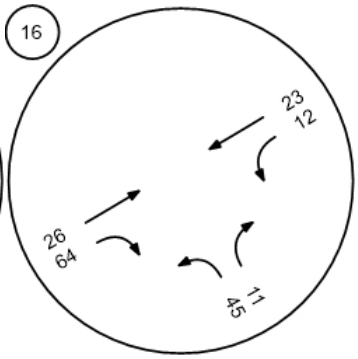
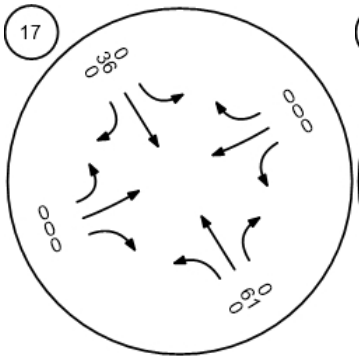


Report Figure 3d: Traffic Volume - Net New Site Trips



Spring Road and Peach Hill



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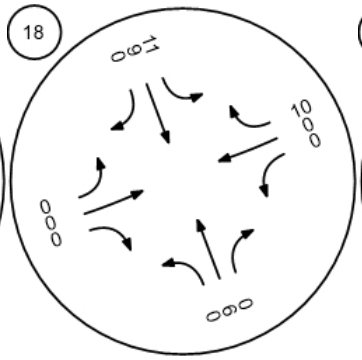
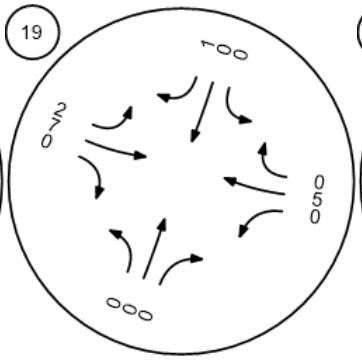


Mountain Trail Road and Tier



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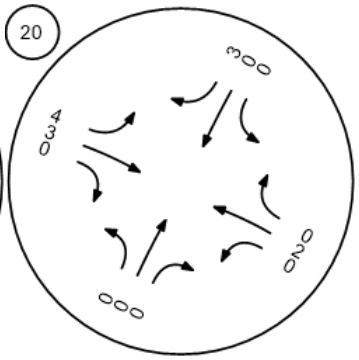
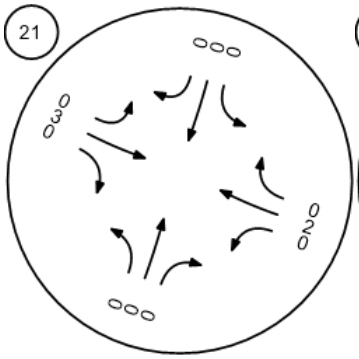


Walnut Creek Road and Tierr



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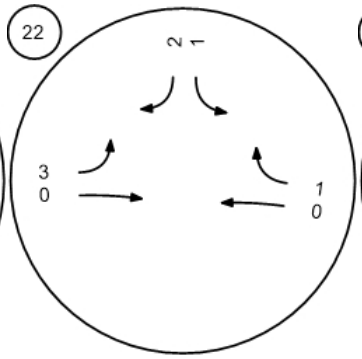
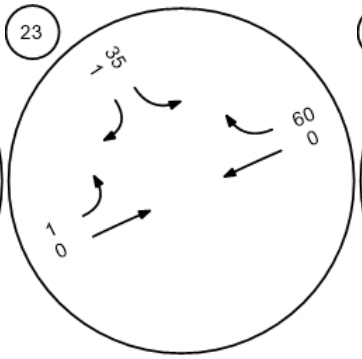


Spring Road and Tierra Reja



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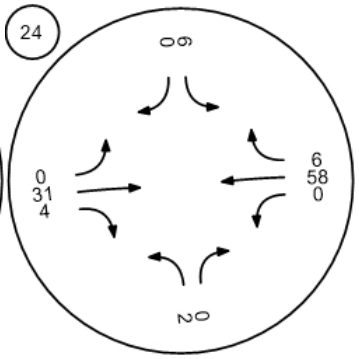

Report Figure 3d: Traffic Volume - Net New Site Trips



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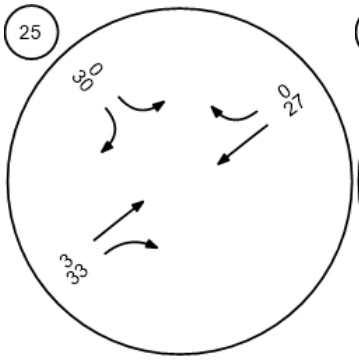

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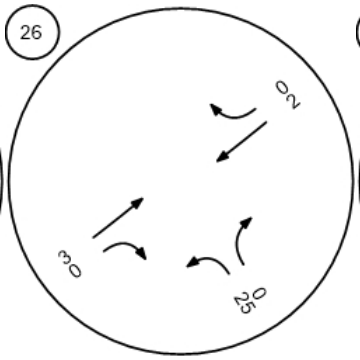

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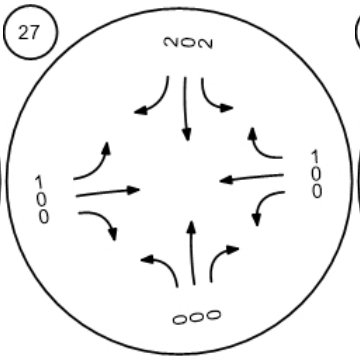
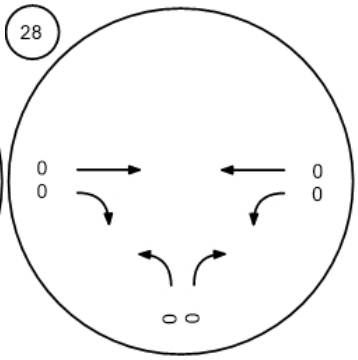


Broadway Road and Grimes



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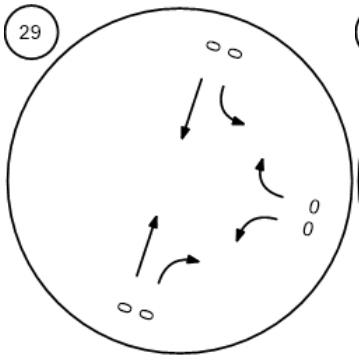

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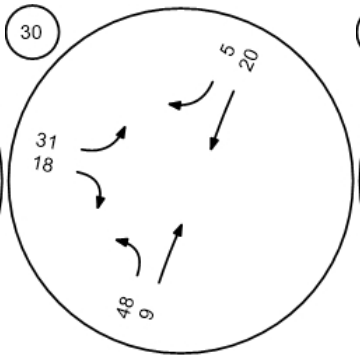
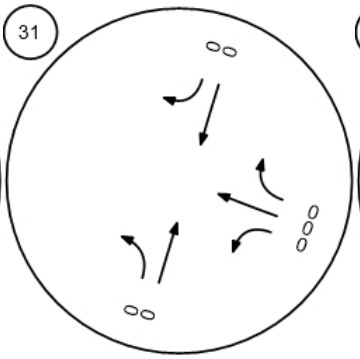


SR 118 WB and Collins Drive



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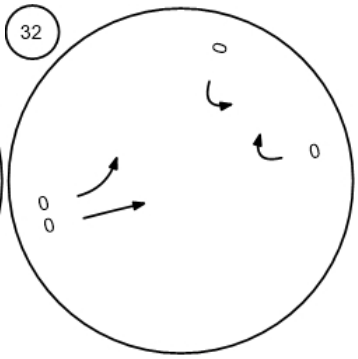
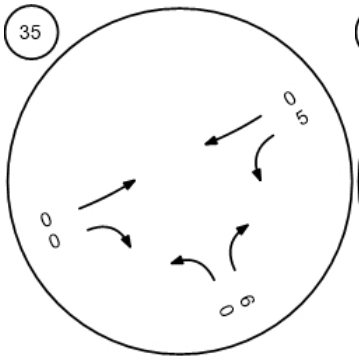


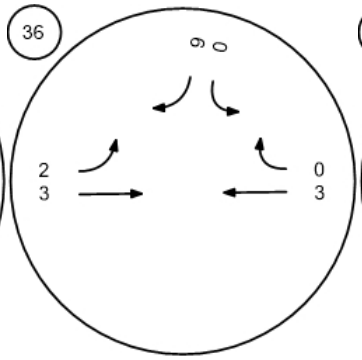
Report Figure 3d: Traffic Volume - Net New Site Trips



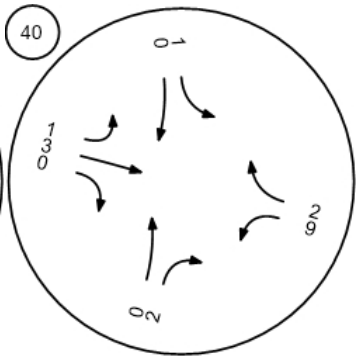
Future Road - Meridian Hills



Future Road - Street "A" at Hi



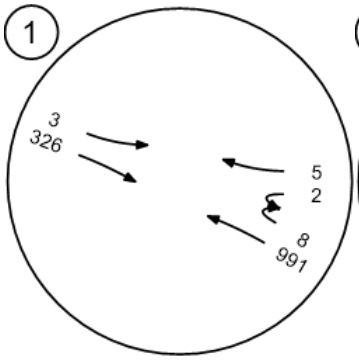
Future Road - Casey Road at



Report Figure 3f: Traffic Volume - Future Total Volume



Walnut Canyon Road at Broa



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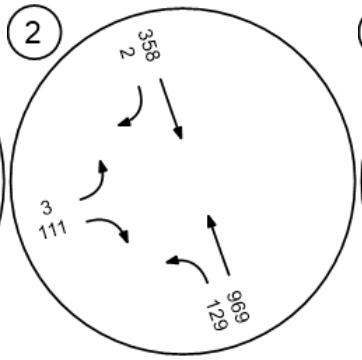

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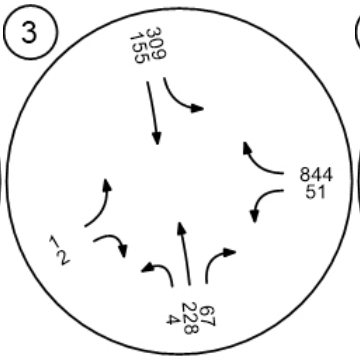

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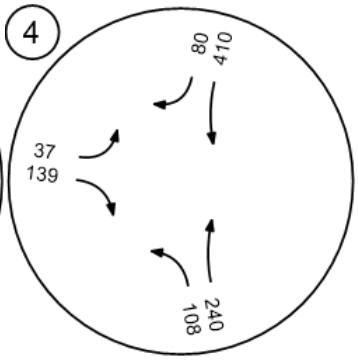
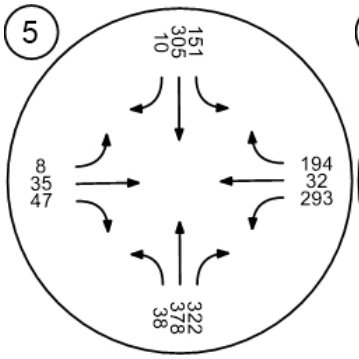
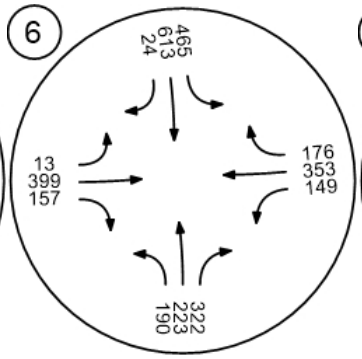


Moorpark Avenue at High Str



Spring Road at High Street



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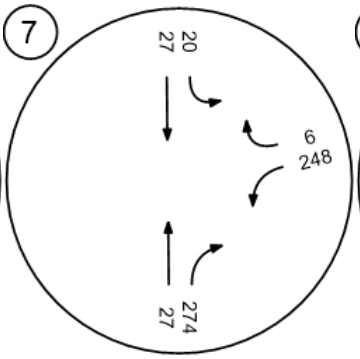
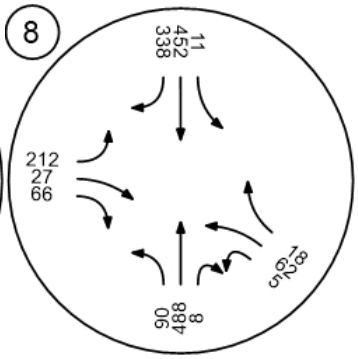


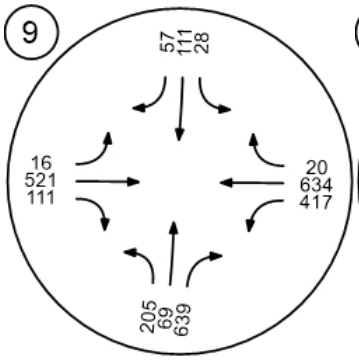
Moorpark Avenue and Poind



Report Figure 3f: Traffic Volume - Future Total Volume



Somis Road and Los Angeles



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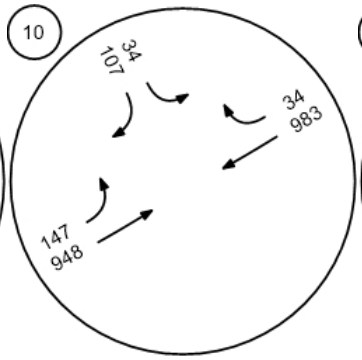
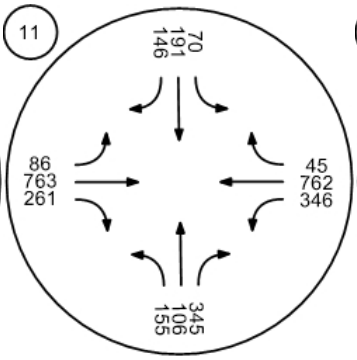
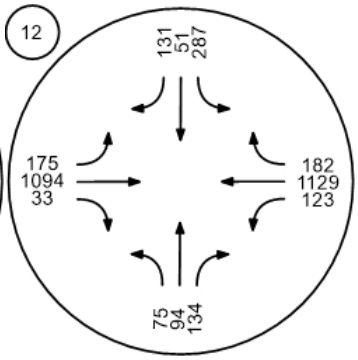


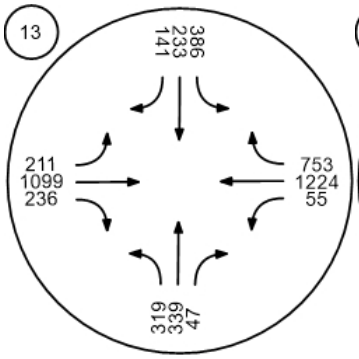
Tierra Rejada Road and Los



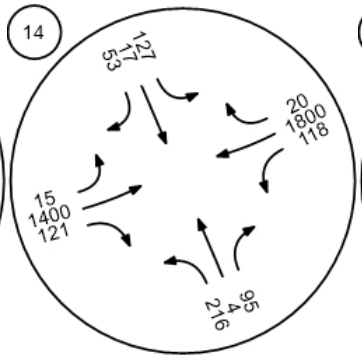
Moorpark Avenue and Los A



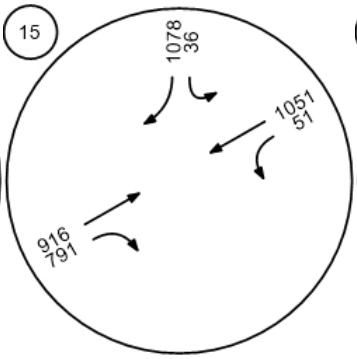
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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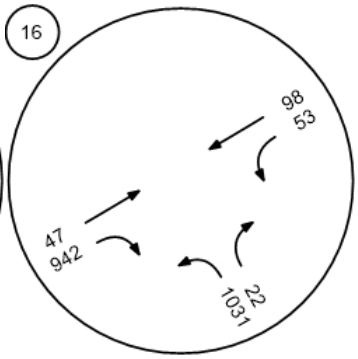
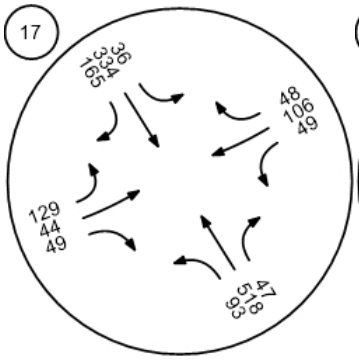


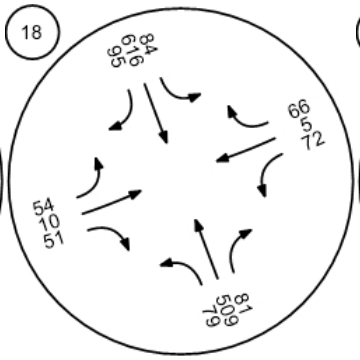
Report Figure 3f: Traffic Volume - Future Total Volume



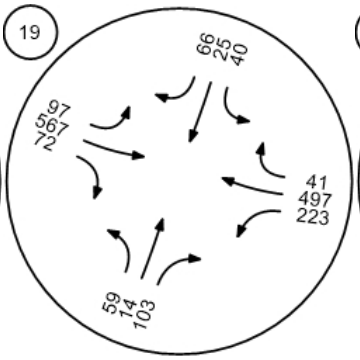
Spring Road and Peach Hill



Tierra Rejada Road and Cou



Mountain Trail Road and Tier



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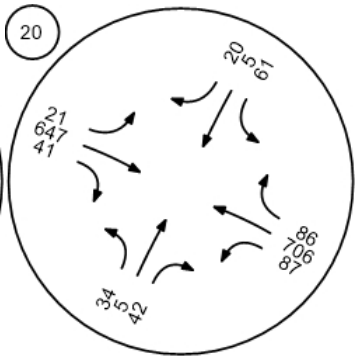
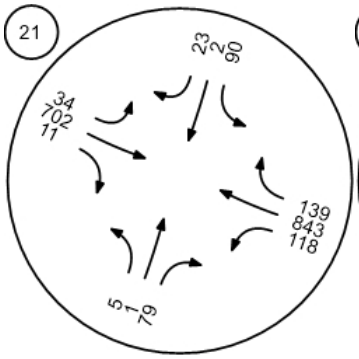


Walnut Creek Road and Tierr



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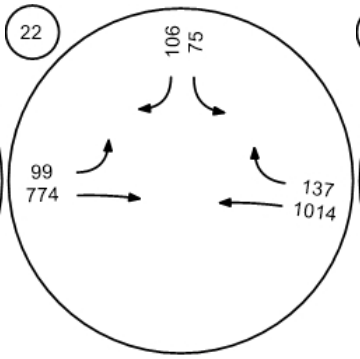

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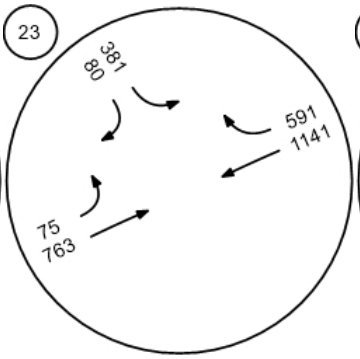

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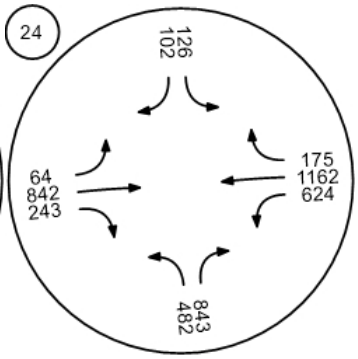

Report Figure 3f: Traffic Volume - Future Total Volume



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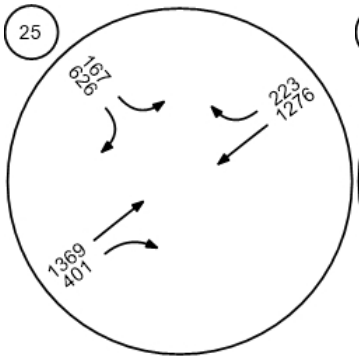
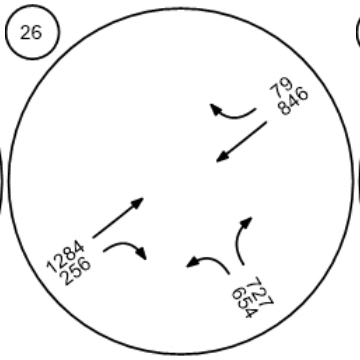


SB□23 NB ramps and Tierra



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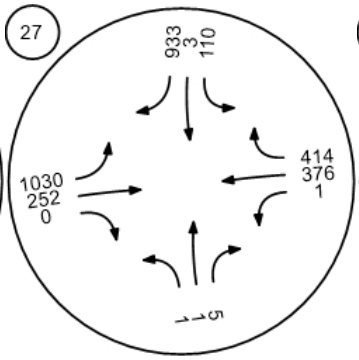

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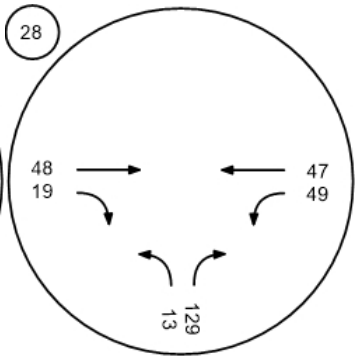

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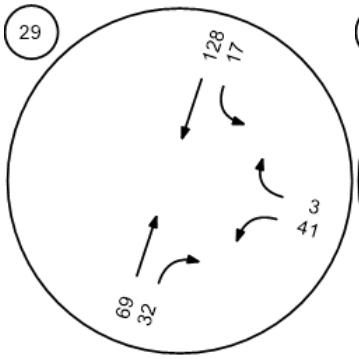

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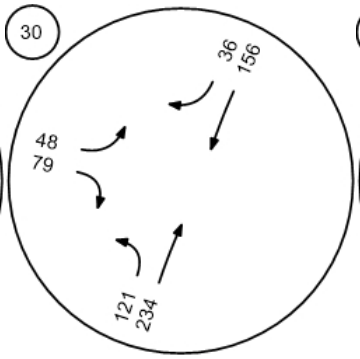
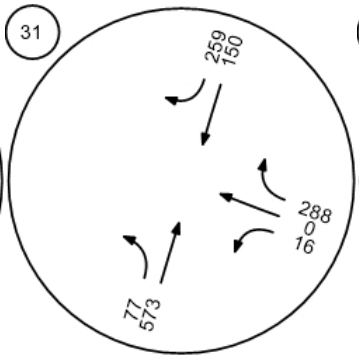


SR 118 WB and Collins Drive



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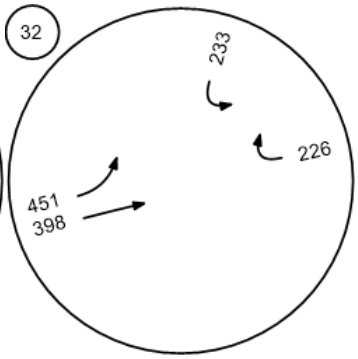

Report Figure 3f: Traffic Volume - Future Total Volume



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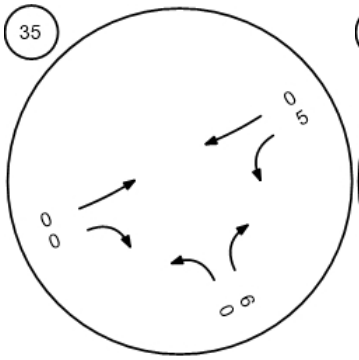
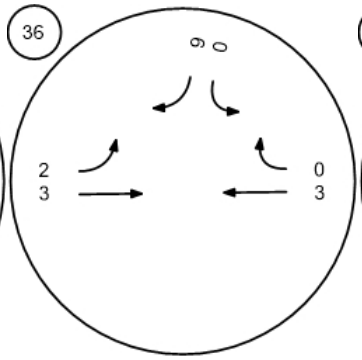
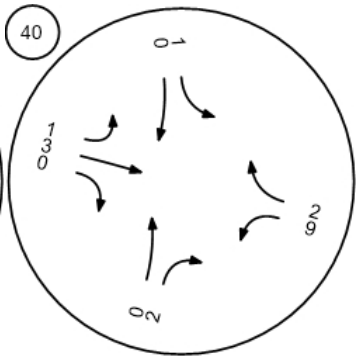


Future Road - Street "A" at Hi

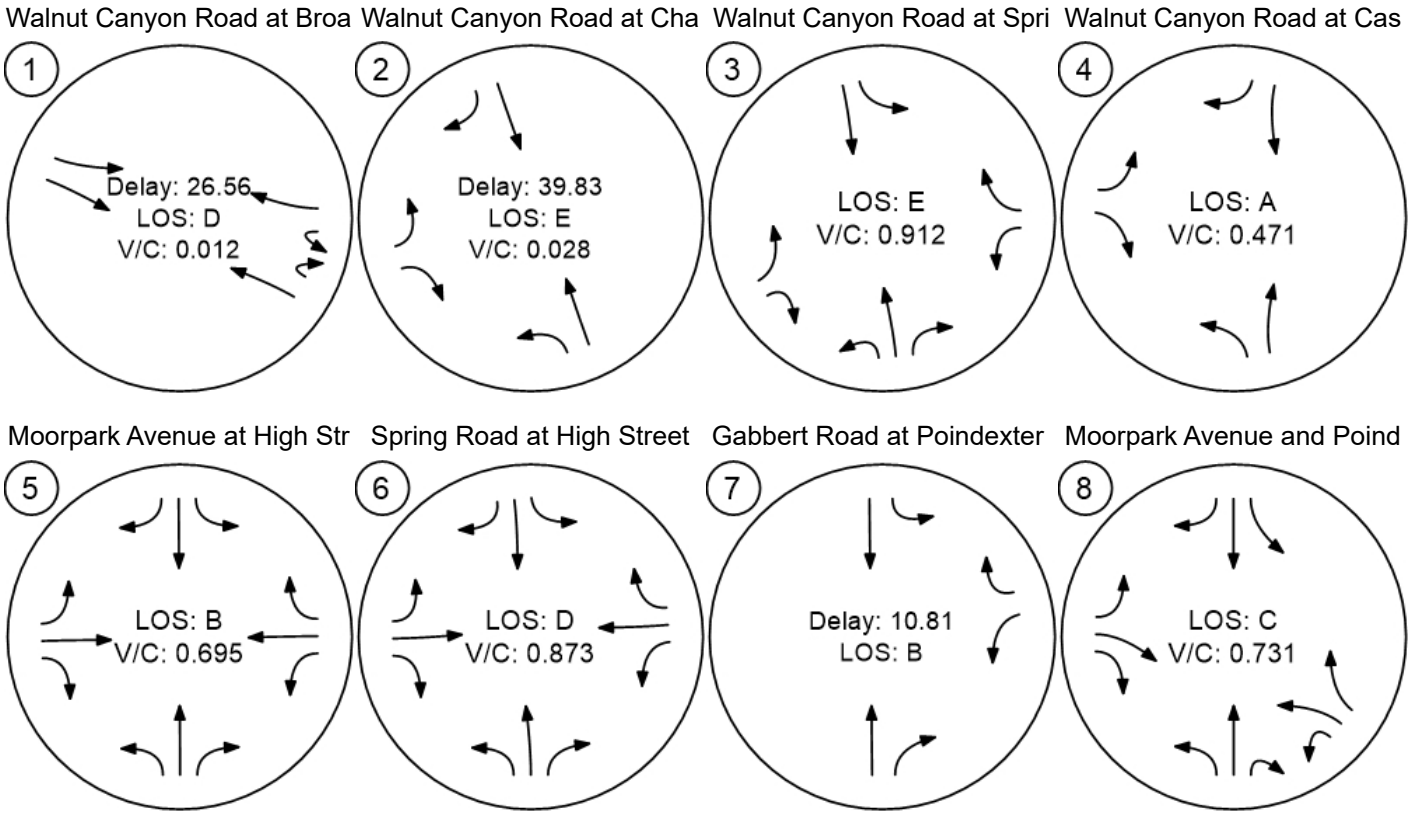


Future Road - Casey Road at



Report Figure 4: Traffic Conditions

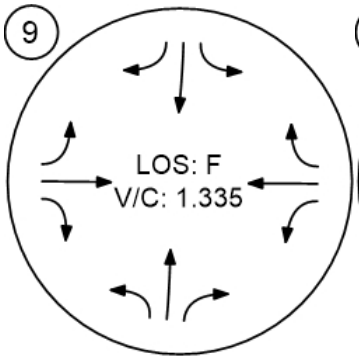




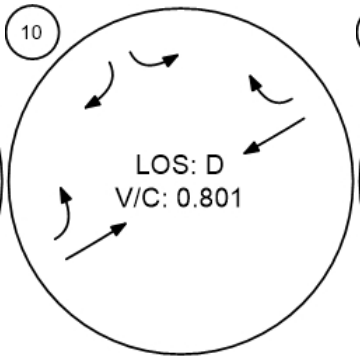
Report Figure 4: Traffic Conditions



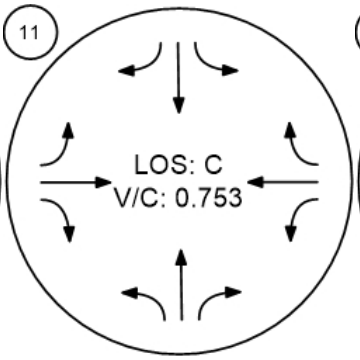
Somis Road and Los Angeles



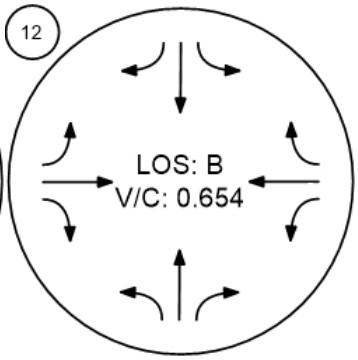
Grimes Canyon Road and Lo



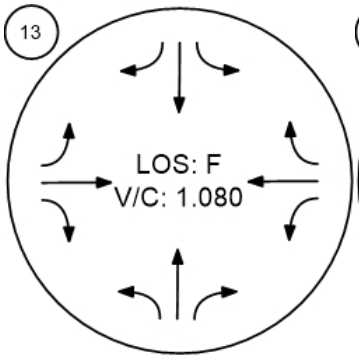
Tierra Rejada Road and Los



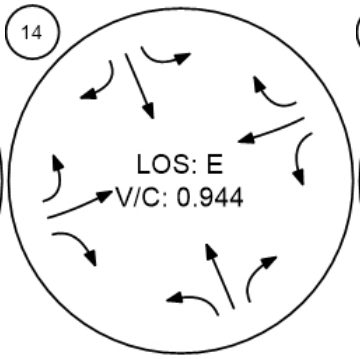
Moorpark Avenue and Los A



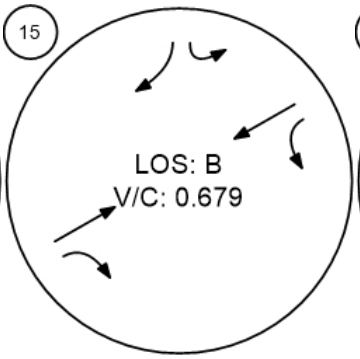
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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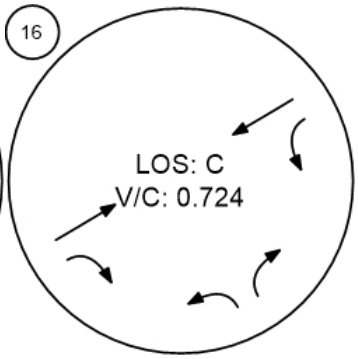
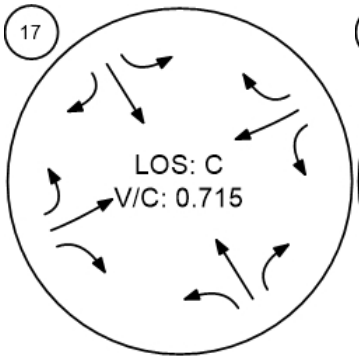


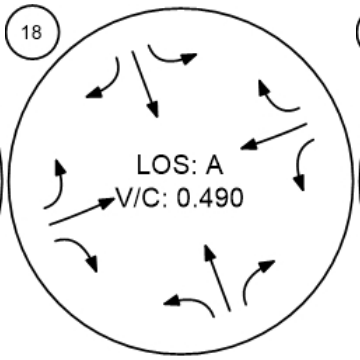
Report Figure 4: Traffic Conditions



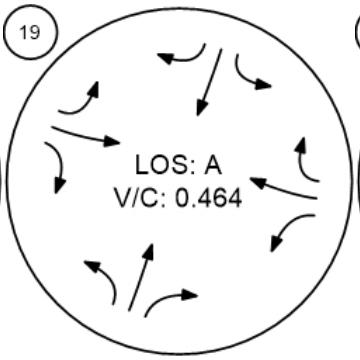
Spring Road and Peach Hill



Tierra Rejada Road and Cou



Mountain Trail Road and Tier



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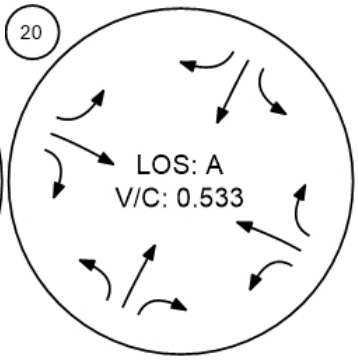
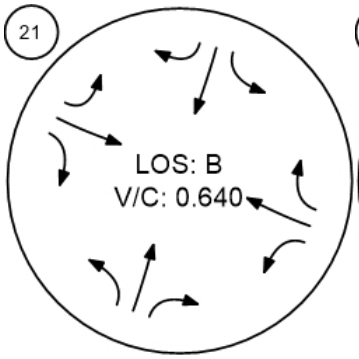


Walnut Creek Road and Tierr



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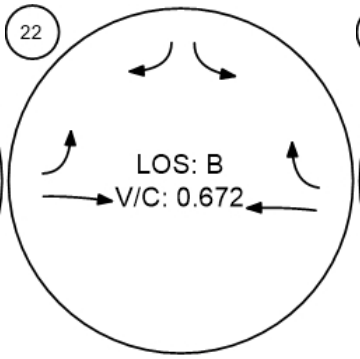
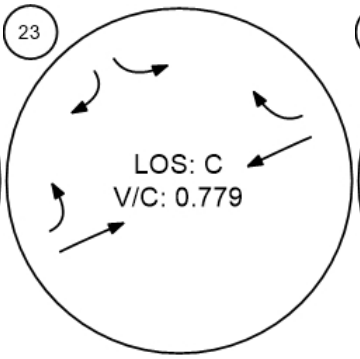
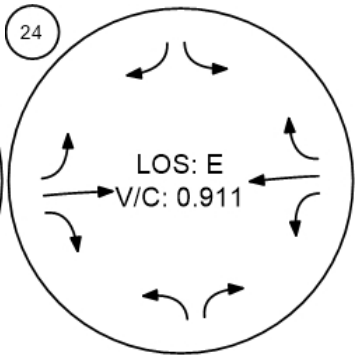


Spring Road and Tierra Reja



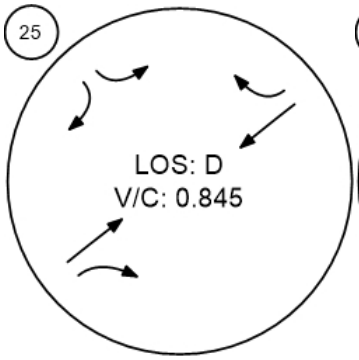
Moorpark Road and Tierra R



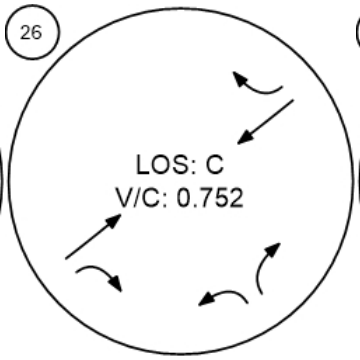
Report Figure 4: Traffic Conditions



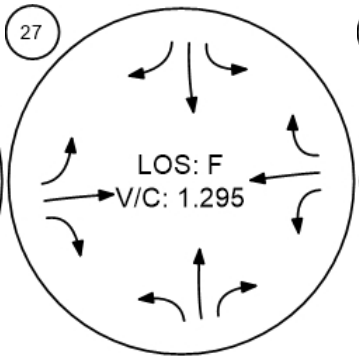
SR□23 SB ramps and Tierra



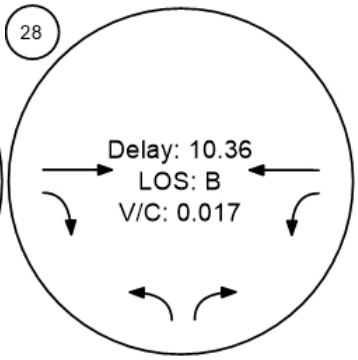
SB□23 NB ramps and Tierra



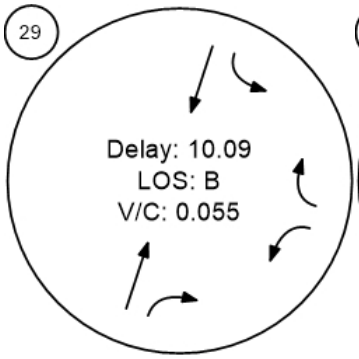
Moorpark Road and Santa R



Broadway Road and Grimes



Championship Drive and Gri



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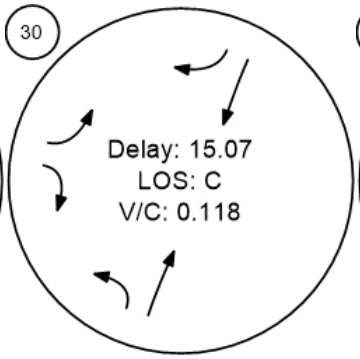
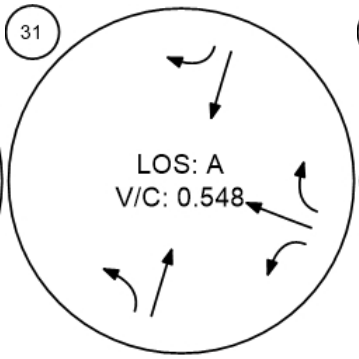


SR 118 WB and Collins Drive



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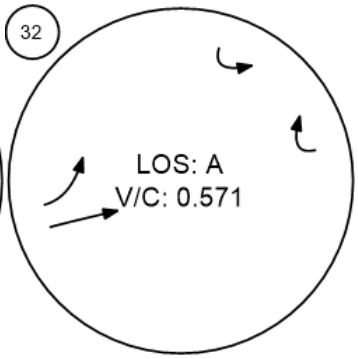
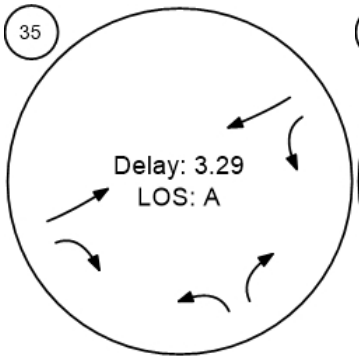


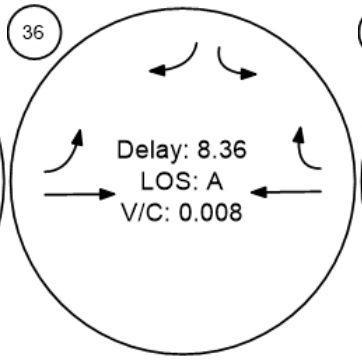
Report Figure 4: Traffic Conditions



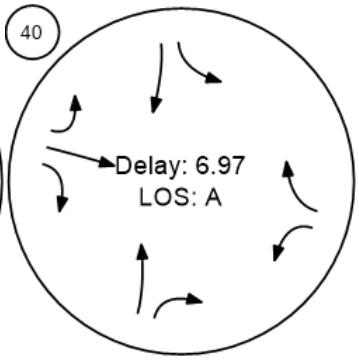
Future Road - Meridian Hills



Future Road - Street "A" at Hi



Future Road - Casey Road at



FUTURE CUMULATIVE (2026) + PROJECT

Vistro File: C:\...\Hitch Ranch_FINAL High.vistro
Report File: C:\...\AM Future+Projectt.pdf

Scenario 7 7 7 AM Future 2.0
12/15/2020

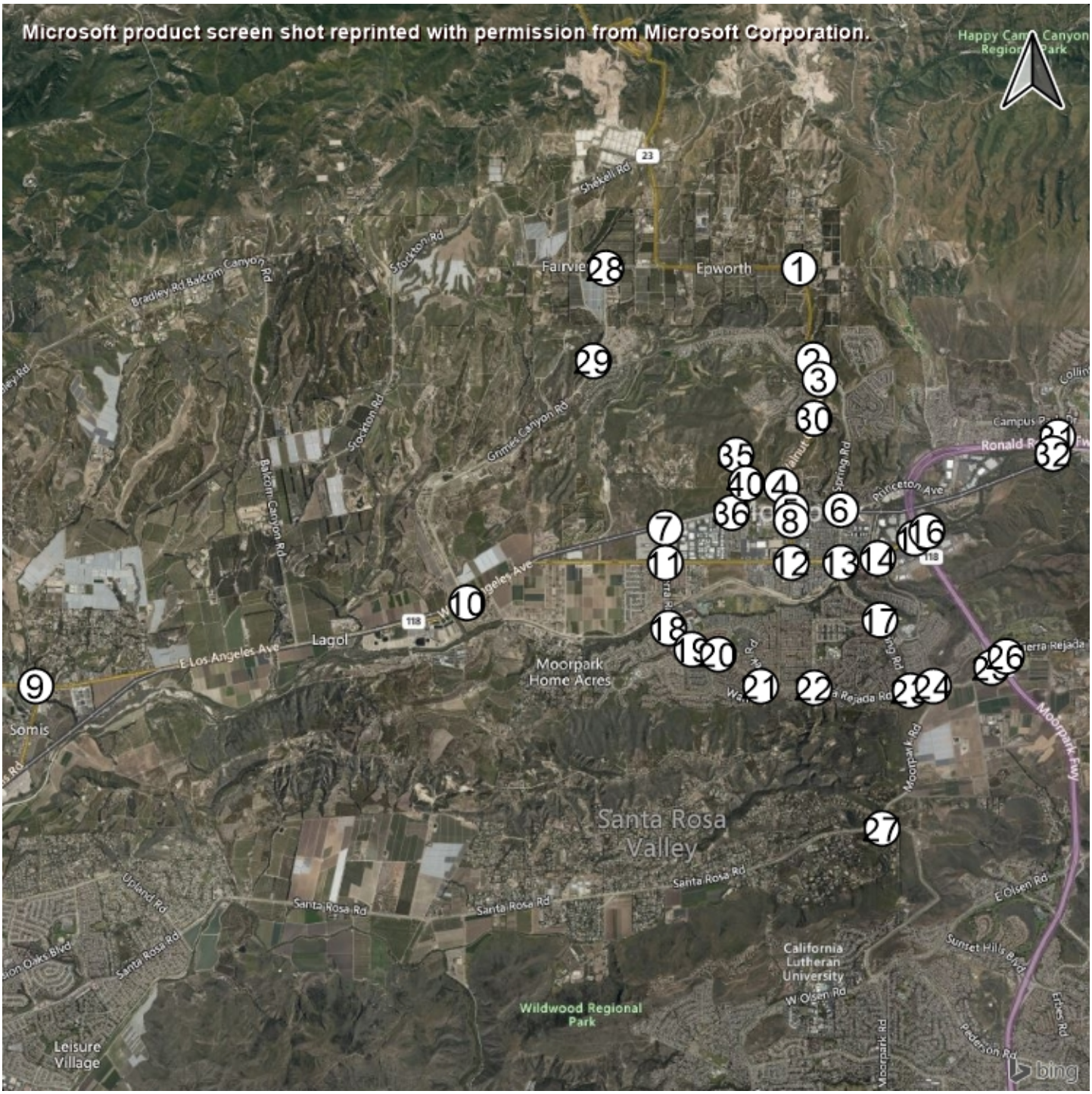
Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.004	20.6	C
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.014	30.6	D
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	SB Left	0.604	-	B
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.774	-	C
5	Moorpark Avenue at High Street	Signalized	ICU 1	SB Thru	0.847	-	D
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.710	-	C
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.421	11.1	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Thru	0.761	-	C
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	NB Right	1.112	-	F
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	NEB Thru	0.733	-	C
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	NB Right	0.803	-	D
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.626	-	B
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.986	-	E
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.740	-	C
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.409	-	A
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	NEB Right	0.519	-	A
17	Spring Road and Peach Hill Road	Signalized	ICU 1	SEB Thru	0.784	-	C
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Thru	0.689	-	B

19	Mountain Trail Road and Tierra Rejada Road	Signalized	ICU 1	SEB Right	0.580	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	NWB Thru	0.637	-	B
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	SEB Thru	0.805	-	D
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	EB Thru	0.737	-	C
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	NEB Thru	0.843	-	D
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	EB Right	1.059	-	F
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	NEB Right	0.854	-	D
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NWB Left	0.932	-	E
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	SB Right	0.983	-	E
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.020	11.3	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.055	10.1	B
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.105	15.1	C
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.541	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.550	-	A
35	Future Road - Meridian Hills Drive at Street "A"	Roundabout	HCM 2010	NWB Right		3.3	A
36	Future Road - Street "A" at High Street	Two-way stop	HCM 2010	SB Left	0.137	9.5	A
40	Future Road - Casey Road at Street "A"	All-way stop	HCM 2010	EB Right	0.229	7.7	A

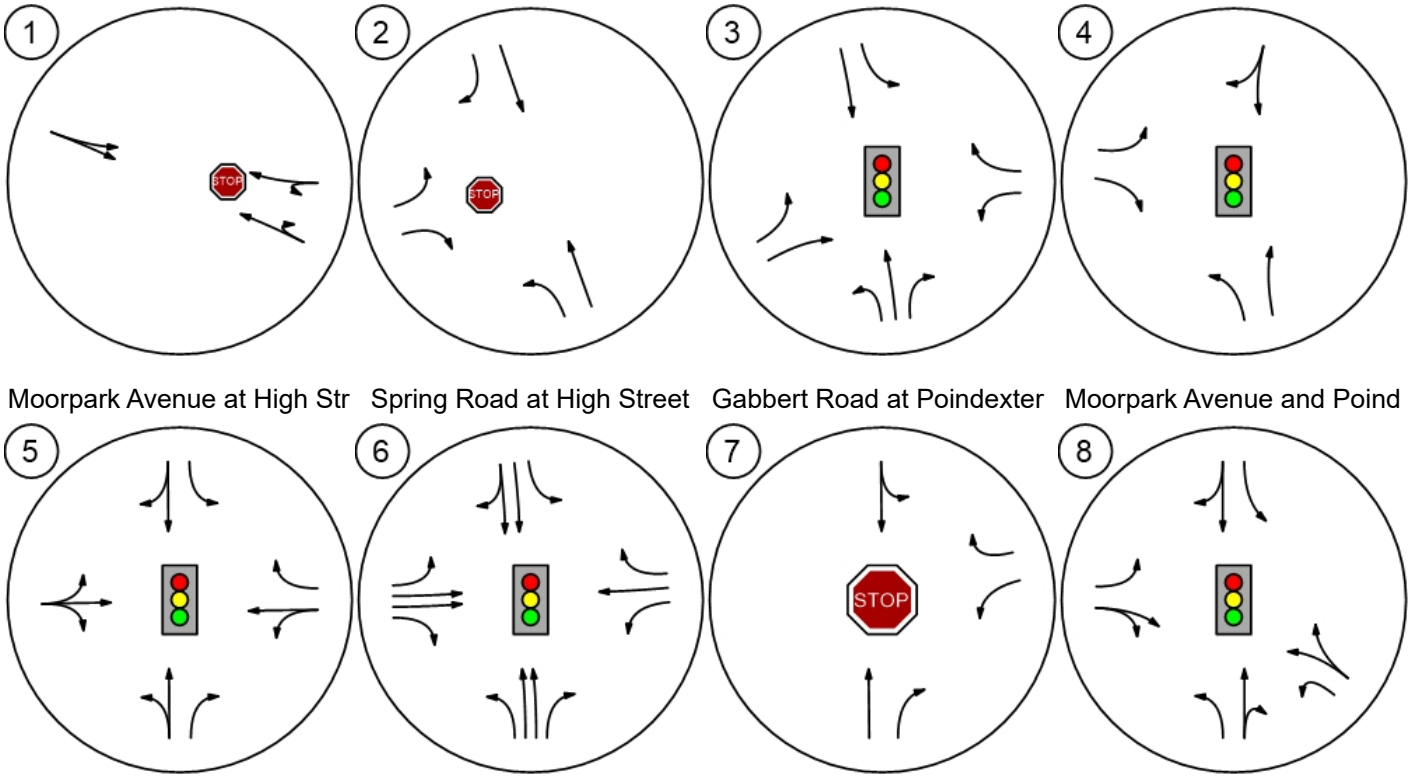
V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Report Figure 1: Study Intersections



Report Figure 2: Lane Configuration and Traffic Control

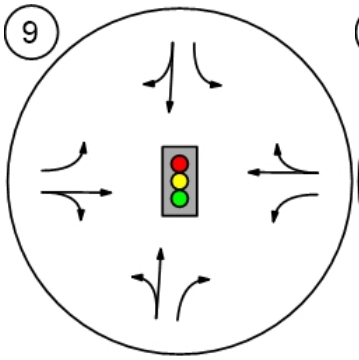




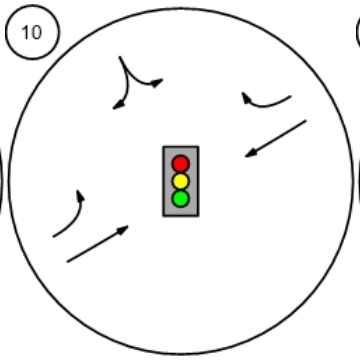
Report Figure 2: Lane Configuration and Traffic Control



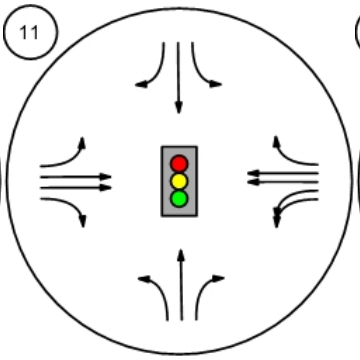
Somis Road and Los Angeles



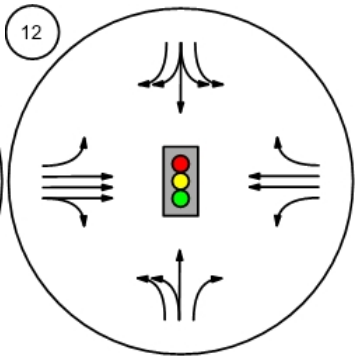
Grimes Canyon Road and Lo



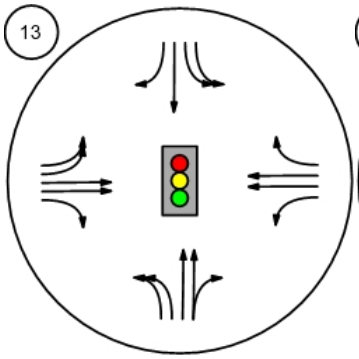
Tierra Rejada Road and Los



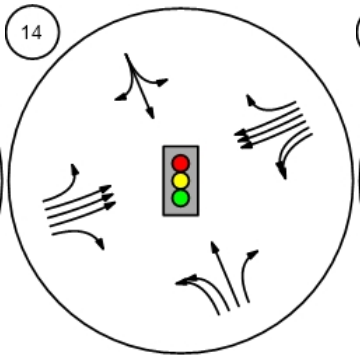
Moorpark Avenue and Los A



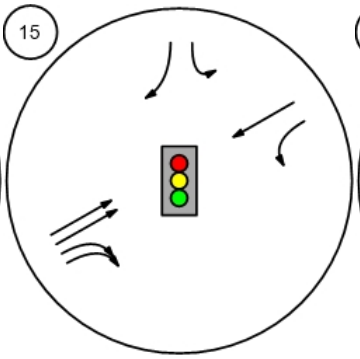
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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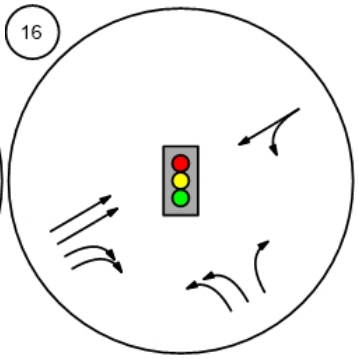

Report Figure 2: Lane Configuration and Traffic Control



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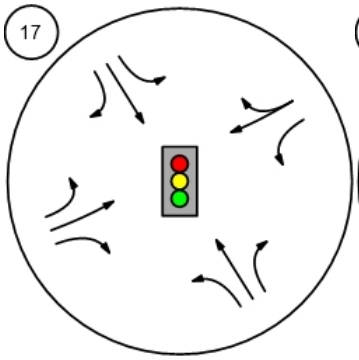

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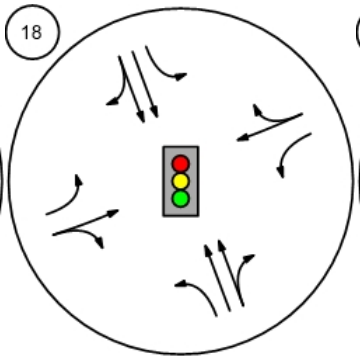

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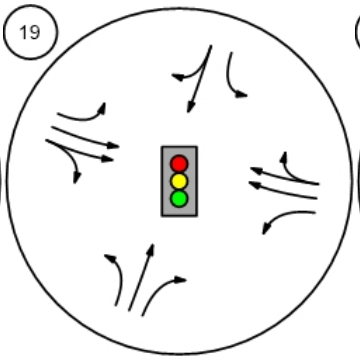

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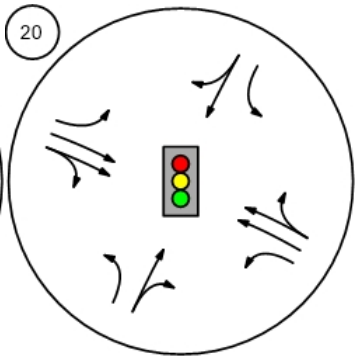

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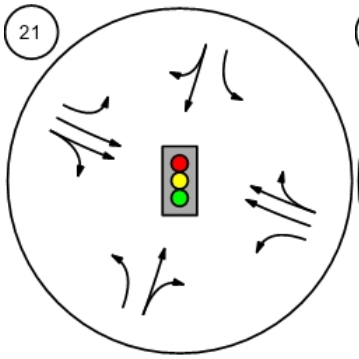

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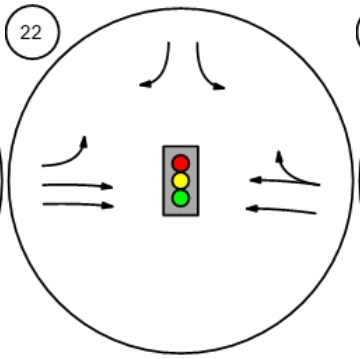

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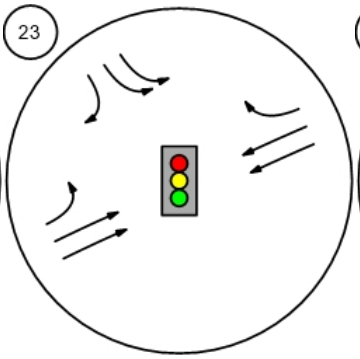

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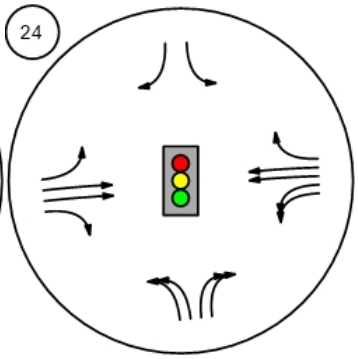
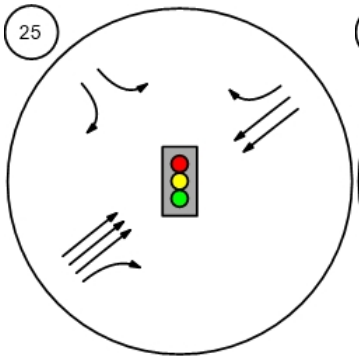


Report Figure 2: Lane Configuration and Traffic Control



SR 23 SB ramps and Tierra



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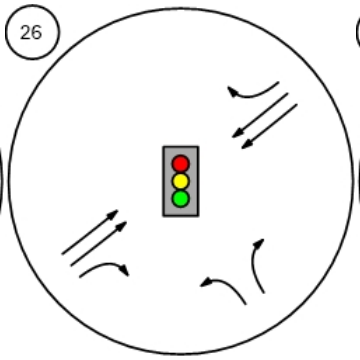
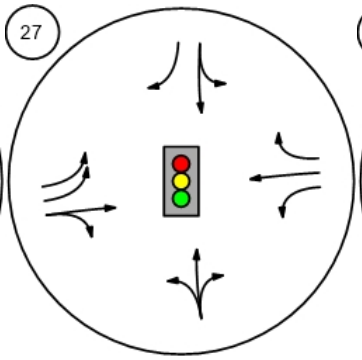
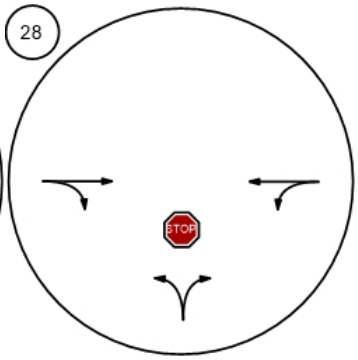


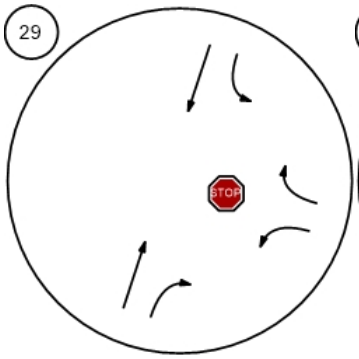
Moorpark Road and Santa R



Broadway Road and Grimes



Championship Drive and Gri



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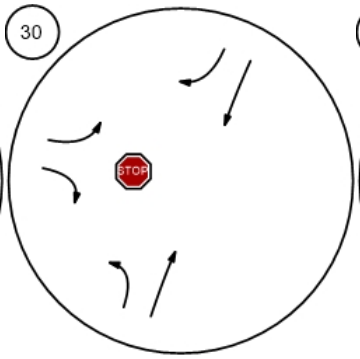
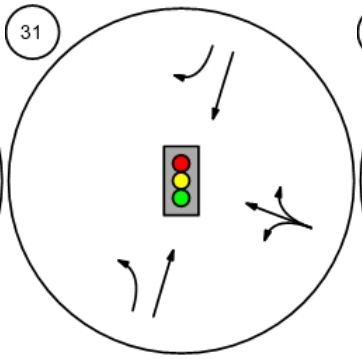
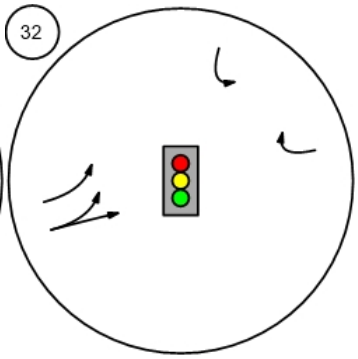


SR 118 WB and Collins Drive



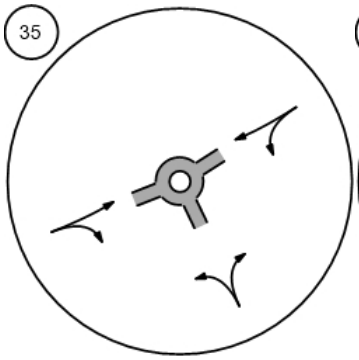
SR 118 EB and Collins Drive



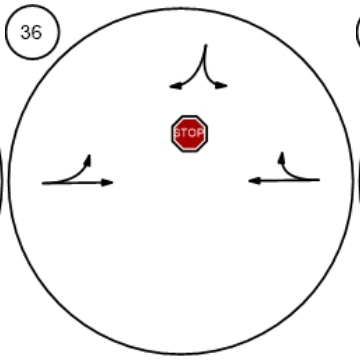
Report Figure 2: Lane Configuration and Traffic Control



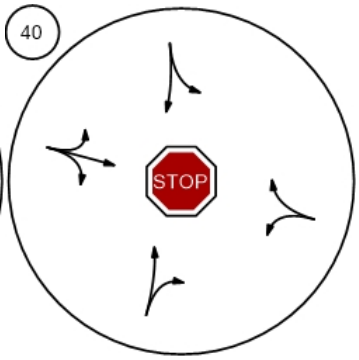
Future Road - Meridian Hills



Future Road - Street "A" at Hi



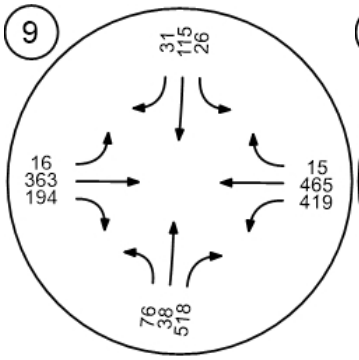
Future Road - Casey Road at



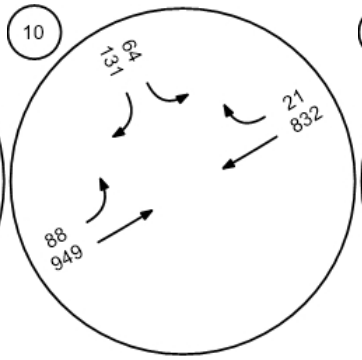
Report Figure 3c: Traffic Volume - Future Background Volume



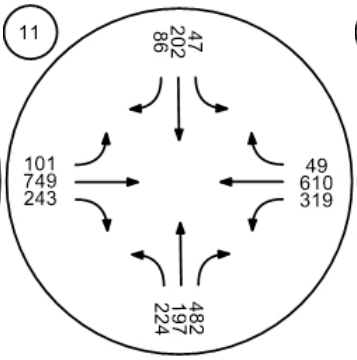
Somis Road and Los Angeles



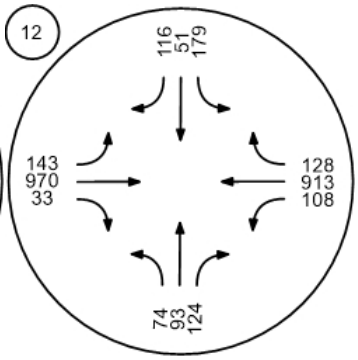
Grimes Canyon Road and Lo



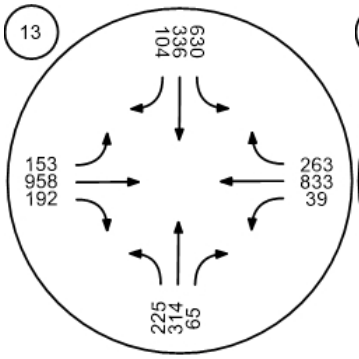
Tierra Rejada Road and Los



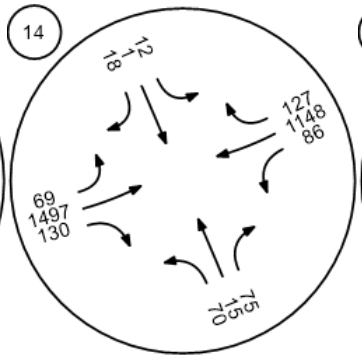
Moorpark Avenue and Los A



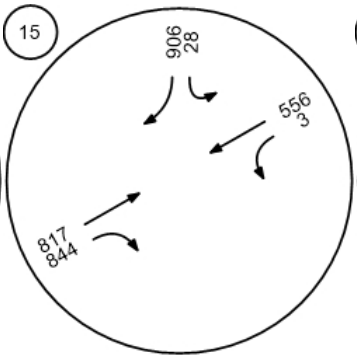
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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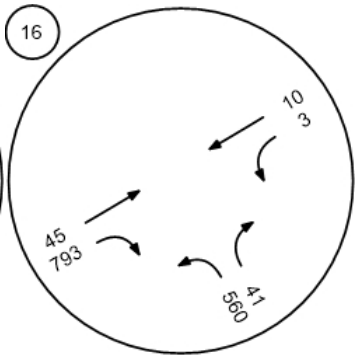
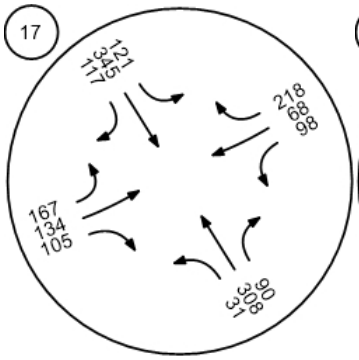


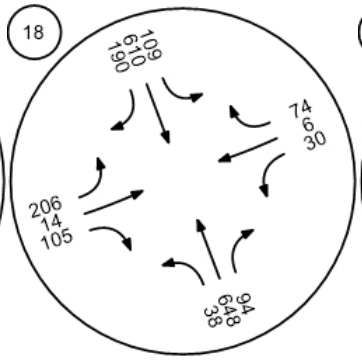
Report Figure 3c: Traffic Volume - Future Background Volume



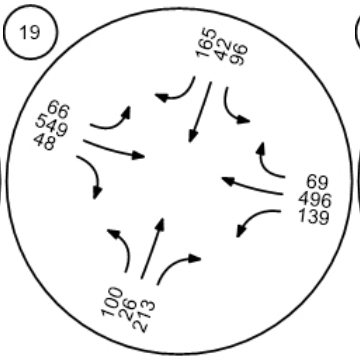
Spring Road and Peach Hill



Tierra Rejada Road and Cou



Mountain Trail Road and Tier



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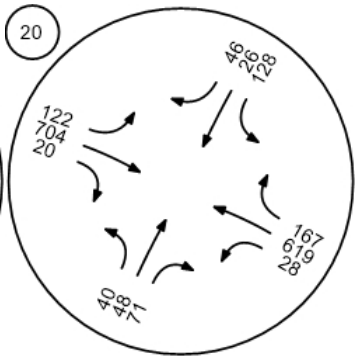
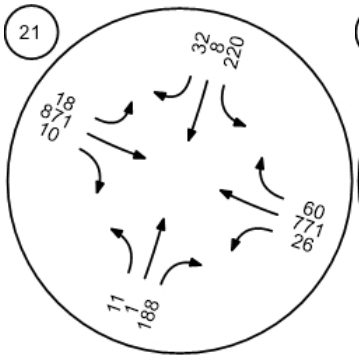


Walnut Creek Road and Tierr



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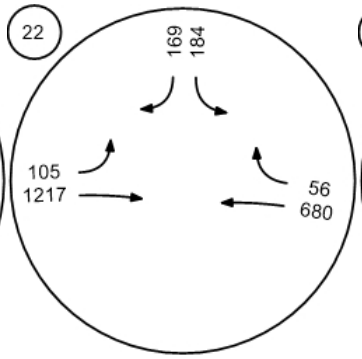

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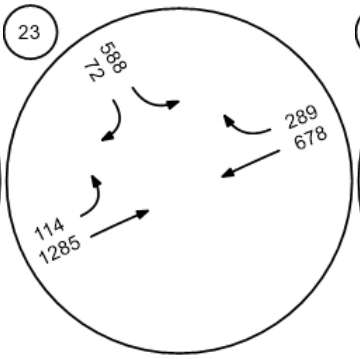
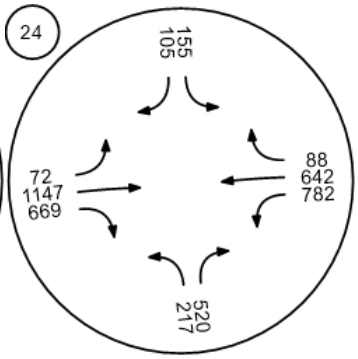


Moorpark Road and Tierra R



Report Figure 3c: Traffic Volume - Future Background Volume



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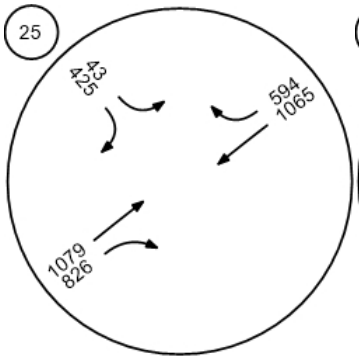

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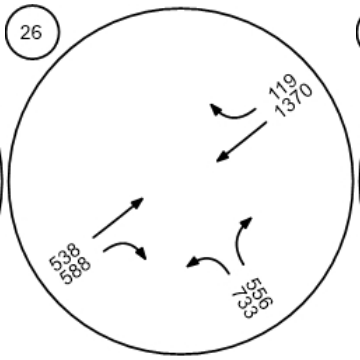

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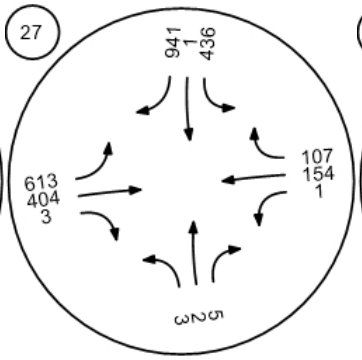
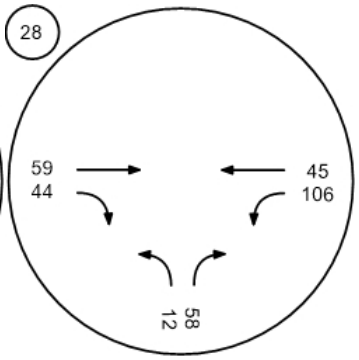
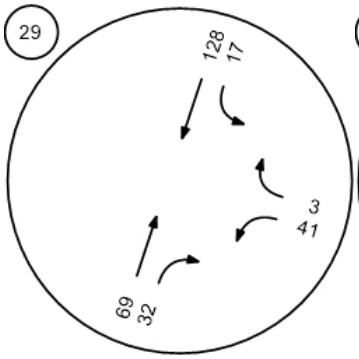


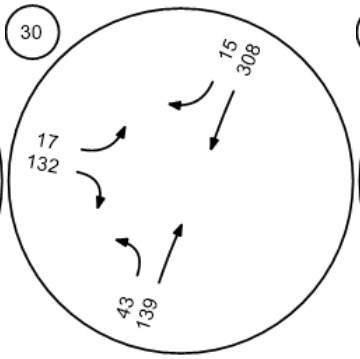
Broadway Road and Grimes



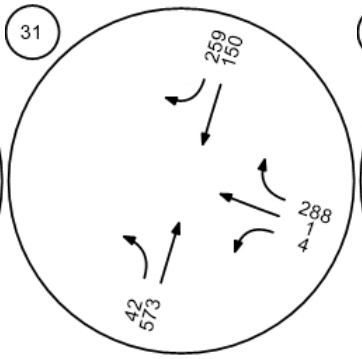
Championship Drive and Gri



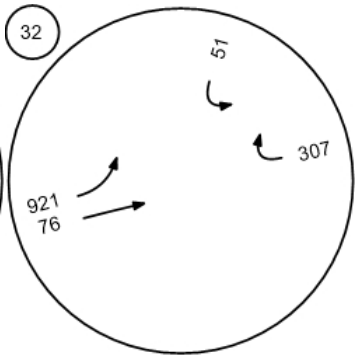
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



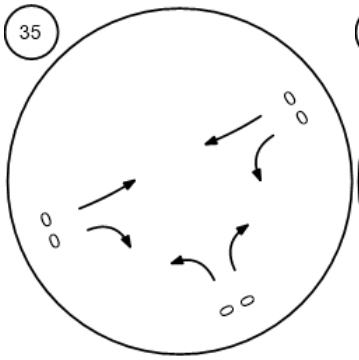
SR 118 EB and Collins Drive



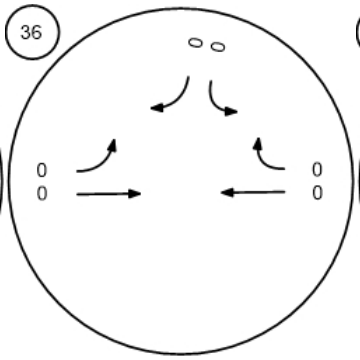
Report Figure 3c: Traffic Volume - Future Background Volume



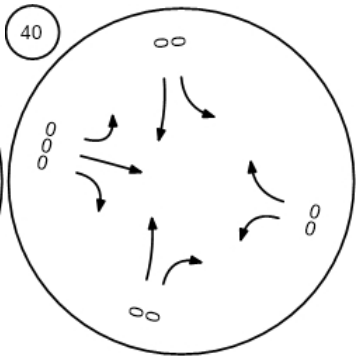
Future Road - Meridian Hills



Future Road - Street "A" at Hi



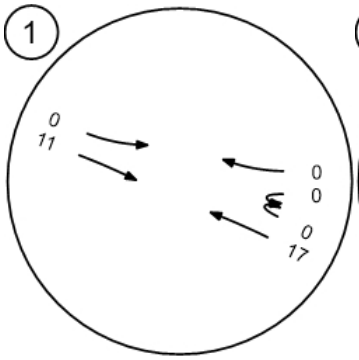
Future Road - Casey Road at



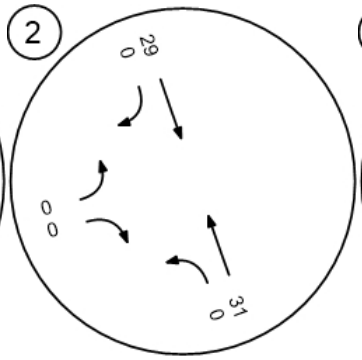
Report Figure 3d: Traffic Volume - Net New Site Trips



Walnut Canyon Road at Broa



Walnut Canyon Road at Cha



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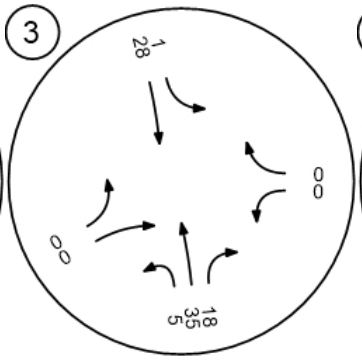

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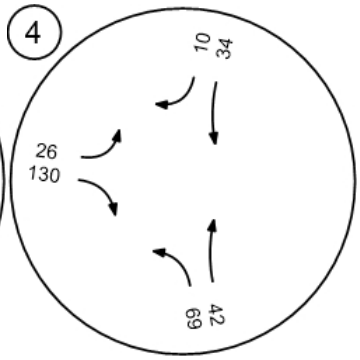
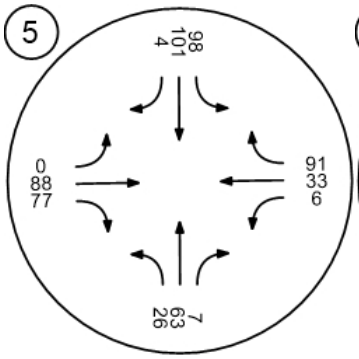
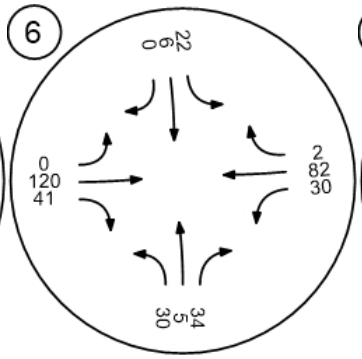


Moorpark Avenue at High Str



Spring Road at High Street



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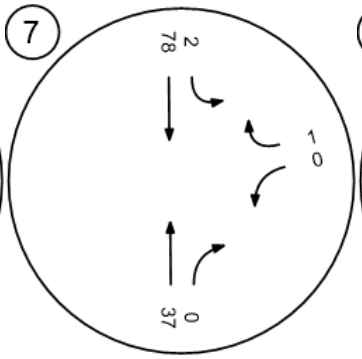
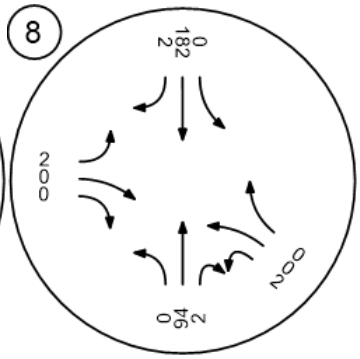


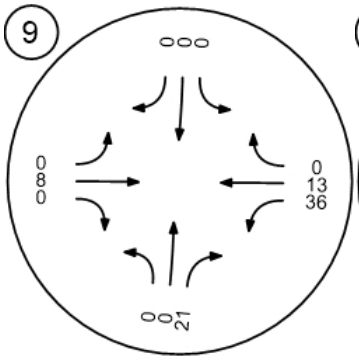
Moorpark Avenue and Poind



Report Figure 3d: Traffic Volume - Net New Site Trips



Somis Road and Los Angeles



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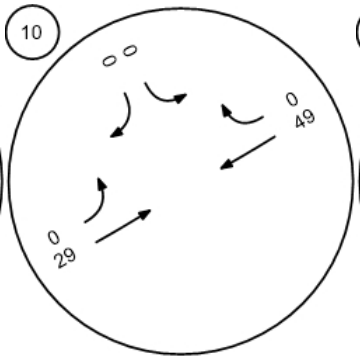

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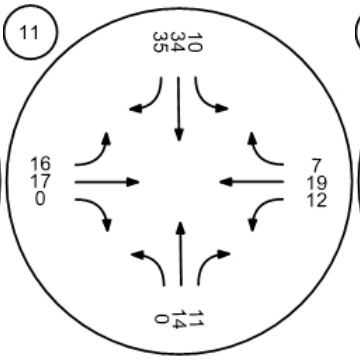
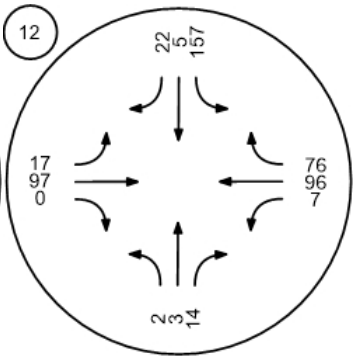
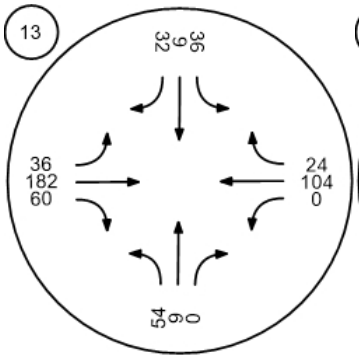


Moorpark Avenue and Los A



Spring Road and Los Angele



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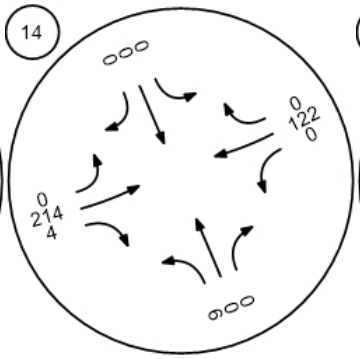

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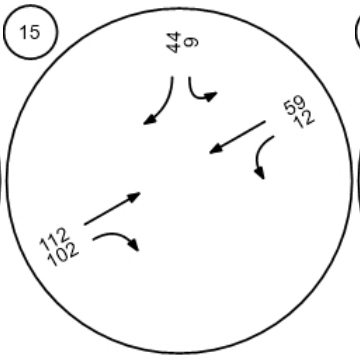

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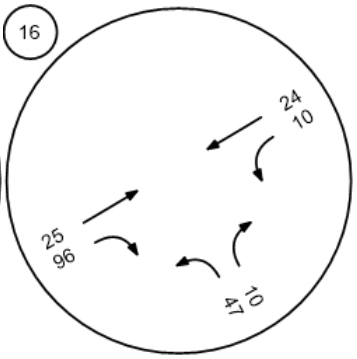
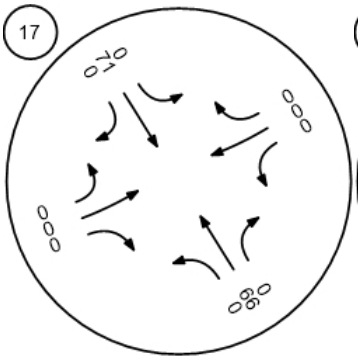


Report Figure 3d: Traffic Volume - Net New Site Trips



Spring Road and Peach Hill



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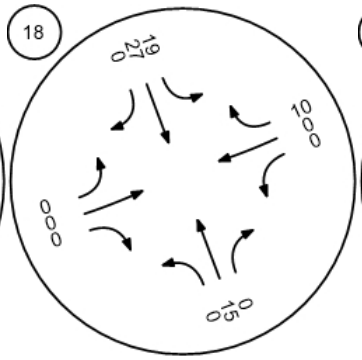

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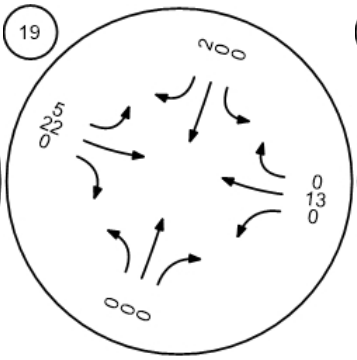

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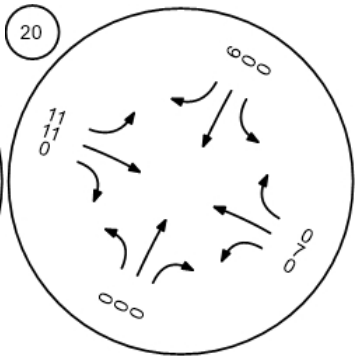
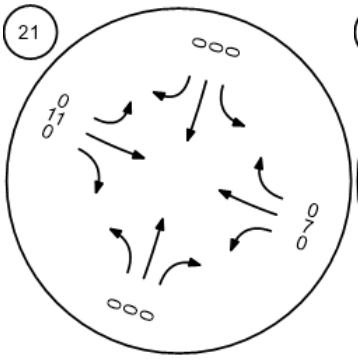


Walnut Creek Road and Tierr



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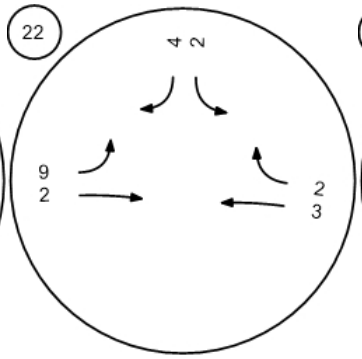
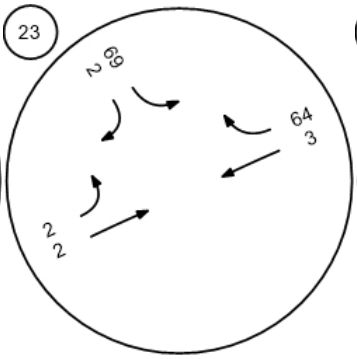


Spring Road and Tierra Reja



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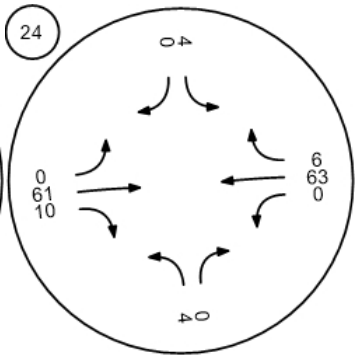

Report Figure 3d: Traffic Volume - Net New Site Trips



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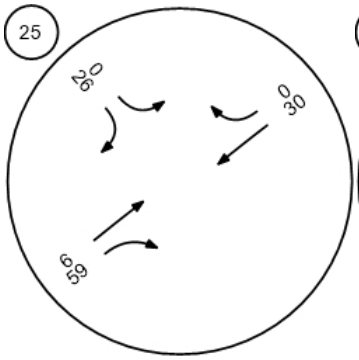

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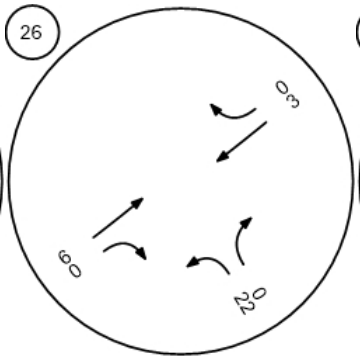

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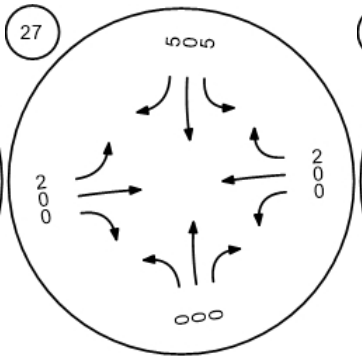
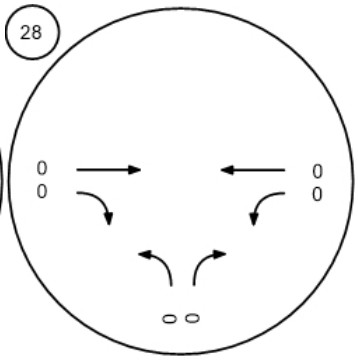


Broadway Road and Grimes



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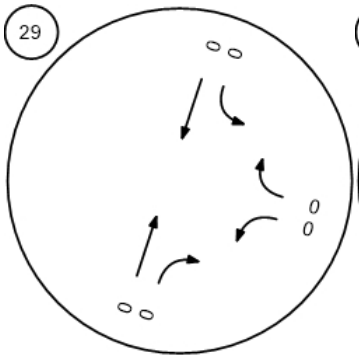

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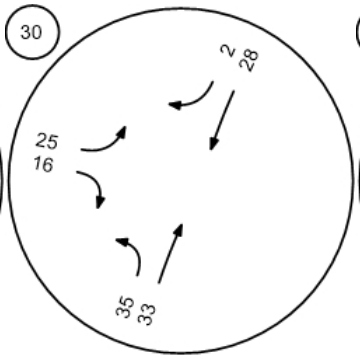

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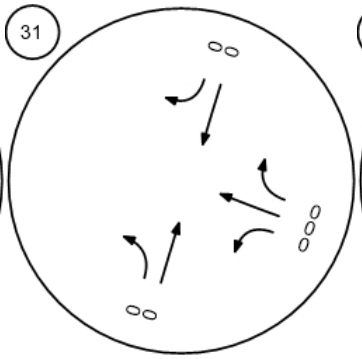

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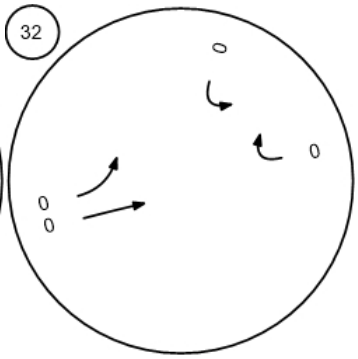
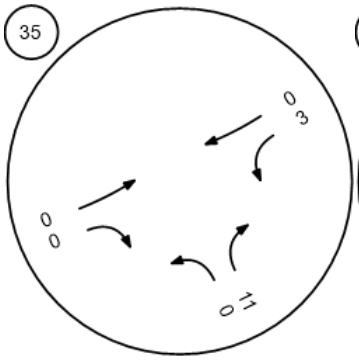


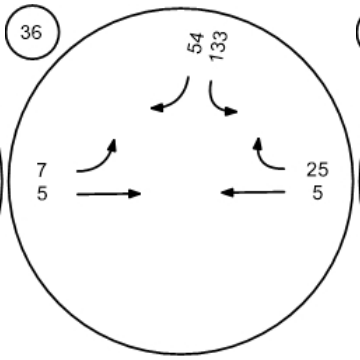
Report Figure 3d: Traffic Volume - Net New Site Trips



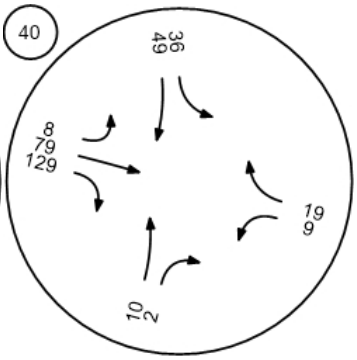
Future Road - Meridian Hills



Future Road - Street "A" at Hi



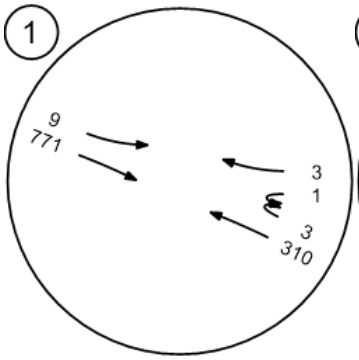
Future Road - Casey Road at



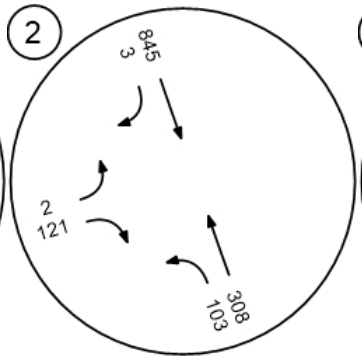
Report Figure 3f: Traffic Volume - Future Total Volume



Walnut Canyon Road at Broa



Walnut Canyon Road at Cha



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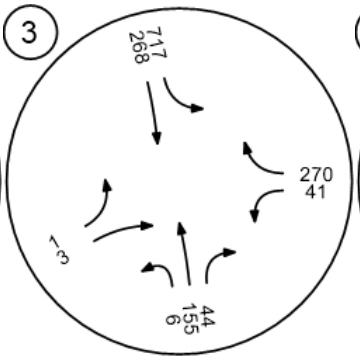

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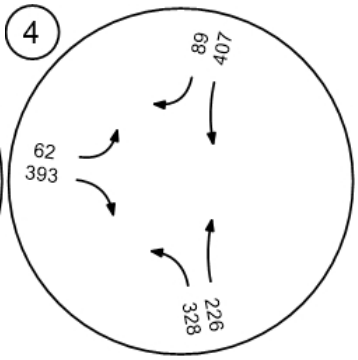
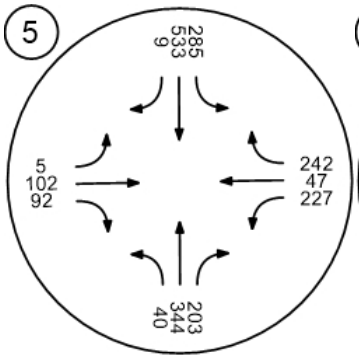
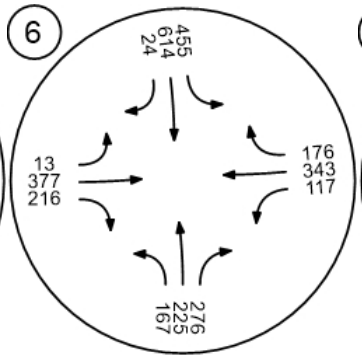


Moorpark Avenue at High Str



Spring Road at High Street



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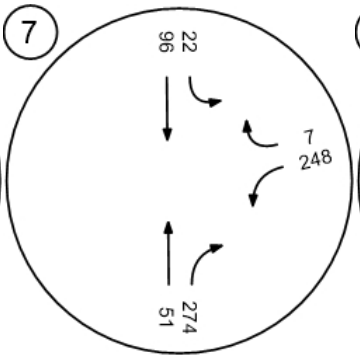
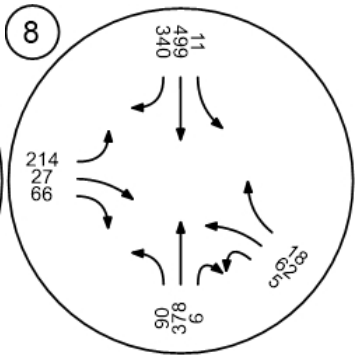


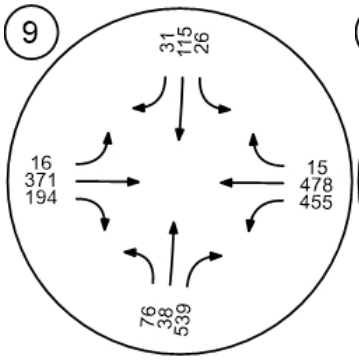
Moorpark Avenue and Poind



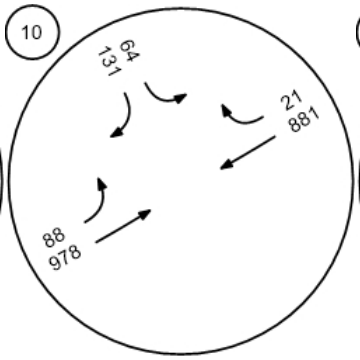
Report Figure 3f: Traffic Volume - Future Total Volume



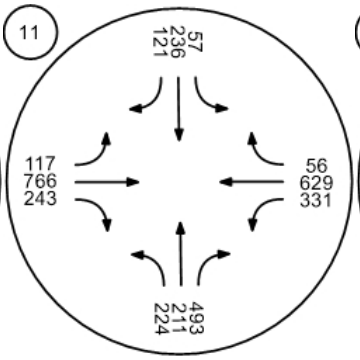
Somis Road and Los Angeles



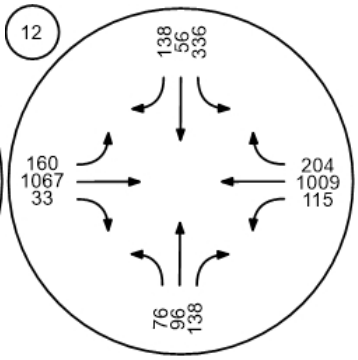
Grimes Canyon Road and Lo



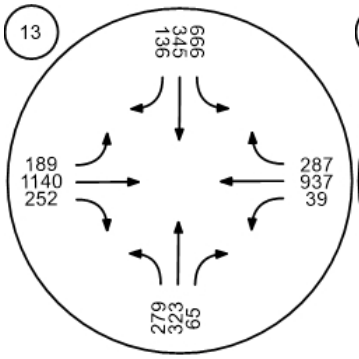
Tierra Rejada Road and Los



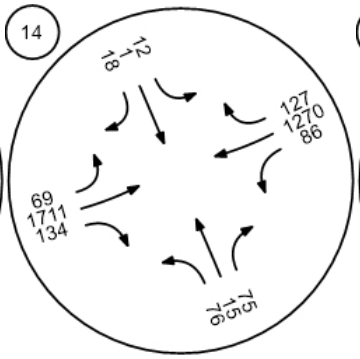
Moorpark Avenue and Los A



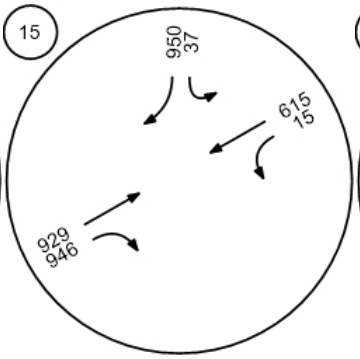
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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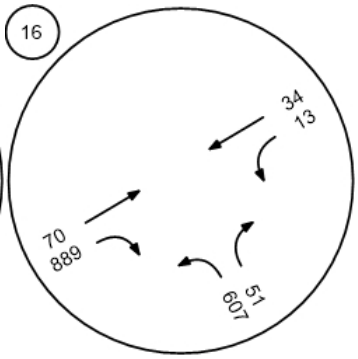
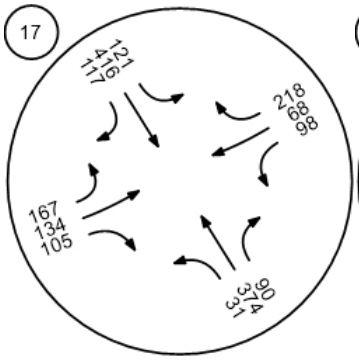


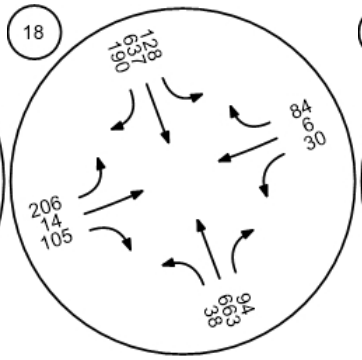
Report Figure 3f: Traffic Volume - Future Total Volume



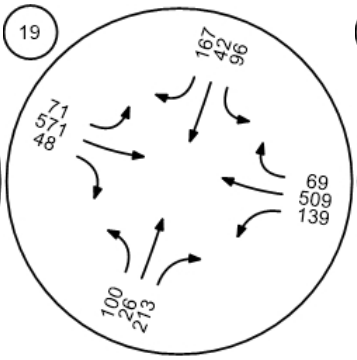
Spring Road and Peach Hill



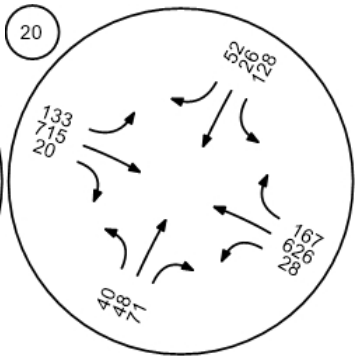
Tierra Rejada Road and Cou



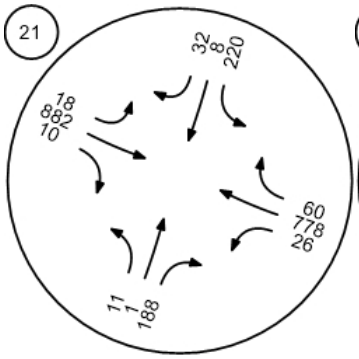
Mountain Trail Road and Tier



Mountain Meadow Drive and



Walnut Creek Road and Tierr



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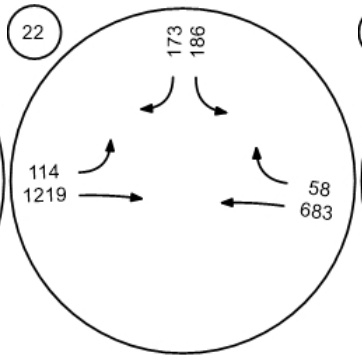

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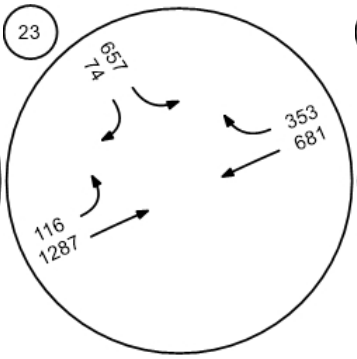

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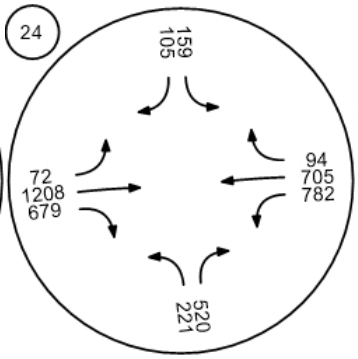

Report Figure 3f: Traffic Volume - Future Total Volume



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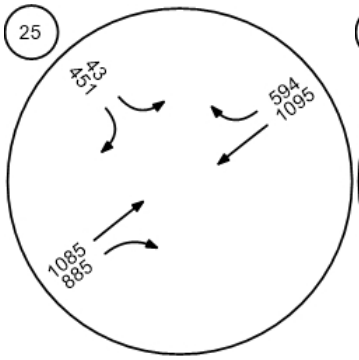

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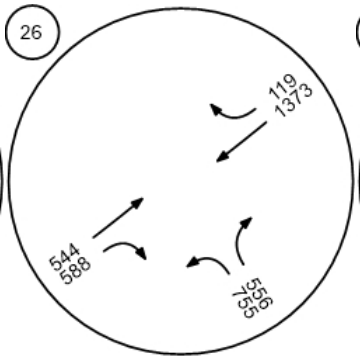

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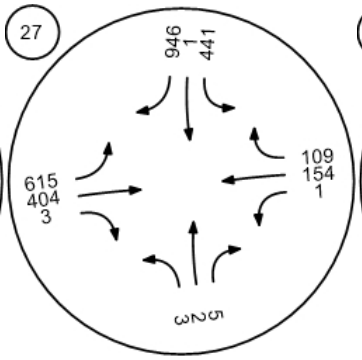

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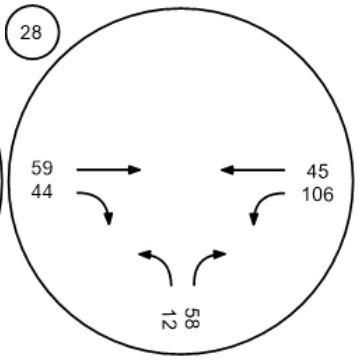

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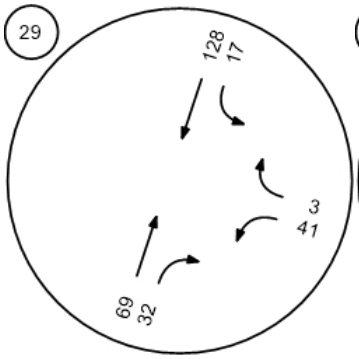

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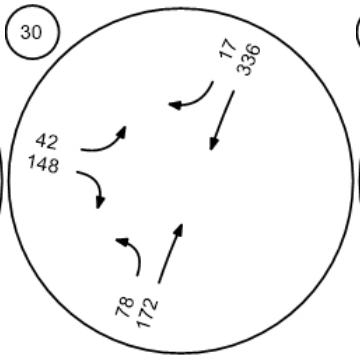
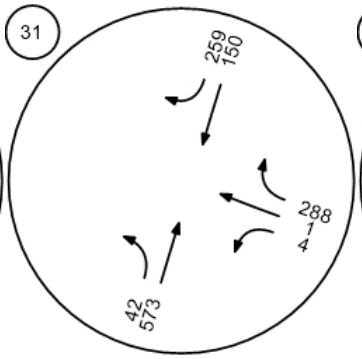


SR 118 WB and Collins Drive



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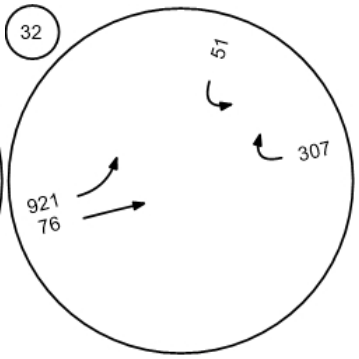
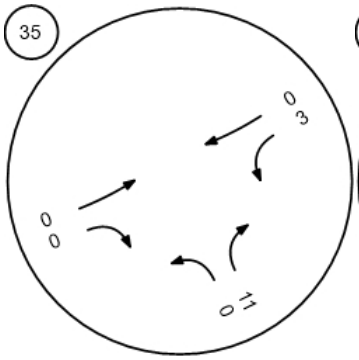


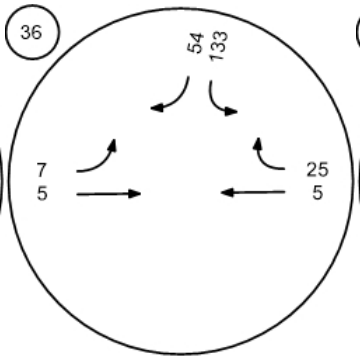
Report Figure 3f: Traffic Volume - Future Total Volume



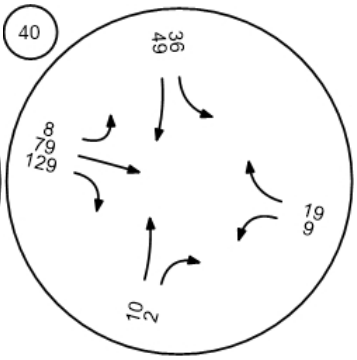
Future Road - Meridian Hills



Future Road - Street "A" at Hi

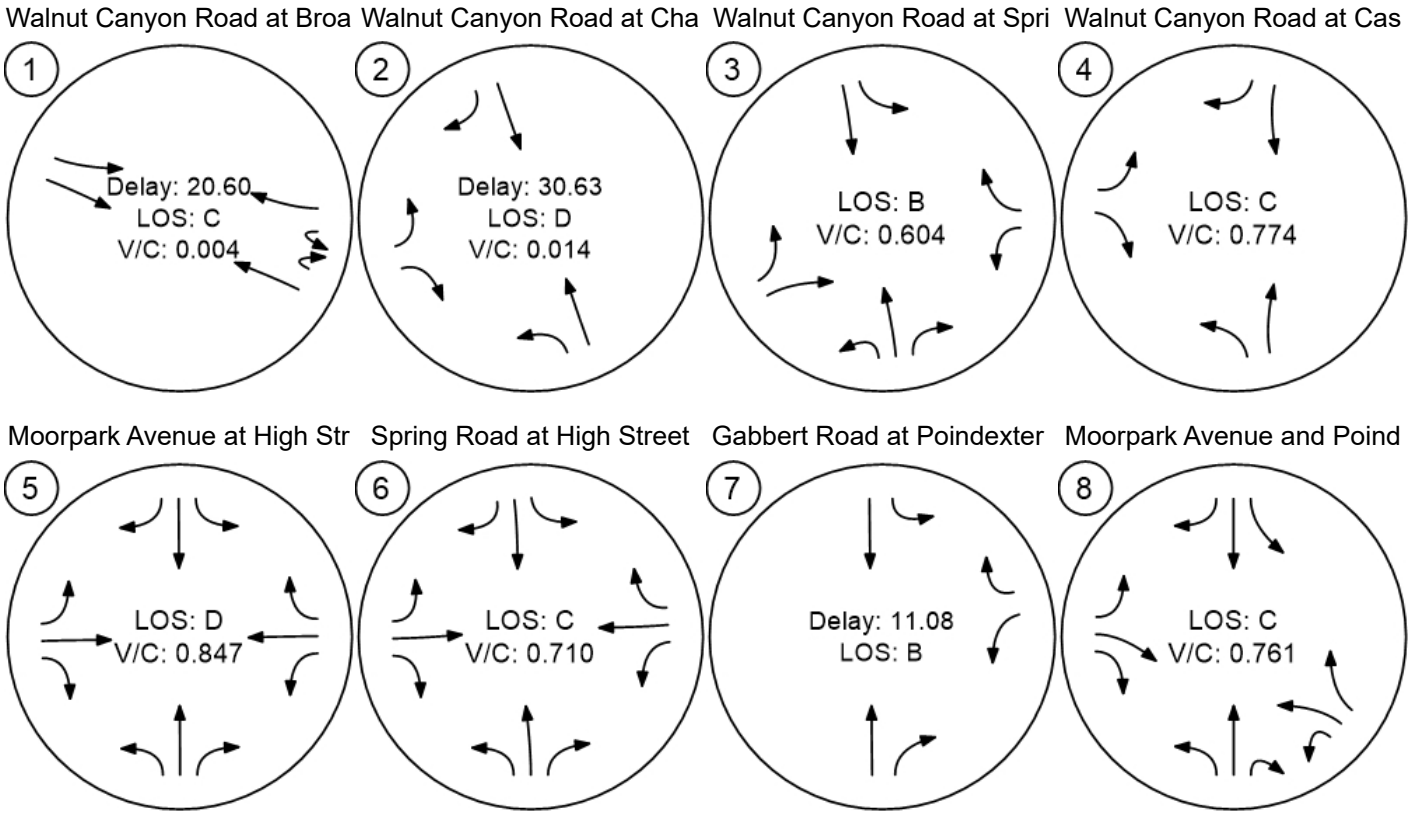


Future Road - Casey Road at



Report Figure 4: Traffic Conditions

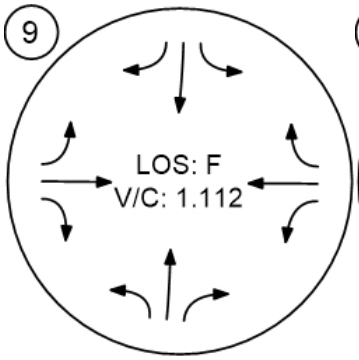




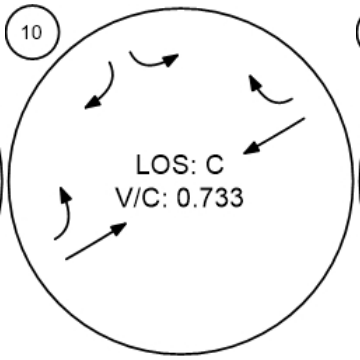
Report Figure 4: Traffic Conditions



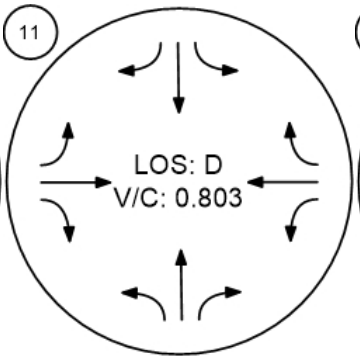
Somis Road and Los Angeles



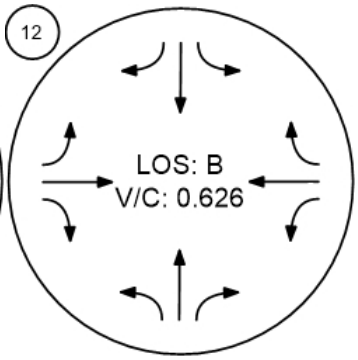
Grimes Canyon Road and Lo



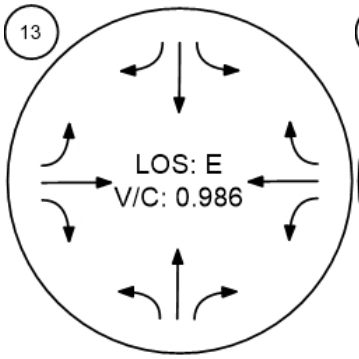
Tierra Rejada Road and Los



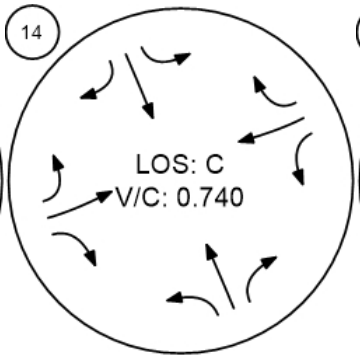
Moorpark Avenue and Los A



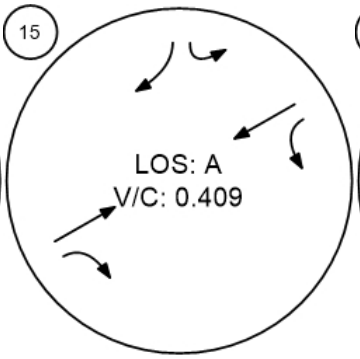
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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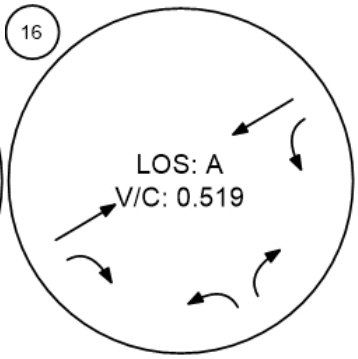
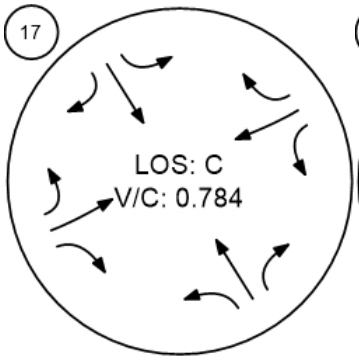


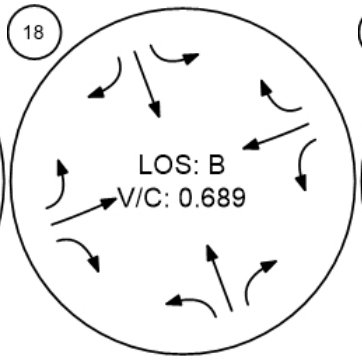
Report Figure 4: Traffic Conditions



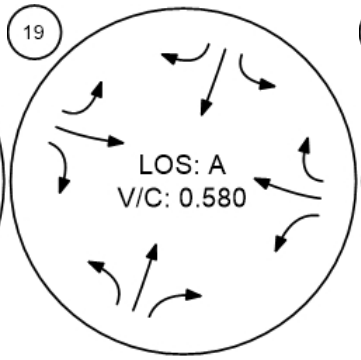
Spring Road and Peach Hill



Tierra Rejada Road and Cou



Mountain Trail Road and Tier



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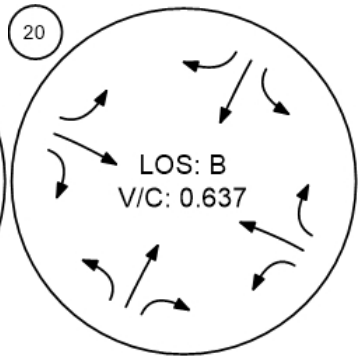
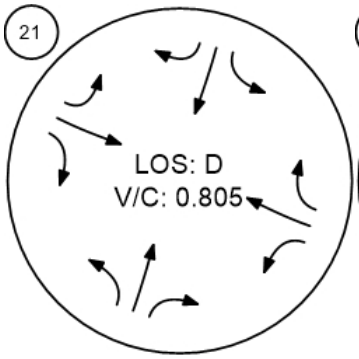
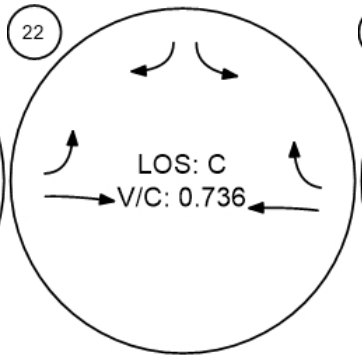


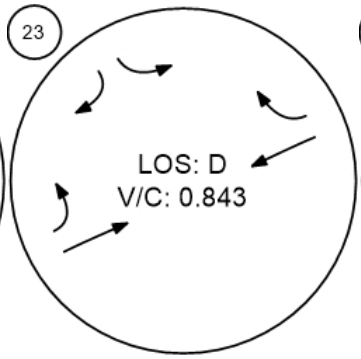
Walnut Creek Road and Tierr



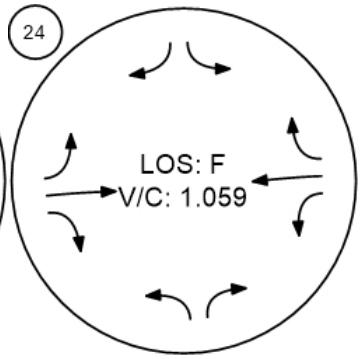
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



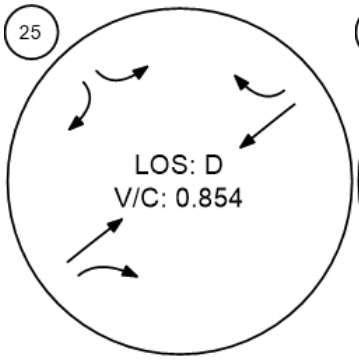
Moorpark Road and Tierra R



Report Figure 4: Traffic Conditions



SR□23 SB ramps and Tierra



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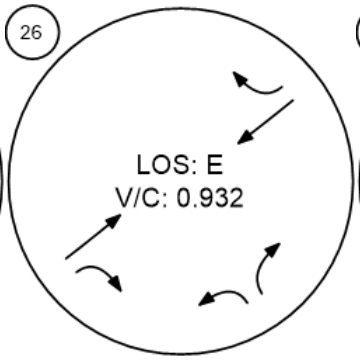
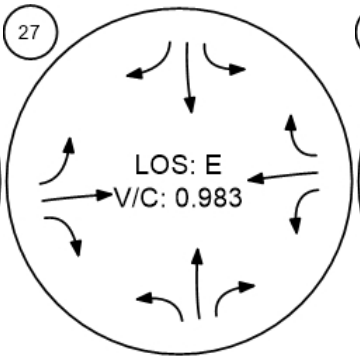
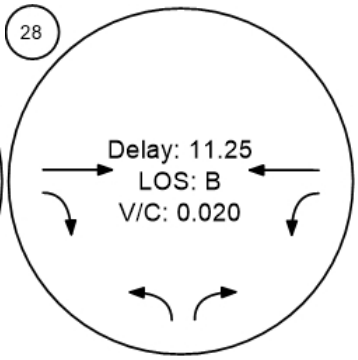


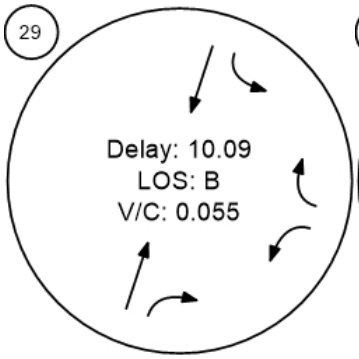
Moorpark Road and Santa R



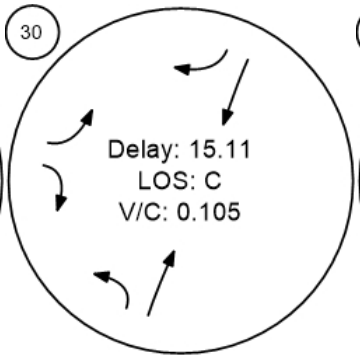
Broadway Road and Grimes



Championship Drive and Gri



Meridian Hills Drive and Waln



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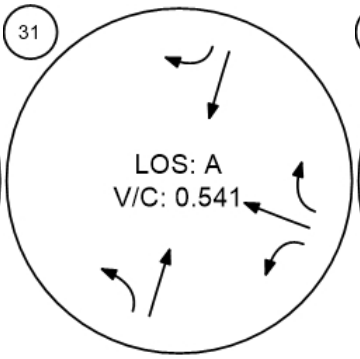

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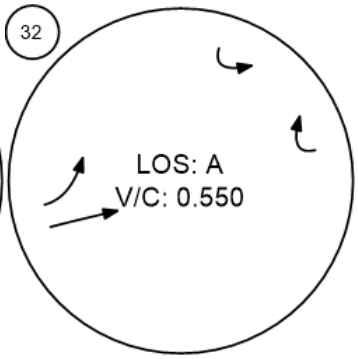
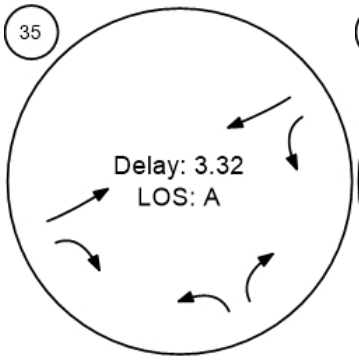


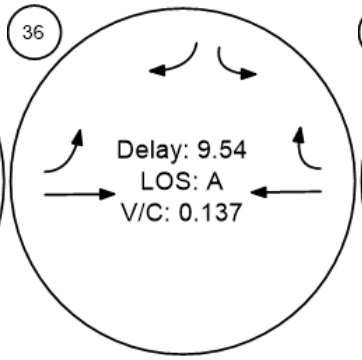
Report Figure 4: Traffic Conditions



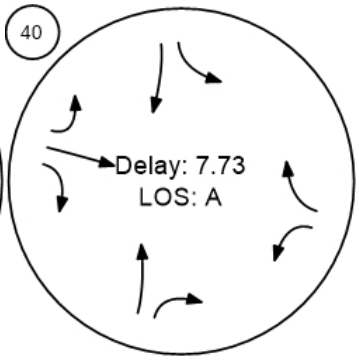
Future Road - Meridian Hills



Future Road - Street "A" at Hi



Future Road - Casey Road at



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Report File: C:\...\PM Future+Project.pdf

Scenario 8 8 8 PM Future 2.0
12/15/2020

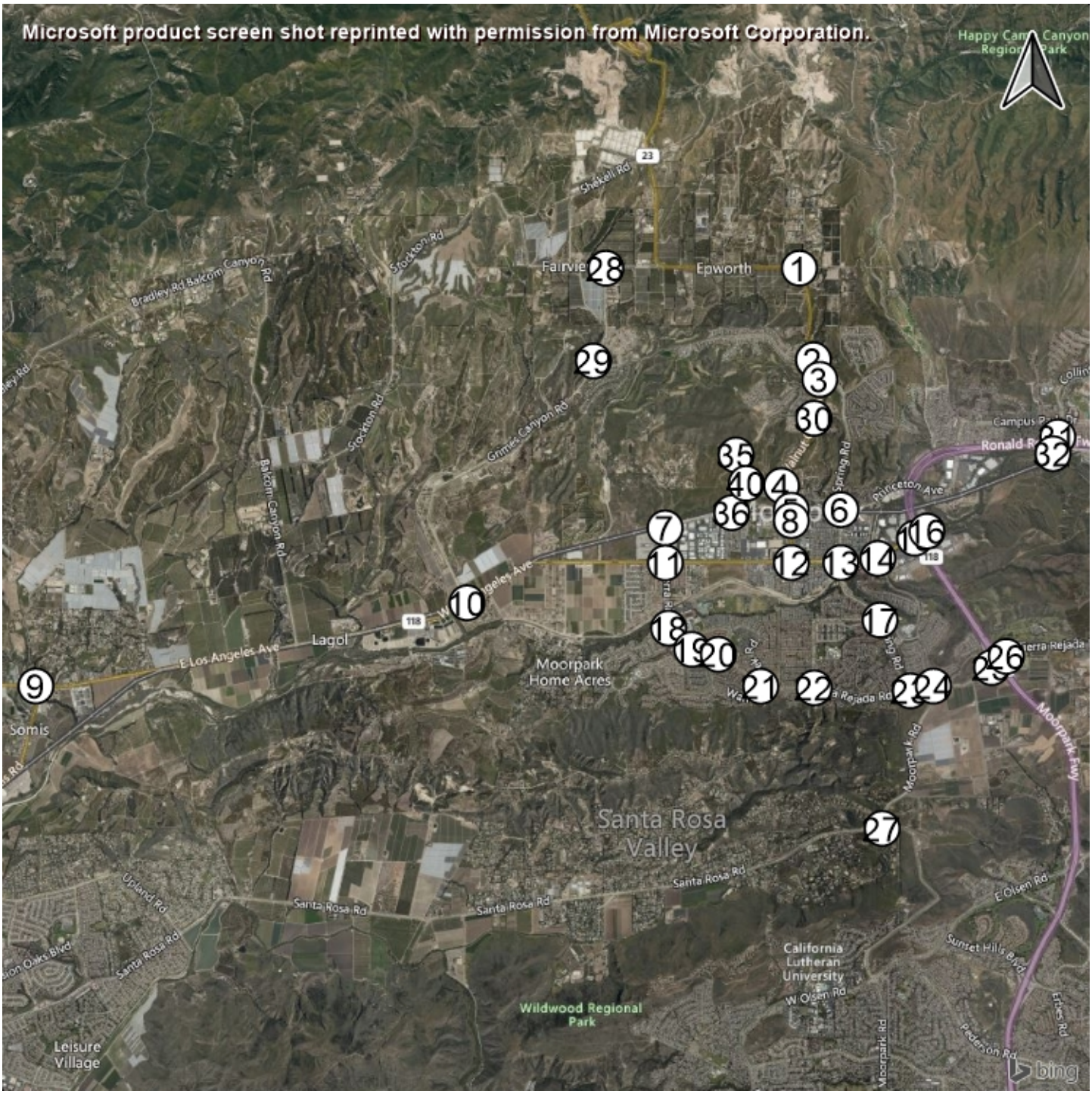
Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Walnut Canyon Road at Broadway Road	Two-way stop	HCM 2010	WB Left	0.012	27.0	D
2	Walnut Canyon Road at Championship Drive	Two-way stop	HCM 2010	EB Left	0.030	41.5	E
3	Walnut Canyon Road at Spring Road	Signalized	ICU 1	WB Right	0.926	-	E
4	Walnut Canyon Road at Casey Road	Signalized	ICU 1	SB Thru	0.643	-	B
5	Moorpark Avenue at High Street	Signalized	ICU 1	NB Thru	0.846	-	D
6	Spring Road at High Street	Signalized	ICU 1	SB Left	0.897	-	D
7	Gabbert Road at Poindexter Avenue	All-way stop	HCM 2010	WB Left	0.425	11.0	B
8	Moorpark Avenue and Poindexter Avenue/1st Street	Signalized	ICU 1	SB Thru	0.768	-	C
9	Somis Road and Los Angeles Avenue	Signalized	ICU 1	NB Right	1.354	-	F
10	Grimes Canyon Road and Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.810	-	D
11	Tierra Rejada Road and Los Angeles Avenue	Signalized	ICU 1	EB Thru	0.758	-	C
12	Moorpark Avenue and Los Angeles Avenue	Signalized	ICU 1	WB Thru	0.680	-	B
13	Spring Road and Los Angeles Avenue	Signalized	ICU 1	WB Right	1.139	-	F
14	Miller Parkway/Science Drive/Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.992	-	E
15	SR□23 SB ramps and Los Angeles Avenue	Signalized	ICU 1	SWB Thru	0.715	-	C
16	SR□23 NB ramps and Los Angeles Avenue	Signalized	ICU 1	NWB Left	0.756	-	C
17	Spring Road and Peach Hill Road	Signalized	ICU 1	NWB Thru	0.765	-	C
18	Tierra Rejada Road and Countrywood Drive	Signalized	ICU 1	SB Thru	0.505	-	A

19	Mountain Trail Road and Tierra Rejada Road	Signalized	ICU 1	SEB Right	0.475	-	A
20	Mountain Meadow Drive and Tierra Rejada Road	Signalized	ICU 1	NWB Thru	0.538	-	A
21	Walnut Creek Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.646	-	B
22	Peach Hill Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.679	-	B
23	Spring Road and Tierra Rejada Road	Signalized	ICU 1	SWB Right	0.826	-	D
24	Moorpark Road and Tierra Rejada Road	Signalized	ICU 1	WB Thru	0.918	-	E
25	SR□23 SB ramps and Tierra Rejada Road	Signalized	ICU 1	NEB Thru	0.853	-	D
26	SB□23 NB ramps and Tierra Rejada Road	Signalized	ICU 1	NWB Right	0.753	-	C
27	Moorpark Road and Santa Rosa Road	Signalized	ICU 1	SB Right	1.301	-	F
28	Broadway Road and Grimes Canyon Road	Two-way stop	HCM 2010	NB Left	0.017	10.4	B
29	Championship Drive and Grimes Canyon Road	Two-way stop	HCM 2010	WB Left	0.055	10.1	B
30	Meridian Hills Drive and Walnut Canyon Road	Two-way stop	HCM 2010	EB Left	0.151	16.0	C
31	SR 118 WB and Collins Drive	Signalized	ICU 1	NB Thru	0.548	-	A
32	SR 118 EB and Collins Drive	Signalized	ICU 1	EB Thru	0.571	-	A
35	Future Road - Meridian Hills Drive at Street "A"	Roundabout	HCM 2010	NWB Right		3.3	A
36	Future Road - Street "A" at High Street	Two-way stop	HCM 2010	SB Left	0.088	9.6	A
40	Future Road - Casey Road at Street "A"	All-way stop	HCM 2010	EB Right	0.160	7.4	A

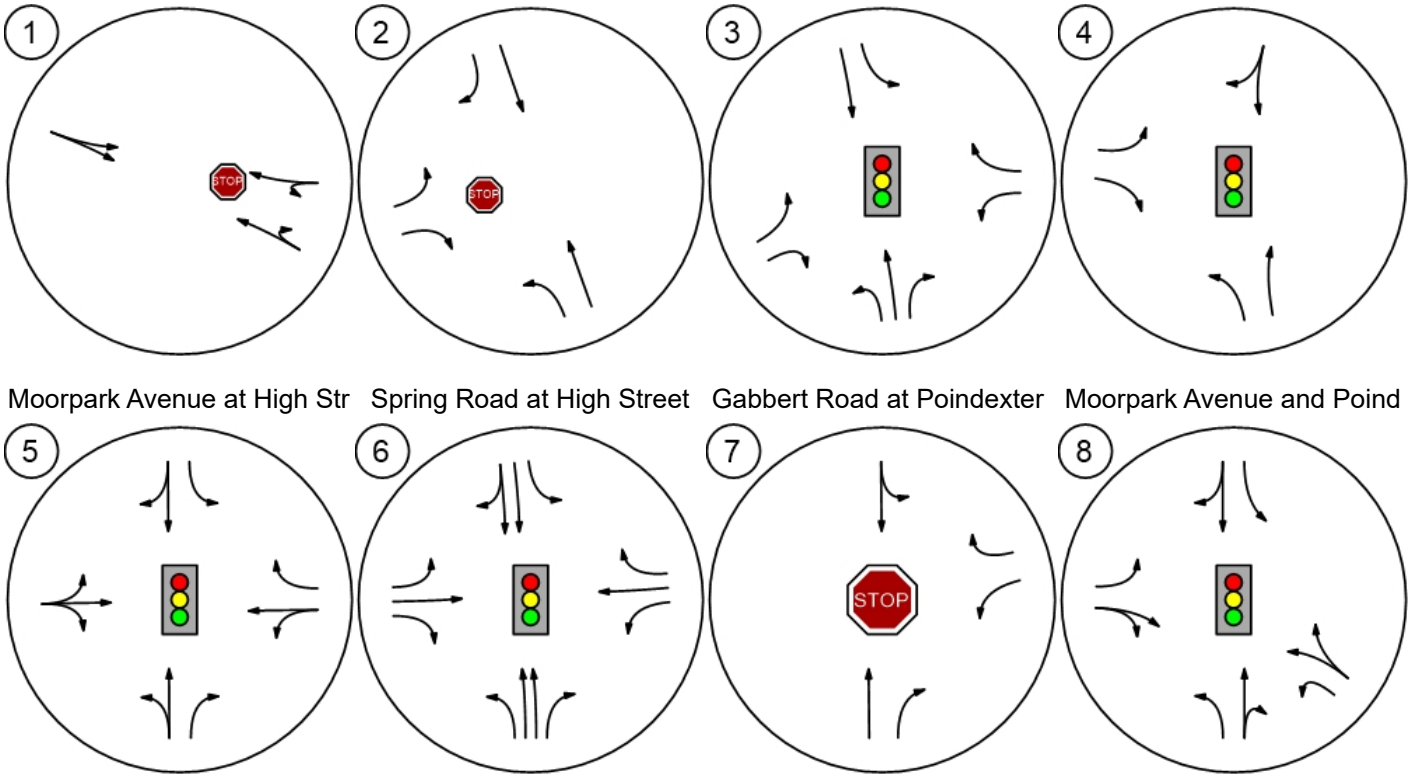
V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Report Figure 1: Study Intersections



Report Figure 2: Lane Configuration and Traffic Control





Report Figure 2: Lane Configuration and Traffic Control



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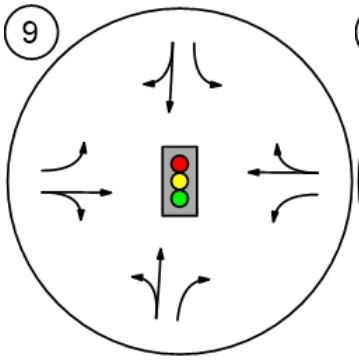

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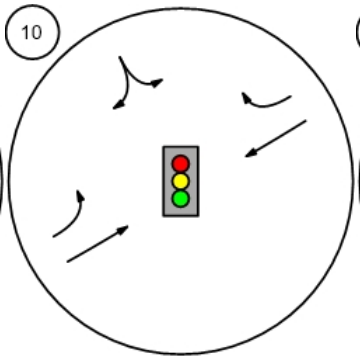

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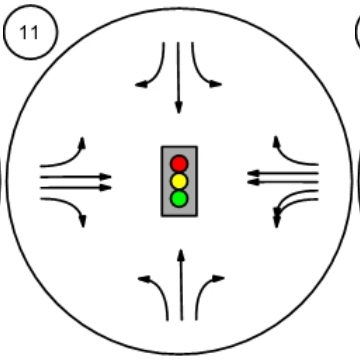

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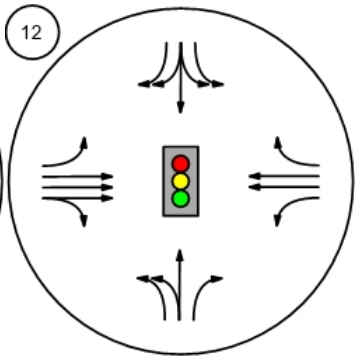
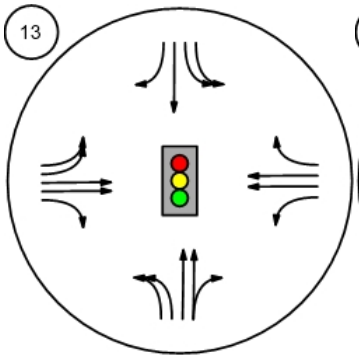
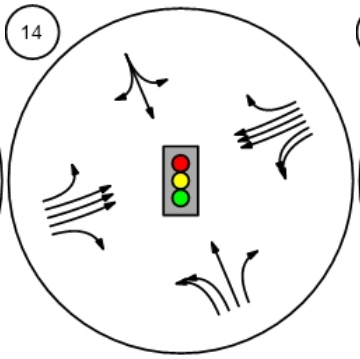


Spring Road and Los Angele



Miller Parkway/Science Drive



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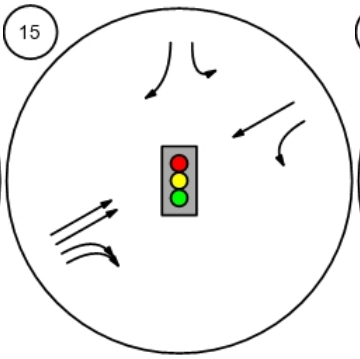

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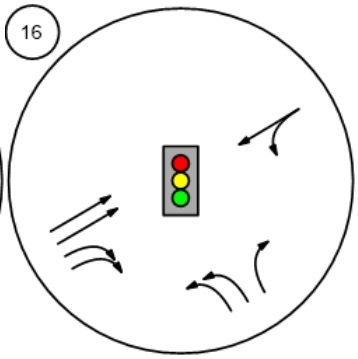

Report Figure 2: Lane Configuration and Traffic Control



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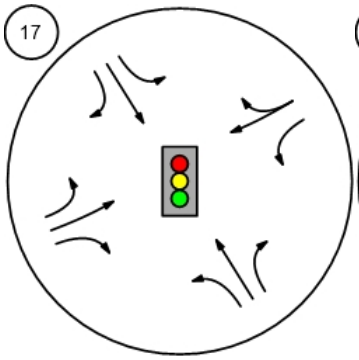
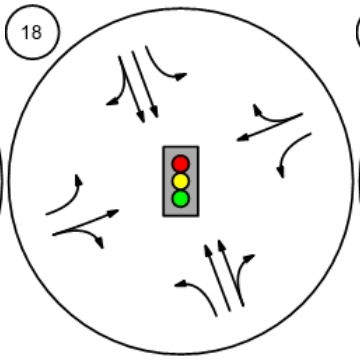


Tierra Rejada Road and Cou



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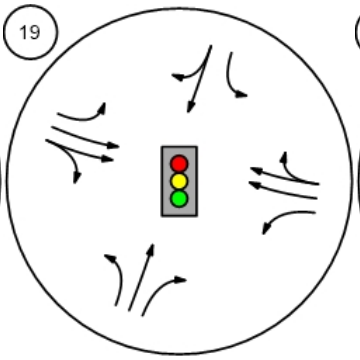

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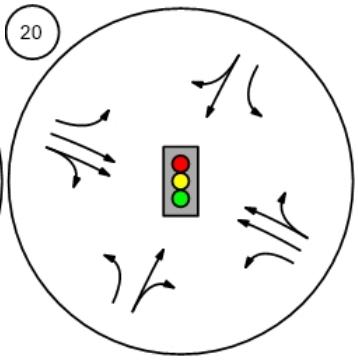

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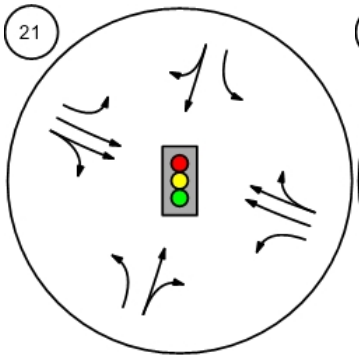

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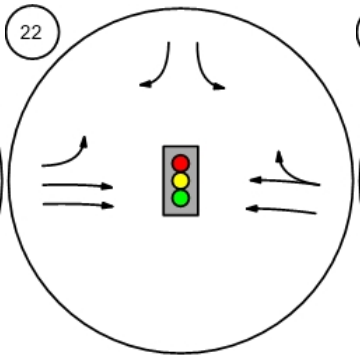

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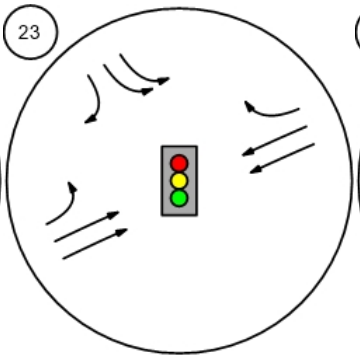

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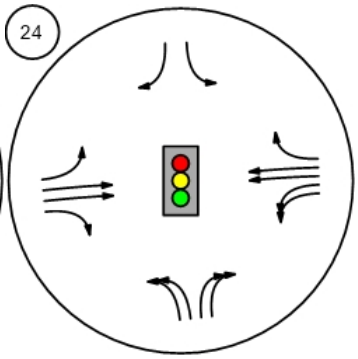

Report Figure 2: Lane Configuration and Traffic Control



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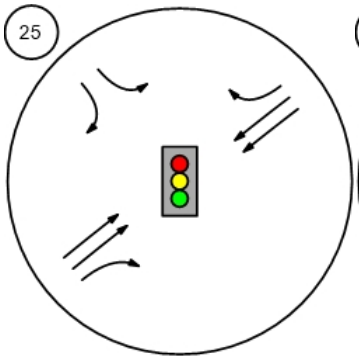

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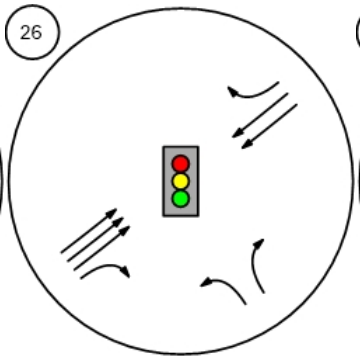

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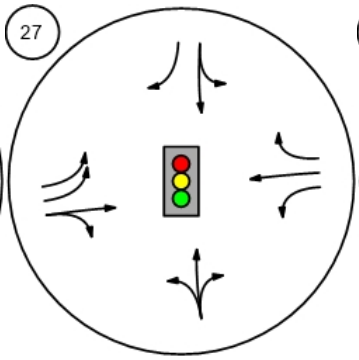

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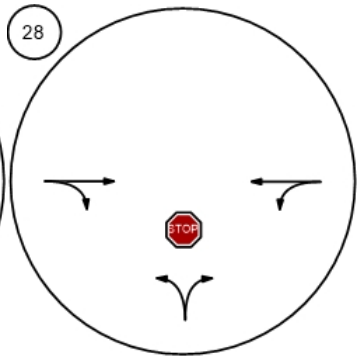

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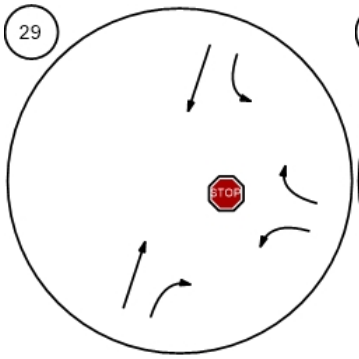

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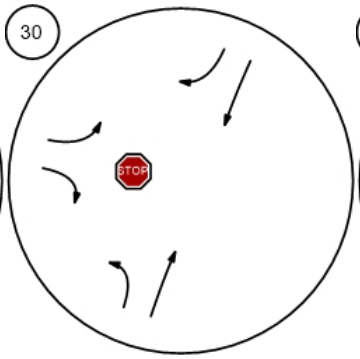
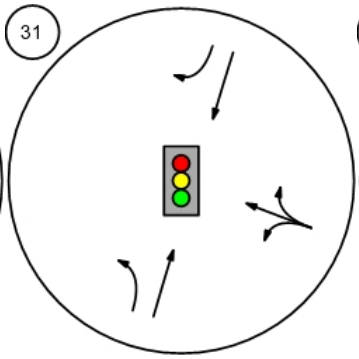
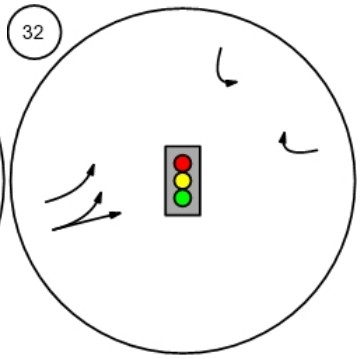


SR 118 WB and Collins Drive



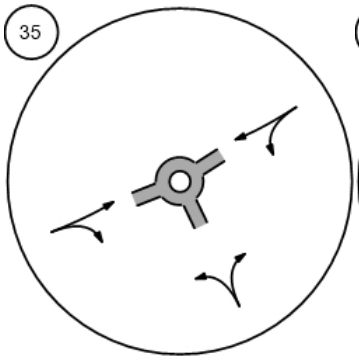
SR 118 EB and Collins Drive



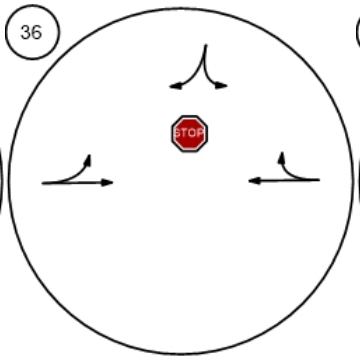
Report Figure 2: Lane Configuration and Traffic Control



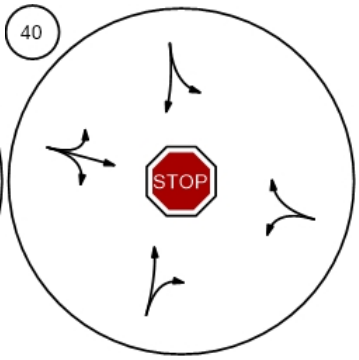
Future Road - Meridian Hills



Future Road - Street "A" at Hi



Future Road - Casey Road at



Report Figure 3c: Traffic Volume - Future Background Volume



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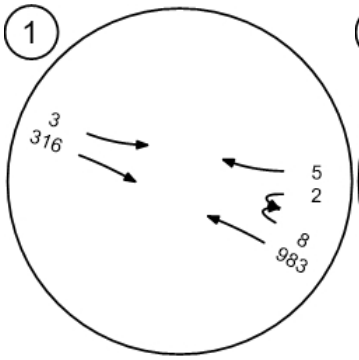
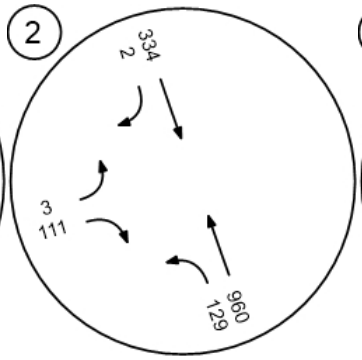


Walnut Canyon Road at Cha



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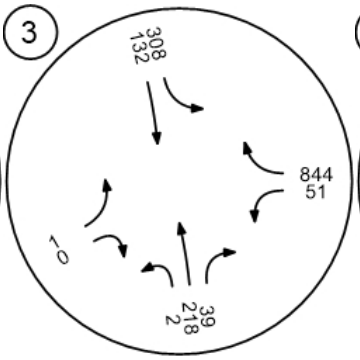

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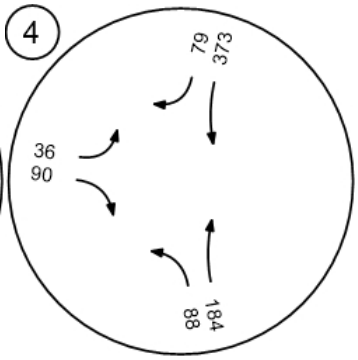
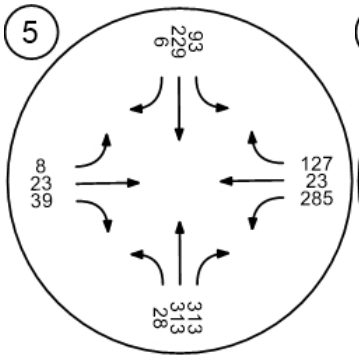
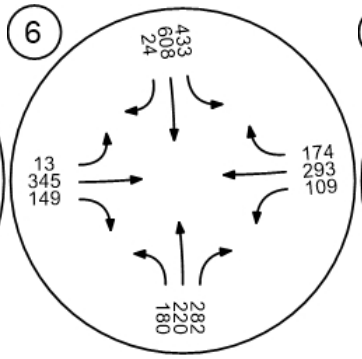


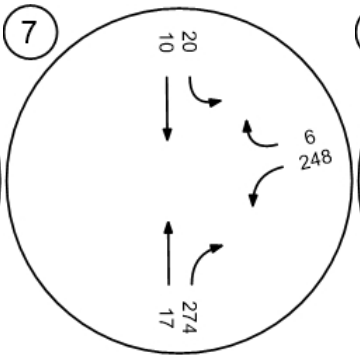
Moorpark Avenue at High Str



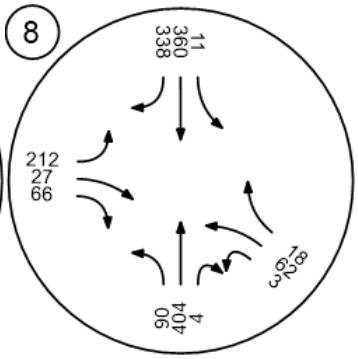
Spring Road at High Street



Gabbert Road at Poindexter



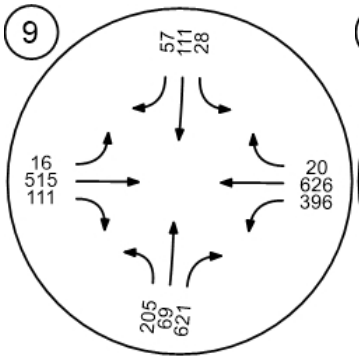
Moorpark Avenue and Poind



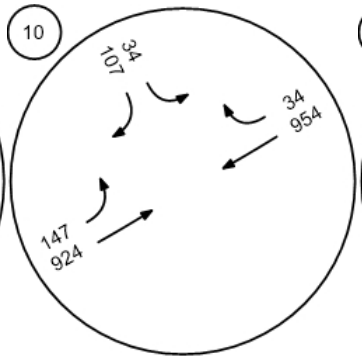
Report Figure 3c: Traffic Volume - Future Background Volume



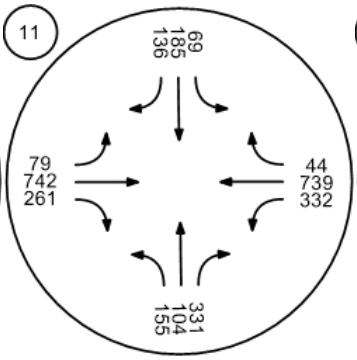
Somis Road and Los Angeles



Grimes Canyon Road and Lo



Tierra Rejada Road and Los



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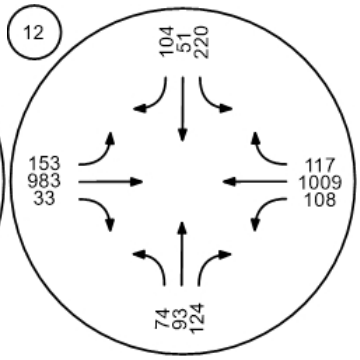
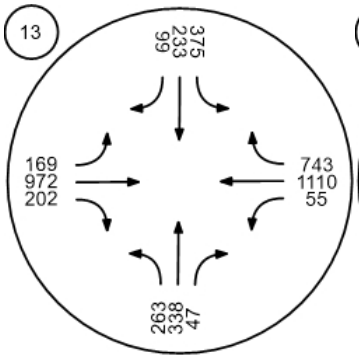
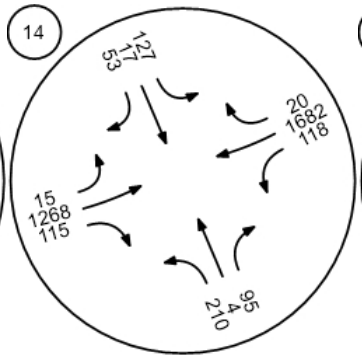


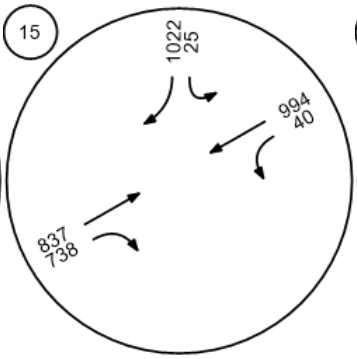
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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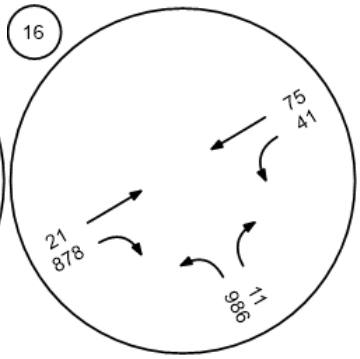
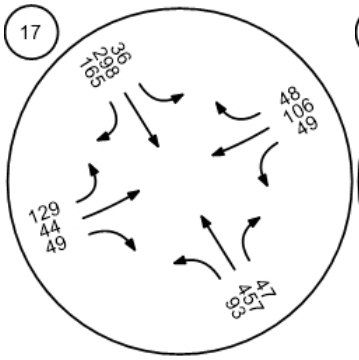


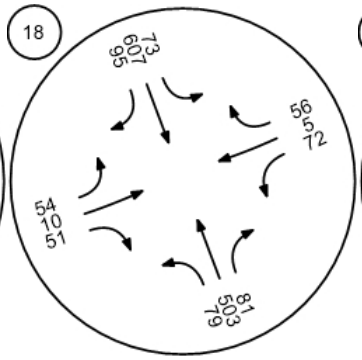
Report Figure 3c: Traffic Volume - Future Background Volume



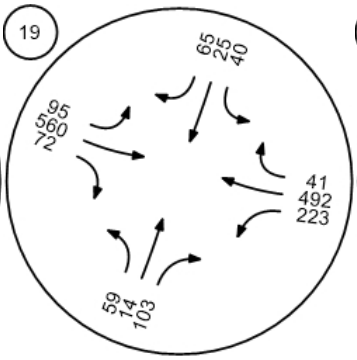
Spring Road and Peach Hill



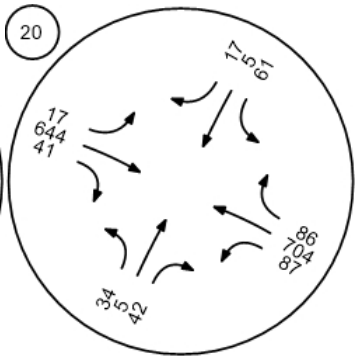
Tierra Rejada Road and Cou



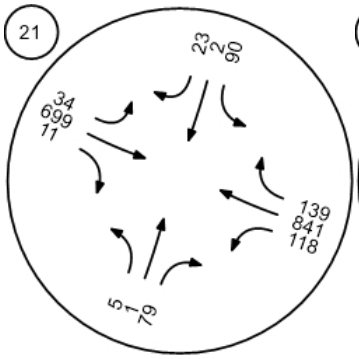
Mountain Trail Road and Tier



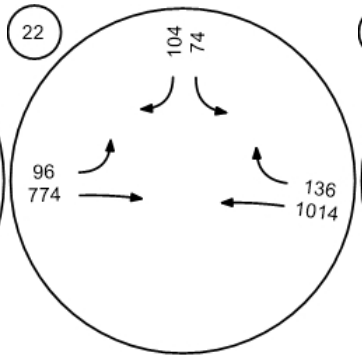
Mountain Meadow Drive and



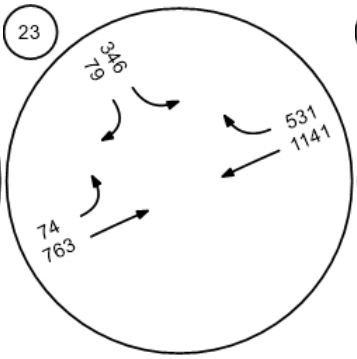
Walnut Creek Road and Tierr



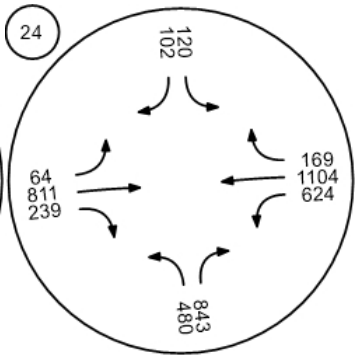
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



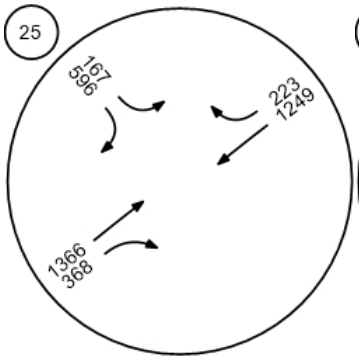
Moorpark Road and Tierra R



Report Figure 3c: Traffic Volume - Future Background Volume



SR 23 SB ramps and Tierra



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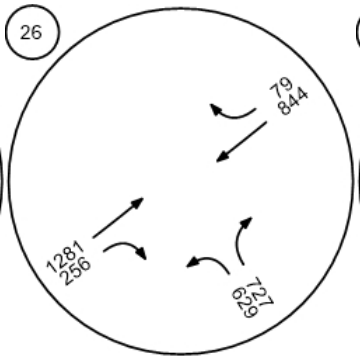
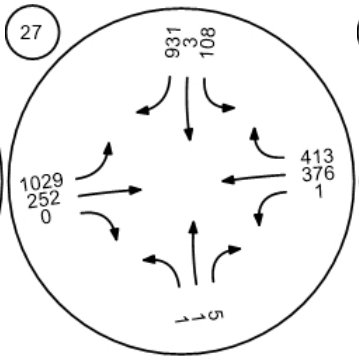
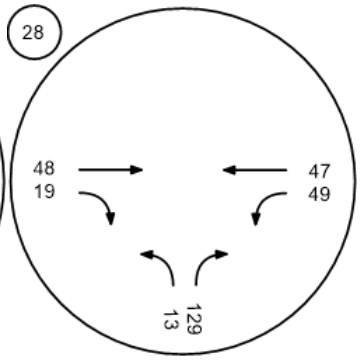


Moorpark Road and Santa R



Broadway Road and Grimes



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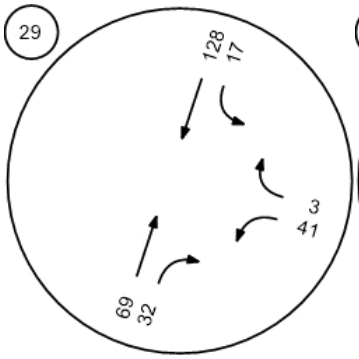
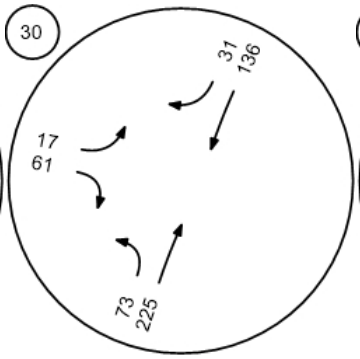
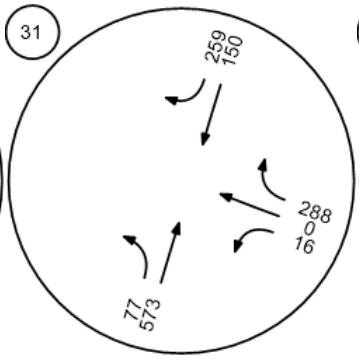


Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



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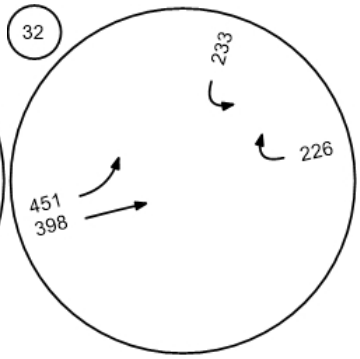
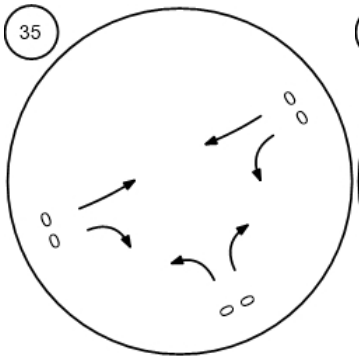


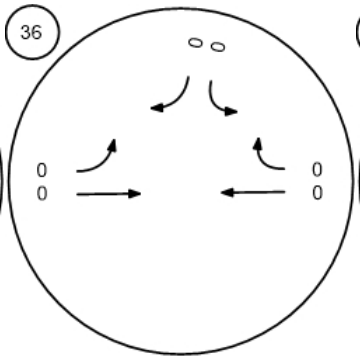
Report Figure 3c: Traffic Volume - Future Background Volume



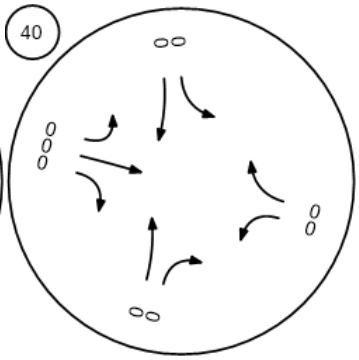
Future Road - Meridian Hills



Future Road - Street "A" at Hi



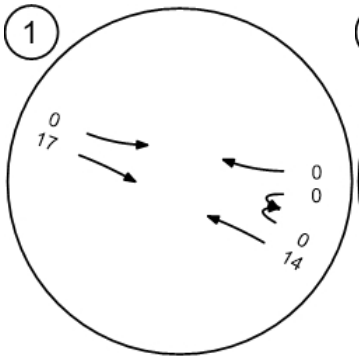
Future Road - Casey Road at



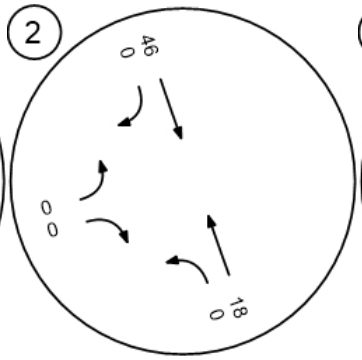
Report Figure 3d: Traffic Volume - Net New Site Trips



Walnut Canyon Road at Broa



Walnut Canyon Road at Cha



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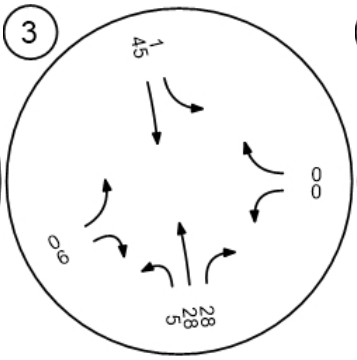

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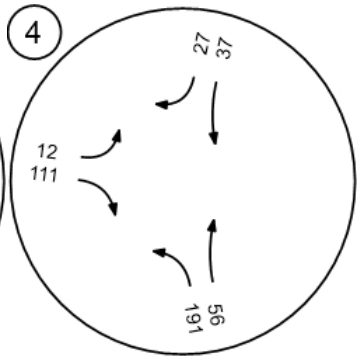
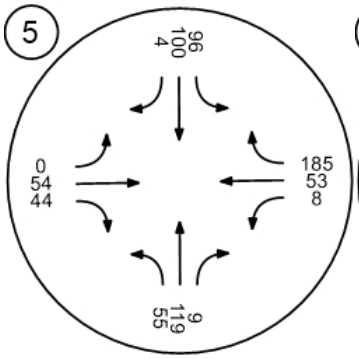
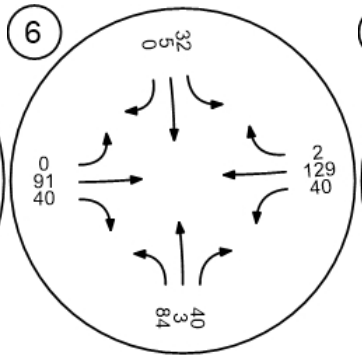


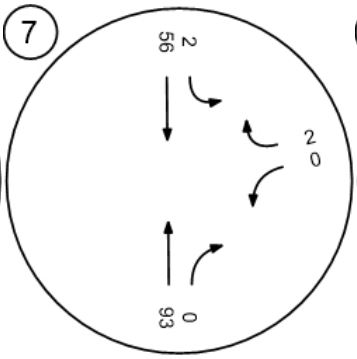
Moorpark Avenue at High Str



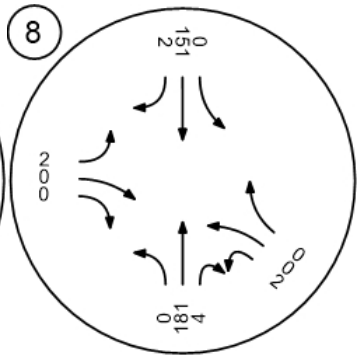
Spring Road at High Street



Gabbert Road at Poindexter



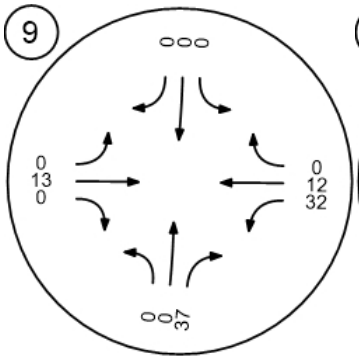
Moorpark Avenue and Poind



Report Figure 3d: Traffic Volume - Net New Site Trips



Somis Road and Los Angeles



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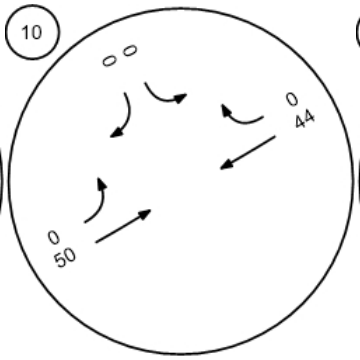
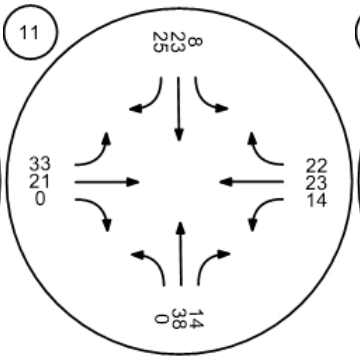
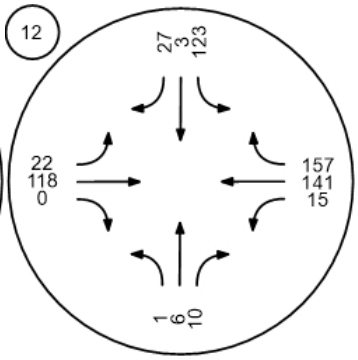


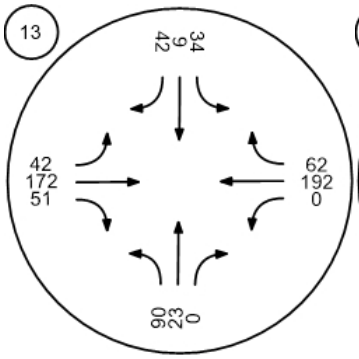
Tierra Rejada Road and Los



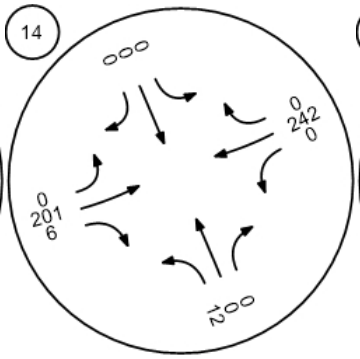
Moorpark Avenue and Los A



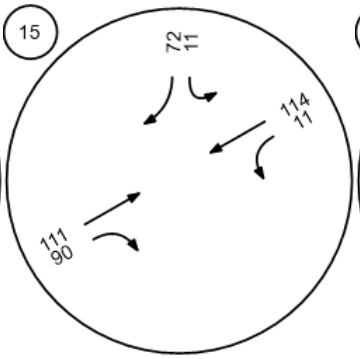
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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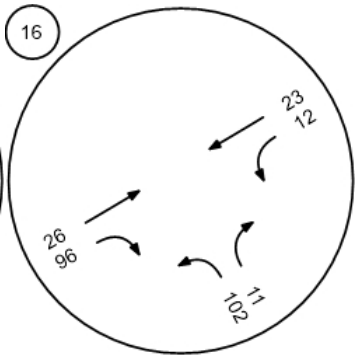

Report Figure 3d: Traffic Volume - Net New Site Trips



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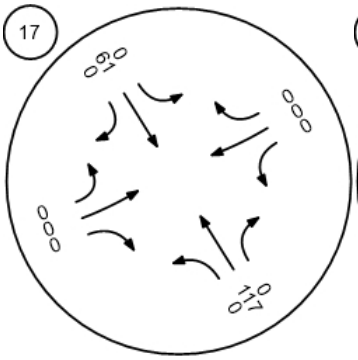

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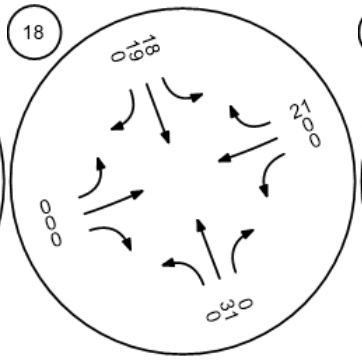
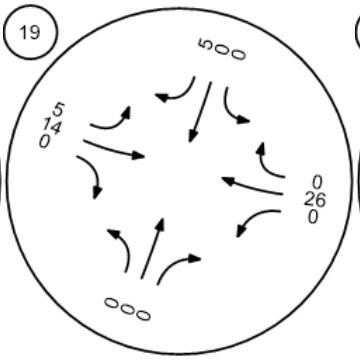
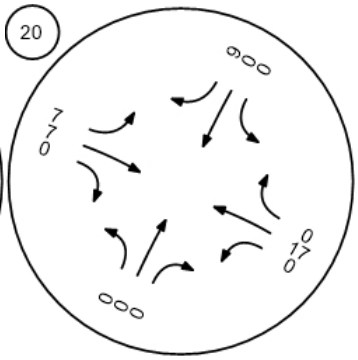


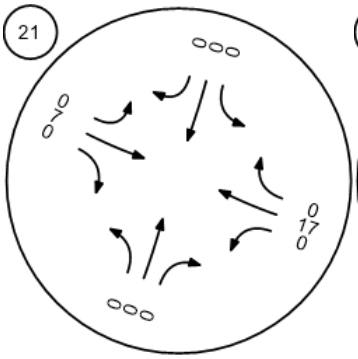
Mountain Trail Road and Tier



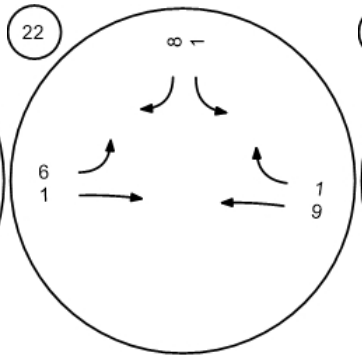
Mountain Meadow Drive and



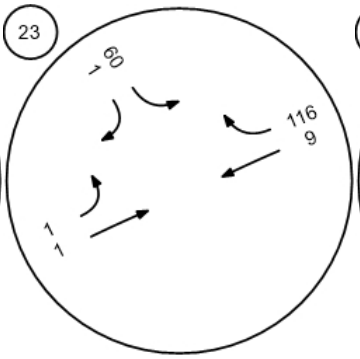
Walnut Creek Road and Tierr



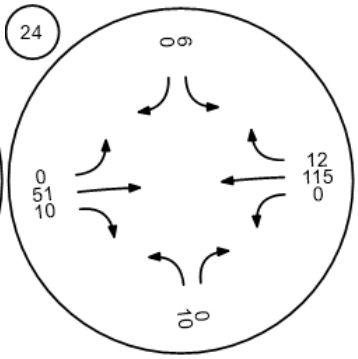
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



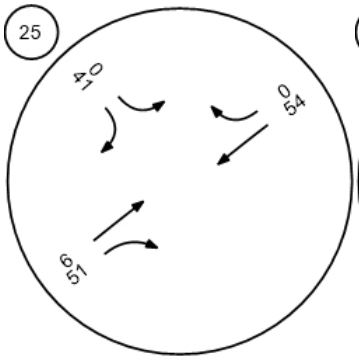
Moorpark Road and Tierra R



Report Figure 3d: Traffic Volume - Net New Site Trips



SR□23 SB ramps and Tierra



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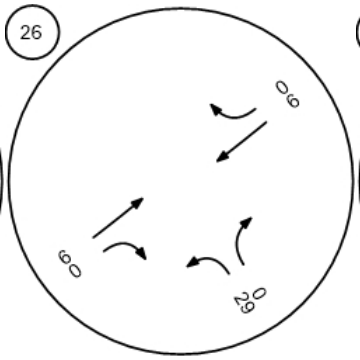
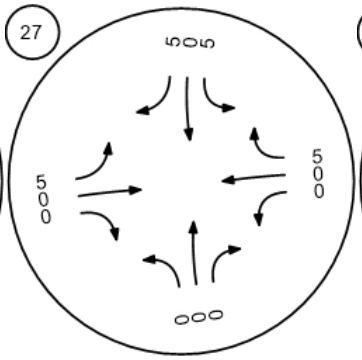
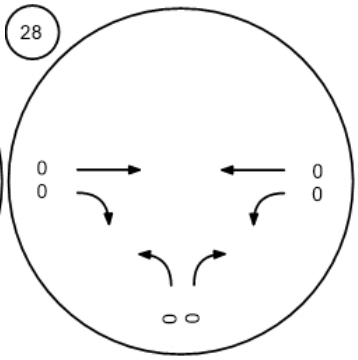


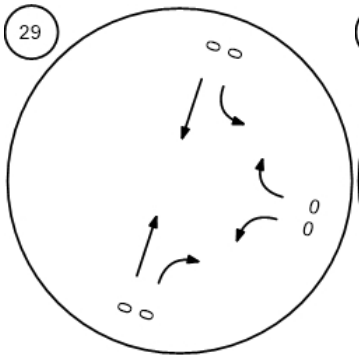
Moorpark Road and Santa R



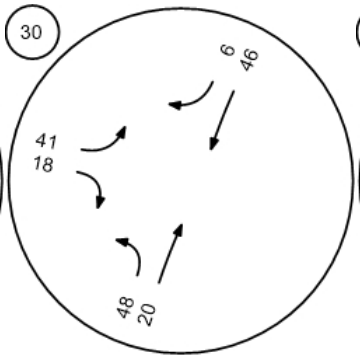
Broadway Road and Grimes



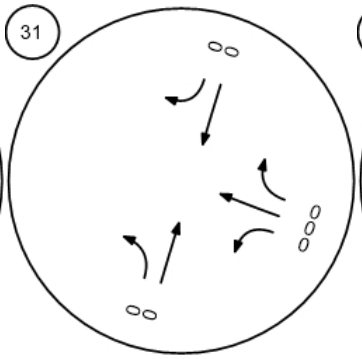
Championship Drive and Gri



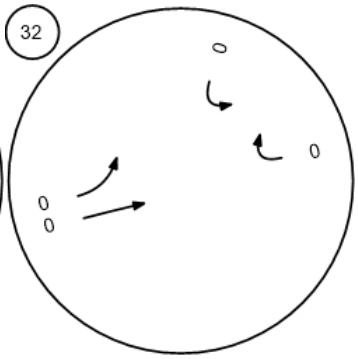
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



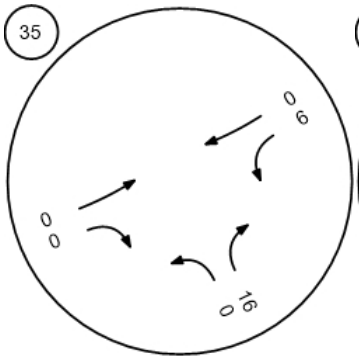
SR 118 EB and Collins Drive



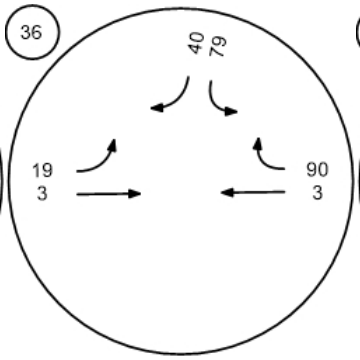
Report Figure 3d: Traffic Volume - Net New Site Trips



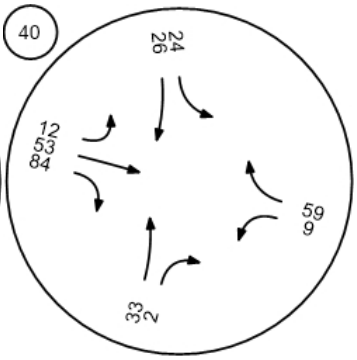
Future Road - Meridian Hills



Future Road - Street "A" at Hi



Future Road - Casey Road at



Report Figure 3e: Traffic Volume - Other Volume



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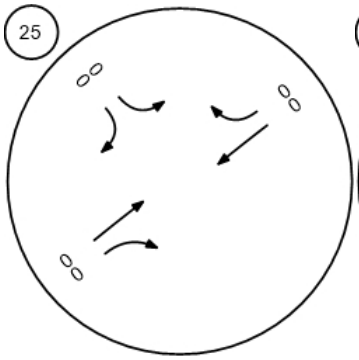

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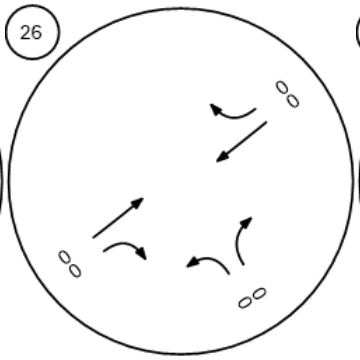
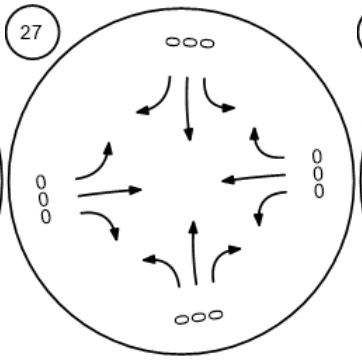
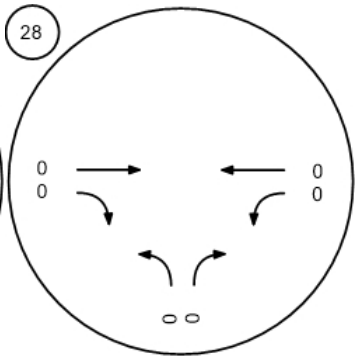


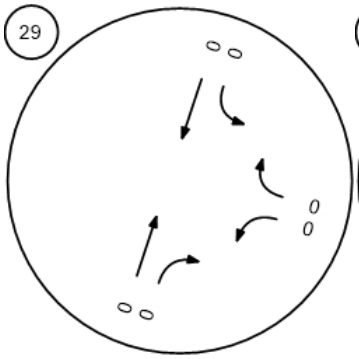
Moorpark Road and Santa R



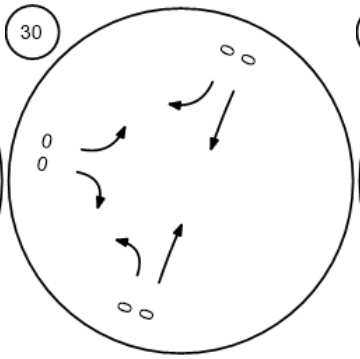
Broadway Road and Grimes



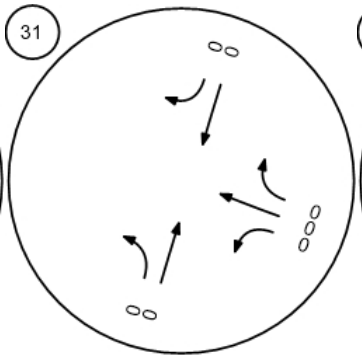
Championship Drive and Gri



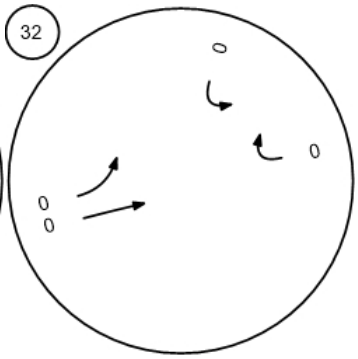
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



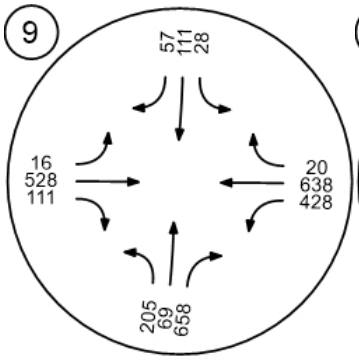
SR 118 EB and Collins Drive



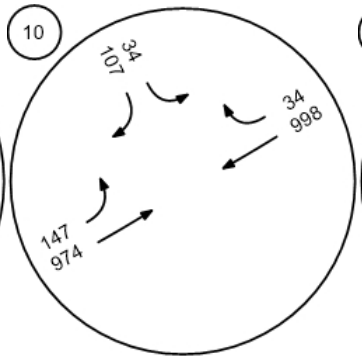
Report Figure 3f: Traffic Volume - Future Total Volume



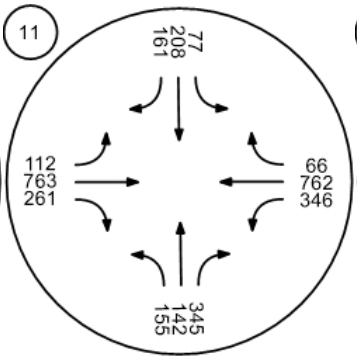
Somis Road and Los Angeles



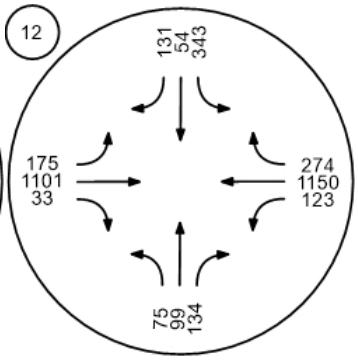
Grimes Canyon Road and Lo



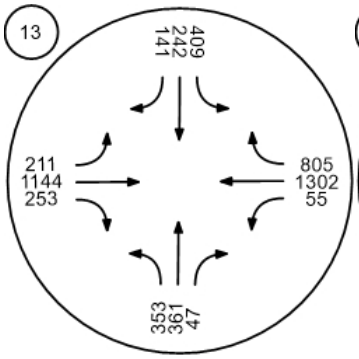
Tierra Rejada Road and Los



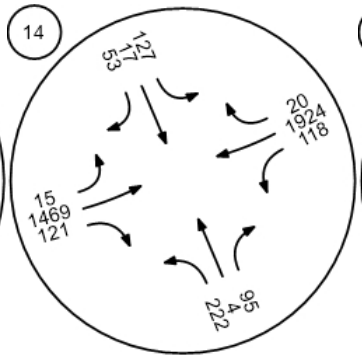
Moorpark Avenue and Los A



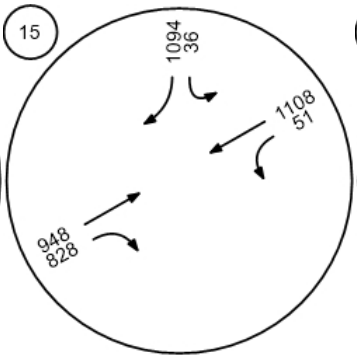
Spring Road and Los Angele



Miller Parkway/Science Drive



SR□23 SB ramps and Los An



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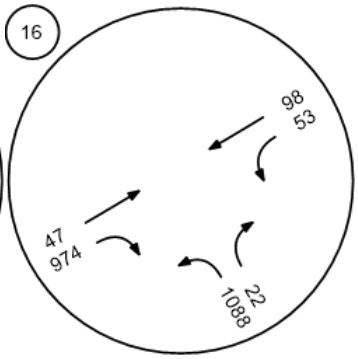

Report Figure 3f: Traffic Volume - Future Total Volume



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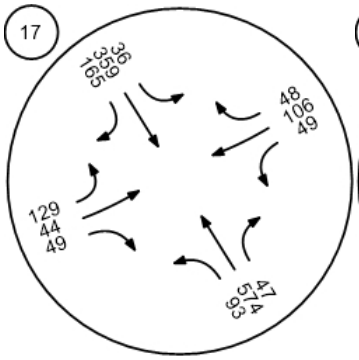
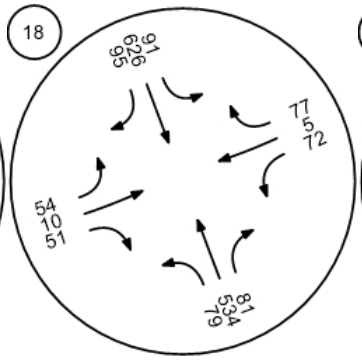


Tierra Rejada Road and Cou



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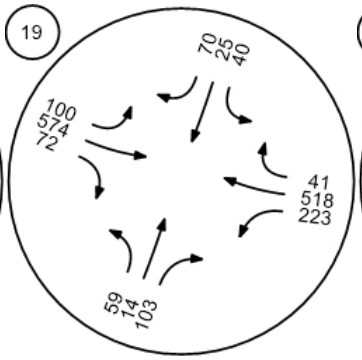

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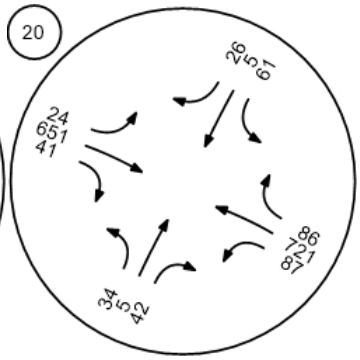

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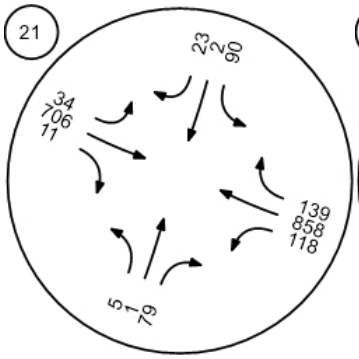
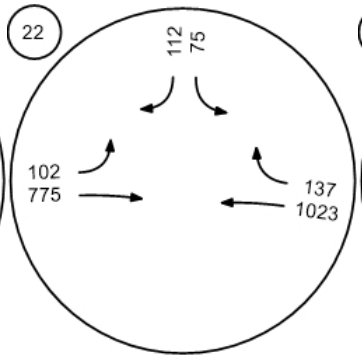
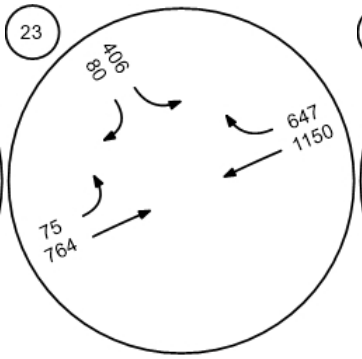


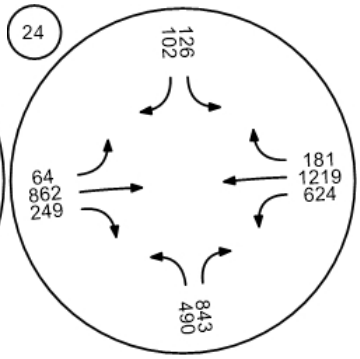
Peach Hill Road and Tierra R



Spring Road and Tierra Reja



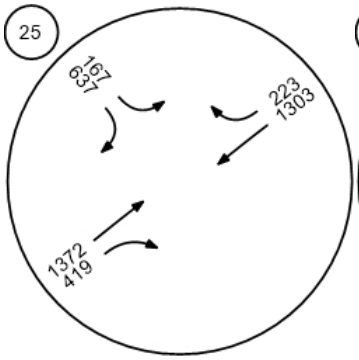
Moorpark Road and Tierra R



Report Figure 3f: Traffic Volume - Future Total Volume



SR□23 SB ramps and Tierra



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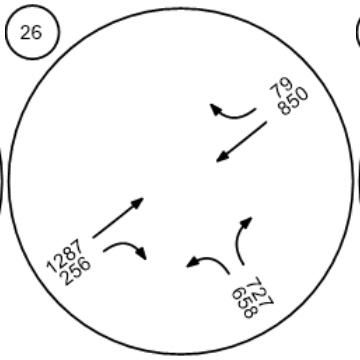
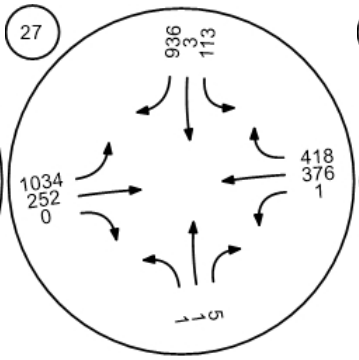
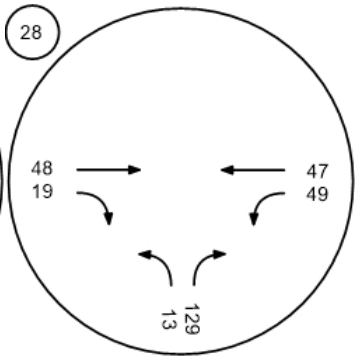


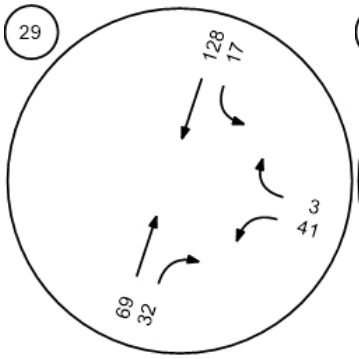
Moorpark Road and Santa R



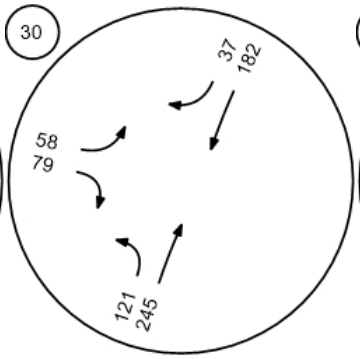
Broadway Road and Grimes



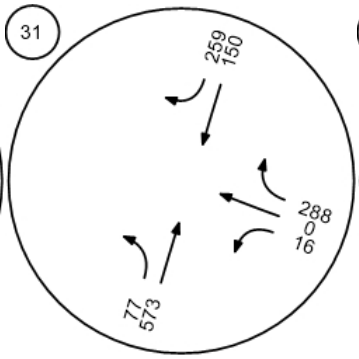
Championship Drive and Gri



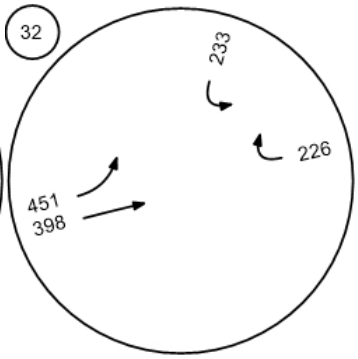
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



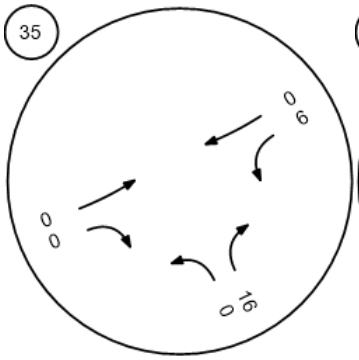
SR 118 EB and Collins Drive



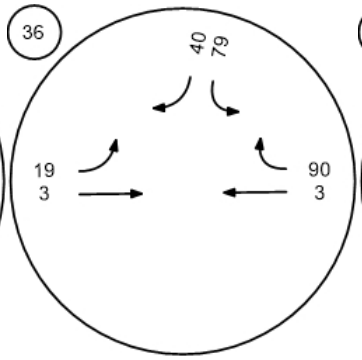
Report Figure 3f: Traffic Volume - Future Total Volume



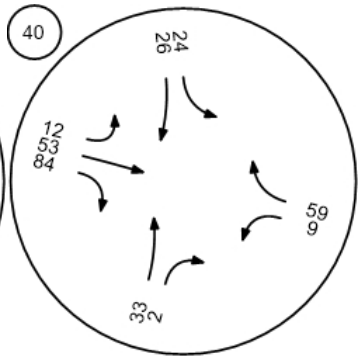
Future Road - Meridian Hills



Future Road - Street "A" at Hi

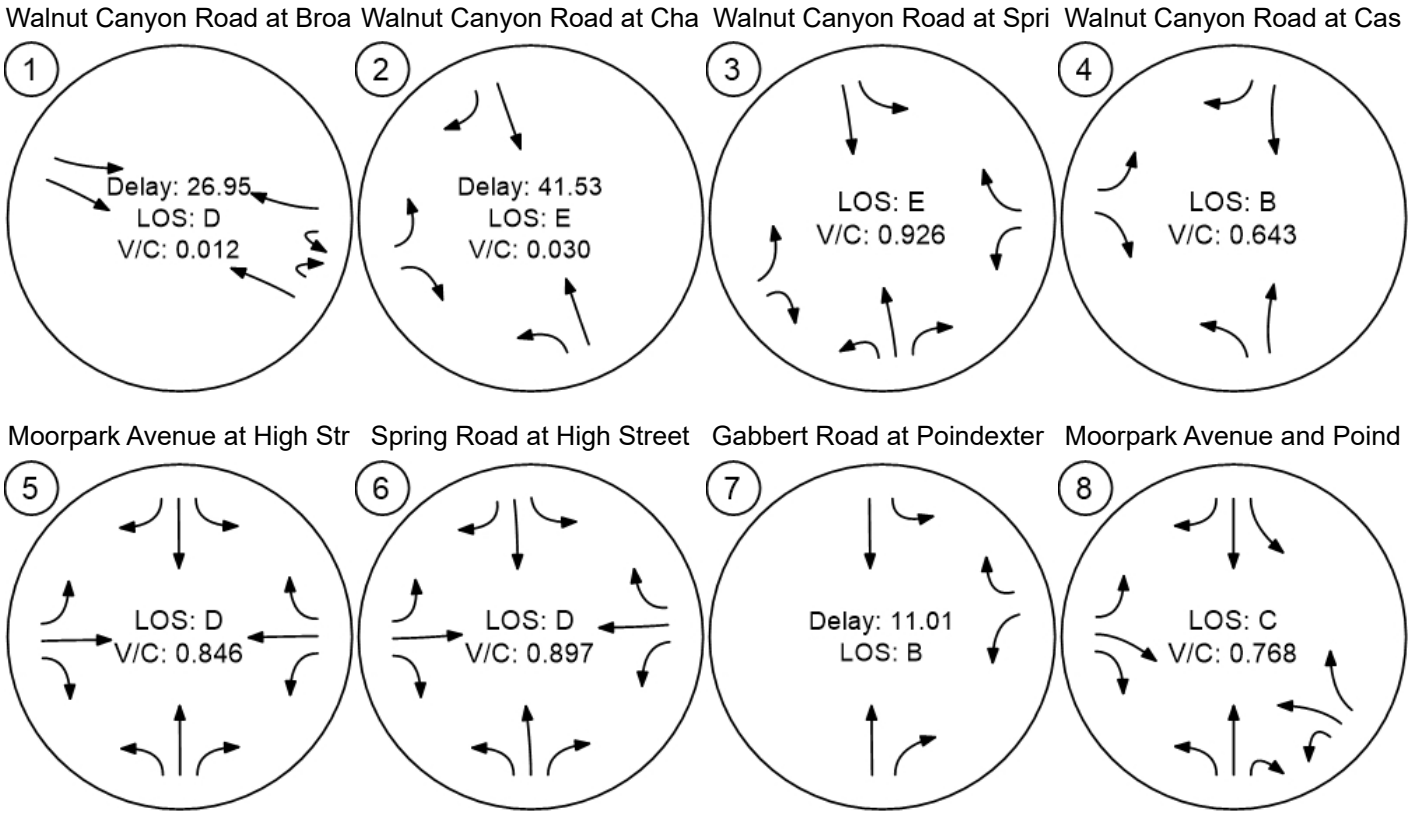


Future Road - Casey Road at



Report Figure 4: Traffic Conditions

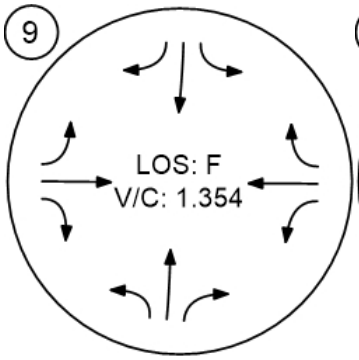




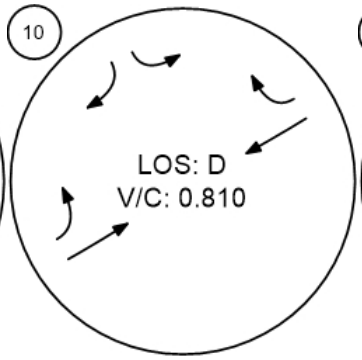
Report Figure 4: Traffic Conditions



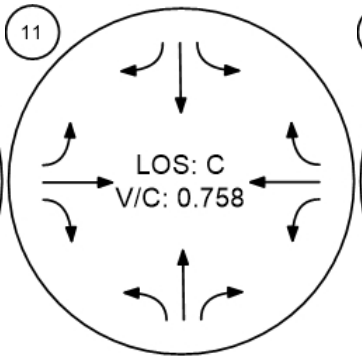
Somis Road and Los Angeles



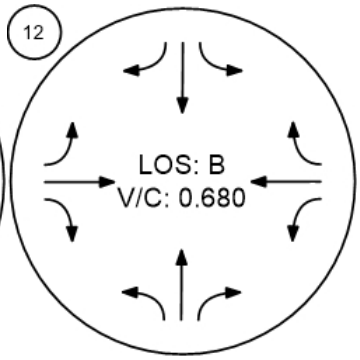
Grimes Canyon Road and Lo



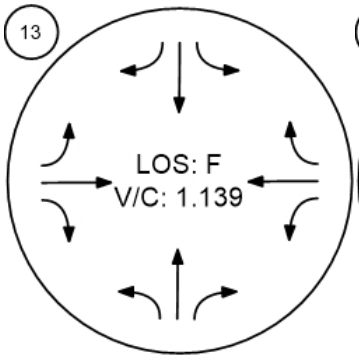
Tierra Rejada Road and Los



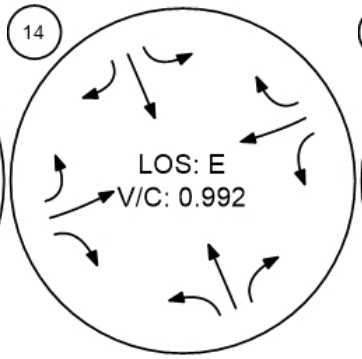
Moorpark Avenue and Los A



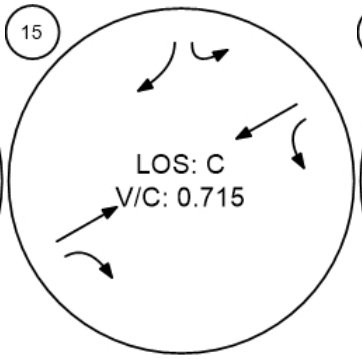
Spring Road and Los Angele



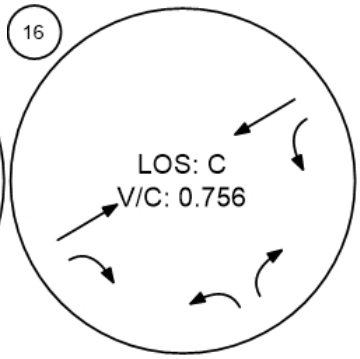
Miller Parkway/Science Drive



SR□23 SB ramps and Los An



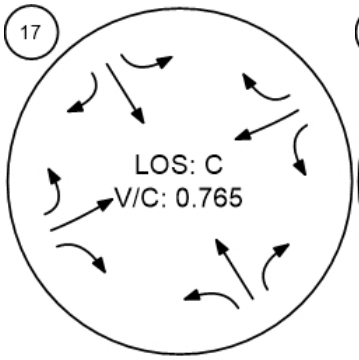
SR□23 NB ramps and Los An



Report Figure 4: Traffic Conditions



Spring Road and Peach Hill



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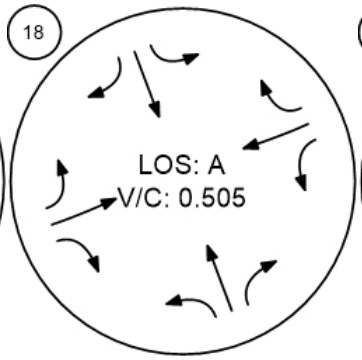
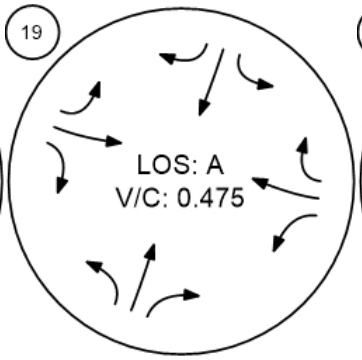
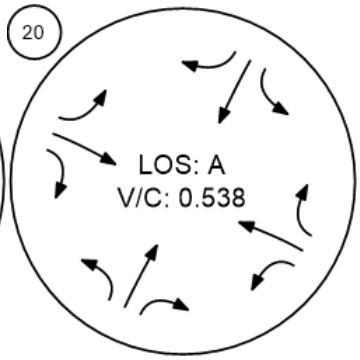


Mountain Trail Road and Tier



Mountain Meadow Drive and



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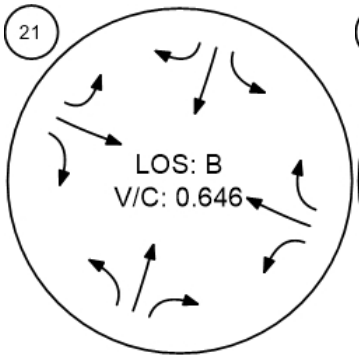

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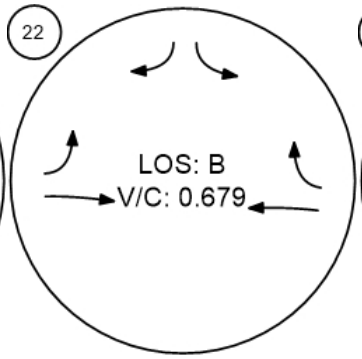
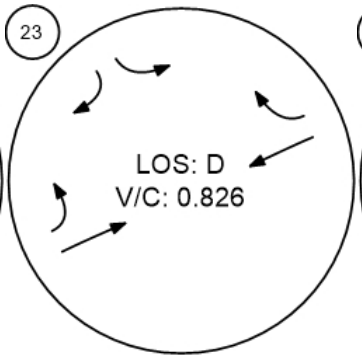
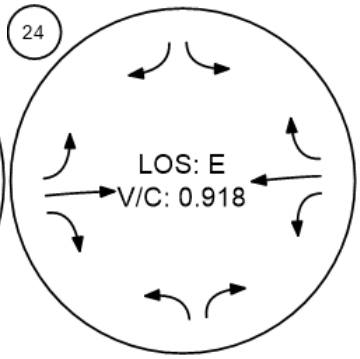


Spring Road and Tierra Reja



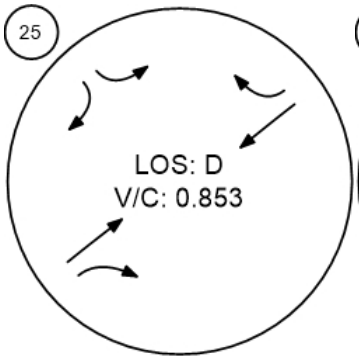
Moorpark Road and Tierra R



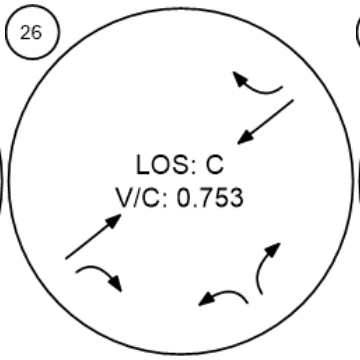
Report Figure 4: Traffic Conditions



SR□23 SB ramps and Tierra



SB□23 NB ramps and Tierra



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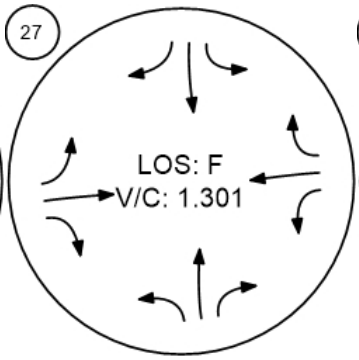

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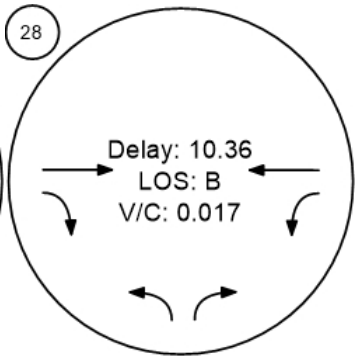

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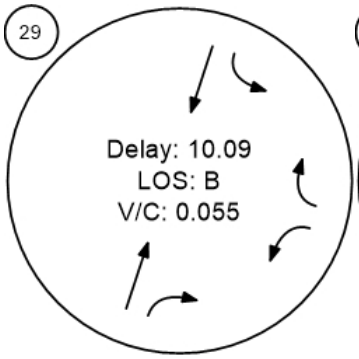
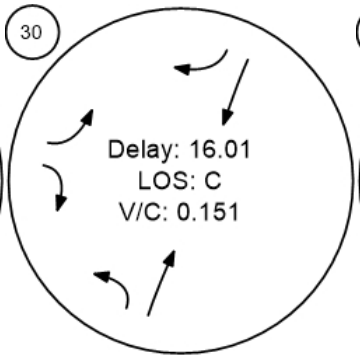
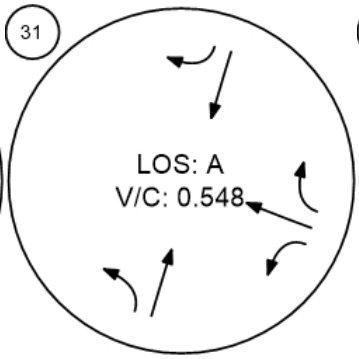


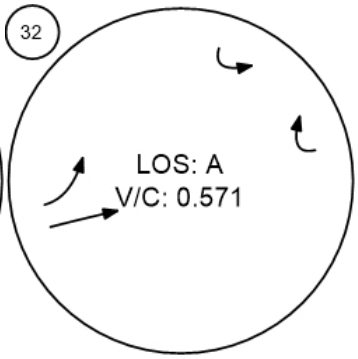
Meridian Hills Drive and Waln



SR 118 WB and Collins Drive



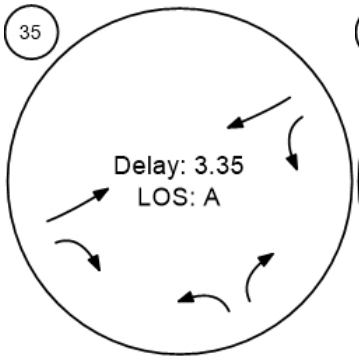
SR 118 EB and Collins Drive



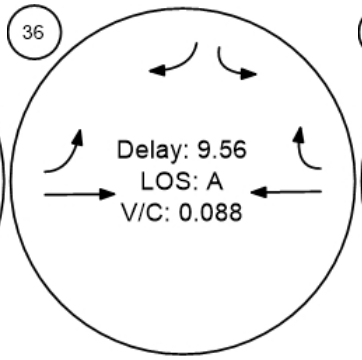
Report Figure 4: Traffic Conditions



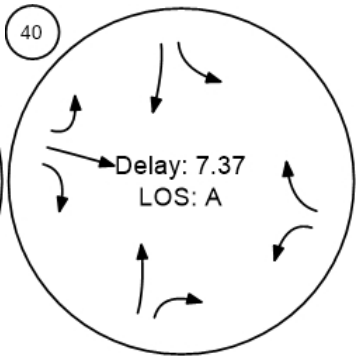
Future Road - Meridian Hills



Future Road - Street "A" at Hi



Future Road - Casey Road at

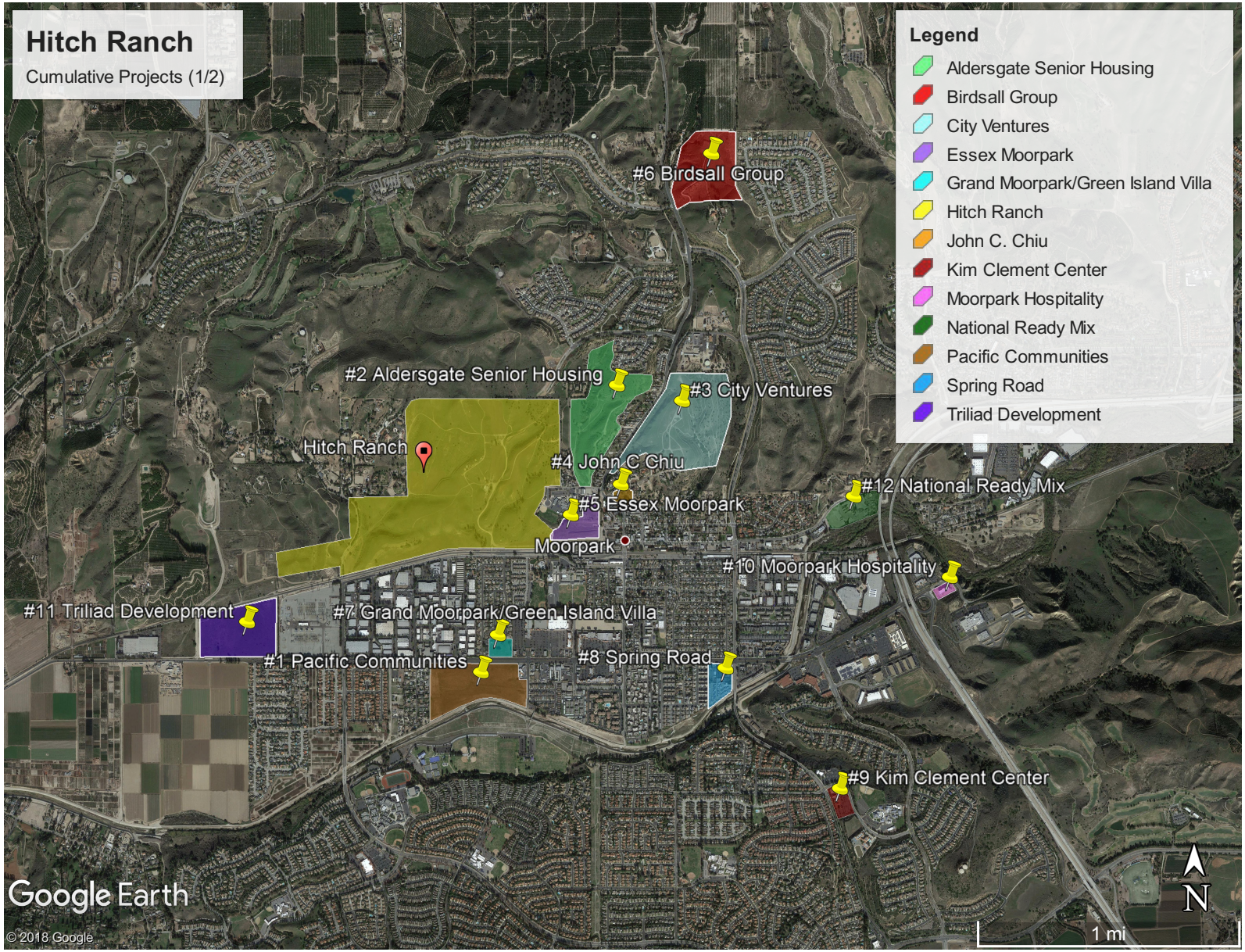


APPENDIX E
RELATED PROJECT INFORMATION
PROVIDED BY THE CITY OF MOORPARK

Cumulative Development Projects Trip Generation Excluding Proposed Project

	Project	Land Use	Size	Note
1	Pacific Communities	Single Family Residential	283 Units	Approved
2	Aldersgate Senior Housing	Senior Residential	258 Units 212 Beds	Approved
3	City Ventures	Single Family Residential	110 Units	Approved
4	John C. Chiu, FLP-N	Condominiums	60 Units	Proposed
5	Essex Moorpark, LLC	Multi-Family Residential	200 Units	Approved
6	Birdsall Group, LLC	Single Family Residential	21 Units	Approved
7	Grand Moorpark **"Green Island Villa"**	Condominiums	66 Units	Proposed
8	Spring Road, LLC	Condominiums	95 Units	Approved
9	Kim Clement Center	Church	21,644 SF	Approved
10	Moorpark Hospitality	Hotel	108 Rooms	Under Construction
11	Triliad Development	Movie Studio	37 Acres	Approved
12	National Ready Mix	Batch Plant	10 Acres	Unknown
13	CEMEX	Quarry	N/A	Unknown
14	Wayne J. Sand & Gravel	Quarry	N/A	Unknown
15	Grimes Rock	Quarry	N/A	Unknown

Source: City of Moorpark Community Development Department, July 2019.



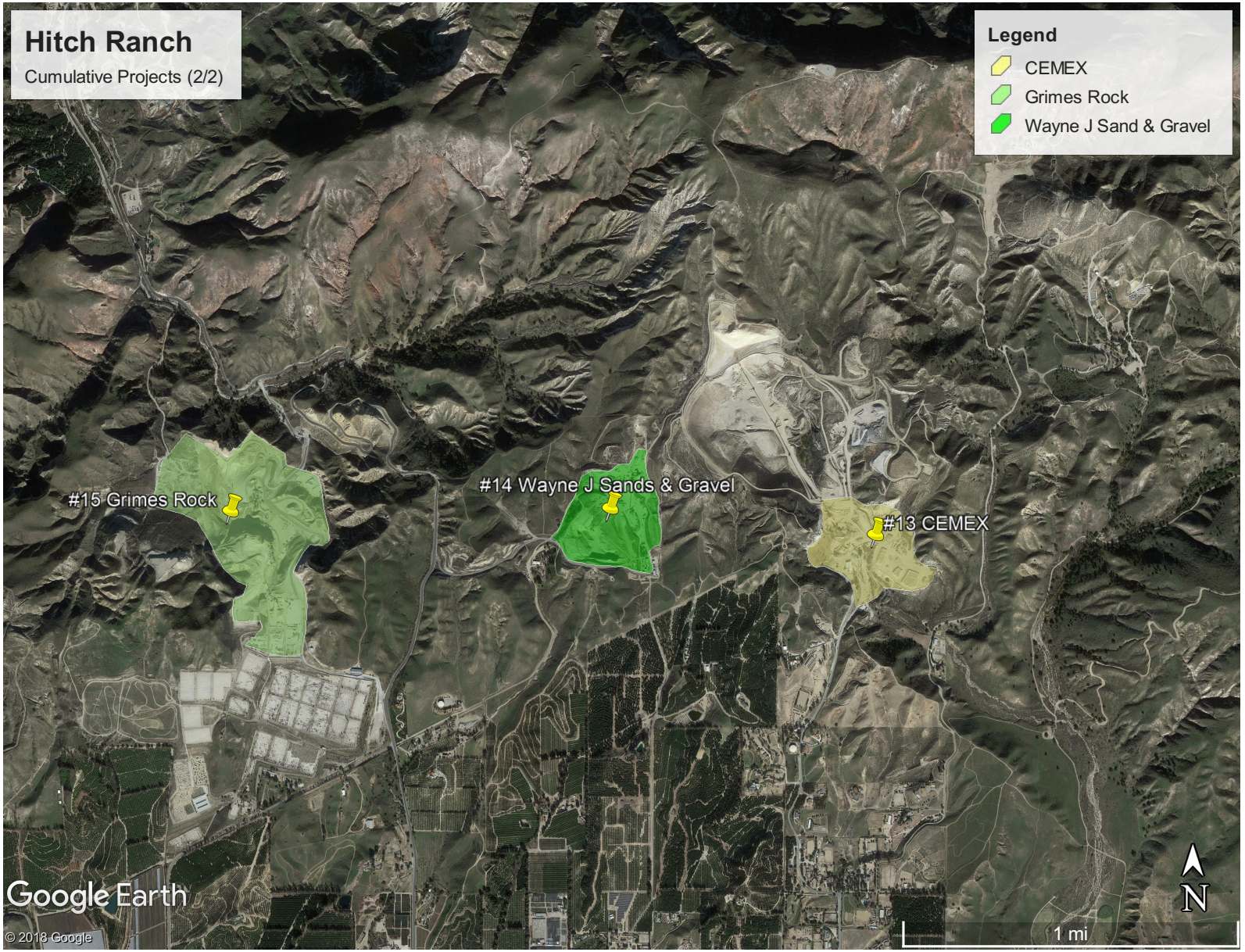
SOURCE: Google Earth, 2018

FIGURE **3.0-1a**

IMPACT SCIENCES

Hitch Ranch Cumulative Project Map

1318.003•02/2020



SOURCE: Google Earth, 2018

FIGURE **3.0-1b**

Hitch Ranch Cumulative Project Map

IMPACT SCIENCES

1318.003•02/2020

APPENDIX F
VMT ANALYSIS

Overview

As an alternative to the Level of Service-based approach to analyzing traffic impacts, this analysis evaluates the project under an alternative approach that will be required by SB 743 as of July 1, 2020, As signed into law in 2013, SB 743 (Steinberg) calls on future traffic studies prepared under CEQA to use vehicle miles traveled (VMT) as the metric to evaluate a project's transportation impacts. In the absence of any formal guidelines and data from the City of Moorpark, Ventura County Transportation Commission (VCTC), or Southern California Association of Governments (SCAG), this analysis summarizes an approach that is consistent with the intent of SB 743 for informational purposes.

Pursuant to the December 2018 guidance from the California Office of Planning and Research (OPR) ("Technical Advisory on Evaluating Transportation Impacts in CEQA"), lead agencies have the discretion to choose the most appropriate methodology for evaluating project VMT. Based on OPR's recommendations, this analysis includes the following general assumptions applicable to a residential development:

- The VMT metric applies to light-duty vehicles and trucks. Given the nature of residential development, medium- and heavy-duty truck VMT was not evaluated.
- The VMT analysis looks at entirety of VMT, not just travel within the City of Moorpark.
- While estimating VMT is best done through tour-based modeling using a regional travel demand model, this analysis uses publicly-available information.

The following assumptions are made to produce a VMT-based analysis of traffic impacts from the proposed project.

Threshold of Significance

In the absence of formal guidance or policies from local agencies, the project is assumed to have a less than significant impact if daily VMT would be 15 percent or more lower than the average daily per capita VMT in Ventura County.[1][2] Based on data from SCAG and the California Air Resources Board, the average daily VMT per capita would be 18.8 in Ventura County in 2026, the projected operational date of the proposed project.[3] This calculation is based on VMT forecasts from VMT forecasts from the California Air Resources Board and population forecasts from the Southern California Association of Governments' 2016 Regional Transportation Plan adopted growth forecast (see attached worksheets for these calculations). Based on this, a 15 percent reduction would result in an average daily per capita VMT target of 16.0 in 2026

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1 While OPR suggests that projects that generate or attract fewer than 110 trips per day could be screened out from further VMT-based analysis, the proposed project would exceed this daily threshold and not be exempt from further analysis.

2 OPR finds that certain projects within ½-mile of an existing major transit stop will have a less-than-significant impact on VMT. While the project is near the Moorpark Metrolink station, the residences are generally more than ½-mile from the station's platforms.

3 Assumes 3.67 persons per dwelling unit (SCAG 2016 RTP growth forecast for City of Moorpark in 2026) and 18.8 per capita daily VMT.

Estimating Project VMT

The Proposed Project could generate about 52,092 daily VMT, based on regional based on average household density in the City of Moorpark and the average per capita VMT for Ventura County.[4] However, given the immediate proximity of the Moorpark Metrolink station, a shift in mode share from drive alone commutes to rail transit is appropriate. Assuming modest mode for Metrolink use from the future development, 115 daily vehicle trips from single-family homes and 299 daily vehicle trips from multi-family homes are shifted to Metrolink. The mode shift of future residents from auto to Metrolink reduces 10,787 average VMT per day from baseline daily VMT. Because each Metrolink trip reduces 34.2 miles of VMT, the per capita VMT would be approximately 13.7, a 27.1 percent reduction from the Countywide average.[5,6]

Conclusion

Until the City, VCTC, and/or SCAG develop formal protocols and policies for judging the VMT impacts of projects, this analysis is consistent with OPR guidance. As such, this analysis finds that transit mode share from Metrolink use would reduce 27.1 percent of VMT from the proposed project, resulting in a daily per capita rate of 13.7. Because this result is lower than the 16.0 per capita target that represents a 15 percent reduction from Countywide per capita targets, the Proposed Project would be considered less than significant for traffic impacts using this alternative method of analysis.

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4 Assumes 3.67 persons per dwelling unit (SCAG 2016 RTP growth forecast for City of Moorpark in 2026) and 18.8 per capita daily VMT.

5 Assumes Metrolink mode share of 2.5 percent for the single-family homes and 5.0 percent for the multi-family homes, based on their proximity to commuter rail service. Represents incremental mode share beyond baseline 0.85 percent public transit mode share (US Census American Communities Survey 5-Year Estimate, 2017). Also assumes a weighted mode share of 0.5 percent for the single-family homes and 1.0 percent for the multi-family homes, which factors in the likely use of Metrolink trains for commute purposes. Assumes 33 percent of average daily travel is commute related and 4.3 average weekly days for Metrolink riders (Metrolink 2018 Origin-Destination Study for Ventura County stations).

6 Assumes average trip length of Metrolink trips from Ventura County stations of 34.2 miles (Metrolink 2018 Origin-Destination study).

TRIP GENERATION SUMMARY

Land Use	Units	Weekday Average Rate	Weekday AM Peak	Weekday PM Peak	AM Entering	AM Exiting	PM Entering	PM Exiting
Single Family Detached. Housing	328	9.44	0.76	1	26%	74%	64%	36%
Multifamily Housing (Low-Rise)	427	7.32	0.56	0.67	28%	72%	59%	41%
Public Park	6	0.78	0.15	0.11	67%	33%	40%	60%
Single Family Detached. Housing		4,031	316	423	82	234	271	152
Multifamily Housing (Low-Rise)		2,401	151	184	42	109	109	75
Public Park		4	1	1	1	0	0	0
Total		6,436	468	608	125	343	380	228

Source: ITE Trip Generation Manual, 10th Edition. This baseline forecast assumes no additional mode share for public transit beyond ITE data.

VMT ANALYSIS

VMT Analysis	Baseline VMT*	Incremental Metrolink Mode Share**	Weighted Mode Share***	Weighted VMT Reduction****	Reduction	Project VMT
Single Family Detached. Housing	22,631	2.5%	0.5%	(3,922.37)		-
Multifamily Housing (Low-Rise)	29,461	5.0%	1.0%	(10,212.50)		
Public Park						-
Total	52,092			(14,135)	-27.1%	-
Population	2,771					-
Total Per Capita	18.8					13.7
Source: SCAG 2016 RTP adopted growth forecast for Ventura County						-

Assumptions:

* Per capita VMT for Ventura County in 2026 (SCAG 2016 RTP adopted growth forecast)

** Base mode share 0.85 percent public transit in 2017 (US Census American Communities Survey 5-Year Estimate)

***4.3 average weekly days using Metrolink (Metrolink 2018 Origin-Destination Study), assumes 33% of VMT work-related

****34.2-mile average trip length using Metrolink in Ventura County (Metrolink 2018 Origin-Destination Study), 8.1-mile average trip length (SCAG 2016 RTP adopted growth forecast)

APPENDIX 3.16

Tribal Cultural Resources

A

AB 52 Consultation Form

CITY OF MOORPARK

COMMUNITY DEVELOPMENT DEPARTMENT | 799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2540 | www.moorparkca.gov

AB 52 TRIBAL CONSULTATION FORM

August 16, 2019

Barbareno/ Ventureno Band of Mission Indians
Eleanor Arrellanes
Post Office Box 5687
Ventura, CA 93005

RE: Hitch Ranch Specific Plan Project

Dear Honorable Ms. Arrellanes:

This letter is to inform you that the City of Moorpark Community Development Department is reviewing the proposed project described below. The City of Moorpark wishes to initiate tribal consultation for the above mentioned project under the California Environmental Quality Act (CEQA); specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (also known as AB 52). The City of Moorpark, as the lead agency, is consulting with you because your Tribe requested to be notified and provided information under the provisions of CEQA.

The project location is as follows:

> The project site is located in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue, and west of Moorpark Avenue (State Route 23). Specifically, the site is approximately 270.64 acres, is located approximately 1,600 feet west of State Route 23, and extends to approximately 1,400 feet west of Gabbert Road.

A brief project description is as follows:

> The specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, an institutional use, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

JANICE S. PARVIN, Mayor | CHRIS ENEGREN, Councilmember | ROSEANN MIKOS, Ph.D., Councilmember | DAVID POLLOCK, Councilmember | KEN SIMONS, Councilmember

Residential uses constitute a primary component of the Specific Plan. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre.

Four private recreation areas are proposed as part of the specific plan.

Additional details regarding this project, including plans, are available online at: www.moorparkca.gov/hitchranch. Thank you for your assistance. Please be assured that any information you provide regarding cultural places will be kept strictly confidential and will not be divulged to the public.

I can be contacted by phone (805-517-6251), or email (dspondello@moorparkca.gov). My full contact information is provided below. Your response within 30 days of receipt of this letter would be appreciated. Please let me know if the lead contact person's contact information has been changed and I will make sure our files reflect this for all future correspondence.

Please mail your request to:

City of Moorpark
Community Development Department
Douglas Spondello
799 Moorpark Avenue
Moorpark, CA 93021

Respectfully,

Douglas Spondello
Planning Manager

Community Development Department
City of Moorpark | 799 Moorpark Avenue | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

CITY OF MOORPARK

COMMUNITY DEVELOPMENT DEPARTMENT | 799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2540 | www.moorparkca.gov

AB 52 TRIBAL CONSULTATION FORM

August 16, 2019

Barbareno/ Ventureno Band of Mission Indians
Raudel Banuelos
331 Mira Flores
Camarillo, CA 93012

RE: Hitch Ranch Specific Plan Project

Dear Honorable Mr. Banuelos:

This letter is to inform you that the City of Moorpark Community Development Department is reviewing the proposed project described below. The City of Moorpark wishes to initiate tribal consultation for the above mentioned project under the California Environmental Quality Act (CEQA); specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (also known as AB 52). The City of Moorpark, as the lead agency, is consulting with you because your Tribe requested to be notified and provided information under the provisions of CEQA.

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JANICE S. PARVIN, Mayor | CHRIS ENEGREN, Councilmember | ROSEANN MIKOS, Ph.D., Councilmember | DAVID POLLOCK, Councilmember | KEN SIMONS, Councilmember

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Please mail your request to:

City of Moorpark
Community Development Department
Douglas Spondello
799 Moorpark Avenue
Moorpark, CA 93021

Respectfully,

Douglas Spondello
Planning Manager

Community Development Department
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www.moorparkca.gov

CITY OF MOORPARK

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Main City Phone Number (805) 517-6200 | Fax (805) 532-2540 | www.moorparkca.gov

AB 52 TRIBAL CONSULTATION FORM

August 16, 2019

Barbareno/ Ventureno Band of Mission Indians
Patrick Tumamait
992 El Camino Corto
Ojai, CA 93023

RE: Hitch Ranch Specific Plan Project

Dear Honorable Mr. Tumamait:

This letter is to inform you that the City of Moorpark Community Development Department is reviewing the proposed project described below. The City of Moorpark wishes to initiate tribal consultation for the above mentioned project under the California Environmental Quality Act (CEQA); specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (also known as AB 52). The City of Moorpark, as the lead agency, is consulting with you because your Tribe requested to be notified and provided information under the provisions of CEQA.

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Residential uses constitute a primary component of the Specific Plan. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre.

Four private recreation areas are proposed as part of the specific plan.

Additional details regarding this project, including plans, are available online at: www.moorparkca.gov/hitchranch. Thank you for your assistance. Please be assured that any information you provide regarding cultural places will be kept strictly confidential and will not be divulged to the public.

I can be contacted by phone (805-517-6251), or email (dspondello@moorparkca.gov). My full contact information is provided below. Your response within 30 days of receipt of this letter would be appreciated. Please let me know if the lead contact person's contact information has been changed and I will make sure our files reflect this for all future correspondence.

Please mail your request to:

City of Moorpark
Community Development Department
Douglas Spondello
799 Moorpark Avenue
Moorpark, CA 93021

Respectfully,

Douglas Spondello
Planning Manager

Community Development Department
City of Moorpark | 799 Moorpark Avenue | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

CITY OF MOORPARK

COMMUNITY DEVELOPMENT DEPARTMENT | 799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2540 | www.moorparkca.gov

AB 52 TRIBAL CONSULTATION FORM

August 16, 2019

Barbareno/ Ventureno Band of Mission Indians
Julie Tumamait-Stenslie, Chairperson
365 North Poli Avenue
Ojai, CA 93023

RE: Hitch Ranch Specific Plan Project

Dear Honorable Ms. Tumamait-Stenslie:

This letter is to inform you that the City of Moorpark Community Development Department is reviewing the proposed project described below. The City of Moorpark wishes to initiate tribal consultation for the above mentioned project under the California Environmental Quality Act (CEQA); specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (also known as AB 52). The City of Moorpark, as the lead agency, is consulting with you because your Tribe requested to be notified and provided information under the provisions of CEQA.

The project location is as follows:

> The project site is located in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue, and west of Moorpark Avenue (State Route 23). Specifically, the site is approximately 270.64 acres, is located approximately 1,600 feet west of State Route 23, and extends to approximately 1,400 feet west of Gabbert Road.

A brief project description is as follows:

> The specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, an institutional use, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

JANICE S. PARVIN, Mayor | CHRIS ENEGREN, Councilmember | ROSEANN MIKOS, Ph.D., Councilmember | DAVID POLLOCK, Councilmember | KEN SIMONS, Councilmember

Residential uses constitute a primary component of the Specific Plan. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre.

Four private recreation areas are proposed as part of the specific plan.

Additional details regarding this project, including plans, are available online at: www.moorparkca.gov/hitchranch. Thank you for your assistance. Please be assured that any information you provide regarding cultural places will be kept strictly confidential and will not be divulged to the public.

I can be contacted by phone (805-517-6251), or email (dspondello@moorparkca.gov). My full contact information is provided below. Your response within 30 days of receipt of this letter would be appreciated. Please let me know if the lead contact person's contact information has been changed and I will make sure our files reflect this for all future correspondence.

Please mail your request to:

City of Moorpark
Community Development Department
Douglas Spondello
799 Moorpark Avenue
Moorpark, CA 93021

Respectfully,



Douglas Spondello
Planning Manager

Community Development Department
City of Moorpark | 799 Moorpark Avenue | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

CITY OF MOORPARK

COMMUNITY DEVELOPMENT DEPARTMENT | 799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2540 | www.moorparkca.gov

AB 52 TRIBAL CONSULTATION FORM

August 16, 2019

Coastal Band of the Chumash Nation
Gino Altamirano, Chairperson
Post Office Box 4464
Santa Barbara, CA 93140

RE: Hitch Ranch Specific Plan Project

Dear Honorable Mr. Altamirano:

This letter is to inform you that the City of Moorpark Community Development Department is reviewing the proposed project described below. The City of Moorpark wishes to initiate tribal consultation for the above mentioned project under the California Environmental Quality Act (CEQA); specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (also known as AB 52). The City of Moorpark, as the lead agency, is consulting with you because your Tribe requested to be notified and provided information under the provisions of CEQA.

The project location is as follows:

> The project site is located in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue, and west of Moorpark Avenue (State Route 23). Specifically, the site is approximately 270.64 acres, is located approximately 1,600 feet west of State Route 23, and extends to approximately 1,400 feet west of Gabbert Road.

A brief project description is as follows:

> The specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, an institutional use, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

JANICE S. PARVIN, Mayor | CHRIS ENEGREN, Councilmember | ROSEANN MIKOS, Ph.D., Councilmember | DAVID POLLOCK, Councilmember | KEN SIMONS, Councilmember

Residential uses constitute a primary component of the Specific Plan. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre.

Four private recreation areas are proposed as part of the specific plan.

Additional details regarding this project, including plans, are available online at: www.moorparkca.gov/hitchranch. Thank you for your assistance. Please be assured that any information you provide regarding cultural places will be kept strictly confidential and will not be divulged to the public.

I can be contacted by phone (805-517-6251), or email (dspondello@moorparkca.gov). My full contact information is provided below. Your response within 30 days of receipt of this letter would be appreciated. Please let me know if the lead contact person's contact information has been changed and I will make sure our files reflect this for all future correspondence.

Please mail your request to:

City of Moorpark
Community Development Department
Douglas Spondello
799 Moorpark Avenue
Moorpark, CA 93021

Respectfully,

Douglas Spondello
Planning Manager

Community Development Department
City of Moorpark | 799 Moorpark Avenue | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

CITY OF MOORPARK

COMMUNITY DEVELOPMENT DEPARTMENT | 799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2540 | www.moorparkca.gov

AB 52 TRIBAL CONSULTATION FORM

August 16, 2019

Northern Chumash Tribal Council
Fred Collins, Spokesperson
Post Office Box 6533
Los Osos, CA 93412

RE: Hitch Ranch Specific Plan Project

Dear Honorable Mr. Collins:

This letter is to inform you that the City of Moorpark Community Development Department is reviewing the proposed project described below. The City of Moorpark wishes to initiate tribal consultation for the above mentioned project under the California Environmental Quality Act (CEQA); specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (also known as AB 52). The City of Moorpark, as the lead agency, is consulting with you because your Tribe requested to be notified and provided information under the provisions of CEQA.

The project location is as follows:

> The project site is located in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue, and west of Moorpark Avenue (State Route 23). Specifically, the site is approximately 270.64 acres, is located approximately 1,600 feet west of State Route 23, and extends to approximately 1,400 feet west of Gabbert Road.

A brief project description is as follows:

> The specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, an institutional use, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

JANICE S. PARVIN, Mayor | CHRIS ENEGREN, Councilmember | ROSEANN MIKOS, Ph.D., Councilmember | DAVID POLLOCK, Councilmember | KEN SIMONS, Councilmember

Residential uses constitute a primary component of the Specific Plan. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre.

Four private recreation areas are proposed as part of the specific plan.

Additional details regarding this project, including plans, are available online at: www.moorparkca.gov/hitchranch. Thank you for your assistance. Please be assured that any information you provide regarding cultural places will be kept strictly confidential and will not be divulged to the public.

I can be contacted by phone (805-517-6251), or email (dspondello@moorparkca.gov). My full contact information is provided below. Your response within 30 days of receipt of this letter would be appreciated. Please let me know if the lead contact person's contact information has been changed and I will make sure our files reflect this for all future correspondence.

Please mail your request to:

City of Moorpark
Community Development Department
Douglas Spondello
799 Moorpark Avenue
Moorpark, CA 93021

Respectfully,

Douglas Spondello
Planning Manager

Community Development Department
City of Moorpark | 799 Moorpark Avenue | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

CITY OF MOORPARK

COMMUNITY DEVELOPMENT DEPARTMENT | 799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2540 | www.moorparkca.gov

AB 52 TRIBAL CONSULTATION FORM

August 16, 2019

Santa Ynez Band of Chumash Indians
Kenneth Kahn, Chairperson
Post Office Box 517
Santa Ynez, CA 93460

RE: Hitch Ranch Specific Plan Project

Dear Honorable Mr. Kahn:

This letter is to inform you that the City of Moorpark Community Development Department is reviewing the proposed project described below. The City of Moorpark wishes to initiate tribal consultation for the above mentioned project under the California Environmental Quality Act (CEQA); specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (also known as AB 52). The City of Moorpark, as the lead agency, is consulting with you because your Tribe requested to be notified and provided information under the provisions of CEQA.

The project location is as follows:

> The project site is located in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue, and west of Moorpark Avenue (State Route 23). Specifically, the site is approximately 270.64 acres, is located approximately 1,600 feet west of State Route 23, and extends to approximately 1,400 feet west of Gabbert Road.

A brief project description is as follows:

> The specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, an institutional use, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

JANICE S. PARVIN, Mayor | CHRIS ENEGREN, Councilmember | ROSEANN MIKOS, Ph.D., Councilmember | DAVID POLLOCK, Councilmember | KEN SIMONS, Councilmember

Residential uses constitute a primary component of the Specific Plan. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre.

Four private recreation areas are proposed as part of the specific plan.

Additional details regarding this project, including plans, are available online at: www.moorparkca.gov/hitchranch. Thank you for your assistance. Please be assured that any information you provide regarding cultural places will be kept strictly confidential and will not be divulged to the public.

I can be contacted by phone (805-517-6251), or email (dspondello@moorparkca.gov). My full contact information is provided below. Your response within 30 days of receipt of this letter would be appreciated. Please let me know if the lead contact person's contact information has been changed and I will make sure our files reflect this for all future correspondence.

Please mail your request to:

City of Moorpark
Community Development Department
Douglas Spondello
799 Moorpark Avenue
Moorpark, CA 93021

Respectfully,



Douglas Spondello
Planning Manager

Community Development Department
City of Moorpark | 799 Moorpark Avenue | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

CITY OF MOORPARK

COMMUNITY DEVELOPMENT DEPARTMENT | 799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2540 | www.moorparkca.gov

AB 52 TRIBAL CONSULTATION FORM

August 16, 2019

Chumash Council of Bakersfield
Julio Quair, Chairperson
729 Texas Street
Bakersfield, CA 93307

RE: Hitch Ranch Specific Plan Project

Dear Honorable Mr. Quair:

This letter is to inform you that the City of Moorpark Community Development Department is reviewing the proposed project described below. The City of Moorpark wishes to initiate tribal consultation for the above mentioned project under the California Environmental Quality Act (CEQA); specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (also known as AB 52). The City of Moorpark, as the lead agency, is consulting with you because your Tribe requested to be notified and provided information under the provisions of CEQA.

The project location is as follows:

> The project site is located in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue, and west of Moorpark Avenue (State Route 23). Specifically, the site is approximately 270.64 acres, is located approximately 1,600 feet west of State Route 23, and extends to approximately 1,400 feet west of Gabbert Road.

A brief project description is as follows:

> The specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, an institutional use, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

JANICE S. PARVIN, Mayor | CHRIS ENEGREN, Councilmember | ROSEANN MIKOS, Ph.D., Councilmember | DAVID POLLOCK, Councilmember | KEN SIMONS, Councilmember

Residential uses constitute a primary component of the Specific Plan. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre.

Four private recreation areas are proposed as part of the specific plan.

Additional details regarding this project, including plans, are available online at: www.moorparkca.gov/hitchranch. Thank you for your assistance. Please be assured that any information you provide regarding cultural places will be kept strictly confidential and will not be divulged to the public.

I can be contacted by phone (805-517-6251), or email (dspondello@moorparkca.gov). My full contact information is provided below. Your response within 30 days of receipt of this letter would be appreciated. Please let me know if the lead contact person's contact information has been changed and I will make sure our files reflect this for all future correspondence.

Please mail your request to:

City of Moorpark
Community Development Department
Douglas Spondello
799 Moorpark Avenue
Moorpark, CA 93021

Respectfully,

Douglas Spondello
Planning Manager

Community Development Department
City of Moorpark | 799 Moorpark Avenue | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

CITY OF MOORPARK

COMMUNITY DEVELOPMENT DEPARTMENT | 799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2540 | www.moorparkca.gov

AB 52 TRIBAL CONSULTATION FORM

August 16, 2019

yak tityu tityu yak tiłhini – Northern Chumash Tribe
Mona Tucker, Chairperson
660 Camino Del Rey
Arroyo Grande, CA 93420

RE: Hitch Ranch Specific Plan Project

Dear Honorable Ms. Tucker:

This letter is to inform you that the City of Moorpark Community Development Department is reviewing the proposed project described below. The City of Moorpark wishes to initiate tribal consultation for the above mentioned project under the California Environmental Quality Act (CEQA); specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (also known as AB 52). The City of Moorpark, as the lead agency, is consulting with you because your Tribe requested to be notified and provided information under the provisions of CEQA.

The project location is as follows:

> The project site is located in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue, and west of Moorpark Avenue (State Route 23). Specifically, the site is approximately 270.64 acres, is located approximately 1,600 feet west of State Route 23, and extends to approximately 1,400 feet west of Gabbert Road.

A brief project description is as follows:

> The specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, an institutional use, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

JANICE S. PARVIN, Mayor | CHRIS ENEGREN, Councilmember | ROSEANN MIKOS, Ph.D., Councilmember | DAVID POLLOCK, Councilmember | KEN SIMONS, Councilmember

Residential uses constitute a primary component of the Specific Plan. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre.

Four private recreation areas are proposed as part of the specific plan.

Additional details regarding this project, including plans, are available online at: www.moorparkca.gov/hitchranch. Thank you for your assistance. Please be assured that any information you provide regarding cultural places will be kept strictly confidential and will not be divulged to the public.

I can be contacted by phone (805-517-6251), or email (dspondello@moorparkca.gov). My full contact information is provided below. Your response within 30 days of receipt of this letter would be appreciated. Please let me know if the lead contact person's contact information has been changed and I will make sure our files reflect this for all future correspondence.

Please mail your request to:

City of Moorpark
Community Development Department
Douglas Spondello
799 Moorpark Avenue
Moorpark, CA 93021

Respectfully,

Douglas Spondello
Planning Manager

Community Development Department
City of Moorpark | 799 Moorpark Avenue | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

CITY OF MOORPARK

COMMUNITY DEVELOPMENT DEPARTMENT | 799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2540 | www.moorparkca.gov

AB 52 TRIBAL CONSULTATION FORM

August 16, 2019

San Luis Obispo County Chumash Council
Mark Vigil, Chief
1030 Ritchie Road
Grover Beach, CA 93433

RE: Hitch Ranch Specific Plan Project

Dear Honorable Mr. Vigil:

This letter is to inform you that the City of Moorpark Community Development Department is reviewing the proposed project described below. The City of Moorpark wishes to initiate tribal consultation for the above mentioned project under the California Environmental Quality Act (CEQA); specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (also known as AB 52). The City of Moorpark, as the lead agency, is consulting with you because your Tribe requested to be notified and provided information under the provisions of CEQA.

The project location is as follows:

> The project site is located in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue, and west of Moorpark Avenue (State Route 23). Specifically, the site is approximately 270.64 acres, is located approximately 1,600 feet west of State Route 23, and extends to approximately 1,400 feet west of Gabbert Road.

A brief project description is as follows:

> The specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, an institutional use, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

JANICE S. PARVIN, Mayor | CHRIS ENEGREN, Councilmember | ROSEANN MIKOS, Ph.D., Councilmember | DAVID POLLOCK, Councilmember | KEN SIMONS, Councilmember

Residential uses constitute a primary component of the Specific Plan. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre.

Four private recreation areas are proposed as part of the specific plan.

Additional details regarding this project, including plans, are available online at: www.moorparkca.gov/hitchranch. Thank you for your assistance. Please be assured that any information you provide regarding cultural places will be kept strictly confidential and will not be divulged to the public.

I can be contacted by phone (805-517-6251), or email (dspondello@moorparkca.gov). My full contact information is provided below. Your response within 30 days of receipt of this letter would be appreciated. Please let me know if the lead contact person's contact information has been changed and I will make sure our files reflect this for all future correspondence.

Please mail your request to:

City of Moorpark
Community Development Department
Douglas Spondello
799 Moorpark Avenue
Moorpark, CA 93021

Respectfully,

Douglas Spondello
Planning Manager

Community Development Department
City of Moorpark | 799 Moorpark Avenue | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

CITY OF MOORPARK

COMMUNITY DEVELOPMENT DEPARTMENT | 799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2540 | www.moorparkca.gov

AB 52 TRIBAL CONSULTATION FORM

August 16, 2019

Torres Martinez Desert Cahuilla Indians
Michael Mirelez
Post Office Box 1160
Thermal, CA 92274

RE: Hitch Ranch Specific Plan Project

Dear Honorable Mr. Mirelez:

This letter is to inform you that the City of Moorpark Community Development Department is reviewing the proposed project described below. The City of Moorpark wishes to initiate tribal consultation for the above mentioned project under the California Environmental Quality Act (CEQA); specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (also known as AB 52). The City of Moorpark, as the lead agency, is consulting with you because your Tribe requested to be notified and provided information under the provisions of CEQA.

The project location is as follows:

> The project site is located in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue, and west of Moorpark Avenue (State Route 23). Specifically, the site is approximately 270.64 acres, is located approximately 1,600 feet west of State Route 23, and extends to approximately 1,400 feet west of Gabbert Road.

A brief project description is as follows:

> The specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, an institutional use, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

JANICE S. PARVIN, Mayor | CHRIS ENEGREN, Councilmember | ROSEANN MIKOS, Ph.D., Councilmember | DAVID POLLOCK, Councilmember | KEN SIMONS, Councilmember

Residential uses constitute a primary component of the Specific Plan. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre.

Four private recreation areas are proposed as part of the specific plan.

Additional details regarding this project, including plans, are available online at: www.moorparkca.gov/hitchranch. Thank you for your assistance. Please be assured that any information you provide regarding cultural places will be kept strictly confidential and will not be divulged to the public.

I can be contacted by phone (805-517-6251), or email (dspondello@moorparkca.gov). My full contact information is provided below. Your response within 30 days of receipt of this letter would be appreciated. Please let me know if the lead contact person's contact information has been changed and I will make sure our files reflect this for all future correspondence.

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City of Moorpark
Community Development Department
Douglas Spondello
799 Moorpark Avenue
Moorpark, CA 93021

Respectfully,

Douglas Spondello
Planning Manager

Community Development Department
City of Moorpark | 799 Moorpark Avenue | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

CITY OF MOORPARK

COMMUNITY DEVELOPMENT DEPARTMENT | 799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2540 | www.moorparkca.gov

AB 52 TRIBAL CONSULTATION FORM

August 16, 2019

Fernandeno Tataviam Band of Mission Indians
Jairo Avila, Tribal Historic and Cultural Preservation Officer
1019 Second Street, Suite 1
San Fernando, CA 91340

RE: Hitch Ranch Specific Plan Project

Dear Honorable Mr. Avila:

This letter is to inform you that the City of Moorpark Community Development Department is reviewing the proposed project described below. The City of Moorpark wishes to initiate tribal consultation for the above mentioned project under the California Environmental Quality Act (CEQA); specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (also known as AB 52). The City of Moorpark, as the lead agency, is consulting with you because your Tribe requested to be notified and provided information under the provisions of CEQA.

The project location is as follows:

> The project site is located in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue, and west of Moorpark Avenue (State Route 23). Specifically, the site is approximately 270.64 acres, is located approximately 1,600 feet west of State Route 23, and extends to approximately 1,400 feet west of Gabbert Road.

A brief project description is as follows:

> The specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, an institutional use, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

JANICE S. PARVIN, Mayor | CHRIS ENEGREN, Councilmember | ROSEANN MIKOS, Ph.D., Councilmember | DAVID POLLOCK, Councilmember | KEN SIMONS, Councilmember

Residential uses constitute a primary component of the Specific Plan. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre.

Four private recreation areas are proposed as part of the specific plan.

Additional details regarding this project, including plans, are available online at: www.moorparkca.gov/hitchranch. Thank you for your assistance. Please be assured that any information you provide regarding cultural places will be kept strictly confidential and will not be divulged to the public.

I can be contacted by phone (805-517-6251), or email (dspondello@moorparkca.gov). My full contact information is provided below. Your response within 30 days of receipt of this letter would be appreciated. Please let me know if the lead contact person's contact information has been changed and I will make sure our files reflect this for all future correspondence.

Please mail your request to:

City of Moorpark
Community Development Department
Douglas Spondello
799 Moorpark Avenue
Moorpark, CA 93021

Respectfully,

Douglas Spondello
Planning Manager

Community Development Department
City of Moorpark | 799 Moorpark Avenue | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

CITY OF MOORPARK

COMMUNITY DEVELOPMENT DEPARTMENT | 799 Moorpark Avenue, Moorpark, California 93021
Main City Phone Number (805) 517-6200 | Fax (805) 532-2540 | www.moorparkca.gov

AB 52 TRIBAL CONSULTATION FORM

August 16, 2019

San Fernando Band of Mission Indians
Donna Yocum, Chairperson
Post Office Box 221838
Newhall, CA 91322

RE: Hitch Ranch Specific Plan Project

Dear Honorable Ms. Yocum:

This letter is to inform you that the City of Moorpark Community Development Department is reviewing the proposed project described below. The City of Moorpark wishes to initiate tribal consultation for the above mentioned project under the California Environmental Quality Act (CEQA); specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (also known as AB 52). The City of Moorpark, as the lead agency, is consulting with you because your Tribe requested to be notified and provided information under the provisions of CEQA.

The project location is as follows:

> The project site is located in southeastern Ventura County in the City of Moorpark, between the Simi Hills and Little Simi Valley. Locally, the project site is located in the rolling hills north of Poindexter Avenue, and west of Moorpark Avenue (State Route 23). Specifically, the site is approximately 270.64 acres, is located approximately 1,600 feet west of State Route 23, and extends to approximately 1,400 feet west of Gabbert Road.

A brief project description is as follows:

> The specific plan provides for the arrangement of various land uses on the 270.64-acre project site. Proposed land uses include several types/intensities of residential land uses, a neighborhood park site, an institutional use, and flood-control facilities. Other improvements include storm drains, water mains, sanitary sewer lines, electric lines, natural gas lines, and telephone and cable lines.

JANICE S. PARVIN, Mayor | CHRIS ENEGREN, Councilmember | ROSEANN MIKOS, Ph.D., Councilmember | DAVID POLLOCK, Councilmember | KEN SIMONS, Councilmember

Residential uses constitute a primary component of the Specific Plan. Proposed residential uses would consist of 755 dwelling units on 100.24 gross acres including 261 single-family units on 59.94 acres and 494 multi-family units on 34.33 acres. Single-family structures would be one and two stories in height, while multi-family structures would be two and three stories in height. The densities for single-family dwelling units range from 1.29 to 2.92 (gross) dwelling units per acre (low to medium density); multi-family unit density would be 7.68 to 14.81 (gross) dwelling units per acre.

Four private recreation areas are proposed as part of the specific plan.

Additional details regarding this project, including plans, are available online at: www.moorparkca.gov/hitchranch. Thank you for your assistance. Please be assured that any information you provide regarding cultural places will be kept strictly confidential and will not be divulged to the public.

I can be contacted by phone (805-517-6251), or email (dspondello@moorparkca.gov). My full contact information is provided below. Your response within 30 days of receipt of this letter would be appreciated. Please let me know if the lead contact person's contact information has been changed and I will make sure our files reflect this for all future correspondence.

Please mail your request to:

City of Moorpark
Community Development Department
Douglas Spondello
799 Moorpark Avenue
Moorpark, CA 93021

Respectfully,



Douglas Spondello
Planning Manager

Community Development Department
City of Moorpark | 799 Moorpark Avenue | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

B

AB 52 Response

From: Douglas Spondello
To: Lynn Kaufman
Subject: FW: FTBMI AB52 Hitch Ranch Specific Plan Project
Date: Wednesday, September 25, 2019 9:42:13 AM

FYI, I can coordinate with Mr Avila once we've confirmed that these reports are complete and ready for primetime

Douglas Spondello
Planning Manager
Community Development Department
City of Moorpark | 799 Moorpark Ave. | Moorpark, CA 93021
(805) 517-6251 | dspondello@moorparkca.gov
www.moorparkca.gov

From: Jairo Avila [mailto:jairo.avila@tataviam-nsn.us]
Sent: Wednesday, September 25, 2019 9:18 AM
To: Douglas Spondello
Subject: FTBMI AB52 Hitch Ranch Specific Plan Project

Tribal Historic & Cultural Preservation Department

Project: ***Hitch Ranch Specific Plan Project***

Hello Douglas,

On behalf of the Tribal Historic and Cultural Preservation (THCP) Department of the Fernandeño Tataviam Band of Mission Indians (FTBMI), thank you for the formal notification regarding the Project referenced above. The THCP Department also appreciates the opportunity to review the Initial Study and Project related documents. The Project area is located within the traditional FTBMI ancestral territory and encompasses the lineage-villages from which members of the Tribe descend. This message constitutes a formal request for tribal consultation under the provisions of the California Environmental Quality Act (CEQA) (as amended, 2015) and CA Public Resources Code section 21080.3.1.

The proposed Project is located in a significant Tribal area. There are a number of Tribal Cultural Resource sites within distance of the Project location and includes habitational sites, ceremonial rock shelters, lithic scatter sites, middens, and human burials. The range of known sites and isolate TCR's that have been documented throughout the region warrant precautions when proposing any ground disturbing activities.

Before scheduling a consultation meeting, the THCP Department is interested in knowing more about the Project, including the extent of proposed grading, impacts on native/undisturbed soil and recent investigations. In order to have a better understanding of the

Project and provide the proper comments and recommendations regarding cultural resources, the THCP Department would like to review the following information and documents:

- Geotechnical Report
- Cultural Resource Assessment Report
- Grading/ Excavation Plans

I appreciate your time and look forward to reviewing the information requested for this Project.

Respectfully,

--

Jairo F. Avila, M.A., RPA.
Tribal Historic and Cultural Preservation Officer

Fernandeño Tataviam Band of Mission Indians
1019 Second Street, Suite 1
San Fernando, California 91340
Office: (818) 837-0794
Website: http://www.tataviam-nsn.us

C

Sacred Lands File Search

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

August 14, 2019

Lynn Kaufman
Impact Sciences, Inc.

VIA Email to: lkaufman@impactsciences.com

RE: Hitch Ranch Specific Plan Project, Ventura County

Dear Ms. Kaufman:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Staff Service Analyst

Attachment

APPENDIX 3.17

Utilities

A

2020 Water Supply Assessment

REVISED DRAFT
WATER SUPPLY ASSESSMENT
HITCH RANCH PROJECT

FEBRUARY 2020

Prepared for:

COMSTOCK HOMES
EL SEGUNDO, CA



Prepared by:
MILNER-VILLA CONSULTING LLC

REVISED DRAFT
WATER SUPPLY ASSESSMENT
HITCH RANCH PROJECT
FEBRUARY 2020

Prepared for:

COMSTOCK HOMES

Harriet Rapista, Senior Project Manager
2301 Rosecrans Ave, #1150
El Segundo, California, 90245
310-546-5781

Prepared by:

MILNER-VILLA CONSULTING LLC

Brad Milner, President
1746 S. Victoria Ave. #F126
Ventura, California, 93003
805-551-3294
www.milnervilla.com

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Frequently Used Acronyms

ac	acre
AF	acre-feet
AFY	acre-feet per year
ASR	aquifer storage and recovery
BMP	best management practice
City	City of Moorpark
CADWR	California Department of Water Resources
CMWD	Calleguas Municipal Water District
County	Ventura County
CRA	Colorado River Aqueduct
District	Ventura County Waterworks District No. 1 (also VCWWD1)
du	dwelling unit
ELPMA	East Las Posas Management Area
EPM	Emergency Procedures Manual
ETo	evapotranspiration
FCGMA	Fox Canyon Groundwater Management Agency
GHG	greenhouse gas
gpacpd	gallons per acre per day
gpcd	gallons per capita per day
gpm	gallons per minute
hr	hour
LPVB	Las Posas Valley Basin
MAF	million acre-feet
MCL	maximum contaminant level
MGD	million gallons per day
MWD	Metropolitan Water District of Southern California
MWRF	Moorpark Water Reclamation Facility
ppdu	persons per dwelling unit
Project	Hitch Ranch Project
SB	Senate bill
sf	square feet
SWP	State Water Project
TDS	total dissolved solids
UWMP	Urban Water Management Plan
WLPMA	West Las Posas Management Area
WSA	Water Supply Assessment
WSAP	Water Supply Allocation Plan
WSCP	Water Shortage Contingency Plan
WSDMP	Water Surplus and Drought Management Plan

SECTION 1
INTRODUCTION

1.1 Purpose of Water Supply Assessment

The purpose of this Water Supply Assessment is to demonstrate that future water supplies are sufficient to meet the Ventura County Waterworks District No. 1 (District) projected water demands, inclusive of the Hitch Ranch Development Plan.

This Water Supply Assessment has been prepared following the requirements of California Law including the following: Public Resources Code Section 21151.9; Water Code Sections 10910-10912, 10915; and Water Code Sections 10608-10656 (original text approved from California Senate Bill 610, Costa). This law places additional requirements on a public agency (in this case the District as the water purveyor for the Hitch Ranch Project) regarding land use and planning and water supply availability. SB 610 took effect on January 1, 2002, and requires that retail water providers demonstrate that sufficient and reliable sources are available for local agencies to approve large-scale developments and complete the environmental review process for projects. See **Appendix A** for a copy of the California Water Code – Water Supply Assessment.

SB 610 requires cities and counties, which determine a project is subject to the California Environmental Quality Act, to identify any public water system that may supply water for the project and to request those public water systems to prepare a specified water supply assessment to be included in any environmental document prepared for the project. This assessment includes, among other information, identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years according to those entitlements, rights, and contracts. If the assessment concludes that water supplies are or will be insufficient, the public water system would be asked to submit plans for acquiring additional water supplies.

1.2 Hitch Ranch Project

The Hitch Ranch Project (Project) is located in southeastern Ventura County, within the boundaries of the City of Moorpark (City). Boundaries of the project site include north of Poindexter Avenue, approximately 1,600 feet west of Moorpark Avenue (State Route 23), approximately 4,500 feet south of Championship Drive, and approximately 1,400 feet west of Gabbert Road. **Figure 1-1** indicates the approximate location of the Project.

Development of the entire Project as planned will include a maximum of 755 residential units (approximately 328 single-family units and 427 multiple-family units) on approximately 270.6 acres (Comstock Homes, 2020). Construction and occupation of the residential component of the proposed project would result in a theoretical population increase of approximately 2,515 persons based on 3.33 persons per dwelling unit (District, 2015 UWMP, page 3-5). Also included in this development are approximately 10 acres of active recreational space, 102.8 acres of open space/slopes, and 66.4 acres of public facilities and roads (Comstock Homes, 2020). **Figure 1-2** provides an overview of the proposed Project. **Table 1-1** provides a statistical summary of the Project. Adjacent land uses include residential and open space to the north, residential and institutional to the east, residential and industrial to the south, and residential and open space to the west.

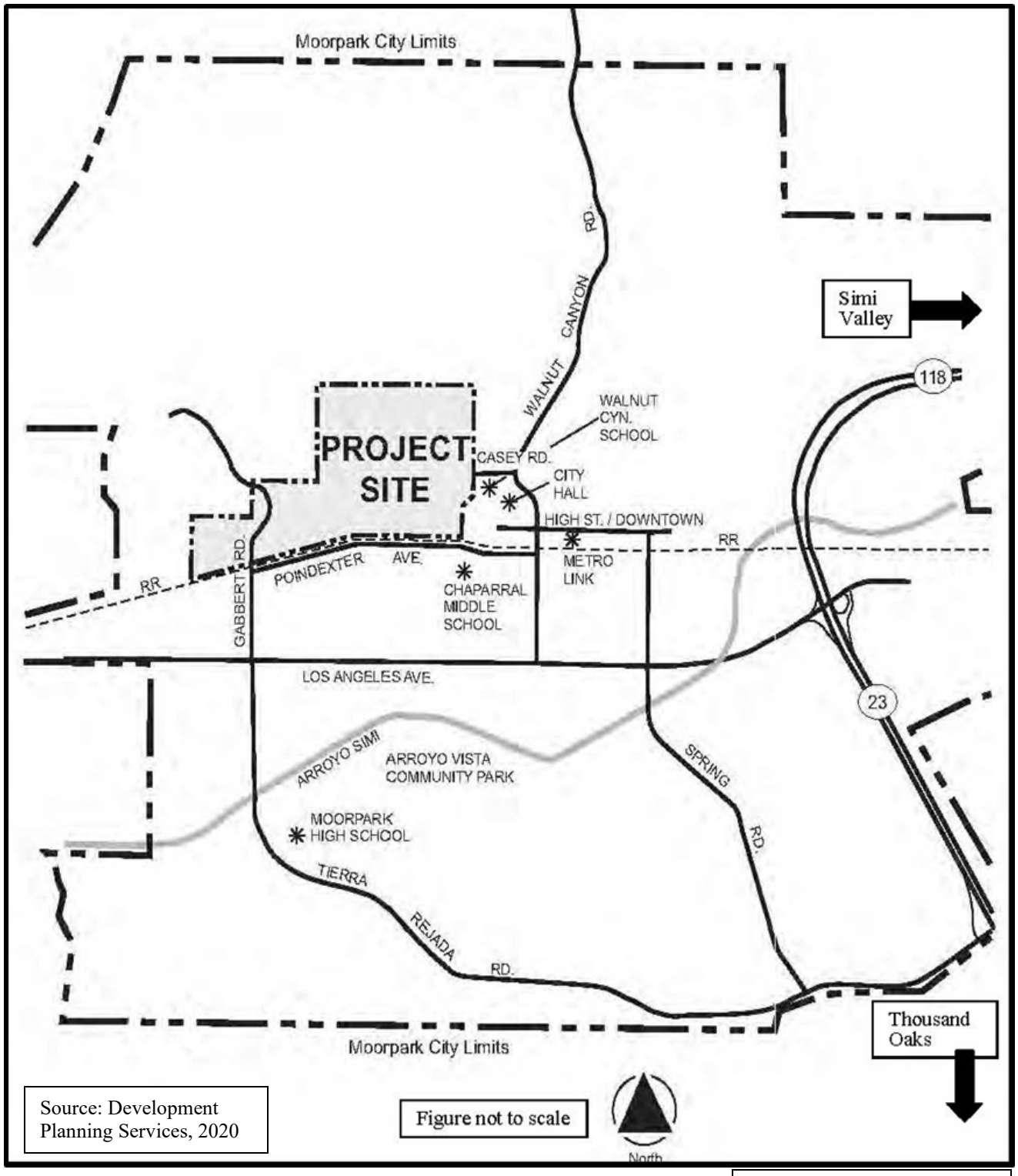

FIGURE 1-1
PROJECT LOCATION

TABLE 1-1
HITCH RANCH PROJECT STATISTICAL SUMMARY

Planning Area	Land Use	Acres	DU/AC	DU	Percentage
1	Single-family residential	27.95	2.9	81	50
	Natural open space	15.67			28
	Manufactured slopes	11.84			22
	SUBTOTAL	**55.46**	**1.46**	**81**	**100**
1A	Recreation lot	3.18			52
	Manufactured slopes	2.97			48
	SUBTOTAL	**6.15**			**100**
2	Single-family residential	32.36	5.81	188	53
	Natural open space	11.39			19
	Manufactured slopes	15.46			26
	Passive recreation lot	1.32			2
	SUBTOTAL	**60.53**	**3.11**	**188**	**100**
3	Single-family residential	5.6	10.54	59	17
	Multiple-family residential	20.14	9.48	191	61
	Open space	0.81			3
	Manufactured slopes	4.97			15
	Recreation lot	1.41			4
	SUBTOTAL	**32.93**	**7.51**	**250**	**100**
4	Multiple-family residential	10.87	21.71	236	65
	Manufactured slopes	5.77			35
	SUBTOTAL	**16.64**	**13.9**	**236**	**100**
5	Water quality area/Open space	3.46			100
6	Open Space	29.1			100
Public Facilities	North Hills Parkway	11.97			18
	"A" Street	4.5			7
	Meridian Hills Drive	3.03			5
	Casey Road	1.37			2
	High Street	6.71			10
	Gabbert Road	2.86			4
	VCWPD Easement	2.7			4
	Detention Basin 2	5.96			9
	Detention Basin 2A	3.16			5
	Detention Basin 2B	6.3			10
	Park A Detention Basin 3 (slopes)	4.85			7
	Park A (usable area)	7.4			11
	Park B	5.56			8
	SUBTOTAL	**66.37**			**100**
	TOTAL	**270.64**		**755**	**100**
Lot 335	**NOT A PART**	**6.7**			
	GRAND TOTAL	**277.3**			

Notes:
All data rounded.
Source: Development Planning Services, 2020



Source: Development Planning Services, 2020

FIGURE 1-2
PROJECT LAYOUT - 755

The District will be the retail water purveyor for the Project. The District distributes potable water (a combination of imported surface water and groundwater from local wells) to local customers. The District also began serving recycled water in 2003. Estimated water demands for the Project are summarized in Section 3.3.

1.3 City of Moorpark Housing Project

The City of Moorpark Housing Project (Moorpark Housing Project) will be located in the southeast corner of the Hitch Ranch property. The Moorpark Housing Project will not be part of the Hitch Ranch Project and will be built by a separate entity. For purposes of this WSA, estimated water demands for the Hitch Ranch Project will be evaluated separately (see Section 3.4) from the estimated water demands of the Moorpark Project (see Section 3.5). Boundaries of the Moorpark Housing Project site include Casey Road (future) to the north, Walnut Canyon Road (Moorpark Avenue/State Route 23) 1,200 feet to the east, High Street (future) approximately 500 feet to the south, and the Hitch Ranch Project to the west. **Figure 1-1** and **Figure 1-2** indicate the approximate location of the Project. Adjacent land uses include residential units to the north, school to the east, open space to the south, and residential units to the west.

Development of the Moorpark Housing Project is anticipated to include a maximum of 110 residential units on approximately 6.7 acres. Construction and occupation of the residential component of the proposed project would result in a theoretical population increase of approximately 367 persons based on 3.33 persons per dwelling unit (District, 2015 UWMP, page 3-5). The Moorpark Housing Project is not anticipated to include additional recreational space, open space, nor public facilities.

1.4 Service Area Characteristics

The District's service area encompasses the City and contiguous portions of the unincorporated County. Moorpark is located in the eastern portion of Ventura County, approximately five miles west of the City of Simi Valley and five miles north of the City of Thousand Oaks. **Figure 1-1** provides a location map for the Project.

1.4.1 Climate

The local climate is characterized by hot summer days, cool summer nights, cool winter days, and cool winter nights. **Table 1-2** summarizes local historical climate data including average maximum monthly temperature, average minimum monthly temperature, average monthly precipitation, and standard monthly average evapotranspiration (ETo). Annual average monthly temperatures range from 48°F to 75°F. Annual average precipitation is approximately 10.44 inches per year, most of which occurs during the winter season (December to March), based on the 2010-2015 data. The value of 10.44 inches per year for local precipitation may be significantly lower than actual due to limited years of data (2010-2015) from these data sources. Annual average evapotranspiration is 55.14.

1.5 Demographic Factors

Historically, land uses within the District's service area have focused primarily on municipal and industrial uses (M&I) with agricultural use being secondary. Thirty years ago, the population in Moorpark was 25,494 (US Census, 1990). Estimated current population within the District is approximately 35,782 (District, 2015 UWMP). Increases in future water demands are expected to come primarily from the residential sector as the District's service area builds out. Estimated population projections are provided in **Table 1-3**. The projected population for the year 2040 is 45,000.

TABLE 1-2
LOCAL HISTORICAL CLIMATE CHARACTERISTICS

Parameter	Jan	Feb	Mar	Apr	May	Jun
Average Max Temperature (ºF)[a]	69	69	71	74	75	77
Average Min Temperature (ºF)[a]	41	43	44	46	50	53
Average Precipitation (in)[b]	1.65	1.61	1.89	0.64	0.20	0.03
Standard Monthly Average ETo (in)[c]	2.17	2.80	4.03	5.10	5.89	6.60

Parameter	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Average Max Temperature (ºF)[a]	81	83	82	79	74	69	**75**
Average Min Temperature (ºF)[a]	57	56	55	50	44	41	**48**
Average Precipitation (in)[b]	0.13	0.01	0.12	0.59	0.84	2.72	**10.44**
Standard Monthly Average ETo (in)[c]	7.44	6.82	5.70	4.03	2.70	1.86	**55.14**

Notes:
All data rounded.
Source: District, 2015 UWMP.
(a) Weather.com: http://www.weather.com/weather/monthly/l/USCA0728:1:US.
(b) Ventura County, Moorpark Station 126A: http://vcwatershed.net/hydrodata/php/getstation.php?siteid=126A#top; and Moorpark Station 508: http://vcwatershed.net/hydrodata/php/getstation.php?siteid=508#top.
(c) CIMIS Reference Evapotranspiration Zones, Zone 9 for Moorpark area: http://wwwcimis.water.ca.gov/App_Themes/images/etozonemap.jpg.

TABLE 1-3
DISTRICT POPULATION PROJECTIONS 2020-2040

	2020	2025	2030	2035	2040
Population	**38,000**	**40,000**	**41,700**	**43,300**	**45,000**

Notes:
All data rounded up.
Source: District, 2015 UWMP.

1.6 District's Urban Water Management Plan

SB 610 provides that if the projected water demand associated with the proposed project was accounted for in the Urban Water Management Plan (UWMP) adopted by the retail water purveyor, then relevant information from that UWMP may be incorporated into the SB 610 water supply assessment. The District adopted its 2015 UWMP in June 2016. The Calleguas Municipal Water District (CMWD), supplier of imported surface water to the District, finalized their UWMP in June 2016. The Metropolitan Water District of Southern California (MWD), supplier of imported surface water to CMWD, also finalized their updated UWMP in June 2016.

The District's 2015 UWMP analyzed the water supply needs of a 2015 population of approximately 35,782 and a projected population of 45,000 for the year 2040. The majority of the District's population and water demand are located within the City of Moorpark. Residential water demand accounts for the largest water use sector within the District at 62 percent (see **Section 3** for additional details). The Hitch Ranch development was

accounted for in the City's General Plan and the District's 2015 UWMP. Information in the District's UWMP relevant to this Water Supply Assessment will be identified and incorporated into this Assessment.

1.7 Water Supply Assessment Update

This Water Supply Assessment (WSA) was prepared in February 2020 following meetings with staff from Ventura County Waterworks District No. 1. In general, water supply assessments are prepared by utilizing available data and information from local UWMPs and other relevant sources. The District's 2015 UWMP included available information known at the time. Therefore, data and information presented in this WSA regarding availability and reliability of the District's drinking water is consistent with the District's 2015 UWMP and supplemented by additional information provided by the District.

1.8 Report Organization

The remainder of this Water Supply Assessment is organized as follows:

- Section 2 – Water Supply
- Section 3 – Water Demand
- Section 4 – Water Supply Reliability
- Section 5 – Water Shortage Contingency Plan
- Section 6 – Conclusions.

SECTION 2
WATER SUPPLY

This section defines the current and projected water supplies within the District's service area.

2.1 Existing Water Supplies

The District provides its customers a mix of local groundwater, imported water from Calleguas Municipal Water District, and recycled water (for nonpotable demands). Historically, imported water has made up approximately 80 percent of the District's water supply. The District's current sources of supply are described below.

2.2 Local Groundwater Supply

2.2.1 Introduction

The District's water service area overlies groundwater basins in Ventura County that are managed by Fox Canyon Groundwater Management Agency (FCGMA), whose jurisdictional area encompasses approximately 118,000 acres (185 square miles). The FCGMA was established in Ventura County by a special act of the State Legislature in 1982. The FCGMA was initially created to manage the groundwater in both over-drafted and potentially seawater-intruded areas within Ventura County. The prime objectives and purposes of the FCGMA are to preserve groundwater resources for agricultural, municipal, and industrial uses in the best interests of the public. Protection of water quality and quantity along with maintenance of long-term water supply are included in those goals and objectives. A copy of the FCGMA 2019 Groundwater Sustainability Plan (Executive Summary) is provided in **Appendix B** (FCGMA, 2019).

The basins within the FCGMA are part of the Transverse Ranges geologic province, in which the mountain ranges and basins are oriented in an east-west rather than the typical northeast-southwest trend in much of California and the western United States (District, 2015 UWMP). Active thrust faults border the basins of the Santa Clara River, causing rapid uplift of the adjacent mountains and down-dropping of the basins. The alluvial basins are filled with substantial amounts of Tertiary and Quaternary sediments deposited in both marine and terrestrial (non-marine) settings.

There are seven main or significant groundwater basins within the FCGMA. These groundwater basins include the Oxnard Plain Basin, the Oxnard Plain Forebay Basin, the Pleasant Valley Basin, the Santa Rosa Basin, and the Las Posas Valley Basin. The Hitch Ranch Project is located within the Las Posas Valley Basin.

The Las Posas Valley Basin (LPVB) is bounded on the south by the Camarillo and Las Posas Hills, on the north by South Mountain and Oak Ridge the Santa Susana Mountains to the east, and the Oxnard Subbasin of the Santa Clara River Valley Groundwater Basin to the west (SWRCB 1956; DWR 2003). Previously, the Las Posas Valley Basin was subdivided into West, East, and South basins. However, local investigators now divide the LPVB into two management areas, rather than three basins/subbasins (FCGMA, 2019). The area of the West Las Posas Management Area (WLPMA) is the same area as the West Las Posas Basin. The East Las Posas Management Area (ELPMA) comprises the entire eastern portion of the LPVB and the southern portion of the LPVB.

The primary water-bearing formations from top to bottom in the LPVB are unconsolidated alluvium, the San Pedro Formation, and the Santa Barbara Formation. The Santa Barbara Formation is a lower Pleistocene marine sand, and the San Pedro Formation is a lower to middle Pleistocene shallow marine deposit that grades upward from a white gray sand and gravel basal layer into an overlying series of interbedded silts, clays, and gravels

(SWRCB 1956; Weber and Kiessling 1976; Turner 1975; Jakes 1979). The lower San Pedro Formation hosts the Fox Canyon Aquifer (FCA), the primary aquifer from which the majority of the water in the LPVB is produced (FCGMA, 2019). However,

The Las Posas Valley Basin is not currently adjudicated, however, litigation is proceeding to create an adjudicated LPVB. The Las Posas Valley Basin is not specifically identified as a Basin in an overdraft condition based on California Groundwater Bulletin No. 118 (California Department of Water Resources, CADWR, 2003) and California Water Plan (CADWR, 2013). However, the California Statewide Groundwater Elevation Monitoring Program (CASGEM) has categorized the LPVB as a high-priority basin. Thus, the FCGMA prepared a Groundwater Sustainability Plan for the LPVB (2019).

FCGMA maintains that all areas of the Las Posas Valley Basin are in overdraft relative to the sustainable yields of the Basin (FCGMA, 2019). Some areas of the Basin have been sustained by non-native inflows from wastewater treatment plant discharges, urban runoff, and shallow groundwater dewatering discharges from upstream areas. Since 1992, FCGMA has implemented measures to reduce pumping such as incrementally reduced groundwater allocations Agency-wide by 25 percent. On April 11, 2014, FCGMA further imposed a Temporary Extraction Allocation (TEA) reduction of 20 percent and implemented high penalties for over-pumping.

2.2.2 West Las Posas Management Area

The western and eastern parts of the basin are hydraulically separated from each other by the Somis Fault, a geologic feature that inhibits groundwater flow across it. As a result, groundwater conditions on the west side of the fault in the Fox Canyon Aquifer and Grimes Canyon Aquifer, two primary aquifers in the LPVB, differ from conditions on the east side of the fault (FCGMA, 2019).

Geologic differences between the WLPMA and the ELPMA have resulted in different names being assigned to the hydrostratigraphic units associated with these three water-bearing formations in each management area (FCGMA, 2019). In the WLPMA, the alluvium is referred to as the shallow alluvial system to reflect the hydrologic connection between the WLPMA and the Upper Aquifer System of the Oxnard Subbasin to the west. Underlying the shallow alluvial system in the WLPMA, the San Pedro Formation has been divided into two hydrostratigraphic units: the upper San Pedro Formation and, underlying that, the Fox Canyon Aquifer. The Fox Canyon Aquifer is a principal aquifer in the WLPMA. The Grimes Canyon Aquifer in the upper Santa Barbara Formation, which underlies the Fox Canyon Aquifer, is the deepest aquifer in the WLPMA.

In the WLPMA, groundwater elevations in wells adjacent to the Oxnard Subbasin are influenced by surface water diversions of the Santa Clara River, which are directed to spreading basins in the Forebay area of the Oxnard Subbasin by the United Water Conservation District (UWCD). When UWCD has been able to divert river water to its recharge basins, groundwater elevations have risen in wells in the western parts of the WLPMA (FCGMA, 2019). The influence of UWCD recharge operations is not clear in historical water level records from wells farther east in the WLPMA. In this area, chronic declines in groundwater levels caused by groundwater production have been observed historically. These chronic declines were offset by in-lieu surface water deliveries between 1995 and 2008.

In the WLPMA, the average rate of groundwater production between 1985 and 2017 was approximately 14,000 to 15,400 acre-feet per year (AFY) (FCGMA, 2019). Sustainable yield for the WLPMA is currently estimated to be 11,300 to 13,700 AFY.

2.2.3 East Las Posas Management Area

As previously noted, the western and eastern parts of the basin are hydraulically separated from each other by the Somis Fault, a geologic feature that inhibits groundwater flow across it. As a result, groundwater conditions on the west side of the fault in the Fox Canyon Aquifer and Grimes Canyon Aquifer, two primary aquifers in the LPVB, differ from conditions on the east side of the fault (FCGMA, 2019).

In the ELPMA, the alluvium is referred to as the Shallow Alluvial Aquifer and is constrained to an area adjacent to Arroyo Simi–Las Posas (FCGMA, 2019). The San Pedro Formation is divided into three hydrostratigraphic units in the ELPMA: the Epworth Gravels Aquifer, the upper San Pedro Formation, and the Fox Canyon Aquifer. The extent of the Epworth Gravels Aquifer is approximately 1,600 acres (2.5 square miles) located 2 to 3 miles north-northwest of Moorpark in the ELPMA. The upper San Pedro Formation underlies the Shallow Alluvial Aquifer where it is present, and underlies the Epworth Gravels Aquifer, where it is present in the ELPMA. The upper San Pedro Formation is not a primary aquifer, but rather serves as a reservoir of stored water that through time has been slowly leaking into the Fox Canyon Aquifer below. The Fox Canyon Aquifer is a primary aquifer in the ELPMA. Underlying the Fox Canyon Aquifer is the Grimes Canyon Aquifer in the upper Santa Barbara Formation, which is the deepest aquifer in the ELPMA.

In the ELPMA chronic groundwater level declines were observed before 1970 (FCGMA). In 1970, upstream wastewater treatment plant and shallow dewatering well discharges began reaching the ELPMA and converted Arroyo Simi–Las Posas from an ephemeral stream to a perennial stream. The perennial flow in the Arroyo provided recharge to the underlying groundwater aquifers. This recharge caused water levels to recover in areas of the ELPMA adjacent to Arroyo Simi–Las Posas, while groundwater levels have continuously declined throughout the northern ELPMA, which does not receive recharge from Arroyo Simi–Las Posas. The volume of perennial surface water flows that reach the ELPMA has declined over the past decade, and water levels adjacent to Arroyo Simi–Las Posas have stabilized or declined in recent years in response to the combined effects of the diminished recharge and the drought that began in 2011.

In the ELPMA, the average rate of groundwater production between 1985 and 2017 was approximately 19,000 to 20,000 AFY (FCGMA, 2019), excluding the Epworth Gravels Management Area. Sustainable yield for the ELPMA is currently estimated to be 15,500 to 20,100 AFY.

Salts (i.e., chloride, sulfate) in the groundwater have increased in the eastern and southern portion of the ELPMA as the shallow aquifer filled along Arroyo Las Posas (District, 2015 UWMP). These salts apparently were leached from the shallow aquifer as groundwater levels reached record highs, saturating sediments that have been unsaturated for the historic period. These salts apparently migrated vertically with percolating groundwater into the LAS and then laterally into the main portion of the ELPMA as the recharge mound developed. The District determined that some of this groundwater is currently unsuitable for use.

2.2.4 District Groundwater Extraction

The District produces groundwater from the ELPMA via five wells owned and operated by the District with a total system capacity of approximately 3,500 gallons per minute (gpm; 2,170 AFY). District wells provide redundant extraction facilities should one or more existing wells become inoperative and will allow for increased extraction capacity during emergency situations. **Table 2-1** summarizes the groundwater pumped by the District for the period 2011 to 2015. **Table 2-1** indicates that the District pumped a low of 1,808 AFY in 2015 and a high of 3,519 AFY in 2013. The groundwater meets all State and Federal water quality standards for drinking water with the exception that treatment is required at one of the well sites (Well No. 20) to lower iron and manganese levels below the State Title 22 Secondary Maximum Contaminant Level (MCL) for these two minerals. The groundwater is chlorinated at each well site before being pumped into the potable water distribution system.

As mentioned above, the District has a groundwater allocation from FCGMA. Although each well has an associated allocation, the District has opted to combine the individual well allocations into one allocation for the District. This combined allocation provides the District with some flexibility by allowing them to pump different amounts of water from any given well or wells (up to the total allocation amounts) based on system demands. The FCGMA, the Groundwater Sustainability Agency (GSA), has reduced the District's maximum allocation to 1,756 AFY for groundwater pumping in 2016. Regardless of system capacity, the District will not be allowed to exceed 1,756 AFY from the ELPMA going forward without paying a significant penalty. Therefore, as noted in **Table 2-2**, the District's projected groundwater production is 1,756 AFY for 2020-2040 (Pan, July 2018).

The District is planning the Moorpark Desalter Project, which is a groundwater production and treatment system that could provide up to 2,500 AFY of potable water for customers in the District's water service area by the end of 2023 (District, 2015 UWMP; Pan, July 2018). However, implementation of the California Sustainable Groundwater Management Act (2014) may impact future plans for and construction of the Moorpark Desalter.

TABLE 2-1
DISTRICT GROUNDWATER PRODUCTION 2011-2015

	2011	2012	2013	2014	2015
Existing Groundwater Pumping (a)	2,347	2,796	3,519	2,505	1,808
Total	**2,347**	**2,796**	**3,519**	**2,505**	**1,808**

Notes:
All data in AFY and rounded.
(a) Source: District, 2015 UWMP.

Table 2-2 indicates that the estimated total groundwater extracted will be 1,756 AFY for 2020-2040, excluding additional groundwater pumping associated with the Moorpark Desalter Project (Pan, July 2018). Additional details are provided in Section 2.6.1.

TABLE 2-2
DISTRICT PROJECTED GROUNDWATER PRODUCTION 2020-2040

	2020	2025	2030	2035	2040
Existing Groundwater Pumping (a)	1,756	1,756	1,756	1,756	1,756
Future Additional Groundwater Pumping (b)	0	0	0	0	0
Total	**1,756**	**1,756**	**1,756**	**1,756**	**1,756**

Notes:
All data in AFY and rounded.
(a) Source: District, 2015 UWMP.
(b) Projected groundwater extractions for 2020-2040 were reduced as per District email dated July 2, 2018 (Pan, July 2018). These values represent a decrease of 5,000 AFY (2020-2040) compared to the District's 2015 UWMP.

2.3 Imported Surface Water

2.3.1 Calleguas Municipal Water District

The District purchases imported surface water from the CMWD. The CMWD is an enterprise special district that was formed by the voters of Ventura County in 1953 to provide a safe, reliable water supply. Named for the watershed in which it is located, CMWD is a public agency established under the Municipal Water District Act of 1911. It is governed by a five-member board of directors elected by voters to represent each of the five geographic divisions within the District. In 1960, CMWD became a member agency of the Metropolitan Water District of Southern California (MWD), which provides wholesale water from the Colorado River via the Colorado Aqueduct and Northern California via the State Water Project (SWP).

Calleguas distributes high-quality drinking water on a wholesale basis to 19 local purveyors, including the District, who in turn deliver water to area residents, businesses, and agricultural customers. Approximately three-quarters of Ventura County residents (roughly 630,000 people) depend on CMWD for all or part of their water (District, 2015 UWMP). Water supplied by CMWD currently represents approximately 73 percent of the total municipal and industrial water demand within its service area.

2.3.2 Metropolitan Water District of Southern California

Metropolitan is a wholesale water agency serving approximately 19 million people in six southern California counties. Metropolitan was formed in 1928 and is composed of 26-member agencies, including CMWD which is the fifth-largest member agency in terms of average annual water deliveries. As a wholesaler, Metropolitan has no retail customers and distributes treated and untreated water directly to its 26-member agencies. MWD provides water from the Colorado River and the State Water Project, and obtains additional supplies from numerous storage facilities, water transfers, exchanges, water banking, and land fallowing projects. The CMWD receives treated water from MWD's Joseph Jensen Filtration Facility in Granada Hills. CMWD receives the treated water via MWD's West Valley Feeder and either stores the treated water in Lake Bard to be treated later or distributes the water among its purveyors.

Metropolitan has a legal entitlement to receive water from the Colorado River under a permanent service contract with the Secretary of the Interior. The Colorado River Aqueduct (CRA) transports water from Lake Havasu, at the border of the states of California and Arizona, approximately 242 miles to its terminus at Lake Mathews in Riverside County. The CRA is owned and operated by Metropolitan and has a capacity of 1.2 million acre-feet (MAF) per year (MWD, 2016).

Metropolitan also receives water from the Sacramento River and San-Joaquin River Delta (Delta) in Northern California via the 444-mile-long California Aqueduct (State Water Project, SWP), which is managed by the CADWR. The SWP provides imported water to the MWD service area and has provided from 25 percent to 50 percent of MWD's water supplies. In accordance with its contract with the CADWR, the MWD has a State Water Project Table A allocation of 1.9 MAF per year. The CMWD primarily receives SWP water through MWD with Colorado River water normally available as a backup imported water supply.

MWD's total average water-year supplies from the CRA and SWP are estimated to be 2.8 MAF per year in 2040. MWD's total minimum water supplies for a single dry water-year are estimated to be 2.0 MAF per year in 2040. MWD's total minimum water supplies for a multiple dry water-years are estimated to be 1.9 MAF per year in 2040 (MWD, 2016).

In April 2015, citing continued drought conditions and reduced allocations from the State Water Project and Colorado River, the MWD Board of Directors approved implementing their Water Supply Allocation Plan (WSAP) at a Regional Shortage Level 3 starting July 1, 2015, to cut imported water deliveries to its member agencies by 15 percent. Under a Level 3 WSAP, MWD could impose a surcharge, ranging from $1,480 to $2,960/AF of additional water for any member agency that failed to meet the 15 percent reduction. The allocation plan limits water usage for its 26-member agencies based on their dependency on MWD supplies, local supply conditions, and past water-saving actions. The Tier 1 threshold for CMWD was set at 13.7 percent. The CMWD would pass the surcharge on to CMWD's retail customers exceeding this water allocation threshold. On May 10, 2016, the MWD Board of Directors reduced the WSAP to a Level 2, which is a 10 percent reduction in imported water deliveries, effective immediately, due to lower demands achieved through the region's water-saving efforts and improved supply conditions, particularly in northern California; and declared there would be no WSAP set forth for FY 2017. The CMWD also rescinded its surcharge in May 2016.

Table 2-3 indicates that in 2015 the District purchased 7,717 AF of imported surface water (District, 2015 UWMP). **Table 2-3** also summarizes the projected imported surface water anticipated to be purchased by the District for 2020 to 2040. The District estimates a range of 10,204 AFY to 10,943 AFY for 2020-2040 (Pan, July 2018). Thus, the District anticipates an increase in imported surface water purchases for 2020-2040.

Existing agreements the District has with CMWD do not guarantee the quantity of water the District may purchase. However, to the extent that water is available to CMWD, then CMWD has an obligation to provide water to meet demands of its member agencies, such as the District, by the CMWD's enabling statute, and governing regulations and applicable agreements with the member agencies. CMWD has served the needs of the District without fail, except for a few days following the 1994 Northridge Earthquake.

TABLE 2-3
DISTRICT CURRENT AND PROJECTED IMPORTED SURFACE WATER PURCHASES 2015-2040

	2015	2020	2025	2030	2035	2040
Imported Surface Water (a,b)	7,717	10,204	10,870	10,911	10,880	10,943
Total	**7,717**	**10,204**	**10,870**	**10,911**	**10,880**	**10,943**

Notes:
All data in AFY and rounded.
(a) Source: District, 2015 UWMP.
(b) Projected surface water purchases for 2020-2040 were increased as per District email dated July 2, 2018 (Pan, July 2018). These values for 2020-2040 represent an increase of 2,500 AFY (2025-2040) to 5,000 AFY (2020) compared to the District's 2015 UWMP.

2.4 Water Quality

The District provides water of good quality to its customers. Imported surface water supplied by CMWD meets all State and Federal drinking water quality standards. The District's pumped groundwater meets all State and Federal water quality standards for drinking water with the exception that treatment is required at one of the well sites (Well No. 20) to lower iron and manganese levels below the State Title 22 Secondary Maximum Contaminant Level (MCL) for these two minerals. The groundwater is chlorinated at each well site before being pumped into the potable water distribution system. A copy of the District's 2016 Annual Water Quality Report (also known as Consumer Confidence Report), which summarizes the District's potable water quality, is provided in **Appendix C**. Groundwater from the South Las Posas Basin has high levels of TDS and chlorides and requires treatment prior to potable use and as such has not been utilized by the District. However, with the implementation of the future District desalter facilities, this supply will become available.

2.5 Recycled Water

The District collects sanitary wastewater flows within the District's water service area and conveys the flows to the Moorpark Water Reclamation Facility (MWRF). The District operates and maintains the wastewater collection system and the MWRF. Metered wastewater flows averaged 2.0 MGD (2,240 AFY) for 2015 (District, 2015 UWMP). MWRF is located along California State Route 118 just west of the Moorpark city limits. The MWRF, which provides advanced primary and secondary treatment, has a total treatment capacity of 5.0 MGD and a tertiary treatment capacity of 1.5 MGD. The MWRF is required to discharge a portion of its treated effluent to percolation basins for groundwater recharge, which totaled 0.76 MGD (851 AFY) in 2015. The District provides recycled water to eight customers for agricultural and landscape irrigation, and to the MWRF for facilities operations and landscape irrigation. In 2015, the MWRF provided 599 AFY (0.54 MGD) of recycled water for uses such as agricultural (lemon) irrigation, landscape irrigation, land grading, and dust control.

The District anticipates that recycled water supply will increase to approximately 1,400 AFY by 2020, which could necessitate an expansion of the MWRF's tertiary treatment capacity (District, 2015 UWMP). The District forecasts further expansion of recycled water demand to 2,200 AFY by 2040 (District, 2015 UWMP). Additional details are provided in the District's 2015 UWMP.

2.6 Future Water Supplies

The District anticipates providing its customers a mix of local groundwater, imported water from CMWD, and recycled water (for nonpotable demands) to meet future water demands. The District continually reviews

practices that will provide its customers with adequate and reliable supplies. District staff continues to ensure the water quality is safe and the water supply will meet present and future needs in an environmentally and economically responsible manner. The District consistently coordinates its long-term water shortage planning with CMWD and FCGMA.

The District projects water demand will remain relatively constant over the next 25 years due to slow growth combined with water conservation efforts. Water demands within the District are currently 10,125 AFY (2015) and projected to increase to 13,893 AFY by 2040. The District anticipates that major water supply projects will be implemented to better manage and take advantage of the South Las Posas Groundwater Basin resource (Moorpark Desalter Project, see **Section 2.6.1**), and to increase recycled water use (see **Section 2.6.2**). Additional details regarding District, CMWD, and MWD planned water supply programs are provided in the District's 2015 UWMP.

Table 2-4 provides a summary of the District's projected water resources through 2040. The District anticipates approximately 14,899 AFY of total water resources in 2040 (District, 2015 UWMP). These water resources will include up to a maximum of 1,756 AFY from District wells, 10,943 AFY from imported surface water, and 2,200 AFY from recycled water.

TABLE 2-4
DISTRICT PROJECTED WATER SUPPLIES 2020-2040

Source	2020	2025	2030	2035	2040
Existing Groundwater Pumping (a)	1,756	1,756	1,756	1,756	1,756
Future Additional Groundwater Pumping (b)	0	0	0	0	0
Imported Surface Water (c)	10,204	10,870	10,911	10,880	10,943
Recycled Water (a)	1,400	1,600	1,800	2,000	2,200
Total	**13,360**	**14,226**	**14,467**	**14,636**	**14,899**

Notes:
All data in AFY and rounded.
(a) Source: District, 2015 UWMP.
(b) Projected groundwater extractions for 2020-2040 were reduced as per District email dated July 2, 2018 (Pan, July 2018). These values represent a decrease of 5,000 AFY (2020-2040) compared to the District's 2015 UWMP.
(c) Projected surface water purchases for 2020-2040 were increased as per District email dated July 2, 2018 (Pan, July 2018). These values represent an increase of 5,000 AFY (2020-2040) compared to the District's 2015 UWMP.

2.6.1 Groundwater Supplies

Table 2-4 indicates that estimated District total groundwater extracted will be 1,756 AFY for 2020-2040, excluding additional groundwater pumping associated with the Moorpark Desalter Project (Pan, July 2018). The FCGMA reduced the District's maximum allocation to 1,756 AFY for groundwater pumping from the East Las Posas Basin.

2.6.2 Additional Imported Surface Water Purchases

The District noted that the amount of imported water purchased will increase to meet the growth in water demand for years with insufficient supplies from groundwater extractions and recycled water (Pan, July 2018). **Table 2-4** summarizes the projected imported surface water anticipated to be purchased by the District for 2020 to 2040 (range of 8,380 AF in 2035 to 10,204 AF in 2020). Thus, the District anticipates an increase in imported surface water purchases for 2020-2040.

2.6.3 Recycled Water Expansion

The existing tertiary treatment capacity of the District's MWRF is currently 1.5 MGD. Potential expansion of the recycled water distribution system may serve additional tertiary treated effluent from the MWRF to additional agricultural irrigation and landscape irrigation customers in the service area (District, 2015 UWMP). While this improvement will not impact the District's potable water system, it will enhance water supply within the District by reducing the need for imported water. The District will continue to convert existing uses currently being served from the potable water system to the recycled water system. In 2015, the District distributed 599 AFY of recycled water. The District anticipates distributing approximately 1,100 AFY by 2018 with the conversion of an existing golf course to the recycled water customer base. **Table 2-4** indicates that the estimated demand for recycled water supply will increase to 1,400 AFY by 2020, necessitating an expansion of the MWRF's tertiary treatment capacity by 2025. **Table 2-4** also indicates that estimated recycled water demand will reach 2,200 AFY by 2040 (District, 2015 UWMP).

2.6.4 Other Water Resources

The District does not plan to use self-supplied surface water, storm water, nor desalinated water to supplement existing water resources.

2.7 Effects of Global Climate Change

2.7.1 Introduction

Current climate change projections suggest that California will continue to enjoy a Mediterranean climate with the typical seasonal pattern of relatively cool and wet winters and hot, dry summers. However, climate patterns are different now and may continue to change at an accelerated pace. Increases in global emissions of greenhouse gases are leading to serious consequences for California including, but not limited to, the following: higher air and water temperatures, rising sea levels, increased droughts and floods, decreased amount and duration of snow pack, and extreme variability in weather patterns (CADWR, 2013; California Natural Resources Agency, CANRA, 2009). These changes are anticipated to intensify over the 20-year planning horizon of this Assessment. Even if all emissions of greenhouse gases ceased today, some of these developments would be unavoidable because of the increase in greenhouse gases recorded over the last 100 years and the fact that the climate system changes slowly (Public Policy Institute of California, PPIC, 2011). Many of these climate changes would affect the availability, volume, and quality of California water supplies.

2.7.2 Potential Impacts of Climate Change

State and local water supplies and water demands may be impacted by climate change via one or more processes including precipitation, air temperature, runoff, sea level change, and flooding. Rainfall variability is expected to increase, leading to more frequent droughts and floods. Runoff from snowpack may be earlier and less predictable, and precipitation may fall as more rain and less snow. Air temperatures in California are anticipated to increase by 2 to 9 degrees Fahrenheit by the year 2100 (CANRA, 2009). Higher air temperatures may result in more rain and less snow, diminishing the reserves of water held in the Sierra Nevada snowpack (CANRA, 2009). Spring runoff from snowpack is occurring earlier now than it did in the first part of the 20th century. This change in runoff could affect the availability of spring and summer snowmelt from mountain areas, including State Water Project water from the Sacramento Delta and local rivers and streams. Total annual exports from the Delta for State and Federal contractors may also decrease by 20 to 25 percent by the year 2100 (California Climate Change Center, CCCC, 2009).

Sea levels have risen by as much as 7 inches along the California coast over the last century (CANRA, 2009). According to some estimates, sea level is projected to rise an additional 2 to 5 feet by 2100 (PPIC, 2011; Pacific Institute, 2009; CANRA, 2009; Climate Action Team, CAT, 2008). These sea level increases could significantly impact infrastructure within coastal areas and affect quantity and timing of State Water Project water exports from the Sacramento Delta. Effects of sea level rise in the Delta would be two-fold: (1) problems

with weak levees protecting the low-lying land, many already below sea level; and (2) increased salinity intrusion from the ocean which could degrade fresh water transfer supplies pumped at the southern edge of the Delta or require more fresh water releases to repel ocean salinity.

The CADWR Water Plan includes an assessment of the impacts of global climate change on the State's water supply was conducted using a series of computer models based on decades of scientific research. Model results for California indicate a significant likelihood of increased temperature, reduction in Sierra snow depth, early snow melt, and a rise in sea level (CADWR, 2013). These changing hydrological conditions could affect future planning efforts which are typically based on historic conditions. Difficulties in water supplies planning that may arise include, but are not limited to, the following:

- hydrological conditions, variability, and extremes that are different than what current water systems were designed to manage.
- changes occurring too rapidly to allow sufficient time and information to permit managers to respond appropriately.
- special efforts or plans to protect against surprises and uncertainties.

As such, CADWR will continue to provide updated results from these models as further research is conducted and new information becomes available.

2.7.3 Potential Effects of Climate Change on Water Demand

Climate change may increase daytime and nighttime temperatures and seasonal temperatures. This change may impact the length of the growing season. This general increase in temperatures coupled with greater variability and unpredictability in precipitation is expected to lead to increases in evapotranspiration resulting from warmer seasons; thereby creating an increase in demand for irrigation water and an increase in the year-to-year variability of demand.

Temperate fruit and nut trees such as almonds, pistachios, and apples require adequate winter chill to produce economically viable yields. Increased temperatures daytime, nighttime, and season temperatures may reduce winter chill hours thereby causing adverse effects on the yield of some crops. Some farmers are beginning to overcome this change by planting trees closer together and using new varieties.

Studies are now underway to prepare farmers for the likely impacts of climate change. Such efforts include breeding varieties of fruit trees that can withstand the decreased water chill hours, developing tools to aid the crops in coping with insufficient chill, and researching the temperature responses of orchard crops to better understand potential long-term effects. However, some solutions such as replanting orchards with altered crop varieties or the installation of aiding tools may not be feasible for many irrigators.

2.7.4 Mitigation and Adaptation

Responding to climate change generally takes two forms: mitigation and adaptation. Mitigation is taking steps to reduce the human contribution to the causes of climate change by reducing greenhouse gas (GHG) emissions. Adaptation is the process of responding to the effects of climate change by modifying our systems and behaviors to function in a warmer climate (CADWR, 2013).

In the water sector, climate change mitigation is generally achieved by reducing energy use, becoming more efficient with energy use, and/or substituting renewable energy sources in place of fossil fuel based energy sources. Because water requires energy to move, treat, use, heat, and discharge, water conservation is also energy conservation. As each water supplier implements water conservation measures and determines its water conservation targets, it can also calculate conserved energy and GHGs not-emitted as a side benefit. Once a water supplier has calculated the water conserved by a best management practice (BMP), it is straightforward to convert that volume to conserved energy, and GHGs not-emitted. Additionally, water suppliers may want to

focus on implementing water conservation measures that conserve water but do so at a significant decrease in GHG emissions as compared with other measures (CADWR, 2013).

Climate change means more than hotter days. Continued warming of the climate system has considerable impact on the operation of most water districts. Snow in the Sierra Nevada provides 65 percent of California's water supply. Predictions indicate that by 2050 the Sierra snowpack will be significantly reduced. Much of the lost snow will fall as rain, which flows quickly down the mountains during winter and cannot be stored in our current water system for use during California's hot, dry summers. The climate is also expected to become more variable, bringing more droughts and floods. Water districts will have to adapt to new, more variable conditions (CADWR, 2013).

Principles of climate change adaptation include the following:

- As more mitigation is completed now, the less adaptation we may have to do in the future, because climate impacts could be less severe.
- Mitigation is much less expensive than adaptation.
- Mitigation should happen globally.
- Adaptation must happen locally.
- Adaptation strategies should be implemented according to future conditions, regular assessment, and recalibration.
- Some adaptation strategies have benefits that can be realized today.

2.7.5 Local Strategies

As climate change continues to unfold in the coming decades, water agencies may need to mitigate and adapt to new strategies, which may require reevaluating existing agency missions, policies, regulations, facilities, funding priorities, and other responsibilities. Examples of mitigation and adaptation strategies include, but not limited to, the following:

- Prepare long-term facility and sustainability master plans including specific elements for climate change adaptation.
- Increase ground water recharge using additional surface water and recycled water.
- Increase recycled water demands.
- Promote additional water use efficiency for urban, commercial, and industrial best management practices.
- Increase investments in infrastructure that promotes adaptation strategies (such as ground water recharge, and recycled water) and existing principal facilities susceptible to impacts of climate change.

Notwithstanding the above strategies for dealing with climate change, the reality is that current environmental regulations place a very high priority on releasing additional water for endangered species (i.e., Sacramento River and San Joaquin River) and the environment. The potential for increased water demand for environmental resources and the possibility of reduced water supplies will be one of the biggest challenges confronting water agencies.

The goal of the District is to utilize the available surface water and groundwater supplies as effectively as possible in meeting the requirements of the District's water users. It is worth noting, however, that the District's control over water supplies is limited; thus, management practice changes will need to be adaptive in nature.

SECTION 3
WATER DEMAND

This section defines historic and current water usage and the methodology used to project future demands within the District's service area. Water usage is divided into sectors such as the following: residential, industrial, institutional/governmental, landscape/recreational, agricultural, and other purposes.

3.1 Historic/Current District Water Use

Average District annual water demands (groundwater production and imported water purchases) were 12,970 AF in 1990 and decreased to 10,124 AF in 2015 as shown in **Table 3-1**. These data indicate that water demand within the District has decreased by 22 percent upon a comparison of 1990 demands and 2015 demands, while the local population increased by approximately 40 percent. Significant changes in total demands (such as the decrease observed in 1995) were likely due to changes in local precipitation which affect residential landscape watering and agricultural irrigation. The decrease in water demands in 2015, compared to the period 2000 to 2010, is likely due to District water conservation programs and State-mandated demand reduction requirements.

TABLE 3-1
DISTRICT HISTORICAL TOTAL WATER DEMANDS 1990-2015

Calendar Year	Total Water Demands (AFY) (a)
1990	12,970
1995	9,694
2000	11,570
2005	11,872
2010 (b)	11,774
2015 (b)	10,124

Notes:
All data rounded.
(a) Source: District, UWMP, 2005, 2011, and 2015.
(b) Includes recycled water.

3.2 Factors Affecting Water Usage

Water demand is a function of several factors. Geographic location, topography, land use, demography, and water system characteristics (i.e., system pressures, water quality and metering of connections) all influence water usage. Water demand characteristics within the District will differ from water demands of other areas in California according to one or more of these factors.

Two major factors that affect water usage are weather and water conservation. Historically, when the weather is hot and dry, water usage within the District increases. The amount of increase varies according to the number of consecutive months and years of hot dry weather and the conservation activities imposed. During cool-wet years, historical water usage within the District has decreased mainly due to less water usage for external

landscaping. In recent years, water conservation has become an increasingly important factor in water supply planning in California. In 2014, the State Water Resources Control Board mandated significant water demand reductions for all urban water agencies. In addition, the California Plumbing Code has instituted requirements for new construction that mandate the installation of ultra-low-flow toilets and low-flow showerheads. Additional information is available from the District regarding local water conservation programs (District, 2015 UWMP).

3.3 Projected District Water Demands

The District's population projections were presented in **Section 1**. Current population within the District is estimated to be 35,782 (District, 2015 UWMP). Projected District population for the year 2040, is estimated to be 45,000. Residential (single-family and multiple-family) accounted for 93 percent of the total water connections in 2015. **Table 3-2** summarizes the projected water demand by water use sector. Projected demands increase to 13,893 AFY by 2040. Residential demands within the District are currently the largest water use sector, and projected to be the highest water use sectors through 2040. **Table 3-2** includes the water demands for the Hitch Ranch Project.

TABLE 3-2
DISTRICT CURRENT AND PROJECTED WATER DEMANDS BY SECTOR 2015-2040

Water Use Sector	Current 2015	2020	2025	2030	2035	2040
Potable Water Demand						
Residential (single-fam. + multiple-fam.)	5,869	6,777	7,076	7,212	7,316	7,429
Commercial	533	617	631	640	647	654
Industrial	135	156	160	162	164	166
Institutional	341	395	404	410	414	419
Agricultural	2,384	2,615	2,615	2,615	2,615	2,615
Loss	263	386	395	400	405	409
Recycled Water Demand	599	1,400	1,600	1,800	2,000	2,200
Total Water Demand	**10,124**	**12,345**	**12,880**	**13,240**	**13,560**	**13,893**

Notes:
All data in AFY and rounded.
Source: District, 2015 UWMP.

Agricultural water demands in the District's service area are met with interruptible supplies from CMWD. This designation means that potable water supplied to these users is at a reduced water rate, however the supplies can be curtailed at any time at the discretion of the supplier.

3.4 Estimated Water Demands for Hitch Ranch Project

It is anticipated that residential units within the Hitch Ranch Project will maximize the use of water conservation measures both inside and outside the dwellings. Residential homes will be built to current California Plumbing Code including indoor water conservation fixtures. Residential lots will meet the California Model Water Efficient Landscape Ordinance. Use of these measures throughout the Hitch Ranch Project will reduce the water demand as compared to residential units that do not implement water conservation measures. The Hitch Ranch

Project will include use of recycled water for all non-residential landscape irrigation demands, including parks, medians, slopes, and other irrigated areas.

Table 3-3 indicates that the current average District residential water demand is 0.53 acre-feet per connection (146.4 gallons per capita per day, gpcd), for all types and ages of housing in the District. This value is 18 percent less than the average in 2005 (District, 2015 UWMP; Table 4-1B, page 4-3). The District indicated that customers in newer housing units use less water per person than older housing units, and future housing is anticipated to use even less. The District indicated that for new housing projects, such as the Hitch Ranch Project, the estimated residential water rate is 135 gpcd for single-family homes and 60 gpcd for multiple-family homes (District, 2018).

TABLE 3-3
DISTRICT ANNUAL CONSUMPTION RATES BY SERVICE TYPE

Service Type	Estimated Annual Consumption Rate
Residential (a)	0.53 acre-feet per connection
Commercial (b)	3.69 acre-feet per connection
Institutional (b)	7.25 acre-feet per connection
Industrial (b)	3.89 acre-feet per connection
Agricultural (b)	17.67 acre-feet per connection
Construction (b)	0.53 acre-feet per connection
Others (Fire and Hydrant) (b)	1.30 acre-feet per connection

Notes:
(a) District, 2015 UWMP; 146 gallons per person per existing dwelling unit per day for total indoor and outdoor demands; includes 3.33 persons per dwelling unit. However, the District approved a residential water rate of 135 gpcd for new single-family homes and 60 gpcd for new multiple-family homes (District, 2018).
(b) District, 2005 UWMP.

The 755 Project includes construction of approximately 755 residential units, with 328 single-family units, 427 multiple-family units, and a variety of open space areas. Estimated specific water demands for the 755 Project are provided in **Table 3-4**. Total potable water demand for the 755 Project will be approximately 261.2 AFY, while recycled water demand will be approximately 103.4 AFY. Total potable and nonpotable demand will be approximately 364.6 AFY. As indicated previously, water demands for the Hitch Ranch Project were included in the total water demand projections in the District's 2015 UWMP (District, 2015 UWMP, Section 3.4.2).

TABLE 3-4
ESTIMATED WATER DEMANDS FOR THE HITCH RANCH PROJECT - 755

Sector	Quantity	Factor	Water Demand Rate	Estimated Water Demand (AFY)
POTABLE WATER DEMAND (a)				
Single Family Residence (b)	328 du	3.33 ppdu	135 gpcd	165.2
Multi-Family Residence (b)	427 du	3.33 ppdu	60 gpcd	95.6
City Park (b)		200 people	2 gpcd	0.4
Total Potable Water Demand				**261.2**
RECYCLED WATER DEMAND (a)				
Landscape Irrigation - Residential	0 ac		0 AFY/ac	0
Landscape Irrigation – Slopes/fire suppression	41.01 ac		1.886 AFY/ac	77.3
Landscape Irrigation – Parks (c)	10 ac		1.886 AFY/ac	18.9
Landscape Irrigation – Road medians/strips	3.8 ac		1.886 AFY/ac	7.2
Natural open space	61.75 ac		0 AFY/ac	0
Total Recycled Water Demand				**103.4**
TOTAL WATER DEMAND				**364.6**

Notes:
All values rounded.
Abbreviations: du = dwelling units; ac = acre; ppdu = persons per dwelling unit; gpcd = gallons per capita per day; gpacpd = gallons per acre per day; AFY/ac = acre feet per year per acre
(a) Land use estimates based on Hitch Ranch development details (Development Planning Services, 2020).
(b) Potable water demands based on single-family total residential demand of 135 gallons per capita per day, and multiple-family residential demand of 60 gallons per capita per day (District, 2018).
(c) Approximately 4.59 acres total at 2 sites; 100% potable demand for drinking fountains and restrooms; estimate of 200 visitors per day that use water x 2 gallons per visitor that use water.

3.5 Estimated Water Demands for Moorpark Housing Project

As noted in Section 1.3, the development of the Moorpark Housing Project is anticipated to include a maximum of 200 residential units on approximately 6.7 acres. Construction and occupation of the residential component of the proposed project would result in a theoretical population increase of approximately 367 persons. It is anticipated that all residential units within the Moorpark Housing Project will maximize use of water conservation measures both inside and outside the dwellings. Use of these measures throughout the Moorpark Housing Project will reduce the water demand as compared to residential units that do not implement water conservation measures. The Moorpark Housing Project will include use of recycled water for all non-residential landscape irrigation demands, including parks, medians, and other irrigated areas.

Table 3-3 indicates that the current average District residential water demand is 0.53 acre-feet per connection (146.4 gallons per capita per day, gpcd), for all types and ages of housing in the District. This value is 18 percent less than the average in 2005 (District 2015 UWMP; Table 4-1B, page 4-3). The District indicated that customers in newer housing units use less water per person than older housing units, and future housing is anticipated to use even less. The District indicated that for new housing projects, such as the Moorpark Housing

Project, the estimated residential water rate is 135 gpcd for single-family homes and 60 gpcd for multiple-family homes (District, 2018).

Estimated specific water demands for the Moorpark Housing Project are provided in **Table 3-5**. Total potable water demand for the Moorpark Housing Project will be approximately 44.8 AFY, while recycled water demand will be approximately 1.0 AFY. Total potable and nonpotable demand will be approximately 45.8 AFY.

TABLE 3-5
ESTIMATED WATER DEMANDS FOR THE MOORPARK HOUSING PROJECT

Sector	Quantity	Factor	Water Demand Rate	Estimated Water Demand (AFY)
POTABLE WATER DEMAND (a)				
Single Family Residence	0 du	3.33 ppdu	135 gpcd	0
Multi-Family Residence	200 du	3.33 ppdu	60 gpcd	44.8
Institutional		0 people	20 gpcd	0
City Park		0 people	2 gpcd	0
Total Potable Water Demand				**44.8**
RECYCLED WATER DEMAND				
Landscape Irrigation - Residential	0.5 ac		2 AFY/ac	1.0
Landscape Irrigation – Slopes/fire suppression	0 ac		1.886 AFY/ac	0
Landscape Irrigation – Park/institutional	0 ac		1.886 AFY/ac	0
Landscape Irrigation – Road medians/strips	0 ac		1.886 AFY/ac	0
Natural open space	0 ac		0 AFY/ac	0
Total Recycled Water Demand				**1.0**
TOTAL WATER DEMAND				**45.8**

Notes:
All values rounded.
Abbreviations: du = dwelling units; ac = acre; ppdu = persons per dwelling unit; gpcd = gallons per capita per day; gpacpd = gallons per acre per day; AFY/ac = acre feet per year per acre
(a) Potable water demands based on single-family total residential demand of 135 gallons per capita per day, and multiple-family residential demand of 60 gallons per capita per day (District, 2018).

SECTION 4:
WATER SUPPLY RELIABILITY

This Section provides a discussion of the reliability of the water supply within the District's service area. A comparison between the water supply and demand for an average water year, single-dry water year, and multi-dry water years is also provided.

4.1 Reliability

Reliability is "how much one can count on a certain amount of water being delivered to a specific place at a specific time" and depends on the availability of water from the source, availability of the means of conveyance and level and pattern of water demand at the place of delivery.

4.1.1 Plan to Assure Reliable Water Supply

Recognizing its dependence on imported water supplies and the need to improve water supply reliability during drought events, the District anticipates use of the following sources of supply for the period 2020 to 2040:

- Groundwater from the District's wells
- CMWD imported surface water
- Recycled water from the District
- Desalted Groundwater (after the project is complete).

4.2 Reliability Comparison

The Urban Water Management Planning Act requires an assessment of water supply reliability and vulnerability to seasonal or climatic shortage. Reliability is a measure of a water service system's anticipated success in managing water shortages. This assessment must include a comparison of the total projected water demand with the total water supply available for the following conditions: (1) average/normal water-year, (2) single dry water-year, and (3) three consecutive dry water-years. Additional details are provided in the District's 2015 UWMP.

4.2.1 Normal Water-Year Supply and Demand Comparison

A summary of the District's projected 20-year water supplies and demands for normal water-year conditions is provided in Table 4-1. As noted in Table 4-1, the District's total projected normal water-year water supplies available through 2040 are projected to exceed water demands associated with existing and planned uses within the District's service area, including the Hitch Ranch Project, by 1,007 to 1,345 AFY. The District anticipates meeting its normal water-year demands from 2020 to 2040 via the use of existing supplies (local ground water and imported surface water), implementation of the Moorpark Desalter, and increased use of recycled water to meet future water demands in normal water-years (District, 2015 UWMP).

TABLE 4-1
DISTRICT NORMAL WATER-YEAR SUPPLY AND DEMAND COMPARISON 2020-2040

	2020	2025	2030	2035	2040
Total Supply	13,360	14,226	14,467	14,636	14,899
Total Demand	12,345	12,881	13,239	13,561	13,892
Difference	**1,015**	**1,345**	**1,228**	**1,075**	**1,007**

Notes:
All data in AFY and rounded.
Source: District, 2015 UWMP.

4.2.2 Single Dry Water-Year Supply and Demand Comparison

A summary of the District's projected 20-year water supplies for a single dry-year condition is provided in Table 4-2. The District anticipates supplies to exceed demands from 2020 to 2035 in a single dry water-year by 31 to 314 AFY via the use of existing supplies, implementation of the Moorpark Desalter, and increased use of recycled water (District, 2015 UWMP). However, for the year 2040, the District anticipates a deficit of approximately 66 AFY. The District may need to consider additional water supplies (purchase additional imported surface water, future potable and recycled water programs administered by the District, CMWD, and MWD) and implementation of additional conservation measures to meet future water demands in single dry water-years.

TABLE 4-2
DISTRICT SINGLE DRY WATER-YEAR SUPPLY AND DEMAND COMPARISON 2020-2040

	2020	2025	2030	2035	2040
Total Supply	12,932	13,687	13,950	14,115	14,365
Total Demand	12,890	13,373	13,750	14,084	14,431
Difference	**42**	**314**	**200**	**31**	**(66)**

Notes:
All data in AFY and rounded.
Source: District, 2015 UWMP.

4.2.3 Multiple Dry Water-Years Supply and Demand Comparison

A summary of the District's projected 20-year water supplies and demands for multiple dry water-year conditions is provided in Table 4-3. Water supplies available through 2040, during multiple dry water-year conditions, are projected to exceed water demands associated with existing and planned uses within the District's service area, including the Hitch Ranch Project, by 513 to 1,039 AFY. The District anticipates the use of existing supplies, implementation of the Moorpark Desalter, increased use of recycled water, and implementation of additional conservation measures to meet future water demands in multiple dry water-years (District, 2015 UWMP).

TABLE 4-3
DISTRICT MULTIPLE DRY WATER-YEARS SUPPLY AND DEMAND COMPARISON 2020-2040

		2020	2025	2030	2035	2040
First Year	Total Supply	13,149	14,143	14,442	14,606	14,918
	Total Demand	12,636	13,104	13,472	13,798	14,138
	Difference	**513**	**1,039**	**970**	**808**	**780**
		2020	**2025**	**2030**	**2035**	**2040**
Second Year	Total Supply	13,149	14,143	14,442	14,606	14,918
	Total Demand	12,636	13,104	13,472	13,798	14,138
	Difference	**513**	**1,039**	**970**	**808**	**780**
		2020	**2025**	**2030**	**2035**	**2040**
Third Year	Total Supply	13,149	14,143	14,442	14,606	14,918
	Total Demand	12,636	13,104	13,472	13,798	14,138
	Difference	**513**	**1,039**	**970**	**808**	**780**

Notes:
All data in AFY and rounded.
Source: District, 2015 UWMP.

SECTION 5
WATER SHORTAGE CONTINGENCY PLAN

5.1 Introduction

Water shortages arise not only from drought, but shortages resulting from earthquakes, fires, system failures, and water quality contamination as well. California's extensive system of water supply infrastructure, its reservoirs, groundwater basins, and inter-regional conveyance facilities, mitigates the effect of short-term dry periods. Defining when a drought begins is a function of understanding drought impacts on water users. Drought is a gradual phenomenon. Although droughts are sometimes characterized as emergencies, they differ from typical emergency events. Droughts occur slowly, over a multiyear period. Drought impacts increase with the length of a drought, as carry-over supplies in reservoirs are depleted and water levels in groundwater basins decline.

Section 2 of this WSA summarizes the District supplies. Section 3 defines the water demands. Section 4 defines the water supply reliability. In addition, the District's water demand management measures will play an essential role in limiting water use during drought times. Additional details available in the District's 2015 UWMP.

5.2 District Water Shortage Response

To meet short-term water demand deficiencies, and short-term or long-term drought requirements, the District has included a Water Shortage Contingency Plan (WSCP), which is included as Part 1, Section K of the Ventura County Waterworks Districts Rules and Regulations (copy of Part 1 provided in **Appendix D**). The District has also adopted permanent water conservation measures included in Section L of their Rules and Regulations. In the event of a water shortage, the Director of the County of Ventura Public Works Agency (Agency Director) is authorized and directed to implement provisions of the District's WSCP, subject to ratification by the District Board at its first regularly scheduled meeting (District, 2015 UWMP). The Agency Director determines the extent of conservation or water use efficiency required through the implementation and/or termination of conservation stages or levels consisting of three levels for the District to prudently plan for and supply water to its customers. However, in the case of local emergencies, the Director of the Water and Sanitation Department has the authority to order the implementation of the appropriate stage of water conservation. Stages of the District's WSCP are summarized in **Section 5.3**.

Provisions of the District's WSCP will be implemented in congruence with the policy of the MWD and CMWD water shortage/drought activities. The CMWD policy will be based on one or more of MWD's adopted planning documents including, but not limited to, the following:

- Water Surplus and Drought Management Plan (WSDMP)
- Water Supply Allocation Plan (WSAP)
- Regional Integrated Water Resources Plan
- Urban Water Management Plan
- Long Term Conservation Plan.

The MWD's WSDMP is designed to guide the management of regional water supplies to achieve reliability goals for southern California. The Water Supply Allocation Plan is designed to provide a framework for administering an allocation should a water shortage be declared.

The City of Moorpark, which encompasses much of the District, has adopted the CADWR's Model Water Efficient Landscape Ordinance that set forth standards for landscape irrigation during drought and non-drought times, and acknowledges the constant need to establish long-term water efficiency (City Ordinance 10-383,

Chapter 15.23). This ordinance covers all landscaping within new developments as well as rehabilitated landscape (District, 2015 UWMP).

5.3 Rationing Stages and Reduction Goals

To meet short-term water demand deficiencies and short-term or long-term drought requirements, the District will implement its water shortage policy in accordance with the District's Water Conservation Program. In addition, the District will consider the policy of CMWD, which is anticipated to be based on MWD's policies and planning documents. It is important to note that agricultural water service is interruptible at all times. Mandatory allocations are avoided to the extent practicable, however, in the event of an extreme shortage, an allocation plan will be adopted in accordance with the principles of the MWD's WSDMP and WSAP. The three stages of the District's WSCP are shown in **Table 5-1** and described below.

5.3.1 Level 1 Water Supply Shortage

A Level 1 water supply shortage is declared when the Agency Director determines in his or her sole discretion that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists, and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions.

TABLE 5-1
STAGES OF DISTRICT WATER SHORTAGE CONTINGENCY PLAN

Level	Percent Supply Reduction (a)	Water Supply Condition
1	NA	A water supply shortage or threatened shortage exists, and a consumer demand reduction is necessary to make more efficient use of water
2	NA	A water supply shortage or threatened shortage exists, and a consumer demand reduction is necessary to make more efficient use of water. Additional prohibited water uses are identified relative to Level 1 prohibitions
3	NA	A significant reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety

Notes:
(a) Percent supply reduction is not used by the District to signal a level of the WSCP; rather, it is up to the discretion of the Agency Director or other authorized person to determine the severity of the water shortage and the appropriate level of the WSCP.

5.3.2 Level 2 Water Supply Shortage

A Level 2 water supply shortage is declared when the Agency Director determines in his or her sole discretion that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists, and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Additional prohibited water uses are identified relative to Level 1 prohibitions.

5.3.3 Level 3 Water Supply Shortage

A Level 3 water supply shortage condition is also referred to as an "Emergency" condition. A Level 3 condition is declared when the Agency Director determines that a significant reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety. The Agency Director declares a water shortage emergency and notifies District residents and businesses of the emergency.

Additional details regarding the District's WSCP are available in the District's 2015 UWMP and the County Rules and Regulations (see copy of Part 1, Section K included in **Appendix D**).

5.4 CATASTROPHIC SUPPLY INTERRUPTION

A water shortage emergency could be the result of a catastrophic event such as a result of drought, failures of transmission facilities, a regional power outage, earthquake, flooding, supply contamination from chemical spills, or other adverse conditions. These emergencies and the District's method for handling them are described below. County Rules and Regulations regarding water shortages (see copy of Part 1, Section K included in **Appendix D**) includes actions for any event which results in loss of supply.

In addition, the District prepared an Emergency Procedures Manual (EPM, Ventura County, 2010). The County's EPM (Section VII) describes responses to emergency situations resulting from natural disasters, system failures, and other unforeseen circumstances. The EPM provides guidelines for evaluating an emergency situation and procedures for activating an emergency response. The EPM identifies various levels of emergencies (Level 1, Level 2, and Level 3), and provides examples of response to several emergencies, including but not limited to local flooding, power failures, earthquakes, and hazardous material releases.

Examples of the District's response procedures to an emergency are summarized below.

5.4.1 Earthquakes or Other Natural Disasters

The District is located in an earthquake zone. In the event of an earthquake or natural disaster, the District has the potential of losing its imported water supply and or ground water supply. If such a loss occurs, the District could temporarily increase its ground water production (if available) to meet water demand until repairs to the imported water supply facilities were completed and the supply restored. In addition, the District would follow the procedures outlined in their EPM and or County of Ventura Multi-Hazard Mitigation Plan (Ventura County, 2010; Ventura County, 2015). In the event of a prolonged loss of imported water and or groundwater, the District could implement their established Water Shortage Plan from the County Rules and Regulations (**Appendix D**) to substantially reduce demands until supply is restored.

5.4.2 Contamination of Water Supply

Contamination of water supply can result from several different events including a water main break, cross-connection condition, water source pollution, or covert action. Water supplies for the District are generally of good quality and no foreseeable permanent contamination issues are anticipated. In the event of a toxic spill or major contamination, the District would follow the procedures outlined in their EPM (Ventura County, 2010). The District would isolate the problem and reduce the impact on the water supply. Once the problem has been isolated, the contamination would be cleaned up using chlorination or other necessary procedures and the water supply returned to service as soon as possible. The EPM also includes an Emergency Disinfection Plan. In the meantime, alternative supply would be utilized to meet demand. Implementation of additional demand management measures could also be utilized if the outage is anticipated to be of a longer duration. If necessary, the District would implement the procedures outlined in the County Rules and Regulations regarding water shortages (see copy of Part 1, Section K included in **Appendix D**).

5.4.3 Power Failure

In the event of a regional power failure, the District would follow the procedures outlined in their EPM (Ventura County, 2010). Standby generators are available at each of the District's well and pump station sites to maintain operation should an interruption of power occur. The EPM lists all of the stationary and mobile generators located at the various District facilities, with model numbers, kilowatt rating, and fuel tank capacity. If necessary, the District would implement the procedures outlined in the County Rules and Regulations regarding water shortages (see copy of Part 1, Section K included in **Appendix D**).

SECTION 6
CONCLUSIONS

The purpose of this Water Supply Assessment is to demonstrate that future water supplies are sufficient to meet the District's projected water demands, inclusive of the Hitch Ranch Development Plan.

The Hitch Ranch Project is located in southeastern Ventura County, within the boundaries of the City of Moorpark. As proposed, the 755 Project as planned will include a maximum of 755 residential units (approximately 328 single-family dwellings and 427 multiple-family dwellings) on approximately 270.7 acres. Construction and occupation of the residential component of the proposed project would result in a theoretical population increase of approximately 2,515 persons (based on 3.33 persons per dwelling unit; District, 2015 UWMP). Also included in this development are approximately 4.59 acres of active recreational space, 102.8 acres of open space/slopes, and 66.37 acres of public facilities and roads.

It is anticipated that residential units within the Hitch Ranch Project will maximize the use of water conservation measures both inside and outside the dwellings. Residential homes will be built to current California Plumbing Code including indoor water conservation fixtures. Residential lots will meet the California Model Water Efficient Landscape Ordinance. The use of these measures throughout the Hitch Ranch Project will reduce the water demand as compared to existing residential units that do not implement water conservation measures. The Hitch Ranch Project will include infrastructure for use of recycled water for all non-residential landscape irrigation demands, including water for parks, medians, and open spaces.

The District will be the retail water purveyor for the Project including potable (drinking) water and nonpotable (recycled) water. The District distributes potable water via a combination of imported surface water purchased from the CMWD and groundwater from the District's local wells. The District also distributes recycled water for nonpotable demands. The District, CMWD, and its wholesaler, MWD, have taken significant steps to diversify their existing and future water supply resources to enhance service reliability to the District's water customers. The District's plans to enhance water supply reliability include expanding the recycled water distribution system, constructing a Moorpark Groundwater Desalter to create additional local potable water, and expanding the District's MWRF tertiary facilities to increase the volume of available recycled water supplies. In addition, the District continues to support extensive water conservation programs for customers in the service area.

The 755 Project total potable water demand will be approximately 261.2 AFY, while recycled water demand will be approximately 103.4 AFY. Total potable and nonpotable demand will be approximately 364.6 AFY. Water demands for the Hitch Ranch Project were included in the total water demand projections in the District's 2015 UWMP (District, 2015 UWMP, Section 3.4.2).

The Moorpark Housing Project includes the construction of a maximum of approximately 200 multiple-family residential units on approximately 6.7 acres. The Moorpark Housing Project will not be part of the Hitch Ranch Project and will be built by a separate entity. For purposes of this WSA, water demands for the Moorpark Housing Project will be evaluated separately. Total potable water demand for the Moorpark Housing Project will be approximately 44.8 AFY, while recycled water demand will be approximately 1.0 AFY. Total potable and nonpotable demand will be approximately 45.8 AFY.

Based on the analysis summarized in this Water Supply Assessment (and supported by the District's 2015 UWMP), the District's total projected normal water-year water supplies available through 2040 are projected to exceed water demands associated with existing and planned uses within the District's service area, including the Hitch Ranch Project, by 1,007 to 1,345 AFY. Under single dry water-year conditions, the District's water supplies available through 2040 are projected to exceed the projected water demands associated with existing and planned uses within the District's service area, including the Hitch Ranch Project, by 31 to 314 AFY (with one exception). This potential exception is the year 2040 when demands may exceed supplies by 66 AFY. Water

supplies available through 2040, during multiple dry water-years conditions, are projected to exceed water demands associated with existing and planned uses within the District's service area, including the Hitch Ranch Project, by 513 to 1,039 AFY.

As previously noted, the District, CMWD, and its wholesaler, MWD, have taken significant steps to diversify their existing and future water supply resources to enhance service reliability to the District's water customers during normal and drought conditions. On the supply side, the District plans to enhance local potable water supplies and recycled water supplies (District, 2015 UWMP). On the demand side, the District will continue to support extensive water conservation programs for customers in the service area. These conservation measures will continue to reduce the average residential water use per household for existing and new customers. The District noted that the amount of imported water purchased will increase to meet the growth in water demand for years with insufficient supplies from groundwater extractions and recycled water (Pan, July 2018).

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APPENDICES

A – California Water Code – Water Supply Assessment

B – FCGMA Groundwater Sustainability Plan (Executive Summary)

C – District's 2018 Annual Water Quality Report

D – Ventura County Waterworks District Nos. 1, 16, 17, and 19 Rules and Regulations (Part 1 only)

Appendix A

California Water Code – Water Supply Assessment

CALIFORNIA WATER CODE
SECTION 10910-10915
October 14, 2016

10910. (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

(d) (1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an identification of the other public water systems or water service contractholders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

(g) (1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was

received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.

(2) Prior to the expiration of the 90-day period, if the public water system intends to request an extension of time to prepare and adopt the assessment, the public water system shall meet with the city or county to request an extension of time, which shall not exceed 30 days, to prepare and adopt the assessment.

(3) If the public water system fails to request an extension of time, or fails to submit the assessment notwithstanding the extension of time granted pursuant to paragraph (2), the city or county may seek a writ of mandamus to compel the governing body of the public water system to comply with the requirements of this part relating to the submission of the water supply assessment.

(h) Notwithstanding any other provision of this part, if a project has been the subject of a water supply assessment that complies with the requirements of this part, no additional water supply assessment shall be required for subsequent projects that were part of a larger project for which a water supply assessment was completed and that has complied with the requirements of this part and for which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has concluded that its water supplies are sufficient to meet the projected water demand associated with the proposed project, in addition to the existing and planned future uses, including, but not limited to, agricultural and industrial uses, unless one or more of the following changes occurs:

(1) Changes in the project that result in a substantial increase in water demand for the project.

(2) Changes in the circumstances or conditions substantially affecting the ability of the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), to provide a sufficient supply of water for the project.

(3) Significant new information becomes available which was not known and could not have been known at the time when the assessment was prepared.

10911. (a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. If the city or county, if either is required to comply with this part pursuant to subdivision (b), concludes as a result of its assessment, that water supplies are, or will be,

insufficient, the city or county shall include in its water supply assessment its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. Those plans may include, but are not limited to, information concerning all of the following:

(1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.

(2) All federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.

(3) Based on the considerations set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), expects to be able to acquire additional water supplies.

(b) The city or county shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(c) The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

10912. For the purposes of this part, the following terms have the following meanings:

(a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) (A) Except as otherwise provided in subparagraph (B), a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet

of floor area.

(B) A proposed photovoltaic or wind energy generation facility approved on or after October 8, 2011, is not a project if the facility would demand no more than 75 acre-feet of water annually.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

(b) If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

(c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections. A public water system includes all of the following:

(1) Any collection, treatment, storage, and distribution facility under control of the operator of the system that is used primarily in connection with the system.

(2) Any collection or pretreatment storage facility not under the control of the operator that is used primarily in connection with the system.

(3) Any person who treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

(d) This section shall remain in effect only until January 1, 2018, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2018, deletes or extends that date.

10914. (a) Nothing in this part is intended to create a right or entitlement to water service or any specific level of water service.

(b) Nothing in this part is intended to either impose, expand, or limit any duty concerning the obligation of a public water system to provide certain service to its existing customers or to any future potential customers.

(c) Nothing in this part is intended to modify or otherwise change existing law with respect to projects which are not subject to this part.

(d) This part applies only to a project for which a notice of preparation is submitted on or after January 1, 1996.

10915. The County of San Diego is deemed to comply with this part if the Office of Planning and Research determines that all of the following conditions have been met:

(a) Proposition C, as approved by the voters of the County of San Diego in November 1988, requires the development of a regional growth management plan and directs the establishment of a regional planning and growth management review board.

(b) The County of San Diego and the cities in the county, by agreement, designate the San Diego Association of Governments as that review board.

(c) A regional growth management strategy that provides for a comprehensive regional strategy and a coordinated economic development and growth management program has been developed pursuant to Proposition C.

(d) The regional growth management strategy includes a water element to coordinate planning for water that is consistent with the requirements of this part.

(e) The San Diego County Water Authority, by agreement with the San Diego Association of Governments in its capacity as the review board, uses the association's most recent regional growth forecasts for planning purposes and to implement the water element of the strategy.

(f) The procedures established by the review board for the development and approval of the regional growth management strategy, including the water element and any certification process established to ensure that a project is consistent with that element, comply with the requirements of this part.

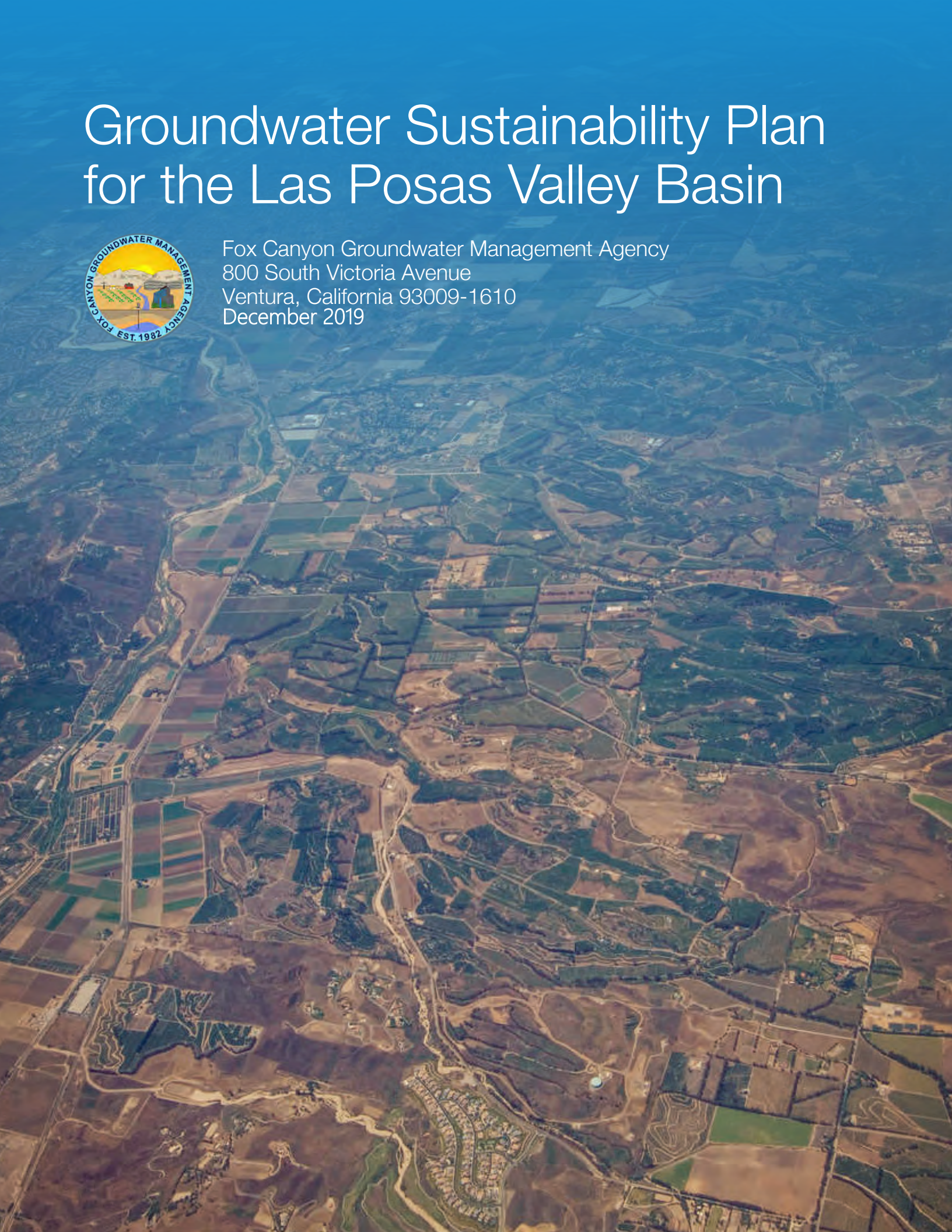
(g) The environmental documents for a project located in the County of San Diego include information that accomplishes the same purposes as a water supply assessment that is prepared pursuant to Section 10910.

Appendix B

FCGMA Groundwater Sustainability Plan (Executive Summary)

Groundwater Sustainability Plan for the Las Posas Valley Basin

Fox Canyon Groundwater Management Agency
800 South Victoria Avenue
Ventura, California 93009-1610
December 2019



38 NORTH MARENGO AVENUE
PASADENA, CALIFORNIA 91101
T 626.204.9800 F 626.204.9834

December 13, 2019 9837

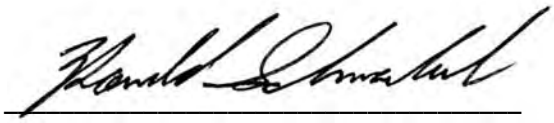
Board of Directors
Fox Canyon Groundwater Management Agency
800 South Victoria Avenue
Ventura, CA 93009

Subject: Groundwater Sustainability Plan for the Las Posas Valley Basin

Dear Board of Directors:

Dudek is pleased to submit this Groundwater Sustainability Plan (GSP) for the Las Posas Valley Basin to the Fox Canyon Groundwater Management Agency. This GSP was prepared this in accordance with California Code of Regulations, Title 23. Water, Division 2. Department of Water Resources, Chapter 1.5. Groundwater Management, Subchapter 2. Groundwater Sustainability Plans.

Respectfully Submitted,



Ronald Schnabel, PG #7836, CHG #867
Senior Hydrogeologist



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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
ADF	average daily flow
AEA	Annual Efficiency Allocation
AF	acre-feet
AFY	acre-feet per year
ASR	Aquifer Storage and Recovery
AWMP	Agricultural Water Management Plan
BCM	Basin Characterization Model
BMO	Basin Management Objective
cfs	cubic feet per second
CIMIS	California Irrigation Management Information System
CMWD	Calleguas Municipal Water District
DWR	California Department of Water Resources
EIR	Environmental Impact Report
ELP	East Las Posas Subbasin
ELPMA	East Las Posas Management Area
EMSA	Eastern Management Sub-Area
FCA	Fox Canyon Aquifer
FCGMA	Fox Canyon Groundwater Management Agency
GCA	Grimes Canyon Aquifer
GDE	groundwater-dependent ecosystem
GREAT	Groundwater Recovery Enhancement and Treatment
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
IE	irrigation efficiency
LAS	Lower Aquifer System
LPGMP	Las Posas Basin-Specific Groundwater Management Plan
LPUG	Las Posas Users Group
LPV	Las Posas Valley
LPVB	Las Posas Valley Basin
LWA	Larry Walker & Associates
mgd	million gallons per day
mg/L	milligrams per liter
MWD	Metropolitan Water District of Southern California
MWTP	Moorpark Wastewater Treatment Plant
PVB	Pleasant Valley Basin
SCAG	Southern California Association of Governments
SGMA	Sustainable Groundwater Management Act
SR	State Route
SVWQCP	Simi Valley Water Quality Control Plant
SWP	State Water Project
TAG	Technical Advisory Group
UAS	Upper Aquifer System

Acronym/Abbreviation	Definition
UWCD	United Water Conservation District
UWMPA	Urban Water Management Planning Act
VCWD	Ventura County Waterworks District
VCWPD	Ventura County Watershed Protection District
WLP	West Las Posas Subbasin
WLPMA	West Las Posas Management Area
WMSA	Western Management Sub-Area
WQCP	Water Quality Control Plant
WQO	Water Quality Objective

EXECUTIVE SUMMARY

The Fox Canyon Groundwater Management Agency (FCGMA, or the Agency), has developed this Groundwater Sustainability Plan (GSP) for the Las Posas Valley Basin (LPVB; DWR Basin 4-008) in compliance with the 2014 Sustainable Groundwater Management Act (SGMA) (California Water Code, Section 10720 et seq.). FCGMA is one of three Groundwater Sustainability Agencies (GSAs) in the LPVB. The other two GSAs are the Camrosa Water District GSA–Las Posas Valley and the Las Posas Valley Outlying Areas GSA. This GSP is the sole GSP prepared for the LPVB, and covers the entire LPVB, including all areas of the LPVB outside of FCGMA's jurisdiction. The purpose of this GSP is to define the conditions under which the groundwater resources of the entire LPVB, which support agricultural, municipal and industrial, and environmental uses, will be managed sustainably in the future.

Although the California Department of Water Resources (DWR) has defined the LPVB as a single groundwater basin, the western and eastern parts of the basin are hydraulically separated from each other by the Somis Fault, a geologic feature that inhibits groundwater flow across it. As a result, groundwater conditions on the west side of the fault in the Fox Canyon Aquifer and Grimes Canyon Aquifer, two primary aquifers in the LPVB, differ from conditions on the east side of the fault. Furthermore, the Epworth Gravels Aquifer, located on the east side of the fault is hydrologically separated from the Fox Canyon Aquifer and Grimes Canyon Aquifer. Hydrologic differences in the controls on, and responses to, both recharge and groundwater production necessitate the definition of three separate management areas in the LPVB. These three management areas are the West Las Posas Management Area (WLPMA), the East Las Posas Management Area (ELPMA), and the Epworth Gravels Management Area. The hydrologic conditions, sustainable yield, and sustainability criteria are discussed and defined by management area throughout this GSP.

Historical groundwater production in the LPVB has resulted in chronic declines in groundwater levels and loss of groundwater in storage in parts of each of the three management areas. In the WLPMA, the average rate of groundwater production between 2015 and 2017 was approximately 14,000 acre-feet per year (AFY). In the ELPMA and the Epworth Gravels Management Area, the average rate of groundwater production between 2015 and 2017 was approximately 20,500 AFY and 1,500 AFY, respectively. Numerical groundwater simulations indicate that if these production rates were carried into the future, groundwater elevations in each of the management areas of the LPVB would not recover during multi-year cycles of drought and recovery.

In order to determine the sustainable yield of each management area, combinations of projects and management actions were explored to estimate the rate of groundwater production that would prevent chronic declines in groundwater elevation and ongoing loss of groundwater storage in the future. Additionally, in the WLPMA, the numerical groundwater model simulations were used to

assess the influence of groundwater conditions on the adjacent Oxnard Subbasin. In the ELPMA, numerical groundwater simulations were also used to assess zones of the Fox Canyon Aquifer that are most prone to conversion from confined to unconfined conditions.[1] The rate of groundwater production that avoids chronic water level declines, loss of storage, potential land subsidence, and impacts to adjacent basins is referred to as the sustainable yield for each management area.

With the currently available projects and management actions, the sustainable yield of the WLPMA is approximately 12,500 AFY, with an uncertainty estimate of ±1,200 AFY (Table ES-1). In the ELPMA, the total sustainable yield (including the Epworth Gravels Management Area) is estimated to be 17,800 AFY ±2,300 AFY. For the Epworth Gravels Management Area only, the sustainable yield is estimated to be approximately 1,300 AFY. Except for the Epworth Gravels Management Area, both the historical (1985–2015) and recent (2015–2017) groundwater production rates exceeded the upper end of the future sustainable yield estimates (Table ES-1).

Table ES-1
Sustainable Yield Estimates

Period	Management Area	Sustainable Yield (AFY)	Approximate Average Pumping During the Period (AFY)
Historical 1985 to 2015 (based on GSP Regulation Section 354.18[b][5])	WLPMA	10,000 to 11,000	15,400
	ELPMA	17,000 to 19,000	19,800
	Epworth Gravels	About 1,300	1,300
Average groundwater pumping during the 2015–2017 period using a simulated 1930 to 1969 climate period and the 2070 DWR climate change data (based on preventing significant and unreasonable affects for one or more of the six sustainability indicators)	WLPMA	11,300 to 13,700	14,000
	Total ELPMA	15,500 to 20,100	20,500
	Epworth Gravels	1,300 to 1,340	1,500

Notes: AFY = acre-feet per year; DWR = California Department of Water Resources; ELPMA = East Las Posas Management Area; GSP = Groundwater Sustainability Plan; WLPMA = West Las Posas Management Area.

Adoption of this GSP represents the first step in achieving groundwater sustainability within the LPVB, as required by SGMA. SGMA requires that groundwater in each of the management areas of the LPVB be managed sustainably within 20 years of adoption of the GSP. SGMA also requires that this GSP be evaluated at a minimum of every 5 years after adoption. As part of the 5-year evaluation process, the sustainable yield will be refined and adjusted. These refinements will be based on new data, additional studies undertaken to fill data gaps, and groundwater modeling. Refinements and adjustments will also be made to the minimum threshold groundwater levels developed to avoid undesirable results, the measurable objective groundwater levels that account

[1] A confined aquifer is saturated with water that is under pressure, so that when it is penetrated by a well, the water level in the well rises above the top of the aquifer. An unconfined aquifer is an aquifer whose upper water surface is at atmospheric pressure and below the top of the aquifer.

for the need to continue groundwater production during drought cycles and the associated interim milestones to help gauge progress toward sustainability over the next 20 years.

The required 5-year evaluations will also examine both new water supply projects, and the potential impacts of extractions rates on groundwater elevations and sustainability in the LPVB. Additional modeling is recommended during the 5-year update process to understand how changes in pumping and additional new water supply projects can increase the overall sustainable yield of the different management areas of the LPVB. As this understanding improves, projects to support increases in the overall sustainable yield can be developed.

ES.1 INTRODUCTION

The LPVB is an alluvial groundwater basin located in Ventura County, California. The climate is typical of coastal Southern California, with average daily temperatures ranging generally from 54°F to 84°F in summer and from 40°F to 74°F in winter. The Las Posas Valley ranges in elevation from approximately 100 feet above mean sea level in the southwest to more than 1,500 feet above mean sea level in the northeast. The primary surface water drainage in the Las Posas Valley is Arroyo Las Posas, which is named Arroyo Simi in the easternmost portion of the Las Posas Valley.[2] Land use overlying the LPVB is divided between agricultural and urban uses, with agricultural use covering approximately 51% of the land within the Las Posas Valley, and residential and urban use covering approximately 23% of the land. The remaining 26% is open space. DWR has designated the LPVB as a high-priority groundwater basin.

The majority of the LPVB is within the jurisdiction of the FCGMA, an independent special district, formed by the California Legislature in 1982, to manage and protect the aquifers within its jurisdiction for the common benefit of the public and all groundwater users. Extractors within FCGMA jurisdiction are subject to the Agency's GSPs, ordinances, and policies created for the sustainable management of groundwater management actions.

FCGMA is one of three groundwater sustainability agencies (GSAs) that have jurisdiction over portions of the LPVB. FCGMA is the GSA for the area of the LPVB that falls within its jurisdiction. The Camrosa Water District GSA–Las Posas Valley is the GSA for the portion of the Camrosa Water District Service area in the Las Posas Valley, and the Las Posas Outlying Areas GSA is the GSA for portions of the LPVB not within FCGMA or Camrosa Water District jurisdiction. This FCGMA GSP is the sole GSP prepared for the LPVB, and covers the entire LPVB, including all areas of the LPVB outside of FCGMA's jurisdiction.

[2] For simplicity, the name *Arroyo Simi–Las Posas* is used in this GSP to denote the entire reach of the two arroyos in the ELPMA.

Public participation and stakeholder feedback have played a critical role in the development of this GSP. FCGMA maintains a list of stakeholders interested in the GSP process, known as the *List of Interested Parties*. A monthly newsletter, meeting notices, and notices of GSP documents available for review were sent electronically to those on the List of Interested Parties. Public workshops were held to inform stakeholders and the general public on the contents of the GSP and to solicit feedback on that content. To further facilitate stakeholder understanding, the FCGMA Board of Directors (Board) approved release of a preliminary draft GSP for public comment in November 2017. Additionally, the FCGMA Board formed a Technical Advisory Group, which held public meetings throughout the GSP development process, beginning in July 2015, and updates on the development of the GSP were given at meetings of the FCGMA Board, beginning in April 2015. All FCGMA Board meetings, Technical Advisory Group meetings, Board-appointed committee meetings, and Board special workshops were noticed in accordance with the Brown Act, and opportunities for public comment were provided at all FCGMA Board meetings, Technical Advisory Group meetings, Board-appointed committee meetings, and workshops.

ES.2 SUMMARY OF BASIN SETTING AND CONDITIONS

Hydrogeologic Background

DWR defines three water-bearing formations in the LPVB: alluvium, the San Pedro Formation, and the Santa Barbara Formation. Geologic differences between the WLPMA and the ELPMA have resulted in different names being assigned to the hydrostratigraphic units associated with these three water-bearing formations in each management area. In the WLPMA, the alluvium is referred to as the shallow alluvial system to reflect the hydrologic connection between the WLPMA and the Upper Aquifer System of the Oxnard Subbasin to the west. Underlying the shallow alluvial system in the WLPMA, the San Pedro Formation has been divided into two hydrostratigraphic units: the upper San Pedro Formation and, underlying that, the Fox Canyon Aquifer. The Fox Canyon Aquifer is a principal aquifer in the WLPMA. The Grimes Canyon Aquifer in the upper Santa Barbara Formation, which underlies the Fox Canyon Aquifer, is the deepest aquifer in the WLPMA.

In the ELPMA, the alluvium is referred to as the Shallow Alluvial Aquifer, and is constrained to an area adjacent to Arroyo Simi–Las Posas. The San Pedro Formation is divided into three hydrostratigraphic units in the ELPMA: the Epworth Gravels Aquifer, the upper San Pedro Formation, and the Fox Canyon Aquifer. The extent of the Epworth Gravels Aquifer is approximately 1,600 acres (2.5 square miles) located 2 to 3 miles north-northwest of Moorpark in the ELPMA. Because the Epworth Gravels Aquifer is limited in extent and is hydrologically disconnected from the Fox Canyon Aquifer, the Epworth Gravels Aquifer has been designated as a separate management area in this GSP. The upper San Pedro Formation underlies the Shallow Alluvial Aquifer where it is present, and underlies the Epworth Gravels Aquifer, where it is present in the ELPMA. The upper San Pedro Formation is not a primary aquifer, but rather serves as a reservoir of stored water that through time

has been slowly leaking into the Fox Canyon Aquifer below. The Fox Canyon Aquifer is a primary aquifer in the ELPMA. Underlying the Fox Canyon Aquifer is the Grimes Canyon Aquifer in the upper Santa Barbara Formation, which is the deepest aquifer in the ELPMA.

Extensive geologic folding and faulting in the LPVB have resulted in large differences in the thickness, elevation, and exposure of the subsurface aquifers. In general, the Fox Canyon Aquifer is confined, except where it crops out on the northern and southern margins of the basin, and in the vicinity of Moorpark, where a subsurface fold has thinned and lifted the Fox Canyon Aquifer. This fold is known as the Moorpark anticline. In these areas, declining groundwater elevations would result in larger portions of the Fox Canyon Aquifer becoming unconfined.

Historical Groundwater Conditions

Groundwater elevations and flow directions have varied historically in the different management areas of the LPVB. In the WLPMA, groundwater elevations in wells adjacent to the Oxnard Subbasin are influenced by surface water diversions of the Santa Clara River, which are directed to spreading basins in the Forebay area of the Oxnard Subbasin by the United Water Conservation District (UWCD). When UWCD has been able to divert river water to its recharge basins, groundwater elevations have risen in wells in the western parts of the WLPMA. The influence of UWCD recharge operations is not clear in historical water level records from wells farther east in the WLPMA. In this area, chronic declines in groundwater levels caused by groundwater production have been observed historically. These chronic declines were offset by in-lieu surface water deliveries between 1995 and 2008.

In the Epworth Gravels Management Area, chronic groundwater level declines were observed between 1930 and 1990. Water level declines in this management area caused property owners to drill deeper wells, which penetrated the Fox Canyon Aquifer. As groundwater production shifted from the Epworth Gravels Aquifer to the Fox Canyon Aquifer in this area, groundwater elevations began to recover in the Epworth Gravels Aquifer. With the onset of the drought that began in 2011, groundwater elevations in the Epworth Gravels Aquifer began to decline again.

In the ELPMA chronic groundwater level declines were observed prior to 1970. In 1970, upstream wastewater treatment plant and shallow dewatering well discharges began reaching the ELPMA and converted Arroyo Simi–Las Posas from an ephemeral stream to a perennial stream. The perennial flow in the Arroyo provided recharge to the underlying groundwater aquifers. This recharge caused water levels to recover in areas of the ELPMA adjacent to Arroyo Simi–Las Posas, while groundwater levels have continuously declined throughout the northern ELPMA, which does not receive recharge from Arroyo Simi–Las Posas. The volume of perennial surface water flows that reach the ELPMA has declined over the past decade, and water levels adjacent to Arroyo Simi–Las Posas have stabilized or declined in recent years in response to the combined effects of the diminished recharge and the drought that began in 2011.

As the ELPMA began to receive additional recharge from perennial flows in Arroyo Simi–Las Posas, groundwater concentrations of total dissolved solids (TDS) began to increase. Increased concentrations of TDS have been observed in both the Shallow Alluvial Aquifer and the Fox Canyon Aquifer.

Increased surface water flow and infiltration along Arroyo Simi–Las Posas also resulted in the establishment of riparian vegetation, along the banks of the arroyo. This riparian vegetation, which is dominated by non-native Arundo (*Arundo donax*), has been identified as a potential groundwater-dependent ecosystem. Within the boundaries of the ELPMA, water from Arroyo Simi–Las Posas percolates into the underlying sediments to recharge the groundwater. This indicates that the riparian habitat along Arroyo Simi–Las Posas may rely on soil moisture from percolating surface water, rather than groundwater. As surface flows and recharge decrease in Arroyo Simi–Las Posas, groundwater elevations and soil moisture content in the vicinity of the potential groundwater-dependent ecosystem are anticipated to decline. These declines may impact the health of the riparian vegetation.

Water Budget

The water budget for the management areas of the LPVB provides an accounting and assessment of the annual volume of groundwater and surface water entering (i.e., inflow) and leaving (i.e., outflow) each management area. This enables an accounting of the cumulative change in groundwater in storage over time. Two numerical groundwater models were developed to calculate the water budget for the different management areas in the LPVB. Calleguas Municipal Water District (CMWD) developed the "Groundwater Flow Model of the East and South Las Posas Sub-Basins," a MODFLOW numerical groundwater flow model, for the ELPMA and the Epworth Gravels Management Area. UWCD developed the "Ventura Regional Groundwater Flow Model," a MODFLOW numerical groundwater flow model, for the WLPMA, the Oxnard Subbasin, the Mound Basin, and the Pleasant Valley Basin, which are in hydraulic communication with each other. A peer review study of each groundwater model was conducted for this GSP.

The historical groundwater budget for the WLPMA is based on the UWCD model, which had a historical base period from 1985 through 2015. During average conditions, which are defined as water years in which the precipitation was between 75% and 150% of the average annual precipitation, the net change in groundwater storage for the Shallow Aquifer System was an increase of 292 AFY. In the upper San Pedro Formation, Fox Canyon Aquifer, and Grimes Canyon Aquifer, the net change in groundwater storage was a decrease of approximately 263 AFY. Groundwater pumping during these years averaged 1,346 AFY in the Shallow Aquifer System, and 13,274 AFY in the upper San Pedro Formation, Fox Canyon Aquifer, and Grimes Canyon Aquifer, combined. Between 1995 and 2007, CMWD delivered in-lieu water to the WLPMA, which has kept groundwater levels and storage from declining further. As of 2015, CMWD had stored 25,192 AF of water in the WLPMA through in-lieu deliveries. Groundwater levels and storage would be lower if CMWD cumulative storage had not occurred.

During average conditions, the net change in groundwater storage for the Epworth Gravels Aquifer was an increase of 184 AFY. Groundwater pumping during these years averaged 1,203 AFY. The increase in storage during average years reflects the rising water levels in the aquifer that occurred after property owners drilled wells into the Fox Canyon Aquifer, and reduced production from the Epworth Gravels Aquifer.

During average conditions, the net change in groundwater storage for the ELPMA was an increase of 4,638 AFY. Groundwater pumping averaged 17,283 AFY during average conditions. The increase in storage primarily reflects the rising water levels in the management area that occurred since 1970, as perennial flow in Arroyo Simi–Las Posas began to recharge the management area. It also reflects CMWD in-lieu water deliveries, and Aquifer Storage and Recovery Project injections, which have kept groundwater levels and storage from declining. As of 2015, CMWD had stored 11,398 AF of water in the ELPMA through in-lieu deliveries and Aquifer Storage and Recovery Project injections. Groundwater levels and storage would be lower if CMWD cumulative storage had not occurred.

Projected Water Budget and Sustainable Yield

Several numerical groundwater model scenarios were developed for this GSP to assess the future sustainable yield of the management areas of the LPVB. Each future scenario covered a 50-year timeframe, from 2020 to 2069. The UWCD model was used to assess the future sustainable yield of the WLPMA, and the CMWD model was used to assess the future sustainable yield of the ELPMA and the Epworth Gravels Management Area.

Two scenarios in the WLPMA continued the 2015–2017 average groundwater extraction rate throughout the 50-year model period. The results of each of these scenarios indicated that continuing the 2015–2017 extraction rate would contribute to net seawater intrusion in the Oxnard Subbasin, which is hydrologically connected to the WLPMA. In three additional scenarios, the groundwater production rate was decreased gradually over the first 20 years in the WLPMA, Oxnard Subbasin, and Pleasant Valley Basin. These model scenarios indicated that reduced groundwater production can eliminate net seawater intrusion in the Oxnard Subbasin over periods of drought and recovery and may result in higher groundwater elevations in the WLPMA. Increasing groundwater elevations across the management area in the three scenarios indicate that the modeled groundwater production rates in the WLPMA during these scenarios were likely lower than the sustainable groundwater production rate. Based on the suite of model scenarios, the sustainable yield of the WLPMA was calculated to be approximately 12,500 AFY, with an uncertainty of ±1,200 AFY.

In two numerical groundwater model scenarios for the ELPMA and the Epworth Gravels Management Area, the 2015–2017 average groundwater extraction rate was continued throughout the 50-year model period. The results of each of these scenarios indicated that there would be chronic declines in groundwater levels and associated loss of storage in the Epworth Gravels Management Area at the 2015–2017 average groundwater production rate. In the ELPMA, chronic declines in groundwater level and loss of storage were also predicted at the 2015–2017 average production rate. However, a smaller loss of storage was predicted for the scenario in which surface water flow was maintained in Arroyo Simi–Las Posas than for the scenario in which surface water flow was decreased.

Three additional scenarios were developed for the ELPMA and the Epworth Gravels Management Area. In one scenario, groundwater production was reduced and flow in Arroyo Simi–Las Posas was maintained. In the other two scenarios, groundwater production was reduced and flow in Arroyo Simi–Las Posas was also reduced. Based on the suite of model scenarios, the sustainable yield of the ELPMA was estimated to be 17,800 AFY ± 2,300 AFY. In the Epworth Gravels Management Area, the sustainable yield is estimated to be approximately 1,300 AFY.

It is anticipated that the analysis for the 5-year update to the GSP will focus on developing new water supply projects, as well as examining the potential impacts of differential extractions on the water levels in the management areas of the LPVB. In the WLPMA, additional groundwater modeling will be needed to better constrain the sustainable yield over the next 5 years. In the ELPMA, additional modeling is recommended to understand how changes in pumping patterns and the addition of new water supply projects may influence the area of Fox Canyon Aquifer that would convert from confined to unconfined conditions and increase the overall sustainable yield of the management area. As this understanding improves, targeted projects and management actions can be developed to support increases in the overall sustainable yield in each management area.

ES.3 OVERVIEW OF SUSTAINABILITY CRITERIA

The primary sustainability goal in the LPVB is to maintain a sufficient volume of groundwater in storage in each management area so that there is no significant and unreasonable decline in groundwater elevation or storage over wet and dry climatic cycles. Further, groundwater levels in the WLPMA should be maintained at elevations that are high enough to not inhibit the ability of the Oxnard Subbasin to prevent net landward migration of the saline water impact front after 2040.[3]

[3] Sources of water high in chloride in the Oxnard Subbasin include modern seawater as well as non-marine brines and connate water in fine-grained sediments. Therefore, the area of the Subbasin impacted by concentrations of chloride greater than 500 milligrams per liter is referred to as the "saline water impact area," rather than the "seawater intrusion impact area," to reflect all the potential sources of chloride to the aquifers in this area.

Under SGMA, undesirable results occur when the effects caused by groundwater conditions occurring throughout the management area cause significant and unreasonable impacts to any of the six sustainability indicators:

- Chronic lowering of groundwater levels
- Reduction of groundwater storage
- Seawater intrusion
- Degraded water quality
- Land subsidence
- Depletions of interconnected surface water

Of the six sustainability indicators, chronic lowering of groundwater levels, reduction of groundwater storage, degraded water quality, and land subsidence are applicable to the LPVB when groundwater production exceeds the sustainable yield. The LPVB does not experience direct seawater intrusion, although groundwater elevations in the WLPMA can influence the ability of the Oxnard Subbasin to prevent seawater intrusion. Depletion of interconnected surface water is not occurring within the LPVB. Minimum thresholds and measurable objectives, which are quantitative metrics of groundwater conditions in the LPVB, were established for the sustainability indicators determined to be a current and/or potential future undesirable result. Separate minimum thresholds and measurable objectives were developed for each management area in the LPVB. Groundwater elevations were used as a proxy for other sustainability indicators in establishing the minimum thresholds and measurable objectives.

West Las Posas Management Area

The measurable objective groundwater levels for the WLPMA differ geographically, based on the extent of influence of surface water spreading on observed groundwater levels in the management area. In the western part of the WLPMA, where UWCD surface water spreading influences groundwater elevations, the measurable objective water level is the groundwater level to which the Fox Canyon Aquifer has recovered historically. In the eastern WLPMA, the measurable objective groundwater elevation is the elevation that represents half of the total recovery in the historical record. The measurable objective groundwater levels in the WLPMA are at least 20 feet higher than the minimum threshold groundwater levels, thereby allowing for operational flexibility in the management area. To allow for operational flexibility during drought periods, groundwater levels in the WLPMA are allowed to fall below the measurable objective as long as the periods during which groundwater elevations are below the measurable objective are offset by periods when the groundwater elevations are higher than the measurable objective.

The minimum threshold groundwater levels for the WLPMA also differ geographically, based on proximity to the Oxnard Subbasin. In the western part of the WLPMA, the minimum threshold is based on the lowest simulated groundwater elevation after 2040 for the model scenario in which the 2015–2017 average production rate was continued throughout the 50-year model simulation, and projects were implemented. For the eastern part of the WLPMA, the minimum threshold is based on the average low historical groundwater elevations in the early 1990s, before in-lieu surface water deliveries to the WLPMA began. These elevations were selected because the groundwater levels in the eastern part of the WLPMA recovered, with the aid of in-lieu surface water deliveries, from the historical low levels in the early 1990s. These minimum thresholds are anticipated to maintain or improve the beneficial uses of the WLPMA by preventing chronic lowering of groundwater levels. This allows for long-term use of groundwater supplies in the WLPMA without ongoing loss of storage.

Although exceedance of a minimum threshold at any given well in the WLPMA may indicate an undesirable result is occurring, a single exceedance is not necessarily sufficient to indicate management-area-wide conditions are causing undesirable results. To define the conditions under which undesirable results will occur in the WLPMA, two criteria were developed. The WLPMA would be determined to be experiencing an undesirable result if:

- In any single monitoring event, groundwater levels in three of five identified representative monitoring wells, referred to as *key wells*, are below their respective minimum thresholds.
- The groundwater level in any individual key well is below the minimum threshold for either three consecutive monitoring events or three of five consecutive monitoring events, which occur in the spring and fall of each year.

East Las Posas Management Area

In the ELPMA, the measurable objective groundwater elevations were selected based on the historical groundwater level record and the groundwater model simulations that result in stable groundwater elevations after 2040. The measurable objective is the groundwater level at which observed declines in groundwater elevation would cease if gradual reductions in groundwater production are implemented between 2020 and 2040. The measurable objective groundwater elevation is lower than the 2015 groundwater elevation in each of the representative monitoring wells (key wells), in the ELPMA. These measurable objectives reflect the anticipated future declines in groundwater elevation that will result from a gradual reduction in groundwater production to the sustainable groundwater production rate over the next 20 years and the potential for further reductions in recharge to the ELPMA from Arroyo Simi–Las Posas.

The minimum threshold groundwater levels in the ELPMA, which vary geographically, are based on a review of the historical groundwater elevation data, incorporation of potential projects, and

an analysis of the projected future declines in groundwater elevation and storage under multiple future groundwater production scenarios. For wells that are adjacent to Arroyo Simi–Las Posas and are, generally, south and west of the Moorpark Anticline, the minimum thresholds are based on the historical low groundwater elevation. For the remaining wells, the minimum threshold is based on the groundwater level that limits reduction in storage to less than 20% relative to the estimated 2015 groundwater storage volume in areas of the ELPMA where the Fox Canyon Aquifer may convert from being confined to unconfined. Conversion of the Fox Canyon Aquifer from confined to unconfined conditions is most likely to occur on the flanks of the Moorpark and Long Canyon anticlines, and on the northern and southern margins of the ELPMA where the Fox Canyon Aquifer crops out. Continued production at the 2015–2017 rates has the potential to cause these areas of the ELPMA to lose more than 30% of the available groundwater storage. Limiting the long-term loss of storage to no more than 20% in these areas of the ELPMA was determined to be a reasonable approach by the FCGMA Board to avoid significant and unreasonable loss of supply. The selected minimum thresholds are anticipated to maintain the future beneficial uses of the ELPMA by preventing chronic lowering of groundwater levels, ongoing loss of storage, and increased areas of unconfined conditions in the Fox Canyon Aquifer after 2040.

Although exceedance of a minimum threshold at any given well in the ELPMA may indicate an undesirable result is occurring, a single exceedance is not necessarily sufficient to indicate management-area-wide conditions are causing undesirable results. To define the conditions under which undesirable results will occur in the ELPMA, two criteria were developed. The ELPMA would be determined to be experiencing an undesirable result if:

- In any single monitoring event, groundwater levels in 5 of 15 identified key wells are below their respective minimum thresholds.
- The groundwater level in any individual key well is below the minimum threshold for either three consecutive monitoring events or three of five consecutive monitoring events, which occur in the spring and fall of each year.

Epworth Gravels Management Area

In the Epworth Gravels Management Area, the measurable objective groundwater elevation was selected based on the historical groundwater level record and the groundwater model simulations that result in stable groundwater elevations after 2040. Groundwater elevations have been below the measurable objective groundwater elevation historically, but have been above the measurable objective since 2005.

The minimum threshold groundwater level in the Epworth Gravels Management Area was selected as the groundwater level that limits reduction in storage to less than 20% relative to the estimated 2015 groundwater storage volume. Limiting the long-term loss of storage to no more than 20% in

in this management area was determined to be a reasonable approach by the FCGMA Board to avoid significant and unreasonable loss of supply. The selected minimum threshold is anticipated to maintain the future beneficial uses of the Epworth Gravels Management Area by preventing chronic lowering of groundwater levels and ongoing loss of storage after 2040.

One well was selected as a key well in the Epworth Gravels Management Area. The definition of undesirable results for the Epworth Gravels Management Area is based on the time over which this well may exceed the minimum threshold. Under this definition, the Epworth Gravels Management Area would be determined to be experiencing an undesirable result if the groundwater level in the key well were below the minimum threshold for either three consecutive monitoring events or in three of five consecutive monitoring events. Monitoring events are scheduled to occur in the spring and fall of each year.

ES.4 OVERVIEW OF THE BASIN MONITORING NETWORK

The overall objective of the monitoring network in the LPVB is to track and monitor parameters that demonstrate progress toward meeting the sustainability goals. In order to accomplish this objective, the monitoring network in the LPVB must be capable of the following:

- Monitoring changes in groundwater conditions (in six sustainability indicator categories)
- Monitoring progress toward minimum thresholds and measurable objectives
- Quantifying annual changes in groundwater budget components

The existing network of groundwater wells includes both monitoring wells and production wells. This network is capable of delineating the groundwater conditions in the different management areas of the LPVB and has been used for this purpose in the past. The current groundwater well network will be used to monitor groundwater conditions moving forward, in order to continue to assess long term trends in groundwater elevation and groundwater quality in the LPVB.

In both the WLPMA and the ELPMA, monitoring can be improved in the future by coordination of monitoring schedules to ensure that groundwater monitoring activities occur over a 2-week window during the key reporting periods and mid-March and mid-October. Additionally, as funding becomes available, pressure transducers should be added to wells in the groundwater monitoring network. Pressure transducer records provide the high-temporal-resolution data that allows for a better understanding of water level dynamics in the wells related to groundwater production, groundwater management activities, and climatic influence.

In the ELPMA, the monitoring network can also be improved by adding a monitoring well screened in the Grimes Canyon Aquifer, and a well screened in the Shallow Alluvial Aquifer. The monitoring well screened in the Shallow Alluvial Aquifer should be placed within the boundaries

of the potential groundwater-dependent ecosystem to assist with understanding the potential connectivity between groundwater and the potential groundwater-dependent ecosystem.

In the future, to the extent possible, additional dedicated monitoring wells will be incorporated into the existing monitoring network. These wells will provide information on groundwater conditions in geographic locations where data gaps have been identified, or where a dedicated monitoring well would better represent conditions in the aquifers than a production well currently used for monitoring.

ES.5 PROJECTS AND MANAGEMENT ACTIONS

Future projects and management actions have been identified to address potential impacts to beneficial uses and users of groundwater in the management areas of the LPVB resulting from groundwater production in excess of the current sustainable yield. Three projects were included in this GSP. One project applies to the WLPMA and two projects apply to the ELPMA. No projects were proposed for the Epworth Gravels Management Area. The projects that are included in this GSP were suggested by stakeholders and reviewed by the FCGMA Board. The inclusion of these projects does not constitute a commitment by the FCGMA Board to construct or fund them, but rather signals that the projects were sufficiently detailed to be included in groundwater modeling efforts that examined the quantitative impacts of the projects on groundwater elevations and the sustainable yield of the LPVB. Projects included in the GSP or any amendment thereof that increase the available supply of groundwater are necessary to meet the sustainability goal for the basin in a manner that avoids adverse impacts to beneficial uses and users of groundwater within the basin.

Project No. 1 – Purchase of Imported Water from CMWD

The Purchase of Imported Water from CMWD for Basin Replenishment Project would supply imported water to the eastern part of the WLPMA in lieu of groundwater production. This project would reduce production from discrete wells in the WLPMA by 1,762 AFY. Numerical groundwater model scenarios suggest that this project will assist with water level recovery in the WLPMA. Furthermore, historical deliveries of imported water in lieu of groundwater production have resulted in groundwater elevation recoveries in the eastern WLPMA. Therefore, this project is anticipated to have a direct impact on groundwater elevations and could be used to help maintain elevations above the minimum thresholds.

Project No. 2 – Arroyo Simi–Las Posas Arundo Removal

The Arroyo Simi–Las Posas Arundo Removal Project consists of removing the invasive plant species Arundo from approximately 324 acres of land along the Arroyo Simi–Las Posas corridor. Arundo would be replaced with native riparian plant species, which are estimated to consume

approximately 6 to 25 AFY per acre less water than Arundo. If all of the Arundo is removed, this project could result in up to an additional 2,680 AFY of recharge to the ELPMA. This project is anticipated to have a positive impact on groundwater recharge, as well as a positive impact on the health of riparian habitat along Arroyo Simi–Las Posas.

By increasing surface water flow in Arroyo Simi–Las Posas and decreasing evapotranspiration losses from invasive species that currently line the Arroyo Simi–Las Posas, the ELPMA is anticipated to receive more recharge along Arroyo Simi–Las Posas. Although this recharge alone is insufficient to maintain groundwater elevations at or above the measurable objectives throughout the ELPMA at the 2015–2017 average groundwater production rate, it will lessen groundwater pumping reductions necessary to maintain groundwater elevations close to the measurable objectives groundwater levels. This project is anticipated to have a positive impact on groundwater recharge, as well as a positive impact on the health of riparian habitat along Arroyo Simi–Las Posas.

Project No. 3 – Arroyo Simi–Las Posas Water Acquisition

The Arroyo Simi–Las Posas Water Acquisition Project would involve the purchase of recycled water and discharged groundwater from the City of Simi Valley. In return, Simi Valley would commit to continuing to discharge the purchased water from its shallow dewatering wells or the Simi Valley Water Quality Control Plant to Arroyo Simi–Las Posas for downstream recharge to the LPVB. Simi Valley has indicated that 3,000 AFY of recycled water would be available from the Simi Valley Water Quality Control Plant and 1,700 AFY would be available from the dewatering wells. However, due to the riparian use of the water along the Arroyo Simi–Las Posas, an estimated 1,000 to 2,500 AFY of the water may be lost due to plant uptake and evaporation, leaving 2,200 to 3,700 AFY available as surface flow and recharge to the ELPMA.

This project is anticipated to have a direct impact on groundwater elevations and could be used to help maintain elevations above the minimum thresholds throughout much, but not all, of the ELPMA. Although perennial surface water flow has provided recharge to the ELPMA, this flow is also thought to be the primary source of rising TDS concentrations observed in the groundwater adjacent to Arroyo Simi–Las Posas since the 1990s. Consequently, if this project is pursued further, the water quality of the surface water flows will have to be investigated further and addressed in the feasibility study.

Management Action No. 1 – Reduction in Groundwater Production

The primary management action proposed under this GSP is Reduction in Groundwater Production from the LPVB. FCGMA has had the authority to monitor and regulate groundwater production in the LPVB since 1983. The FCGMA Board has established extraction allocations for each extraction facility and has used its authority to reduce groundwater production from the LPVB in the past, and will continue to control groundwater production as a GSA for the LPVB.

In the WLPMA, the estimated long-term rate of groundwater production that will prevent chronic declines in groundwater levels, loss of storage, and subsidence due to groundwater withdrawal and will also allow the prevention of seawater intrusion in the Oxnard Subbasin is approximately 12,500 AFY, with an estimated uncertainty of approximately ±1,200 AFY. The difference between the estimated sustainable yield and the average 2015–2017 production rate is 1,500 AFY. In the ELPMA, the sustainable yield is estimated to be 17,800 AFY ± 2,300 AFY. The average 2015–2017 groundwater production rate was approximately 20,500 AFY. In the Epworth Gravels Management Area, the sustainable yield is estimated to be approximately 1,300 AFY. The average 2015–2017 groundwater production rate was approximately 1,500 AFY.

Appendix C

District's 2018 Annual Water Quality Report

Annual

WATER QUALITY Report

Reporting Year 2018



Presented by:

Ventura County Waterworks District No. 1

General Information About Water Sources

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

What Makes Water Hard?

If substantial amounts of either calcium or magnesium, both nontoxic minerals, are present in drinking water, the water is said to be hard. “Hard” water does not dissolve soap readily, so making lather for washing and cleaning is difficult. Conversely, water containing little calcium or magnesium is called “soft” water.

Maintaining High Standards

Once again we are proud to present our annual water quality report. This report covers the testing performed between January 1 and December 31, 2018. We continue to maintain high standards in an effort to deliver a reliable water supply that meets Title 22 requirements. Please know that we will always work diligently to provide you with quality water at a reasonable cost. We will also remain vigilant in meeting the challenges of new regulations, new local source water production, water conservation, community outreach and education while continuing to serve all your water needs.

We take our responsibility seriously for providing you and your family with quality drinking water. We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions or concerns, we are always available to assist you.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Community Participation

You are invited to attend our public meeting to voice concerns about your drinking water. The Citizens' Advisory Committee meets monthly at the District office located at 6767 Spring Road in Moorpark. If you wish to attend, please call (805) 378-3000 for the specific date and time.

For more information about this report, or for any other questions relating to the quality of your drinking water, please contact Shane Dass, Water and Wastewater Laboratory Manager, at (805) 378-3089.

Information for Customers with Special Water Needs

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Where Does the District's Water Come From?

The District's water supply comes from both imported and local sources. In 2018, 81% of our total water supply came from the State Water Project. The State water originates in Northern California where it is captured in reservoirs north of Sacramento and released into the Delta of the Sacramento and San Joaquin rivers. It is transported via the 444-mile California Aqueduct to State Water Project contractors such as the Metropolitan Water District of Southern California (MWD). The District water is filtered and disinfected by MWD at its Jensen Filtration Facility in Granada Hills. MWD then delivers the water to its 26-member public agencies, including Calleguas Municipal Water District (CMWD), Ventura County's regional wholesale purveyor and the District's direct supplier.

Local water is pumped from the Las Posas Basin by five (5) groundwater wells owned and operated by the District. The wells produced approximately 19% of our total supply in 2018. The District treats the water that is pumped from these wells, and then delivers it to our customers. Local and imported water is delivered to our customers through our distribution system, which consists of 19 reservoirs, 11 booster pump stations, and approximately 177 miles of water lines. Water service is provided through approximately 10,941 service connections.

In 2018, the District supplied approximately 9,263 acre-feet of water to over 38,700 people in the city of Moorpark and the contiguous unincorporated areas to the north and west. The water supplied by the District was used for residential, industrial, commercial, agricultural, institutional and fire protection purposes.

Lead in Household Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

Information on Radon

Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. You should pursue radon removal for your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that are not too costly. For additional information, call your State radon program (1-800-745-7236), the USEPA Safe Drinking Water Act Hotline (1-800-426-4791), or the National Safety Council Radon Hotline (1-800-767-7236).

Summary of Water Quality Results For 2018

During the past year, we have taken hundreds of drinking water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below list all the drinking water contaminants that were detected in 2018. The State requires that we monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year. Some of this data, though representative of water quality, are more than one year old.

			Local Water Supplied by: Waterworks District No. 1		Imported Water Supplied by: Calleguas Municipal Water District			
			Percent of Supply		*81%*			
Parameter (Unit of Measure)	**MCL [MRDL]**	**PHG (MCLG) [MRDLG]**	Average	Range	Average	Range	Violation	**Major Sources in Drinking Water**
PRIMARY DRINKING WATER STANDARDS--Mandatory Health-Related Standards								
CLARITY (a)								
Turbidity (NTU) (TT)	Highest Single Value		n/a		0.06		No	Soil runoff
	% of samples <0.3		n/a		100%		No	
DISINFECTION BY-PRODUCTS AND DISINFECTANT RESIDUALS								
Bromate (ppb) (b)	10	0.1	n/a	n/a	5.0	ND - 6.4	No	By-product of drinking water disinfection
Haloacetic Acids (ppb) (c)	60	n/a	7.5	0 - 9	11.3	5 - 22	No	By-product of drinking water disinfection
Total Chlorine Residual (ppm)	[4]	[4]	1.57	1.06 - 1.86	2.3	1.5 - 2.5	No	Drinking water disinfectant added for treatment
Total Trihalomethanes (ppb) (c)	80	n/a	20.8	6 - 30	27.3	10 - 57	No	By-product of drinking water disinfection
INORGANIC CHEMICALS								
Aluminum (ppb)	1,000	600	ND	n/a	ND	ND - 75	No	Erosion of natural deposits, residual from water treatment process
Arsenic (ppb)	10	0.004	ND	n/a	0.1	ND - 4	No	Erosion of natural deposits, runoff from orchards
Barium (ppm)	1	2	ND	n/a	ND	n/a	No	Erosion of natural deposits, discharge from oil & metal refineries
Fluoride - Distribution System (ppm) (d)	2.0	1	0.2	0.2 - 0.2	0.7	0.6 - 1.0	No	Errosion of natural deposits, water additive that promotes strong teeth
Nitrate (as N) (ppm)	10	10	ND	n/a	0.5	ND - 0.5	No	Runoff and leaching from fertilizer use, erosion of natural deposits
Selenium (ppb)	50	30	ND	n/a	0.34	ND - 15	No	Runoff and leaching from fertilizer use, erosion of natural deposits
RADIOLOGICALS								
Gross Alpha Particle Activity (pCi/L)	15	(0)	4.58	0.83-8.94	ND	ND - 3	No	Erosion of natural deposits
Gross Beta Particle Activity (pCi/L)	50	(0)	n/a	n/a	ND	n/a	No	Decay of natural and man-made deposits
Uranium (pCi/L)	20	0.43	1.2	0 - 3	ND	ND - 1.4	No	Erosion of natural deposits

Home Tap Water Samples Collected for Lead and Copper Analyses

Parameter (Unit of Measure)	Year Sampled	RAL	PHG (MCLG)	Amount Detected (90th %)	# Sites Above AL / Total Sites	Violation	**Major Sources in Drinking Water**
Lead (ppb)	2018	15	0.2	ND	0 / 33	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	2018	1.3	0.3	0.24	0 / 33	No	Corrosion of household plumbing systems; erosion of natural deposits

SECONDARY DRINKING WATER STANDARDS--Aesthetic Standards

Parameter	**Secondary Notificatio MCL**	**Level**	Average	Range	Average	Range	Violation	**Major Sources in Drinking Water**
Aluminum (ppb) (e)	200		ND	n/a	ND	ND - 75	No	Erosion of natural deposits, residual from water treatment process
Chloride (ppm)	500		22	13 - 31	58	54 - 109	No	Runoff and leaching from natural deposits, seawater influence
Color (Units)	15		ND	n/a	ND	n/a	No	Naturally-occurring organic materials
Odor Threshold (Units)	3		3	0 - 12	ND	n/a	No	Naturally-occurring organic materials
Iron (ppb)	300		37	0 - 235	ND	n/a	No	Leaching from natural deposits
Manganese (ppb)	50		20	0 - 64	ND	n/a	No	Leaching from natural deposits
Specific Conductance (µS/cm)	1,600		721	477 - 1040	446	428 - 792	No	Substances that form ions when in water, seawater influence
Sulfate (ppm)	500		183	80 - 314	46	43 - 100	No	Runoff and leaching from natural deposits
Total Dissolved Solids (ppm)	1,000		496	320 - 780	249	236 - 440	No	Runoff and leaching from natural deposits
Turbidity (NTU) (f)	5		1.3	0.6 - 2.6	0.32	0.06 - 0.52	No	Soil runoff

ADDITIONAL PARAMETERS (Unregulated)

Alkalinity (ppm)	NS	NS	159	130 - 200	73	68 - 110
Boron (ppb)	NS	1,000	146	0 - 300	106	100 - 300
Calcium (ppm)	NS	NS	77	55 - 107	20	19 - 38
Chlorate (ppb)	NS	800	n/a	n/a	28	0 - 29
Hardness (Total Hardness) (gpg)	NS	NS	15.4	10 - 23	5.3	4.9 - 9.6
Magnesium (ppm)	NS	NS	17	10 - 32	9.9	9.5 - 17
N-Nitrosodimethylamine (ppt)	NS	10	n/a	n/a	ND	n/a
pH (pH Units)	NS	NS	7.3	6.5 - 7.4	8.5	8.3 - 8.5
Potassium (ppm)	NS	NS	4	2 - 6	2.4	2.4 - 4.0
Sodium (ppm)	NS	NS	44	30 - 78	47	45 - 101
Total Organic Carbon (ppm)	NS	NS	n/a	n/a	2.6	1.6 - 2.6
Vanadium (ppb)	NS	50	ND	n/a	ND	n/a

Lead Sampling in Schools

Signing of Assembly Bill (AB 746) requires community water systems to test all public school sites constructed before January 1, 2010 for lead. The District is pleased to inform you that all K-12 public schools have been tested for lead and no schools were above the regulatory level of 15ppb.

PPCPs and How to Dispose of Them

When cleaning out your medicine cabinet, what do you do with your expired pills? Many people flush them down the toilet or toss them into the trash. Although this seems convenient, these actions could threaten our water supply.

Recent studies are generating a growing concern over pharmaceuticals and personal care products (PPCPs) entering water supplies. PPCPs include human and veterinary drugs (prescription or over-the-counter) and consumer products, such as cosmetics, fragrances, lotions, sunscreens, and house cleaning products. Many of these drugs and personal care products do not biodegrade and may persist in the environment for years.

The best and most cost-effective way to ensure safe water at the tap is to keep our source waters clean. Never flush unused medications down the toilet or sink. Instead, check to see if the pharmacy where you made your purchase accepts medications for disposal, or contact your local health department for information on proper disposal methods and drop-off locations. You can also go to www.Earth911.com to find more information about disposal locations in your area.

ABBREVIATIONS, DEFINITIONS, and NOTES

n/a = not applicable
ND = None Detected
gpg = Grains per Gallon
NTU = Nephelometric Turbidity Units
ppm = parts per million, or milligrams per liter (mg/L)
µS/cm = microSiemen per centimeter
ppb = parts per billion, or micrograms per liter (µg/L) ppt = parts per trillion, or nanograms per liter (ng/L)
pCi/L = PicoCuries per Liter NS = No Standard
ppt = parts per trillion, or nanograms per liter (ng/L)
RAL = Federal Regulatory Action Level
NS = No Standard

Maximum Contaminant Level (MCL) = The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible.
Maximum Contaminant Level Goal (MCLG) = The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.
Maximum Residual Disinfectant Level (MRDL) = The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial pathogens.
Maximum Residual Disinfectant Level Goal (MRDLG) = The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminant
Public Health Goal (PHG) = The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.
Primary Drinking Water Standard = MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.
Regulatory Action Level (RAL) = The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
Treatment Technique (TT) = A required process intended to reduce the level of a contaminant in drinking water.
Notification Level = The level at which notification of the public water system s governing body is required.

(a) The turbidity level of filtered water shall be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1.0 NTU at any time
(b) Compliance for treatment plants that use ozone is based on a running annual average of monthly samples.
(c) Compliance is based on a running annual average of quarterly distribution system samples. Values reported reflect the highest and lowest single value in the distribution system (range) and the highest running annual average
(d) MWD treats their water by adding fluoride to the naturally occurring level in order to help prevent dental caries in consumers. The fluoride levels in the treated water are maintained within a range of 0.7 - 1.3 ppm, as required by State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW). Formally known as the Department of Public Health, the DDW was created in 2014 when the drinking water program moved under the SWRCB.
(e) Aluminum has both Primary and Secondary standards.
(f) The monthly averages and ranges of turbidity shown in the Secondary Standards section are based on source effluents

Appendix D

Ventura County Waterworks District Nos. 1, 16, 17, and 19
Rules and Regulations (Part 1 only)

VENTURA COUNTY WATERWORKS DISTRICTS

RULES AND REGULATIONS
DISTRICTS NOS. 1,16,17,19 & 38

RULES AND REGULATIONS
VENTURA COUNTY WATERWORKS DISTRICT NOS. 1, 16, 17, 19 AND 38
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PART 1 - GENERAL CONDITIONS AND RULES

PART 1 - SECTION A - DEFINITION OF TERMS

The following terms shall have meanings as herein defined whenever references are made thereto.

RULE

1-A-1 **DISTRICT**: Any one of Ventura County Waterworks Districts Nos. 1, 16, 17, 19 and 38.

1-A-2 **BOARD**: The Board of Directors of the District, the members of which are the members of the Board of Supervisors of the County of Ventura.

1-A-3 **APPLICANT**: The person applying for water service.

1-A-4 **CUSTOMER**: The person of record receiving water service from the District.

1-A-5 **BILLING DATE:** The date upon which charges for services rendered by the District become effective and upon which a bill is generated.

1-A-5a **MAILING DATE**: The date upon which a water bill or notice is mailed to the customer, not to exceed three business days following the billing date.

1-A-6 **WATER SERVICES**: The services performed by the District including the following:

1-A-6a **DOMESTIC WATER SERVICE**: The service performed by the District in supplying water for domestic use, including use of water for household residential purposes, sprinkling lawns, irrigating small gardens and shrubbery, watering livestock, washing vehicles, and the ordinary use of water at residences and business or commercial establishments.

1-A-6b **AGRICULTURAL WATER SERVICE**: The water service provided for agricultural purposes only.

1-A-6c **PUBLIC WATER SERVICE**: The class of domestic service supplying water to any tax-exempt property.

1-A-6d **CONSTRUCTION WATER SERVICE**: The service supplying water for backfilling trenches, compaction, and other construction services.

1-A-6e **FIRE PROTECTION SERVICE**: The service performed by the District in supplying water for automatic fire sprinkling systems and maintaining water service at fire hydrant locations.

1-A-6f **METERED WATER SERVICE**: The service of supplying water through a meter which measures the quantity of water used.

1-A-6g **FLAT RATE WATER SERVICE**: The service of supplying unmetered water.

1-A-6h **ENGINEERING AND CONSTRUCTION SERVICES**: Those services performed by employees of the District or the County of Ventura in preparation of plans and specifications, checking the plans submitted by privately employed engineers for water systems proposed to be installed within the

District, inspecting the construction of water systems installed by private contractors, and installing water systems in the District paid for from fees or deposits paid for such purposes by private contractors, developers, customers or any other person.

1-A-7 **SCHEDULE OF RATES**: The schedule of rates, charges, and fees established and authorized by the Board of the District for the various types of services performed by the District. The Schedule of Rates shall be publicly posted and available by, at a minimum, posting on the website of the Water and Sanitation Department.

1-A-8 **PREMISES**: Property occupied or used by a customer to which water is being supplied by the District or for which water service has been requested.

1-A-9 **SERVICE CONNECTION or SERVICE LATERAL**: The pipe, valves, and other equipment installed in place, necessary for conducting water from the District's distribution mains to the meter or meter location, but does not include the meter or meter box.

1-A-10 **METERED SERVICE CONNECTION**: The service connection or service lateral including meter and meter box.

1-A-11 **WATER AND SANITATION DEPARTMENT**: The department of the Public Works Agency of the County of Ventura responsible for the operations, construction, repair, maintenance, budgets, and business of the District, under the direction of the following employees:

1-A-11a **MANAGER**: The employee of the Public Works Agency assigned to the Water and Sanitation Department to be in charge of the operations, repair, and maintenance of the District's facilities, or billing and administration, under the direction of the Director.

1-A-11b **DIRECTOR**: The employee of the Public Works Agency assigned to the Water and Sanitation Department to be in charge of the operations, budgets, construction, repair, maintenance, and business of the District.

1-A-12 **ENGINEER**: The Director of the Public Works Agency or his or her authorized representative.

1-A-13 **PUBLIC WAY**: Any street, alley, highway, or walk dedicated to public use.

1-A-14 **EASEMENT**: Public way or right-of-way which the District is authorized to use for pipeline or other purposes.

1-A-15 **PRIVATE EASEMENT**: An easement in which a customer or other person may have installed a water main for transportation of water furnished by the District, in which easement or pipeline the District has no interest or responsibility, or an easement in which the District may have installed a water line or distribution main, for the transportation or distribution of water to the public by the District, within which easement, the District is to have access at all time for reasons of repairs or maintenance.

1-A-16 **MAIN EXTENSIONS**: The extension of distribution pipelines beyond existing facilities, exclusive of service connections.

1-A-17 **INTERCONNECTION**: An authorized connection of the distribution system to the distribution system of another water service agency or water system.

1-A-18 **CROSS-CONNECTION**: An illegal piping connection or any connection which may cause contamination or backflow or back-siphonage.

1-A-19 **PERMANENT SERVICE CONNECTION**: A service connection intended to remain in use two years or more.

1-A-20 **TEMPORARY SERVICE CONNECTION**: A service connection requested for use for a period of less than two years.

1-A-21 **PRIVATE CONTRACT WORK**: Construction of water mains and related facilities by subdividers or other persons other than the District, within the District.

1-A-22 **AUTHORIZED PRIVATE CONTRACT WORK**: Private contract work authorized by the District.

1-A-23 **UNAUTHORIZED PRIVATE CONTRACT WORK**: Private contract work undertaken without authorization by the District.

1-A-24 **PRIVATE CONTRACTORS**: A person, not employed by the District or County of Ventura, engaged in the installation of water facilities within the service area of the District or within territory being considered for annexation thereto.

1-A-25 **PERSON**: Any natural person, firm, corporation, association, organization, partnership, business trust, limited liability company, company or other legal entity, or any district, city or other government unit.

1-A-26 **STRUCTURAL IMPROVEMENTS**: Both Capital Improvements and Local System Improvements, including, but not limited to, land, real estate, all classes of water mains, service connections, meter valves, hydrants, pumping plants, electrical systems, water treatment plants, and appurtenances.

1-A-27 **CAPITAL IMPROVEMENTS**: Those portions of the structural improvements of a District, the use of which is necessary to the services to, and shared in common by, all customers of the District and shall specifically include:

(a) Real estate and rights-of-way.

(b) Wells.

(c) Reservoirs.

(d) Pumping plants and all piping thereon.

(e) Water treatment plants.

(f) Water mains which are oversized at the request of the District.

(g) Local water system improvements undertaken by the District for the benefit of the existing customers.

(h) Pressure reducing stations and all piping thereon.

1-A-28 **LOCAL SYSTEM IMPROVEMENTS**: The following structural improvements are considered to be local system improvements:

(a) Service connections, fire hydrants, valves, fittings, blow-offs, air and vacuum release valves.

(b) All water mains used for distribution and transmission of water within the boundaries of the proposed development.

(c) In water mains used both for the transmission and distribution of water, that portion of the cost of a water main in commercial, industrial, and residential areas. The cost of the water main in areas other than commercial, industrial, and residential areas shall be classified as a Capital Improvement.

1-A-29 **CAPITAL IMPROVEMENT CHARGE**: The charge for equitable participation in the Capital Improvements of a District as a condition precedent to the supply of water to any residence, building, or parcel of land which has not theretofore been supplied with water by the District.

1-A-30 **RESIDENTIAL AREA**: Those land areas zoned R-1 and R-2 with the permitted use confined to family dwelling.

1-A-31 **COMMERCIAL AND MANUFACTURING AREA**: All zone classifications and permitted uses, except those within the definition of residential area.

1-A-32 **DISTRICT DIVISION DESIGNATION**: Specific areas of Ventura County Waterworks District No. 1 are designated divisions and zones as follows:

a) The former District No. 1 shall be designated as Division 1 of Ventura County Waterworks District No. 1.
b) The Improvement Zone No. 1 of former District No. 1 shall be designated as Improvement Zone No. 1 of Division 1 of Ventura County Waterworks District No. 1.
c) The Improvement Zone No. 2 of former District No. 1 shall be designated as Improvement Zone No. 2 of Division 1 of Ventura County Waterworks District No. 1.
d) The former District No. 11 shall be designated as Division 2 of Ventura County Waterworks District No. 1.

PART 1 - SECTION B - SERVICE AREA MAPS AND LEGAL DESCRIPTIONS

RULE

1-B-1 Maps and legal descriptions of service areas and special zones of the District shall be maintained in the office of the County Surveyor.

Although the boundaries of Ventura County Waterworks District No. 38 do not presently include the service area of the Lake Sherwood Mutual Water Company, District No. 38 and its predecessor water provider, Lake Sherwood Community Services District, have served this area since prior to January 1, 2001, and shall continue to serve this area pursuant to Government Code Section 56133, subdivision (e)(4), and Section E of this part shall not apply to

that portion of the Lake Sherwood Mutual Water Company service area outside the District's boundaries.

PART 1 - SECTION C - DESCRIPTION OF SERVICE

RULE

1-C-1 **WATER SUPPLY**:

The District will exercise reasonable diligence and care to:

(a) Deliver a continuous supply of water to the customer at reasonable pressure, and

(b) Avoid unnecessary shortages or interruption in the service.

The District shall not be liable for:

(a) Interruptions of service, shortage, or inadequacy of supply, or

(b) Any loss or damage caused thereby.

The District shall have the right to temporarily suspend service to any customer, whenever the District deems it necessary to do so, and the District shall not be liable for any loss or damage caused thereby. The causes for temporary suspension of service will be removed by the District without unnecessary delay and with the least inconvenience to the customer.

1-C-2 **WATER QUALITY**: Whenever domestic service is furnished, the District will endeavor to furnish at all times a safe and potable water supply.

1-C-3 **CUSTOMER AND WATER SERVICE CLASSIFICATIONS**: Water service provided by the District may be separated into the following customer and water service classifications for the purpose of establishing water rates:

(a) "Single Family Residential" – individually-metered single family homes, single unit condominiums, townhomes, or other similar dwellings, service to which may include water for household domestic purposes, sprinkling lawns, irrigating small gardens and shrubbery, washing vehicles, and the ordinary use of water at residences.

(b) "Agricultural" – a customer that receives water service to a parcel of land that uses water exclusively for the: (a) growing of crops for human consumption or commercial purposes; (b) raising of fowl or livestock for human consumption or commercial purposes; or (c) commercial breeding and training of horses for sale, including training for racing. Agricultural use excludes water used for commercial or non-commercial boarding or riding facilities, stables, equestrian centers, show arenas or event centers, or other similar facilities or operations.

For Ventura County Waterworks District No. 1, the serviced parcel of land must be at least five (5) acres. For Ventura County Waterworks District No. 19, the serviced parcel of land must be at least one (1) acre.

(c) "Non-Tiered Residential" or "Residential Association/Irrigation" – homeowner association common areas, pool areas, and other separately-metered residential irrigation areas.

(d) "Multi-Family Residential" – multiple residential dwellings through one meter, such as multiple single family residences on one parcel, apartment and condominium complexes, duplexes, and trailer parks.

(e) "Commercial" – an entity engaged in the selling of goods and services, such as retail establishments, restaurants, business offices, gas stations, etc.

(f) "Industrial" – an entity that is engaged in manufacturing, warehousing, or distributing products.

(g) "Temporary Construction" – service of a temporary, or non-permanent, nature to a person engaged in construction or similar building, landscaping, development, or improvement activities, including service through fire hydrant meters and truck load count accounts (the rate is converted to a "per 1,000 gallon rate"), or any other service being used for construction on a temporary basis.

(h) "Non-Residential" – refers to service to a customer in any of the following customer/service classifications: commercial, industrial, or institutional.

(i) "Private Fireline Service" – water service rendered for privately owned fire protection systems, including fire hydrants on private property.

(j) "Pump Charge" or "'Lift' Charge" – a charge, in an amount per 100 cubic feet of water usage based on the District's actual pumping costs to customers in service zones requiring water to be pumped up to a higher zone. If applicable, these pump or "lift" charges will be published in the District's Schedule of Rates.

PART 1 - SECTION D - APPLICATION FOR SERVICE

RULE

1-D-1 **APPLICATION FOR SERVICE**: Each applicant for water service will be required to sign a form provided by the District. The application will be regarded as merely a written request for service, and not binding upon the applicant to take service for a period of time longer than that upon which the rates and minimum charge of the selected rate schedule are based.

The application shall show the following information:

(a) **Name(s)** of applicant(s) responsible for the water bill payment. Two or more persons who join in one application for service shall be jointly and

severally liable for payment and shall be billed by means of a single periodic bill.

(b) **Service address** of the property where water is connected.

(c) **Billing/mailing address** if different than the service address.

(d) **Location** of proposed service, address, and brief property description.

(e) **Date** applicant desires service to begin.

(f) **Account** and service type.

(g) **Signature(s)** of applicant(s) acknowledging agreement to abide by all Rules and Regulations of the District and pay all bills when due.

(h) **Other** information the District may reasonably require.

1-D-2 **LARGE INCREASE IN USE OF WATER**: Customers making any change in operations on the customer's premises requiring substantial increases in the rates of water flow through the District's facilities shall immediately give the District written notice of the nature of the change.

PART 1 - SECTION E – OUTSIDE–OF-BOUNDARY SERVICE CONTRACTS

RULE

1-E-1 The District, at its discretion, may provide new or extended services by contract or agreement outside its jurisdictional boundaries as permitted by Government Code Section 56133 and other applicable law. Unless the contract or agreement expressly states otherwise, the District may, with or without cause, with or without advance notice, terminate any such contract or agreement and interrupt or cease any such new or extended services. Although not required to do so, to the extent circumstances reasonably allow, the District will provide advance notice before terminating any such contract or agreement or interrupting or ceasing any such new or extended services. The District's provision of any such new or extended services shall not, and shall not be deemed to, create any rights to continuing services. Water provided pursuant to any such contract or agreement shall be charged at the rates set forth in the District's Schedule of Rates.

PART 1 - SECTION F - BILLING NOTICES

RULE

1-F-1 **NOTICES TO CUSTOMERS**: Notices regarding discontinuance and restoration of water services shall be hand delivered to the customer at the customer's last known address. If the customer is not available, the notice may be placed on the customer's front door.

The substance of the Rules and Regulations addressing discontinuance and restoration of water service shall be printed on each bill.

PART 1 - SECTION G - NOTICES

RULE

1-G-1 **NOTICES TO CUSTOMERS**: Notice from the District to a customer normally will be given in writing delivered via the United States Postal Service to the customer's last known address. Where conditions warrant, and in emergencies, verbal notice or notice by telephone or electronic mail will be deemed adequate.

1-G-2 **NOTICES FROM CUSTOMERS**: Notice from the customer to the District may be given, by the customer or the customer's authorized representative, verbally or in writing, at the District's operating offices.

PART 1 - SECTION H - SERVICE RULES

RULE

1-H-1 **DOMESTIC SERVICE**: Each house or building under separate ownership must be provided with a separate service connection or connections. Two or more houses or buildings under one ownership and on the same lot or parcel of land may be supplied through one service connection, or a separate service connection may be installed for each building.

1-H-1a The District reserves the right to limit the number of houses or buildings, or the area of the land under one ownership, to be supplied by one service connection.

1-H-1b When property provided with a service connection is partitioned, the existing service connection, if any, shall be considered as being assigned to the lot or parcel of land nearest to the meter or service connection.

1-H-1c A service connection shall not be used to supply water to adjoining property of a different owner or property of the same owner on opposite sides of a public street or alley.

1-H-2 **AGRICULTURAL SERVICE CONNECTIONS**: In a District having agricultural water rates, the purposes of the water requirements of the parcel to be served shall guide the District in its determination of the proper sized meter to be installed. Water used for agricultural purposes shall be separately metered. Agricultural water service may be discontinued, with 30 days' notice, at the option of the District. An agricultural service connection shall not be used to supply adjoining properties.

1-H-2a The regulation by the customer of the flow of water from an agricultural meter must be effected by means of a valve installed on the outlet side of the meter, and the installation and maintenance of such a valve shall be at the customer's expense.

1-H-3 **AUTOMATIC FIRE SPRINKLER SERVICE CONNECTIONS**: When an automatic fire sprinkler service connection is installed, the control valve thereon will be left closed and sealed until a written order to turn on the water is received from the customer. After the water is turned on, the District shall not be liable for damages of any kind that may occur on or to the premises or property therein served due to the installation, maintenance, or use of such service connection, or because of fluctuation of pressure or interruption of water supply.

1-H-3a If water is used through an automatic fire sprinkler service connection for any purpose other than the extinguishing of fires, or a purpose related thereto, the District shall have the right either to place a meter on the automatic fire sprinkler service connection at the customer's expense, and to charge at metered rates for all water used, or to shut off the entire supply of water to the premises through such service connection.

1-H-3b The District shall have the right to install and connect with the automatic fire sprinkler service connection at the curb, a service connection for rendering any other type of water service to the same premises served by the automatic fire sprinkler service connection.

1-H-3c All automatic fire sprinkler service connections shall be equipped with a District-approved check valve detector device, all at the expense of the customer.

1-H-4 **TEMPORARY WATER SUPPLY**: Temporary water supply may be provided through:

(a) Temporary service connections or

(b) Fire hydrants.

Temporary water supply may be disconnected and/or terminated upon notification by the District.

Water obtained on a temporary basis shall be for use only within the service boundaries of the District. Any use of the water obtained on a temporary basis for use outside the boundaries of the District is subject to Government Code Section 56133.

1-H-5 **TEMPORARY SERVICE CONNECTIONS**: Temporary service connections will be disconnected and terminated within two years after installation unless an extension of time is granted by the District.

1-H-5a Where a regular service connection of adequate size is available, it may be used for temporary service so long as such connection is not required to supply the property which it enters, provided a temporary service connection number is assigned to it for identification during such usage. A charge, as shown in the District's Schedule of Rates, will be made for arranging temporary service. If such connection is at any time required to permanently serve the property which it enters, said temporary service there must be discontinued.

1-H-5b A charge for the installation of a temporary service connection shall be the same as for a regular service connection, as shown in the District's Schedule of Rates. The applicant shall deposit in cash the amount specified in the District's Schedule of Rates and shall be subject to an additional charge, or entitled to a credit, as provided herein.

1-H-5c After a temporary service connection is installed, and the District is requested by the applicant to terminate and remove the service, the cost of disconnecting and terminating the temporary service will then be estimated and added to the installation cost. From this total, the estimated salvage value of the material to be recovered will be deducted, leaving the final net estimated cost of the temporary service connection. If such net estimated cost is greater than the amount of the applicant's original charge, upon demand the applicant shall pay the District such additional sum as is required to make the applicant's aggregate payment equal to the final net estimated cost.

1-H-5d When a temporary service connection is disconnected and terminated within two years from the date of installation, the estimated cost of the disconnection and the present value of the material recovered shall be deducted from the deposit charge and the balance (if any) of such deposit shall be refunded to the customer if requested. If the aggregate deposit is less than the sum of the installation charge, the disconnection charge, and the present value of the material recovered, the amount of such deficiency shall be paid by the customer.

1-H-5e Where the construction of an installed temporary service connection conforms to the standard requirements of a permanent service connection installation, it may be designated as a permanent service connection at any time, provided all charges for permanent service at its location are paid; and the District will refund to the customer the difference in charges between the temporary service connection and permanent service connection, if the former charge was less than the latter. If the temporary service connection is not metered when it is converted into a regular permanent service connection, and the kind of permanent service to be rendered requires metering, the regular meter charge for the appropriate size of meter shall be paid by the customer.

1-H-5f The District reserves the right at any time to set a meter on any temporary service connection and to collect the required meter deposit, and thereafter to charge the regular metered rate for the kind of service to be rendered.

1-H-5g **METER CHARGE CREDITS**: If a metered temporary service connection is disconnected and terminated and the meter is recovered within one month after its installation, upon application, 95 percent of the meter charge, less $5.00, will be refunded; if within two months, 90 percent less $5.00; if within three months, 85 percent less $5.00; if within four months, 80 percent less $5.00; if within five months, 75 percent less $5.00; and if after five months and within two years, 70 percent less $5.00. All refunds of meter deposits shall be made to the customer, and no refund of a meter deposit shall be made if the temporary service connection is not terminated and the meter recovered within two years from its date of setting.

1-H-6 **TEMPORARY WATER SUPPLY FROM FIRE HYDRANTS**: Water may, on application, be obtained at rates determined by the Director from fire hydrants, for purposes other than extinguishing fires, in the manner prescribed as follows: When water is to be so procured from a fire hydrant, the applicant shall sign an application for a fire hydrant permit, wherein the applicant shall specify the location of the fire hydrant to be used and shall agree to pay the required cash deposit or charge therefor to the District. The applicant must at the same time deposit with the District a sum of money to secure payment of its charges for furnishing, installing, removing, inspecting, and renting of the equipment required to be installed on a fire hydrant for such procuring of water.

Water obtained on a temporary basis from a fire hydrant shall be for use only with the service boundaries of the District. Any use of water obtained on a temporary basis from a fire hydrant for use outside district boundaries is subject to Government Code Section 56133.

1-H-6a A minimum charge for the furnishing, installation, removal, inspection, and rental of such equipment on each fire hydrant shall be imposed pursuant to the District's Schedule of Rates.

1-H-6b If the equipment so furnished is damaged through carelessness or abuse, the cost of repairing the same shall constitute a charge against the customer. If any such equipment is removed from the fire hydrant other than by the District's employee and is not recovered by the District, the value thereof shall constitute a charge against the customer.

1-H-6c The fact that some fire hydrants are already equipped with auxiliary valves, or that some customers may desire to furnish their own equipment for installation on fire hydrants, shall not affect or vary this rule or in any way prevent or modify its application.

1-H-7 **SERVICE CONNECTION AND METER INSTALLATION CHARGES**: Where a charge is fixed herein for the installation of the service connection and/or meter, such charge shall be paid in advance by the applicant. Where no such charge is fixed, the District reserves the right to require the applicant to pay an amount as a fixed charge equal to the estimated cost of installation of such service connection and/or meter.

1-H-8 **SERVICE CONNECTION, SIZE, AND LOCATION**: The District reserves the right to determine the size of the service connection and its location in relation to boundaries of the premises to be served. Where possible, the customer's pipe to the curb should not be laid until the service connection is installed. In the event the customer's pipe is laid to the curb prior to the time the service connection is installed, and its location at the curb does not correspond with that of the service connection at the curb, then the customer must bear the additional cost of connecting the service connection pipe with the customer's pipe.

1-H-9 **EXTENSION OF SERVICE PIPE THROUGH BASEMENT WALL**: Where the applicant requires the service connection pipe to be extended through a

basement wall, the applicant shall, at the applicant's own expense, provide and seal the entrance way for such pipe and shall assume all responsibility for damage caused by leakage through such entrance way and/or by leaking pipes, fittings, or meters.

1-H-10 **SERVICE CONNECTION CURB STOP OR VALVE**: Every service connection installed by the District will be equipped with a curb stop or valve on the inlet side of the meter. Such valve or curb stop is intended for the exclusive use of the District in controlling the use of water through the service connection and/or meter. If such curb stop or valve is damaged by the customer to an extent requiring its replacement, the customer shall bear the cost for such replacement. The customer's pipe shall have a wheel valve placed at some known and accessible location between the meter and the building, to control the supply to the building.

1-H-11 **ENLARGING SERVICE CONNECTION AT TIME OF RENEWAL**: When the District replaces a service connection for any reason, such service connection may be enlarged, upon the customer's request and at the customer's expense, the District's estimated cost of which shall constitute a fixed charge.

1-H-12 **MAINTENANCE OF SERVICE CONNECTIONS, METERS, DETECTOR CHECK VALVES, AND HOUSINGS**: All service connections, water meters, detector check valves, and housings installed by the District shall be maintained at its expense, except as may be otherwise provided herein.

1-H-12a Where a two-inch, or larger, stub pipe is laid to the curb to replace one or more old service connections, such old service connection will be disconnected, and the District will lay, connect, and maintain the necessary piping from such new stub pipe to the old location of the meter or to the customer's supply pipe.

1-H-13 **CUTTING, REFITTING, RAISING, LOWERING, OR RELOCATING WATER SERVICE CONNECTIONS, MAINS, ETC.**: Any person making improvements or changes, including road repairs, resulting in the cutting, refitting, raising, lowering, relocating, or damaging in any way of service connections, water mains, fire hydrants, stub pipes, meters, valves, or other parts of the water system shall be liable to the District for all costs incurred by it in making such changes.

1-H-14 **INCREASING SIZE OF DETECTOR CHECK VALVE FOR AUTOMATIC FIRE SPRINKLER SERVICE**: In all cases in which a detector check valve on an installed service connection for automatic fire sprinkler service is recovered by the District because of the substitution of a larger detector check valve, the charge to the customer for furnishing and installing such larger detector check valve shall be the estimated cost of replacement, which estimate shall include a credit for the replaced equipment; and such credit shall be the present value.

1-H-14a **REFUND OF CHARGES FOR DETECTOR CHECK VALVE AND BY-PASS METER UPON DISCONNECTION AND ABANDONMENT OF AUTOMATIC FIRE SPRINKLER SERVICE CONNECTION**: When an automatic fire sprinkler service connection is disconnected and abandoned and the detector check valve and by-pass meter on such service connection are recovered by

the District, upon written application, a refund of the charge paid by the customer for such detector check valve and by-pass meter will be made in an amount equal to the present value as determined in Part 3 of these Rules and Regulations, less the estimated costs of removing the equipment.

1-H-15 **SETTING OF METERS**: The District may install all meters unless installation by another person is authorized by the District.

1-H-15a **OWNERSHIP OF METERS**: The District is the owner of all meters and appurtenances incidental thereto within the District.

1-H-15b **REMOVAL OF METERS FROM INACTIVE SERVICE CONNECTIONS**: The District may at its option remove the meter from any service connection determined to be inactive for more than two billing cycles, for maintenance or for use in another location. The District will reinstall the meter upon the customer's request. In the case of an inactive agricultural meter, if the customer requests discontinuation of service to avoid service charges, the District will remove the meter. However, reinstatement of service shall be at the discretion of the District.

1-H-16 **CHARGE FOR SUBSTITUTION OF LARGER METER FOR DOMESTIC SERVICE OR FOR COMBINED AGRICULTURAL AND DOMESTIC SERVICE**: When a meter for domestic service, or for combined agricultural and domestic service, of larger size than the existing meter is to be installed on an existing service connection, or when the existing service connection is disconnected and abandoned and the meter thereon is recovered by the District and a larger service connection and a larger meter are to be installed in the place thereof, the charge required for furnishing and setting such larger meter installation shall be the same as for a new service and meter, less the present value of the recoverable meter and fittings.

1-H-17 **SUBSTITUTION OF SMALLER METER TO REDUCE MONTHLY MINIMUM CHARGE**: When substitution of a smaller meter is requested by the customer in order to reduce the monthly minimum charge, and when the minimum charge is related to the meter size, such substitution will be made without charge, provided the delivery of water required through such smaller meter shall not exceed its rated capacity, and provided also that such capacity conforms with the requirements of the Plumbing Code. No credit for a large meter so removed will be allowed.

The allowable change in meter size shall not be less than one size smaller than the customer's piping, except that in no case shall the meter size be reduced below the size determined by application of rules in the Plumbing Code.

1-H-18 **DAMAGE TO METERS BY HOT WATER OR STEAM**: The District will furnish, set and maintain all meters.

1-H-18a When a customer becomes responsible for the payment of water bills for any premises served, the meter at that date installed or continued on the service connection is in this rule designated as the "first meter" and any other meter installed on the same service connection, to serve the same premises in

substitution for a meter damaged in service, is herein designated as "any substituted meter."

1-H-18b The District assumes the liability for the cost of changing and repairing any meter that shall have been damaged by hot water or steam emanating from the premises served in only the following cases:

1. When such damage occurs to the first meter;
2. When such damage occurs to any substituted meter more than three years after the same shall have been installed;
3. When such damage occurs to any substituted meter within three years after the same shall have been installed, and the customer as of the date such damage occurs has not been continuously so responsible for the same at all times since the date of the last previous occurrence of damage to a meter, for which the District assumes liability hereunder.

1-H-18c When the first meter is found to have been damaged by hot water or steam emanating from the premises served, notice of such damage will be mailed to the customer responsible for the payment of the water bills, but the customer will not be charged with the cost of changing or repairing the first meter.

1-H-18d If any substituted meter be similarly damaged (whether through the fault of such customer or otherwise) and such damage occurs within three years after the last previous meter installed on the same service connection and supplying the same premises was damaged, the cost of changing and repairing such substituted meter will be charged to the customer, provided such customer shall have been continuously so responsible at all times since the date of the last previous occurrence of damage to a meter, for which the District assumes liability hereunder.

1-H-18e When a meter is to be replaced, a notice will be left on the premises notifying the customer that the water will be or is being shut off for work on the water meter.

1-H-18f In the case of damage to a meter due to excessive flow onto the customer's premises, the customer shall supply the District, within five (5) working days of the District's request, the customer's maximum flow demand. If that demand is in excess of the meter's rating, the customer shall do one of the following at the District's system:

1. Install a larger meter or meter and service line, in accordance with charges established in the District's Schedule of Rates.
2. Approve the installation, by the District, of a device to limit the flow through the meter to its maximum amount.

1-H-19 **CHANGE OF METER LOCATION**: When the location of a meter and/or service is changed at the customer's request, the cost of making such change will be charged to the customer, in accordance with the District's Schedule of Rates.

NOTE: *When the customer requests such change of the location of a meter because of constructing a driveway that is to be paved, instead of moving the meter, a concrete box equipped with a steel cover plate to house the meter may be installed, provided the slope of such driveway is not such as to cause the face of the steel plate to be dangerous to pedestrians walking thereon.*

1-H-20 **APPLICATION FOR WATER SERVICE**: No charge will be made for the mere turning on of the water supply upon the opening of a new account for any kind of service. An application provided by the District must be signed by the applicant. Such application shall contain the following provisions:

1. The applicant shall agree to accept the services applied for subject to these Rules and Regulations and to pay for the services at regular rates. Should the applicant subsequently cancel one or more items of service, such cancellation shall not change or affect the terms of the applicant's application in respect to the remaining item or items of service.

2. The applicant shall also agree to give at least twenty-four hours' notice to the District before service is to be discontinued. The provisions of the application, obligating the applicant to accept and pay for service, shall remain in force until said notice is given and all bills shall be paid in full to date of receipt of said notice by the District.

3. The applicant shall further agree to assume all liability for any damage occurring on the premises served, by reason of open faucets, faulty fixtures, or broken pipes on such premises at or after the time when service is turned on, whether or not at that time there is any responsible person on the premises.

1-H-21 **USE OF WATER WITHOUT REGULAR APPLICATION FOR SERVICE**: Any person taking possession of premises where the water supply has been shut off and the curb cock or valve sealed must make proper application to the District to have the water supply turned on. In the event the person turns on the water supply or suffers or causes it to be turned on, without first having made such application, the person will be held liable for all charges for the water service rendered, the amount thereof to be determined, at the election of the District, either by the meter reading or on the basis of the estimated consumption for the length of time service was received without proper application.

1-H-21a **TAMPERING OR TURNING ON WATER**: Tampering with a water meter or the turning on of water at a water meter without District consent is a violation of these Rules and Regulations and Penal Code Section 498 and constitutes a misdemeanor. Any person who tampers with a District meter or water supply is subject to a fine, plus costs of all repairs, labor and damages to District property. When the District finds that water is being used without proper application, the customer or other person will be notified, and if application for such service is not made promptly thereafter and the District immediately compensated for water already used, the supply will be shut off without further notice.

1-H-22 **DISCONTINUANCE OF WATER SERVICE**: No charge will be made for shutting off water supply or for reading the meter upon closing the account.

1-H-22a When a customer makes application for water service for specified premises, the customer will be charged for water service on such premises until the customer requests the service to such premises be discontinued.

1-H-23 **READING OF METER AND BILLING**: Under ordinary conditions, each continuous service meter will be read monthly on approximately 28 to 35 days for one billing cycle to the next and a bill thereupon rendered, showing the period covered by the meter reading, or the amount of water used, and the total charge for the service rendered. Fire service meters may, at the option of the District, be read semi-annually or annually. However, monthly bills shall be rendered for the monthly fire service charge. Notice may be given by the District if large or unusual meter registration. The customer is responsible for paying all water that passes through the meter.

1-H-23a Where the meter is found to be out of order, or when a meter reading cannot be obtained, the charge for water will be based, at the option of the District, on an estimated meter reading. Such estimates may be computer generated based on previous usage for the property or on the consumption as registered by a substituted new meter. Consideration may also be given to the average monthly consumption adjusted to seasonal demand for the current billing period. Consideration may also be given to volume of business, seasonal demand, and other factors that may assist in determining an equitable charge.

1-H-23b When the meter is temporarily covered by building or other material, or when a mobile construction meter has been moved to a new location without the District's knowledge, so that it cannot be read, the charge for water will be based, at the option of the District, on estimated water usage. Such estimates may be computer generated based on previous usage for the property, and a bill or series of bills for the billing period, will be rendered. Estimated water usage may be adjusted if necessary when the meter is first thereafter read. The District may notify the customer of the inaccessibility of the meter and may charge the applicable fee for the notice as specified in the District's Schedule of Rates.

1-H-23c When the water meter or water lines within a private easement are not accessible to the District due to locked gates, fences, livestock, dogs, or any other condition for more than 60 days, the District will, at its option:

1. Remove the meter and/or terminate service until the inaccessibility is eliminated. Notice of the District's intent to do so will be given to the customer after the first incident of inaccessibility.
2. If the water meter and/or the water lines within a private easement remain inaccessible or their location inhibits or excludes District access, the water meter and/or water lines may be relocated at the determination of the District, and all relocation costs, including, but not limited to, materials and labor, will be billed to the customer.

1-H-24 **PAYMENT OF WATER BILLS**: All bills for service and other charges for which payment is not otherwise provided in these Rules and Regulations shall be due and payable in cash, by check, or by automatic payment, upon presentation, and shall become delinquent 22 days from the bill date but no less than nineteen (19) days after mailing.

The District may, at its option, accept alternative payment methods for water bills, including credit card payments, electronic fund transfers, or other methods.

The Director or the Director's authorized representative, in his or her sole discretion, may make adjustments, extend due dates, or waive charges resulting from meter read errors or other discrepancies, delinquent or shut-off notices, or other miscellaneous services.

1-H-24a All bills for fire hydrant service, for sewer flushing service, for water for street washing and/or sprinkling, or for water for flushing storm drains, culverts, etc., shall be rendered either monthly or bi-monthly and shall become delinquent nineteen (19) days after mailing.

1-H-24b If any bill becomes delinquent, the water service may be discontinued with notice.

1-H-24c Water bills may be addressed in the name of the property owner or other person in possession of the property served or in the name of the applicant for water service.

1-H-24d If more than one tenant on a parcel of property is served through a single meter, the District will render a single bill to the property owner or applicant, and include a minimum charge for water service based upon the number of billing units, the number of which may be determined by any of the following methods:

1. The number of tenant units: Each house, apartment, store, trailer space, hotel room, or motel unit with water piping shall be considered a separate tenant unit for the purpose of computing a minimum charge as specified in Part 2 of these Rules and Regulations.
2. Meter size as specified in Part 2 of these Rules and Regulations.

1-H-24e The form of the bill shall be prescribed by the District.

1-H-24f Payments made to the customer's account will be applied to the customer's account balance, which may include a deposit due, water charges, sewer charges, lift charges, penalty/late fees, and other miscellaneous charges. If the balance is not paid within 22 days from the bill date (the "due date"), the account will be charged with a penalty/late fee, and a past due bill and a "Delinquent Notice" will be issued.

At the option of the Director, the District may allow a grace period of one to six days past the delinquent date prior to charging a penalty/late fee. The amount of such penalty/late fee shall be as specified in the District's

Schedule of Rates. At the option of the District the Delinquent Notice may be incorporated into the next regular bill for service, provided current and past due charges are so specified.

Fifteen days from the date of the Delinquent Notice, if payment still has not been received, water service may be discontinued upon notification to the customer. At least 48 hours prior to termination of service, the District shall attempt to notify the customer by telephone, mail, or delivery of a door hanger notice to the service location. At the option of the District, telephone notification may be made through the use of an interactive voice response (IVR) system. A "48-Hour Notice of Pending Shut-Off" charge in the amount specified in the District's Schedule of Rates will be added to the customer's account to process the notice. The customer shall be subject to the 48-Hour Notice of Pending Shut-Off charge upon preparation of the door hanger notice by the District.

If payment is not made by the end of the period stated in the 48-Hour Notice of Pending Shut-Off, a shut-off notice will be printed for delivery and a charge will be added to the delinquent account in the amount specified in the District's Schedule of Rates. If resumption of service is requested for other than regular working days or hours, payment of an additional "Service Turn-on After Business Hours" fee will be charged in the amount specified in the District's Schedule of Rates.

1-H-24g In the event of underpayment of any water bill, where alternate payment arrangements have not been approved in accordance with this rule, such underpayment may be treated as non-payment. Where the amount of such underpayment exceeds fifty percent of the total amount of the bill, the remaining balance of said bill may become a charge upon the next ensuing water bill issued to the same customer, at the option of the District.

1-H-24h An adjustment shall be made to water billing charges when subsequent meter readings show that the meter was previously read in error. Also, upon the customer-verified statement, a correction may be made as to previous opening or closing billing dates.

1-H-24i In the event of payment in excess of the billed amount, the District shall credit the amount of over-payment thereof upon the next ensuing water bill issued to the same property.

1-H-24j In the event a customer is unable to pay a water bill, the customer may contact the District's billing office and request an alternate payment plan subject to approval by the Director or his or her authorized representative. Such arrangements for payment must be made before the shut-off date to avoid the shut-off notice charge. If a customer fails to pay a subsequent bill by the shut-off date, service may be discontinued upon notification to the customer. At the option of the District, the District may limit the number of approved payment extensions to no more than one per customer per year.

1-H-24k At the option of the Director, the District may apply a penalty/late fee to closing bill balances not paid within 22 days from the closing bill date.

1-H-25 **SHUTTING OFF WATER SUPPLY FOR EMERGENCY REPAIRS OR FOR CHANGES, ETC., IN OR AFFECTING THE DISTRIBUTION SYSTEM**: The District reserves the right at any and all times to shut off the water for the repairing, extending, or altering of water mains, the repairing and placing of fire hydrants, the repairing and renewing of water service connections, or the changing and testing of water meters or detector check valves.

1-H-26 When the water supply is to be shut off for any of the above reasons, the District will make a reasonable effort to deliver a notice of the shut-off to the customer or to some responsible person on the premises, but it does not assume any liability for the failure of the customer to receive or to understand such notice.

1-H-26a The District will not be responsible for the maintenance of pressure, nor for the continuity of water supply, and customers dependent upon a continuous water supply should provide adequate storage for emergencies. Customers having water heaters or other devices requiring a continuous water supply should take all necessary steps to prevent damage to, or the causing of injury by, such devices as a result of the shutting off of the water supply.

1-H-26b The District shall not be responsible for water pressures for any customers located at high elevation beyond normal District water pressures. Nor is the District obligated to extend water services to those areas beyond existing District water mains and/or off the public rights-of-way.

1-H-26c Credit forward balances for water service normally due to a former customer shall not be credited to the account of the new customer at the same service address. Said credit balances shall be refunded to the former customer when a forwarding address is available. When there is not a forwarding address available, said credit balances shall be deposited in the District's applicable water sales trust fund and shall be refunded to the former customer upon written request to the District. If no such request is submitted within one year, the credit forward balance shall be credited to the District's General Fund.

1-H-27 **LEAKING PIPES OR FIXTURES ON THE PREMISES SERVED:** The District's control and responsibility ends at the curb shut-off or meter, and the District will in no case be liable for damage caused by, or in any way arising out of, the running or escape of water from open faucets, burst pipes, or faulty fixtures on the premises.

1-H-27a **CUSTOMER RESPONSIBILITIES**: All piping and appurtenances installed by the customer on the customer's premises shall remain the property of the customer and the maintenance thereof shall be the customer's sole responsibility. Water provided to the property, on the customer's side of the meter, including water from leaks, must be paid for by the customer. The District's control and responsibility shall end at the customer's side of the meter. The District shall in no case be liable for damages caused by, or in any way arising out of, the running or escape of water from open faucets, burst pipes, or faulty fixtures on the premises.

1-H-27b When it becomes necessary to shut off the water supply to the entire premises, the customer may use the customer hand valve within the meter box on the customer side of the meter, if one has been installed. Upon request, for emergency purposes, the District may, without charge, shut off its control valve on the inlet side of the meter with the understanding that the District will turn on the water after repairs have been made.

1-H-27c Every service connection is equipped with a control valve on the inlet side of the meter which may be used by the customer when necessary to shut off the water supply from the entire premises. Upon request, day or night, the District will, without charge, shut off such control valve for emergency purposes, upon the understanding that the customer will turn on the water after repairs shall have been made.

NOTE: *For convenience and safety, the water pipe on the customer's premises shall be equipped with a wheel valve, placed at some known accessible location between the meter and the building.*

1-H-28 **TAMPERING WITH DISTRICT PROPERTY**: Except as provided elsewhere in this rule, no person, other than an authorized District employee, shall at any time or in any manner operate, or cause to be operated, any valve in or connected with a water main, service connection, or fire hydrant, or tamper or otherwise interfere with any water meter, detector check valve, or other part of the water system. No person shall deposit, or cause to be deposited, any substance or liquid in any water main or pipe of the District, or do anything which might cause any water supplied or furnished by, or belonging to, the District to become polluted, or take water from any service without first securing permission from the District.

1-H-28a In the event a person for any reason damages an angle meter valve or valve controlling a water supply, or damages a meter cover or its center piece, or causes any such act to be done, such person will be held liable for such damage.

1-H-28b The District may impose a fine of up to $250.00, plus the cost of labor and materials to repair any damages, against any person found to be tampering with District property or engaged in the unauthorized operation of any part of the water system.

1-H-29 **RIGHT OF INSPECTION OF AND ACCESS TO CUSTOMER'S PREMISES**:

By accepting service from the District, the customer agrees that authorized agents and employees of the District shall have the right of entry and access, at all reasonable times, in, to and upon the customer's buildings, grounds or premises, or any part thereof (including any and all plumbing, water piping, fixtures, or connections located, used, maintained or operated therein or thereon), for the purposes of:

1) Reading of meters and/or repairs and maintenance to the meter or water system.
2) Determining the existence, operation, and/or use in, on, or about such buildings, grounds, or premises for:
   a. Any plumbing or water piping which may now or hereafter cause, create, or permit backflow, back-siphonage, or any other condition affecting or likely to affect the purity and/or potability of the water supply furnished by the District.
   b. Any source such as hot water which could damage District equipment such as meters.
   c. Any source of water supply which may now or hereafter be connected with the water supply system of the District.
   d. Any source of pressure, vacuum, contamination or pollution (including any and all equipment, fixtures or appliances connected or used therewith or therefor) affecting or likely to affect the purity and/or potability of the water supply of the District.
3) Facilitating the enforcement, from time to time, of any and all applicable laws and Rules and Regulations of the District.

1-H-29a Such authorized representatives of the District shall be furnished with and upon the request of any customer shall display, appropriate identification.

1-H-29b If the District shall ascertain that a condition affecting the purity and potability of the water supply in any District exists in, on, or about any building, grounds, or premises in violation of any law, rule or regulation of this State, or any ordinance of the County of Ventura, or any of these Rules and Regulations, the District shall:

1. Immediately notify the person owning and/or controlling such building, grounds, or premises of the existence of such condition; and

2. Require of such person compliance within a reasonable time (to be stated in said notice) with any such law, ordinance, rule or regulation so violated; and

3. Further notify the person that, for the failure to so comply within said described period, the District will take, or cause to be taken, by the appropriate authority, such steps to enforce such compliance, to remedy such condition, and/or to protect the interests of the District, as shall be provided by law or by these Rules and Regulations.

1-H-30 **EASEMENTS**: The customer shall be responsible for maintaining public utility easements within the customer's property such that the District has access at all times to the public utility systems within the easements. No permanent improvements such as buildings, block walls, iron fences, large trees and shrubs and the like shall be placed over the easement without prior written approval from the District. Where the District must perform maintenance and/or construction activity within the easement, it shall not be responsible for replacing said permanent improvements or other prohibited structures. The District must have access to the public utility systems within any easement at all times.

1-H-31 **PROHIBITION OF CROSS-CONNECTIONS**: No physical connection shall hereafter exist or be installed, located, maintained, or operated between the water supply system of any District (including its appurtenant mains, pipes, fixtures, equipment, or appliances), and any other supply system or any sewer or grading system, or any steam, gas, or chemical line, pipe, or conduit, or any device, boiler, tank, or container whereby any contamination or pollution or any dangerous, impure, unsanitary, or unpotable substance (solid, liquid, or gaseous, or any combination thereof) may now or hereafter be introduced to any portion of the water supply system of the District by backflow, back-siphonage, or any other method, means, or cause whatsoever.

1-H-31a Wherever a mechanical or other method or device (approved by the District) may be used for protecting the District's water supply system from any such source of contamination or pollution, any customer shall at the customer's own expense and subject to the final inspection and approval thereof by a person certified for such inspection and repair by the County of Ventura Health Officer, install, maintain, operate, and use the same. Maintenance shall include inspections and operational tests once a year, or more often as required by the Engineer and/or County of Ventura Health Officer.

1-H-31b The District shall promulgate and shall, upon request, furnish copies to the customer of lists of approved mechanical devices and information concerning the installation of said devices.

1-H-31c The District shall have the right to discontinue the supply of water to, and to seal or disconnect the services to, the premises of the customer for the customer's failure to comply with, or the violation or infraction of, any of these Rules and Regulations relative to the inspection of the customer's premises for, to the prohibition of, or to the protection of the District's water supply against cross-connections, backflow, or back-siphonage. A customer shall be entitled to reasonable notice of the intent of the District to discontinue the service for the customer's noncompliance with, or violation of, any of such Rules and Regulations, and to a reasonable opportunity to comply with and/or to cease the violation thereof. However, no such notice or opportunity to comply with, or to cease a violation of, any of such Rules and Regulations need be given in those instances in which non-compliance or violation by the customer has created, is creating or is likely to create in the water supply

system conditions dangerous and detrimental to public health, safety, and welfare.

1-H-32 In the event that the customer is unable to obtain qualified private inspection services, the District will furnish competent inspection and/or repair service at the rates set forth in the District's Schedule of Rates.

PART 1 - SECTION I – CROSS-CONNECTION CONTROL AND BACKFLOW PREVENTION

RULE

1-I-1 **GENERAL POLICY**: The regulations of the Department of Public Health of the State, contained in Title 17 of the California Code of Regulations, the standards of the Uniform Plumbing Code, American Water Works Association Standard M14, and the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research Manual of Cross-Connection Control (10th ed.) are applicable for cross-connection control and backflow prevention in the District.

1-I-2 **DISTRICT REGULATIONS FOR CROSS-CONNECTION CONTROL AND BACKFLOW PREVENTION**

1-I-2a **GENERAL**: No water service connection to any premises will be installed or maintained by the District unless the water supply is protected as required by State laws and these Rules and Regulations. Service of water to any premises shall be discontinued by the District if a backflow prevention assembly required by these Rules and Regulations is not installed, tested and maintained, or if it is found that a backflow prevention assembly has been removed or bypassed, or if an unprotected cross-connection exists on the premises. Service will not be restored until such conditions or defects are corrected. The customer's system should be open for inspection at all reasonable times to authorized representatives of the District to determine whether cross-connections or other structural or sanitary hazards, including violations of these Rules and Regulations, exist. When such a condition becomes known, the District shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the customer has corrected the condition(s) in conformance with the State laws relating to plumbing and water supplies and the regulations adopted pursuant thereto and these Rules and Regulations.

1-I-2b All existing backflow prevention assemblies that do not meet the requirements in these Rules and Regulations but were approved devices for the purposes described in these Rules and Regulations this section, be excluded from the requirements of these Rules and Regulations so long as the District is assured that they will satisfactorily protect the utility system. Whenever the existing device is moved from the present location or requires more than minimum maintenance (e.g., no replacement parts required) or when the District finds that the maintenance constitutes a hazard to health, the unit shall be replaced by an approved backflow prevention assembly meeting the requirements of these Rules and Regulations.

1-I-2c **WHEN BACKFLOW PREVENTION IS REQUIRED**:

1. In the case of premises having an auxiliary water supply which is not or may not be of safe bacteriological or chemical quality and which is not acceptable as an additional source by the District, the public water system shall be protected against backflow from the premises (i.e., irrigation services).

2 In the case of premises on which any industrial fluid or any other objectionable substance is handled in such a fashion as to create an actual or potential hazard to the public water system, the public system shall be protected against backflow from the premises. This shall include the handling of process waters and waters originating from the utility system which have been subject to deterioration in quality.

3. In the case of premises having (1) a cross-connection that cannot be permanently corrected or controlled or (2) intricate plumbing and piping arrangements or where entry to all portions of the premises is not readily accessible for inspection purposes, making it impracticable or impossible to ascertain whether or not dangerous cross-connections exist, the public water system shall be protected against backflow from the premises.

4. In the case of premises having industrial or commercial facilities, the public water system shall be protected against backflow from the premises.

1-I-3 **ACCEPTABLE BACKFLOW PREVENTION ASSEMBLIES**: The District will not accept any backflow prevention assembly for cross-connection protection other than an approved air gap separation or a reduced pressure principle backflow prevention assembly unless otherwise approved by the District. An exception will be the installation of an approved double detector check valve assembly on fire lines for sprinklered buildings or on private fire hydrant lines.

1-I-4 **REDUCED PRESSURE PRINCIPLE DEVICE (RP)**: Commonly referred to as an RP or RPP, this device consists of two independently acting check valves, together with an automatically operating pressure differential relief valve located between the two check valves. The first check valve reduces the supply pressure at a predetermined amount so that during normal flow, and at cessation of normal flow, the pressure between the two check valves shall be lower than the supply pressure. If either check valve leaks, the relief valve will discharge to the atmosphere. This will maintain the pressure in the zone between the two check valves lower than the supply pressure. The unit also has two shut-off valves (one upstream and one downstream of the checks) and properly located test cocks for field testing.

1-I-4a **INSTALLATION**: An approved RP assembly, the same size as the water meter, shall be installed on the customer water line as close as practical to the meter (not to exceed 10 feet unless otherwise approved by the District). Unprotected outlets shall not be installed between the meter and the RP device. This unit shall be installed a minimum of 18 inches and not more than 36 inches above finish grade with a minimum of 12 inches of side clearance. The unit shall not be installed in an enclosed structure.

1-I-4b **APPROVED RP DEVICES**: Any backflow prevention assembly required herein shall be a model approved by the District. The term "Approved Backflow Prevention Assembly" shall mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association (AWWA) entitled AWWA C506-84 Standards for Reduced Pressure Principle and Double Check Valve Backflow Prevention Devices and has met completely the laboratory and field performance specifications as set forth in Chapter 10, Specifications of Backflow Prevention Assemblies, of the Manual of Cross-Connection Control (10th ed.) of the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (FCCCHR).

Final approval shall be evidenced by a "Certificate of Approval" issued by an approved testing laboratory certifying full compliance with the said AWWA standards and FCCCHR specifications.

The following testing laboratory has been qualified by the District to test and certify backflow preventers:

Foundation for Cross-Connection Control and Hydraulic Research
University of Southern California
University Park
Los Angeles, California 90089-0231

Testing laboratories other than the laboratory listed above will be added to an approved list as they are qualified by the District.

The list of approved RP assemblies is issued and maintained by the Ventura County Environmental Health Division. The District should be consulted for the currently approved list.

1-I-4c **TESTING**: It shall be the duty of the customer at any premises where the backflow prevention assemblies are installed to have certified inspections and operational tests made at least once per year. Where the District deems the potential hazard of backflow to be significant, certified inspections at more frequent intervals may be required. These inspections and tests shall be performed by a certified tester approved by the District. It shall be the duty of the District to see that these tests are made in a timely manner. The customer shall notify the District in advance when the tests are to be undertaken so that an official representative of the District may witness the tests. These assemblies shall be repaired, overhauled or replaced at the expense of the customer whenever said assemblies are found to be defective. Records of such tests, repairs and overhaul shall be kept by the customer and made available to the District upon request.

1-I-5 **AIR GAP**: An air gap is a physical separation between the free flowing discharge end of a potable pipe line and an open or non-pressure receiving vessel. To have an acceptable air gap, the end of the discharge pipe has to be at least twice the diameter of the pipe above the topmost rim of the receiving vessel, but in no case can this distance be less than one inch.

PART 1 – SECTION J - CAPITAL IMPROVEMENT CHARGES AND LOCAL SYSTEM IMPROVEMENT CHARGES

RULE

1-J-1 **CHARGES**: As a condition precedent to receiving water service for any residence or building or parcel of land which has not theretofore been supplied with water by the District, there shall be paid to the District a Capital Improvement Charge in accord with the District's Schedule of Rates, except as defined in this section. The Capital Improvement Charge shall not include charges for service and meter connections, which charges shall be paid separately as required elsewhere in these Rules and Regulations.

1-J-2 **AGRICULTURAL SERVICE**: In the case where water service is requested for any land and/or parcel for agricultural purposes only and the District has facilities available or no expenditure of District funds is required to provide such service, the District may, at its option, waive payment of the Capital Improvement Charge. However, the Capital Improvement Charge shall be paid prior to development of the property for a use other than agricultural.

1-J-3 **SERVICE TO USERS OUTSIDE DISTRICT**: The furnishing of water to any residence, building or parcel of land outside the District's jurisdictional boundaries pursuant to Section E of this part shall not excuse such residence, building or parcel of land from the requirements of this section in the event such parcel of land, or any land on which any such residence or building is located, is annexed to the District. In such event, the payment of a Capital Improvement Charge shall be a condition precedent to the continuation of water service to such residence, building or parcel of land.

1-J-4 **TIME OF PAYMENT**: The Capital Improvement Charge shall be paid in full prior to issuance of a water will serve letter, and/or prior to the commencement of any work necessary to furnish water to any residence, building or parcel.

However, in a case where a person owns a parcel of land larger than ten acres in size but desires water service for only a small portion thereof, and if the District is financially able to do so, it may, at its option, collect the Capital Improvement Charge for only that portion of the parcel that is to be developed. At such time as further development of the parcel occurs, the then applicable Capital Improvement Charge shall be paid for the remainder.

1-J-5 **CONTRIBUTIONS AND GRANTS OF CAPITAL IMPROVEMENTS**: In an amount agreed upon by the grantor and the District all or any part of one or more Capital Improvement Charges may be reduced by deducting therefrom the actual cost of any Capital Improvement, or the fair market value of any real property, contributed or given to the District and expressly accepted by the District in lieu of all or part of the Capital Improvement Charge due upon any residence or building.

1-J-6 **IMPROVEMENT ZONE**: Capital Improvement Charges shall not be collected by the District for ministerial development on existing parcels whenever an improvement zone has been established and local and Capital Improvements have been or are to be financed by the proceeds of bonds issued as special obligations of said zone. The term improvement zone shall refer to any area within a District which has been set up pursuant to Water Code Section 55650 to provide for financing of facilities and improvements of benefit to such zone that are not of District-wide benefit.

All parcels requesting discretionary land use entitlements shall be assessed Capital Improvement Charges according to these Rules and Regulations.

Whenever the ownership of any property within such improvement zone is held or acquired by a non-taxable entity, such entity shall be subject to meter and Capital Improvement Charges. The amount of such Capital Improvement Charge shall be determined by the Director and shall be calculated in such a manner as to include only those costs of Capital Improvements which are required to provide adequate service for such non-taxable entity. In no event shall said Capital Improvement Charge exceed that charged non-taxable entities for lands located within the District but not within an improvement zone.

1-J-6a **EXCEPTION TO CAPITAL IMPROVEMENT CHARGES**: Capital Improvement Charges shall not be collected by the District for the lots developed by LSR, the developer of Lake Sherwood Community or the customers served by the Lake Sherwood Mutual Water Company, at the time of adoption of these Rules and Regulations.

If in the event a special assessment district is formed in any District for the purpose of paying for the cost of constructing water system improvements, including improvements to existing vacant lots, Capital Improvement Charges will not apply.

1-J-7 **MAIN EXTENSIONS**: Upon payment of Capital Improvement Charges, the District will extend water lines from its facilities which exist in a publicly dedicated and accepted road nearest the lot, parcel or building to be served to a point along such publicly dedicated and accepted road nearest the lot, parcel or building to be served. However, the District shall not be required to provide water service where the cost of providing such service would cause an undue financial hardship on the District as determined by the District Board.

1-J-8 **OFF-SITE CONSTRUCTION**: The developer of any lot, parcel or building shall extend pipelines to the District's facilities to provide the necessary service. Said improvements shall be as required by the District in accord with the District's specifications and subject to the approval and acceptance of the District. Upon completion, said improvements shall be conveyed to the District together with an adequate easement for their installation, operation and maintenance.

1-J-9 **LOCAL SYSTEM IMPROVEMENTS AND CHARGES**: As a condition precedent to receiving water service for any residence, or building or parcel of land which has not theretofore been supplied with water by the District, all necessary Local System Improvements shall be furnished and installed by the applicant at the applicant's expense or the applicant shall be charged for said improvements and pay the District the cost thereof computed at the rates described in the District's Schedule of Rates or as computed by the Director. Said improvements shall be as required by the District, in accord with the District's specifications and subject to the approval and acceptance of the District. Upon completion, said improvements shall be conveyed to the District together with an adequate easement for their installation, operation and maintenance.

1-J-10 **LOCAL SYSTEM IMPROVEMENTS WITHIN IMPROVEMENT ZONE**: Local System Improvements within an improvement zone shall be financed as provided for in the petition or resolution to form the improvement zone as approved pursuant to applicable law.

PART 1 - SECTION K - WATER SHORTAGES

RULE

1-K-1 **EMERGENCY RESTRICTIONS ON WATER USE**

1-K-1a **EMERGENCY RESTRICTIONS ON WATER USE DUE TO SYSTEM EMERGENCIES**: If the Director determines that over-consumption of water, loss of pressure in a system, breakdown, or any similar occurrence requires emergency restrictions upon the use of water from any system, the Director shall order such restrictions as the Director in his or her sole discretion deems appropriate under the circumstances.

Such order may restrict the use of water for sprinkling, manufacturing, or nonessential uses. The use of water for particular purposes may be limited to specified days or hours of a day or altogether prohibited, except that the use of water for drinking, cooking, and sanitary purposes shall not be prohibited.

Notice of any such order shall be given, either in writing or orally when possible, to customers served by the affected system. Water supply to any premises upon which the use of water is being made in violation of such order may be summarily shut off.

When the Director determines that the emergency no longer exists, the Director shall, by further order, rescind the restrictions previously ordered. Notice of such order shall be given to customers in the same manner in which the order imposing the restrictions was given.

1-K-1b **EMERGENCY RESTRICTIONS ON WATER USE DUE TO OTHER THAN SYSTEM EMERGENCIES**: If the Engineer determines that circumstances other than those specified elsewhere in this section (such as natural disaster, epidemic, accident, war, other violent activity, labor dispute, civil disturbance or state or federal statute or executive or judicial order) require emergency restrictions upon the use of water from any system, the Engineer shall order such restrictions as the Engineer in his or her sole discretion deems appropriate under the circumstances, and then shall obtain ratification of the order from the District's Board at its first meeting following such restriction order.

Such order may restrict the use of water for sprinkling, manufacturing, or nonessential uses. The use of water for particular purposes may be limited to specified days or hours of a day or altogether prohibited, except that the use of water for drinking, cooking, and sanitary purposes shall not be prohibited.

Notice of any such order shall be given, either in writing or orally when possible, to customers served by the affected system. Water supply to any premises upon which the use of water is being made in violation of such order may be summarily shut off.

When the Engineer determines that the emergency no longer exists, the Engineer shall, by further order, rescind the restrictions previously ordered. Notice of such order shall be given to customers in the same manner in which the order imposing the restrictions was given.

1-K-2 **LEVEL 1 WATER SUPPLY SHORTAGE**:

1-K-2a A Level 1 Water Supply Shortage exists when the Engineer determines in his or her sole discretion that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists, and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the Engineer of a Level 1 Water Supply Shortage condition, the Director shall implement the mandatory Level 1 conservation measures identified in this section, effective on the date determined by the Director.

1-K-2b In addition to the prohibited uses of water identified in Section L of this part, the following water conservation measures apply during a declared Level 1 Water Supply Shortage:

(i) Exterior Water Use: The District will establish allocations and water rates to achieve the desired reduction in exterior water use.

1-K-3 **LEVEL 2 WATER SUPPLY SHORTAGE**:

1-K-3a A Level 2 Water Supply Shortage exists when the Engineer determines in his or her sole discretion that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists, and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the Engineer of a Level 2 Water Supply Shortage condition, the Director shall implement the mandatory Level 2 conservation measures identified in this section, effective on the date determined by the Director.

1-K-3b In addition to the prohibited uses of water identified in Rule 1-K-2 of Section K of this part and Section L of this part, the following water conservation measures apply during a declared Level 2 Water Supply Shortage:

(i) Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to the declaration of a supply shortage level under these Rules and Regulations.

(ii) Limits on Washing Vehicles: Using water to wash or clean a vehicle is prohibited, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, by high pressure/low volume wash systems, or at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.

(iii) Limits on Filling Residential Swimming Pools and Spas: Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.

1-K-4 **LEVEL 3 WATER SUPPLY SHORTAGE – EMERGENCY CONDITION**:

1-K-4a A Level 3 Water Supply Shortage is also referred to as an "Emergency" condition. A Level 3 Water Supply Shortage exists when the Engineer determines that a significant reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety, declares a water shortage emergency and notifies District residents and businesses of the emergency. Upon the declaration by the Engineer of a Level 3 Water Supply Shortage, the Director shall implement the mandatory Level 3 emergency conservation measures identified in this section, effective on the date determined by the Director.

1-K-4b In addition to the prohibited uses of water identified in Rules 1-K-2 and 1-K-3 of Section K of this part and Section L of this part, the following water conservation measures apply during a declared Level 3 Water Supply Shortage:

(i) **No Watering or Irrigating**: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use, unless it is determined by the Director that recycled water is available and may be applied to the use:

a. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container or hand-held hose equipped with a positive self-closing water shutoff nozzle or device.

b. Maintenance of existing landscape necessary for fire protection.

c. Maintenance of existing landscape for soil erosion control.

d. Maintenance of plant materials identified to be rare or essential to the well-being of protected species.

e. Maintenance of landscape within active public parks and playing fields, day-care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two (2) days per week according to the schedule established to achieve the desired reduction in exterior water use and does not occur between 9:00 a.m. and 4:00 p.m. except for a short duration, not to exceed 3 minutes per station, for the limited purpose of testing or making repairs to the irrigation system.

f. Actively irrigated environmental mitigation projects.

(ii) **Obligations to Fix Leaks, Breaks or Malfunctions**: All leaks, breaks or other malfunctions in the water user's plumbing or distribution system must be repaired within a reasonable time of notification or discovery of the malfunction unless other arrangements are made with the District. A period of forty-eight hours after the water user discovers such malfunction, or receives notice from the District of such malfunction, whichever occurs first, shall be deemed a reasonable time within which to repair such malfunction.

(iii) **No New Potable Water Service**: Upon declaration of a Level 3 Water Supply Shortage, no new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statements of immediate ability to serve or provide potable water service (such as will-serve letters, certificates, or letters of availability) will be issued, except under the following circumstances:

a. A valid, unexpired building permit has been issued for the project; or

b. The project is necessary to protect the public health, safety, and welfare; or

c. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the District.

This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less.

1-K-5 **NO NEW ANNEXATIONS**: Upon the declaration of a Level 3 Water Supply Shortage, the District will suspend consideration of annexations to its service area. This subdivision does not apply to boundary corrections and annexations that will not result in any increased use of water.

1-K-6 **DISCONTINUED SERVICE**: The Director, in his or her sole discretion, may discontinue service to consumers who willfully violate the Level 3 Water Supply Shortage provisions.

1-K-7 **PROCEDURES FOR DETERMINATION/NOTIFICATION OF WATER SUPPLY SHORTAGE**

1-K-7a **DECLARATION AND NOTIFICATION OF WATER SUPPLY SHORTAGE**: The existence of a Level 1, Level 2 or Level 3 Water Supply Shortage shall be declared by the District Board or Engineer. If the declaration is made by the Engineer, the Engineer shall seek ratification of the declaration from the District Board at its first meeting following the declaration. Upon such declaration, all District customers shall be notified in writing of the applicable mandatory conservation measures, the date the measures are to take effect and, by reference to the applicable rule within these Rules and Regulations, the penalties that may be imposed for failing to comply with the measures.

1-K-8 **HARDSHIP WAIVER**

1-K-8a **UNDUE AND DISPROPORTIONATE HARDSHIP**: If, due to unique circumstances, a specific requirement of this section would result in undue hardship to a person using water or to property upon which water is used that is disproportionate to the impacts to water users generally or to similar property or classes of water users, then the person may apply for a waiver to the requirements as provided in this section.

1-K-8b **WRITTEN FINDING**: The waiver may be granted or conditionally granted only upon a written finding of the existence of facts demonstrating an undue hardship to a person using water or to a property upon which water is used that is disproportionate to the impacts to water users generally or to similar property or classes of water use due to specific and unique circumstances of the user or the user's property.

(i) Application: Application for a waiver shall be on a form prescribed by the District and shall be accompanied by a non-refundable processing fee in an amount set by the District.

(ii) Supporting Documentation: The application shall be accompanied by photographs, maps, drawings, and other information, including a written statement of the applicant

(iii) Required Findings for Waiver: An application for a waiver shall be denied unless the Approval Authority (defined elsewhere in this rule) finds, based upon the information provided in the application, supporting documents, or such additional information as may be requested, and on water use information for the property as shown by the records of the District, all of the following:

a. That the waiver does not constitute a grant of special privilege inconsistent with the limitations upon other residents and businesses;

b. That because of special circumstances applicable to the property or its use, the strict application of this section would have a disproportionate impact on the property or use that exceeds the impacts to residents and businesses generally;

c. That the authorizing of such waiver will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the District to effectuate the purpose of this section and will not be detrimental to the public interest; and

d. That the condition or situation of the subject property or the intended use of the property for which the waiver is sought is not common, recurrent or general in nature.

1-K-8c **APPROVAL AUTHORITY**: The Director shall have approval authority and act upon any completed application no later than twenty (20) days after submittal and may approve, conditionally approve, or deny the waiver. The applicant requesting the waiver shall be promptly notified in writing of any action taken. Unless specified otherwise at the time a waiver is approved, the waiver will apply to the subject property during the term of the applicable Level 1, Level 2 or Level 3 Water Supply Shortage.

1-K-8d **APPEALS TO THE DISTRICT**: An applicant may appeal a decision by the Director to deny or conditionally approve a waiver application by filing a written request for hearing with the Engineer within ten (10) days of the Director's decision. The request for hearing shall state the grounds for the appeal. At a

public hearing, the Engineer shall act as the Approval Authority and review the appeal in accordance with the standards established in this rule. The decision of the Engineer is final.

PART 1 - SECTION L - PERMANENT WATER CONSERVATION MEASURES

RULE

1-L-1 **WATER SAVING DEVICES**: All new customers shall install and use the following water efficient plumbing fixtures:

(i) Ultra low volume toilets (1.6 gallons per flush or less).

(ii) Low flow shower heads (2.0 gallons per minute or less).

1-L-2 **WATER WASTE PROHIBITED:** No person shall use or permit the use of District water as follows:

1-L-2a Watering of turf, ornamental landscape, open ground crops and trees, in a manner or to an extent which allows water to run to waste.

1-L-2b In any manner such that the escape of water through leaks, breaks, or malfunctions within the water user's plumbing or distribution system occurs for any period of time beyond which such break or leak should reasonably have been discovered and corrected. It shall be presumed that a period of forty-eight hours after the water user discovers such leak, break, or malfunction, or receives notice from the District of such condition, whichever occurs first, is a reasonable time within which to correct such condition.

1-L-2c Using water to wash or clean a vehicle, including but not limited to washing automobiles, trucks, trailers, boats, or other types of mobile equipment, without the use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subdivision does not apply to any commercial car washing facility.

1-L-2d Operating any ornamental fountain, or similar structures, unless water for such is recycled for lawful reuse without substantial loss.

1-L-2e Washing down hard or paved surfaces, including but not limited to washing of sidewalks, walkways, driveways, parking lots or any other hard-surfaced areas by hose or flooding, except as otherwise necessary to prevent or eliminate conditions dangerous to the public health and safety or for other legitimate uses approved by the District, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, a low-volume high-press cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

1-L-2f Serving water in eating or drinking establishments, including but not limited to restaurants, hotels, cafés, bars or other public places where food or drinks are sold or served, to customers without first being expressly requested by the customer.

1-L-2g Running of water or washing with water not otherwise prohibited above which is wasteful and without reasonable purpose.

1-L-2h Watering of residential, commercial, industrial, and governmental outdoor irrigation from 9:00 a.m. to 4:00 p.m. except for a short duration, not to exceed 3 minutes per station, for the limited purpose of testing or making repairs to the irrigation system. Agricultural customers are exempt from this irrigation schedule, but must comply with agricultural irrigation schedules determined by the District.

1-L-2i Running of water or spraying of water onto other properties.

1-L-2j Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended for more than ten (10) minutes watering per day per station. This rule does not apply during the establishment period, as determined by the District, for new landscaping.

1-L-2k Laundering by hotels, motels and other commercial lodging establishments, except where customers are given the option of not having towels and linens laundered daily through the prominent display of written notice of such option in each bathroom using clear and easily understood language.

1-L-2l Through the installation of single pass cooling systems in buildings requesting new water service.

1-L-2m Through the installation of non-recirculating water systems in new commercial conveyor car wash and new commercial laundry systems.

1-L-2n Through the use of non-water conserving dish wash spray valves by food preparation establishments, such as restaurants and cafes.

1-L-2o Through a commercial conveyor car wash operating without a recirculating water system, or without first securing a waiver of this requirement from the Director.

1-L-3 **IRRIGATION SCHEDULES**: The district may impose irrigation schedules for outdoor use, including agricultural use, to address water conservation and limited water supply.

1-L-4 **FAILURE TO COMPLY**

1-L-4a **CIVIL PENALTIES**: In addition to any other penalties or sanctions provided by law, the following civil penalties shall be imposed for violation of any of the provisions of these Rules and Regulations, to be paid by the customer at the premises at which the violation occurred:

(i) For the first violation of any of the provisions of these Rules and Regulations, a written notice will be given to the customer.

(ii) For the second violation of any of the provisions of these Rules and Regulations within the preceding (12) twelve calendar months, a penalty of one hundred dollars ($100.00) shall be imposed by written

notice to the customer. This penalty is payable as part of the water bill, by the customer at the premises at which the violation occurred.

(iii) For the third violation of any of the provisions of these Rules and Regulations within the preceding (12) twelve calendar months, a penalty of two hundred and fifty dollars ($250.00) shall be imposed by written notice to the customer. This penalty is payable as part of the water bill, by the customer at the premises at which the violation occurred.

(iv) For the fourth violation of any of the provisions of these Rules and Regulations within the preceding twelve (12) calendar months, a penalty of five hundred dollars ($500.00) shall be imposed by written notice to the customer. This penalty is payable as part of the water bill, by the customer at the premises at which the violation occurred.

The District may also give written notice to the customer indicating that it will install a flow restricting device of 1 GPM capacity for services up to one and one half inch meter size, and comparatively sized restrictors for larger services, on the service of the customer at the premises at which the violation occurred for a period of not less than forty-eight (48) hours. The charge for installing such a flow restricting device will be based upon the size of the meter and the actual cost of installation. The charge for removal of the flow restricting device and restoration of normal service shall be based on the actual cost involved. Said charges shall be payable by the customer as part of the water bill. Restoration of normal service will be performed during the hours of 8:00 a.m. to 4:00 p.m. on regular working days. In addition, a surcharge penalty of $100.00 shall be imposed for restoration of normal service, payable by said customer as part of the water bill.

(v) If there are five violations of any of the provisions of these Rules and Regulations within twelve (12) consecutive calendar months, the District may, following notice to the customer as described herein, discontinue water service to the customer at the premises at which the violation occurred.

1-L-4b **NOTICE**: The District will give notice of each violation to the customer at the premises at which the violation occurred, as follows:

(i) For a first, second, or third violation, the District may give written notice of such violation to the customer personally or by regular mail.

(ii) If the penalty assessed is, or includes, the installation of a flow restrictor or the discontinuance of water service to the customer for any period of time whatever, notice of the violation will be given in the following manner:

a. By giving written notice thereof to the customer personally; or
b. If the customer is absent from or unavailable at the customer's billing address, place of residence, or place of business, by leaving a copy with an adult at such places, and by sending a

copy through the United States mail addressed to the customer at such places, via registered mail return receipts requested.

c. If service of the notice as provided in a & b above cannot be accomplished, notice can be given by affixing a copy in a conspicuous place on the property where the failure to comply has occurred and also by delivering a copy to a person residing at the property, if such person can be found.

d. All notices will contain, in addition to the facts of the violation, a statement of the possible penalties for each violation, a statement informing the customer of the customer's right to a hearing on the violation, a brief summary of the appeal process specified in this rule, and the date and time installation of the restrictor or discontinuance of the service will occur.

1-L-4c **HEARING**: Any customer against whom a penalty is to be levied pursuant to this section shall have a right to a hearing, in the first instance by the Director, with the right of appeal to the Engineer or his or her designee, on the merits of the alleged violation, upon the written request of that customer to the Director within fifteen (15) days of the date of giving notice of the violation. Penalties, including termination of water service, will be stayed until any such hearing is conducted and a written decision is made by the Director or his or her designee and given to the customer.

1-L-4d **APPEAL OF DECISION OF DIRECTOR**: A request for an appeal must be in writing and filed with the Engineer or his or her designee. The filing by a customer of a request for an appeal for any form of relief must be made within fifteen (15) days of the giving of the decision of the Director to the customer. Filing of such a request will automatically stay the implementation of the proposed course of action, pending the decision of the Engineer or his or her designee. No other or further stay will be granted. The appeal hearing will be scheduled to occur within a reasonable period of time following the written notice of appeal. The customer may present any evidence that would tend to show that the alleged violation has not occurred. Formal rules of evidence will not apply and all relevant evidence customarily relied upon by reasonable persons in the conduct of serious business affairs will be admissible, unless a sound objection warrants its exclusion as determined by the Engineer or his or her designee. The decision of the Engineer or his or her designee shall be final.

1-L-4e **RECONNECTION**: Where water service is disconnected, as authorized above, it will be reconnected upon correction of the condition or activity and the payment of the estimated reconnection charge and other applicable charges.

1-L-4f **PUBLIC HEALTH AND SAFETY**: Nothing contained in these Rules and Regulations shall be construed to require the District to curtail the supply of water to any customer when, in the discretion of the Engineer or his or her designee, such water is required by that customer to maintain an adequate level of public health and safety.

SEWER STUDY

FOR

Tentative Tract 5708
Hitch Ranch

City of Moorpark, California

December 11, 2019

PREPARED FOR

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SECTION 1 INTRODUCTION

This report details the sanitary sewer study investigation for the Tentative Tract 5708 Hitch Ranch development in Moorpark, CA. The development is on a 273-acre± property north of Poindexter Avenue between Gabbert Road and Walnut Canyon Road within the Hitch Ranch SP1 Specific Plan area. The proposed project is located within the sanitary sewer service area of Ventura County Waterworks (VCWW) District No. 1.

The proposed development will consist of an in-tract gravity collection system that will flow generally north-to-south toward the southeastern corner of the project. The in-tract sewer system will have a 12-inch diameter main line on Street "A" which will serve all onsite Planning Areas and will be sized to accommodate any future flows from the north. After crossing beneath the existing Walnut Canyon Channel and Union Pacific Railroad tracks, the mainline will outfall to an existing manhole at the intersection of Poindexter Avenue and Sierra Avenue. From this point, an existing 18" gravity sewer line proceeds south on Sierra Avenue ultimately joining the main VCWW trunk line that parallels the Arroyo Simi waterway.

Specifically addressed herein are: 1) the proposed sewer generation loads for the Hitch Ranch project; and 2) the impacts of those proposed Hitch Ranch sewer loads on the existing VCWW sewer system.

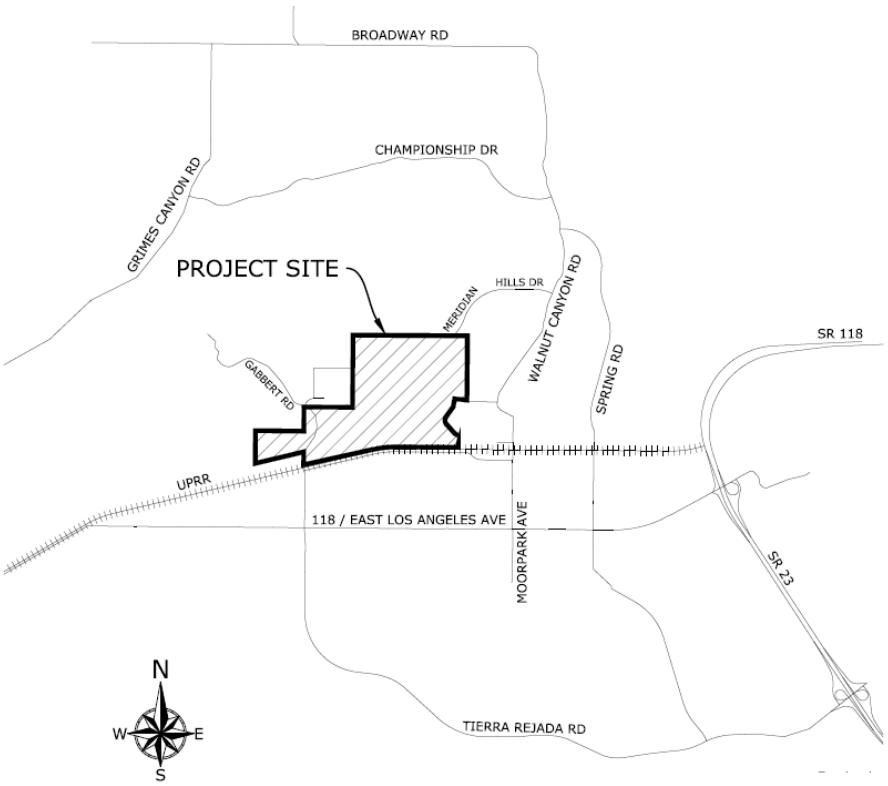

Figure 1: Project Location Map

SECTION 2 BASIS AND METHODOLOGY

The existing conditions of the VCWW sewer system were determined by performing wastewater flow monitoring at two locations identified in Exhibit 1. Results of the flow monitoring are included in Attachment 2. Additional anticipated future flows from planned (but not-yet-constructed) upstream developments were estimated based on the number of dwelling units approved by the City of Moorpark Community Development Department or (if the project is not yet approved as of the date of this report) based on the zoning density tables within the *County of Ventura Public Works Agency Sewerage Manual*. Refer to Exhibit 2 for an overview of the sewer service area that is tributary to the Hitch Ranch project. The *Sewer Master Plan (SMP) for Tentative Tract Nos. 4928 and 5187* and the S*anitary Sewer Study for Country Club Estates West and East (Tracts 5463 and 5464)* (both prepared by Hunsaker & Associates) were also referenced for pertinent information.

The average day sewer generation loads for the proposed development were calculated using the following VCWW duty factors:

- Dwelling density of 3.5 persons per SFD
- Dwelling density of 2.2 persons per MFD for buildings w/ 5 for more residential units
- Per capita average sewer generation of 0.00012 ft^3/s, or 78 gallons/day
- Q_{adw} = average dry-weather flow in ft^3/s
- Q_{pdw} = peak dry-weather flow = 2.65 $(Q_{adw})^{0.9}$ in ft^3/s (for avg flows ≤1.0 ft^3/s)
- Q_{pdw} = peak dry-weather flow = 2.65 $(Q_{adw})^{-0.1}$ in ft^3/s (for avg flows > 1.0 ft^3/s)
- Q_{pww} = peak wet-weather flow = 2.50 (Q_{pdw}) in ft^3/s
    - An I&I of 2.5 was assigned by VCWW District No. 1 staff on the basis that average flow at the Moorpark Treatment plant is 2 MGD, but flows have reached up to 5 MGD during significant storm events
- d/D = maximum depth/diameter = ⅔ for pipes < 12”
- d/D = maximum depth/diameter = ¾ for pipes ≥ 12”

SECTION 3 DEVELOPMENT SEWER LOADS

The Hitch Ranch development will be comprised of of 4 residential planning areas consisting of 755 dwelling units, of which 261 are single-family detached dwellings (SFDs), 253 are medium-density multi-family dwellings (MFDs), and 241 are high-density MFDs. An additional 110 MFDs are anticipated at a future apartment development on Lot 264 of Tentative Tract 5708. While this apartment development is considered ‘Not a Part’ of the Tentative Tract 5708 Hitch Ranch development improvements, the sewer flows generated from this future development will be factored into the design calculations to ensure adequate capacity of the sewer infrastructure in a fully developed condition. Table 1 below details the proposed average day sewer generation loads anticipated for the Hitch Ranch development.

Table 1: Proposed In-Tract Average Sewer Generation Loads

Dwelling Type	VCWW Sewer Criteria		Proposed Average Sewer Load		
	Dwelling Density	Per Capita Sewer Load (gallons/day)	Dwelling Units	Sewer Load (Gallons per Day)	Sewer Load (cfs)
SFD	3.5	78	261	71,253	0.110
MFD	2.2	78	494	84,771	0.131
		SUBTOTAL	**755**	**156,024**	**0.241**
Future MFD (Lot 264)	2.2	78	110	18,876	0.029
		TOTAL	**865**	**174,900**	**0.271**

Following the determination of the average day sewer loads from the Hitch Ranch development, the proposed 15-inch sewer main line on High Street was analyzed to confirm sizing and capacity. Table 2 (below) summarizes the sewer flow analysis results.

Table 2: In-Tract Peak Sewer Analysis

Point ID	Description	Sewer Diam. (in)	Min. Pipe Slope (ft/ft)	SFD	MFD	Q_{adw} (ft^3/s)	Q_{pdw} (ft^3/s)	Q_{pww} (ft^3/s)	V_{pww} (ft/s)	d/D (% full)
A	High Street	15	0.0030	-	-	0.271	0.817	2.043	2.94	55 ✓
	Street A at Street D	-	-	*27*	-	*0.011*	-	-	-	-
	Street A at Casey Rd	-	-	-	*253*	*0.067*	-	-	-	-
	Street A at Street H	-	-	*20*	-	*0.009*	-	-	-	-
	Street A at Street I	-	-	*23*	-	*0.010*	-	-	-	-
	Street A at Lot 263	-	-	-	*351*	*0.093*	-	-	-	-
	Street A at Street J	-	-	*93*	-	*0.039*	-	-	-	-
	Street A South of Street J	-	-	*98*	-	*0.042*	-	-	-	-

The remainder of the in-tract wastewater conveyance system will consist of 8-inch diameter gravity sewer lines that will convey wastewater to the aforementioned 12-inch diameter mainline beneath Street "A". At a minimum anticipated slope of 0.0100 ft/ft, an 8-inch diameter pipe can convey 0.973 ft^3/s before exceeding the maximum allowable d/D of ⅔. The highest anticipated

peak flow from the proposed 8-inch lines can be found in the line servicing the MFDs on Lots 263 and 264. This line will convey a Q_{adw} of 0.093 ft^3/s, a Q_{pdw} of 0.312 ft^3/s, and a Q_{pww} of 0.780 ft^3/s, which is 20% less than the maximum allowable flow rate of 0.973 ft^3/s.

Following the determination of the proposed in-tract sewer loads from the Hitch Ranch development, the existing downstream sewer system was analyzed to confirm capacity. Table 3 (below) summarizes the sewer flow analysis results.

Table 3: Off-Tract Peak Sewer Analysis

Point ID	Description	Sewer Diam (in)	Min. Pipe Slope (ft/ft)	SFD	MFD	Q_{adw} (ft^3/s)	Q_{pdw} (ft^3/s)	Q_{pww} (ft^3/s)	V_{pww} (ft/s)	d/D (% full)
B	Sierra Ave at Poindexter Ave	18	0.0045	-	-	0.874	2.348	5.870	4.43	70 ✓
	Ex. Flows	-	-	-	-	*0.409**	-	-	-	-
	VTTM 5130 (Wicks Rd)	-	-	*110*	-	*0.046*	-	-	-	-
	TTM 5739 (Everett St)	-	-	-	*60** (RPD Zoning)*	*0.016*	-	-	-	-
	TTM 5347 (Marine View Dr)	-	-	*21** (RA Zoning)*	-	*0.009*	-	-	-	
	RPD 2012-02 (Casey Rd)	-	-	-	*200*	*0.053*	-	-	-	-
	RPD 2013-01 (Casey Rd)	-	-	-	*390****	*0.070*	-	-	-	-
	TTM 5708 Hitch Ranch	-	-	-	-	*0.271*	-	-	-	-
C	Shasta Ave at L.A. Ave	18	0.0045	-	-	0.965	2.566	6.415	4.48	75 ✓
	Flows at Pipe Run B	-	-	-	-	*0.874*	-	-	-	-
	TR 5161 (Gisler Rd)	-	-	*59*	-	*0.025*	-	-	-	-
	TR 1240 (Sierra Ave)	-	-	*109*	-	*0.046*	-	-	-	-
	TR 5869 (L.A. Ave)	-	-	-	-	*0.020*** (CO Zoning)*	-	-	-	-

* Existing flows were obtained from flow monitoring results. Refer to Attachment 2.
** Dwelling unit count is based on Sewerage Manual Section 2.122, Building Density for Undeveloped Areas.
*** Avg. flow rate is based on Sewerage Manual Section 2.13, Commercial and Manufacturing.
****Dwelling unit count is assumed to be 1.5 persons/unit for the planned 390 senior assisted-living units

At the request of VCWW, this study also presents an analysis with an alternate point of connection from the Hitch Ranch development to the existing sewer line on Gabbert Road at the intersection of Poindexter Avenue. The northerly 1,100 feet of the existing Gabbert Road main line is an 8-inch diameter pipe at 0.0075 ft/ft slope. At the intersection of Gabbert Road and Commerce Avenue, the line increases to a 12-inch diameter pipe and proceeds 1,300 feet south and west to Mira Sol Drive (via Los Angeles Avenue) at 0.0020 ft/ft slope. Based on the aforementioned flow data and the information presented in Table 4 below, both the existing 8-inch and existing 12-inch segments described above are undersized to effectively convey the anticipated flows from Tentative Tract 5708 and would require upsizing to larger diameter lines in order to accommodate the anticipated flows. At minimum 0.0020 ft/ft slope, a 15-inch dimeter pipe would be required from the intersection of Gabbert Road and Poindexter Avenue to the intersection of Los Angeles Avenue and Mira Sol Drive in order to convey the anticipated flows.

Table 4: Off-Tract Peak Sewer Analysis (Alternate Route)

Point ID	Description	Sewer Diam (in)	Min. Pipe Slope (ft/ft)	SFD	MFD	Q_{adw} (ft^3/s)	Q_{pdw} (ft^3/s)	Q_{pww} (ft^3/s)	V_{pww} (ft/s)	d/D (% full)
A	High Street (west toward Gabbert Rd)	12	0.0050	-	-	0.271	0.817	2.043	3.52	69 ✓
B-Alt	Gabbert Rd at Poindexter Ave	8	0.0075	-	-	0.321 (from C-Alt)	0.953	2.383	-	No Solution ✘ (up-size to 15")
C-Alt	Gabbert Rd at Commerce Ave	12	0.0020	-	-	0.321	0.953	2.383	-	No Solution ✘ (up-size to 15")
	Ex. Flows	-	-	-	-	*0.024**	-	-	-	-
	Hitch Ranch	-	-	-	-	*0.271*	-	-	-	-
	TTM 5847 (N. Ranch)	-	-	*62** (RA Zoning)*	-	*0.026*	-	-	-	-
D-Alt	Alt Route Up-sizing (Gabbert/Poindexter to L.A. Ave/Mira Sol)	15	0.0020	-	-	0.321	0.953	2.383	2.61	70 ✓

* Existing flows were obtained from flow monitoring results. Refer to Attachment 2.

** Dwelling unit count is based on VCWW Sewerage Manual Section 2.122, Building Density for Undeveloped Areas.

SECTION 4 CONCLUSIONS AND RECOMMENDATIONS

The preceding analysis of the proposed Tract 5708 Hitch Ranch sewer flow rates indicates that at peak flow all proposed sewer pipes less than 12-inches in diameter will remain within the VCWW design constraint of two-thirds full at peak flow, and proposed (and existing pipes immediately downstream of the Hitch Ranch development) which are 12-inches in diameter and larger will remain within the VCWW design constraint of three-quarters full at peak. With the exception of the 1,500 feet of existing 8-inch and 12-inch diameter sewer pipe on Gabbert Road north of Los Angeles Avenue in the alternate route option, it is determined that no deficiency is observed in the existing wastewater collection system at the studied level of build-out conditions.

SECTION 5 REFERENCES

The following documents were used as a reference for the development of this report:

- County of Ventura Public Works Agency, *Sewerage Manual* dated July 1965 (with revisions noted).
- Jensen Design & Survey, *Sanitary Sewer Study Hitch Ranch* dated May 2006 (revised August 2011).
- Hunsaker & Associates, *Sewer Master Plan for Tentative Tract Nos. 4928 and 5187* dated May 2000.
- Hunsaker & Associates, *Sanitary Sewer Study for Country Club Estates West and East (Tracts 5463 and 5464)*.
- Encompass Consultant Group, *Tentative Tract Map 5708 Hitch Ranch* dated January 16, 2019 (or as most recently revised).
- Record drawings of existing facilities from Ventura County Waterworks District No. 1.

SECTION 6 EXHIBITS AND ATTACHMENTS

- Exhibit 1: Tentative Tract 5708 Hitch Ranch – Sewer Layout Exhibit
- Exhibit 2: Tentative Tract 5708 Hitch Ranch – Tributary Sewer Service Area
- Attachment 1: Hydraulic Pipe Flow Results
- Attachment 2: Wastewater Flow Monitoring Results by Utility Systems Science & Software (US^3) dated April 2019
- Attachment 3: VCWW Sewer System As-Built Drawings

EXHIBITS

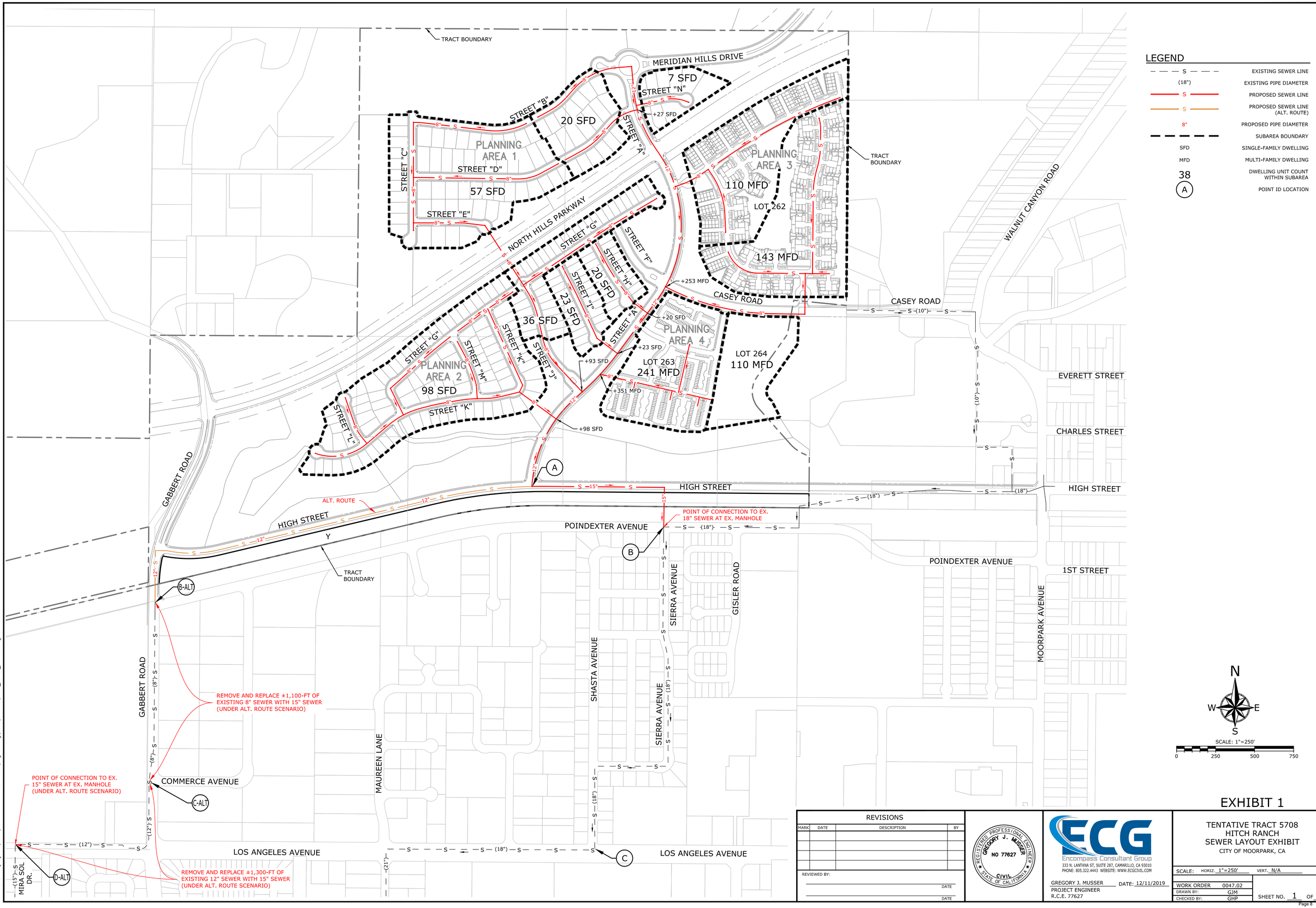

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EXHIBIT 1

REVISIONS			
MARK	DATE	DESCRIPTION	BY

REVIEWED BY:

DATE

DATE

REGISTERED PROFESSIONAL ENGINEER
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GREGORY J. MUSSER
PROJECT ENGINEER
R.C.E. 77627

DATE: 12/11/2019

TENTATIVE TRACT 5708
HITCH RANCH
SEWER LAYOUT EXHIBIT
CITY OF MOORPARK, CA

SCALE: HORIZ. 1"=250' VERT. N/A

WORK ORDER	0047.02
DRAWN BY:	GJM
CHECKED BY:	GHP

SHEET NO. 1 OF 1

COUNTRY CLUB ESTATES (CONSTRUCTED)

GRIMES CANYON ROAD

CHAMPIONSHIP DRIVE

COUNTRY CLUB ESTATES (CONSTRUCTED)

MOORPARK COUNTRY CLUB

COUNTRY CLUB ESTATES (CONSTRUCTED)

CHAMPIONSHIP DRIVE

CANYON CREST TTM 5347 (APPROVED, NOT CONSTRUCTED)

MARINE VIEW DRIVE

HIGHLANDS (CONSTRUCTED)

RIDGECREST DRIVE

MERIDIAN HILLS (CONSTRUCTED)

MERIDIAN HILLS DRIVE

HIGHLANDS (CONSTRUCTED)

ELK RUN LOOP

TRACT BOUNDARY

GABBERT ROAD

NORTH HILLS PARKWAY

HITCH RANCH

ALDERSGATE RPD 2013-01 (APPROVED, NOT CONSTRUCTED)

WALNUT CANYON ROAD

VISTAS VTTM 5130 (APPROVED, NOT CONSTRUCTED)

SPRING ROAD

CASEY ROAD

WICKS ROAD

EVERETT TERRACES TTM 5739 (NOT APPROVED)

ESSEX RPD 2012-02 (APPROVED, NOT CONSTRUCTED)

EVERETT STREET

EVERETT APARTMENTS (CONSTRUCTED)

CHARLES STREET

A

TRACT BOUNDARY

HIGH STREET

HIGH STREET

PRINCETON AVE

HIGH STREET

POINDEXTER AVENUE

B

POINDEXTER AVE

1ST STREET

2ND STREET

3RD STREET

TRACT 1240

TRACT 5161

GABBERT ROAD

COMMERCE AVENUE

MAUREEN LANE

SHASTA AVENUE

SIERRA AVENUE

MOORPARK AVENUE

B-ALT

LOS ANGELES AVENUE

C

GREEN ISLAND VILLAS TTM 5869 (NOT APPROVED)

N

W E

S

SCALE: 1"=500'

0 500 1000 1500

LEGEND

SHASTA AVE. TRIBUTARY SEWER SERVICE AREA

A POINT ID LOCATION

EXHIBIT 2

REVISIONS

MARK	DATE	DESCRIPTION	BY

REVIEWED BY:

DATE

DATE

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GREGORY J. MUSSER
PROJECT ENGINEER
R.C.E. 77627

DATE: 07/23/2019

TENTATIVE TRACT 5708
HITCH RANCH
TRIBUTARY SEWER SERVICE AREA
CITY OF MOORPARK, CA

SCALE: HORIZ. 1"=500' VERT. N/A

WORK ORDER 0047.02
DRAWN BY: GJM
CHECKED BY: GHP

SHEET NO. 1 OF 1

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ATTACHMENTS

ATTACHMENT 1

Channel Report

8-inch Max Capacity at 2/3 Full

Circular

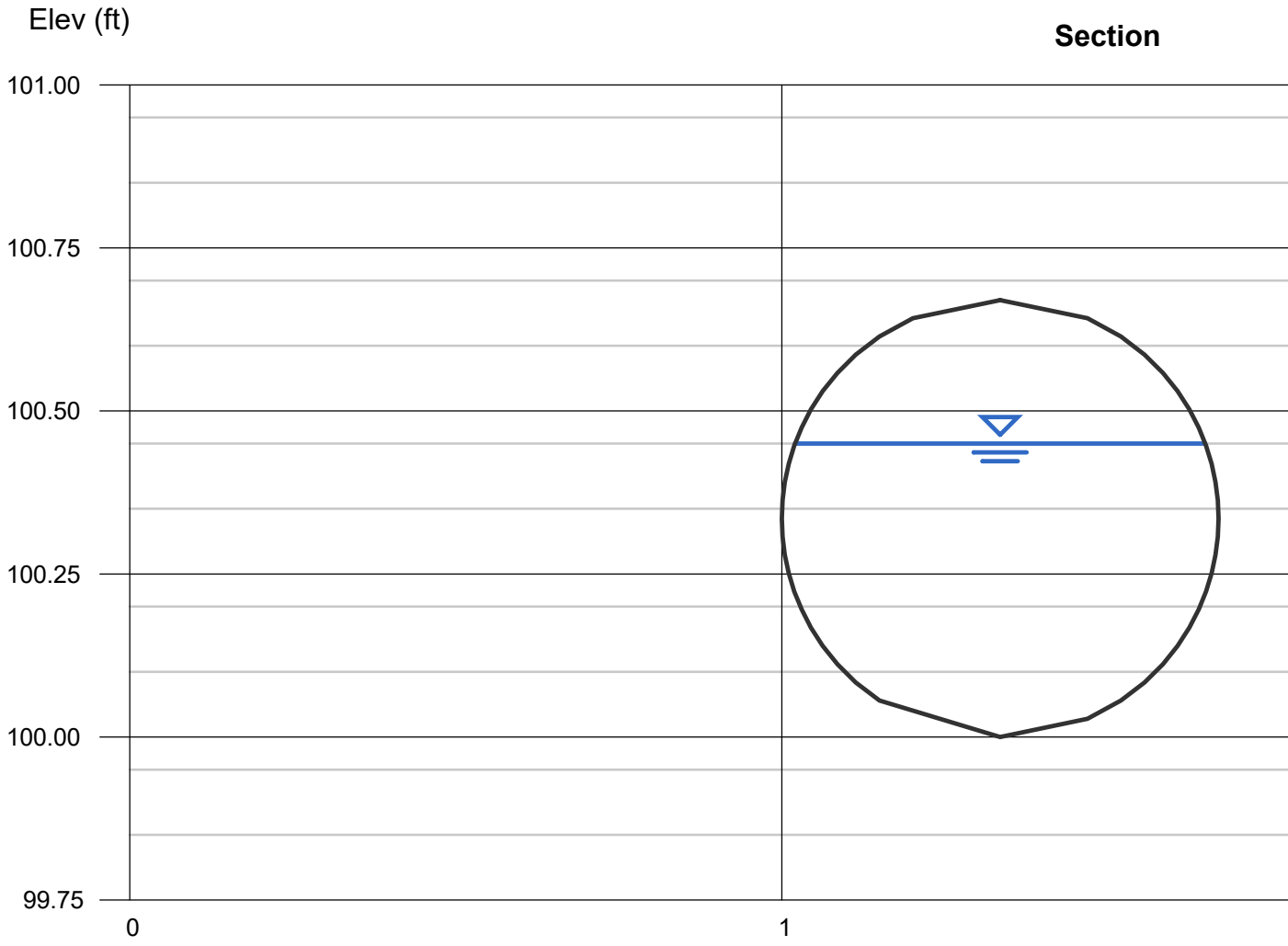
Diameter (ft)	= 0.67
Invert Elev (ft)	= 100.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Depth
Known Depth (ft)	= 0.45

Highlighted

Depth (ft)	= 0.45
Q (cfs)	= 0.973
Area (sqft)	= 0.25
Velocity (ft/s)	= 3.85
Wetted Perim (ft)	= 1.29
Crit Depth, Yc (ft)	= 0.47
Top Width (ft)	= 0.63
EGL (ft)	= 0.68



Channel Report

Pipe Run ID A 15-inch

Circular

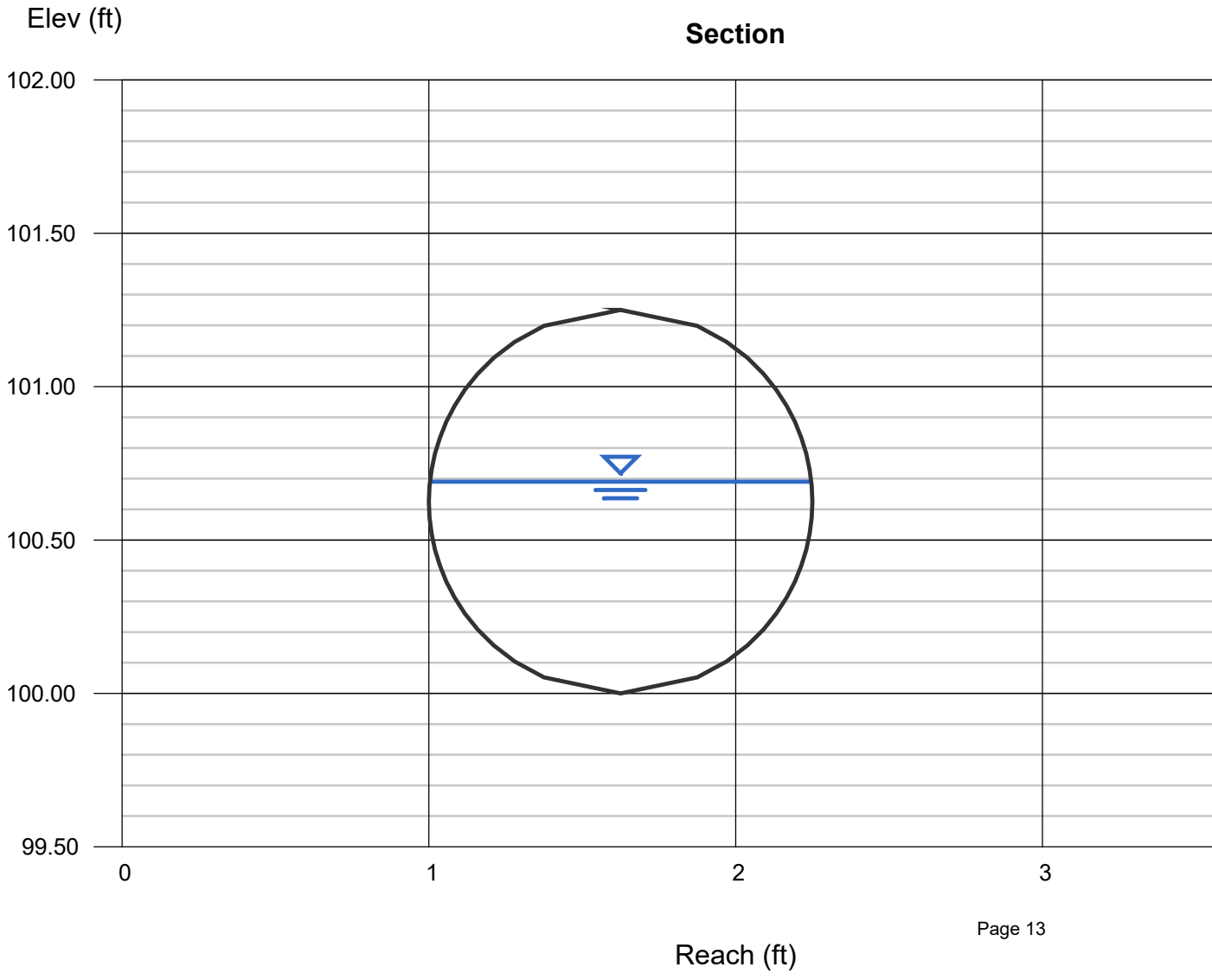
Diameter (ft)	= 1.25
Invert Elev (ft)	= 100.00
Slope (%)	= 0.30
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 2.04

Highlighted

Depth (ft)	= 0.69
Q (cfs)	= 2.043
Area (sqft)	= 0.69
Velocity (ft/s)	= 2.94
Wetted Perim (ft)	= 2.09
Crit Depth, Yc (ft)	= 0.57
Top Width (ft)	= 1.24
EGL (ft)	= 0.82



Channel Report

Pipe Run ID B 18-inch

Circular

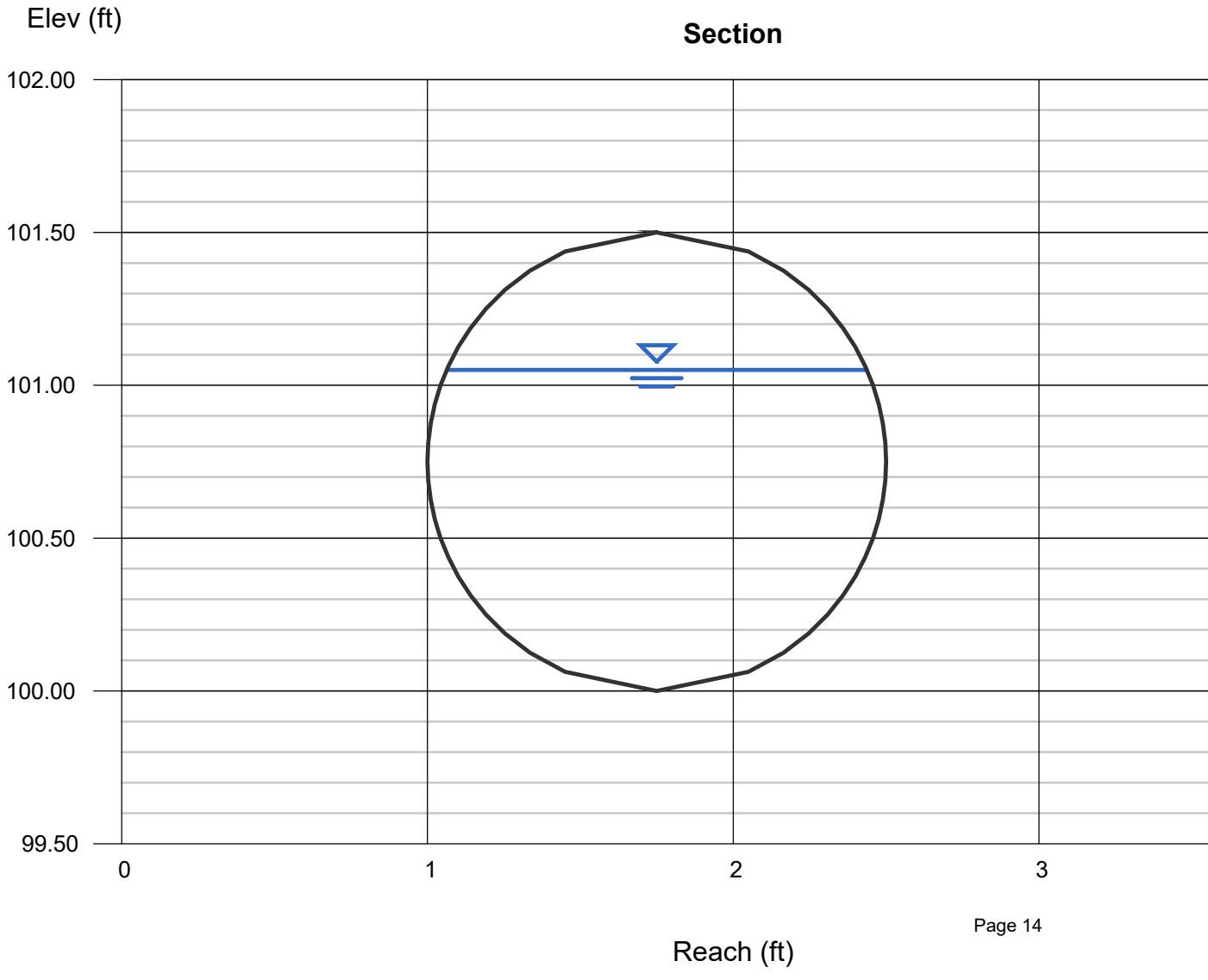
Diameter (ft)	= 1.50
Invert Elev (ft)	= 100.00
Slope (%)	= 0.45
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 5.87

Highlighted

Depth (ft)	= 1.05
Q (cfs)	= 5.870
Area (sqft)	= 1.32
Velocity (ft/s)	= 4.43
Wetted Perim (ft)	= 2.98
Crit Depth, Yc (ft)	= 0.94
Top Width (ft)	= 1.37
EGL (ft)	= 1.36



Channel Report

Pipe Run ID C 18-inch

Circular

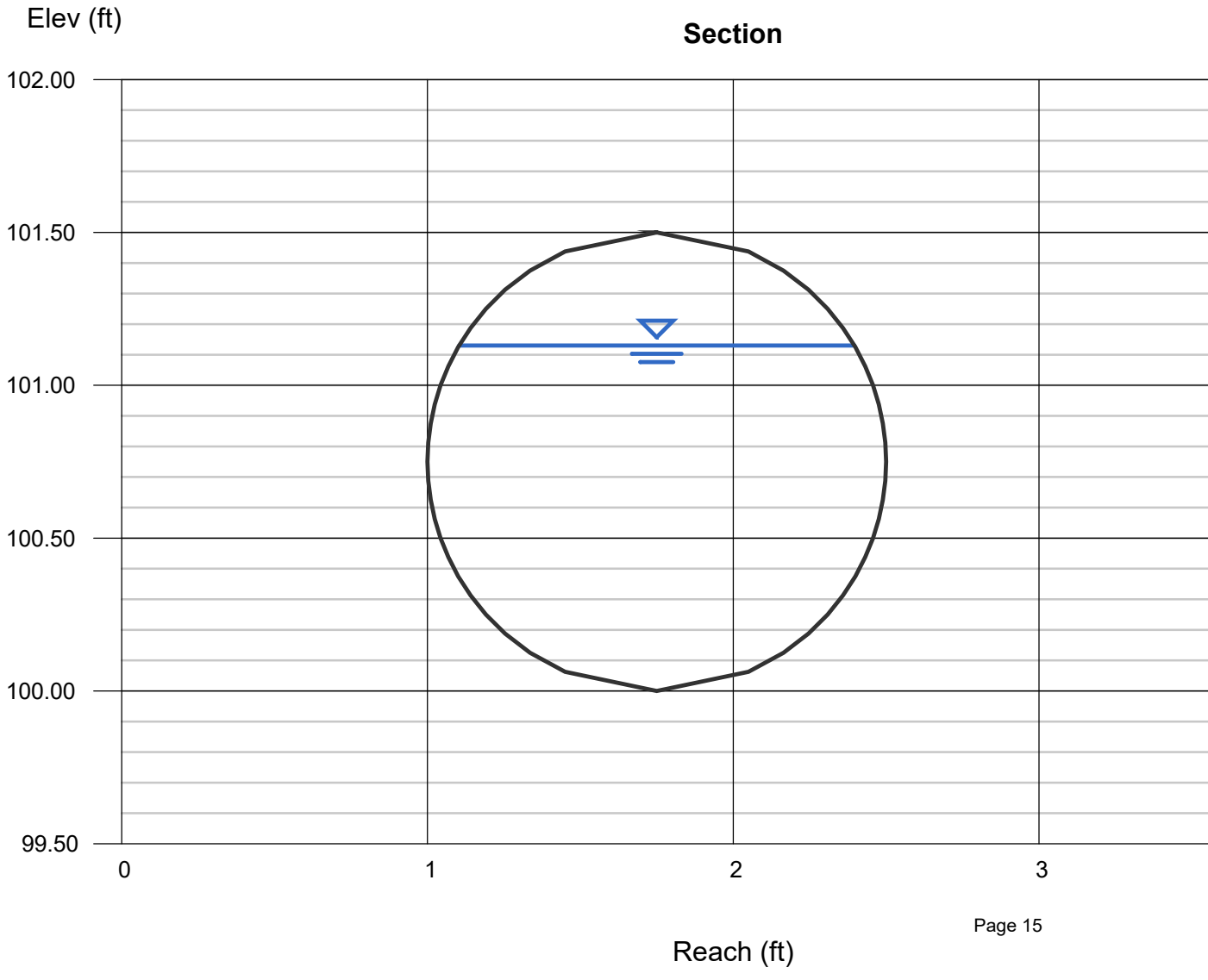
Diameter (ft)	= 1.50
Invert Elev (ft)	= 100.00
Slope (%)	= 0.45
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 6.42

Highlighted

Depth (ft)	= 1.13
Q (cfs)	= 6.415
Area (sqft)	= 1.43
Velocity (ft/s)	= 4.48
Wetted Perim (ft)	= 3.16
Crit Depth, Yc (ft)	= 0.98
Top Width (ft)	= 1.29
EGL (ft)	= 1.44



Channel Report

Pipe Run ID A 12-inch (Alt Route)

Circular

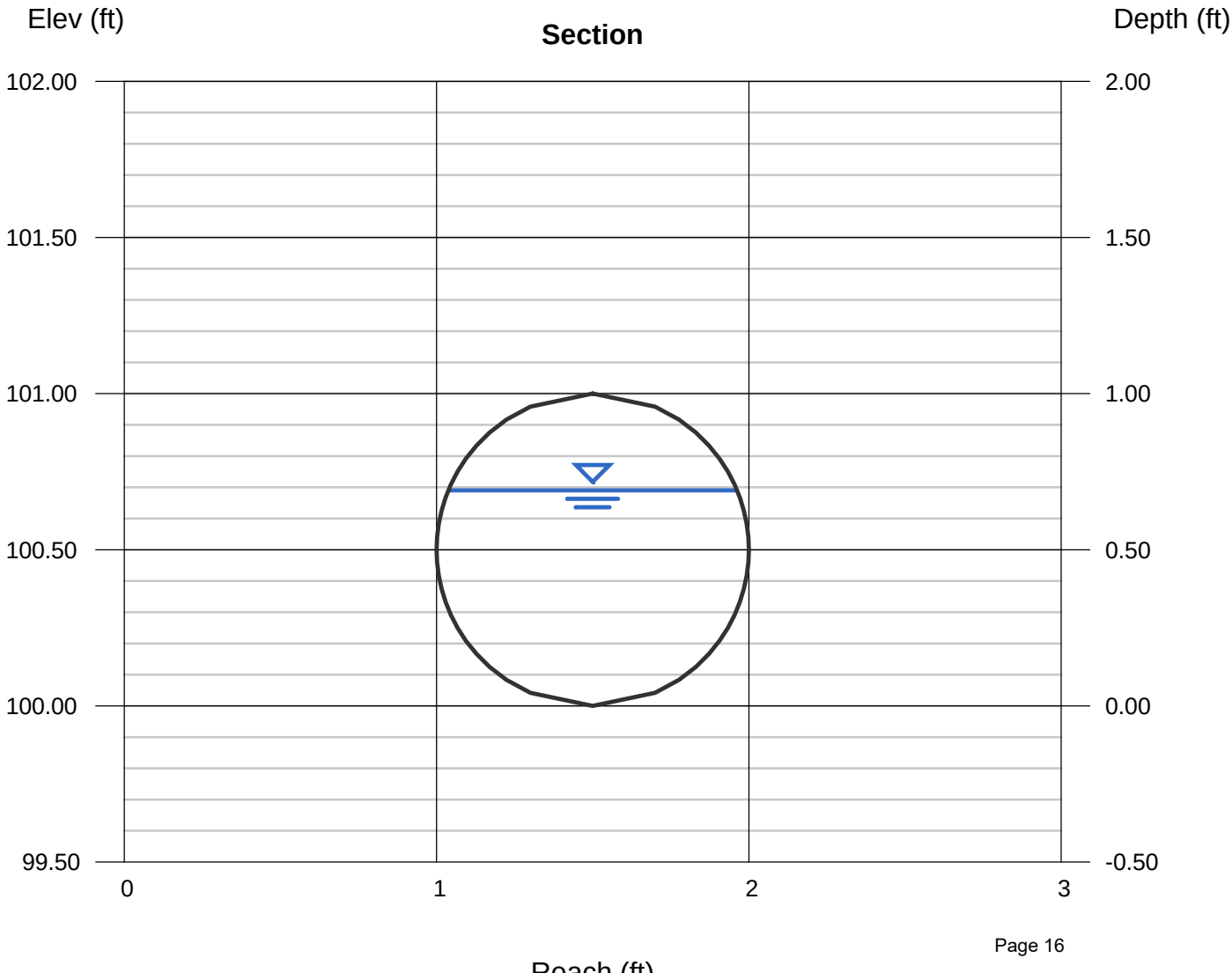
Diameter (ft)	= 1.00
Invert Elev (ft)	= 100.00
Slope (%)	= 0.50
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 2.04

Highlighted

Depth (ft)	= 0.69
Q (cfs)	= 2.043
Area (sqft)	= 0.58
Velocity (ft/s)	= 3.52
Wetted Perim (ft)	= 1.96
Crit Depth, Yc (ft)	= 0.61
Top Width (ft)	= 0.92
EGL (ft)	= 0.88



Channel Report

Pipe Run ID B-Alt 15-inch Up-sizing

Circular

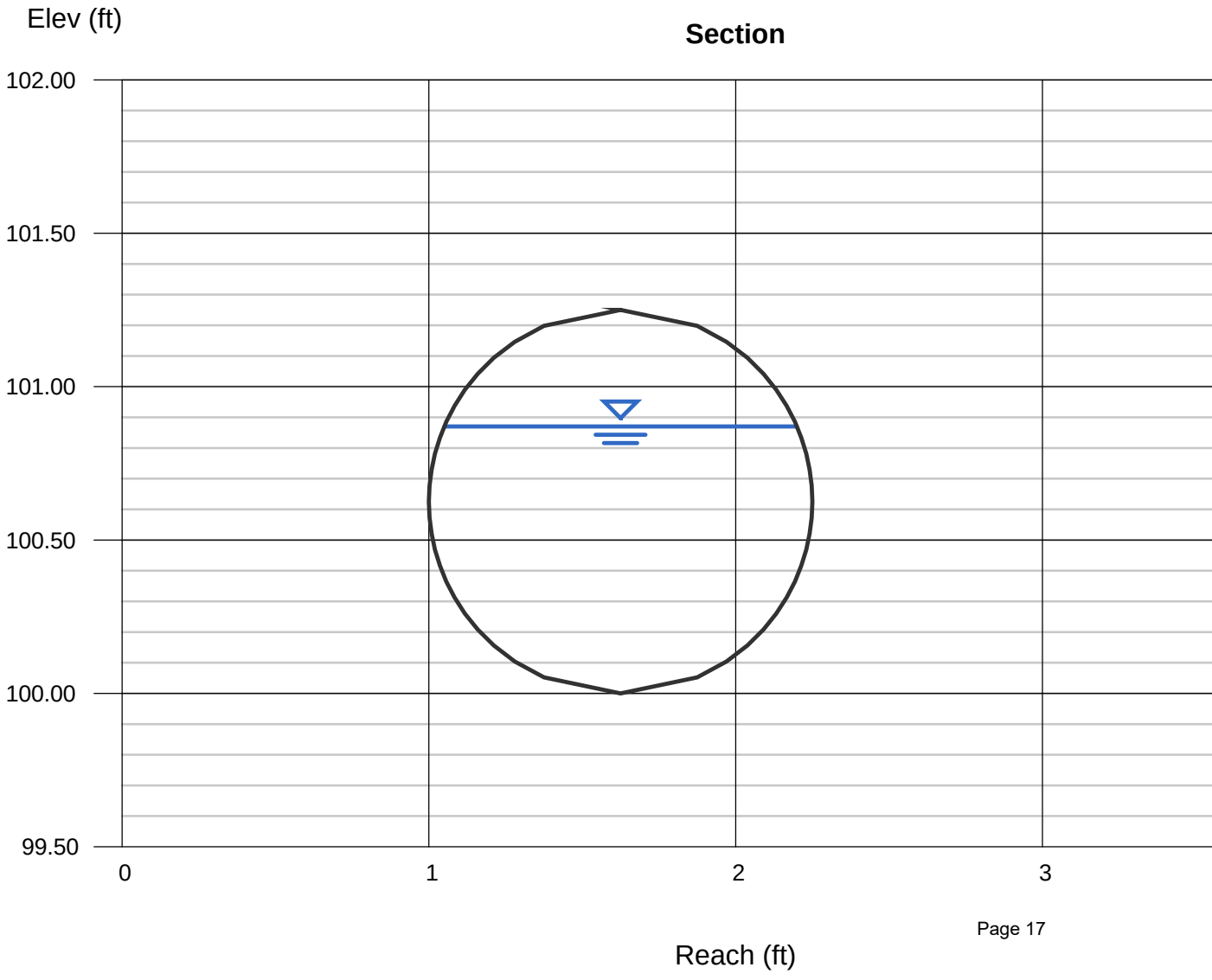
Diameter (ft)	= 1.25
Invert Elev (ft)	= 100.00
Slope (%)	= 0.20
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 2.38

Highlighted

Depth (ft)	= 0.87
Q (cfs)	= 2.383
Area (sqft)	= 0.91
Velocity (ft/s)	= 2.61
Wetted Perim (ft)	= 2.47
Crit Depth, Yc (ft)	= 0.62
Top Width (ft)	= 1.15
EGL (ft)	= 0.98



ATTACHMENT 2

Wastewater Flow Monitoring Services

For

Encompass Consultant Group

Hitch Ranch Development Project

Moorpark, CA 93021

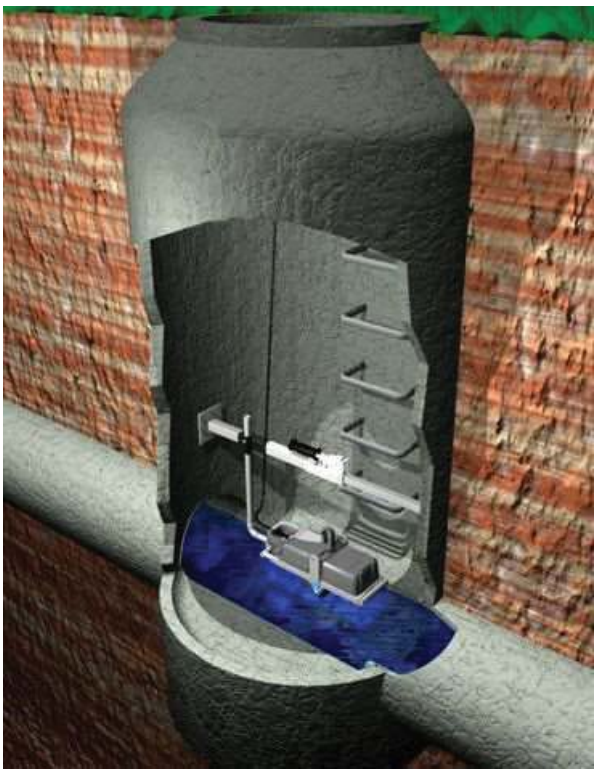
April 10, 2019 through April 18, 2019

Leaders in Sewer Flow Monitoring Services

601 N. Parkcenter Dr., Suite 209
Santa Ana, CA 92705

Phone: 714-542-1004
Fax: 714-542-1332

www.uscubed.com
www.sewerflow.com



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Tab 1: Overview & Site-Specific Information

1.1 Overview

The sewer system in the City of Moorpark is controlled by the County of Ventura Water and Sanitation Department, which is managed by the County of Ventura Department of Public Works. The sewer lines monitored as part of this report are all within the Ventura County system. The Utility Services Division of the County of Ventura Water and Sanitation Department is responsible for the operation, maintenance, design, inspection, and construction of the Special Districts and County Service Areas.

Formed on November 22, 1921, Ventura County Waterworks (VCW) District 1 encompasses approximately 20,000 acres. Providing potable water and sanitation services to over 10,000 customers, District 1's boundaries encompass the City of Moorpark as well as contiguous, unincorporated areas to the north and west of the city. VCW District 1 owns, operates, and maintains the Moorpark Water Reclamation Facility (MWRF). The current rated design capacity of the plant is 5.0 million gallons per day (mgd). Approximately 1.5 mgd of effluent is treated to tertiary standards to comply with Title 22 water quality standards. The Moorpark Country Club Estate's 27-hole golf course uses recycled water from the MWRF for irrigation.

Since the County of Ventura is responsible for all portions of this wastewater collection system, sewer flow monitoring is required as a condition of development. This requirement not only helps to ensure adequate capacity, but continually updates their database with the most current information, allowing the County to improve the condition and performance of its wastewater collection system, reducing the occurrences of SSOs, and ensuring the health and safety of the communities they serve.

1.2 Project Description

Utility Systems Science & Software, Inc. (US^3) was contracted by the Encompass Consultant Group to perform sewer flow monitoring at two sewer manholes downstream from the point of connection with the proposed Hitch Ranch development project. The sewer lines and monitoring sites are shown on map in Section 1.3. This sewer system assessment was developed for the current conditions to analyze for potential capacity limitations in the monitored lines.

US^3 assessed permitting and traffic control requirements for the selected monitoring sites. Traffic control for the two sites followed standards used during construction, maintenance, and utility activities in accordance with the California Manual of Uniform Traffic

Control Devices. An encroachment permit was approved by the City prior to flow monitoring.

US^3 performed an initial site inspection to evaluate the site hydraulics at the selected monitoring sites. **Note:** Each wastewater collection system is different, and some of the differences that affect flow monitoring include: slope of sewer line; age, condition and material of sewer line; number and type of connections; and sewer design, specifically the proximity of baffles, drop structures, pumps, siphons, and weirs. None of these structures were found within the selected manholes. Since the hydraulics within the selected manholes were acceptable for flow monitoring during the inspection, it was determined that the sites should provide an accurate representation of the flow patterns during the study. Therefore, installation at the sites occurred on 4/10/2019.

The manholes were equipped with Hach Marsh-McBirney Flo-Dar® AV Sensors and Loggers. With the installation and removal of the equipment, the manholes were opened and confined space entry was limited to crossing the plane with hands and arms, but not actually entering the manholes. Even though US^3 personnel did not enter the manholes during equipment installation or removal, they were fully trained and certified in Confined Space Entry and CPR, and in accordance with safety standards, gas readings were taken and recorded throughout the duration of the installation and removal process.



In summary, US^3 performed the following services as part of this project:

- Sewer Flow Monitoring
    - Detailed preliminary investigation
        - Assessment of permitting and traffic control requirements
        - Inspection and evaluation of the selected sites
    - Installation of Marsh-McBirney Flo-Dar® AV Sensors and Loggers
        - Validation of hydraulic suitability
        - Calibration of flow monitoring equipment
        - Documentation of installation and calibration

- Flow monitoring between 4/10/2019 and 4/18/2019
- Removal of flow monitoring equipment
- Validation of flow monitoring data

- Development of a report to discuss the flow monitoring data, including system statistics and graphs

1.3 Site Map



Figures: The vicinity map (above) shows the temporary wastewater flow monitoring locations and their sewer lines. The Gabbert Rd manhole is at latitude 34.280152 and longitude -118.900978, and the Poindexter Av manhole is located at latitude 34.284676 and longitude -118.889169.

1.4 Summary of Sites

Figures below: The photos show the Gabbert Rd MH in the southbound lane of Gabbert Rd, at its intersection with Commerce Av. This is a commercial area, and the field team used cones and signs for traffic control during installation and removal of the monitoring equipment. Surface conditions were dry. No issues were encountered.

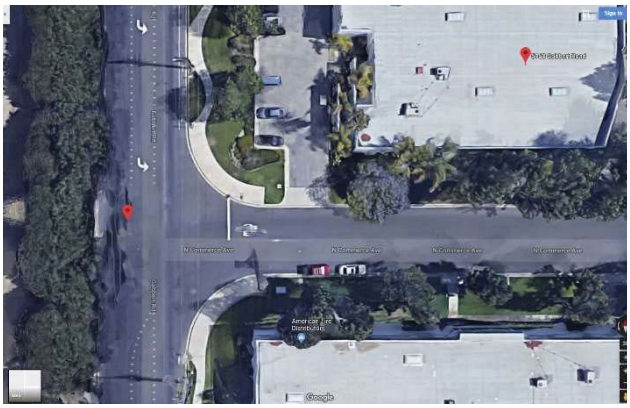






Figure above: The manhole provided access to a 12-inch sewer line, which entered from the east and discharged to the south. An 8-inch lateral entered the manhole from the north. Gas levels were good (well within OSHA acceptable limits: O_2=20.9%; LEL, H_2S & CO=0). The flow monitoring equipment was set to monitor the downstream pipe to get the total flow. Follow up on this installation confirmed equipment calibration.

Figures below: The photos show the Poindexter Av MH in the eastbound lane of the road. This is north of a residential area, and the field team used cones and signs for traffic control during installation and removal of the monitoring equipment. Surface conditions were dry. No issues were encountered.







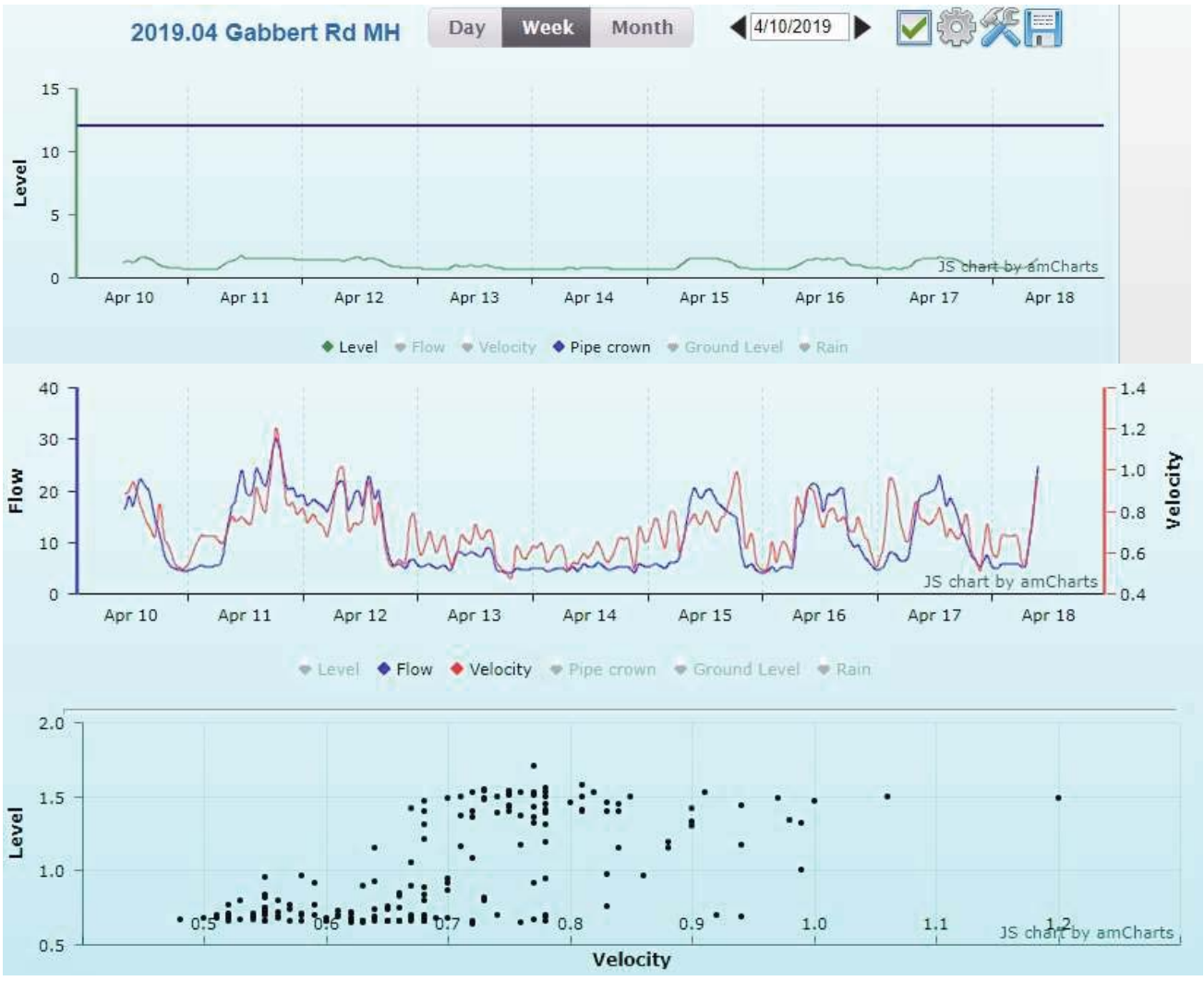
Figure above: The manhole provided access to an 18-inch sewer line, which entered from the east and discharged to the west. Gas levels were good. The flow monitoring equipment was set to monitor the upstream pipe as it provided the best hydraulics. Follow up on this installation confirmed equipment calibration.

1.5 Existing Capacity Analysis

The capacity evaluation method conformed to the following process:

1. Collect 15-minute interval depth and velocity data points at each site over the entire monitoring period and determine the depth vs. velocity relationship or pipe curve based on Manning's equation.
2. Determine statistically the minimum, maximum and average depths and flow rates at each site during the monitoring period.
3. Calculate the maximum theoretical unobstructed flow rate at each site.
4. Determine remaining capacity under peak flow conditions at each site, using the ratios of actual daily flow depths to pipe diameter.

Figures below: 2019.04 Gabbert Rd MH graphs of level, flow & velocity, and scatter plot of level in relation to velocity from US[3] Flow Monitoring Website (http://us3.uscubed.com/)



The scatter plot on the previous page shows the depth vs. velocity data points for the monitored pipe. The pattern of velocity and depth data points for a sewer operating in free-flow conditions over an extended period of time should conform to the depth-velocity relationship of Manning's Equation, which is the basis for evaluating flow monitoring data. This equation (shown below) defines a commonly used theoretical relationship between depth and velocity in pipes operating under free flow conditions:

$$v = 1.486/n \times R^{2/3} \times S^{1/2}$$

Where,

v = velocity (fps)

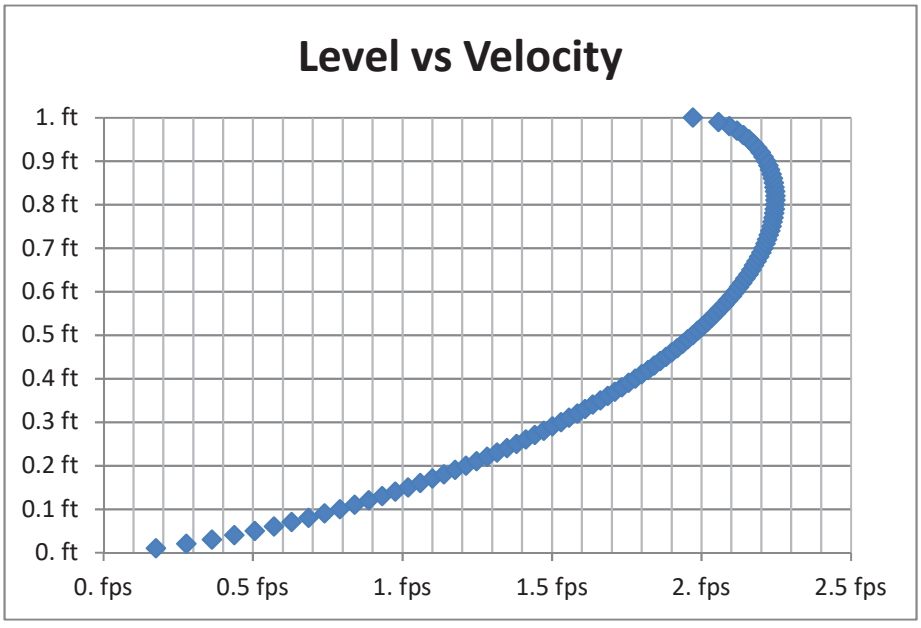
n = pipe roughness, defined as the Manning's Roughness Coefficient

R = hydraulic radius,
defined as wetted area (ft^2) divided by wetted perimeter (ft)

S = hydraulic slope

The scatter plot from the Gabbert Rd MH shows the depth vs. velocity data points for the 12-inch downstream pipe, which should resemble a theoretical hydraulic operating curve based on the site-specific characteristics of the pipe. Using velocities from this study in conjunction with the associated cross-sectional areas depicted by the monitored levels, the flow was calculated using the Continuity Equation, and then the slope was derived using Manning's Equation. Therefore, the calculated slope is based on the average flow data observed during the study. Velocity and level readings were compared to theoretical hydraulic operating curves at different slopes, correlating with an operating curve with a slope of ~0.42% (S=0.0041687).

Figure at right: This theoretical pipe curve was generated for a 12-inch (1.0-ft) pipe with a slope of ~0.42%.



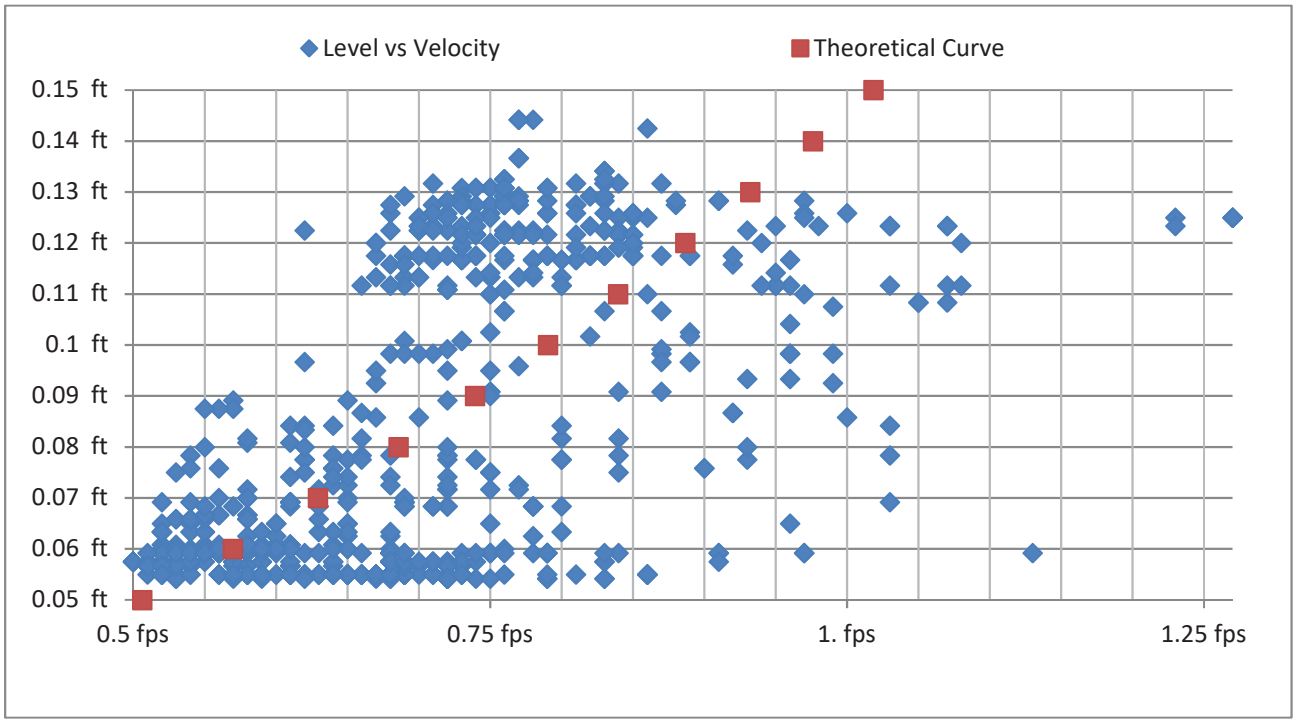


Figure above: Since the flows at the Gabbert Rd MH utilized ~5% to ~14% of the pipe depth during the study, that portion of its theoretical curve has been overlaid onto its scatter plot.

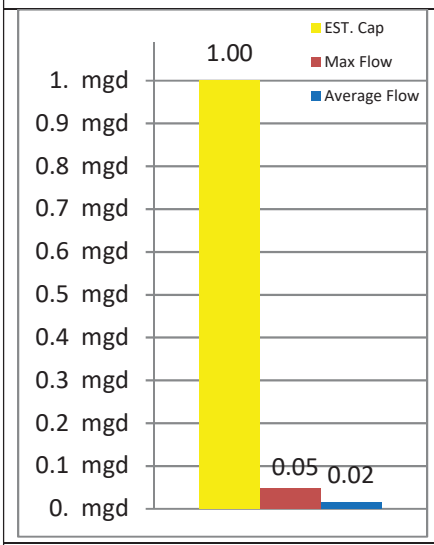
As shown in the scatter plot above, the expected relationship between level and velocity is not prevalent, probably due to the low velocities and potential blockages within the line. There could be multiple flow patterns present, but this data set is more of a cloud formation, which is indicative of processed flow.

To summarize the site statistics from the data analysis at the Gabbert Rd MH:

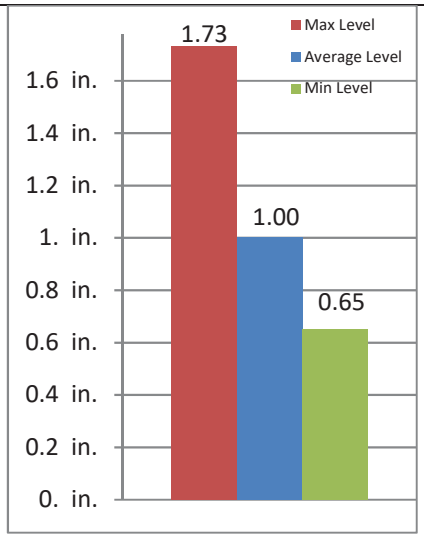
- During peak flows, ~5% of the pipe's capacity was utilized at ~32 gpm.
- During average flows, ~2% of the pipe's capacity was utilized at ~11 gpm.
- According to common sewer design, velocity shall not be less than 2.0 fps a minimum of once per day to provide sufficient scouring action for self-cleaning. The maximum velocity at this site was 1.27 fps with an average velocity of 0.70 fps. Since the minimum requirements for self-cleaning were not met during this 9-day study, this site is likely to have issues due to settlement of normal system solids.
- According to common sewer design, the depth versus diameter (d/D) ratio for gravity drains of 15 inches in diameter or less should be no greater than 0.50 for the ultimate peak flow condition. The average d/D ratio for the site during this study was ~0.08 and the maximum was ~0.14. Therefore, this 12-inch pipe has capacity available at peak flow.

The following is a graphical representation of the site statistics from the data analysis:

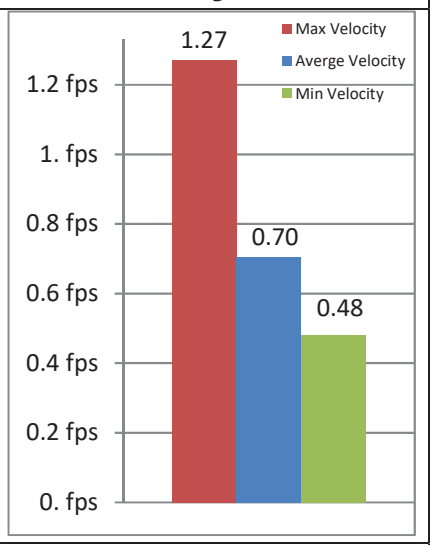
Flow Stats



Level Stats

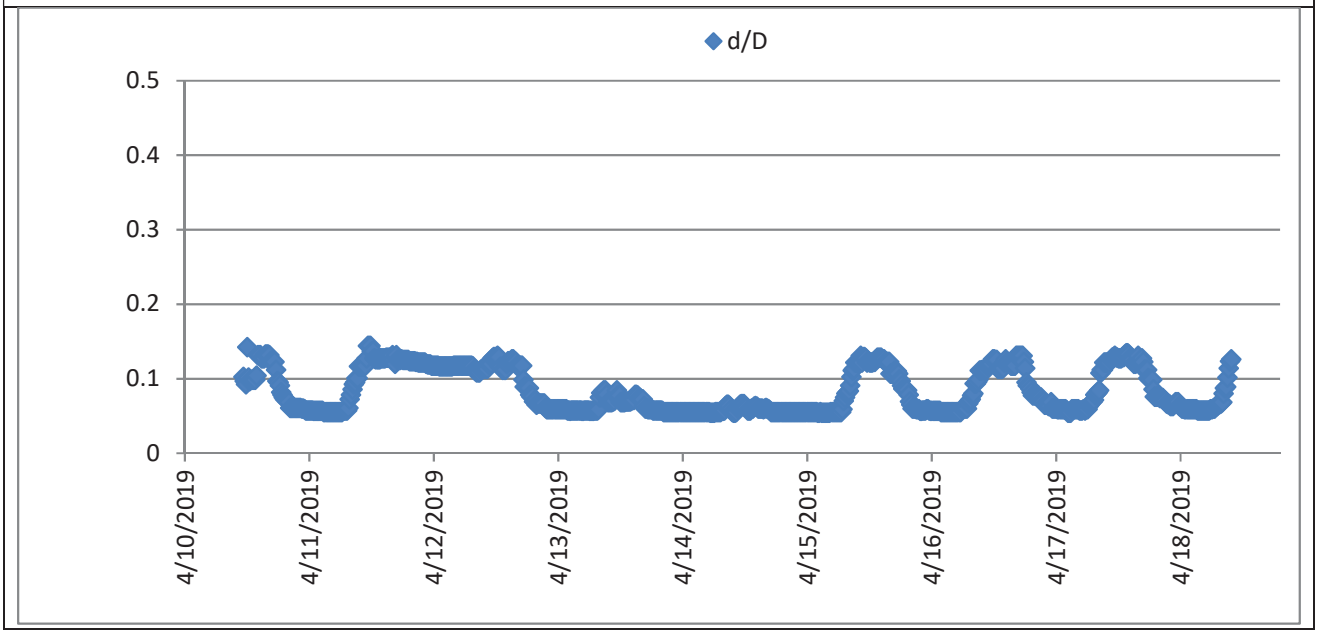


Velocity Stats

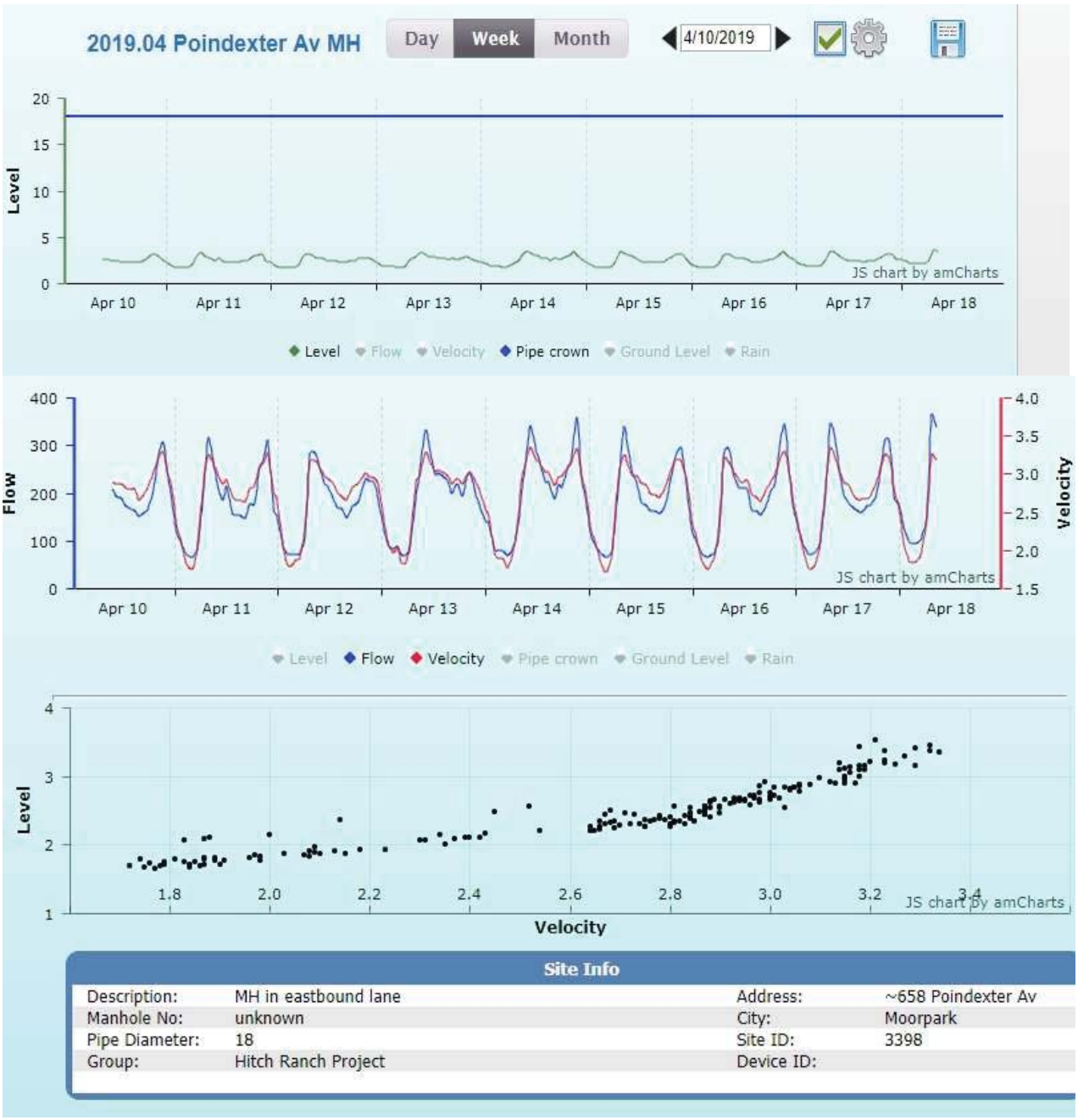


The pipe capacity was estimated using a Manning's Circular Pipe Flow Capacity chart, where n=0.013 (in accordance with the minimum value for a vitrified clay sewer pipe (VCP) with manholes, inlets, etc., Chow 1959). From the theoretical hydraulic operating curve for a 12-inch pipe with a slope of ~0.42% (S=0.0041687), with the pipe completely full, the velocity is expected to be ~1.9710 fps. When this velocity is input into the Flo-Ware program from the Gabbert Rd MH, a maximum capacity of ~1.0005 mgd is produced. This is a reasonable assumption based on the levels and velocities observed during this study.

2019.04 Gabbert Rd MH Level (depth) vs Pipe Diameter



Figures below: 2019.04 Poindexter Av MH graphs of level, flow & velocity, and scatter plot of level in relation to velocity from US^3 Flow Monitoring Website (http://us3.uscubed.com/)



The scatter plot above shows the depth vs. velocity data points for the 18-inch upstream pipe, which should resemble a theoretical hydraulic operating curve based on the site-specific characteristics of the pipe. Actual velocities and levels were compared to theoretical hydraulic operating curves at different slopes, which led to the conclusion that the data best resembles a curve with the slope of ~1.89% (S=0.01893813) at the Poindexter Av MH.

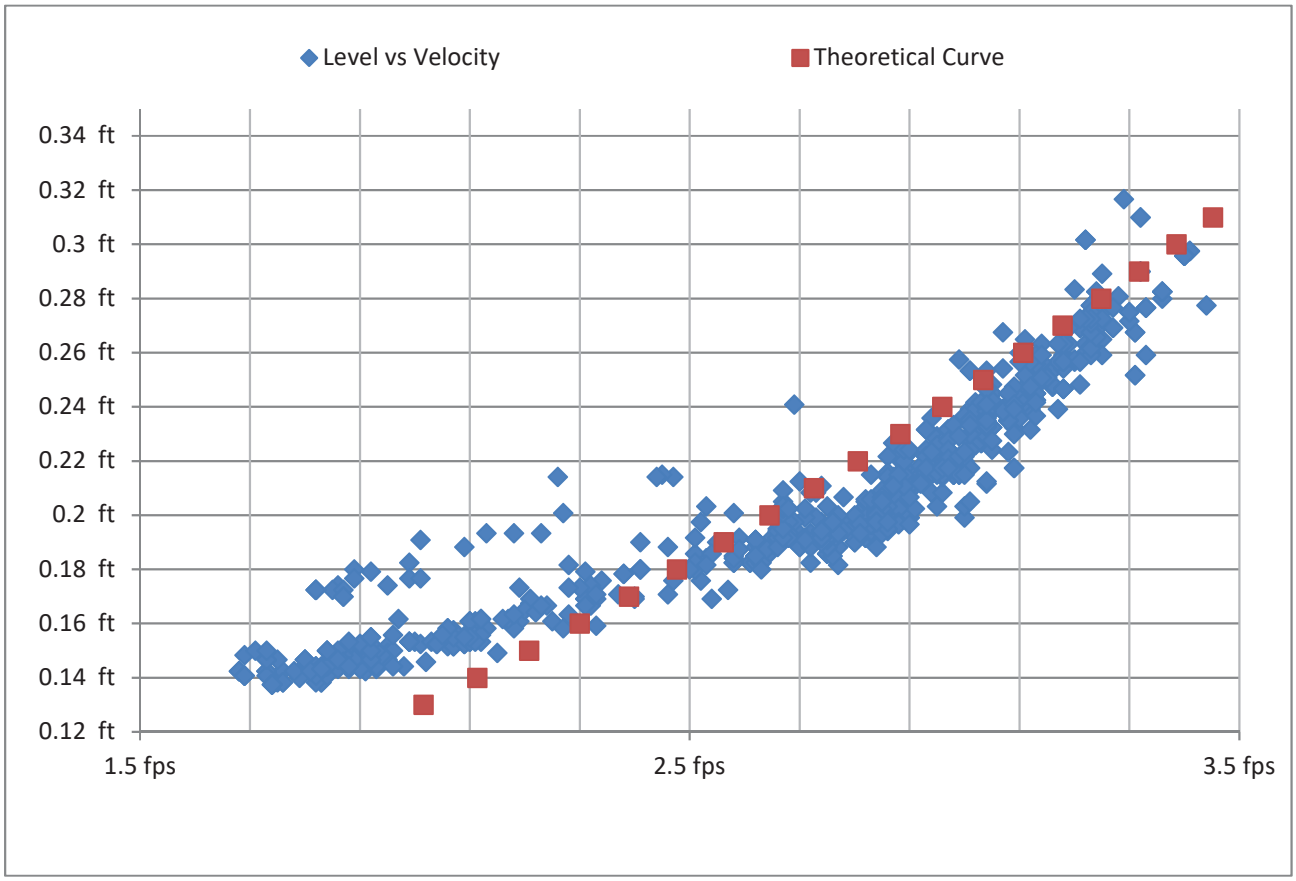


Figure above: Since the flows at Poindexter Av MH utilized ~9% to ~21% of the pipe depth during the study, that portion of its theoretical curve has been overlaid onto its scatter plot.

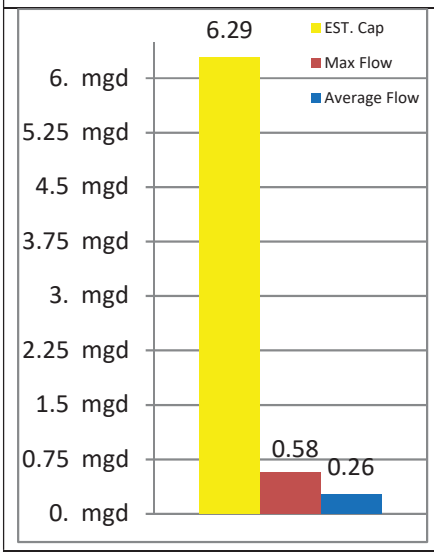
As shown in the scatter plot above, while a majority of the data follows the expected level to velocity relationship, there is a secondary flow pattern that is slightly off.

To summarize the site statistics from the data analysis at the Poindexter Av MH:

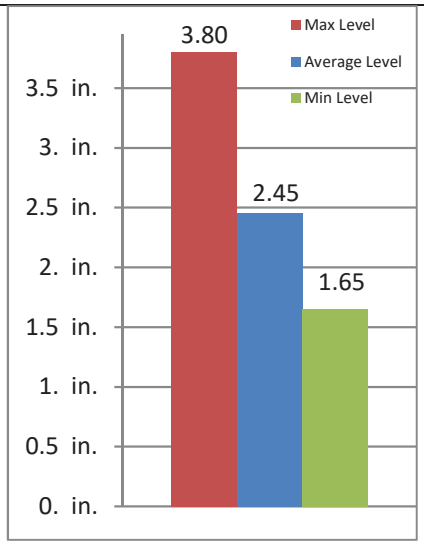
- During peak flows, ~9% of the pipe's capacity was utilized at ~402 gpm.
- Average flows utilized ~4% of the pipe's capacity at ~184 gpm.
- The maximum velocity at this site was 3.44 fps with an average velocity of 2.68 fps. Since velocities exceeded 2.0 fps every day during this study, this site should have no issues with regard to blockage due to settlement of normal system solids.
- According to common sewer design, the depth versus diameter (d/D) ratio for gravity drains of greater than 15 inches in diameter should be no greater than 0.67 for the ultimate peak flow condition. During the study, the average d/D ratio for this 18-inch line was ~0.14 and the maximum was ~0.21. Therefore, this site has capacity available at peak flow.

The following is a graphical representation of the site statistics from the data analysis:

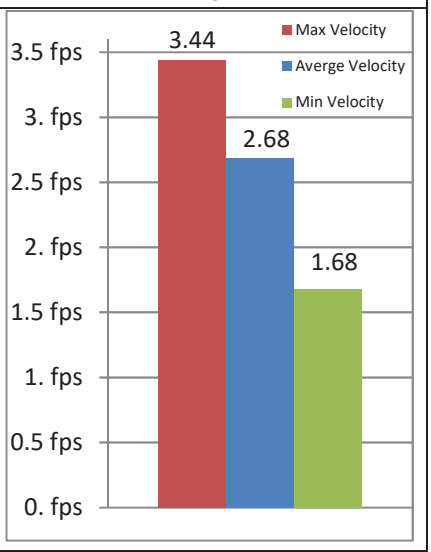
Flow Stats



Level Stats

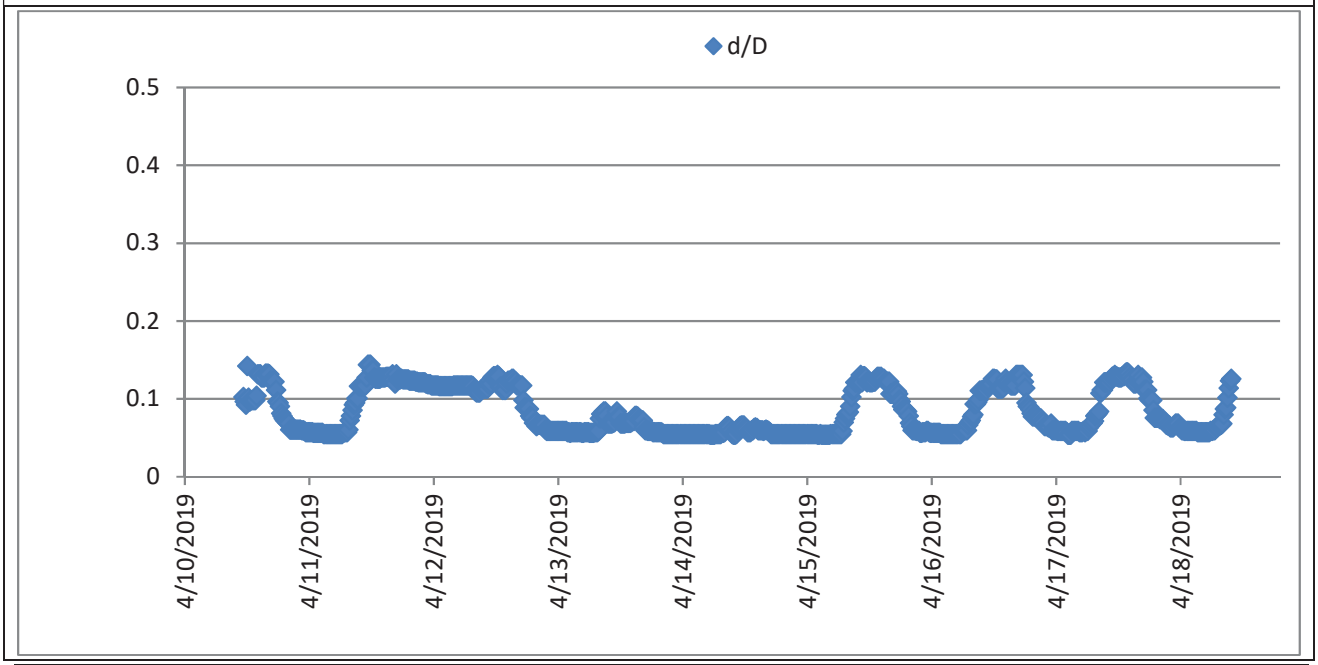


Velocity Stats



The pipe capacity was estimated using a Manning's Circular Pipe Flow Capacity chart, where n=0.013 (in accordance with the minimum value for a VCP with manholes, inlets, etc., Chow 1959). From the theoretical hydraulic operating curve for an 18-inch pipe with a slope of ~1.89% (S=0.01893813), with the pipe completely full, the velocity should be ~5.5049 fps, which when input into the Flo-Ware program from the Poindexter Av MH produced a maximum capacity of ~6.2873 mgd. This is a reasonable assumption based on the levels and velocities observed during this study.

2019.04 Poindexter Av MH Level (depth) vs Pipe Diameter



1.6 Conclusions

Calculations in this report are based on steady uniform flow with steady flow defined as the discharge being constant with time, and uniform flow defined as the slope of the water surface and cross-sectional flow area being constant in the length of pipe analyzed. Using velocities from this study in conjunction with the associated cross-sectional areas depicted by the monitored levels, the flow was calculated using the Continuity Equation, and the slope was derived using Manning's Equation.

The flow monitoring equipment at each site was calibrated with regard to location and flow, using site-specific characteristics and manual level and velocity readings for adjustment and verification.

2019.04 Gabbert Rd MH: The graphs for this site showed a fairly consistent daily flow pattern with a poor level to velocity relationship. In addition, velocities did not meet the minimum requirements to provide sufficient scouring action for self-cleaning and flows were extremely low on the weekend.

In order to determine the maximum allowable flow within this monitored pipe segment, the calculated slope based on the average flow data observed during the study (~0.42%) was used to generate a theoretical hydraulic operating curve for a 12-inch pipe. At half pipe (6 inches), the velocity from the theoretical curve was ~1.9710 fps, which when input into the Flo-Ware program from the Gabbert Rd MH produced an expected capacity of ~0.5003 mgd. Since peak flow was 0.0465 mgd, there should be capacity available for an additional 0.4538 mgd before the pipe exceeds its d/D limit of 0.50 at peak flow. This is a reasonable assumption since the average maximum velocity from the study (1.00 fps) coincided with an average level of ~1.2206 inches, and according to the theoretical curve, the velocity at 1.22 inches should be ~0.7992 fps.

2019.04 Poindexter Av MH: The graphs for this site showed a fairly consistent daily flow pattern with a good level to velocity relationship. In addition, velocities met the minimum requirements to provide sufficient scouring action for self-cleaning daily.

In order to determine the maximum allowable flow within this monitored pipe segment, the calculated slope based on the average flow data observed during the study (~1.89%) was used to generate a theoretical hydraulic operating curve for an 18-inch pipe. For a pipe size greater than 15-inches, the d/D limit is 0.67. At this flow depth (12 inches), the velocity from the theoretical curve was ~6.0931 fps, which when input into the Flo-Ware program from the Gabbert Rd MH produced an expected capacity of ~4.9285 mgd. Since peak flow was 0.5788 mgd, there should be capacity available for an additional 4.3497 mgd before the pipe exceeds its d/D limit of 0.67 at peak flow. This is a reasonable assumption since

the average maximum velocity from the study (3.32 fps) coincided with an average level of ~3.3275 inches, and according to the theoretical curve, the velocity at 3.33 inches should be ~3.2491 fps.

Whether or not the available capacity is sufficient is dependent upon the proposed land use for the proposed project. Since the capacity of a system is contingent upon its most limited segment, the Gabbert Rd MH is the limiting factor. However, the data supports the conclusion that there is capacity available in these lines.

Tab 2: Calibration Site Sheets & Flo-Ware Graphs

Confidential Proprietary Information

Encompass

2019.04 Gabbert Rd MH

MH at ~5160 Gabbert Rd, Moorpark, CA 93021
Sewer flow monitoring for Hitch Ranch Development

Access:
MH in southbound lane at intersection w/Commerce Av, NW of address

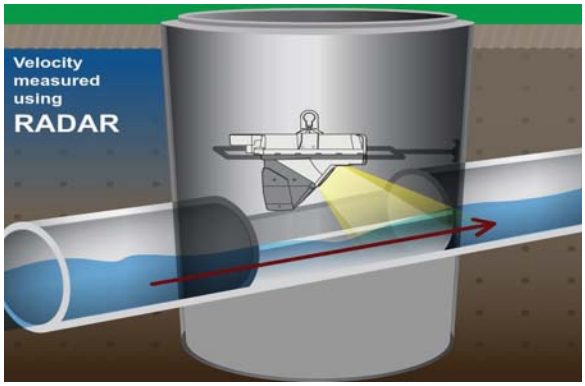
System Type:
Sanitary [X] Storm [ ]

Install Date: 4/10/2019

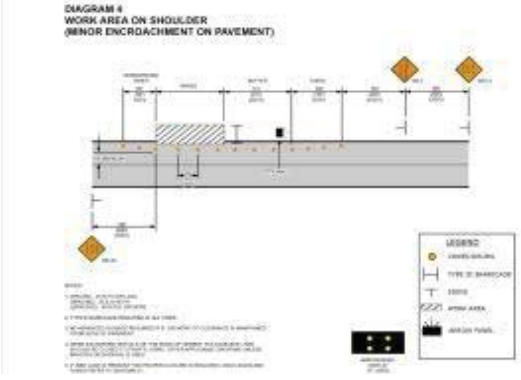
Map



Technology



Traffic Plan



Flow Meter			
Meter Depth: 166"			
MH Coordinates: 34.280152, -118.900978			
Moderate open channel hydraulics with some turbulence due to inflow from lateral.			
Avg Velocity	Avg Measured Level		Multiplier
0.75 fps	1.00"		1.0
Gas			
O2	H2S	CO	LEL
20.9	0	0	0
Notes			
Two inlets from east & north; monitored downstream line to get total flow.			
Traffic Safety			
WATCH TC template used, requiring cones & signs; arrow board used as barricade.			
Land Use			
Residential	Commercial	Industrial	Trunk
	X		

Manhole Depth	186"
Monitored Pipe Size	12"
Inner Pipe Size (In/Out)	12"/12"
Pipe Shape	Round
Pipe Condition	Good
Manhole Material	Concrete
Silt	0"
Velocity Profile Data	*
Velocity Profile Taken	0.4 2-D
Sensor Offset	19.96"
Sensor Dist. to Crown	7.96"
Sensor Direction	Downstream
Flow Heading	South

Meter Site Document

Encompass

2019.04 Gabbert Rd MH at ~5160 Gabbert Rd, Moorpark, CA 93021

Site



Manhole Before Install



Installation Process



Installed



Monitored Pipe Size



Downstream

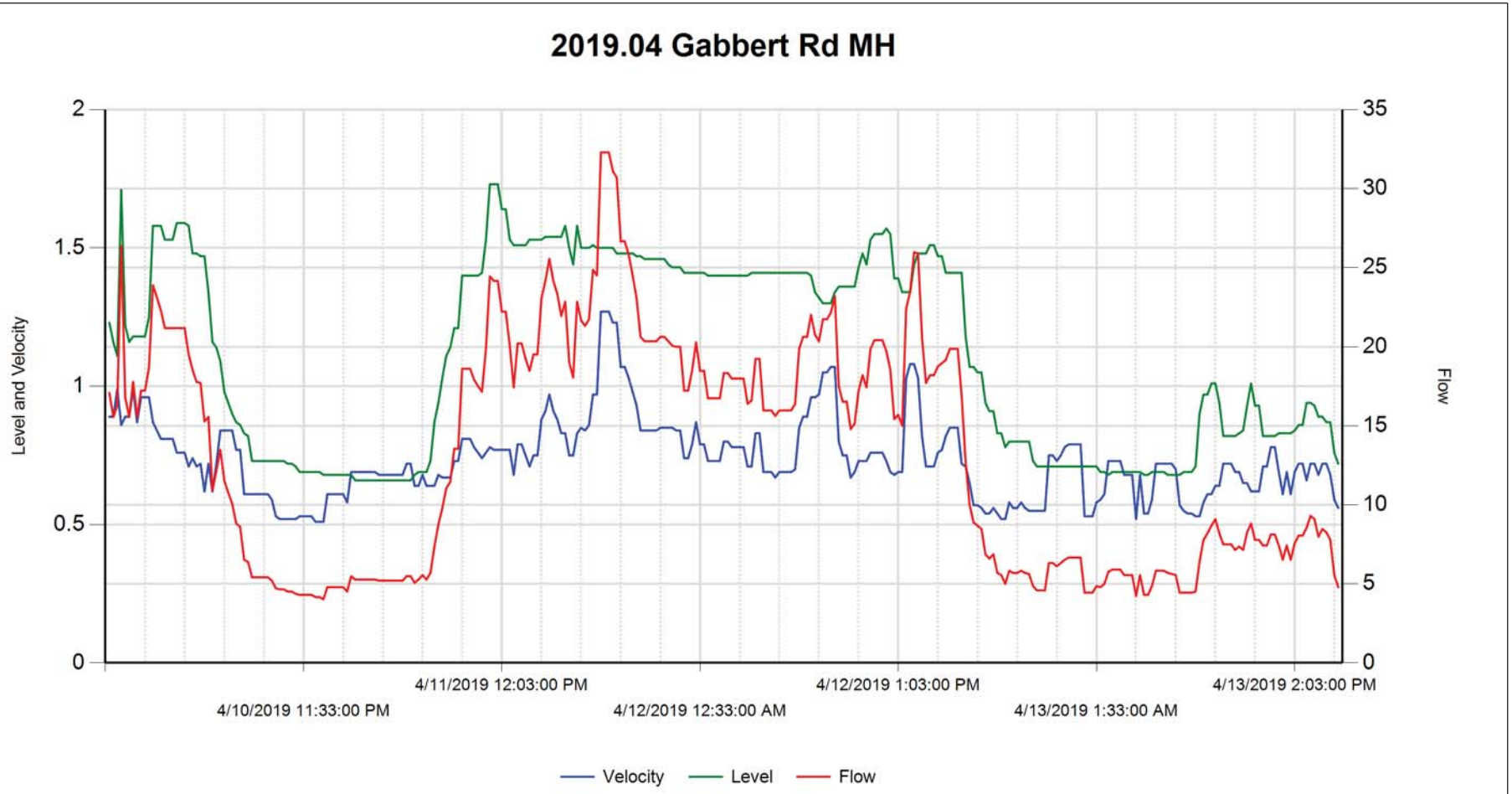


Utility Systems Science and Software

Report Date: 04/18/2019
Customer: Encompass
Group: Hitch Ranch Project
SiteID: 3397

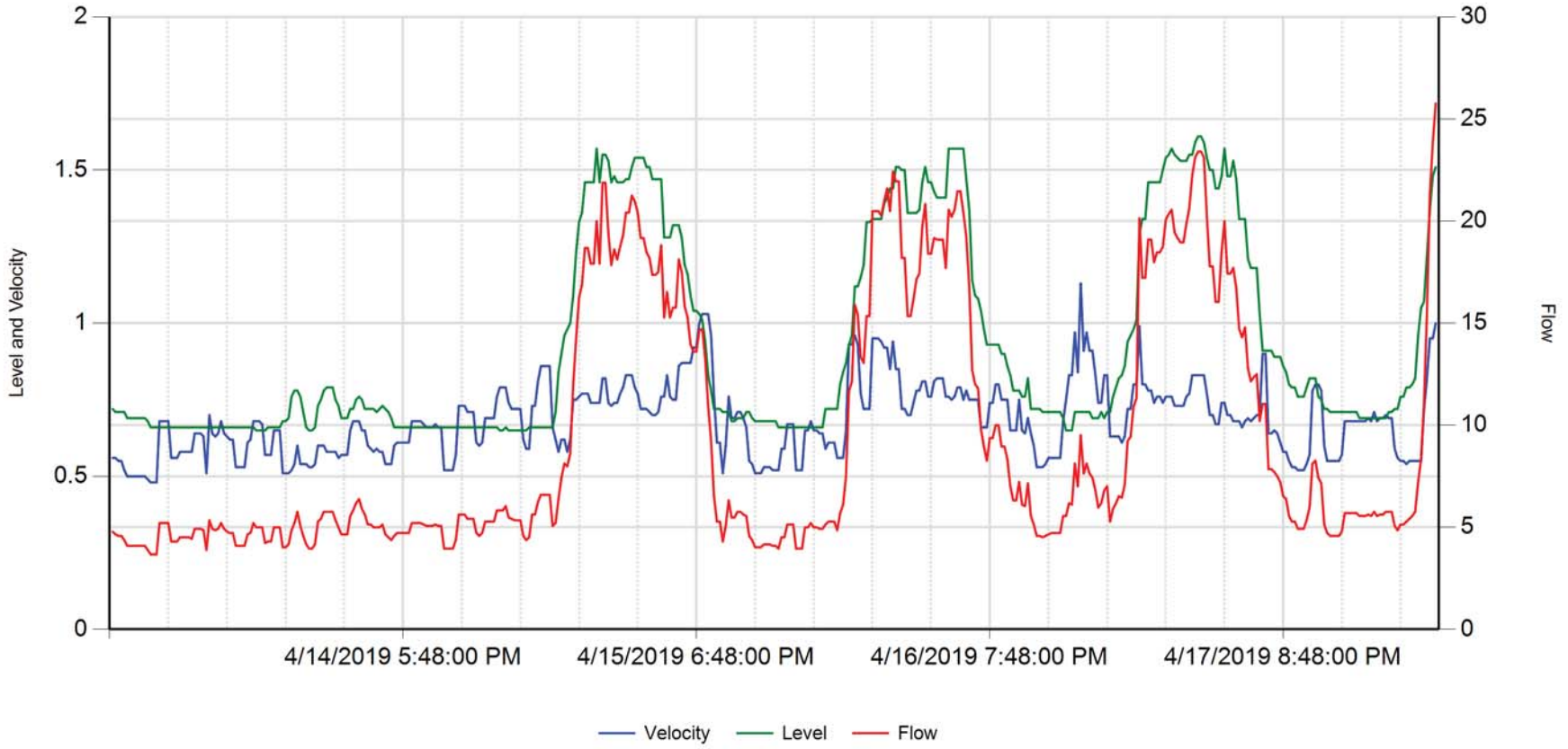
Statistics for 2019.04 Gabbert Rd MH: 04/10/2019 thru 04/18/2019

	Flow (GPM)			Flow (MGD)			Velocity (FPS)			Level (inches)				
Date	**Avg**	**Max**	**Min**	**Avg**	**Max**	**Min**	**Avg**	**Max**	**Min**	**Avg**	**Max**	**Min**	**Total Gal**	**Rain**
4/10/19	13.07	26.39	4.31	0.02	0.04	0.01	0.73	0.99	0.52	1.11	1.71	0.69	18,825	
4/11/19	15.78	32.29	4.03	0.02	0.05	0.01	0.78	1.27	0.51	1.20	1.73	0.66	22,723	
4/12/19	15.22	25.97	4.58	0.02	0.04	0.01	0.74	1.08	0.52	1.25	1.57	0.71	21,911	
4/13/19	5.92	9.31	3.68	0.01	0.01	0.01	0.63	0.79	0.48	0.76	1.01	0.66	8,528	
4/14/19	4.91	6.39	3.89	0.01	0.01	0.01	0.61	0.73	0.51	0.68	0.79	0.65	7,069	
Week:	**10.98**	**32.29**	**3.68**	**0.02**	**0.05**	**0.01**	**0.70**	**1.27**	**0.48**	**1.00**	**1.73**	**0.65**	**79,056**	
4/15/19	11.42	21.87	4.03	0.02	0.03	0.01	0.74	1.03	0.51	1.02	1.57	0.65	16,445	
4/16/19	11.59	22.43	3.96	0.02	0.03	0.01	0.71	0.96	0.51	1.04	1.57	0.66	16,690	
4/17/19	11.72	23.40	4.51	0.02	0.03	0.01	0.72	1.13	0.52	1.07	1.61	0.65	16,883	
4/18/19	7.29	25.76	4.58	0.01	0.04	0.01	0.66	1.00	0.54	0.81	1.51	0.69	10,492	
Week:	**10.51**	**25.76**	**3.96**	**0.02**	**0.04**	**0.01**	**0.71**	**1.13**	**0.51**	**0.99**	**1.61**	**0.65**	**60,510**	
Totals:	**10.77**	**32.29**	**3.68**	**0.02**	**0.05**	**0.01**	**0.70**	**1.27**	**0.48**	**1.00**	**1.73**	**0.65**	**139,567**	



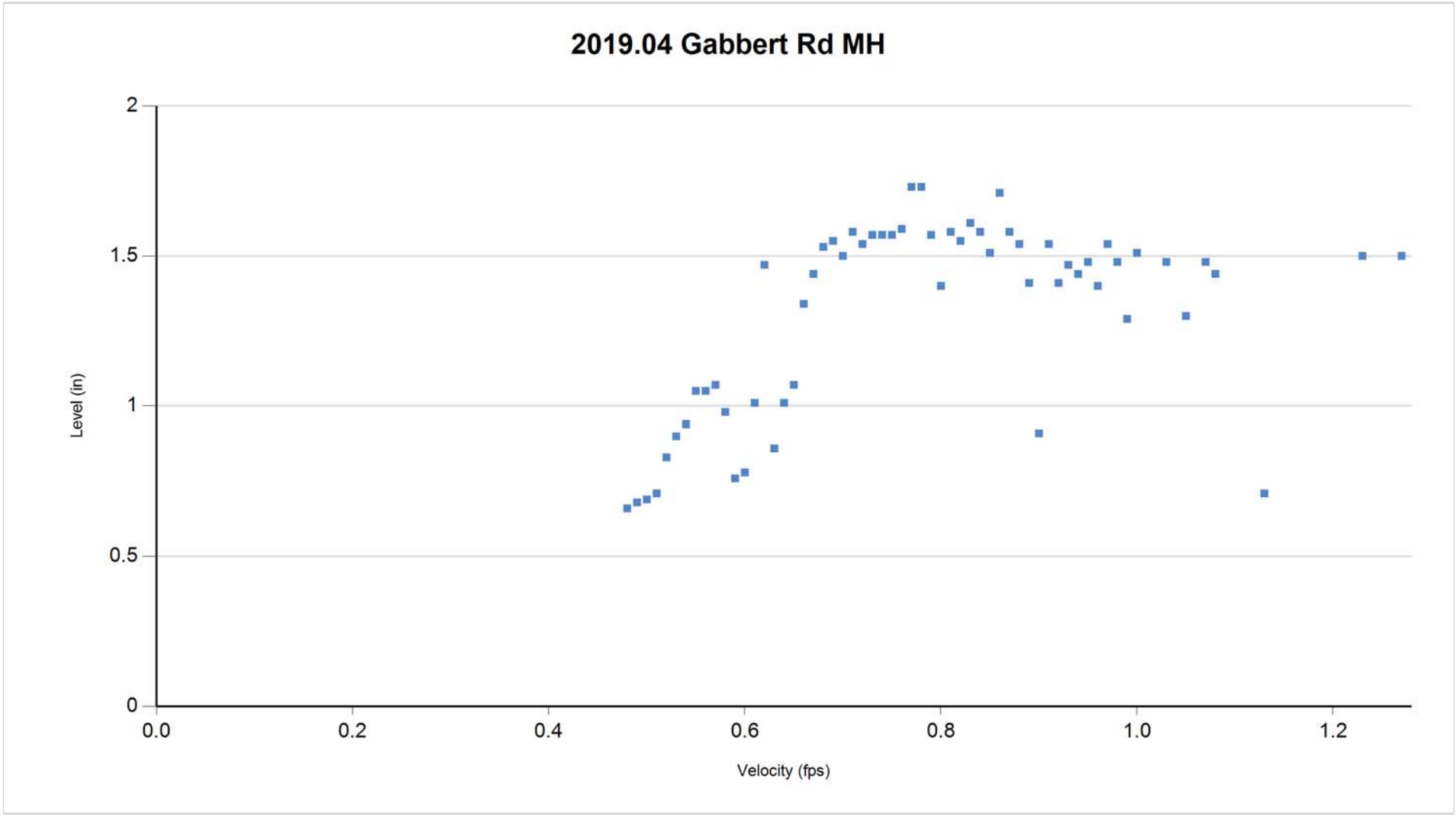
	Velocity (fps)	Level (in)	Flow (gpm)		
Average	0.736	1.113	13.145	**RainFall**	Inches
Maximum	1.270	1.730	32.292		
Minimum	0.510	0.660	4.028		

4/18/2019 1:53:53 PM



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	0.684	0.925	9.336	**RainFall**	Inches
Maximum	1.130	1.610	25.764		
Minimum	0.480	0.650	3.681		

4/18/2019 1:53:53 PM



4/10/2019 thru 4/18/2019

4/18/2019 1:53:53 PM

Confidential Proprietary Information

Encompass

2019.04 Poindexter Av MH

MH at ~658 Poindexter Av, Moorpark, CA 93021
Sewer Flow Monitoring for Hitch Ranch Development

Access:
MH in eastbound lane

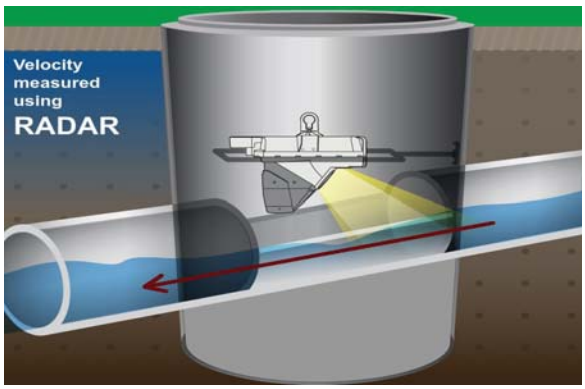
System Type:
Sanitary [X] Storm [ ]

Install Date: 4/10/2019

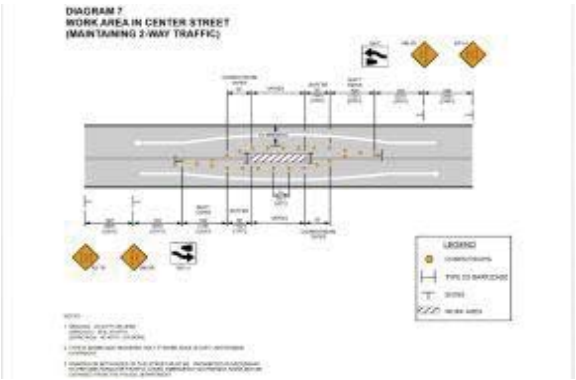
Map



Technology



Traffic Plan



Flow Meter			
Meter Depth: 109"			
MH Coordinates: 34.284676, -118.889169			
Moderate open channel hydraulics.			
Avg Velocity	Avg Measured Level		Multiplier
2.75 fps	2.50"		1.0
Gas			
O2	H2S	CO	LEL
20.9	0	0	0
Notes			
No laterals; monitored the upstream line as it provided the best hydraulics.			
Traffic Safety			
WATCH TC template used, requiring cones & signs; arrow board used as barricade.			
Land Use			
Residential	Commercial	Industrial	Trunk
X			

Manhole Depth	136"
Monitored Pipe Size	18"
Inner Pipe Size (In/Out)	18"/18"
Pipe Shape	Round
Pipe Condition	Good
Manhole Material	Concrete
Silt	0"
Velocity Profile Data	*
Velocity Profile Taken	0.4 2-D
Sensor Offset	26.58"
Sensor Dist. to Crown	8.58"
Sensor Direction	Upstream
Flow Heading	West

Meter Site Document

Encompass

2019.04 Poindexter Av MH at ~658 Poindexter Av, Moorpark, CA 93021

Site



Manhole Before Install



Installation Process



Installed



Upstream



Monitored Pipe Size



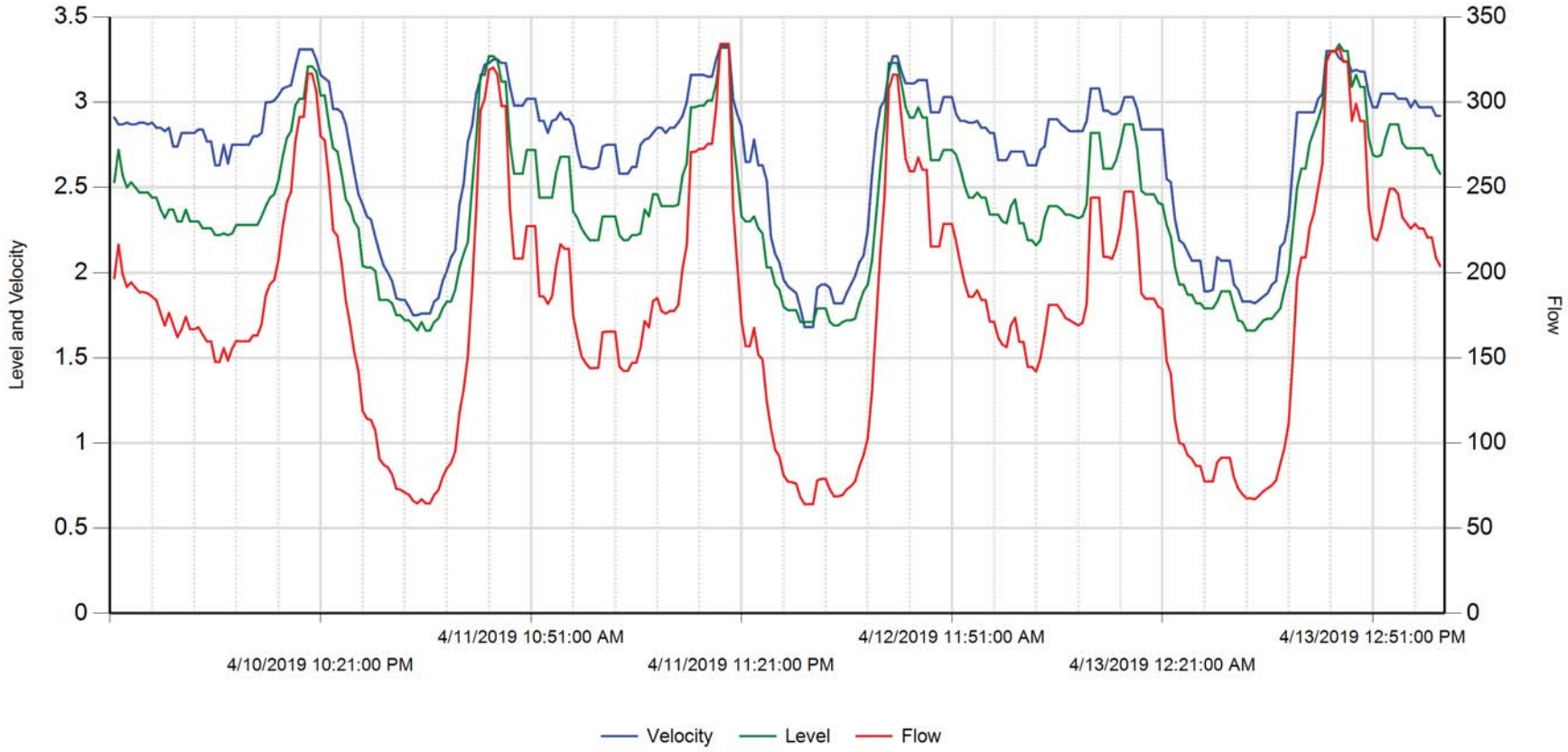
Utility Systems Science and Software

Report Date: 04/18/2019
Customer: US3
Group: Hitch Ranch Project
SiteID: 3398

Statistics for 2019.04 Poindexter Av MH: 04/10/2019 thru 04/18/2019

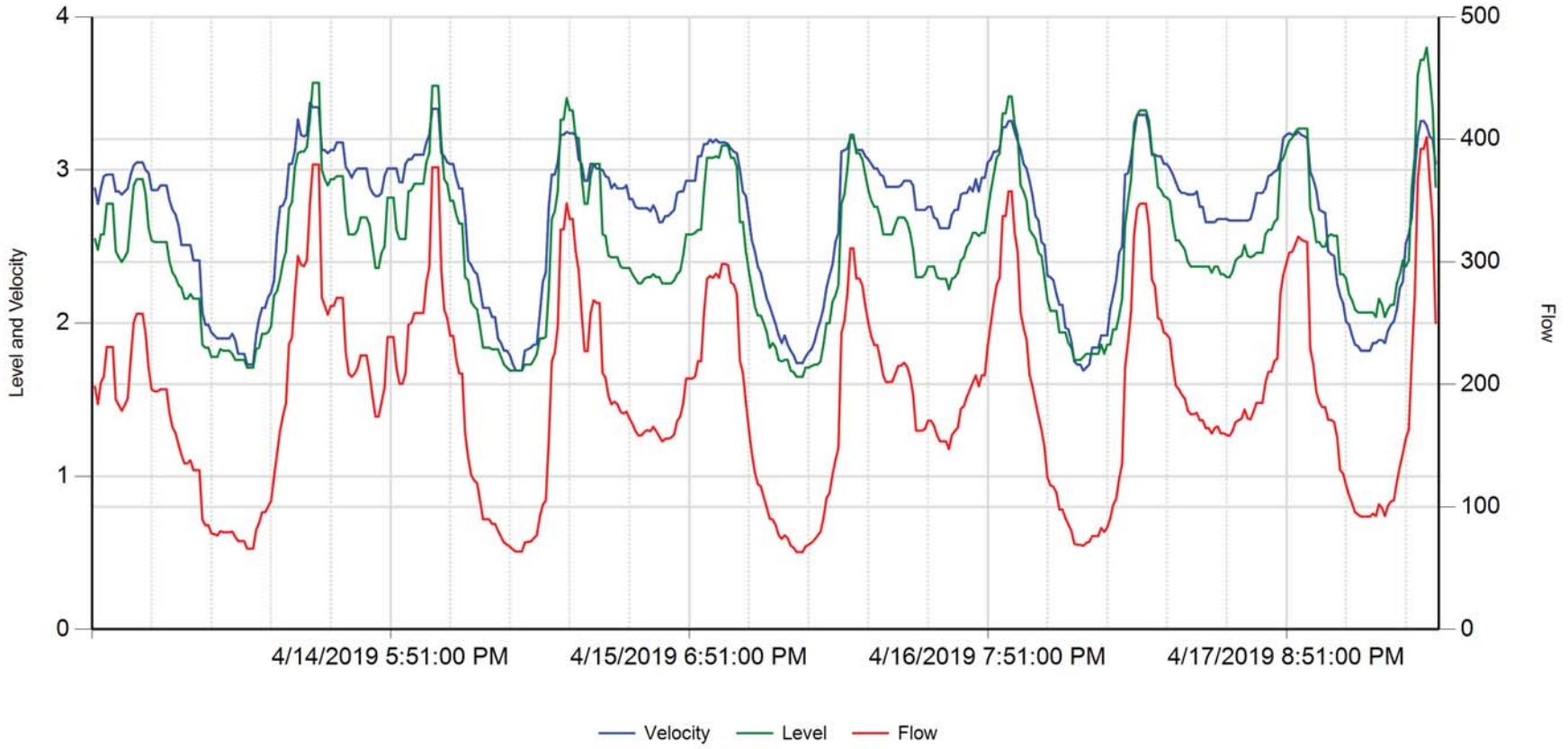
	Flow (GPM)			Flow (MGD)			Velocity (FPS)			Level (inches)				
Date	**Avg**	**Max**	**Min**	**Avg**	**Max**	**Min**	**Avg**	**Max**	**Min**	**Avg**	**Max**	**Min**	**Total Gal**	**Rain**
4/10/19	198.87	316.67	147.57	0.29	0.46	0.21	2.91	3.31	2.63	2.52	3.21	2.22	286,376	
4/11/19	176.75	334.17	64.51	0.25	0.48	0.09	2.67	3.33	1.75	2.40	3.32	1.66	254,521	
4/12/19	170.99	316.11	64.10	0.25	0.46	0.09	2.65	3.27	1.68	2.36	3.23	1.69	246,233	
4/13/19	184.92	331.67	67.08	0.27	0.48	0.10	2.69	3.30	1.82	2.46	3.34	1.66	266,290	
4/14/19	197.53	379.51	65.90	0.28	0.55	0.09	2.73	3.44	1.73	2.53	3.57	1.71	284,438	
Week:	**185.81**	**379.51**	**64.10**	**0.27**	**0.55**	**0.09**	**2.73**	**3.44**	**1.68**	**2.45**	**3.57**	**1.66**	**1,337,857**	
4/15/19	183.82	347.78	63.54	0.26	0.50	0.09	2.68	3.25	1.69	2.45	3.47	1.69	264,701	
4/16/19	183.14	357.64	63.19	0.26	0.52	0.09	2.67	3.32	1.74	2.45	3.48	1.65	263,723	
4/17/19	187.04	347.57	68.26	0.27	0.50	0.10	2.68	3.36	1.69	2.49	3.39	1.76	269,334	
4/18/19	171.03	401.94	92.08	0.25	0.58	0.13	2.34	3.32	1.82	2.52	3.80	2.04	246,289	
Week:	**181.26**	**401.94**	**63.19**	**0.26**	**0.58**	**0.09**	**2.59**	**3.36**	**1.69**	**2.47**	**3.80**	**1.65**	**1,044,047**	
Totals:	**183.79**	**401.94**	**63.19**	**0.26**	**0.58**	**0.09**	**2.67**	**3.44**	**1.68**	**2.46**	**3.80**	**1.65**	**2,381,904**	

2019.04 Poindexter Av MH



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	2.693	2.407	178.789	**RainFall**	Inches
Maximum	3.330	3.340	334.166		
Minimum	1.680	1.660	64.097		

4/18/2019 1:54:31 PM



	Velocity (fps)	Level (in)	Flow (gpm)		
Average	2.675	2.488	187.603	**RainFall**	Inches
Maximum	3.440	3.800	401.943		
Minimum	1.690	1.650	63.194		

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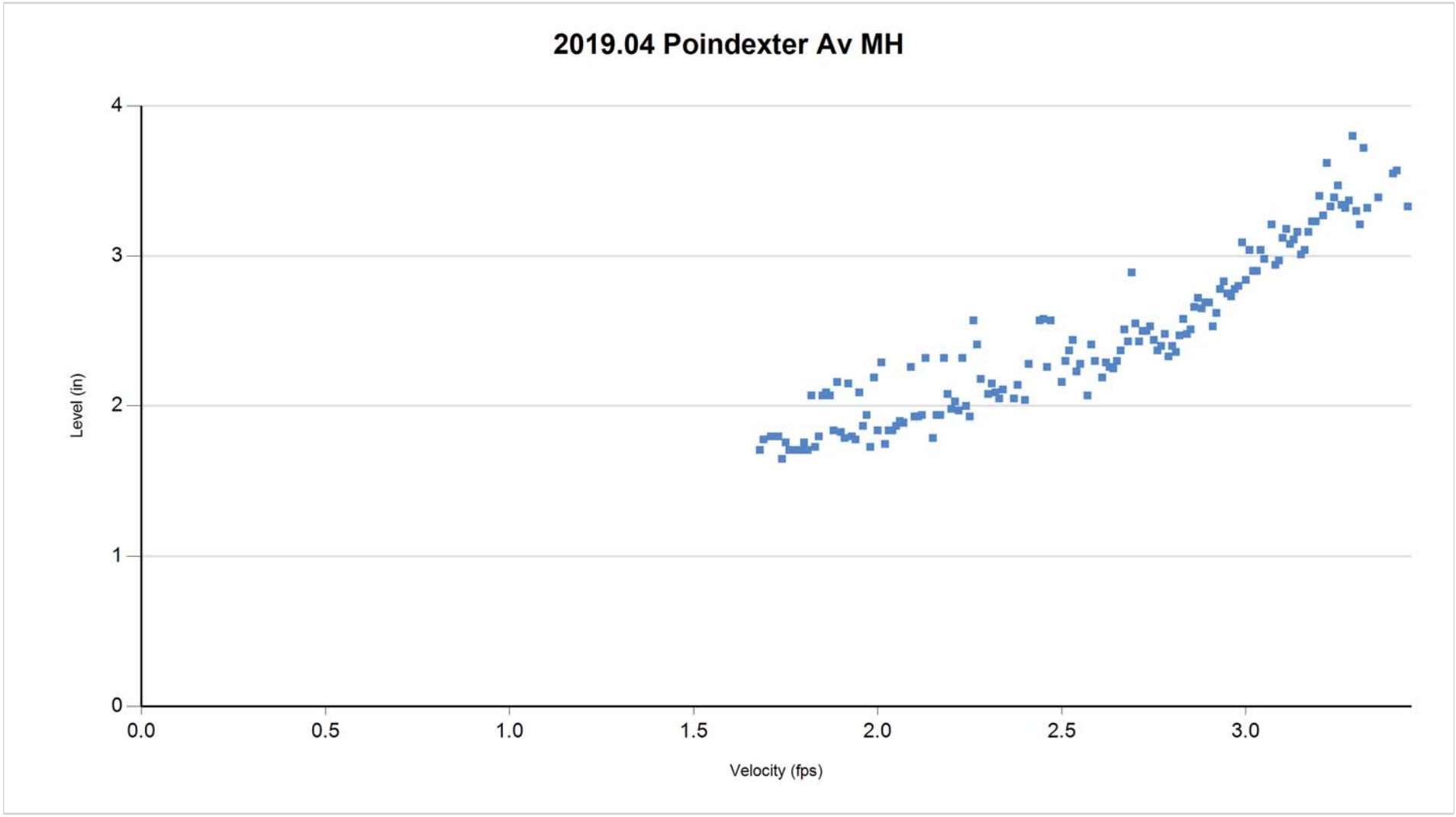


4/10/2019 thru 4/18/2019

4/18/2019 1:54:31 PM

Tab 3: Methods & Procedures & Equipment

3.1 Methods and Procedures

Utility Systems Science & Software provided the Encompass Consultant Group with an off the shelf, non-proprietary flow monitoring solution that included two state of the art Hach Flo-Dar® AV Sensor systems. The project course of action is listed below. The US^3 team:

- Assessed permitting and traffic control at the monitoring sites on Gabbert Rd and Poindexter Av in Moorpark, CA.
- Validated the sites for suitability for sewer flow monitoring for the Hitch Ranch Development Project.
- Prepared a submittal packet and obtained an Encroachment Permit with the City of Moorpark.
- Coordinated with the Ventura County Water and Sanitation Department Engineer and the Wastewater Superintendent for installation and removal of flow monitoring equipment.
- Installed and removed traffic control in accord with approved site-specific WATCH requirements for both the installation and removal of equipment.
- Installed and calibrated the flow monitoring equipment per manufacturer recommendations.
- Removed the equipment, validated the data and prepared the reports.
  - The data supports the conclusion that there is capacity available in the monitored lines since the depth of the peak flows observed during this study did not exceed the d/D limit at either of the sites.

3.2 Equipment

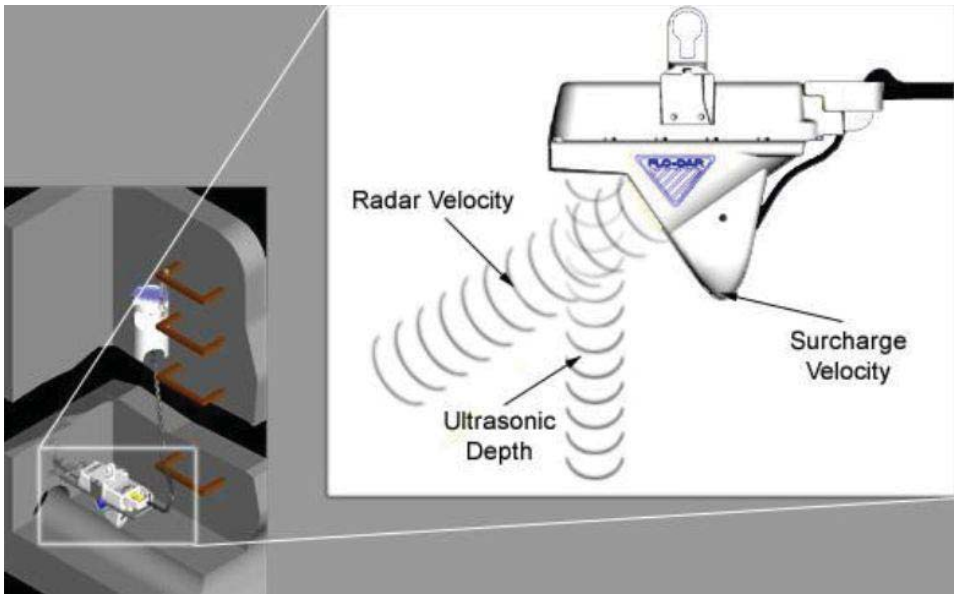


Figure: Equipment installed as part of this Sewer Flow Monitoring Study



Figure: Web-Enabled Flo-Dar® AV Sensor, Radar-Based Velocity/Area Flow Meter

3.2.1 SPECIFICATIONS

- **Enclosure**
  - IP68 Waterproof rating, Polystyrene
- **Dimensions**
  - 160.5 W x 432.2 L x 297 D mm (6.32 x 16.66 x 11.7 in.),
  - With SVS, D = 387 mm (15.2 in.)
- **Weight**
  - 4.8 kg (10.5 lbs.)
- **Operating Temperature**
  - -10 to 50°C (14 to 122°F)
- **Storage Temperature**
  - -40 to 60°C (-40 to 140°F)
- **Power Requirements**
  - Supplied by FL900 Flow Logger, Flo-Logger, or Flo-Station

- **Interconnecting Cable**
  - Disconnect available at both sensor and logger or Flo-Station
  - Polyurethane, 0.400 (±0.015) in. diameter; IP68
  - Standard length 9 m (30 ft), maximum 305 m (1000 ft)
- **Cables – available in two styles:**
  - Connectors at both ends
  - Connector from sensor with open leads to desiccant hub, desiccant hub with connector to logger. A potting/sealant kit will be included. This can be used to run the cable through conduit.
- **Certification**
  - Certified to: FCC Part 15.245: FCC ID: VIC-FLODAR24
  - Industry Canada Spec. RSS210. v7: IC No.: 6149A-FLODAR24

SURCHARGE DEPTH MEASUREMENT

  - Auto zero function maintains zero error below 0.5 cm (0.2 in.)
- **Method**
  - Piezo-resistive pressure transducer with stainless steel diaphragm
- **Range**
  - 3.5 m (138 in.), overpressure rating 2.5 x full scale

VELOCITY MEASUREMENT

- **Method**
  - Radar
- **Range**
  - 0.23 to 6.10 m/s (0.75 to 20 ft/s)
- **Frequency Range**
  - 24.075 to 24.175 GHz, 15.2 mW (max.)
- **Accuracy**
  - ±0.5%; ±0.03 m/s (±0.1 ft/s)

DEPTH MEASUREMENT

- **Method**
  - Ultrasonic
- **Standard Operating Range from Flo-Dar® Housing to Liquid**
  - 0 to 152.4 cm (0 to 60 in.)
- **Optional Extended Level Operating Range from Transducer Face to Liquid**
  - 0 to 6.1 m (0 to 20 ft.) with 43.18 cm (17 in.) dead band, temperature compensated.
- **Accuracy**
  - ±1%; ±0.25 cm (±0.1 in.)

FLOW MEASUREMENT

- **Method**
  - Based on Continuity Equation
- **Accuracy**
  - ±5% of reading typical where flow is in a channel with uniform flow conditions and is not surcharged, ±1% full scale max.

SURCHARGE CONDITIONS DEPTH/VELOCITY DEPTH (Std with Flo-Dar® Sensor)

- **Surcharge depth supplied by Flo-Dar® sensor.**

VELOCITY (Optional Surcharge Velocity Sensor)

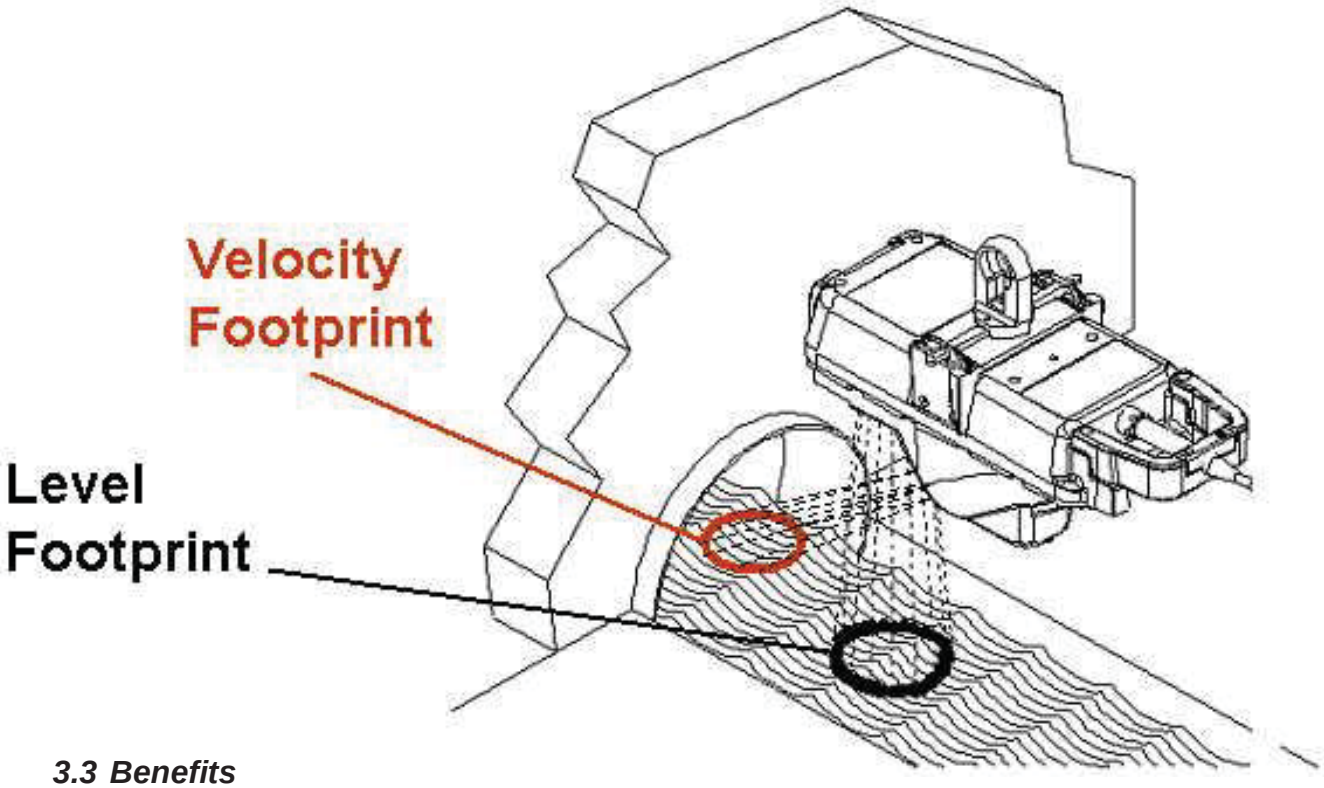
- **Method**
  - Electromagnetic
- **Range**
  - ±4.8 m/s (±16 ft/s)
- **Accuracy**
  - ±0.15 ft/s or 4% of reading, whichever is greater.
- **Zero Stability**
  - ±0.05 ft/s

The Flo-Dar® Open Channel Flow Meters provide an innovative approach to open channel flow monitoring. Combining digital Doppler radar velocity sensing with ultrasonic pulse echo level sensing, Flo-Dar® provides accurate open channel flow monitoring without the fouling problems associated with submerged sensors.

3.2.2 Perfect Solution for Difficult Flow Conditions:

- Flows with High Solids Content
- High Temperature Flows
- Caustic Flows
- Large Man-Made Channel
- High Velocities
- Shallow Flows





3.3 Benefits

3.3.1 Personnel have no contact with the flow during installation.
3.3.2 Maintenance caused by sensor fouling is eliminated.
3.3.3 Field Replaceable / Interchangeable Sensors and Monitors

3.4 How It Works

Flo-Dar® transmits a digital Doppler radar beam that interacts with the fluid and reflects back signals at a different frequency than that which was transmitted. These reflected signals are compared with the transmitted frequency. The resulting frequency shift provides an accurate measure of the velocity. Level is detected by ultrasonic pulse echo. Flow is then calculated based on the Continuity Equation:

Q = V x A, Where Q = Flow, V = Average Velocity and A = Area

3.5 Accurate Flow Measurements

Flo-Dar® provides the user with highly accurate flow measurements under a wide range of flows and site conditions. By measuring the velocity of the fluid from above, Flo-Dar® eliminates accuracy problems inherent with submerged sensors including sensor disturbances, high solids content and distribution of reflectors.

Tab 4: DVD with Raw Flow Monitoring Data

Tab 5: US³ Company Information

US³ is a California Corporation **Federal ID No. 33-0729605** and qualifies as a Minority Business Enterprise. US³ has certified as an MBE with the California Public Utility Commission's authorized clearinghouse, **Verification Number: 97ES0008.**

US³ is a specialty service company for the Water & Waste Water industry, providing monitoring and control for Utilities since 1996. US³ is in the forefront of this industry by taking the proven technological approaches developed in other high-tech industries and applying them to protect one of our most precious natural resources - our water.

US³ engineers and technical personnel have applied advanced instrumentation system technology to water/wastewater open channel flow monitoring, pipeline evaluation, engineering, and data analysis, all coupled to the power of the Internet. This unique integrated systems approach allows the company to bring greater insight and intelligence to gathering information about water/wastewater system performance of our clients, and in turn, to support the fulfillment of their commitments to manage and cost effectively design, operate, and maintain these systems.

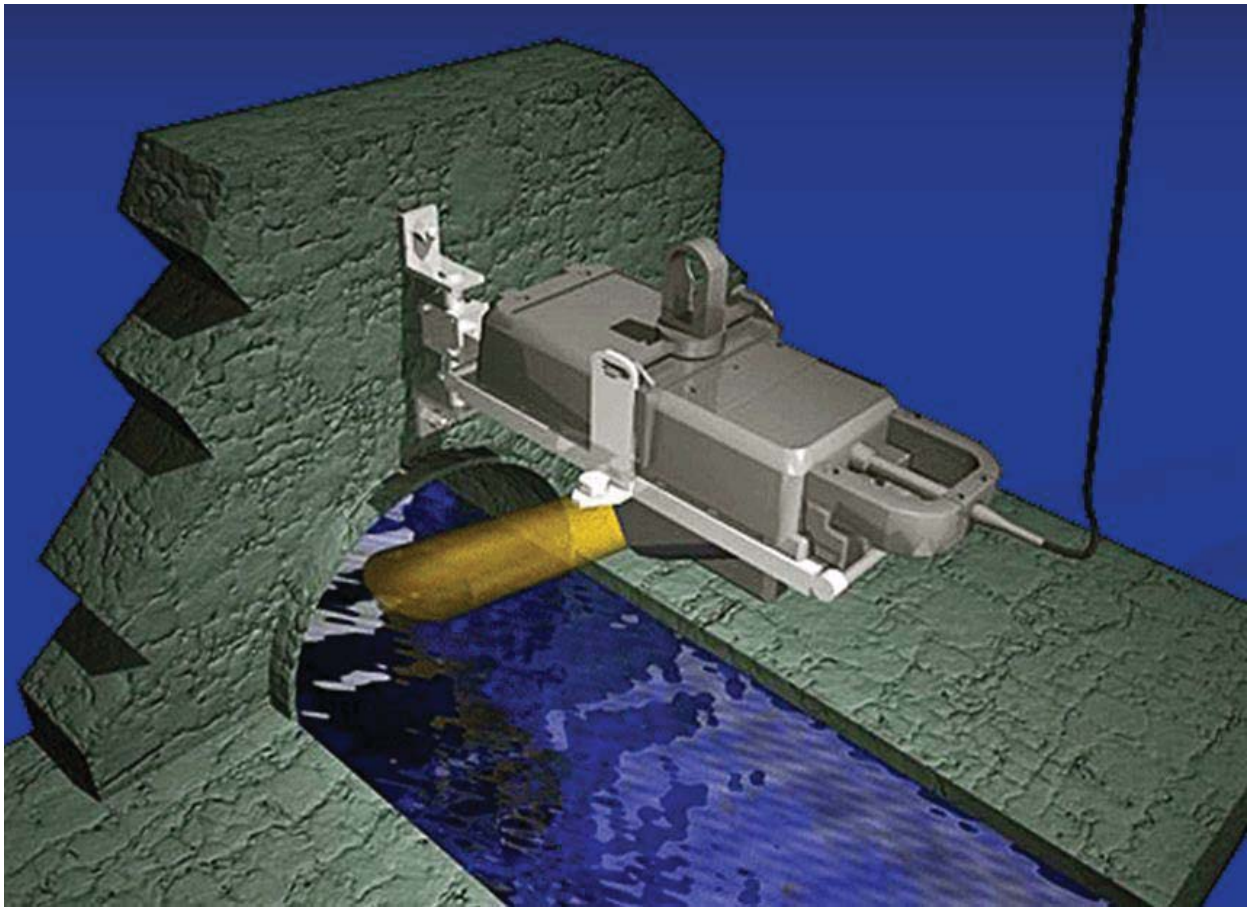


Figure: US³ utilizes exclusively Hach March-McBirney Flo-Dar® Meters

Moreover, ***US³*** supports Municipalities, Consulting Engineering firms and other water/waste water systems integrators by providing temporary technical services for engineering, software programming and technical site maintenance and calibration site support work, primarily in the Water and Waste Water industries.



Figure: All technicians are certified for Confined Space Entry.

Name, Title, Address and Telephone numbers of persons to contact concerning this report.

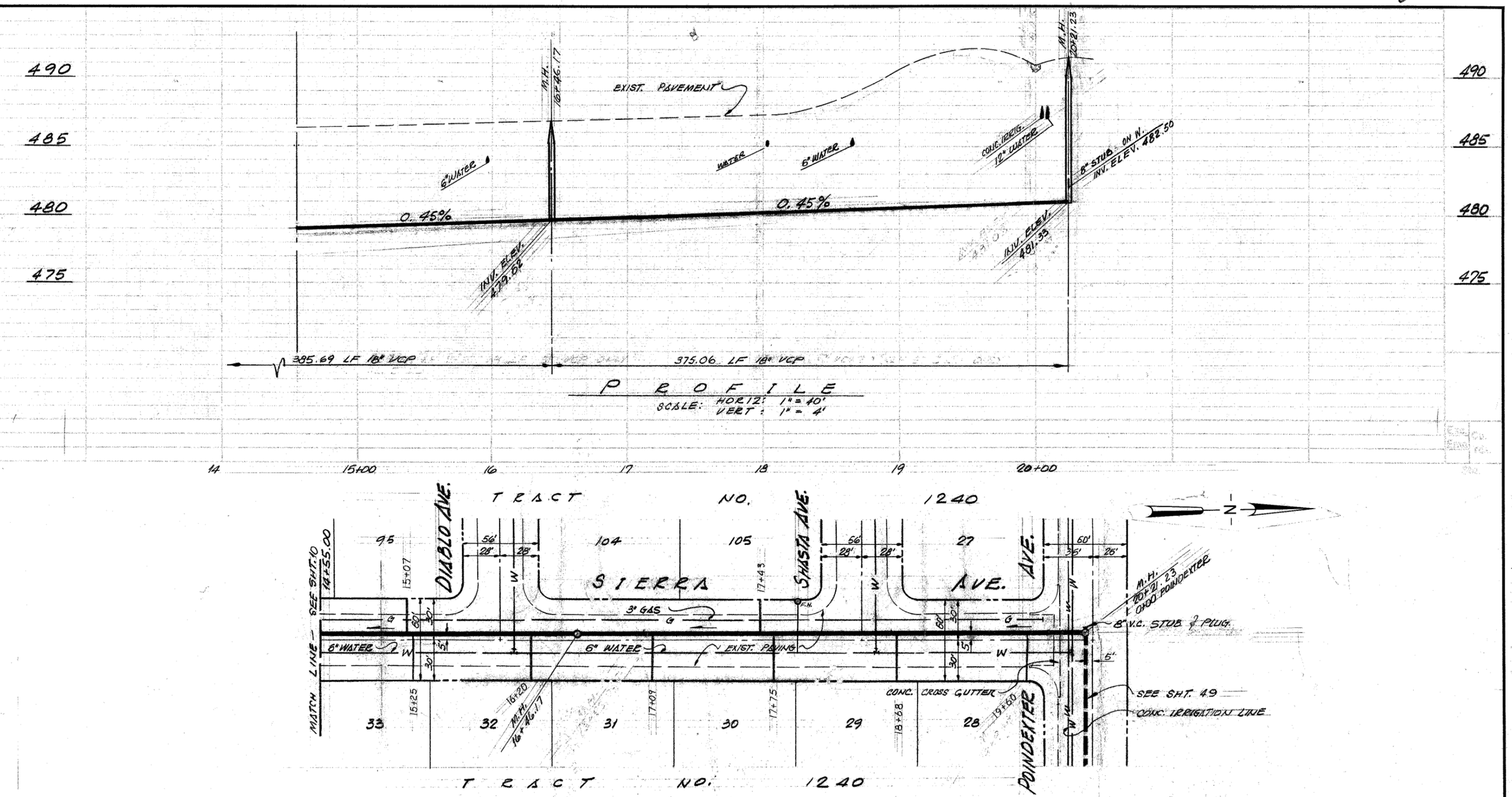
Darlene Szczublewski, PE
Senior Civil Engineer
darlene.szczublewski@uscubed.com

1250 Pioneer Way, Suite F
El Cajon, CA 92020
619-546-4281 Work
619-246-5304 Cell

Tom Williams
Engineering Manager
Tom.williams@uscubed.com

1250 Pioneer Way, Suite F
El Cajon, CA 92020
619-546-4281 Work
619-398-7799 Cell

ATTACHMENT 3



BENCH MARK
Cut "+" on top bolt to Fire Hydr. at
S.W. Corner SIERRA & SHASTA
Elev. 489.72

PLAN

0 40 80 120
SCALE IN FEET

NOTE: ALL LATERALS 4"

"AS-BUILT"
9-12-68

UTILITY FACILITIES ARE SHOWN AS BELIEVED TO EXIST AT TIME OF SURVEY. FACILITIES MAY HAVE BEEN OMITTED, MISPLACED AND/OR RELOCATED. CONTRACTORS SHALL PROTECT ALL UTILITIES WHETHER SHOWN ON PLANS OR NOT.

William L. Jensen 3-67
RCE 10276 DATE

D				Designed	A.P.J.
C				Drawn	J.G.G.
B				Checked	C.B.J.
A				Spec. No.	W.W. 68-3
△	Revisions	By	Date	Datum	
Approved	By H.P. Palmeyer	Dep. Dir.		Field Books	
Approved	By [signature]	Engr. Mgr.		Proj. No. 3180	
Scale GRAPHIC		Date JULY 21, 1967			

VENTURA COUNTY WATER WORKS DISTRICT NO. 1
MOORPARK SEWER COLLECTION SYSTEM

PREPARED BY:
POMEROY – MADERA
(A JOINT VENTURE)
FOR

COUNTY OF VENTURA
DEPARTMENT OF PUBLIC WORKS

SIERRA AVE.
14+55 TO 20+23.09

Sheet 11 of 88 Sheets | Drawing No. 46510

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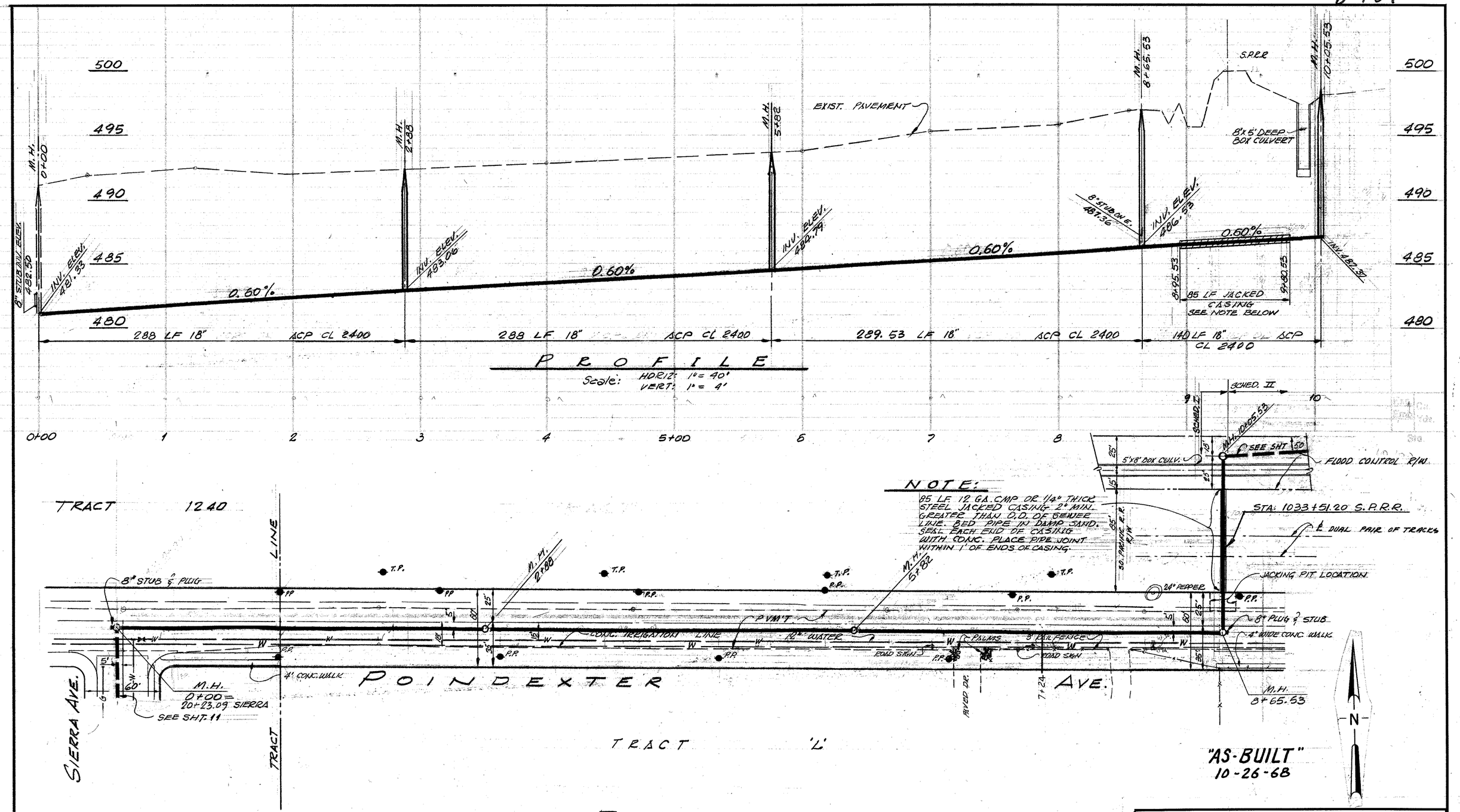
8-487



UTILITY FACILITIES ARE SHOWN AS BELIEVED TO EXIST AT TIME OF SURVEY. FACILITIES MAY HAVE BEEN OMITTED, MISPLACED AND/OR RELOCATED. CONTRACTORS SHALL PROTECT ALL UTILITIES WHETHER SHOWN ON PLANS OR NOT.

William L. Jensen 7-3-67
RCE 10276 DATE

D				Designed A.P.J.
C				Drawn J.G.G.
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VENTURA COUNTY WATER WORKS DISTRICT NO. 1
MOORPARK SEWER COLLECTION SYSTEM

PREPARED BY:
POMEROY — MADERA
(A JOINT VENTURE)
FOR
COUNTY OF VENTURA
DEPARTMENT OF PUBLIC WORKS

POINDEXTER AVE.
0+00 TO 10+05.53

Sheet 49 of 88 Sheets | Drawing No. 46548

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286-1732+1787-S

WS-6-05-0034

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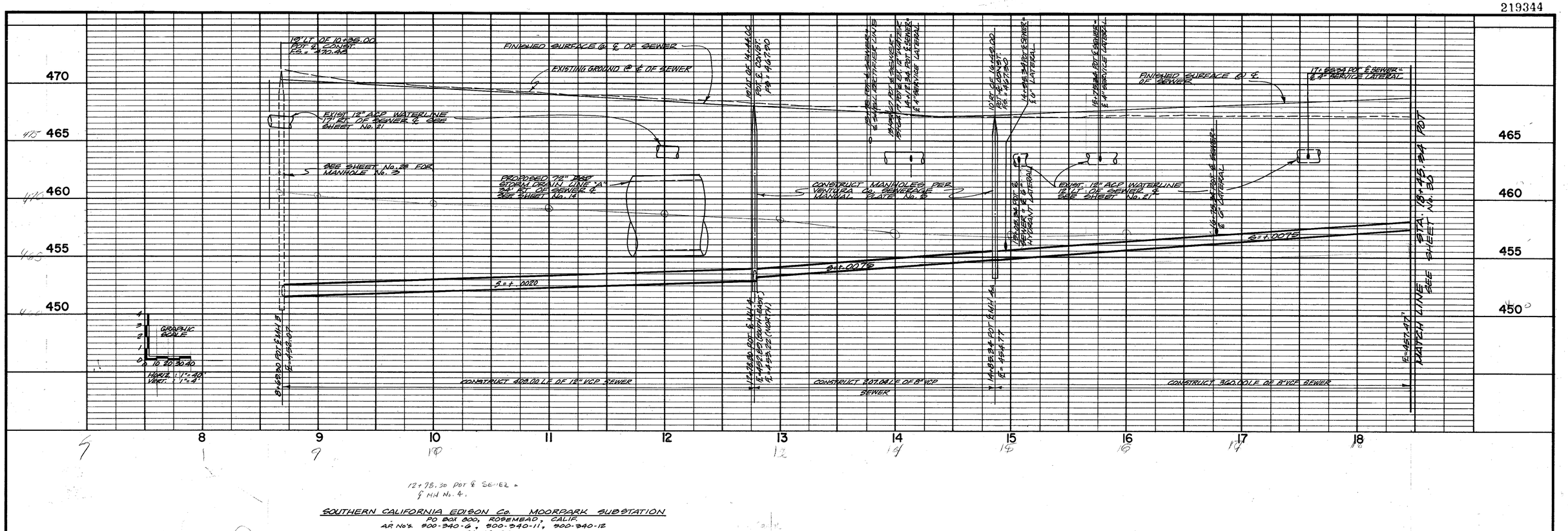
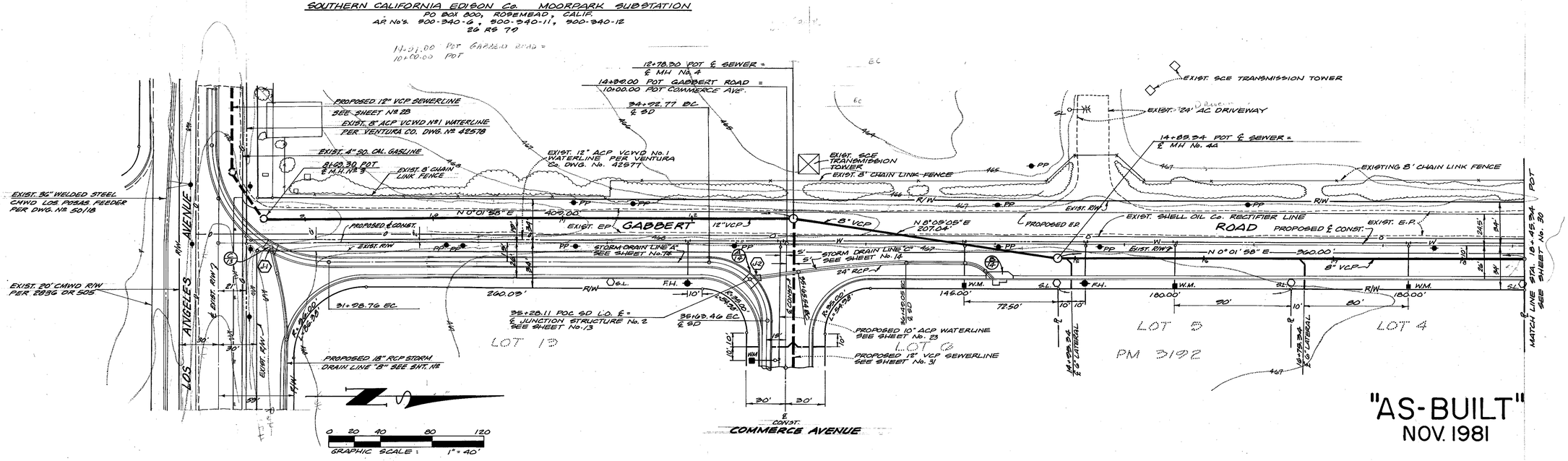


12+78.30 POT & SEWER = & MH No. 4.

SOUTHERN CALIFORNIA EDISON Co. MOORPARK SUBSTATION
PO BOX 800, ROSEMEAD, CALIF.
A.P. Nos. 500-340-6, 500-340-11, 500-340-12
26 RS 79



"AS-BUILT"
NOV. 1981

D					
C					
B					
A					
Δ	REVISION	DESCRIPTION	APP.	DATE	

PREPARED BY
WOODYARD AND ASSOCIATES
ARCHITECTURE • • • ENGINEERING • • • PLANNING
864 EAST SANTA CLARA STREET
VENTURA, CALIFORNIA 93001
(805) 648-2533 OR 485-2125
EDDIE P. RAMSEYER RCE 26362 DATE 10/24/79

DESIGNED WCS | DRAWN NEK | CHECKED EPR

CHECKED: VENTURA COUNTY
PROJECT DEVELOPMENT ENGINEER 8-1-80 DATE

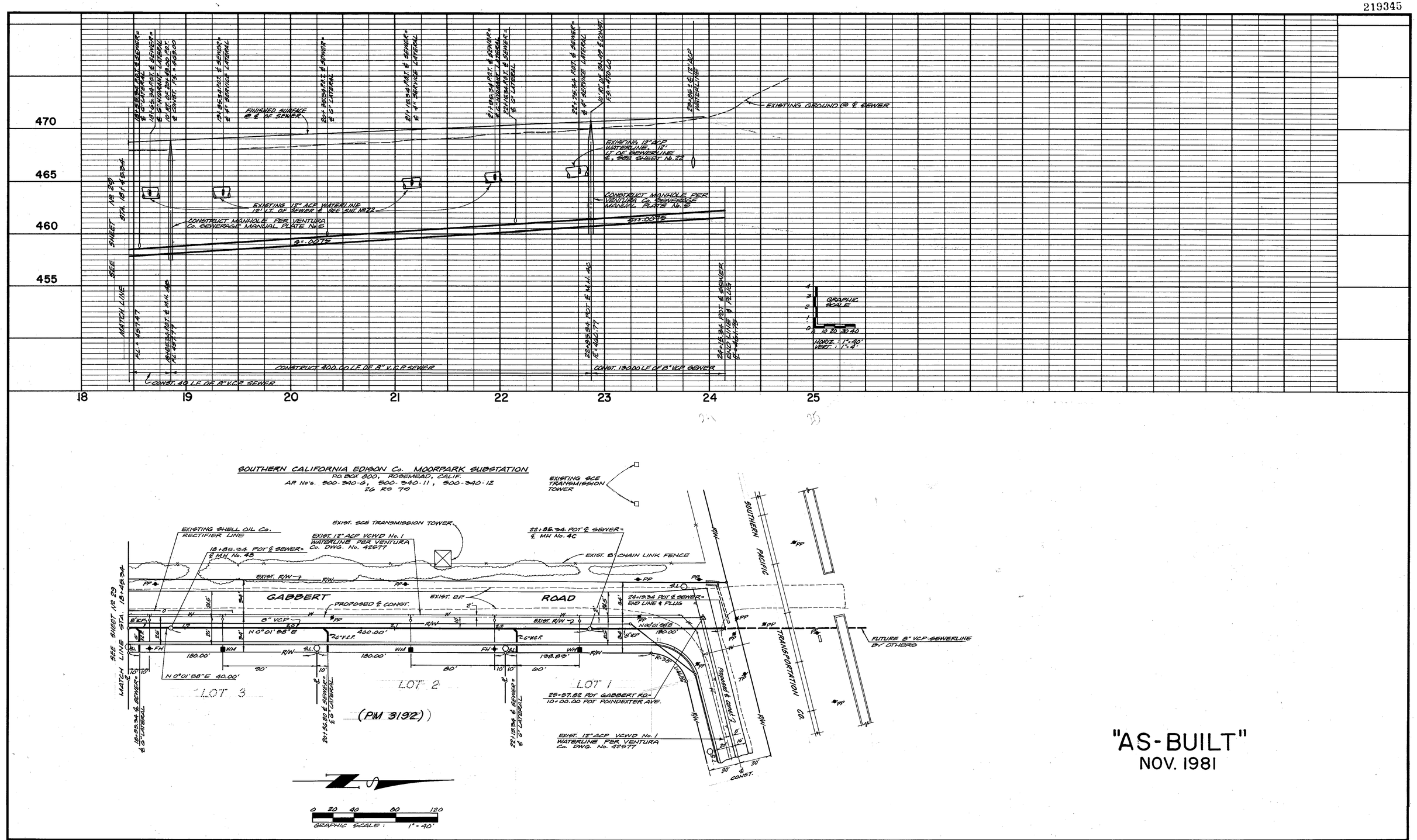
APPROVED: VENTURA COUNTY WATER WORKS DISTRICT No. 1
UTILITIES SUPERINTENDENT L. B. Kovacs 7/16/80 DATE

COUNTY OF VENTURA
PUBLIC WORKS AGENCY

WORK ORDER NO. 586.1

PARCEL MAP NO. 3192
SEWER PLAN & PROFILE
GABBERT ROAD
STA. 8+69.30 TO STA. 18+46.30

SHEET 29 OF 37
DRAWING NO. 55993



"AS-BUILT"
NOV. 1981

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Δ	REVISION DESCRIPTION	APP.	DATE

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864 EAST SANTA CLARA STREET
VENTURA, CALIFORNIA 93001
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EDDIE P. RAMSEYER RCE 26362 10/29/78 DATE

DESIGNED W.C.S. DRAWN N.E.K. CHECKED E.P.R.
CHECKED: VENTURA COUNTY
PROJECT DEVELOPMENT ENGINEER 8-1-80 DATE
APPROVED: VENTURA COUNTY WATER WORKS DISTRICT No. 1
UTILITIES SUPERINTENDENT 8-1-80 DATE

COUNTY OF VENTURA
PUBLIC WORKS AGENCY

WORK ORDER NO. 586.1

PARCEL MAP NO. 3192
SEWER PLAN & PROFILE
GABBERT ROAD
STA. 18+46.30 – STA. 22+26.30

SHEET 30 OF 37
DRAWING NO. 55994

PUBLIC WORKS VENTURA COUNTY

county of ventura

Jeff Pratt
Agency Director

Central Services **Joan Araujo**, Director | Engineering Services **Christopher Cooper**, Director | Transportation **David Fleisch**, Director | Water & Sanitation **Joseph Pope**, Director | Watershed Protection **Glenn Shephard**, Director

March 3, 2021

RWC Hitch Ranch, LLC.
2301 Rosecrans Ave STE 1150
El Segundo, CA 90245

Attn: Harriet Rapista

Subject: TM 5708 – Hitch Ranch
Sewer Study

Dear Ms. Rapista,

The District has reviewed the sewer study provided by ECG along with previous studies and new studies for concurrently proposed developments. This letter serves as guidance for your development to facilitate potential future improvements.

The ECG study proposed two routes for connecting the development to the sewer system as described below:

- Primary Route – east along the High Street extension to a point of connection on Sierra Avenue, Sierra Avenue to Shasta Avenue to Los Angeles Avenue to Maureen Lane and finally connecting to the sewer trunk line along the Arroyo Las Posas
- Alternative Route- west along the High Street extension to a point of connection on Gabbert Road, Gabbert Road to Los Angeles Avenue to Mira Sol Drive to Pepper Mill Street and finally connecting to the sewer trunk line along the Arroyo Las Posas

The District has reviewed the proposed routing and determined the primary routing may lead to odor issues due to the multiple turns in the sewer and resulting turbulence. There is also significant flow proposed from future developments in northern Moorpark. This flow will be primarily routed through the sewer main in Sierra Avenue. It is in the District's best interest to attempt to spread flow evenly throughout the collection system to retain capacity and minimize impact of emergencies.

The District requires Hitch Ranch to proceed with the alternative routing through Gabbert Road or propose a new alternative with appropriate supporting documents which will minimize impact to existing District customers. This new alternative could include flow splitting using multiple existing sewer mains to route flows. Future requirements may be further defined during plan review of the sewer system. The West Point Homes Development (Tract 5847) has also proposed to have a point of connection on Gabbert Road. Efforts will need to be coordinated for the construction of infrastructure should they pursue that point of connection.

If you have any questions regarding the above, please feel free to contact Ryan Lippincott (805) 378-3018 or Scott Meckstroth at (805) 378-3015.

Sincerely,

Ryan Lippincott

Ryan Lippincott, P.E.
Engineering Manager
VCWWD #1

Scott Meckstroth, P.E.
Deputy Director
VCWWD #1

Cc: Joseph Pope, Director - Water and Sanitation Department
Troy Brown, City Manager – City of Moorpark
Greg Musser, Senior Engineer – ECG

C

Preliminary Evaluation of Proposed Walnut Canyon Channel Undercrossings

ALBUS & ASSOCIATES
formerly Albus-Keefe & Associates, Inc.

July 12, 2021
J.N. 2677.00

Ms. Harriet Rapista
Comstock Homes
2301 Rosecrans Avenue, Ste. 1150
El Segundo, CA 90245

Subject: **"Updated" Evaluation of Proposed Walnut Channel Undercrossing, Hitch Ranch Fault Study, Tentative Tract 5708, City of Moorpark, California.**

References: Albus-Keefe & Associates Inc., "Updated" Geotechnical Feasibility Investigation for Proposed Residential Development, Tentative Tract 5708 (Hitch Ranch Project), City of Moorpark, California, prepared by dated September 20, 2019 (J.N. 2677.00).

Albus-Keefe & Associates Inc., Preliminary Evaluation of Proposed Walnut Channel Undercrossings, Hitch Ranch Fault Study, Tentative Tract 5708, City of Moorpark, California, prepared by dated March 16, 2020 (J.N. 2677.00).

Cording, E.J. and Hansmire, W.H., "Displacement Around Soft Ground Tunnels", Proceedings of the 6th Pan-American Conference on Soil Mechanics and Foundation, Engineering, Buenos Aires, Argentina, pp.571-633.

Dear Ms. Rapista,

At your request, we have prepared this correspondence to summarize our "updated" evaluation of the proposed undercrossing of the Ventura County Watershed Walnut Channel. We previously presented our preliminary evaluation of the proposed Walnut Channel undercrossings of water and sewer lines. However, the proposed sewer line crossing will now be located near the intersection of Gabbert Road and Poindexter Avenue. Based on the information provided by the project civil engineer, the sewer invert at the crossing will be an elevation of 463.8 feet MSL. The channel invert near the sewer has an elevation of approximately 468.1 feet MSL. The sewer will be 12 inches in diameter and likely be installed using a jack and bore approach with a conducting casing that has an OD of about 20 inches. Based on this configuration, the clearance between the conducting casing and the bottom of the channel is estimated to be a minimum of about 2 feet. The Ventura County Watershed District has expressed concern with adverse effects on the channel from vibrations caused by the jack and bore operation. In addition, ground subsidence caused by soil loss during drilling is also a general factor to be considered.

As part of our evaluation, we have reviewed previous site exploration data contained in our referenced report for the Hitch Ranch development. One boring was drilled to a depth of 28 feet in proximity to the proposed sewer crossing and another boring in the generally area with a similar geologic conditions was drilled to a depth of 41.5 feet. The borings indicate the area is underlain by alluvial soils that are generally comprised of silty clay, silty sand, and sand. The materials were described as moist and stiff and loose to dense. The borings were drilled with an 8-inch-diameter hollow stem auger and no caving occurred. Groundwater was encountered at depths of 15 and 23 feet below the existing grade. We

estimate that bedrock is located approximately at an elevation of 440 feet MSL or deeper near the sewer crossing.

With regard to ground vibrations, a jack and bore operation would use a drill bit slightly smaller than the conducting casing. Therefore, the bit would still be about 2 feet from the bottom of the channel. Site soils are anticipated to consist of silty sands or finer-grained soils that are expected to be easily drilled with this equipment. Due to a lack of hard rock, gravel, and cobbles, we anticipated the resulting ground vibrations would not exceed a continuous Peak Particle Velocity (PPV) of about 0.10 inch/sec. Based on criteria established by Caltrans in their Technical Advisory TAV-02-01-R9601, "Transportation Related Earthborne Vibrations, dated February 20, 2002, a PPV of 0.10 represents virtually no risk of architectural damage to normal buildings. We therefore conclude that jack and bore operations required to construct the water and sewer lines would pose little risk of damage due to ground vibrations provided clearance of about 2 feet is maintained between the channel bottom and the conducting casing.

We have also performed analyses to estimate the potential ground subsidence that could be caused by soil loss during jack and bore operations. Our analyses followed the methodology proposed by Cording and Hansmire referenced above. Assuming a 21-inch-diameter casing with a spring line depth of 2.9 feet below the bottom of the channel, we estimate maximum vertical ground settlement of about ¼ to 3/8 inches, depending on the actual soil and groundwater conditions at the pipe depth. This settlement is estimated to occur over a length ranging from 3.5 feet to 9 feet along the line of the channel with corresponding angular distortions of about 1:60 to 1:400, respectfully. An angular distortion as low as 1:60 would generally result in cracking of a concrete structure. However, the channel is expected to behave as a deep beam due to the sides of the channel. Taking this into consideration, we anticipate the channel can readily span this short distance of 3.5 feet without distortion and without exhibiting damage. As the potential span length increases, the total settlement and distortion decrease toward tolerable levels. Therefore, upper range of span should also not impact the channel.

The key to completing the jack and bore operations will be to fully characterize subsurface site conditions and develop detailed construction specifications to minimize risks to the channel. We recommend this firm undertake an investigation of the proposed undercrossing and prepare a detailed geotechnical report pertaining to this work.

Respectfully submitted,

Albus & Associates, Inc.





David E. Albus
Principal Engineer
GE 2455

APPENDIX 3.18

Wildfire
Fire Protection Plan

HITCH RANCH
FIRE PROTECTION PLAN



Prepared for:

Ventura County Fire Department
165 Durley Avenue
Camarillo, California 93010

Applicant:

Comstock Homes
2301 Rosecrans Avenue, Suite 1150
El Segundo, California 90245
Contact: Ms. Harriet Rapista

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: Michael Huff, Project Manager

JULY 2021

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Executive Summary

This Fire Protection Plan (FPP) has been prepared for the proposed Hitch Ranch mixed-density residential community Project (Proposed Project) that incorporates land uses for housing and recreational purposes. The Proposed Project would consist of the construction of approximately 755 dwelling units on approximately 277.30 acres including approximately 328 single-family dwelling units on approximately 46.91 acres and approximately 427 multi-family dwelling units on approximately 26.47 acres (191 medium density units and 236 high density units), 32 open space lots, two (2) recreation space lots, and one (1) public park lot located within the City of Moorpark in the County of Ventura, California. The Proposed Project site is currently undeveloped and is located in the rolling hills north of Poindexter, east of Gabbert Road and west of Moorpark Avenue/Walnut Canyon Road (State Route 23). The Proposed Project site is located approximately 0.5 miles south of the Moorpark County Club and bordered to the south by the Union Pacific Railroad track ROW, a commercial development park, existing single-family residences, and a middle school; to the west by existing single-family residences; and to the east by single-family residences and an elementary school. The proposed development will be situated on seven parcels comprised of the following Assessor Parcel Numbers (APN's): APN's 511-0-020-170, 511-0-020-110, 511-0-020-130, 511-0-020-160, 511-0-020-180, 511-0-020-195, and 511-0-200-245. As part of the Proposed Project, access to the site will be improved by widening existing Casey Road to the east, extending High Street across the southern boundary of the Project site from Gabbert Road to the easterly boundary of the project, extending proposed North Hills Parkway across the center of the project site from Gabbert Road to the west to State Route 23 to the east, and from existing Meridian Hills Road to the north. As indicated in the Moorpark's General Plan Circulation Element, access will be improved and area circulation and evacuation capabilities will be improved as the project eliminates three existing dead end roads by connecting them with project roads.

The Hitch Ranch Proposed Project site lies within an area considered a Very High Fire Hazard Severity Zone (VHFHSZ), as designated by the Ventura County Fire Department (VCFD) and California Department of Forestry and Fire Protection (CAL FIRE). Fire hazard designations are based on topography, vegetation, and weather, amongst other factors. In summary, the project is located in the western portion of the City of Moorpark, adjacent to open space areas to the north, is currently undeveloped and vacant, and is covered primarily by flashy grass fuels. The terrain on, and within the vicinity of the project, is characterized by relatively flat slopes, with gradients reaching up to roughly 9%. The area, like all of Ventura County, is subject to seasonal weather conditions that can heighten the likelihood of fire ignition and spread, and, considering the site's terrain and vegetation, may result in a moderate to fast moving and moderate-intensity wildfire.

This FPP evaluates and identifies the potential fire risk associated with the Proposed Project's land uses and identifies requirements for water supply, fuel modification and defensible space, access, building ignition and fire resistance, and fire protection systems, among other pertinent fire protection criteria. The purpose of this plan is to generate and memorialize the fire safety requirements and standards of the VCFD along with project-specific measures based on the site, its intended use, and its fire environment.

The Proposed Project site is within the jurisdiction of the VCFD. The VCFD operates two fire stations that would respond to an incident on the site, including Station Nos. 40 and 42. Based on the Hitch Ranch Project site location in relation to existing VCFD stations, travel time to the site for the first responding engine from Station 42 is less than 2 minutes to the proposed project entrance, on Casey Road. Travel within the development may reach up to 2 minutes, based on the longest proposed road stretch of approximately 0.80 miles, resulting in response time of less than 4 minutes for the entire development. Secondary response would arrive in less than 4 minutes. Based on these calculations, emergencies within the project can be responded to by VCFD's first arriving unit

(average maximum initial response of no more than 8.5 minutes for fire apparatus and 5 minutes for ambulance, 90% of calls) in accordance with the County's emergency response standard. In addition, automatic/mutual aid agreements are in place with all surrounding communities and have been recently improved through the implementation of a computer aided dispatch system.

As determined during the analysis of this site and its fire environment, the Proposed Project site, in its current condition, may include characteristics that, under favorable weather conditions, could have the potential to facilitate fire spread. Under extreme conditions, wind-driven wildfires from the east / northeast could cast embers onto the property. Once the Proposed Project community is built, the Hitch Ranch on-site fire potential will be lower than its current condition due to fire safety requirements that will be implemented on this site, including ignition resistant construction standards, requirements for water supply, fire apparatus access, fuel modification and defensible space, interior fire sprinklers and 8.5 minute or less fire response travel times were integrated into the code requirements and internal VCFD guidelines based on the County of Ventura Strategic Plan. When it became clear that specifics of how structures were built, how fire and embers contributed to ignition of structures, what effects fuel modification had on structure ignition, how fast firefighters could respond, and how much (and how reliable) water was available, were critically important to structure survivability, the Fire and Building codes were revised appropriately. Ventura County now boast some of the most restrictive codes for building within Wildland Urban Interface (WUI) areas that focus on preventing structure ignition from heat, flame, and burning embers.

As detailed in this FPP, the Hitch Ranch Project site's fire protection approach will include a redundant layering of protection methods that have proven to reduce overall fire risk. The requirements and recommendations included herein are performance based rather than a prescriptive, one-size-fits-all approach. The fire protection approach is designed to reduce the wildfire hazards on the site, to minimize risks associated with proposed uses, and aid the responding firefighters during an emergency. No singular measure is intended to be relied upon for the site's fire protection, but rather, a system of fire protection measures, methods, and features combine to result in enhanced fire safety, reduced fire potential, and a prepared community.

Early evacuation for any type of wildfire emergency at the Hitch Ranch Proposed Project site is the preferred method of providing for safety, consistent with the VCFD's current approach for evacuation. As such, the Hitch Ranch Project residents will be provided information on, encouraged to practice, and implement a "Ready, Set, Go!" (Ventura County Fire Department 2016) approach to site evacuation. The "Ready, Set, Go!" concept is widely known and encouraged by the state of California and most fire agencies, including the VCFD. Pre-planning for emergencies, including wildfire emergencies, focuses on being prepared, having a well-defined plan, minimizing potential for errors, maintaining the site's fire protection systems, and implementing a conservative (evacuate as early as possible) approach to evacuation and site uses during periods of fire weather extremes.

Based on the results of this FPP's analysis and findings, the following FPP implementation measures will be provided by the Hitch Ranch Proposed Project site. These measures are discussed in more detail throughout this FPP.

- Project buildings will be constructed of ignition resistant[1] construction materials and include automatic fire sprinkler systems based on the latest adopted Building and Fire Codes for occupancy types.

[1] A type of building material that resists ignition or sustained flaming combustion sufficiently to reduce losses from wildland-urban interface conflagrations under worst-case weather and fuel conditions with wildfire exposure of burning embers and small flames, as prescribed in CBC, Chapter 7A and State Fire Marshal Standard 12-7A-5, Ignition-Resistant Materials.

- Project will provide up to 200 feet of Zone A, Zone B, and Zone C fuel modification with additional fire protection measures, including dual-tempered dual pane window upgrade for facades facing the natural open space. The project would also hire a qualified Ventura County Fire Department-approved 3rd party fuel modification zone inspector to provide annual inspections.

- Landscape plantings will not utilize prohibited plants that have been found to be highly flammable (see Appendix E).

- Fire apparatus access roads (i.e., public and private streets) will be provided throughout the development and will vary in width and configuration but will all provide at least the minimum required unobstructed travel lanes, lengths, turnouts, turnarounds, and clearances required by applicable codes. Primary access and internal circulation will comply with the requirements of the VCFD.

- Buildings will be equipped with automatic fire sprinkler systems meeting requirements.

- Water capacity and delivery provide for a reliable water source for operations and during emergencies requiring extended fire flow.

- The Hitch Ranch residents will be provided information on, encouraged to practice, and implement a "Ready, Set, Go!" approach to site evacuation

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1 Introduction

This Fire Protection Plan (FPP) has been prepared for the proposed Hitch Ranch Project (Proposed Project) in Moorpark, California, an incorporated city in Ventura County. The purpose of the FPP is to assess the potential impacts resulting from wildland fire hazards and identify the measures necessary to adequately mitigate those impacts. Additionally, the purpose of this plan is to generate and memorialize the fire safety requirements of the Fire Authority Having Jurisdiction (FAHJ), namely the VCFD. Requirements are based on site-specific characteristics and incorporate input from the project's developer/applicant (Comstock Homes), project planners, engineers, and architects, as well as the VCFD.

As part of the assessment, the plan has considered the fire risk presented by the site including the property location and its topography, geology, surrounding combustible vegetation (fuel types), climatic conditions, fire history and the proposed land use. This FPP addresses water supply, access, structural ignitability and ignition resistive building features, fire protection systems and equipment, impacts to existing emergency services, defensible space, and vegetation management. The plan identifies fuel modification zones and recommends the types and methods of treatment that will protect this project and its essential infrastructure. The FPP recommends measures that developer/builders will take to reduce the probability of structural ignition throughout the project.

The following tasks were performed toward completion of this plan:

- Gather site specific climate, terrain, and fuel data;
- Collect site photographs;
- Process and analyze Hitch Ranch Project data using the latest GIS technology;
- Predict fire behavior using scientifically based fire behavior models, comparisons with actual wildfires (e.g., 2003 Simi, 2006 Shekell, and 2009 Guiberson Fires) in similar terrain and fuels, and experienced judgment;
- Analyze and guide design of proposed infrastructure;
- Analyze the existing emergency response capabilities;
- Assess the risk associated with the proposed Hitch Ranch Project and the project site; and
- Prepare this FPP detailing how fire risk will be mitigated through a system of fuel modification, structural ignition resistance enhancements, and fire protection delivery system upgrades.

This FPP is consistent with the uniform emergency access and installation standards used throughout the State as described in the 2019 California Building Code (CBC), Chapter 7A (or then current edition), which focuses primarily on preventing ember penetration into homes, a leading cause of structure loss from wildfires; thus, it is an important component of the requirements of this FPP and the California Code of Regulations Titles 14 and 24 and the 2019 California Fire Code (CFC) (or then current edition) as well as the operational procedures and capabilities particular to the VCFD emergency vehicles and suppression personnel. In addition, the Ventura County Fire Code and the Ventura County Fire Protection District (VCFPD) Ordinance No. 31 are even more restrictive. In most instances, this FPP requires inclusion of these local code requirements at the Proposed Project site. The purpose of this plan is to generate and memorialize the fire safety requirements of the FAHJ, namely the VCFD. Requirements are based on site-specific characteristics and incorporate input from project planners, engineers, biologists, architects, and the VCFD.

Field observations were utilized to augment existing digital site data in generating the fire behavior models and formulating the recommendations presented in this FPP. Refer to Appendix A for site photographs of existing site conditions.

1.1 Proposed Project Summary

1.1.1 Location

The Proposed Project site is located within the west-northwest portion of the incorporated City of Moorpark in Ventura County, California. The Proposed Project site is currently undeveloped and is located in the rolling hills north of Poindexter Avenue, east of Gabbert Road and west of Moorpark Avenue/Walnut Canyon Road (State Route 23). More specifically, the Hitch Ranch Project site is situated in Section 5 of Township 2 North, Range 19 West and Section 32 of Township 3 North, Range 19 West on the U.S. Geological Survey (USGS) 7.5-minute Moorpark, California quadrangle map (Figure 1, *Project Site Location Map*). Surrounding land uses include a residential community to the northwest, a Southern California Edison (SCE) Moorpark Substation to the southwest, a commercial and residential development to the south, Walnut Canyon Elementary School and residential developments to the east, a new residential community to the northeast, and naturally vegetated open space land separating the Proposed Project site from the Moorpark County Club approximately 0.5 miles to the north. The proposed development will be situated on seven parcels comprised of the following Assessor Parcel Numbers (APN's): APN's 511-0-020-170, 511-0-020-110, 511-0-020-130, 511-0-020-160, 511-0-020-180, 511-0-020-195, and 511-0-200-245. The entirety of the proposed property lies within the local responsibility area (LRA) Very High Fire Hazard Severity Zone (VHFHSZ), as statutorily designated by CAL FIRE (2007) and the VCFD (Figure 2, Hitch Ranch Fire Hazard Severity Zone Map).

1.1.2 Project Description

The Proposed Project consists of a mixed-density residential community that incorporates land uses for housing and recreational purposes. The Proposed Project would consist of the construction of 755 dwelling units on approximately 277.30 acres including 328 single-family dwelling units on approximately 46.91 acres and 427 multi-family dwelling units on approximately 26.47 acres (191 medium density units and 236 high density units), 32 open space lots, three (3) recreation space lots, and one (1) public park (Figure 3, *Proposed Site Plan*). The single-family residential units are proposed to be one and two stories in height, while the multi-family dwelling units would be two and three stories in height. Single-family dwelling units are proposed for Planning Areas (PA) 1, 2, and 3, and multi-family dwelling units are proposed for PA3 and PA4. Comstock plans to phase the land development of the project over two phases. In addition to the 755 proposed residential dwelling units, the project will include lots dedicated to recreation and fuel modification zones (FMZ) to be managed by the property owners and the Homeowners Association (HOA). Three private recreation areas are proposed, including The Outlook located in PA1 and two additional recreation lots are located in PA3 and PA 4. Landscaped areas may incorporate horticultural plantings. The proposed Hitch Ranch Project would include up to 200 feet of fuel modification, consisting of three zones, a 30-foot Zone A, a 70-foot Zone B, and a 100-foot thinning Zone C. Public access to the site is currently available via Gabbert Road on the west and from Casey Road on the east. Access to the site will be improved by extending existing Casey Road from its terminus east of the project site to provide access to PA2, PA3, and PA4; by extending High Street from its current terminus east of the project site across the southern boundary of the Project site to Gabbert Road; by extending North Hills Parkway across the center of the project site from Gabbert Road to State Route 118; and by extending Meridian Hills Drive from the existing terminus and would connect to Street "A" at North Hills Parkway. As indicated in the Moorpark's General Plan Circulation Element, North

Hills Parkway would ultimately be constructed as a four-lane roadway. Gabbert Road would be improved to a four-lane arterial roadway from the point of connection with Poindexter Avenue, crossing the Union Pacific Railroad tracks, and continuing to North Hills Parkway. North of North Hills Parkway, Gabbert Road would taper back to its existing width. Appendix A provides photographs of the site in its current, undeveloped condition.

1.1.3 Current Land Use

The Hitch Ranch Project site is currently undeveloped and vacant, consisting of naturally vegetated slopes and disturbed land. According to the Hitch Ranch 2019 Biological Update prepared for Impact Sciences, the existing site is comprised mainly of annual brome grassland (approximately 154 acres), California sagebrush-deerwood scrub (approximately 39 acres), and non-native woodlands (approximately 11 acres), and a variety of disturbed habitats on the relatively flat with gently rolling hills Project site. In 2003 and 2006, fires entirely burned these plant communities, but they have since grown back in similar proportions, because these communities are comprised of species largely adapted to periodic fires. Numerous dirt roads were observed throughout the site to accommodate existing land uses. The Project site exhibits signs of prior occupation in the form of foundations, fences, and water production. The existing ranch run cows within the fence line of the property to graze the grassland throughout the property. Overhead electrical transmission lines traverse the western portion of the site which are connected to the Southern California Edison (SCE) Substation located just southwest of the Proposed Project site.

The surrounding land uses include single-family residential developments to the northwest, east, and south, the Moorpark County Club to the north, and a commercial development to the south. Railroad tracks and Poindexter Avenue borders the southern edge of the property.

1.1.4 Proposed Land Use

The Hitch Ranch Project proposes to construct approximately 328 single-family dwelling units on approximately 46.91 acres and approximately 427 multi-family dwelling units on approximately 26.47 acres (191 medium density units and 236 high density units), 32 open space lots, three (3) recreation space lots, and one (1) public park. In addition to the approximately 755 proposed residential dwelling units, the project will include lots dedicated to recreation and open space lands. Three private recreation areas are proposed, including The Outlook located in PA1 and two additional recreation lots are located in PA3 and PA 4. Approximately 104-acres of open space is proposed and would remain in its existing condition and would provide a buffer between existing residential uses west of the Proposed Project site and the single-family residences proposed in PA1 and PA2. Four detention basins are proposed within the project site to protect against flooding from the local drainage basin (i.e, Gabbert and Walnut Canyons). All four basins are designed as soft-bottom facilities, which would ultimately drain to the Ventura County Watershed Protection District (VCWPD) channel located along the southern perimeter of the project site. An approximately 5.56-acre public park is proposed in the southeast portion of the project site that would be dedicated to the City of Moorpark, which tentatively will include athletic fields and an aquatic facility. A 100- to 200-foot fuel modification zone would occur between the open space areas and the on-site dwelling units to be managed by the property owners and the HOA.

As indicated in Figure 3, public and private streets will provide access to the development, including a single entrance off Gabbert Road from the west, a single entrance from the proposed extension of High Street along the southern property boundary, and three proposed entrances from the north and east. In addition to the single and multi-family dwelling units, the project will include fuel modification zones. Access to the site will be improved as indicated in the Moorpark's General Plan Circulation Element and area circulation and evacuation capabilities will be improved as the project eliminates three existing dead end roads by connecting them with project roads. Details are provided in Section 6.1.4.

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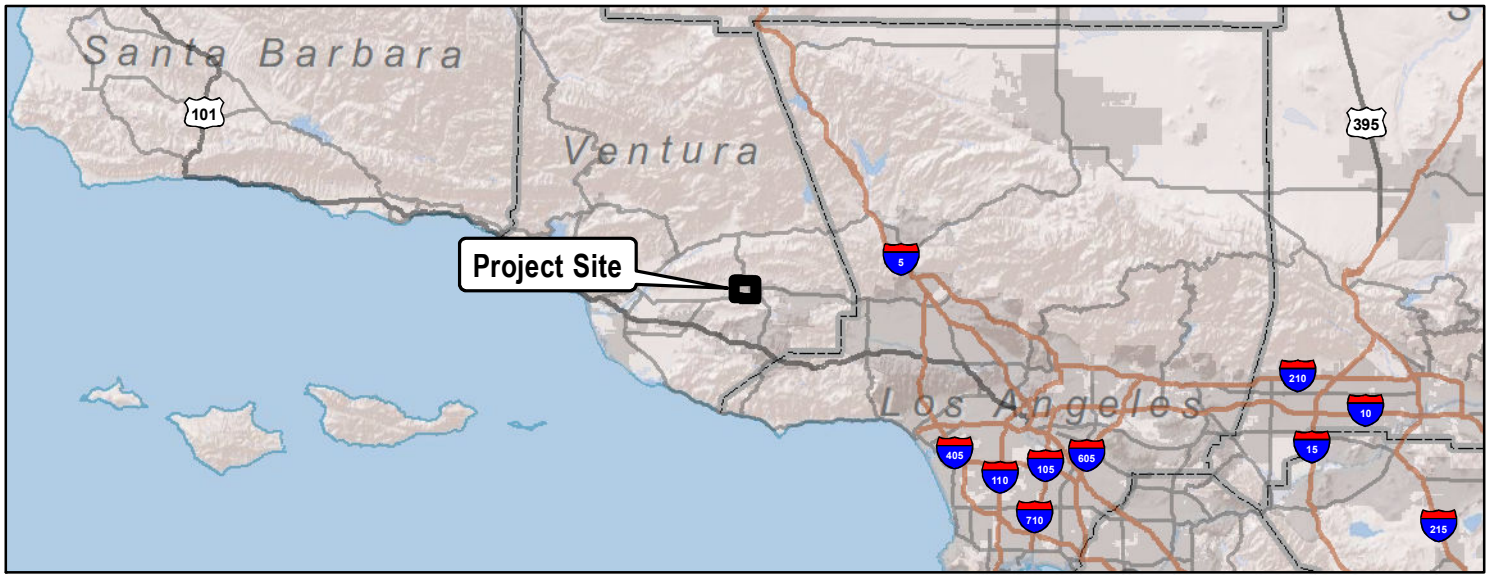

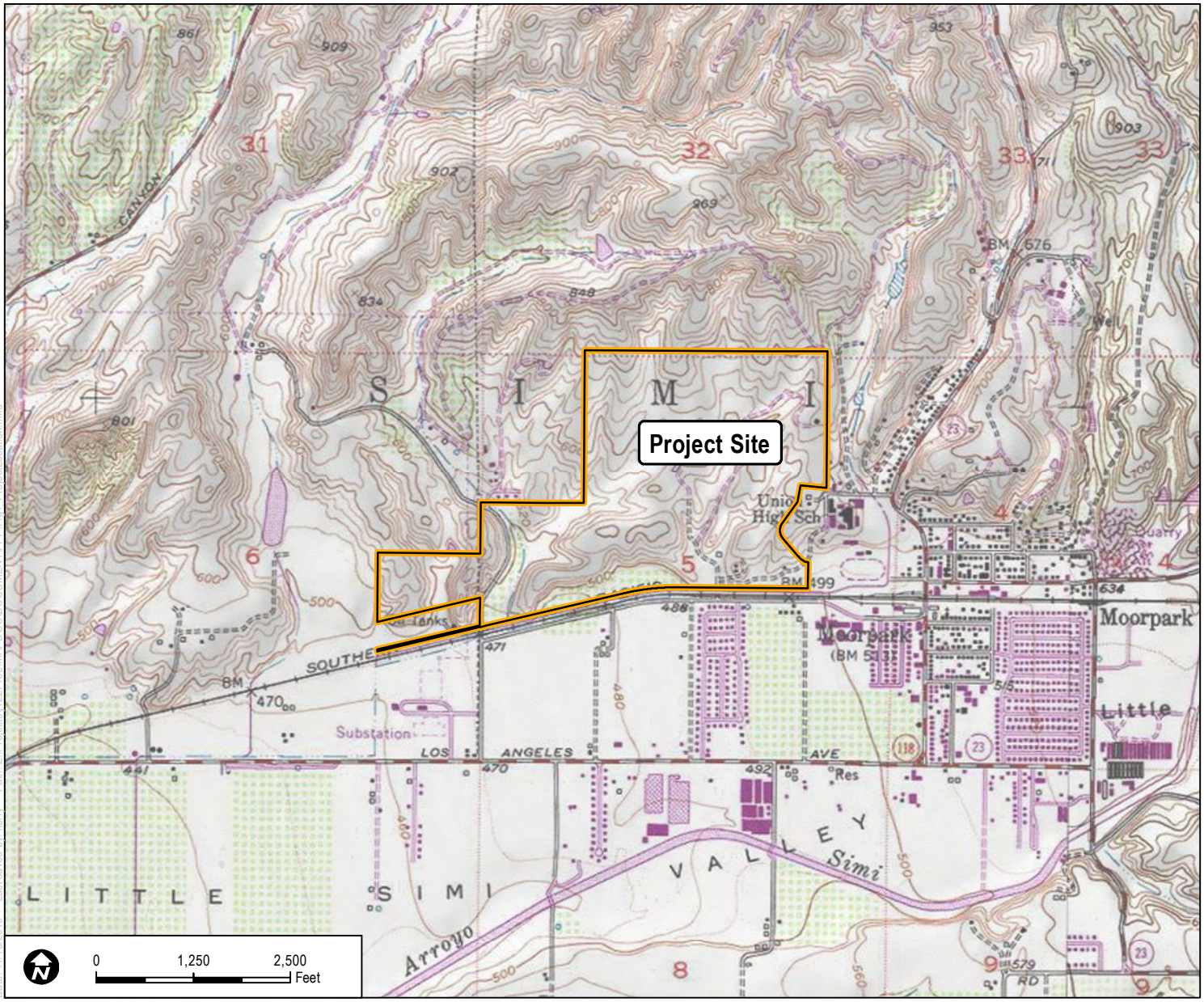

SOURCE: USGS 7.5 Minute Series, Moorpark Quadrangle

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FIGURE 1

Project Location

Hitch Ranch Fire Protection Plan

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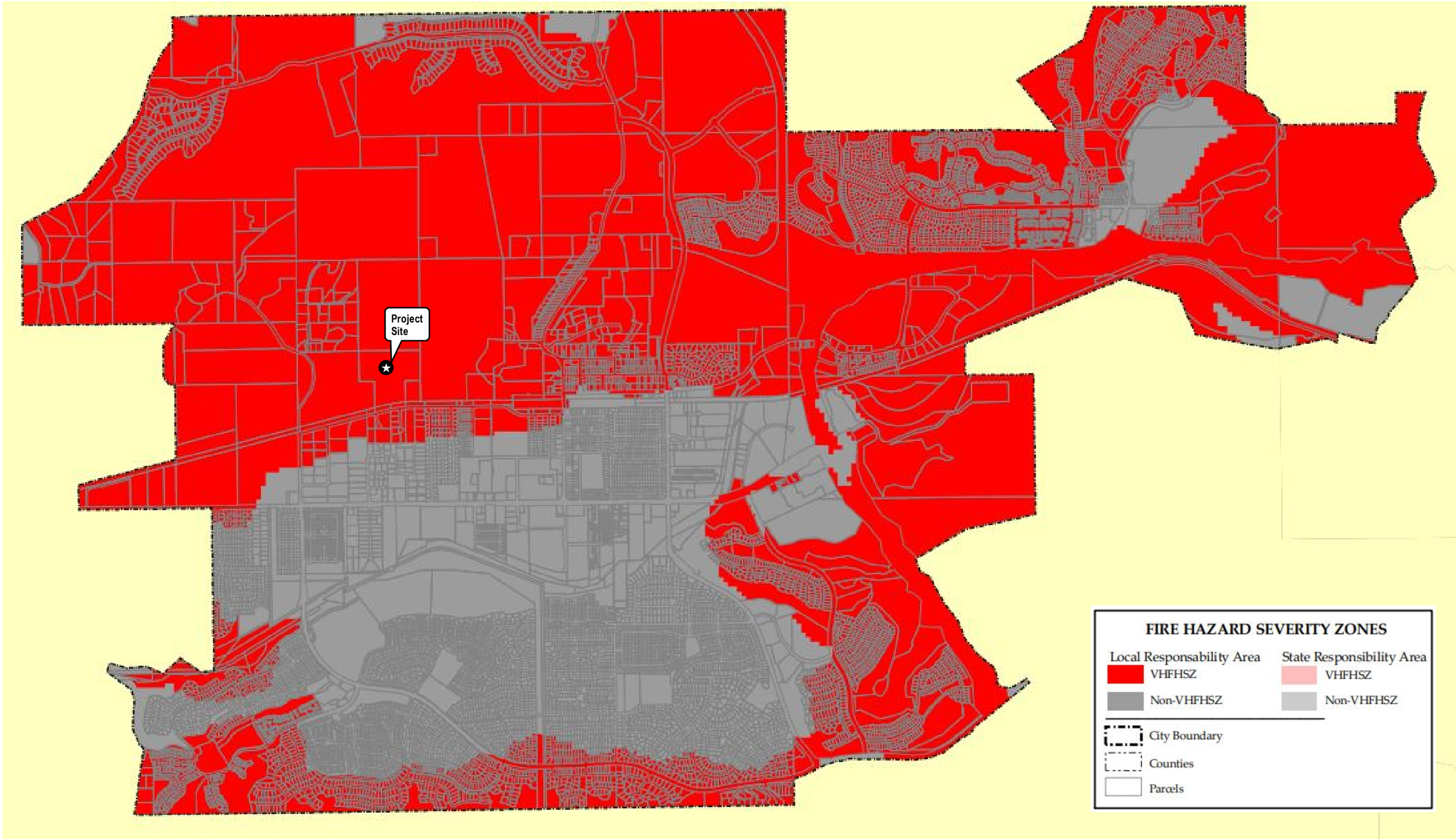

SOURCE: CAL FIRE, 2019

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FIGURE 2
Hitch Ranch Fire Hazard Severity Zone Map

HITCH RANCH PROPOSED PROJECT FIRE PROTECTION PLAN

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SOURCE: WILLIAM HEZMALHALCH ARCHITECTS AND ENCOMPASS CONSULTANT GROUP, 2020

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FIGURE 3
Proposed Site Plan

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2 Proposed Project Site Risk Analysis

2.1 Environmental Setting and Field Assessment

Dudek conducted a site evaluation on October 11, 2019, in order to confirm/acquire site information, document existing site conditions, and to determine potential actions for addressing the protection of the project's structures. While on site, Dudek's Fire Planners assessed the area's topography, natural vegetation and fuel loading, surrounding land use and general susceptibility to wildfire. Among the field tasks that were completed included:

- Topography evaluation
- Vegetation/fuel assessments
- Photograph documentation of the existing condition
- Confirmation/verification of hazard assumptions
- Off-site, adjacent property fuel and topography conditions
- Surrounding land use confirmations
- Necessary fire behavior modeling data collection
- Ingress/egress documentation
- Nearby Fire Station reconnaissance.

Field observations were utilized to augment existing site data in generating the fire behavior models and formulating the recommendations detailed in this report.

2.2 Site Characteristics and Fire Environment

Fire environments are dynamic systems and include many types of environmental factors and site characteristics. Fires can occur in any environment where conditions are conducive to ignition and fire movement. Areas of naturally vegetated open space are typically comprised of conditions that may be favorable to wildfire spread. The three major components of fire environment are topography, vegetation (fuels), and climate. The state of each of these components and their interactions with each other determines the potential characteristics and behavior of a fire at any given moment. It is important to note that wildland fire may transition to urban fire if structures are receptive to ignition. Structure ignition depends on a variety of factors and can be prevented through a layered system of protective features including fire resistive landscapes directly adjacent the structure(s), application of known ignition resistive materials and methods, and suitable infrastructure for firefighting purposes. Understanding the existing wildland vegetation and urban fuel conditions on and adjacent to the site is necessary to understand the potential for fire within and around the Hitch Ranch Project site.

2.2.1 Topography

The project site is situated within the Transverse Ranges at the southern limit of the Simi Hills, between the Oak Ridge Mountains to the north and the Las Posas Hills to the south. The site is characterized by gently rolling hills and a series of north-south trending ridges and canyons. The topography ranges from moderately steep to relatively flat, and is highly variable; elevation at the site ranges from approximately 475 to 720 feet above mean sea level

(AMSL). The site has been previously disturbed by agricultural operations and several fires in recent years. Numerous dirt roads, concrete foundations of old farm buildings, and culverts in old agricultural ditches are still present as well as a livestock shed and goats in a fenced pen. Several ephemeral drainages convey storm water down the steep slopes of the site, but no defined beds and banks or well-developed riparian plant communities were observed. Some evidence of erosion was noted in 2018 and 2019 at areas previously disturbed, such as where pipelines were installed and along Gabbert Road (Hitch Ranch Specific Plan EIR, Impact Sciences, Inc., 2019).

2.2.2 Climate

The Proposed Project site, like much of Southern California, is influenced by the Pacific Ocean and a seasonal, migratory subtropical high-pressure cell known as the "Pacific High." Wet winters and dry summers with mild seasonal changes characterize the Southern California climate. This climate pattern is occasionally interrupted by extreme periods of hot weather, winter storms, or dry, easterly Santa Ana winds. The average high temperature for the project area is approximately 74°F, with daily highs in the summer and early fall months (July–October) exceeding 95°F. Precipitation typically occurs between December and March with average rainfall of 18 inches (Western Regional Climate Center, 2019).

The prevailing wind pattern is from the west (on-shore), but the presence of the Pacific Ocean causes a diurnal wind pattern known as the land/sea breeze system. During the day, winds are from the west–southwest (sea) and at night winds are from the northeast (land), averaging 2 miles per hour (mph). During the summer season, the diurnal winds may average slightly higher (approximately 19 mph) than the winds during the winter season due to greater pressure gradient forces. Surface winds can also be influenced locally by topography and slope variations. The highest wind velocities are associated with downslope, canyon, and Santa Ana winds. The Hitch Ranch Project site does not include topography that would create unusual weather conditions. However, the site is subject to periodic extreme fire weather conditions that occur throughout Ventura County.

Typically, the highest fire danger is produced by the high-pressure systems that occur in the Great Basin, which result in the Santa Ana winds of Southern California. Sustained wind speeds recorded during recent major fires in Ventura County exceeded 30 mph and may exceed 50 mph during extreme conditions, as was the case during the most recent wildfire. The Santa Ana wind conditions are a reversal of the prevailing southwesterly winds that usually occur on a region-wide basis during late summer and early fall. Santa Ana winds are warm winds that flow from the higher desert elevations in the north through the mountain passes and canyons. As they converge through the canyons, their velocities increase. Consequently, peak velocities are highest at the mouths of canyons and dissipate as they spread across valley floors. Santa Ana winds generally coincide with the regional drought period and the period of highest fire danger. The Hitch Ranch Project site is affected by strong winds, such as Santa Ana winds.

2.2.3 Vegetation (Fuels)

Vegetation within the project site was identified, characterized, and mapped using geographic information system [GIS] technology (Impact Sciences, Inc., 2021). Vegetation nomenclature used to describe plant communities is

based on the current list of vegetation types, available from the CDFW VCMP.[2] Common plant names of plant taxa are taken from various informal sources. The majority of the site is disturbed by active cattle grazing and covered in non-native brome grasslands, specifically to the east of Gabbert Road. Native plant communities present on site are substantially disturbed by grazing and include California sagebrush-deerweed scrub, California sagebrush scrub, cactus scrub, blue elderberry stands, and chaparral yucca scrub. Also present are disturbed areas that are actively disced, developed areas, and nonnative woodland. The area proposed for development and within the project grading limits will be converted to roads, structures, and landscaped vegetation following project completion. Vegetative fuels within proposed fuel modification zones consist primarily of annual grasslands and California sage scrub, although these fuels will be modified as a result of development, altering their current structure and species composition. Areas outside of proposed development and fuel modification zones can be classified primarily as annual grasslands and sage scrub. Table 1, Project Vegetation Communities and Land Cover Types, and the following discussion provide a description of the botanical characteristics of each of the plant communities found on the project site.

Table 1. Project Vegetation Communities and Land Cover Types

Vegetation Community or Land Cover Type	Acres*	Percent of Site (%)
Annual brome grassland	1.35	0.47
Annual brome grassland (Disturbed/Grazed)	152.45	53.45
Total Annual brome grassland	153.79	54.01
Non-Native woodland	10.65	3.73
Blue Elderberry Stands	1.62	0.56
Blue Elderberry Stands (Disturbed/Grazed)	5.38	1.88
Total Blue Elderberry Stands	7.00	2.46
California sagebrush-deerwood scrub	23.85	9.20
California sagebrush-deerwood scrub (Disturbed/grazed)	12.92	4.53
Total California sagebrush-deerwood scrub	39.13	13.74
Cactus scrub (Disturbed/Grazed)	1.76	0.62
Developed	1.44	0.51
Disturbed/Disced	70.53	24.78
Total	**284.73**	**100.0**

[2] California Department of Fish and Game, Biogeographic Data Branch. 2009. Vegetation Classification and Mapping Program List of California Vegetation Alliances, December 28, 2009.

Source: Impact Sciences, Inc. Biological Resources Assessment Report 2021. Refer to Impact Sciences, Inc. Biological Resources Assessment Report for descriptions of the vegetation communities or land cover types.

* Acreages include the 277.3-acre project site and off-site improvement areas associated with the development (e.g., roadway connections) as depicted in Figure 3.3-2 of the Biological Assessment Report.

2.2.4 Vegetation Dynamics (Fuel Loads)

The vegetation described above translates to fuel models used for fire behavior modeling, discussed in Chapter 4 of this FPP. Variations in vegetative cover type and species composition have a direct effect on fire behavior. Some plant communities and their associated plant species have increased flammability based on plant physiology (resin content), biological function (flowering, retention of dead plant material), physical structure (bark thickness, leaf size, branching patterns), and overall fuel loading. For example, non-native grass dominated plant communities become seasonally prone to ignition and produce lower intensity, higher spread rate fires. In comparison, California sagebrush scrub can produce higher heat intensity and higher flame lengths under strong, dry wind patterns, but does not typically ignite or spread as quickly as light, flashy grass fuels. The corresponding fuel models for each of these vegetation types are designed to capture these differences.

As described, vegetation plays a significant role in fire behavior, and is an important component to the fire behavior models discussed in this report. A critical factor to consider is the dynamic nature of vegetation communities. Fire presence and absence at varying cycles or regimes disrupts plant succession, setting plant communities to an earlier state where less fuel is present for a period of time as the plant community begins its succession again. In summary, high-frequency fires tend to convert shrublands to grasslands or maintain grasslands, and fire exclusion tends to convert grasslands to shrublands over time as shrubs sprout back or establish and are not disturbed by repeated fires. In general, biomass and associated fuel loading will increase over time, assuming that disturbance (e.g., fire, grazing, or farming) or fuel reduction efforts are not diligently implemented. It is possible to alter successional pathways for varying plant communities through manual alteration. This concept is a key component in the overall establishment and maintenance of the proposed FMZs for the project site. The FMZs will consist of irrigated and maintained landscapes that will be subject to regular “disturbance” in the form of maintenance and will not be allowed to accumulate excessive biomass over time, which results in reduced fire ignition, spread rates, and intensity.

2.2.5 Fire History

Fire history is an important component of a site-specific FPP. Fire History data provides valuable information regarding fire spread, fire frequency, ignition sources, and vegetation/fuel mosaics across a given landscape. One important use for this information is as a tool for pre-planning. It is advantageous to know which areas may have burned recently and therefore may provide a tactical defense position, what type of fire burned on the site, and how a fire may spread. Fire history represented in this FPP uses the Fire and Resource Assessment Program (FRAP) database. FRAP summarizes fire perimeter data dating to the late 1800s, but which is incomplete due to the fact that it only includes fires over 10 acres in size and has incomplete perimeter data, especially for the first half of the 20th century (Syphard and Keeley 2016). However, the data does provide a summary of recorded fires and can be used to show whether large fires have occurred in the Project area, which indicates whether they may be possible

in the future. According to available data from the CAL FIRE in the FRAP database[3], twenty-nine (29) fires have burned in the vicinity of the project site since the beginning of the historical fire data record, including the most recent Easy Fire which burn approximately 1,700 acres in October 2019. Recorded wildfires within 5 miles range from 11 acres to 107,570 (2003 Fire) acres and the average fire size is 9,075 acres (not including the 2003 Simi Fire or fires smaller than 10 acres). The Easy Fire (approximately 1,700 acres) is the most recent fire, which occurred approximately 1 mile east of the Project Site (not included in FRAP data based because the fire occurred in October 2019). VCFD may have data regarding smaller fires (less than 10 acres) that have occurred on the site that have not been included herein. Two fires have burned on the project site. Table 2 summarizes the fire history for the area within 5 miles of the Hitch Ranch Project site. Fire history for the general vicinity of the project site is illustrated in the map in Appendix B.

Table 2. Fire History within Five Miles of the Hitch Ranch Project Site

Fire Year*	Fire Name	Interval (years)	Total Area Burned (acres)
1940	Camarillo Rifle Range	N/A	1,411
1943	Jones Canyon	3	522
1944	Long Canyon	1	462
1946	Wiley Canyon	2	21,266
1953	Shields Lease	7	11,775
1956	BI Brush	3	1,595
1957	Simi Valley Ranch	1	468
1958	Santa Rosa	1	1,138
1958	Calumet Canyon	0	17,214
1958	Brea Canyon	0	1,244
1967	Sence Ranch	9	18,354
1970	Clampitt Fire	3	115,537
1973	Santa Rosa	3	424
1976	Arroyo	3	206
1980	Hill Canyon	4	11,975
1984	Grimes Fire	4	11,305
1985	Peach Hill	1	1,992
1987	Tierra	2	759
1995	Wildwood 1	8	799
2001	Walnut Incident	6	36
2003	Simi Fire	2	107,570
2006	Shekell	3	13,618
2009	Guiberson	3	17,527
2011	Collins	2	60
2013	Happy Camp	2	45
2015	Princeton	2	44

[3] Based on polygon GIS data from CAL FIRE's FRAP, which includes data from CAL FIRE, USDA Forest Service Region 5, BLM, NPS, Contract Counties and other agencies. The data set is a comprehensive fire perimeter GIS layer for public and private lands throughout the state and covers fires 10 acres and greater between 1878–2018.

Table 2. Fire History within Five Miles of the Hitch Ranch Project Site

Fire Year*	Fire Name	Interval (years)	Total Area Burned (acres)
2018	Collins	3	11
2018	Olsen	0	28
2018	Hill	0	4,310

1 *CAL FIRE FRAP 2019

Based on an analysis of this fire history data set, specifically the years in which the fires burned, the average interval between wildfires in the area was calculated to be 3 years with intervals ranging between 0 to 9 years. Based on this analysis, it is expected that wildland areas in the vicinity of the project site will be subject to wildfire at least every 3 years with the realistic possibility of shorter interval occurrences, as observed in the fire history record. Based on fire history, wildfire risk for the project site is associated primarily with a Santa Ana wind-driven wildfire burning or spotting onto the site from the north or east, although a fire approaching from the south during more typical on-shore weather patterns is possible.

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3 Determination of Project Effects

FPPs provide an evaluation of the adverse environmental effects a proposed project may have from wildland fire. The FPP describes the project design features that would ensure that the project would not unnecessarily expose people or structures to a significant loss, injury or death involving wildland fires. Significance is determined by answering the following guidelines:

Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The wildfire risk in the vicinity of the Hitch Ranch Project site has been analyzed according to a standard used throughout Ventura County (County of Ventura Initial Study Assessment Guidelines – Fire Hazards (2011)). According to the CALFIRE Fire Severity Zone Map, the proposed project is located in an area considered a VHFHSZ, as designated by CALFIRE and the VCFD. The wildland fire risk in the vicinity of the project site has been analyzed and it has been determined that wildfires may occur in wildland or naturally vegetated areas north of the Proposed Project site and in areas off-site to the west, east, and northeast of the project site. However, wildfire occurrence would not be expected to be significantly increased in frequency, or size with the construction of the Hitch Ranch Proposed Project. The closest off-site fuels that form large fuel beds are located to the north of the site.

The site currently includes a variety of potential vegetation that could serve as fuel sources. The types of potential ignition sources that currently exist in the area include vehicle and roadway, the Union Pacific ROW, off-site commercial areas, off-site residential neighborhoods, and arson related ignitions. Although the Proposed Project would introduce more people in the area and would include the development of approximately 328 single-family dwelling units and approximately 427 multi-family dwelling lots, the site would be largely converted from readily ignited fuels to ignition resistant structures and landscaped areas. The Proposed Project would be developed to meet all existing development building codes and fire codes, including landscaping and vegetation requirements as indicated in *Ventura County Fire Protection District Ordinance Number 30* adopted California Fire Code. The project would include conversion of fuels to maintained urban development with designated landscaping and fuel modification areas. Fuel modification zones will be designed according to all applicable development codes and the Ventura County Fire Code, and indicated on the project site plan. The Project Developer will perform fuel modification work throughout the project site prior to construction and the Hitch Ranch HOA will conduct annual fuel modification (or more often as needed) to reduce the potential for fire ignition and spread.

The Proposed Project would introduce potential ignition sources, but would include a variety of fire protection features that form a redundant system of protection to minimize the likelihood of wildfire exposing residents and visitors, as well as structures to a significant risk of loss, injury, or death involving wildland fires. The Project will provide a fire hardened landscape, highly ignition resistant residential dwelling units, and conversion of flashy fuels (non-native grasslands) to maintained developed areas with designated review of all landscaping and maintenance of fuel modification areas. Fires from off-site would not have continuous fuels across this site and would therefore be expected to burn around and/or over the site via spotting. Burning vegetation embers may land on project structures, but are not likely to result in ignition based on ember decay rates and the types of non-combustible and ignition resistant materials that will be used on site. The site further provides multiple ingress/egress routes for evacuation for better access throughout the site and there will be more fire aware individuals on the ground to reduce the likelihood of arson, off-road vehicles, or other recreational based activity fires. If evacuation is not considered the preferred approach, such as during a short-notice evacuation, the Hitch Ranch Project offers a contingency option of temporarily sheltering on site to residents,

visitors, firefighters and law enforcement, as well as to neighboring property owners. These concepts are discussed further in the following sections.

The project would comply with applicable ignition resistant fire and building codes and would include a layered fire protection approach which is designed to current codes and inclusive of site-specific measures that will result in a project that is less susceptible to wildfire than surrounding landscapes. Additionally, residential dwelling units are constructed to very high levels of ignition resistance and may be used as safe sites or temporary shelter if necessary. The Project's single- and multi-family residential units will include residential fire protection systems. This same fire protection system will provide protections from on-site fire spreading to off-site vegetation. As such, accidental fires within the maintained landscape or structures in the Hitch Ranch Project would have limited ability to spread.

Therefore, the Proposed Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Would the project result in inadequate emergency access?

The Proposed Project would result in the development of a currently undeveloped area, including the development of site access. The project would involve the construction of new structures, roadways, and would generate new trips to and from the project site. The project site would be accessible from public roadways and access into the site would be provided via four entrances for vehicles and pedestrians. The project would be required to comply with the County's development review process, including review for compliance with the Ventura County Fire Apparatus Access Code - Ordinance 29 as well as compliance with applicable emergency access standards that would facilitate emergency vehicle access during project construction and operation. Additionally, an adequate water supply and an approved paved access roadway shall be installed prior to any combustibles on site.

The project applicant would be required to design, construct, and maintain structures, roadways, and facilities to comply with applicable local, regional, state, and federal requirements related to emergency access. Drive aisles, turning radii, and all access points would be designed with adequate emergency access. The project would be required to provide fire apparatus turnarounds on all dead-end fire apparatus access roadways over 150 feet in length, although the Fire Code Official is authorized to increase the length of a dead-end fire apparatus access roadway to a length of 250 feet, and provide a 40-foot horizontal turning radius of a fire apparatus access road, measured at the center line of the access road. All access roadways designed for one-way traffic shall have an unobstructed width of not less than 20 feet; all access roadways designed for two-way traffic shall have an unobstructed width of not less than 24 feet. Fire access roadways designed to allow parking shall provide a minimum clear width of not less than 32 feet for parking on one side and a clear width of not less than 36 feet for parking on both sides. All fire access roadways would have a vertical clearance of not less than 13 feet 6-inches for the full road width to allow access for fire apparatus. The proposed site plan is subject to approval by the County and the VCFD. Further, the project would be required to provide walking access to the rear of buildings, and ladder access for any windows facing the rear of the buildings.

The County and the VCFD will need to review proposed modifications to existing roadways to ensure that adequate emergency access or emergency response would be maintained. Additionally, emergency response procedures would be coordinated through the County in coordination with the police and fire departments. Adherence to these requirements would ensure that that the project would not result in inadequate emergency access.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance service ratios, response times or other performance objectives for fire protection?

Fire protection would be provided to the proposed project via the VCFD. The VCFD consists of a staff of 395 full-time safety (including safety Chief Officers) and 158 full-time non-safety employees that provides fire protection and emergency medical services to more than 480,000 people in the unincorporated areas of Ventura County. The VCFD response area covers 848 square miles including seven of its incorporated cities, including Ojai, Port Hueneme, Moorpark, Camarillo, Santa Paula, Simi Valley, and Thousand Oaks (VCFD 2017 Annual Report). The Hitch Ranch Project includes approximately 328 single-family dwelling units and approximately 427 multi-family dwelling lots (191 medium density units and 236 high density units). Service level requirements can cause a decline in the response times and capabilities for existing residents. The Proposed Project estimated call volume generation is based on 2,333 maximum persons living on site (based on 3.09 persons per household) during any given time period during the week and on weekends. The entire population would be new to the VCFD's response area. The Proposed Project is projected by call volume analysis (using VCFD per capita call generation factor of 0.09/year or 90 calls per 1,000 persons per year) to add approximately 210 calls per year to the VCFD's existing call load. This call volume (approximately 4 calls per week) is not considered enough of an increase to require additional resources.

The primary response (first due in) would be provided by Station 42, located at 295 E. High Street, Moorpark, California, approximately 1 mile east of the project site. The station is staffed daily by three firefighters and houses one engine (Engine 42), one reserve engine, and one brush engine. The Project is projected to add an estimated 210 calls per year (0.58 calls per day) for a Station that currently responds to an existing call load of approximately 3.1 calls per day (1,129 calls per year in 2017). The addition of approximately 4 calls per week is considered absorbable and the station's capacity to respond to the additional calls is available. This level of impact is not expected to require the construction of additional Fire Station facilities based on that increase alone. The anticipated 3.68 calls per day (3.1 daily calls + 0.58 additional calls per day) is below what would be considered a busy station. For perspective, urban fire stations that respond to five calls per day are considered average and 10 calls per day would be considered a busy station. Further, Station 42 can respond to the entire project within Ventura County's target response time standard (8.5 minutes) for first arriving for all urban areas within Ventura County. Therefore, although there would be an incremental increase in call volume, it would not, according to California Environmental Quality Act (CEQA), be considered to exceed significance thresholds.

Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The Proposed Project will be served by the Ventura County Waterworks District (VCWWD) No. 1 and sufficient water supplies will be available to serve the Proposed Project from the existing entitlements and resources, which will be consistent with VCFD requirements. The County of Ventura, and the VCWWD No. 1 require new developments to meet a minimum 2,500 gallons per minute (gpm) fire flow. The water distribution system is designed to yield a minimum residual pressure of 40 pounds per square inch (psi) during peak hour demands and a minimum residual pressure of 20 psi during maximum day demands plus fire flow. Each fire hydrant shall be capable of 1,500 gpm fire flow for minimum duration of three hours at 20 psi residual pressure.

The measures described in the responses to these significance questions are provided more detail in the following sections.

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4 Anticipated Fire Behavior

4.1 Fire Behavior Modeling

Following field data collection efforts and available data analysis, fire behavior modeling was conducted to document the type and intensity of fire that would be expected on and adjacent to the project site given characteristic site features such as topography, vegetation, and weather. Dudek utilized BehavePlus software package (Andrews, Bevins, and Seli 2004) to analyze potential fire behavior for the Hitch Ranch Project site. As is customary for this type of analysis, three fire scenarios were evaluated, including one summer, onshore weather condition (west from the project site) and two extreme fall, offshore weather condition (north and east/northeast of the project site), with assumptions made for the pre- and post-project slope and fuel conditions. Results are provided below and a more detailed presentation of the modeling inputs and results is provided in Appendix C.

4.1.1 Fuel Model Output Results

The results from the BehavePlus fire behavior modeling analysis for pre- and post-project conditions are presented in Tables 3 and 4, respectively, and in Figure 4, BehavePlus Fire Behavior Analysis Map. As presented, wildfire behavior on the Hitch Ranch Project site is expected to be primarily of moderate to high intensity throughout the non-maintained grass dominated fuels north and northeast of the Proposed Project site.

Table 3. BehavePlus Fire Behavior Modeling Results, Existing Conditions

Fire Scenario	Flame Length (feet)	Spread Rate (mph)[1]	Fireline Intensity (Btu/ft./s)	Spotting Distance[2] (Miles)
Scenario 1: 5% slope, Summer, Onshore, Summer Winds (Pre-Development)				
High Load Grass (Gr7)	29.1’	3.5	8,616	1.1
Scenario 2: 9% slope, Fall, Offshore Extreme Winds (Pre-Development)				
High Load Grass (Gr7)	42.9’ (74.6’ & 87.1’)	6.0 (20.0 & 28.0)	20,054 (66,781 & 93,536)	1.2 (3.5 and 4.9)[3]
Scenario 3: 5% slope, Fall, Offshore, Extreme Winds (Pre-Development)				
High Load Grass (Gr7)	43.0’ (74.6’ & 87.1’)	6.0 (20.0 & 28.0)	20,168 (66,846 & 93,591)	1.2 (3.5 & 4.9)

Note:
1 mph = miles per hour
2 Spotting distance from a wind driven surface fire.
3 It should be noted that the wind mph in parenthesis represent peak gusts of 50 mph and 70 mph, respectively.

Table 4. BehavePlus Fire Behavior Modeling Results, Post-Project Conditions

Fire Scenario	Flame Length (feet)	Spread Rate (mph)[1]	Fireline Intensity (Btu/ft./s)	Spotting Distance[2] (Miles)
Scenario 1: 5% slope, Summer, Onshore, Summer Winds (Post-Development)				
FMZ Zones A and B (FM8)	1.8'	0.1	20	0.2
FMZ Zone C (Gr2)	7.2'	1.1	420	0.4
Scenario 2: 9% slope, Fall, Offshore Extreme Winds (Post-Development)				
FMZ Zones A and B (FM8)	2.1' (3.0' & 3.0')	0.1 (0.2 & 0.2)	29 (63 & 63)	0.2 (0.4 & 0.5)
FMZ Zone C (Gr2)	10.9' (18.0' & 18.0')	2.1 (6.2 & 6.2)	1,012 (3,037 & 3,037)	0.5 (1.3 & 1.6)
Scenario 3: 5% slope, Fall, Offshore, Extreme Winds (Post-Development)				
FMZ Zones A and B (FM8)	2.1' (3.0' & 3.0')	0.1 (0.2 & 0.2)	29 (63 & 63)	0.2 (0.4 & 0.5)
FMZ Zone C (Gr2)	10.9' (18.0' & 18.0)	2.1 (6.2 & 6.2)	1,018 (3,037 & 3,037)	0.5 (1.3 & 1.5)

Note:
1 mph = miles per hour
2 Spotting distance from a wind driven surface fire.
3 It should be noted that the wind mph in parenthesis represent peak gusts of 50 mph and 70 mph, respectively.

The results presented in Tables 3 and 4 depict values based on inputs to the BehavePlus software and are not intended to capture changing fire behavior as it moves across a landscape. Changes in slope, weather, or pockets of different fuel types are not accounted for in this analysis. For planning purposes, the averaged worst-case fire behavior is the most useful information for conservative fuel modification design. Model results should be used as a basis for planning only, as actual fire behavior for a given location will be affected by many factors, including unique weather patterns, small-scale topographic variations, or changing vegetation patterns.

Based on the BehavePlus analysis, worst-case fire behavior is expected in non-maintained grass north and northeast of the proposed Project site under Peak weather conditions (represented by Fall Weather, Scenario 3). The fire is anticipated to be a wind-driven fire from the north/northeast during the fall. Under such conditions, expected surface flame lengths reach 74 feet with wind speeds of 50+ mph. Under this scenario, fireline intensities reach 66,781 BTU/feet/second with fast spread rates of 20 mph and could have a spotting distance up to 3.5 miles away. Fires burning into brush thinning zones of the proposed FMZs are expected to be less intense and generate lower flame lengths.

As previously mentioned, Dudek conducted modeling of the site for post-fuel modification zones. Typical fuel modification includes establishment of minimum 100-foot wide irrigated zone (Zones A and B) and up to a 100-foot wide thinning zone (Zone C) on the periphery of the project site, beginning at the structure. For modeling the post-FMZ treatment condition, the fuel model assignment for non-native grasslands was re-classified according to the specific fuels management (e.g., irrigated, fire resistive landscaping and 50% thinning) treatment.

Based on the BeahvePlus analysis, post development fire behavior is expected in irrigated and replanted with plants that are acceptable with VCFD (Zones A and B - FM8), as well in an area with 50% thinning of the existing shrubs (Gr2) under peak weather conditions (represented by Fall Weather, Scenario 3b). Under such conditions, expected surface flame length is expected to be significantly lower, with flames lengths reaching approximately 18 feet with wind speeds of 50+ mph. Under this scenario, fireline intensities reach 3,037 BTU/feet/second with relatively slow spread rates of 2.1 mph and could have a spotting distance up to 1.3 miles away.

As depicted in Table 4, the FMZ areas experience a significant reduction in flame length and intensity. The 74-foot flame lengths predicted for non-native grassland fuels during pre-treatment modeling for fire scenarios 2 and 3 are reduced to approximately 18 feet by the time FMZ (Zone C) is reached and to approximately three-feet by the time FMZ (Zones A and B) are reached. These reduction of flame lengths and intensities are assumed to occur within the 200 feet of fuel modification (an irrigated Zone A and B and 50% thinning Zone C).

4.2 On-Site Fire Risk Assessment

Given the climatic, vegetative, topographic characteristics, and local fire history of the area, the project site, once developed, is determined to be subject to periodic wildfires that may start on, burn onto, or spot into the site. The most common type of fire anticipated in the vicinity of the Project Area is a wind-driven fire from the north/northeast during the fall. Potential for off-site wildfire encroaching on, or showering embers on the site is considered moderate, but risk of ignition from such encroachments or ember showers is considered low based on the type of construction and fire protection features that will be provided for the structures.

Therefore, it will be critical that the latest fire protection technologies, developed through intensive research and real world wildfire observations and findings by fire professionals, for both ignition resistant construction and for creating defensible space in the ever-expanding WUI areas, are implemented and enforced. The Proposed Project will implement the latest fire protection measures, including fuel modification along the perimeter edges of the development.

Wildland fires are a common natural hazard in most of southern California with a long and extensive history. Southern California landscapes include a diverse range of plant communities, including vast tracts of tracts of grasslands and shrublands, like those found adjacent to Hitch Ranch site. Wildfire in this Mediterranean-type ecosystem ultimately affects the structure and functions of vegetation communities (Keeley 1984) and will continue to have a substantial and recurring role (Keeley and Fotheringham 2003). Supporting this are the facts that 1) native landscapes, from forest to grasslands, become highly flammable each fall and 2) the climate of southern California has been characterized by fire climatologists as the worst fire climate in the United States (Keeley 2004) with high winds (Santa Ana) occurring during autumn after a six-month drought period each year. Based on this research, the anticipated growing population of Ventura County wildland urban interface (WUI) areas, including in the City of Moorpark, and the regions fire history, it can be anticipated that periodic wildfires will occur in the open space areas of Ventura County, with the natural open spaces north and northeast of the Hitch Ranch Project site being no exception.

Two large wildfires have burned on to and several more have burned within a close proximity to the project site, including the 2003 Simi Fire which burnt approximately 107,500 acres and the most recent Easy Fire which burned approximately 1,700 acres 1 mile east of the Project site in October 2019. Both of these fires burned very similarly to the results found in the modeled fire behavior for non-native grasslands under extreme weather conditions. As such, wildlands near the Proposed Project site are expected to be exposed to periodic wildfire ignition and spread and may be subject to nearby wildfire. However, the Hitch Ranch Proposed Project site, once developed, would not facilitate wildfire spread and would reduce projected flame lengths to levels that would be manageable by firefighting resources for protecting the site's structures, especially given the ignition resistance of the structures and the planned ongoing maintenance of the entire site landscape.

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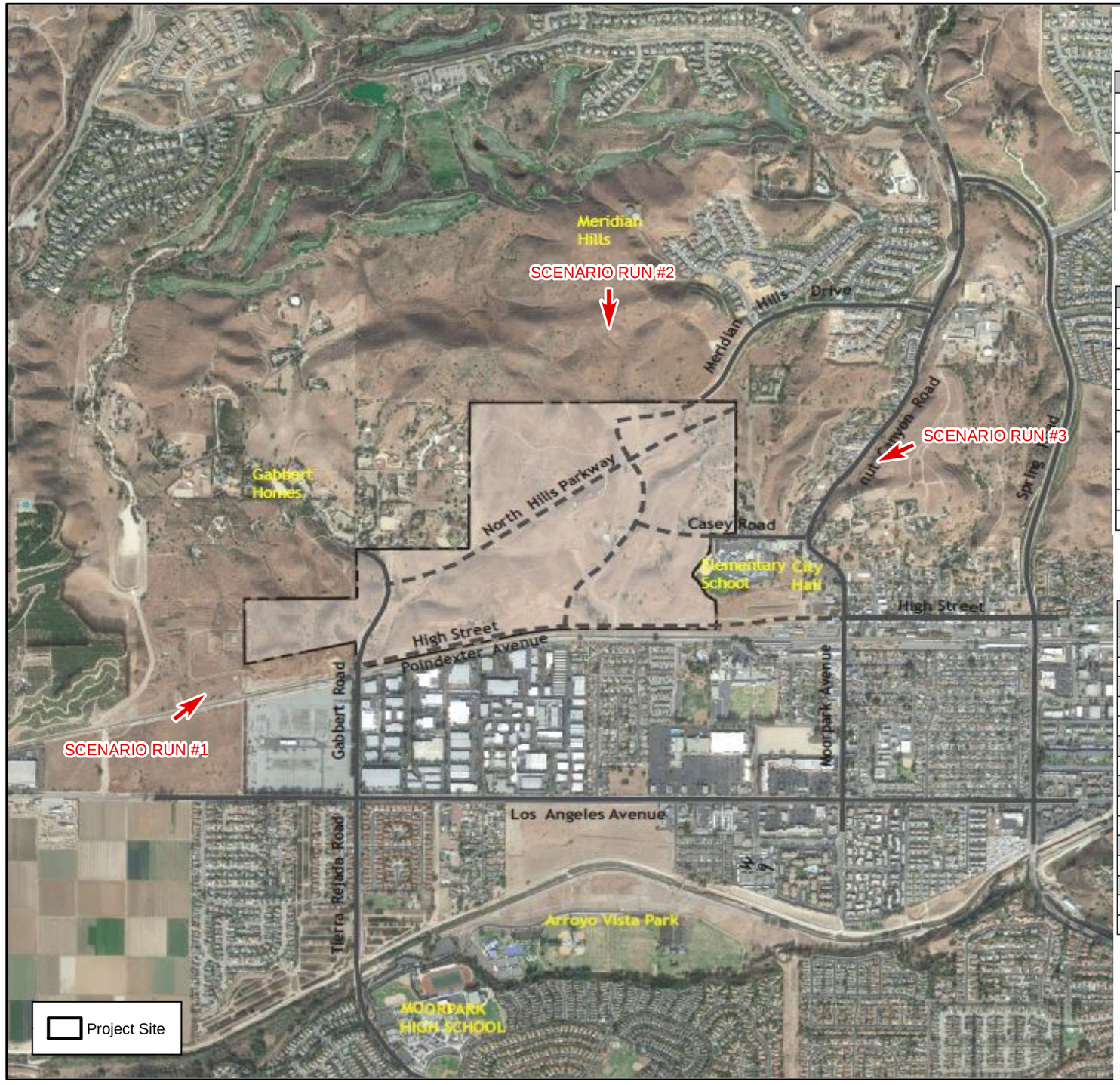

SOURCE: AERIAL-GOOGLE MAPPING SERVICE 2019

Table 1
Existing Fuel Model Characteristics

Fuel Model	Description	Location	Fuel Bed Depth (Feet)
Gr7	High Load, Dry Climate Grass	Fuel type is concentrated throughout the Project site.	>5.0 ft.
Gr2	Low Load, Dry Climate Grass	Fuel type will occur post development within 50% thinning zone.	1.0 ft.
FM8	Irrigated Landscape	Fuel type will occur post development within irrigated zone.	<1.0 ft.

Table 2
BehavePlus Fine Dead Fuel Moisture Calculation

Model Variable	Summer Weather (50th Percentile)	Peak Weather (97th Percentile)
Fuel Models	Gr7	Gr7
1 h fuel moisture	5%	1%
10 h fuel moisture	6%	2%
100 h fuel moisture	11%	4%
Live herbaceous moisture	60%	30%
Live woody moisture	90%	60%
20 ft. wind speed	24 mph (sustained winds)	19 mph (sustained winds); 50 and 70 mph (gusty winds)
Wind Directions from upslope (degrees)	60	180, 235
Wind adjustment factor	0.4	0.4
Slope (uphill)	5%	5 and 9%

Table 4
RAWS BehavePlus Fire Behavior Model Results

Fire Scenario	Flame Length (feet)	Spread Rate (mph)[5]	Fireline Intensity (Btu/ft./sec)	Spot Fire (Miles)[6]
Scenario 1a: 5% slope, Summer, On-shore Winds (Pre-Development)				
High load Grass Fuels (Gr7)	29.1'	3.5	8,616	1.1
Scenario 1b: 5% slope, Summer, On-shore Winds (Post Development)				
FMZ Zones A and B (FM8)	1.8'	0.1	20	0.2
FMZ Zone C (Gr2)	7.2'	1.1	420	0.4
Scenario 2a: 9% slope, Fall, Offshore, Extreme Winds (Pre-Development)				
High load, Grass Fuels (Gr7)	42.9' (74.6' & 87.1')	6.0 (20.0 & 28.0)	20,054 (66,781 & 93,536)	1.2 (3.5 & 4.9)
Scenario 2b: 9% slope, Fall, Offshore, Extreme Winds (Post Development)				
FMZ Zones A and B (FM8)	2.1' (3.0' & 3.0')	0.1 (0.2 & 0.2)	29 (63 & 63)	0.2 (0.4 & 0.5)
FMZ Zone C (Gr2)	10.9' (18.0' & 18.0)	2.1 (6.2 & 6.2)	1,012 (3,037 & 3,037)	0.5 (1.3 & 1.6)
Scenario 3a: 5% slope, Fall, Offshore, Extreme Winds (Pre-Development)				
High load Grass Fuels (Gr7)	43.0' (74.6' & 87.1')	6.0 (20.0 & 28.0)	20,168 (66,846 & 93,591)	1.2 (3.5 & 4.9)
Scenario 3b: 5% slope, Fall, Offshore, Extreme Winds (Post Development)				
FMZ Zones A and B (FM8)	2.1' (3.0' & 3.0')	0.1 (0.2 & 0.2)	29 (63 & 63)	0.2 (0.4 & 0.5)
FMZ Zone C (Gr2)	10.9' (18.0' & 18.0')	2.1 (6.2 & 6.2)	1,018 (3,037 & 3,037)	0.5 (1.3 & 1.6)

[5] mph = miles per hour
[6] Spotting distance from a wind driven surface fire; It should be noted that the wind mph in parenthesis represent peak gusts of 50 mph and 70 mph, respectively.

DUDEK 0 500 1000 2000 Feet

FIGURE **4**
BehavePlus Analysis Map
Hitch Ranch Proposed Project Fire Protection Plan

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5 Emergency Response and Service

5.1 Emergency Response

The Proposed project is located within the jurisdiction of the VCFD, and consequently, VCFD provides initial response. The VCFD jurisdictional response area encompasses approximately 848 square miles including seven of its cities, including Ojai, Port Hueneme, Moorpark, Camarillo, Santa Paula, Simi Valley, and Thousand Oaks with a population of more than 480,000 people in the unincorporated areas of Ventura County (VCFD 2017 Annual Report)[4]. The VCFD consists of a staff of 395 full-time safety (including safety Chief Officers) and 158 full-time non-safety employees that provides fire protection and emergency medical services. The Hitch Ranch Project includes approximately 328 single-family dwelling units and approximately 427 multi-family dwelling lots (191 medium density units and 236 high density units). Service level requirements can cause a decline in the response times and capabilities for existing residents. The Proposed Project estimated call volume generation is based on 2,333 maximum persons living on site (based on 3.09 persons per household) during any given time period during the week and on weekends. The entire population would be new to the VCFD's response area. The Proposed Project is projected by call volume analysis (using VCFD per capita call generation factor of 0.09/year or 90 calls per 1,000 persons per year) to add approximately 210 calls per year to the VCFD's existing call load. This call volume (approximately 4 calls per week) is not considered enough of an increase to require additional resources.

The VCFD currently operates 33 Fire Stations, two of which are analyzed herein due to their proximity to the proposed project site and could respond to an incident at the Hitch Ranch Project site (Stations 40 and 42), although primary response would be from Station 42, with Station 40 responding shortly thereafter. Station 42 is located at 295 E. High Street, Moorpark, California, approximately 1 mile east of the project site. The station is staffed daily by three full-time firefighters and houses one engine (Engine 42), one reserve engine, and one brush engine. Table 5 presents a summary of the location, fire apparatus equipment, staffing levels, maximum travel distance, and estimated time travel for the two closest VCFD stations that would respond to a fire or medical emergency within the Hitch Ranch Project site. Travel distances are derived from Google road data while travel times are calculated applying the nationally recognized RAND Corporation formula used by the Insurance Services Office (ISO) Public Protection Classification Program's Response Time Standard: (T=0.65 + 1.7D), where T=time and D=distance). The ISO response travel time formula discounts speed for intersections, vehicle deceleration and acceleration, and does not include turnout donning time.

[4] https://vcfd.org/about-vcfd/overview

Table 5. Ventura County Fire Department Responding Stations Summary

Station	Location	Equipment	Staffing	Maximum Travel Distance	Travel Time***
Station 40	4185 Cedar Springs Street, Moorpark, California, 93201	- Medic/Engine (Medic/Engine 40); - Reserve Engine (Engine 140); - Utility Pickup Truck (Utility 40); - USAR Tractor/Trailer (USAR 40).	On duty: 3	0. 70 mi.**	1 minute 48 secs.**
Station 42	295 E. High Street, Moorpark, California, 93021	- Engine (Engine 42); - Reserve Engine (Engine 142); - Brush Engine (Engine 342).	On-duty: 3	1.50 mi.*	3 minutes 10 secs.*

* Distance measured to the proposed western entrance of the proposed development area off Gabbert Road.
** Distance measured to the proposed eastern entrance of the proposed development area off Casey Road.
*** Assumes travel to the project entrance, and application of the ISO formula, T=0.65+1.7(Distance), a 35-mph travel speed, and does not include turnout time.

Based on the Proposed Project site location in relation to existing VCFD stations, travel time to the site for the first responding engine from Station 42 is less than 2 minutes to the proposed project entrance, on Casey Road. Travel within the development may reach up to 2 minutes, based on the longest proposed road stretch of approximately 0.80 miles, resulting in response time of less than 4 minutes for the entire development. Secondary response would arrive in less than 4 minutes. Based on these calculations, emergencies within the project can be responded to by VCFD's first arriving unit (average maximum initial response of no more than 8.5 minutes for fire apparatus and 5 minutes for ambulance, 90% of calls) in accordance with the County's standard.

In addition, there are automatic aid agreements and dropped boundary agreements on first alarm or greater emergency calls with surrounding communities, ensuring that the closest unit will be dispatched, regardless of jurisdictional boundaries. The VCFD is also part of the State of California Master Mutual Aid Agreements.

5.2 Emergency Service Level

The VCFD estimates approximately 44,742 total annual calls (VCFD's 2017 Annual Report) and Ventura County's population of approximately 480,000 (VCFD 2019). The per capita call volume is roughly 0.09 for the County of Ventura. Based on the proposed development plans, the project's estimated 2,333 residents (assumes an average of 3.09 occupants per residence for this type of community (SANDAG 2019) would generate roughly 210 calls per year, most of which are expected to be medical-related calls, consistent with typical emergency call statistics.

Service level requirements are not expected to be significantly impacted with the increase of approximately 210 calls per year or 0.58 calls per day for a station (VCFD Station 42) that currently responds to roughly 3 calls per day (1,130 calls[5] in 2017) in its primary service area. Therefore, the project is not expected to cause a decline in VCFD's emergency response times. Additional response, rounding out the effective firefighting force (the manpower needed to effectively fight a structure fire and/or respond to serious medical emergency) would be provided by Stations 40 and 57.

[5] Data derived from VCFD's 2017 annual report which states that there were 2,259 calls within the Moorpark service area. There are two stations within the Moorpark service area, so a rough estimate of 1,130 calls in 2017 was used for Station 42.

5.2.1 Cumulative Impacts on Fire Response

Cumulative impacts from multiple projects can cause fire response service decline and must be analyzed for each project. The Hitch Ranch Project and its proposed usage by up to 2,333 residents is an increase in potential service demand of approximately 210 calls per year, well within the capacity of the existing Fire Stations that will service the Hitch Ranch Project. Other future projects in the vicinity of Stations 40 and 42 are not known at the time of this FPPs preparation, but when considered cumulatively, the potential impact of multiple projects is considered less than significant, mitigated by increased funding available from each project to the VCFD through property taxes and other fees associated with each project, including the Hitch Ranch Project. This funding would be utilized to maintain or enhance fire response capabilities.

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6 Buildings, Infrastructure and Defensible Space

The Ventura County Fire Protection District's Fire Ordinance Number 31 (2018 International Fire Code and 2019 California Fire and Building Codes adopted by reference with several modifications) governs the building, infrastructure, and defensible space requirements detailed in this FPP. The project will meet or exceed applicable codes or will provide alternative materials and/or methods. While these standards will provide a high level of protection to structures for the Proposed Project, there is no guarantee that compliance with these standards will prevent damage or destruction of structures by fire in all cases. A response map update, including roads and fire hydrant locations, in a format compatible with current department mapping shall be provided to the VCFD.

The following summaries highlight important fire protection features. All underground utilities, hydrants, water mains, curbs, gutters, and sidewalks will be installed, and the drive surface shall be approved prior to combustibles being brought on site.

6.1 Fire Access

6.1.1 Primary

The Proposed Project would result in the development of a currently undeveloped area, including the development of site access. The project would involve the construction of new structures, roadways, and would generate new trips to and from the project site. Site access, including road widths and connectivity, will comply with the County's development review process, including review for compliance with the Ventura County Fire Apparatus Access Code - Ordinance 29 as well as compliance with applicable emergency access standards that would facilitate emergency vehicle access during project construction and operation. Additionally, an adequate water supply and approved paved access roadways shall be installed prior to any combustibles on site and will include:

- The project site would be accessible from public roadways and access into the site would be provided via four entrances, one northbound on Gabbert Road, another northbound on Moorpark Avenue/Walnut Canyon Road, one westbound or eastbound on High Street, and one westbound or southbound on Meridian Hills Drive for vehicles and pedestrians. Primary access to the Project site via Gabbert Road will connect to the proposed extension of High Street (runs west to east) and North Hills Parkway (runs west to east/northeast). High Street will provide access to the southern portion of the Project site and will connect to Moorpark/Walnut Canyon (SR-23), while proposed North Hills Parkway is designed as an interior road and will facilitate access throughout the site. Primary access via Moorpark Avenue/Walnut Canyon Road will connect to Casey Road, which will be extended from its current terminus and provide access to the eastern portion of the site. Moorpark Avenue/Walnut Canyon Road also connects to Meridian Hills Drive, which will be extended from its current terminus and provide access to the northern portion of the site.
- All perimeter roads comply with all fire apparatus access road standards; all fire access roadways designed for one-way traffic shall have an unobstructed width of not less than 20 feet; all access roadways designed for

two-way traffic shall have an unobstructed width of not less than 24 feet. Fire access roadways designed to allow parking shall provide a minimum clear width of not less than 32 feet for parking on one side and a clear width of not less than 36 feet for parking on both sides. The access roads shall be capable of supporting an imposed load of at least 20-tons or 80,000 pounds (lbs.) after a 10-year storm.

- Interior circulation streets include all roadways that are considered common or primary roadways for traffic flow through the site and for fire department access serving all proposed structure. The project would be required to provide approved fire apparatus turnarounds on all dead-end fire apparatus access roadways over 150 feet in length, although the Fire Code Official is authorized to increase the length of a dead-end fire apparatus access roadway to a length of 250 feet.
- Typical, interior Project roads, including collector and local roads, will be constructed to minimum 36-foot, unobstructed widths and shall be improved with aggregate cement or asphalt paving materials. Private or public streets that provide fire apparatus access to buildings three stories or more in height shall be improved to a minimum 24 feet unobstructed width. All interior residential streets will be designed to accommodate a minimum of at least 20-tons or 80,000-lb. fire apparatus load after a 10-year storm.
- Private and public streets for each phase shall meet all project approved fire code requirements and/or mitigated exceptions for maximum allowable dead-end distance, paving, and fuel management prior to combustibles being brought to the site.
- Vertical clearance of vegetation (lowest-hanging tree limbs), along roadways will be maintained at clearances of 13 feet, 6 inches to allow fire engines passage. Unobstructed vertical clearance must be clear to the sky to allow aerial ladder truck operation.
- Roads with a median or center divider will have a minimum 20 feet unobstructed width on both sides of the center median or divider. Maximum road grade will not exceed 16%.
- Cul-de-sacs and fire apparatus turnarounds will meet requirements and VCFD Standards.
- Roadways and/or driveways will provide fire department access to within 150 feet of all portions of the exterior walls of the first floor of each structure.
- Access roads shall be completed and paved prior to issuance of building permits and prior to the occurrence of combustible construction.

6.1.2 Secondary Access Roads and Gates

Two secondary emergency vehicle access entry/exit roads are proposed within PA1 and PA2, to provide additional access to North Hills Parkway from PA1 and "A" Street from PA1. The secondary access roads will include a secondary access gate with knox box switches allowing emergency vehicles access into and out of PA 1 and PA2, as well as an automatic exit loop system allowing the residents of PA1 and PA2 to exit the communities. I

Any access gates will comply with Ventura County Fire Department 501 Apparatus Access Code Standard – Ordinance Number 29. Gates across fire apparatus access roads shall not be limited to emergency exit only and shall provide for egress for all persons at all times without the use of keys, codes, remote controls, or special knowledge. Gates

on private roads and secondary access roads will comply with VCFD standard for electric gates and will include a Knox box switch and automatic exit loops.

6.1.3 Maximum Dead-End Road Length

Each planning area varies in the number of ingress/egress roads or streets. All areas shall include at least two ingress/egress streets. Dead end streets no longer than 150 feet shall have approved provisions for fire apparatus turnaround or cul-de-sac. The Fire Code Official is authorized to increase the length of a dead-end fire apparatus access roadway to a length of 250 feet. When only one (1) access point is provided, the maximum length of access roads shall not exceed 800 feet from the point of two (2) separate means of ingress/egress.

Fire apparatus turnarounds to provide a 40-foot horizontal turning radius of a fire apparatus access road, measured at the center line of the access road (VCFD Fire Apparatus Access Code).

6.1.4 Road Width and Circulation

On-site roads will be constructed to current Ventura County Fire Apparatus Access Code standards (Ordinance Number 29) and 2019 CFC (or then current edition), including all fire access roadways designed for one-way traffic shall have an unobstructed width of not less than 20 feet; all access roadways designed for two-way traffic shall have an unobstructed width of not less than 24 feet. Fire access roadways designed to allow parking shall provide a minimum clear width of not less than 32 feet for parking on one side and a clear width of not less than 36 feet for parking on both sides and shall be improved with asphalt paving materials that support the imposed loads of fire apparatus (not less than 20-tons or 80,000 lbs. after a 10-year storm). Turning radius for fire apparatus access roads will be 40 feet as measured at the center line of the access road.

Access to the site will be improved as indicated in the Moorpark's General Plan Circulation Element, North Hills Parkway would ultimately be constructed as a four-lane roadway. Gabbert Road would be improved to a four-lane arterial roadway from the point of connection with Poindexter Avenue, crossing the Union Pacific Railroad tracks, and continuing to North Hills Parkway. North of North Hills Parkway, Gabbert Road would taper back to its existing width.

The circulation upgrades not only benefit the Proposed Hitch Ranch Project, they also provide a public benefit to the surrounding communities and elementary school by providing additional access to these existing one-way in and out communities. Access to the Gabbert Canyon neighborhood to the northwest will be improved by expanding Gabbert Road to be a four-lane arterial roadway and by providing a new easterly evacuation route by extending High Street from its current terminus east of the project site across the southern boundary of the Project site north to the railroad track to Gabbert Road. The Meridian Hills neighborhood to the northeast will be improved by providing a southerly evacuation route through Hitch Ranch by extending Meridian Hills Drive from the existing terminus and connecting it to Street "A" at North Hills Parkway. Finally, Walnut Canyon Elementary school to the east is currently accessed by a dead end, two-lane road off Moorpark Avenue. There presently are no evacuation routes or secondary vehicle access roads to the school. However, the Proposed Project would provide an additional evacuation route through the Hitch Ranch community by extending Casey Road from its terminus east of the project site west into PA2, PA3, and PA4.

6.1.5 Grade

There are no roads or driveways in the Hitch Ranch Project that exceed the 16% maximum grade for new roads and driveways. There are no roads or driveways that will require mitigation.

6.1.6 Surface

All fire apparatus access and vehicle roadways shall be asphalt or concrete and designed and constructed in accordance with County Public Works standards

6.1.7 Vertical Clearance

Minimum unobstructed vertical clearance of 13 feet 6 inches will be maintained for the entire required width for all streets, including driveways that require emergency vehicle access.

6.1.8 Premise Identification

Identification of roads and structures will comply with CFC, Section 505.1, as follows:

- Each Building shall have a minimum 12-inch address number, with 1-1/2 inch stroke. Number shall be mounted in visible locations and contrast in color to background. Each individual living unit shall have minimum 4-inch high address or unit numbers, ½-inch stroke, and 6 to 8 feet above grade.
- Streets and roads shall be identified with approved signs. Temporary signs shall be installed at each street intersection when construction of new roadways allows passage by vehicles. Signs shall be of an approved size, weather resistant and be maintained until replacement by permanent signs.

6.2 Ignition Resistant Construction and Fire Protection Systems

All new structures within the Proposed Project will be constructed to Ventura County Fire Code, Ventura County Fire Protection District's Fire Ordinance 31, and 2019 CFC standards (or then current edition). Each of the proposed dwelling units will comply with the enhanced ignition-resistant construction standards of the 2019 California Building Code (Chapter 7A) (or then current edition). These requirements address roofs, eaves, exterior walls, vents, appendages, windows, and doors and result in hardened structures that have been proven to perform at high levels (resist ignition) during the typically short duration of exposure to burning vegetation from wildfires. While these standards will provide a high level of protection to structures in this development, there is no guarantee that compliance with these standards will prevent damage or destruction of structures by fire in all cases.

There are two primary concerns for structure ignition: 1) radiant and/or convective heat and 2) burning embers (NFPA 1144 2008, Ventura County Fire Protection District 2011, IBHS 2008, and others). Burning embers have been a focus

of building code updates for at least the last decade, and new structures in the Wildland Urban Interface[6] (WUI) built to these codes have proven to be very ignition resistant. Likewise, radiant and convective heat impacts on structures have been minimized through the Chapter 7A exterior fire ratings for walls, windows and doors. Additionally, provisions for modified fuel areas separating wildland fuels from structures have reduced the number of fuel-related structure losses. As such, most of the primary components of the layered fire protection system provided the project are required by the VCFD (Ventura County Fire Protection District Ordinance Number 30 and state codes, but are worth listing because they have been proven effective for minimizing structural vulnerability to wildfire and, with the inclusion of required interior sprinklers (required in the 2019 Building/Fire Code update), of extinguishing interior fires, should embers succeed in entering a structure. Even though these measures are now required by the latest Building and Fire Codes, at one time, they were used as mitigation measures for buildings in WUI areas, because they were known to reduce structure vulnerability to wildfire. These measures performed so well, they were adopted into the code. The following project features are required for new development in WUI areas and form the basis of the system of protection necessary to minimize structural ignitions as well as providing adequate access by emergency responders:

1. Application of Chapter 7A, ignition resistant building requirements
2. New class-A fire rated roof and associated assembly. With the proposed class-A fire rated roof, there will be attic or void spaces above the third level living spaces requiring ventilation to the outside environment. The attic spaces will require either ember-resistant roof vents or a minimum 1/16-inch mesh and shall not exceed 1/8-inch mesh for side ventilation (recommend BrandGuard, O'Hagin or similar vents). All vents used for this project will be approved by SMFD.
3. Multi- pane glazing with a minimum of one tempered pane, fire-resistance rating of not less than 20 minutes when tested according to NFPA 257 (such as SaftiFirst, SuperLite 20-minute rated glass product), or be tested to meet the performance requirements of State Fire Marshal Standard 12-7A-2
4. Automatic, Interior Fire Sprinkler System to code by occupancy type for all habitable, multi-family residential dwellings.
5. Modern infrastructure, access roads, and water delivery system.

6.3 Infrastructure and Fire Protection Systems Requirements

The following infrastructure components are made in order to comply with the Ventura County requirements, the 2019 California Fire Code (or then current edition), VCFPD's Fire Ordinance Standards (VCFD Ordinance Number 31), and nationally accepted fire protection standards, as well as additional requirements to assist in providing reasonable on-site fire protection.

6.3.1 Water

Water service for the Proposed Project site will be provided by the VCWWD No. 1 and will be consistent with VCFD requirements. The public water system will be through connections to existing water mains running along Gabbert Road, Meridian Hills Drive, and Casey Road. There is an additional connection to the existing waterline

[6] The Wildland-Urban interface is the area where urban and suburban development meets the undeveloped areas containing natural vegetation

on Poindecter Ave. The water distribution system is designed to yield a minimum residual pressure of 40 pounds per square inch (psi) during peak hour demands and a minimum residual pressure of 20 psi during maximum day demands plus fire flow. Each fire hydrant shall be capable of 1,500 gallons per minute (gpm) fire flow for minimum duration of two hours at 20 psi residual pressure.

6.3.2 Fire Hydrants

Hydrants shall be located along fire access roadways as determined by the VCFD Fire Marshal to meet operational needs, at the beginning radius of cul-de-sac streets, regardless of parcel size, pursuant to Sections 507.5.1 through 507.5.7 of the VCFPD Ordinance Number 31 and Appendix C of the 2019 CFC (or then current edition) for single- and multi-family residential units. Fire Hydrants will be consistent with applicable Design Standards.

6.3.3 Automatic Fire Sprinkler Systems

All structures, of any occupancy type, will be protected by an automatic, interior fire sprinkler system. All structures Automatic internal fire sprinklers would be in accordance with NFPA 13, 13-D, or 13-R and VCFD installation requirements as appropriate. Actual system design is subject to final building design and the occupancy types in the structure.

6.3.4 Residential Hazard Detectors

All residences will be equipped with residential smoke detectors and carbon monoxide detectors and comply with current CBC, CFC, and California Residential Code standards.

6.4 Ongoing Building and Infrastructure Maintenance

The project HOA shall be responsible for long term funding and maintenance of private roads and fire protection systems, including fire sprinklers and private fire hydrants.

6.5 Pre-Construction Requirements

Prior to bringing lumber or combustible materials onto the site, site improvements within the active development area shall be in place, including utilities, operable fire hydrants, an approved, temporary roadway surface, and fuel modification zones established. These features will be approved by prior to combustibles being brought on site.

6.6 Defensible Space and Vegetation Management

6.6.1 Fuel Modification Zones

An important component of a fire protection system for this Project is the provision for ignition resistant landscapes and modified vegetation buffers. FMZs are designed to provide vegetation buffers that gradually reduce fire intensity and flame lengths from advancing fire by strategically placing thinning zones, restricted vegetation zones, and irrigated zones adjacent to each other on the perimeter of the WUI exposed structures. FMZs are arguably more

important when situated adjacent to older structures that were built prior to the latest ignition resistant codes and interior sprinkler requirements. All dwelling units within the Proposed Project site will be highly ignition resistant based on required construction design, materials, and methods.

The Proposed Project will be exposed to naturally-vegetated open space areas to the northern, eastern, and western portions of the site. The rest of the proposed development is adjacent to residential communities to the northwest, south, and east, the Moorpark County Club Course approximately half a mile to the north, and commercial buildings to the south. FMZs will be provided for those portions of the proposed development that are adjacent to open space areas in accordance with the VCFD's Ordinance 31 Appendix W, VCFD Standard 515 – Defensible Space and Fuel Modification Zones and Standard 517 – Application of Mulch and Chips in Defensible Space, including all manufactured and maintained slopes. FMZs will include a minimum 200-foot fuel modification zones between the natural open space area to the north and on-site structures of PA1. Additionally, 100 feet of fuel modification (Zones A and B only) along the western portions of the site. The eastern edge of the Proposed Project will receive 68 to 121 feet of FMZs to the top of the grading limits. FMZs less than 100 feet will be augmented with mitigations that meet or exceed the level of protection 100 feet of fuel modification provides. These mitigations include window upgrades that are code-exceeding, dual pane, both panes tempered and a six-foot noncombustible fire wall, while some of the east side FMZs tie into existing development and will not require additional fire protection measures. The fuel modification zones will be constructed from the structure outwards towards undeveloped areas. Figure 5 illustrates the FMZ Plan proposed for the Proposed Project Site, including a minimum 30-foot wide limited planting area Zone A, and a minimum 70-foot wide limited planting area Zone B extending from the structures towards the undeveloped areas. If provided, either by the conditions of the development, voluntarily by the property owner, or required by the VCFD, a minimum 100-foot wide more progressive 50% thinning zone (Zone C) would lessen the spread of fire as it approaches the primary FMZ adjacent to structures. A 10-foot wide roadside FMZ along each side of the roads adjacent to the open space shall be required as well.

Based on the predicted fire intensity and duration along with flame lengths for this project site and the provided FMZs, the highest concern is considered to be from firebrands or embers as a principal ignition factor. To that end, this site, based on its location and ember potential, is required to include the latest ignition and ember resistant construction materials and methods for roof assemblies, walls, vents, windows, and appendages, as mandated by the VCFD and County's Fire and Building Codes (e.g., Chapter 7A).

6.6.1.1 VCFD Fuel Modification Zone Standards

A fuel modification zone (FMZ) is a strip of land where combustible vegetation has been removed and/or modified and partially or totally replaced with more adequately spaced, drought-tolerant, fire resistant plants in order to provide a reasonable level of protection to structures from wildland fire. The purpose of this section is to document VCFD's standards and make them available for reference. However, we are proposing a site-specific fuel modification zone program with additional measures that are consistent with the intent of the standards. VCFD is consistent with the 2019 California Fire Code (Section 4907 — Defensible Space) (or then current edition), Government Code 51175 – 51189, and Public Resources Code 4291, which require that fuel modification zones be provided around every building that is designed primarily for human habitation or use within a VHFHSZ. Fuel modification consists of at least 100 feet, measured in a horizontal plane, from the exterior façade of all structures towards the undeveloped areas. A typical landscape/fuel modification installation per the County's Fire Code consists of a 30-foot-wide Zone A and a 70-foot wide Zone B for a total of 100 feet in width. An additional 100-foot

wide thinning zone (Zone C) is required for the areas adjacent to natural-vegetated, open space areas (north of PA1).

To ensure long-term identification and maintenance, a fuel modification area shall be identified by a permanent zone marker meeting the approval of VCFD. All markers will be located along the perimeter of the fuel modification area at a minimum of 500 feet apart or at any direction change of the fuel modification zone boundary. FMZs will be maintained on at least an annual basis or more often as needed to maintain the fuel modification buffer function.

Zone A – from structure outward to minimum 30 feet)

Zone A is applicable site wide and is a limited planting area measured from the structure outward to 30 feet (horizontal), or to the property line in all directions.

a. 0 to 5 feet from structure includes very low growing (three-inch high), high water content ground cover and few small shrubs (two-foot high). No landscape mulch or wood chips. Use clear soils, rocks, gravel, or concrete. No trees. This is a recommended no planting zone.

b. 5 to 30 feet from structure includes minimal plantings including ground cover and shrubs. Limited trees of a very fire resistive type and additional spacing. Trees should be spaced to allow a minimum 10-foot clearance to structure at full maturity. See Table 6, *VCFD FMZ Spacing Requirements.*

c. Plants and trees identified as "Target" (undesirable plants) by VCFD shall not be planted within Zone A. See Appendix D – VCFD Suggested Plant Reference Guide and Appendix E – VCFD Prohibited Plant List.

Zone B – from outer edge of Zone A to 100 feet from structure

Zone B is applicable site wide and is the area measured from the outer edge of Zone A to 100 feet from the structure. This zone includes plantings including ground cover and shrubs. Limited trees of a very fire resistive type and additional spacing. Trees should be spaced to allow a minimum 10-foot clearance to structure at full maturity. See Table 6, *VCFD FMZ Spacing Requirements.*

Zone C – Thinning Zone (from outer edge of Zone B to 200 feet from structure)

Zone C is considered a thinning zone and is any FMZ greater than 100 feet from structures. When provided, either by conditions of development, voluntary by the property owner, or required by the VCFD, this zone is more of a progressive thinning zone to lessen spread of fire as it approaches the primary FMZ adjacent to structures. The amount of fuel reduction and removal should take into consideration the type and density of fuels, aspect, topography, weather patterns, and fire history.

Table 6. VCFD Fuel Modification Zone Spacing Requirements

Type of Vegetation	Maximum Height (H)	Maximum Area / Diameter (W)	Slope Percentage / Minimum Spacing (S) [1]
Ground Cover	6-inches Max	N/A	N/A
Mosaic Grouping of Ground Cover (GC)	>6 - 18-inches	Groupings shall not exceed 500 square feet without minimum spacing (S) to next grouping	<20%: 2 x GC height (H) 20%-40%: 4 x GC height (H) >40%: 6 x GC height (H)

Single Shrub	6 feet Max	4 feet diameter	<20%: 2 x shrub height (H) 20%-40%: 4 x shrub height (H) >40%: 6 x shrub height (H)
Grouping of Shrubs	4 feet Max	Groupings shall not exceed 50 square feet without minimum spacing (S) to next grouping	<20%: 20 feet 20%-40%: 40 feet >40%: Not allowed
Single Tree	N/A	N/A	<20%: 10 feet 20%-40%: 20 feet >40%: 30 feet

[1] Spacing (S) Notes:
a. Spacing measured canopy at maturity
b. Ground cover up to 3-inches high, when approved, may be installed within the required clear space (S) between groups. If natural or annual grasses are used, they shall be mowed to a maximum height of 3-inches stubble with chippings removed.
c. Ground cover under tree canopies, when approved, shall have a clear distance above the ground cover a minimum 3 times the height of the ground cover (3H) to the lowest branch of the tree canopy and shall not be within 3 feet of the trunk of the tree.

Additional FMZ requirements:

- Highly flammable trees are not allowed unless approved by the Fire Code Official
- The horizontal distance between crowns of trees and crowns of adjacent trees, overhead electrical facilities, or unmodified fuel is not less than 15 feet.
- The vertical clearance distance above any roof is not less than 3 feet.
- The horizontal and vertical clearance to any chimney or heat producing device is not less than 10 feet.
- Trees exceeding 6 feet in height shall be limbed up from the ground 5 feet or 1/3 the height of the tree, whichever is less.
- All plants and trees shall be maintained free of deadwood, leaves, and limbs that can increase ability to ignite and/or carry fire. This includes dried palm fronds.
- Tree litter shall not exceed 2-inch depth underneath the canopies.
- Where tree canopies touch or extend past the 100-foot defensible space zone, there shall be a clear area from the edge of the tree canopy to the brush of not less than 15 feet; which may require clearance outside the 100-foot zone.
- Roofs and gutters on buildings shall be maintained free of any leaves, needles, or other vegetative materials.
- Mulch and wood chips shall comply with VCFD Standard 517. Not allowed within 5 feet of structures.
- Irrigation is not required for any defensible space or FMZ.

6.6.1.2 Other Vegetation Management

Roadway-Adjacent Defensible Space

As required under the Ventura County Fire Code, an area of 10 feet from each side of fire apparatus access roads and driveways in addition to an unobstructed vertical clearance of 13 feet, 6-inches above the roadways. Roadside fuel modification consists of mowing grasses to six-inches in height and/or maintaining ornamental landscapes, including trees, clear of dead and dying plant materials. Roadside fuel modification shall be maintained by the HOA.

Stormwater Basins

Fire-safe vegetation management will be performed within the basins on a yearly basis in accordance with the following guidelines.

1. Groundcovers or shrubs included in the basin shall be low-growing with a maximum height at maturity of 36 inches. Single tree specimens or groupings of two to three trees per grouping of fire resistive trees or tree form shrubs may exceed this limitation if they are located to reduce the chance of transmitting fire from vegetation to habitable structures and if the vertical distance between the lowest branches of the large, trees or tree form shrubs and the tops of adjacent plants are three times the height of the adjacent plants to reduce the spread of fire through ladder fueling.
2. All trees shall be planted and maintained at a minimum of 10 feet from the tree's mature drip line to any combustible structure.
3. The water detention basin area will be irrigated and maintained to brush management Zone 1 standards.
4. Grasses must be maintained/mowed to 6 inches in height.
5. The water quality basins will not be re-vegetated with plant species that are found on the VCFD's Prohibited Plant List (Appendix E).
6. This area shall be maintained annually free of dying and dead vegetation.
7. Trees adjacent to the basin's access road shall be maintained at a vertical clearance of 13 feet, 6-inches for access into the interior of the basin.

Special Fuel Management Issues

On the Proposed Project site, tree planting in the fuel modification zones and along roadways is acceptable, as long as they meet the following restrictions as described below and in the County's Fire Code and the VCFD's Standard 515 – Defensible Space and Fuel Modification Zones spacing requirements:

- For streetscape plantings, trees should be planted 10 feet from edge of curb to center of tree trunk. Care should be given to the type of tree selected, that it will not encroach into the roadway, or produce a closed canopy effect.
- Crowns of trees located within defensible space shall maintain a minimum horizontal clearance of 15 feet for a single tree. Mature trees shall be pruned to remove limbs one-third the height or 5 feet, whichever is less, above the ground surface adjacent to the trees.
- Dead wood and litter shall be regularly removed from trees.
- Ornamental trees shall be limited to groupings of 2–3 trees with canopies for each grouping separated horizontally as described in Table 6.

Specific Landscaping Requirements

The following requirements are provided for HOA-maintained fuel modification zones. All landscaping shall be maintained by the HOA.

Plants used in the fuel modification areas or landscapes will include drought-tolerant, fire resistive trees, shrubs, and groundcovers. The planting list and spacing will be reviewed and approved by VCFD, included on submitted landscape plans. The plantings will be consistent with VCFD's Suggested Plant Reference Guide (Appendix D). The intent of the suggested plant reference guide is to provide examples of plants that are less prone to ignite or spread flames to other vegetation and combustible structures during a wildfire. Additional Plants can be added to the landscape plant material palette with the approval from VCFD.

Pre-Construction Requirements

- Perimeter fuel modification areas must be implemented and approved by the VCFD prior to combustible materials being brought on site.
- Existing flammable vegetation shall be reduced by 50% on vacant lots upon commencement of construction.
- Dead fuel, ladder fuel (fuel which can spread fire from ground to trees), and downed fuel shall be removed and trees/shrubs shall be properly limbed, pruned, and spaced per this plan.

Undesirable Plants

Certain plants are considered to be undesirable in the landscape due to characteristics that make them highly flammable. These characteristics can be physical or chemical. The plants included in the VCFD Prohibited Plant List (Appendix E) are unacceptable from a fire safety standpoint, and shall not be planted on the site unless otherwise approved by the VCFD.

6.6.2 Fuel Modification Area Vegetation Maintenance

All fuel modification area vegetation management shall be completed annually by May 1 of each year and more often as needed for fire safety, as determined by the VCFD.

The individual homeowners shall be responsible for all fuel modification vegetation management on their lots in compliance with this plan and the VCFD requirements. The Hitch Ranch Community HOA shall be responsible for all fuel modification vegetation management for all common areas, roadsides clearance, fuel modification zones, any retention basins, medians, planters, parks, etc. The HOA will assure private homeowner lots comply with this plan initially and on an ongoing basis. Chapter 7A requirements for ongoing maintenance of fire resistive building materials and fire sprinkler systems will be included in the C, C and R's and Deed encumbrances for each lot. Additionally, the project HOA shall be responsible for ensuring long-term funding and ongoing compliance with fuel modification and maintenance requirements with all provisions of this report.

Maintenance of FMZ's and Defensible Space is an important component for long term fire safety of the Project. Maintenance obligations will be as follows:

Hitch Ranch HOA:

- Maintenance of access roads, includes a minimum of 10 feet clearance on each side of road(s).
- Annual Maintenance of FMZs (or as needed)
- Maintenance of all common areas, including trees planted along roadways and in other areas throughout project.

Resident/Homeowner:

- Maintenance of vegetation on individual property lots.

6.6.3 Annual Fuel Modification Zone Compliance Inspection

To confirm that the Proposed Project's FMZs and landscape areas are being maintained according to this FPPs and the VCFD's requirements, the Project HOA would obtain an FMZ inspection and report from a qualified VCFD-approved 3rd party inspector in May of each year certifying that vegetation management activities throughout the project site have been performed. If the FMZ areas are not compliant, the Hitch Ranch HOA will have a specified period to correct any noted issues so that a re-inspection can occur, and certification can be achieved. Annual inspection fees are subject to the current Fire Department Fee Schedule.

6.6.4 Construction Phase Vegetation Management

Vegetation management requirements shall be implemented at commencement and throughout the construction phase. Vegetation management for the Proposed Project area shall be performed pursuant to this FPP and VCFD requirements on the property site prior to the start of work and prior to any import of combustible construction materials. Adequate firebreaks that are at least 50 feet wide shall be created around all grading, site work, and other construction activities in areas where there is flammable vegetation. Combustible Materials will not be brought on site without prior fire department approval.

In addition to the requirements outlined above, the project will comply with the following important risk-reducing vegetation management guidelines:

- All new power lines shall be underground for fire safety during high wind conditions or during fires on a right-of-way that can expose aboveground power lines. Temporary construction power lines may be allowed in areas that have been cleared of combustible vegetation.
- Caution must be used not to cause erosion or ground (including slope) instability or water runoff due to vegetation removal, vegetation management, maintenance, landscaping, or irrigation.

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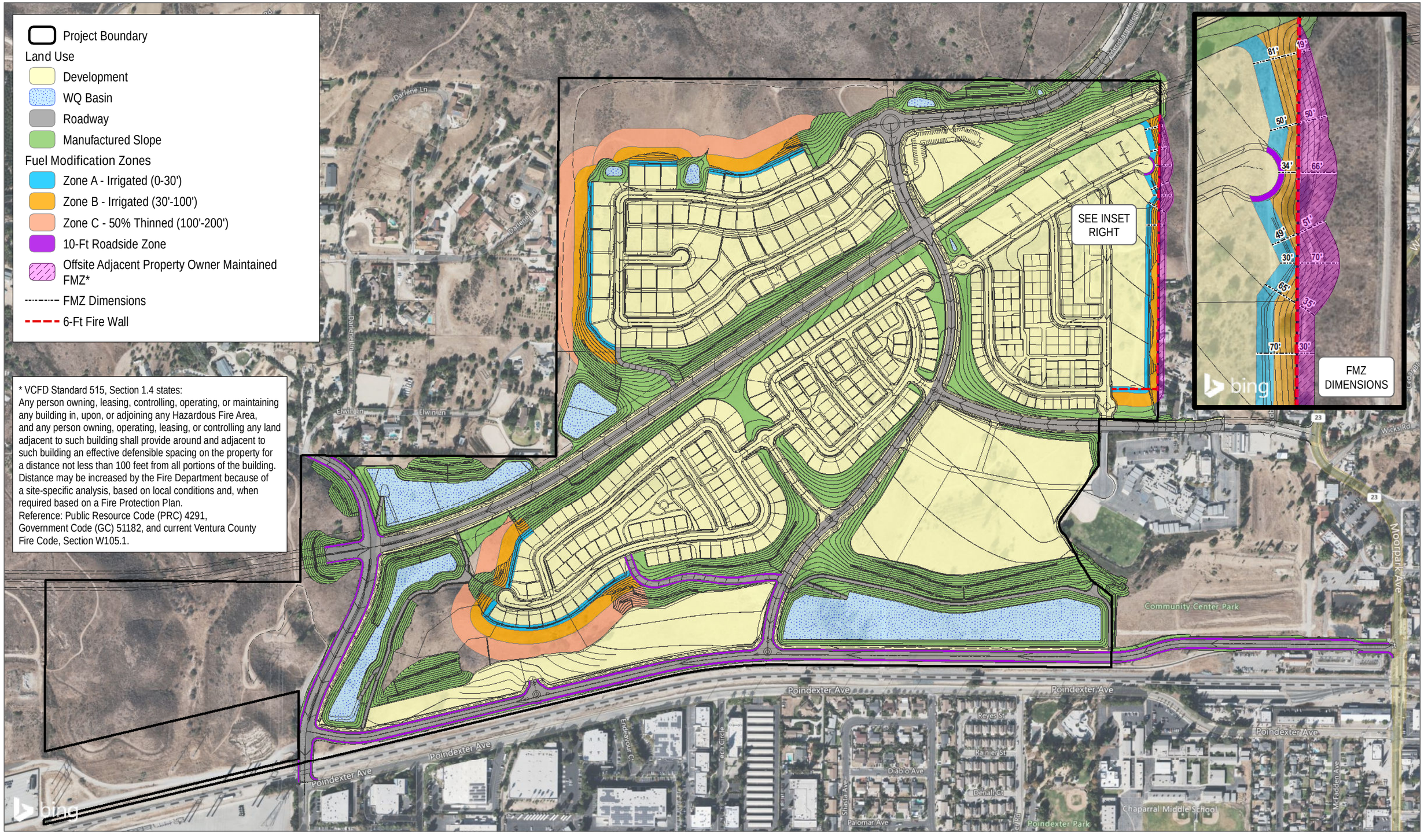

SOURCE: AERIAL -BING MAPPING SERVICE 2018; SITE PLAN - ENCOMPASS CONSULTANT GROUP 2021

DUDEK

0 230 460 Feet

FIGURE 5

Conceptual Fuel Modification Plan

Hitch Ranch Fire Protection Plan

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7 Alternative Materials and Methods for Non-Conforming Fuel Modification

As previously mentioned, due to site constraints, it is not feasible to achieve the standard FMZ width on the entire east side of the development within Planning Area 3. The Project's eastern property line can only provide an area between 68 and 121 feet of structural setback from off-site fuel beds. As such, this FPP describes additional measures that will be implemented to mitigate the non-conforming fire related threats and proposed reduced fuel modification zones. These measures are customized for this site based on the analysis results and focus on providing functional equivalency as a County-defined, full fuel modification zone.

As experienced in numerous wildfires, including the most recent fire storms in Ventura and San Diego Counties, homes in the WUI are potential fuel. The distance between the wildland fire that is consuming wildland fuel and the home ("urban fuel") is the primary factor for structure ignition (not including burning embers). The closer a fire is to a structure, the higher the level of heat exposure (Cohen 2000). However, studies indicate that given certain assumptions (e.g., 10 meters of low fuel landscape, no open windows), wildfire does not spread to homes unless the fuel and heat requirements (of the home) are sufficient for ignition and continued combustion (Cohen 1995, Alexander et al. 1998). Construction materials and methods can prevent or minimize ignitions. Similar case studies indicate that with nonflammable roofs and vegetation modification from 10–18 meters (roughly 32–60 feet) in southern California fires, 85–95% of the homes survived (Howard et al. 1973, Foote and Gilless 1996). Similarly, San Diego County after fire assessments indicate strongly that the building codes are working in preventing home loss: of 15,000 structures within the 2003 fire perimeter, 17% (1,050) were damaged or destroyed. However, of the 400 structures built to the 2001 codes (the most recent at the time), only 4% (16) were damaged or destroyed. Further, of the 8,300 homes that were within the 2007 fire perimeter, 17% were damaged or destroyed. A much smaller percentage (3%) of the 789 homes that were built to 2001 codes were impacted and an even smaller percentage (2%) of the 1,218 structures built to the 2004 Codes were impacted (IBHS 2008). Damage to the structures built to the latest codes is likely from flammable landscape plantings or objects next to structures or open windows or doors (Hunter 2007).

These results support Cohen's (2000) findings that if a community's homes have a sufficiently low home ignitability, the community can survive exposure to wildfire without major fire destruction. This provides the option of mitigating the wildland fire threat to homes/structures at the residential location without extensive wildland fuel reduction. Cohen's (1995) studies suggest, as a rule-of-thumb, larger flame lengths and widths require wider fuel modification zones to reduce structure ignition. For example, valid SIAM results indicate that a 20-foot high flame has minimal radiant heat to ignite a structure (bare wood) beyond 33 feet (horizontal distance). Whereas, a 70-foot-high flame may require about 130 feet of clearance to prevent structure ignitions from radiant heat (Cohen and Butler 1996). This study utilized bare wood, which is more combustible than the ignition resistant exterior walls for structures built today. Fire behavior modeling conducted for this project indicates that fires in the moderate to high load shrub and chaparral north of the Project Site would result in roughly 42- to 87-foot flame lengths under fall, extreme weather conditions. The proposed FMZ is twice the length of the predicted flame length.

As indicated in this report, the FMZs and additional fire protection measures proposed for the eastern portion of the development provide equivalent wildfire buffer but are not standard zones. Rather, they are based on a variety of analysis criteria including predicted flame length, fire intensity (Btu), site topography and vegetation, extreme and typical weather, position of structures on pads, position of roadways, adjacent fuels, fire history, current vs. proposed land use,

neighboring communities relative to the proposed project, and type of construction. The fire intensity research conducted by Cohen (1995) and Cohen and Butler (1996) supports the fuel modification alternatives proposed for this project.

7.1 Additional Structure Protection Measures

The following additional measures will be implemented to "mitigate" potential structure fire exposure related to the provided reduced FMZs for the eastern edge of the development. These measures are customized for this site, its unique topographical and vegetative conditions, and focus on providing functional equivalency as a full fuel modification zone. It should be noted that a fully developed Senior Living Project is proposed for development along the eastern edge of the Hitch Ranch development, from the existing homes off Casey Road up to the proposed North Hills Parkway. If that project site is under development prior to Hitch Ranch beginning construction in this area, then additional mitigations would not be necessary. If Hitch Ranch begins construction prior to the neighboring Senior Living Project development, then compensating measures are proposed. In order to provide compensating structural protection in the absence of a 100-foot wide FMZ, and in addition to the residences being built to the latest ignition resistant codes, these structures will also include the following features for additional fire prevention, protection, and suppression:

1. The proposed Triplex structures along the eastern edge of the development within PA3 that are adjacent to existing homes off Casey Road, shall be constructed with multi- pane glazing with a minimum of one tempered pane windows (see Figure 5);
2. The remaining Triplex structures along the eastern edge of the development within PA3 are exposed to natural vegetation. Depending on the timing of development of the proposed Senior Living project which currently is not developed, the remaining Triplex structures within the Hitch Ranch development along the eastern edge of the development shall implement either; a.) if the proposed Senior Living development begins construction prior to the Hitch Ranch Project development begins construction, then dual pane single tempered windows will be acceptable, or b.) if the Senior Living development has not begun construction prior to Hitch Ranch Project construction at this site, then dual pane, dual tempered windows will be required for the Hitch Ranch developments that are north of the existing homes off Casey Road up to proposed North Hills Parkway, exceeding the CBC Chapter 7A code requirement (see Figure 5).
3. Provide a noncombustible, 6-foot high concrete masonry unit (CMU) wall at the top of the manufactured slopes behind the units within PA3 along the eastern property boundary. These walls will be installed to function as heat-deflecting walls.

The information provided herein supports the ability of the proposed structures and FMZs to withstand the predicted short duration, low to moderate intensity wildfire and ember shower that would be expected from wildfire burning in the vicinity of the site or within the site's landscape.

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8 Homeowner's Association Wildfire Education Program

The residents and visitors of the Proposed Project will be provided a proactive educational component disclosing the potential wildfire risk and this report's requirements. This educational information must include maintaining the landscape and structural components according to the appropriate standards and embracing a "Ready! Set! Go!"[7] stance on evacuation. The "Ready! Set! Go!" informational packet and other VCFD standards and ordinances can be found on the VCFD's website at vcfd.org. VCFD will review and approve all wildfire educational material/programs before printing and distributing.

[7] https://vcfd.org/images/ready-set-go/VCFD-RSG-Wildfire-Action-Plan-Booklet-2016.pdf

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9 Conclusion

This FPP is submitted in support of an application for project entitlement of the Hitch Ranch mixed-density residential development project. It is submitted in compliance with requirements of the VCFPD Ordinance's and the Ventura County Fire Code. The requirements in this document meet fire safety, building design elements, fuel management/modification, and landscaping recommendations of the VCFD. Fire and Building Codes and other local, county, and state regulations in effect at the time of each building permit application supersede these recommendations unless the FPP recommendation is more restrictive. Where the project does not strictly comply with the Code, alternative materials and methods have been proposed that provide functional equivalency as the code intent.

The recommendations provided in this FPP have been designed specifically for the proposed construction of residential dwelling units within the vicinity of a very high fire hazard severity zone on the Proposed Project site. The project site's fire protection system includes a redundant layering of code compliant fire-resistant construction materials and methods that have been shown through post-fire damage assessments to reduce risk of structural ignition.

Ignition resistant landscaping would occur throughout the site. Fuel modification will be installed on the Proposed Project's perimeter which abuts open space located north and west of and adjacent to the project. The site's landscaping will be maintained throughout each year and an inspection will be funded by the Hitch Ranch Community HOA to ensure compliance with this FPP and fire safe plant palettes, planting densities and spacing.

The site improvements are designed to facilitate emergency apparatus and personnel access to all portions of the site. Three existing dead end roads that are adjacent to the site would be eliminated through interconnections, improving overall circulation and evacuation options. Roads and driveways meeting the code width standards and including fire engine turnarounds provide access to within 150 feet of all sides of every building.

Water availability and flow via the VCWWD No. 1 will be consistent with VCFD requirements including fire flow, residual pressure and hydrant distribution. These features along with the ignition resistance of all dwelling units, the interior sprinklers, and the pre-planning, training and awareness will assist responding firefighters through prevention, protection and suppression capabilities.

Ultimately, it is the intent of this FPP to guide, through code and other project specific requirements, the construction of structures that are defensible from wildfire and, in turn, do not represent significant threat of ignition source for the adjacent communities. It must be noted that during extreme fire conditions in a VHFHSZ, there are no guarantees that a given structure will not burn. Precautions and mitigating actions identified in this report are designed to reduce the likelihood that fire would impinge upon the proposed structures. There are no guarantees that fire will not occur in the area or that fire will not damage property or cause harm to persons or their property. Implementation of the required enhanced construction features provided by the applicable codes and the mitigating fuel modification requirements provided in this FPP will accomplish the goal of this FPP to assist firefighters in their efforts to defend these structures and reduce the risk associated with this project's WUI location. For maximum benefit, the developer, contractors, engineers, and architects are responsible for proper implementation of the concepts and requirements set forth in this report. Homeowners and HOA are responsible to maintain their structures and landscaping as required by this report, the applicable Fire Code, and the VCFD. While wildfires under extreme wind conditions can be unpredictable, the project has been designed with a layered system of

protections and would include the necessary features to perform well during wildfires. With these features, the project would be considered a "Fire Safe" project."

This FPP does not provide a guarantee that all residents or visitors will be safe at all times because of the advanced fire protection features it requires. There are many variables that may influence overall safety. This FPP provides requirements and recommendations for implementation of the latest fire protection features that have proven to result in reduced wildfire related hazard, resulting in reduced risk. Even then, fire can compromise the fire protection features through various, unpredictable ways. The goal is to reduce the likelihood that the system is compromised through implementation of the elements of this FPP and a regular occurring maintenance program

It is recommended that the homeowners or other occupants who may reside within the Hitch Ranch development adopt a conservative approach to fire safety. This approach must include maintaining the landscape and structural components according to the appropriate standards and embracing a "Ready, Set, Go" stance on evacuation. This project is not to be considered a shelter-in-place development. However, the fire agencies and/or law enforcement officials may, during an emergency, as they would for any new development providing the layers of fire protection as Hitch Ranch development, determine that it is safer to temporarily refuge clients or visitors on the site. When an evacuation is ordered, it will occur according to pre-established evacuation decision points or as soon as notice to evacuate is received, which may vary depending on many environmental and other factors. Fire is a dynamic and somewhat unpredictable occurrence and it is important for anyone living at the WUI to educate themselves on practices that will improve safety.

The goal of the fire protection features, both required and those offered above and beyond the Codes, provided for the Hitch Ranch Project is to provide the structures with the ability to survive a wildland fire with little intervention of firefighting forces. Preventing ignition to structures results in reduction of the exposure of firefighters and residents to hazards that threaten personal safety. It will also reduce property damage and losses. Mitigating ignition hazards and fire spread potential reduces the threat to structures and can help the fire department optimize the deployment of personnel and apparatus during a wildfire. The analysis in this FPP provides support and justifications for acceptance of the proposed fuel modification zones for Hitch Ranch development based on the site specific fire environment.

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10 List of Preparers

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Appendix A

Representative Site Photograph Log

PHOTOGRAPH LOG

Hitch Ranch Proposed Project FPP



Photograph 1. View of southeastern corner of property. Photograph taken facing northwest.



Photograph 2. View of southern property boundary standing along Poindexter Ave. Photograph taken facing north.



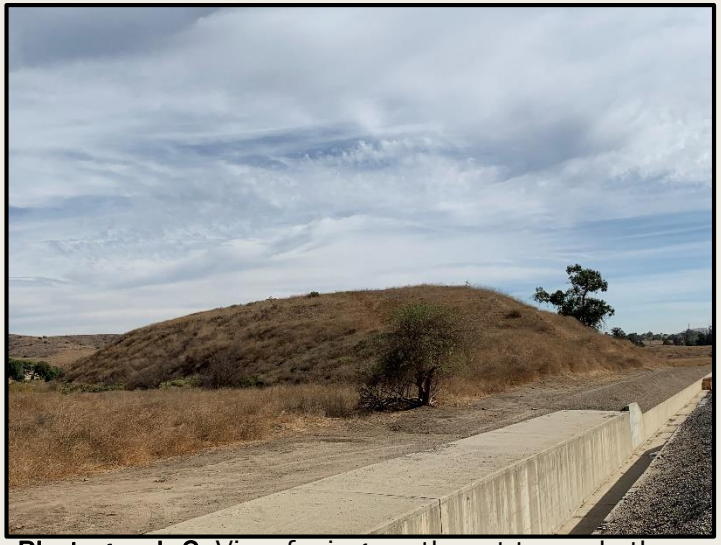
Photograph 3. View looking northeast up hillside towards center of project site along southern boundary. Vegetation shown in photograph is non-native grassland.



Photograph 4. Photograph looking east down Poindexter Ave. along southern boundary, looking towards southeastern corner of the property.



Photograph 5. View facing northeast towards the center of the Hitch Ranch Project site, standing in the southwest corner of the property.



Photograph 6. View facing northeast towards the center of the Hitch Ranch Project site, standing in the southwest corner of the property.



Photograph 7. View looking east along southern project boundary and the proposed High street extension. Note the railroad track long the southern boundary.



Photograph 8. Photograph looking west down Poindexter Ave. towards the intersection with Gabbert Road.



Photograph 9. Photograph looking south down Gabbert Road, standing at the intersection of Gabbert Road and Poindexter Ave.



Photograph 10. Photograph looking north up Gabbert Road, standing at the intersection of Gabbert Road and Poindexter Ave.



Photograph 11. Photograph looking north up Gabbert Road, standing at the intersection of Gabbert Road and Poindexter Ave.



Photograph 12. Photograph of the northwest portion of the project site, adjacent to existing residential community. Photograph taken facing northeast.



Photograph 13. Photograph looking east towards center of the Hitch Ranch site.



Photograph 14. Another view Photograph looking east towards center of the Hitch Ranch site.



Photograph 15. Photograph of southeastern portion of the project site, standing along Poindexter Ave. Photograph facing northeast.



Photograph 16. Non-native grass fuels that are present throughout the project site. Photograph taken facing north.



Photograph 17. Another view of non-native grass fuels that are present throughout the project site. This photograph taken facing northeast along the eastern project boundary.

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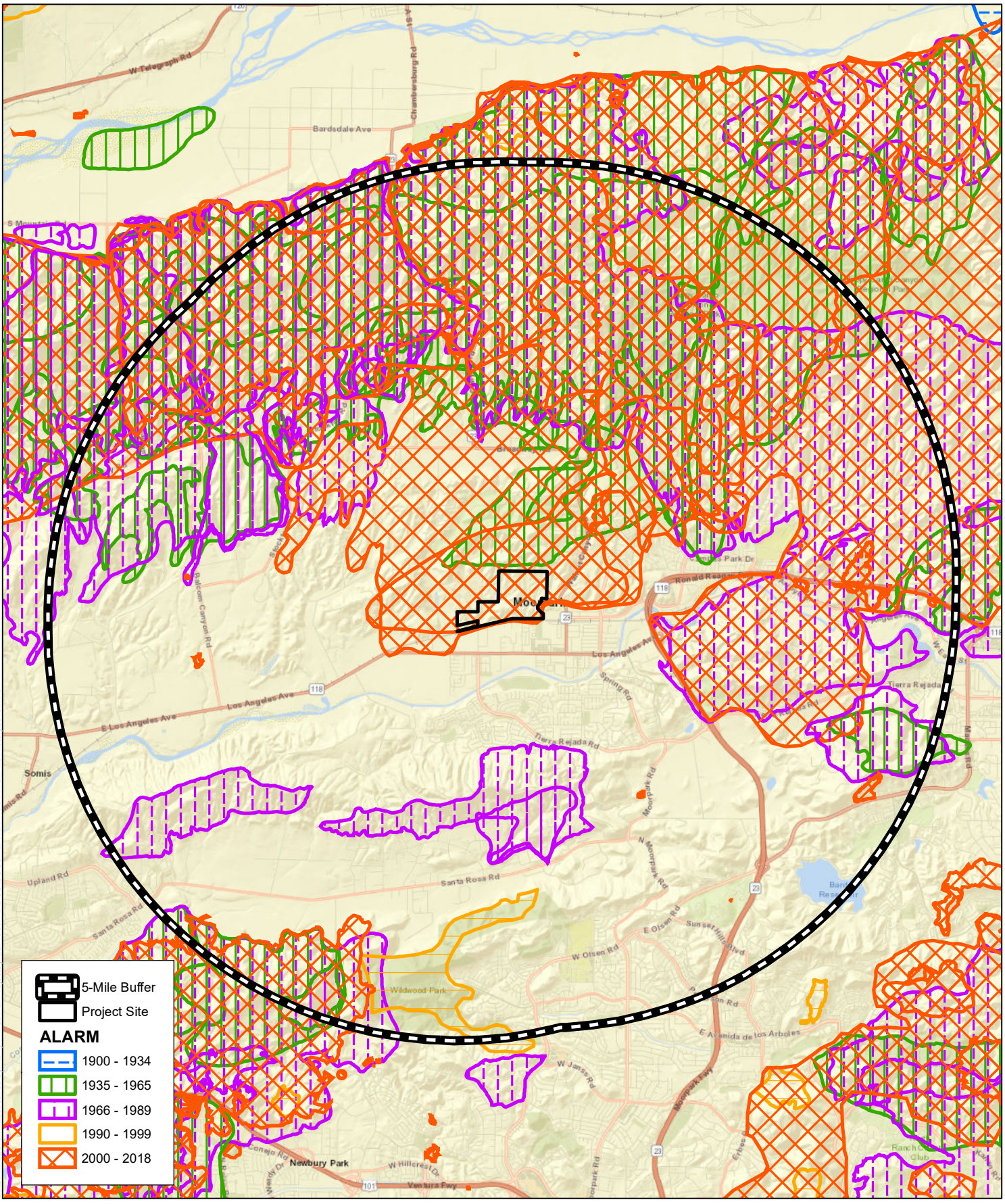
Appendix B

Fire History Map



SOURCE: BASEMAP-ESRI;FIRE-CALFIRE 2018

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APPENDIX B

Fire History Map

Fire Protection Plan for the Hitch Ranch Project

Appendix C

BehavePlus Fire Behavior Analysis

APPENDIX C
Fire Behavior Modeling Summary
Hitch Ranch FPP, Moorpark, California

BEHAVEPLUS FIRE BEHAVIOR MODELING

Fire behavior modeling has been used by researchers for approximately 50+ years to predict how a fire will move through a given landscape (Linn 2003). The models have had varied complexities and applications throughout the years. One model has become the most widely used as the industry standard for predicting fire behavior on a given landscape. That model, known as "BEHAVE", was developed by the U. S. Government (USDA Forest Service, Rocky Mountain Research Station) and has been in use since 1984. Since that time, it has undergone continued research, improvements, and refinement. The current version, BehavePlus 6.0, includes the latest updates incorporating years of research and testing. Numerous studies have been completed testing the validity of the fire behavior models' ability to predict fire behavior given site specific inputs. One of the most successful ways the model has been improved has been through post-wildfire modeling (Brown 1972, Lawson 1972, Sneeuwjagt and Frandsen 1977, Andrews 1980, Brown 1982, Rothermel and Rinehart 1983, Bushey 1985, McAlpine and Xanthopoulos 1989, Grabner, et. al. 1994, Marsden-Smedley and Catchpole 1995, Grabner 1996, Alexander 1998, Grabner et al. 2001, Arca et al. 2005). In this type of study, Behave is used to model fire behavior based on pre-fire conditions in an area that recently burned. Real-world fire behavior, documented during the wildfire, can then be compared to the prediction results of Behave and refinements to the fuel models incorporated, retested, and so on.

Fire behavior modeling conducted on this site includes a relatively high-level of detail and analysis which results in reasonably accurate representations of how wildfire may move through available fuels on and adjacent the property. Fire behavior calculations are based on site-specific fuel characteristics supported by fire science research that analyzes heat transfer related to specific fire behavior. To objectively predict flame lengths, spread rates, and fireline intensities, this analysis incorporated predominant fuel characteristics, slope percentages, and representative fuel models observed on site. The BehavePlus fire behavior modeling system was used to analyze anticipated fire behavior within and adjacent to key areas just outside of the proposed lots.

Predicting wildland fire behavior is not an exact science. As such, the movement of a fire will likely never be fully predictable, especially considering the variations in weather and the limits of weather forecasting. Nevertheless, practiced and experienced judgment, coupled with a validated fire behavior modeling system, results in useful and accurate fire prevention planning information.

To be used effectively, the basic assumptions and limitations of BehavePlus must be understood.

- First, it must be realized that the fire model describes fire behavior only in the flaming front. The primary driving force in the predictive calculations is dead fuels less than one-quarter inch in diameter. These are the fine fuels that carry fire. Fuels greater than one inch have little effect while fuels greater than three inches have no effect on fire behavior.
- Second, the model bases calculations and descriptions on a wildfire spreading through surface fuels that are within six feet of the ground and contiguous to the ground. Surface fuels are often classified as grass, brush, litter, or slash.
- Third, the software assumes that weather and topography are uniform. However, because wildfires almost always burn under non-uniform conditions, length of projection period and choice of fuel model must be carefully considered to obtain useful predictions.
- Fourth, the BehavePlus fire behavior computer modeling system was not intended for determining sufficient fuel modification zone widths. However, it does provide the average length of the flames, which is a key element for determining "defensible space" distances for minimizing structure ignition.

Although BehavePlus has some limitations, it can still provide valuable fire behavior predictions which can be used as a tool in the decision-making process. In order to make reliable estimates of fire behavior, one must understand the relationship of fuels to the fire environment and be able to recognize the variations in these fuels. Natural fuels are made up of the various components of vegetation, both live and dead, that occur on a site. The type and quantity will depend upon the soil, climate, geographic features, and the fire history of the site. The major fuel groups of grass, shrub, trees, and slash are defined by their constituent types and quantities of litter and duff layers, dead woody material, grasses and forbs, shrubs, regeneration, and trees. Fire behavior can be predicted largely by analyzing the characteristics of these fuels. Fire behavior is affected by seven principal fuel characteristics: fuel loading, size and shape, compactness, horizontal continuity, vertical arrangement, moisture content, and chemical properties.

The seven fuel characteristics help define the 13 standard fire behavior fuel models[1] and the five custom fuel models developed for Southern California[2]. According to the model classifications, fuel models used in BehavePlus have been classified into four groups, based upon fuel loading (tons/acre), fuel height, and surface to volume ratio. Observation of the fuels in the field (on site) determines which fuel models should be applied in BehavePlus. The following describes the distribution of fuel models among general vegetation types for the standard 13 fuel models and the custom Southern California fuel models:

[1] Anderson, Hal E. 1982. Aids to Determining Fuel Models for Estimating Fire Behavior. USDA Forest Service Gen. Tech. Report INT-122. Intermountain Forest and Range Experiment Station, Ogden, UT.

[2] Weise, D.R. and J. Regelbrugge. 1997. Recent chaparral fuel modeling efforts. Prescribed Fire and Effects Research Unit, Riverside Fire Laboratory, Pacific Southwest Research Station. 5p.

- Grasses Fuel Models 1 through 3
- Brush Fuel Models 4 through 7, SCAL 14 through 18
- Timber Fuel Models 8 through 10
- Logging Slash Fuel Models 11 through 13

In addition, the aforementioned fuel characteristics were utilized in the recent development of 40 new fire behavior fuel models[3] developed for use in BehavePlus modeling efforts. These new models attempt to improve the accuracy of the standard 13 fuel models outside of severe fire season conditions, and to allow for the simulation of fuel treatment prescriptions. The following describes the distribution of fuel models among general vegetation types for the new 40 fuel models:

- Non-Burnable Models NB1, NB2, NB3, NB8, NB9
- Grass Models GR1 through GR9
- Grass-shrub Models GS1 through GS4
- Shrub Models SH1 through SH9
- Timber-understory Models TU1 through TU5
- Timber litter Models TL1 through TL9
- Slash blowdown Models SB1 through SB4

BehavePlus software was used in the development of this Hitch Ranch Project (Proposed Project) Fire Protection Plan (FPP) in order to evaluate potential fire behavior for the Project site. Existing site conditions were evaluated, and local weather data was incorporated into the BehavePlus modeling runs.

FUEL MODELS

Dudek utilized the BehavePlus software package to analyze fire behavior potential for the Hitch Ranch Project site in Moorpark, California. As is customary for this type of analysis, three fire scenarios were evaluated, including one summer, onshore weather condition (west from the Project Site) and two extreme fall, offshore weather condition (northt and northeast of the Project Site). Fuels and terrain at and beyond this distance can produce flying embers that may affect the project, but defenses have been built into the structures to prevent ember penetration and to extinguish fires that may result from ember penetration. It is the fuels adjacent to and within fuel modification zones that would have the potential to affect the project's structures from a radiant

[3] Scott, Joe H. and Robert E. Burgan. 2005. Standard fire behavior fuel models: a comprehensive set for use with Rothermel's surface fire spread model. Gen. Tech. Rep. RMRS-GTR-153. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 72 p.

and convective heat perspective as well as from direct flame impingement. BehavePlus software requires site-specific variables for surface fire spread analysis, including fuel type, fuel moisture, wind speed, and slope data. The output variables used in this analysis include flame length (feet), rate of spread (feet/minute), fireline intensity (BTU/feet/second), and spotting distance (miles). The following provides a description of the input variables used in processing the BehavePlus models for the Proposed Project site. In addition, data sources are cited and any assumptions made during the modeling process are described. Table 1 provides a description of the fuel model observed in the vicinity of the site that were subsequently used in the analysis for this project. Modeled areas include the high load grass ground fuels (Gr7) that occur throughout the Project site. A total of three fire modeling scenarios were completed for the Project site. These sites were selected based on the strong likelihood of fire approaching from these directions during a Santa Ana wind-driven fire event (fire scenarios 2 and 3) and an on-shore weather pattern (fire scenario 1).

Table 1
Existing Fuel Model Characteristics

Fuel Model	Description	Location	Fuel Bed Depth (Feet)
Gr7	High Load, Dry Climate Grass	Fuel type is concentrated throughout the Project site.	>5.0 ft.
Gr2	Low Load, Dry Climate Grass	Fuel type will occur post development within 50% thinning zone.	1.0 ft.
FM8	Irrigated Landscape	Fuel type will occur post development within irrigated zone.	<1.0 ft.

Topography

Slope is a measure of angle in degrees from horizontal and can be presented in units of degrees or percent. Slope is important in fire behavior analysis as it affects the exposure of fuel beds. Additionally, fire burning uphill spreads faster than those burning on flat terrain or downhill as uphill vegetation is pre-heated and dried in advance of the flaming front, resulting in faster ignition rates. Slope values ranging from 5–9% were measured around the perimeter of the proposed project site from U.S. Geological Survey (USGS) topographic maps.

Weather

Historical weather data for the Moorpark region was utilized in determining appropriate fire behavior modeling inputs for the Project area. 50th and 97th percentile moisture values were derived from Remote Automated Weather Station (RAWS) and utilized in the fire behavior

modeling efforts conducted in support of this report. Weather data sets from the Cheeseboro Station RAWS[4] were utilized in the fire modeling runs.

RAWS fuel moisture and wind speed data were processed utilizing the Fire Family Plus software package to determine atypical (97th percentile) and typical (50th percentile) weather conditions. Data from the RAWS was evaluated from August 1 through November 30 for each year between 1995 and 2018 (extent of available data record) for 97th percentile weather conditions and from June 1 through September 30 for each year between 1995 and 2018 for 50th percentile weather conditions.

Following analysis in Fire Family Plus, fuel moisture information was incorporated into the Initial Fuel Moisture file used as an input in BehavePlus. Wind speed data resulting from the Fire Family Plus analysis was also determined. Initial wind direction and wind speed values for the two BehavePlus runs were manually entered during the data input phase. The input wind speed and direction is roughly an average surface wind at 20 feet above the vegetation over the analysis area. Table 2 summarizes the wind and weather input variables used in the Fire BehavePlus modeling efforts.

Table 2
BehavePlus Fine Dead Fuel Moisture Calculation

Model Variable	Summer Weather (50th Percentile)	Peak Weather (97th Percentile)
Fuel Models	Gr7	Gr7
1 h fuel moisture	5%	1%
10 h fuel moisture	6%	2%
100 h fuel moisture	11%	4%
Live herbaceous moisture	60%	30%
Live woody moisture	90%	60%
20 ft. wind speed	24 mph (sustained winds)	19 mph (sustained winds); 50 and 70 mph (gusty winds)
Wind Directions from upslope (degrees)	60	180, 235
Wind adjustment factor	0.4	0.4
Slope (uphill)	5%	5 and 9%

Fire Behavior Modeling Effort

As mentioned, the BehavePlus fire behavior modeling software package was utilized in evaluating anticipated fire behavior adjacent to the Proposed Project site. Three focused analyses were completed, each assuming worst-case fire weather conditions for a fire approaching the

[4] https://wrcc.dri.edu/cgi-bin/rawMAIN.pl?caCCHB
Latitude: 34.1105 Longitude: -118.4302; Elevation: 1,650 ft.)

project site from the north, northeast, and west. Four fire behavior variables were selected as outputs from the BehavePlus analysis conducted for the project site, and include flame length (feet), rate of spread (mph), fireline intensity (BTU/feet/second), and surface fire spotting distance (miles). The aforementioned fire behavior variables are an important component in understanding fire risk and fire agency response capabilities. Flame length, the length of the flame of a spreading surface fire within the flaming front, is measured from midway in the active flaming combustion zone to the average tip of the flames (Andrews, Bevins, and Seli 2008). Fireline intensity is a measure of heat output from the flaming front, and also affects the potential for a surface fire to transition to a crown fire. Fire spread rate represents the speed at which the fire progresses through surface fuels and is another important variable in initial attack and fire suppression efforts (Rothermel and Rinehart 1983). Spotting distance is the distance a firebrand or ember can travel down wind and ignite receptive fuel beds. The information in Table 3 presents an interpretation of the outputs for two fire behavior variables as related to fire suppression efforts. The results of fire behavior modeling efforts are presented in Table 4. Identification of modeling run locations is presented graphically in Figure 4 of the FPP.

Table 3
Fire Suppression Interpretation

Flame Length (ft)	Fireline Intensity (Btu/ft/s)	Interpretations
Under 4 feet	Under 100 BTU/ft/s	Fires can generally be attacked at the head or flanks by persons using hand tools. Hand line should hold the fire.
4 to 8 feet	100-500 BTU/ft/s	Fires are too intense for direct attack on the head by persons using hand tools. Hand line cannot be relied on to hold the fire. Equipment such as dozers, pumpers, and retardant aircraft can be effective.
8 to 11 feet	500-1000 BTU/ft/s	Fires may present serious control problems -- torching out, crowning, and spotting. Control efforts at the fire head will probably be ineffective.
Over 11 feet	Over 1000 BTU/ft/s	Crowning, spotting, and major fire runs are probable. Control efforts at head of fire are ineffective.

FIRE BEHAVIOR MODELING RESULTS

The results presented in Table 4 depict values based on inputs to the BehavePlus software and are not intended to capture changing fire behavior as it moves across a landscape. Changes in slope, weather, or pockets of different fuel types are not accounted for in this analysis. For planning purposes, the averaged worst-case fire behavior is the most useful information for conservative fuel modification design. Model results should be used as a basis for planning only, as actual fire behavior for a given location will be affected by many factors, including unique weather patterns, small-scale topographic variations, or changing vegetation patterns.

Based on the BehavePlus analysis, worst-case fire behavior is expected in non-maintained grass north and northeast of the proposed Project site under Peak weather conditions (represented by Fall Weather, Scenario 3). The fire is anticipated to be a wind-driven fire from the north/northeast during the fall. Under such conditions, expected surface flame lengths reach 74 feet with wind speeds of 50+ mph. Under this scenario, fireline intensities reach 66,781 BTU/feet/second with fast spread rates of 20 mph and could have a spotting distance up to 3.5 miles away.

Based on the BeahvePlus analysis, post development fire behavior is expected in irrigated and replanted with plants that are acceptable with VCFD (Zones A and B - FM8), as well in an area with 50% thinning of the existing shrubs (Gr2) under peak weather conditions (represented by Fall Weather, Scenario 3b). Under such conditions, expected surface flame length is expected to be significantly lower, with flames lengths reaching approximately 18 feet with wind speeds of 50+ mph. Under this scenario, fireline intensities reach 3,037 BTU/feet/second with relatively slow spread rates of 2.1 mph and could have a spotting distance up to 1.3 miles away.

Table 4
RAWS BehavePlus Fire Behavior Model Results

Fire Scenario	Flame Length (feet)	Spread Rate (mph)[5]	Fireline Intensity (Btu/ft./sec)	Spot Fire (Miles)[6]
Scenario 1a: 5% slope, Summer, On-shore Winds (Pre-Development)				
High load Grass Fuels (Gr7)	29.1'	3.5	8,616	1.1
Scenario 1b: 5% slope, Summer, On-shore Winds (Post Development)				
FMZ Zones A and B (FM8)	1.8'	0.1	20	0.2
FMZ Zone C (Gr2)	7.2'	1.1	420	0.4
Scenario 2a: 9% slope, Fall, Offshore, Extreme Winds (Pre-Development)				
High load, Grass Fuels (Gr7)	42.9' (74.6' & 87.1')	6.0 (20.0 & 28.0)	20,054 (66,781 & 93,536)	1.2 (3.5 & 4.9)
Scenario 2b: 9% slope, Fall, Offshore, Extreme Winds (Post Development)				
FMZ Zones A and B (FM8)	2.1' (3.0' & 3.0')	0.1 (0.2 & 0.2)	29 (63 & 63)	0.2 (0.4 & 0.5)
FMZ Zone C (Gr2)	10.9' (18.0' & 18.0)	2.1 (6.2 & 6.2)	1,012 (3,037 & 3,037)	0.5 (1.3 & 1.6)
Scenario 3a: 5% slope, Fall, Offshore, Extreme Winds (Pre-Development)				
High load Grass Fuels (Gr7)	43.0' (74.6' & 87.1')	6.0 (20.0 & 28.0)	20,168 (66,846 & 93,591)	1.2 (3.5 & 4.9)
Scenario 3b: 5% slope, Fall, Offshore, Extreme Winds (Post Development)				
FMZ Zones A and B (FM8)	2.1' (3.0' & 3.0')	0.1 (0.2 & 0.2)	29 (63 & 63)	0.2 (0.4 & 0.5)
FMZ Zone C (Gr2)	10.9' (18.0' & 18.0')	2.1 (6.2 & 6.2)	1,018 (3,037 & 3,037)	0.5 (1.3 & 1.6)

[5] mph = miles per hour
[6] Spotting distance from a wind driven surface fire; it should be noted that the wind mph in parenthesis represent peak gusts of 50 mph and 70 mph, respectively.

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Appendix D

VCFD Suggested Plant List for a Defensible Space

VENTURA COUNTY FIRE DEPARTMENT

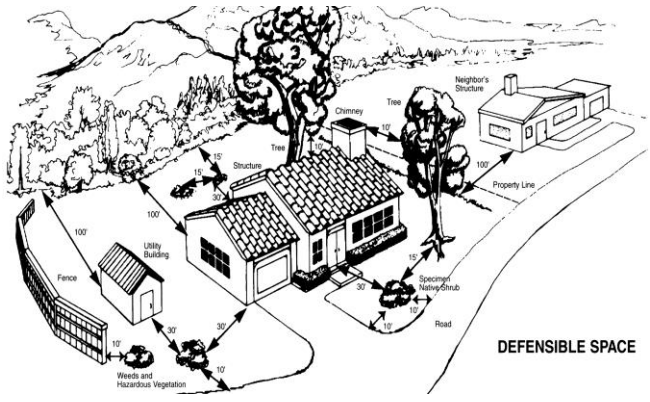
FIRE HAZARD REDUCTION PROGRAM



PLANT REFERENCE GUIDE

Fire Hazard Reduction Unit

Fire Prevention Bureau



Updated April 2019

VENTURA COUNTY FIRE DEPARTMENT
FIRE HAZARD REDUCTION UNIT

FIRE PREVENTION BUREAU
165 Durley Ave.
Camarillo, ca 93010
805-389-9759 vcfd.org VCFHRP.org

This Plant Reference Guide is intended as a reference guide for commonly used native and ornamental plants. This is not an approved plant list. This guide will give the user certain characteristics of each plant listed. Plants and trees on the VCFD Prohibited Plant List shall not be installed within any new defensible space or fuel modification zone.

Defensible space and fuel modification zone provisions are intended to mitigate the risk to life and structures from intrusion of fire from wildland fire exposures, fire exposures from adjacent structures and to mitigate fires from spreading to wildland fuels that may threaten to destroy life, overwhelm fire suppression capabilities, or result in large property loss. Proper selection, installation, spacing and maintenance of plants and landscape is one of the key elements in the survivability of a structure during a wildfire.

Please see **VCFD Standard 515 – Defensible Space and Fuel Modification Zones** for Zone designations, plant and tree spacing, and maintenance requirements.

Fire-resistant does not mean fireproof! Even fire-resistant plants will burn if not well maintained. Keep your plants healthy with appropriate water, proper pruning and removal of dead material.

LEGEND

TYPE:	GC – Ground Cover SHRUB TREE	**WATER:**	VL – Very Low L – Low M – Medium H- High

SPACING: See VCFD Standard 515 -Defensible Space and Fuel Modification Zones

N: Native E/D: Evergreen/Deciduous

Ground Cover- Shrubs- Trees-

TARGET (Undesirable Plants) SPECIES ARE DESIGNATED WITH AN *. They are NOT ALLOWED within 30' of structures. Some may not be allowed within 50 -100' of structures - designated with (50 /100) after name. **It is highly recommended that these plants be removed from any existing defensible space zone.**

Plants highlighted in Green are known to be invasive species and have been known to degrade, change and/or displace native habitats.

Vines and climbing plants are not allowed on combustible structures and are therefore not included in the plant reference guide.

FIRE HAZARD REDUCTION PROGRAM

Plant Reference Guide

BOTANICAL NAME	COMMON NAME	TYPE	WATER	HEIGHT	SPREAD	N	E/D
Abelia grandiflora "Prostrata'	Prostrate Glossy Abelia	GC	M	1-2"	3-4"		E
Acacia redolens *	Desert Carpet Acacia*	GC	VL	18'	6'		E
Achillia tomentosa	Woolly Yarrow	GC	L	6-10"	6-12"		E
Ajuga reptans	Carpet Bulge	GC	H	4-6"	2-4"		E
Aptenia cordifolia	Red Apple Ice Plant	GC	M, L	-12"	Varies		E
Arctostaphylos "Pacific Mist" *(100)	NCN	GC	L	1-2'	5-6'		E
Arctostaphylos e. "Emerald Carpet" *(100)	Emerald Carpet Manzanita*	GC	L, VL	1'	4-6'		E
Arctostaphylos edmundsii *(100)	Little Sur Manzanita*	GC	L, VL	1-2'	4-6'		E
Arctostaphylos hookeri *(100)	Monterey Manzanita*	GC	L	1-2'	4-6'		E
Arctostaphylos uva-ursi *	Bearberry*	GC	L	6-12"	5-6'		E
Arctotheca calendula	Cape Weed	GC	M, L	-12"	-18"		E
Artemesia caucasica *(100)	Silver Spreader*	GC	L, VL	3-6"	2'		E
Artemesia californica 'cultivars' *(100)	Sagebrush – Prostrate forms*	GC	L, VL	Varies	Varies		E
Asarum caudatum	Wild Ginger	GC	M, H	7-10"	2'		D
Atriplex semibaccata *(100)	Creeping Saltbrush*	GC	L, VL	1'	1-5'	X	E
Baccharis p. 'Pigeon Point' *(100)	Dwarf Coyote Brush*	GC	L, VL	12-24"	6'		E
Baccharis p 'Twin Peaks' *(100)	Dwarf Coyote Brush*	GC	L, VL	12-24"	6'		E
Baccharis pilularis *(100)	Coyote Brush*	GC	L, VL			X	
C. s. 'Repens' *	Pro. Willowleaf Contoneater*	GC	M, L	-6"	6'		E
C. Salicifolius 'Emerald Carpet' *	Pro. Willowleaf Contoneater*	GC	M, L	12-15"	8'		E
Carpobrotus species	Sea Fig	GC	L	6-12"	24-30"		E
Ceanothus gloriosus *	Point Reyes Ceanothus*	GC	L	1-2'	4-5'	X	E
Ceanothus griseus varieties *	Prostrate carmel creaper*	GC	L	2-3'	8-10'	X	E
Ceanothus maritimus *	Maritime Ceanothus*	GC	L	1-3'	4-5'	X	E
Cerastium tomentosum	Snow-in-summer	GC	M, L	6-8"	2-3'		E
Chamaemelum nobile	Chamonile	GC	M	6-8"	-12"		E
Cistus 'Sunset'	Rockrose	GC	L, VL	1-2'	6-8'		E
Cistus 'Warley rose'	Rockrose	GC	L, VL	1'	4'		E
Cistus salviifolius	Sage leaf Rockrose	GC	L, VL	1-2'	6'		E
Coprosma kirkii *	No common name*	GC	M, L	2'	6-8'		E
Coreopsis auriculata 'Nana'	No common name	GC	L, VL	5-8"	2'	X	E
Cotoneaster adpressus praecox *	Cotoneaster*	GC	M, L	-18"	6'		D
Dalea Greggii *	Trailing Indigo Bush*	GC	L, VL	12-18"	5-10"		E
Delosperma alba* (100)	White Trailing Ice Plant*	GC	L	-12"	2'		E
Dichondra micrantha	Dichondra	GC	H, M	-6"	2'		E
Drosanthemum hispidum	Ice Plant	GC	L	-12	1-2'		E
Duchesnea indica	Indian Mock Strawberry	GC	L	-8"	4'		E
Dymondia margaretae	No common name	GC	M, L	-3"	12-24"		E
Erigeron glaucus	Seaside Daisy	GC	M, L	10-12"	2'	X	E
Erigeron karvinskianus	Santa Barbara Daisy	GC	M, L	10-20"	3'		E
Euonymus fortunei 'Colorata'	Purple-Leaf Winter Creeper	GC	M	1-2'	6'		E
Festuca cinerea (ovin glauca)	Blue Fescue	GC	M, L	-12"	2'		E
Festuca rubra	Red Fescue	GC	M, L	-16"	-30"		E
Fragaria chiloensis	Wild Strawberry	GC	L, VL	6-12"	-24"		E
Gazania rigens var Leucolaena	Trailing Gazania	GC	L	6-10"	-24"		E
Geranium incanum	Cranesbill	GC	M, L	-12"	12"		E

FIRE HAZARD REDUCTION PROGRAM

Plant Reference Guide

BOTANICAL NAME	COMMON NAME	TYPE	WATER	HEIGHT	SPREAD	N	E/D
Glechoma hederacea	Ground Ivy	GC	M	3-6”	-18”		E/D
Hedera helix & varieties *(100)	English Ivy*	GC	M, L	6-18”	4’		E
Heliaanthemum nummularium	Sunrose	GC	L	6-8”	3’		E
Herniaria glabra	Green Carpet	GC	M	2-3”	-16”		E
Hypericum calycinum	Aaron’s Beard	GC	M, L	6-12”	3’		E
Hypericum coris	No common name	GC	M, L	6-12”	2’		E
Iberis sempervirens	Evergreen Candytuft	GC	M	6-12”	6-12”		E
Iva hayesiana * (100)	Poverty Weed*	GC	L, VL	2-3’	4-5’	X	E
Juniperus confeerta* (100)	Shore Juniper*	GC	L	8-12”	4-5’		E
Lampranthus spectabilis* (100)	Trailing Ice Plant*	GC	L	-12”	12-24”		E
Laurentia fluviatilis	Blue Star Creeper	GC	M	2-4”	6-12”		E
Liriope spicata	Big Blue Lilly Turf	GC	M	18”	12”		E
Lonicera japonica* (100)	Japanese Honeysuckle*	GC	M	1-2’	6-10’		E
Lysimachia nummularia	Moneywort	GC	H, M	2-6”	2’		E
Mahonia aquifolium ‘Compacta’	Compact Oregon Grape	GC	M, L	1-2’	2-3’		E
Mahonia repens	Creeping Mahonia	GC	M, L	2-3’	2-3’	X	E
Myoporum ‘Pacificum’	Pacific Myoporum	GC	M, L	2-3’	2-3’		E
Myoporum parvifolium	NCN	GC	L	-3”	9’		E
Nandina domectica ‘Harbour Dwarf’	Dwarf Heavenly Bamboo	GC	M, L	1.5-2’	2-3’		E
Oenothera berlandieri	Mexican Evening Primrose	GC	L, VL	10-12”	4’		E
Oenothera stubbei	Baja Evening Primrose	GC	L, VL	-5”	2’		E
Ophiopogon japonicus	Mondo Grass	GC	M	8-12”	12-24”		E
Osteosperumum fruticosum	Trailing African Daisy	GC	M	-18”	4’		E
Pelargonium peltatum	Ivy Geranium	GC	M	2’	4’		E
Pelargonium tomentosum	Geranium	GC	M	-18”	2-4’		E
Phyla nodiflora (Lippia repens)	Lippia	GC	M, L	2-15”	3’		E/D
Polygonium capitatum	Pink Clover	GC	M, L	-18”	2’		E
Potentilla tabernaemontanii	Spring Cinquefoil	GC	M, L	2-6”	-12”		E
Ribes viburnifolium	Catalina Perfume	GC	L, VL	3’	3’	X	E
Rosmarinus officinalis ‘Huntington Blue’*	No common name*	GC	L	-18”	4’		E
Rosmarinus officinalis ‘Prostratus’*	Prostrate Rosemary*	GC	L	-24”	6’		E
Salvia sonomensis * (50)	Creeping Sage*	GC	L	8-12”	3-4’	X	E
Santolina chamaecyparissus	Lavender Cotton	GC	L	-24”	3’		E
Santolina rosmarinifolius (virens)	Green Lavender Cotton	GC	L	-24”	3’		E
Scaevola ‘Mauve Clusters’	No common name	GC	M, L	4-6”	3-4’		E
Sedum species	Stonecrops	GC	L, VL	Varies	Varies		E
Senecio mandraliscae	Blue Chalk Sticks	GC	M, L	-18”	5’		E
Senecio serpens	Blue Chalk Sticks	GC	M, L	-12”	3’		E
Soleirolia solerirolii	Baby;s Tears	GC	H, M	3-6”	-18”		E
Teucrium T. cossonii	Germander	GC	L	4-6”	2’		E
Teucrium chamaedrys ‘Prostratum’	Prostrate Gemander	GC	M, L	4-6”	3’		E
Thymus praecox arcticus	Mother of Thyme	GC	M, L	2-6”	-18”		E
Thymus pseudolanuginosus	Woolly Thyme	GC	M, L	2-3”	-12”		E
Trachelospermum jasminoides	Star Jasmine	GC	M, L	2’	4-5’		E
Trifolium fragiferum “o’conner’s” *	O’Connor’s Leegume*	GC	M, L	6-15”	6’		E
Verbena hybrida	Garden Verbena	GC	L, VL	6-12”	1.5-3’		E

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Verbena peruviana	No common name	GC	L, VL	-8”	2’		E
Verbena pulchella gracilior	Moss Verbena	GC	L, VL	12-15”	2-3’		E
Verbena tenuisecta	Moss Verbena	GC	L, VL	12-15”	2-3’		E
Vinca Major *(100)	Periwinkle	GC	M	12-24”	4-6’		E
Wedelia trilobata *	Wedelia*	GC	M, L	-12”	4-6’		E
Zauschneria californica *	California Fuchsia*	GC	L, VL	1-2’	3-5’	X	E
Zoysia tenuifolia	Korean Grass	GC	M, L	-6”	-18”		E

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Abutilon hybridum	Chinese Lantern	Shrub	M	10’	10’		E
Acanthus mollis	Bear’s Breech	Shrub	H, M	4’	4-6’		E/D
Achillea filipendulina *	Fernleaf Yarrow*	Shrub	L, VL	4-5’	2’		E
Achmea species	Bromeliaceae	Shrub	L	2’	2’		E
Adenostema fasciculatum * (100)	Chamise *	Shrub	L	5-12’	5-8’	X	E
Aeonium species	Crassulaceae	Shrub	M, L	3’	2’		E
Agapanthus species	Lily Of The Nile	Shrub	M	Varies	Varies		E/D
Agave species	Agave	Shrub	L, VL	Varies	Varies		E
Alocasia macrorrhiza	Elephant’s Ear	Shrub	H	5’	4’		E
Aloe species	Aloe	Shrub	L, VL	Varies	Varies		E
Alyogyne huegelii *	Blue Hibiscus *	Shrub	M, L	5-8’	8’		E
Anigozanthos flavidus	Kangaroo Paw	Shrub	M, L	3-5’	3’		E
Anigozanthos manglesii	No common name	Shrub	M, L	3’	3’		E
Arbutus unedo ‘Compacta’ *	Dwarf Strawberry Tree *	Shrub	M, L	6-8’	8’		E
Arbutus unedo ‘Elfin King’ *	Elfin King *	Shrub	M, L	3-5’	6’		E
Arbutus unedo ‘Octoberfest’ *	No common name *	Shrub	M, L	6-8’	8’		E
Arctostaphylos species *	Manzanita *	Shrub	L, VL	Varies	Varies	X	E
Artemisia ‘Powis Castle’ *	Powis Castle *	Shrub	L, VL	3’	6’		E
Artimisia californica * (100)	California Sagebrush *	Shrub	L	3-5’	3-5’	X	E
Artimisia stellerapa * (100)	Beach Worm Wood *	Shrub	L, VL	3’	3’		E
Aspidistra elatior	Cast Iron Plant	Shrub	M, L	-30”	3’		E
Asplenium bulbiferum	Mother Fern	Shrub	H, M	4’	4’		E
Aucuba japonica	Japanese Aucuba	Shrub	M, L	6’	6’		E
Baccharis p.ssp. Consanguinea * (100)	Coyote Brush *	Shrub	L, VL	Varies	Varies		E
Begonia species	Begonia	Shrub	H, M	Varies	Varies		E
Berberis thunbergii	Japanese Barberry	Shrub	M, L	4-6’	4-6’		D
Berberis thunbergii ‘cultivars’	Barberry	Shrub	M, L	Varies	Varies		D
Bergenia crassifolia	Winter Blooming Bergenia	Shrub	M, L	-20”	-20”		E
Bougainvillea species * (100)	Bougainvillea *	Shrub	L	10-25’	10-25’		
Buddleia davidii *	Butterfly Bush *	Shrub	M, L	10’	12’		E/D
Buxus microphylla japonica *	Japanese Boxwood *	Shrub	M, L	4-6’	4-6’		E
Buxux microphylla koreana Korean *	Korean Boxwood *	Shrub	M, L	4-6’	4-6’		E
Caesalpinia gilliesii *	Bird Of Paradise Bush *	Shrub	L, VL	10’	10’		E/D
Caesalpinia mexicana *	Mexican Bird Of Paradise *	Shrub	L, VL	10-12’	15’		E/D
Caesalpinia pulcherrima *	Red Bird Of Paradise *	Shrub	L, VL	10’	10’		E/D
Calliandra californica *	Baja Fairy Duster *	Shrub	L, VL	3’	4-5’	X	E/D
Calliandra eriophylla *	Fairy Duster *	Shrub	L, VL	3’	4-5’		E/D
Callistemon citrinus ‘Compacta’ *	Bottlebrush *	Shrub	L, VL	5’	5’		E
Calycanthus occidentalis *	Spice Bush *	Shrub	M, L	4-12’	5’		D
Carissa macrocarpa (grandiflora)	Natal Plum	Shrub	M, L	7’	7’		E
Carpenteria californica *	Bush Anemone *	Shrub	L	6-8’	6-8’	X	E
Cassia artemisiojdes *	Feathery Cassia *	Shrub	L, VL	3-6’	6’		E
Ceanothus species *	Wild Lilac *	Shrub	L, VL	Varies	Varies	X	E/D
Cercocarpus betuloides *	Mountain Mahogany *	Shrub	L, VL	5-12’	10’	X	E
Choisya ternate *	Mexican Orange *	Shrub	M	6-8’	8’		E
Cistus species	Rockrose	Shrub	L, VL	Varies	Varies	X	E

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Cleome spinosa *	Spider Flower *	Shrub	L, VL	4-6’	4-6’		E
Clivia miniata	Clivia	Shrub	H, M	2’	2’		E
Coleonema pulchrum	Pink Breath of Heaven	Shrub	M, L	5-10’	6’		E
Colocasia esculenta (caladium)	Elephant’s Ear	Shrub	H	6’	6’		E/D
Comarostaphylis diversifolia *	Summer Holly *	Shrub	L, VL	6-10’+	6-8’+		E
Convolvulus cneorum *	Bush Morning Glory *	Shrub	L	2-4’	2-4’		E
Coprosma pumila * (100)	No common name *	Shrub	M	3’	8’		E
Coprosma repens *(100)	Mirror Plant *	Shrub	M	10’	6’		E
Cortaderia selloana * (100)	Pampas Grass *	Shrub	L	10-12’	10-12’		E
Cotoneaster species *	Cotoneaster *	Shrub	M, L	2-18’	3-15’		E/D
Cotyledon species	No common name	Shrub	L	1-3’	1-3’		E
Crassula species	Jade Plant	Shrub	L	1-9’	1-9’		E
Cuphea hyssopifolia	False Heather	Shrub	H, M	1-2’	2’		E
Cycas revolute	Sago Palm	Shrub	M	2-10’	3-6’		E
Cyrtomium falcatum	Holly Fern	Shrub	H, M	2-3’	3-4’		E
Dasylirion longissima *	Mexican Grass Tree *	Shrub	L, VL	10’	8’		E
Dasylirion wheeleri *	Sotol *	Shrub	L, VL	6’	6’		E
Dendromecon harfordii *	Island Bush Poppy *	Shrub	L	20’	20’	X	E
Dietes bicolor	Fortnight Lily, African Iris	Shrub	M, L	2-3’	2-3’		E
Dodonaea viscose * (100)	Hopseed Bush *	Shrub	L	12-18’	10-12’		E
Echium fastuosum *	Pride of Madeira *	Shrub	L, VL	4-6’	4-6’		E
Elaeagnus pungens & cultivars *	Silverberry *	Shrub	M, L	6-15’	6-15’		E
Encelia californica *	Coast Sunflower *	Shrub	L, VL	3-5’	3-5’	X	E/D
Encelia farinose *	Brittle Bush *	Shrub	L, VL	3-5’	3-5’	X	E/D
Eriogonum fasciculatum *	Common Buckwheat *	Shrub	L	2-3’	2-3’	X	E
Eriogonum giganteum *	St. Catherine’s Lace *	Shrub	L, VL	8’	8’	X	E
Escallonia species	Escallonia	Shrub	M, L	2-15’	2-10’		E
Euonymus japonica & cultivars	Evergreen Euonymus	Shrub	M	2-10’	6’		E
Euphorbia species	Euphorbia	Shrub	L	Varies	Varies	X	
Euryops pectinatus	NCN	Shrub	L	6’	5’		E
Fatsia japonica	Japanese Aralia	Shrub	M	5-12’	6-10’		E
Fouquieria splendens *	Ocotillo *	Shrub	VL	8-25’	8-15’	X	E
Fremontodendron species & cultivars *(100)	Flannel Bush *	Shrub	L, VL	5-20’	15’	X	E
Gardenia jasminoides	Gardenia	Shrub	H	3-6’	3-5’		E
Garrya elliptica *	Coastal Silktassel *	Shrub	M, L	4-8’	4-8’	X	E
Grevillea ‘Noellii’	NCN	Shrub	M, L	4’	4-5’		E
Grewia caffra *	Lavender Star Flower *	Shrub	H, M	6-10’	6-10’		E
Hakea suaveolens *	Sweet Hakea *	Shrub	L	10-20’	15’		E
Hebe species & cultivars	Hebe	Shrub	M	3-6’	3-6’		E
Helictotrichon sempervirens *	Blue Oat Grass *	Shrub	L	2-3’	2-3’		E
Hemerocallis hybrids	Daylilly	Shrub	M, L	1-6’	2-6’		E/D
Hesperaloe parviflora	No common name	Shrub	VL	3-4’	4-6’		E
Heuchera	Coral Bella	Shrub	M	1-2’	1-2’	X	P
Hibiscus rosa – sinensis *	Chinese Hibiscus *	Shrub	M	15’	12’		E
Iiex species	Holly	Shrub	M, L	Varies	Varies		E
Iris douglasiana	Douglas Iris	Shrub	M, L	2’	2’		E

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Iris species	Bearded Iris	Shrub	M	-30”	2’		E
Isomeris arborea *	Bladderpod *	Shrub	L	3-10’	3-10’	X	E
Juniperus species *(100)	Juniper *	Shrub	L	Varies	Varies	X	E
Justicia brandegeana	Shrimp Plant	Shrub	M	3’	4’		E
Justicia californica *	Chuparosa *	Shrub	L, VL	2-5’	4’	X	D
Keckiella cordifolia	Heart-Leaved Penstemon	Shrub	L, VL	5-6’	8-10’	X	E/D
Kniphofia uvaria	Red-Hot Poker	Shrub	L	2-3’	3-4’		E
Larrea tridentate *(100)	Creosote Bush *	Shrub	VL	4-8’	4-8’	X	E
Lavandula angustifolia	English Lavender	Shrub	L	3-4’	3-4’		E
Lavandula dentate	French Lavender	Shrub	L	3’	3’		E
Lavandula Intermedia	Lavender	Shrub	L	1-2’	2-3’		E
Lavandula stoechas	Spanish Lavender	Shrub	L	2-3’	3’		E
Lavatera assurgentifloria *	California Tree Mallow	Shrub	L	8-12’	8-12’	X	E
Leonotis Ieonurus *	Lion’s Tail *	Shrub	L	3-6’	4-6’		E
Leucophyllum candidum *	Violet Silverleaf *	Shrub	L, VL	4-5’	4-5’		E
Leucophyllum frutescens *	Texas Ranger *	Shrub	L, VL	6-8’	6-8’		E
Leucophyllum laevigatum *(100)	Chihuahuan Sage *	Shrub	L, VL	3-4’	4-5’		E
Ligustrum japonicum	Privet	Shrub	H	10-12’	10-12’		E
Limonium perezii	Sea Lavender	Shrub	L	2’	2’		E
Liriope muscari	Big Blue Lily Turf	Shrub	M	1-2’	1-2’		E
Lobelia lanflora	Mexican Bush Lobelia	Shrub	L	2-3’	4-6’		E
Lupinus species	Lupine	Shrub	L, VL	Varies	Varies	X	E
Mahonia ‘Golden Abundance’ *(100)	No common name *	Shrub	M, L	5-6’	6’		E
Mahonia aquifolium *(100)	Oregon Grape *	Shrub	M, L	6-8’	6-8’	X	E
Mahonia fremontii *(100)	Desert Mahonia *	Shrub	L	3-12’	4-8’		E
Mahonia Iomarifolia *(100)	Venetian Blind Mahonia *	Shrub	M, L	6-10’	6-10’		E
Mahonia nevinii *(100)	Nevin Mahonia *	Shrub	L	3-10’	6-12’	X	E
Mahonia pinnata *(100)	California Holly Grape *	Shrub	M, L	4-5’	4-6’		E
Malosma laurina *(100)	Laurel Sumac *	Shrub	L	12-20’	12-20’	X	E
Malva species *	Mallow *	Shrub	L	Varies	Varies	X	E
Melaleuca nesophila *(100)	Pink Melaleuca *	Shrub	L	15-20’	15-20’		E
Mimulus species (Diplacus)	Monkey Flower	Shrub	L	1-4’	1-4’		E
Muhlenbergia rigins *	Dear Grass *	Shrub	L	5’	4’	X	
Myrica californica *	Pacific Wax Myrtle *	Shrub	L	10-15’	10-15’	X	E
Myrsine Africana	African Boxwood	Shrub	L	3-8’	3-8’		E
Myrtus communis ‘Compacta’ *	Dwarf Myrtle *	Shrub	M	5-8’	5-8’		E
Nandina domestica*(100)	Heavenly Bamboo*	Shrub	M	6-8’	4-5’		E
Nandina domestica ;Compacta’*(100)	No Common Name*	Shrub	M	4-5’	3-4’		E
Nephrolepis cordifolia	Southern Sword Fern	Shrub	M, L	2-3’	3-6’		E
Nerium oleander ‘Petite Salmon’	Petite Salmon	Shrub	L	3-4’	3-4’		E
Nerium species *(100)	Oleander *	Shrub	M, L	8-20’	10-20’		E
Opuntia species	Pricky Pear, cholla etc.	Shrub	L, VL	Varies	Varies	X	E
Pelargonium species	Geranium	Shrub	M, L	Varies	Varies		E
Pennisetum setaceum *(100)	Fountain Grass *	Shrub	L	-18”	1-2’		
Penstemon species	Beard Tongue	Shrub	L	Varies	Varies		E/D
Phlomis Fruticosa *(100)	Jerusalem Sage *	Shrub	M, L	3-4’	3-4’		E
Phoenix roebelenii	Pigmy Date Palm	Shrub	L	6’	6’		E

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Phormium tenax *	New Zealand Flax *	Shrub	M	5-9’	6’		E
Phormium tenax ‘cultivars’	No common name	Shrub	M	Varies	Varies		E
Photinia Fraseri *	Photinia *	Shrub	M, L	10-15’	10-20’		E
Pittosporum tobira	Tobira	Shrub	M, L	6-15’+	8-15’		E
Pittosporum tobira ‘Variegata’	No common name	Shrub	M	5-8’	6-8’		E
Pittosporum tobira ‘Wheeler’s Dwarf’	Dwarf Pittosporum	Shrub	M	1-3’	2-4’		E
Plumbago auriculata *(100)	Cape Plumbago *	Shrub	L	6-8’	8-12’		E
Polystichum munitum	Sword Fern	Shrub	M	2-4’	2-4’		E
Portulacaria afra	Elephant’s Food	Shrub	L	5-12’	6-12’		E
Punica granatum ‘Nana’	Dwarf Pomegranate	Shrub	L	3’	4’		D
Pyracantha species *	Firethorn *	Shrub	M	Varies	Varies		E/D
Rhamnus California *	Coffeeberry *	Shrub	M, L	3-15’	4-15’	X	E/D
Rhamnus crocea *	Redberry *	Shrub	M, L	2-3’	3’		E
Rhamnus crocea ilicifolia *	Hollyleaf Redberry *	Shrub	M, L	3-15’	3-15’		E
Rhaphiolepis indica	India Hawthorn	Shrub	M, L	4-8’	4-8’		E
Rhaphiolepis indica ‘Cultivars’	No common name	Shrub	M, L	Varies	Varies		E
Rhus integrifolia *(50)	Lemonade Berry *	Shrub	L	3-10’+	6-20’	X	E
Rhus ovata *	Sugar Bush *	Shrub	L	3-15’	6-15’	X	E
Ribes aureum *	Golden Currant *	Shrub	L	3-6’	3-6’		D
Ribes malvaceum *	Chaparral Currant *	Shrub	L	6-8’	5’	X	D
Ribes sanguineum & cultivars *	Red Flowering Currant *	Shrub	M, L	4-12’	4-8’		D
Ribes speciosum	Fuchsia-Flow.Gooseberry	Shrub	L	3-6’	3-6’	X	D
Ribes viburnifolium	Catalina Perfume	Shrub	L	3’	12’	X	E
Romneya coulteri *	Matilija Poppy *	Shrub	L	8’	4’	X	D
Rosa species	Rose	Shrub	M	Varies	Varies		E/D
Rosmarinus ‘Tuscan Blue’*	Tuscan Blue*	Shrub	L	6’	6’		
Salvia greggii *(100)	NCN*	Shrub	L	3-4’	3-4’		E
Salvia leucantha *(100)	Mexican Bush Sage *	Shrub	L	3-4’	3-4’		E
Salvia leucophylla *(100)	Purple Sage *	Shrub	L	2-6’	2-6’	X	E
Salvia species * (100) (White & Black)	Sage *	Shrub	L	Varies	Varies	X	E/D
Simmondsia chinensis *	Jojoba*	Shrub	L, VL	3-8’+	4-8’	X	E
Strelitzia reginae	Bird of Paradise	Shrub	M	5’	4’		E
Tecomaria capensis *(100)	Cape Honeysuckle *	Shrub	L	6-8’	12-15’		E
Tetrapanax papyriferus	Rice Paper Plant	Shrub	M	10-15’	15’		E
Tibouchina urvilleana *	Princess Flower *	Shrub	M	5-18’	5-18’		E
Trichostema lanatum	Wooly Blue Curls	Shrub	L, VL	3-5’	5’	X	E
Tulbaghia violacea	Society Garlic	Shrub	M	18’	2’		E/D
Viburnum species	Viburnum	Shrub	M	Varies	Varies		E/D
Westringia fruticosa *	Coast Rosemary *	Shrub	M, L	5-7’	6-12’	X	E
Woodwardia fimbriata	Giant Chain Fern	Shrub	L	9’	5’	X	E
Xylosma congestum *	Shiny Xylosma*	Shrub	M, L	15’+	15’+		E
Xylosma congestum ‘Compacta’ *	Compact Xylosma*	Shrub	M, L	8-12’	8-12’		E
Yucca species *	Yucca*	Shrub	L, VL	Varies	Varies		E
Zantedeschia aethiopica	Calla Lilly	Shrub	M	1-3’	3’		

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Acacia farnesiana *	Sweet Acacia *	Tree	L	15-20’	15-20’		D
Acacia greggii *	Catclaw Acacia *	Tree	L, VL	15-25’	15-25’		E
Acer macrophyllum *	Bigleaf Maple *	Tree	M	30-95’	30-95’	X	D
Acer negundo *	Box Elder *	Tree	M, L	60’	50’		D
Acer palmatum	Japanese Maple	Tree	M	20’	20’		D
Acer saccharinum *	Silver Maple *	Tree	M	40-100’	40-100’		D
Adenostema sparsifolium *(100)	Red Shanks *	Tree	L	12-15’	12-15’	X	E
Aesculus californica *	California Buckeye *	Tree	M, L	20’+	30’		D
Agathis robusta *	Queensland Kauri *	Tree	H	75’	25’		E
Agonis flexuosa *	Peppermint Tree *	Tree	M, L	25-35’	25-35’		E
Albizia julibrissin *	Silk Tree *	Tree	M	40’	40’		D
Alnus cordata *	Italian Alder *	Tree	M	40’	25’		D
Alnus rhombifloria	White Alder	Tree	H, M	50-90’	40’	X	D
Araucaria heterophylla *	Norfolk Island Pine *	Tree	H, M	100’	25’		E
Arbutus’Marina’	No common name	Tree	M, L	40’	40’		E
Arbutus unedo *	Strawberry Tree *	Tree	M, L	12-35’	20-35’		E
Archontophoenix cunninghamiana	King Palm	Tree	M	50’	10-15’		E
Bauhinia variegate *	Purple Orchid Tree *	Tree	M	20-35’	35’		E/D
Beaucarnea recuvata *	Bottle Palm *	Tree	L	25’	15’		E
Betula pendula	European White Birch	Tree	M	30-40’	30’		D
Brachychiton acerifolius *	Flame Tree *	Tree	L	60’	45-50’		D
Brachychiton populneus	Kurrajong Bottle Tree	Tree	L	30-50’	30’		E
Brahea armata *	Blue Hesper Palm *	Tree	L, VL	40’	10’		E
Brahea edulis *	Guadalupe Palm *	Tree	L, VL	30’	10’		E
Butia capitata *	Pindo Palm *	Tree	L	10-20’	15-20’		
Callistemon citrinus *	Lemon Bottlebrush *	Tree	M, L	25’	15’		E
Callistenom viminalis *	Weeping Bottlebrush *	Tree	M, L	20-30’	15’		E
Calocedrus decurrens *	Incense Cedar	Tree	L	40-80’	10-20’		E
Calodendrum capense *	Cape Chestnut *	Tree	M	30’	25-40’		D
Carya illinoensis *	River She-Oak *	Tree	M, L	70’	70’		D
Casuarina cunninghamiana *	River She-Oak *	Tree1	L	50-70’	20-30’		E
Catalpa speciosa *	Western Catalpa *	Tree	M	40-70’	40-70’		D
Cedrus Species *	Cedar *	Tree	L	Varies	Varies		E
Ceratonia siliqua *	Carob Tree *	Tree	L	30-40’	30-40’		E
Cercidium floridum *	Blue Palo Verde *	Tree	L, VL	30’	30’	X	D
Cercidium microphyllum *	Littleleaf Palo Verde *	Tree	L, VL	25’	25’	X	D
Cercis occidentalis	Western Redbud	Tree	M, L	20’	20’	X	D
Chamaerops humilis *	Mediterranean Fan Palm *	Tree	M	20’	20’		E
Chilopsis linearis *	Desert Willow *	Tree	L	35’	35’	X	D
Chionanthus retusus *	Chinese Fringe Tree *	Tree	M	20’	20’	X	D
Chitalpa tashkentensis *	Chitalpa *	Tree	M, L	20-30’	20-30’		D
Chorisia speciosa	Floss Silk Tree	Tree	M	30-60’	30-40’		D
Cinnamomum camphora *	Camphor Tree *	Tree	M, L	50’+	60’+		E
Citrus species	Citrus Trees	Tree	H, M	Varies	Varies		E

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Cocculus Laurifolius *	Laurel Leaf Snail Seed *	Tree	M	25’	30’+		E
Cordyline australis *	Giant Dracanea *	Tree	M	30’	15’		E
Cornus kousa *	Kousa Dogwood *	Tree	H	20’	15’		D
Cupaniopsis anacardioides	Carrot Wood	Tree	M	40’	40’		E
Cupressus sempervirens *	Italian Cypress	Tree	L	60’	10’		E
Cupressus species *	Cypress *	Tree	L	30-90’	30-40’		E
Cyathea cooperi	Australian Tree Fern	Tree	M, L	20’	6-12’		E
Discksonia Antarctica	Tasmanian Tree Fern	Tree	L	6-15’	6’		E
Dracaena draco *	Dragon Tree *	Tree	M, L	20’	20’		E
Eriobotrya deflexa	Bronze Loquat	Tree	M, L	20’	20’		E
Erythrina species	Coral Tree	Tree	M, L	Varies	Varies		D
Eucalyptus citriodora *	Lemon-Scented Gum *	Tree	M, L	75-100’	40’		E
Eucalyptus maculate *	Spotted Gum *	Tree	M, L	60-80’	40’		E
Eucalyptus nicholii *	Willow Peppermint *	Tree	M, L	40’	50’		E
Eucalyptus sideroxylon *	Red Ironbark *	Tree	M, L	35-80’	35’		E
Eucalyptus species *	Eucalyptus *	Tree	L	Varies	Varies		E/D
Eucalyptus torquata *	Coral Gum	Tree	M, L	25’	20’		E
Feijoa sellowiana	Pineaplle Guava	Tree	M, L	18-25’	25’		E
Ficus Species	Fig	Tree	M, L	Varies	Varies		E/D
Fraxinus augustifolia *	Raywood Ash *	Tree	M	25-35’	30’		D
Fraxinus dipetala	Foothill Ash	Tree	L, VL	18-20’	20-30’		D
Fraxinus velutina *	Arizona Ash *	Tree	M, L	20-50’	30-50’		D
Fraxinus velutina coriacea *	Montebello Ash *	Tree	M, L	20-40’	20-40’		D
Geijera parviflora	Australian Willow	Tree	M, L	25-30’	20-30’		E
Ginkgo biloba	Maidenhair Tree	Tree	M, L	35-80’	30-80’		D
Gleditsia triacanthos *	Honey Locust *	Tree	M, L	35-70’	30’		D
Grevillea robusta *	Silk Oak *	Tree	M	50-60’	30’		E/D
Heteromeles arbutifolia *	Toyon *	Tree	L, VL	15-30’	15-30’	X	E
Hymenosporum flavum	Sweetshade Tree	Tree	M, L	20-40’	15-20’		E
Jacaranda mimosifolia	Jacaranda	Tree	M, L	25-40’	30’		D
Juglans californica *	S, California Black Walnut *	Tree	L	20-35’	30-45’	X	D
Koelreuteria bipinnata *	Chinese Flame Tree *	Tree	M	20-40’	45’		D
Koelreuteria paniculata *	Golden Rain Tree *	Tree	M, L	20-35’	40’		D
Lagerstroemia indica	Crape Myrtle	Tree	M, L	30’	20’		D
Laurus nobilis *	Sweet Bay *	Tree	L	12-40’	15’		E
Leptospermum laevigatum *	Australian Tea Tree	Tree	L	15-25’	15-25’		E
Leptospermum scoparium	New Zealand Tea Tree	Tree	L	10-12’	8-10’		E
Liquidambar formosana *	Chinese Sweet Gum *	Tree	M	40-60’	25’		D
Liquidamber styraciflua	American Sweet Gum	Tree	M	60’	25’		D
Liriodendron tulipifera	Tulip Tree	Tree	M	60-80’	40’		D
Lithocarpus densiflorus *	Tanbark Oak *	Tree	L	60’	40’		E
Lyonothamnus floribundus *	Catalina Ironwood *	Tree	L	30-60’	20-40’	X	E
Magnolia soulangiana	Saucer Magnolia	Tree	M	25’	25’		D
Magnolia species *	Magnolia *	Tree	M	Varies	Varies		E/D

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BOTANICAL NAME	COMMON NAME	TYPE	WATER	HEIGHT	SPREAD	N	E/D
Maytenus boaria	Mayten Tree	Tree	M, L	30-50’	30’		E
Melaleuca leucadendra *(100)	Cajeput Tree *	Tree	L	20-40’	25’		E
Melia azedarach *	Chinaberry *	Tree	L	30’	30’		D
Metasequoia glyptostroboides *	Dawn Redwood *	Tree	H, M	80’	40’		D
Metrosideros exelsus *	New Zealand Christams *	Tree	L, VL	30’	30’		E
Morus Alba	White Mulberry	Tree	M, L	20-60’	30-50’		D
Musa species	Banana Palm	Tree	H	Varies	Varies		E
Olea euopea *	Olive	Tree	L, VL	35’	20-30’		E
Parkinsonia aculeate *	Jerusalem Thorn *	Tree	L, VL	15-30’	15-30’		D
Phoenix canariensis *	Canary Island Date Palm *	Tree	L	60’	50’		E
Phoenix dactylifera *	Date Palm	Tree	L	80’	15’		E
Pinus brutia *(100)	Calabrian Pine *	Tree	L	30-60’	30’		E
Pinus canariensis *(100)	Canary Island Pine *	Tree	L	40-100’	30’		E
Pinus coulteri *(100)	Coulter Pine *	Tree	L	30-60’	25-40’		E
Pinus eldarica *(100)	Afghan Pine *	Tree	L	30-60’	25-40’		E
Pinus halepensis *(100)	Aleppo Pine *	Tree	L	30-60’	25-40’		E
Pinus pinea *(100)	Italian Stone Pine *	Tree	L	40-80’	30-50’		E
Pinus radiate *(100)	Monterey Pine *	Tree	L	60-80’	20-35’	X	E
Pinus species *(100)	Pine Tree *	Tree	L	Varies	Varies		E
Pistacia chinensis *	Chinese Pistache	Tree	M, L	60’	50’		D
Pittosporum phillyraeoides *	Willow Pittosporum	Tree	L	15-25’	10-15’		E
Pittosporum rhombifolium *	Queensland Pittosporum	Tree	M	15-35’	25’		E
Pittosporum undulatum *	Victorian Box *	Tree	M	25’	25’		E
Platanus acerifolia	London Plane Tree	Tree	L	40-80’	30-40’		D
Platanus racemosa	California Sycamore	Tree	L	50-100’	50-100’	X	D
Podocarpus gracilior*(100)	Fern Pine*	Tree	M	60’	60’		E
Podocarpus macrophyllus *(100)	Yew Pine*	Tree	M	50’	45’		E
Populus fremontii *	Fremont Cottonwood *	Tree	M	40-60’	40-60’		D
Prosopis glandulosa	Honey Mesquite	Tree	L, VL	25-30’	25-30’		D
Prosopis juliflora	Mesquite	Tree	L, VL	40-50’	40-50’	X	D
Prunus ilicifolia *	Hollyleaf Cherry *	Tree	L, VL	15-30’	15-30’	X	E
Prunus lyonii *	Catalina Cherry *	Tree	L, VL	20-45’	30’+	X	E
Prunus species & cultivars	Cherry	Tree	Varies	Varies	Varies		E/D
Punica granatum	Pomegranate	Tree	L	12-18’	20’		D
Pyrus calleryana *	Callery Pear *	Tree	L	25-50’	25-50’		D
Pyrus kawakamii	Evergreen Pear	Tree	L	20-25’	20-25’		E
Quercus agrifolia*	Coast Live Oak*	Tree	L, VL	30-70’	70’+	X	E
Quercus chrysolepis*	Canyon Live Oak*	Tree	M, L	30-60’	20-60’	X	D
Quercus douglasii*	Blue Oak*	Tree	M	50’	50’	X	D
Quercus engelmanii*	Engelmann Oak*	Tree	L	60’	60’	X	E
Quercus ilex*	Holly Oak*	Tree	M	40-70’	40-70’		E
Quercus kellogii*	California Black Oak*	Tree	M	30-80’	60’	X	D
Quecus lobate*	Valley Oak*	Tree	L, VL	70’+	70’+	X	D
Quercus palustris*	Pin Oak*	Tree	H, M	50-80’	5-70’		D

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BOTANICAL NAME	COMMON NAME	TYPE	WATER	HEIGHT	SPREAD	N	E/D
Quercus rubra*	Red Oak*	Tree	H, M	90’	90’		D
Quercus suber*	Cork Oak*	Tree	M	70-100’	100’		E
Quercus virginiana*	Southern Live Oak*	Tree	M, H	60’	100’		E/D
Quercus wislizinii*	Interior Live Oak*	Tree	M, L	30-75’	75’+		E
Rhus Lancea*	African Sumac*	Tree	L	20-30’	20-30’		E
Robinia ambigua *	Locust *	Tree	M, L	30-50’	30’		D
Robinia pseudoacacia *	Black Locust *	Tree	L	75’	30-40’		D
Sambucus mexicana *	Mexican Elderberry *	Tree	L	10-50’	10-25’	X	D
Sapium sebiferum	Chinese Tallow Tree	Tree	M	35’	35’		D
Schefflera actinophylla	Queensland Umbrella Tree	Tree	H, M	20’+	20’+		E
Schefflera pueckleri	Tupidanthus	Tree	H, M	20’+	20’+		E
Schinus molle *	California Pepper	Tree	L	25-40’	25-40’		E
Schinus terebithifolius *	Brazillian Pepper *	Tree	L	30’	30’		E
Sequoia sempervirens *	Coast Redwood *	Tree	H, M	70-16’	40’+	X	E
Sophora japonica *	Japanese Pagoda Tree	Tree	M, L	40’	40’		D
Stenocarpus sinatus	Firewheel Tree	Tree	M, L	30’	15’		D
Strelitzia nicolai	Giant Bird of Paradise	Tree	L	30’	15’		E
Syagrus romanzoffianum*	Queen Palm*	Tree	M	60’	20’		E
Tabebuia chrysotriha	Golden Trumpet Tree	Tree	M	25-30’	30’		E
Tabebuia impetiginosa	Pink Trumpet Tree	Tree	M	35’	30’		E
Taxodium mucronatum *	Montezuma Cypress *	Tree	H, VL	75’	35’		E/D
Tipuana tipu	Tipu Tree	Tree	M	50’	50’		D
Trachycarpus fortunei *(100)	Windmill Palm *	Tree	M	30’	6’		E
Tristania conferta	Brisbane Box	Tree	L, VL	30-60’	40’		E
Tupidanthus calyptratus	Tupidanthus	Tree	M	20’	15’		E
Ulmus parvifolia *	Chinese Elm *	Tree	M, L	40-60’	50-70’		E
Umbellularia californica *	California Bay *	Tree	L, VL	30-75’	30-75’	X	E
Washingtonia filifera *(100)	California Fan Palm *	Tree	L	60’	15’	X	E
Washingtonia robusta *(100)	Mexican Fan Palm *	Tree	L	100’	15’		E
Zelkoza serrata *	Sawleaf Zelkova *	Tree	M	60’	60’		D
Ziziphus jujuba *	Chinese Jujube *	Tree	M, L	20-30’	20-30’		D

Appendix E

VCFD Prohibited Plant List

VENTURA COUNTY FIRE PROTECTION DISTRICT
FIRE PREVENTION BUREAU
165 DURLEY AVENUE
CAMARILLO, CA 93010
www.vcfd.org
Office: 805-389-9738 Fax: 805-388-4356

410 – PROHIBITED PLANT LIST

This list was first published by the VCFD in 2014. It has been updated as of April 2019. It is intended to provide a list of plants and trees that are not allowed within a new required defensible space (DS) or fuel modification zone (FMZ). It is highly recommended that these plants and trees be thinned and or removed from existing DS and FMZs. In certain instances, the Fire Department may require the thinning and or removal.

This list was prepared by Hunt Research Corporation and Dudek & Associates, and reviewed by Scott Franklin Consulting Co, VCFD has added some plants and has removed plants only listed due to freezing hazard. Please see notes after the list of plants.

For questions regarding this list, please contact the Fire Hazard reduction Program (FHRP) Unit at 085-389-9759 or FHRP@ventura.org

Prohibited plant list:Botanical Name	Common Name	Comment*
Trees		
Abies species	Fir	F
Acacia species (numerous)	Acacia	F, I
Agonis juniperina	Juniper Myrtle	F
Araucaria species (A. heterophylla, A. araucana, A. bidwillii)	Araucaria (Norfolk Island Pine, Monkey Puzzle Tree, Bunya Bunya)	F
Callistemon species (C. citrinus, C. rosea, C. viminalis)	Bottlebrush (Lemon, Rose, Weeping)	F
Calocedrus decurrens	Incense Cedar	F
Casuarina cunninghamiana	River She-Oak	F
Cedrus species (C. atlantica, C. deodara)	Cedar (Atlas, Deodar)	F
Chamaecyparis species (numerous)	False Cypress	F
Cinnamomum camphora	Camphor	F
Cryptomeria japonica	Japanese Cryptomeria	F
Cupressocyparis leylandii	Leyland Cypress	F
Cupressus species (C. fobesii, C. glabra, C. sempervirens,)	Cypress (Tecate, Arizona, Italian, others)	F
Eucalyptus species (numerous)	Eucalyptus	F, I
Juniperus species (numerous)	Juniper	F
Larix species (L. decidua, L. occidentalis, L. kaempferi)	Larch (European, Japanese, Western)	F
Leptospermum species (L. laevigatum, L. petersonii)	Tea Tree (Australian, Tea)	F
Lithocarpus densiflorus	Tan Oak	F

Prohibited plant list:Botanical Name	Common Name	Comment*
Melaleuca species (M. linariifolia, M. nesophila, M. quinquenervia)	Melaleuca (Flaxleaf, Pink, Cajeput Tree)	F, I
Olea europea	Olive	I
Picea (numerous)	Spruce	F
Palm species (numerous)	Palm	F, I,
Pinus species (P. brutia, P. canariensis, P. b. eldarica, P. halepensis, P. pinea, P. radiata, numerous others)	Pine (Calabrian, Canary Island, Mondell, Aleppo, Italian Stone, Monterey)	F
Platycladus orientalis	Oriental arborvitae	F
Podocarpus species (P. gracilior, P. macrophyllus, P. latifolius)	Fern Pine (Fern, Yew, Podocarpus)	F
Pseudotsuga menziesii	Douglas Fir	F
Schinus species (S. molle, S. terebenthifolius)	Pepper (California and Brazilian)	F, I
Tamarix species (T. africana, T. aphylla, T. chinensis, T. parviflora)	Tamarix (Tamarisk, Athel Tree, Salt Cedar, Tamarisk)	F, I
Taxodium species (T. ascendens, T. distichum, T. mucronatum)	Cypress (Pond, Bald, Monarch, Montezuma)	F
Taxus species (T. baccata, T. brevifolia, T. cuspidata)	Yew (English, Western, Japanese)	F
Thuja species (T. occidentalis, T. plicata)	Arborvitae/Red Cedar	F
Tsuga species (T. heterophylla, T. mertensiana)	Hemlock (Western, Mountain)	F
Groundcovers, Shrubs & Vines		
Acacia species	Acacia (except dwarf/prostrate variety)	F
Adenostoma fasciculatum	Chamise	F
Adenostoma sparsifolium	Red Shanks	F
Agropyron repens	Quackgrass	F, I
Anthemis cotula	Mayweed	F, I
Arbutus menziesii	Madrone	F
Arctostaphylos species	Manzanita. Also note that Eastwood Manzanita grows to 8'	F
Arundo donax	Giant Reed	F, I
Artemisia species (A. abrotanium, A. absinthium, A. californica, A. caucasica, A. dracunculus, A. tridentata, A. pynocephala)	Sagebrush (Southernwood, Wormwood, California, Silver, True tarragon, Big, Sandhill)	F
*Atriplex species (numerous)***	Saltbush	F, I**
Avena fatua	Wild Oat	F
Baccharis pilularis	Coyote Bush	F
Bambusa species	Bamboo	F, I
Bougainvillea species	Bougainvillea	F, I, FR
Brassica species (B. campestris, B. nigra, B. rapa)	Mustard (Field, Black, Yellow) Wild Turnip	F, I

Prohibited plant list:Botanical Name	Common Name	Comment*
Bromus rubens	Foxtail, Red brome	F, I
Bromus carinatus	California brome	Grows to 5', Dies if cut
Castanopsis chrysophylla	Giant Chinquapin	F
Cardaria draba	Hoary Cress	I
Carpobrotus species	Ice Plant, Hottentot Fig	I
*Ceonothus griseus " Louis Edmunds***	Louis Edmunds Ceanothus	Grow higher than 18"*
*Ceonothus griseus var. horizontalis***	Carmel Creeper Ceonothus	Grows higher than 18"**
*Ceonothus griseus var. horizontalis "yankee point"**	Yankee Point Ceonothus	Grows higher than 18"**
*Ceonothus megacarpus***	Big pod ceonothus	Grows higher than 18"**
Cirsium vulgare	Wild Artichoke	F,I
Codariocalyx motorius	Telegraph Plant	F
Conyza bonariensis	Horseweed	F
Coprosma pumila	Prostrate Coprosma	F
Cortaderia selloana	Pampas Grass	F, I
Cytisus scoparius	Scotch Broom	F, I
Delosperma "alba"	White trailing Ice Plant	F
Dodonaea viscosa	Hopseed Bush	F
Drosanthemum Floribundum	Rosea Ice plant	F
Eriodictyon californicum	Yerba Santa	F
Eriogonum species (E. fasciculatum)	Buckwheat (California)	F
Fremontodendron species	Flannel Bush	F
Hedera species (H. canariensis, H. helix)	Ivy (Algerian, English)	I
Helix Canariensis	English Ivy	F
Heterotheca grandiflora	Telegraph Plant	F
Hordeum leporinum	Wild barley	F, I
Jasminum humile	Italian Jasmine	F
Juniperus species	Juniper	F
Lactuca serriola	Prickly Lettuce	I
Lamprathus aurantiacus	Bush Ice Plant	F
Lamprathus spectabilis	Trailing Ice Plant	F
Larix species (numerous)	Larch	F
Larrea tridentata	Creosote bush	F
Lepidium virginicum	Peppergrass	F
Leymus condensatus	Giant Wild Rye	Grows to 9' tall
Lolium multiflorum	Ryegrass	F, I
Lonicera japonica	Japanese Honeysuckle	F
Mahonia species	Mahonia	F
Miscanthus species	Eulalie Grass	F
Muhlenbergia species	Deer Grass	F

Prohibited plant list:Botanical Name	Common Name	Comment*
Nassella (stipa)leprida	Foothill needlegrass	Gets to 18" high. Cant cut to 4".
Nassella (stipa) pulchra	Purple needlegrass	Same comment as above
Nerium Oleander	Oleander	Toxic
Nicotiana species (N. bigelovii, N. glauca)	Tobacco (Indian, Tree)	F, I
Pennisetum setaceum	Fountain Grass	F, I
Perovskia atroplicifolia	Russian Sage	F
Phoradendron species	Mistletoe	F
Pickeringia montana	Chaparral Pea	F
Plumbago auriculate	Cape Plumbago	F
*Rhus (R. diversiloba, R. laurina, R. lentii)***	Sumac (Poison oak, Laurel, Pink Flowering)	F**. Poison oak presents a health hazard
Ricinus communis	Castor Bean	F, I
Rhus Lentii	Pink Flowering Sumac	F
Rosmarinus species	Rosemary (except dwarf/prostrate variety)	F
Salvia species (numerous)	Sage	F, I
Salsola australis	Russian Thistle	F, I
Senecio serpens	No common name	FR
Solanum Xantii	Purple Nightshade (toxic)	I, Toxic
Solanum Douglasii	Douglas Nightshade	Toxic
Silybum marianum	Milk Thistle	F, I
Tecoma capensis	Cape Honeysuckle	F
Thuja species	Arborvitae	F
Urtica urens	Burning Nettle	F
Vinca major	Periwnkle	I

*F = flammable, I = Invasive,

NOTES:

1. Plants on this list that are considered invasive are a partial list of commonly found plants. There are many other plants considered invasive that shall not be planted in a fuel modification zone and they can be found on The California Invasive Plant Council's Website www.cal-ipc.org/ip/inventory/index.php. Other plants not considered invasive at this time may be determined to be invasive after further study.
2. The absence of a particular plant, shrub, groundcover, or tree, from this list does not necessarily mean it is fire resistive.
3. Native, drought tolerant, plants are encouraged unless they are on this Prohibited Plant list or otherwise known as flammable or Invasive.
4. **: certain species of Ceonothus, Saltbush and Sumac need to be maintained free of dead materials, which builds up in the plant. Remove any poison oak (Sumac).